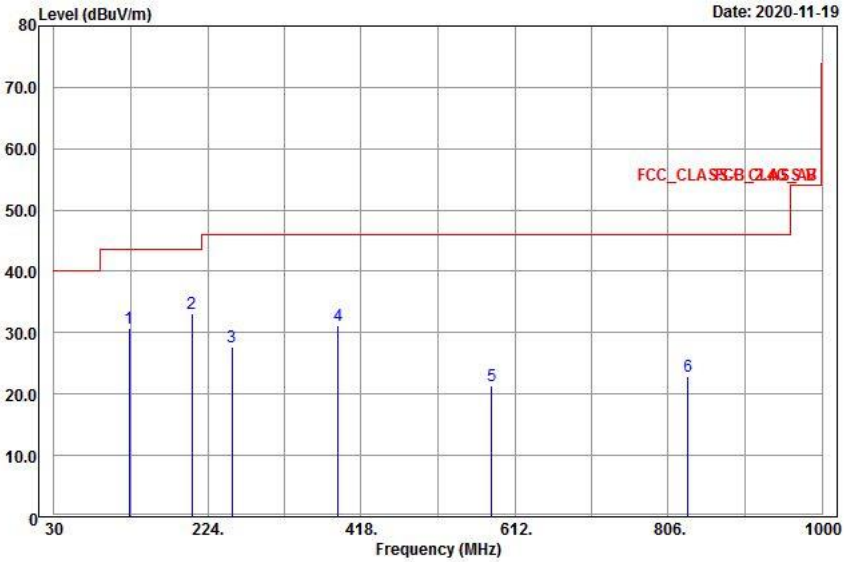
Chain B

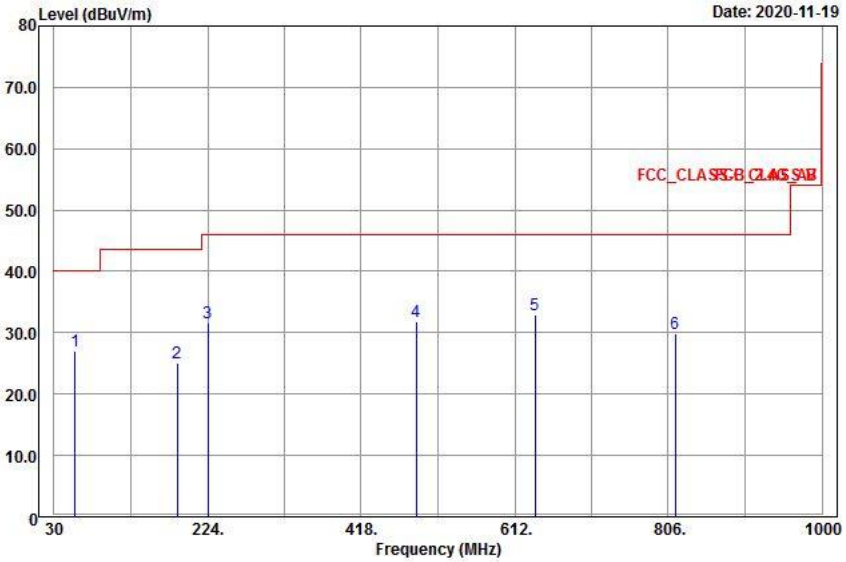
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 12	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) or Quasi-Peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
125.31	30.8	50.77	-19.97	43.5	-12.7	145	117	Peak
204.42	33.07	51.25	-18.18	43.5	-10.43	183	231	Peak
255.18	27.63	44.37	-16.74	46	-18.37	197	114	Peak
388.9	31.18	45.29	-14.11	46	-14.82	197	55	Peak
582.8	21.3	32.21	-10.91	46	-24.7	156	297	Peak
831.3	22.88	29.92	-7.04	46	-23.12	141	176	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
56.19	27.07	42.7	-15.63	40	-12.93	181	25	Peak
185.25	25.17	44.32	-19.15	43.5	-18.33	167	37	Peak
224.67	31.51	49.13	-17.62	46	-14.49	261	248	Peak
487.6	31.81	44.38	-12.57	46	-14.19	194	273	Peak
637.4	32.83	43.15	-10.32	46	-13.17	128	68	Peak
814.5	29.92	37.37	-7.45	46	-16.08	154	117	Peak

Remarks:

1. Emission Level = Read Level + Factor

   Margin Value = Emission Level – Limit value

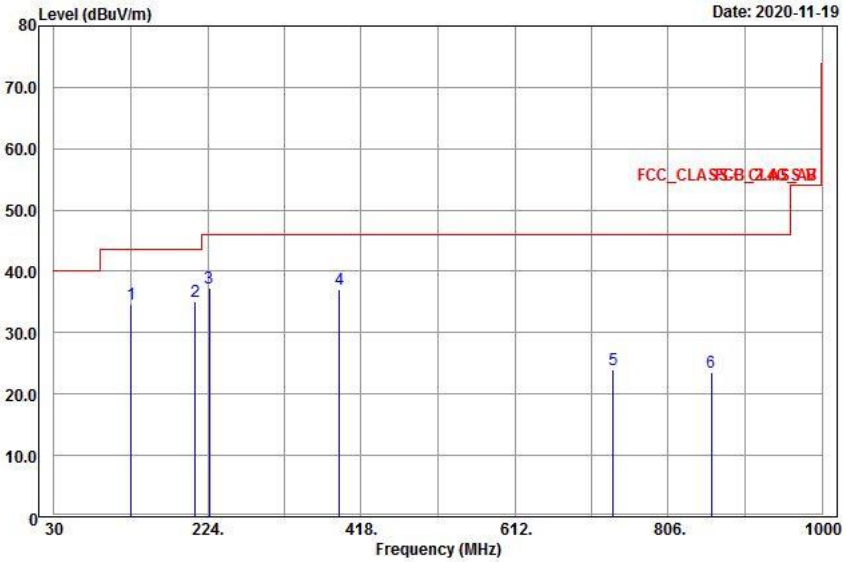
2. The other emission levels were very low against the limit.

MIMO

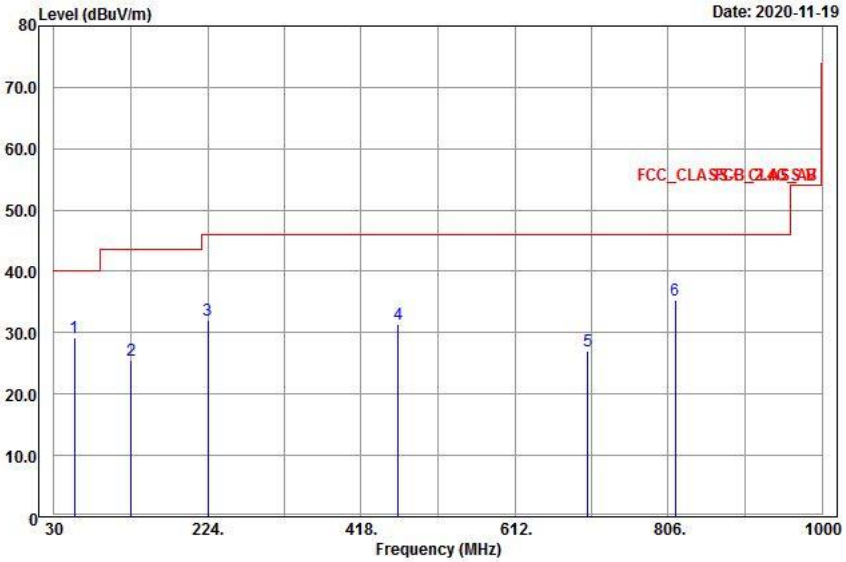
802.11ax (HE40)

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) or Quasi-Peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
127.47	34.55	54.74	-20.19	43.5	-8.95	135	173	Peak
208.2	35.07	53.22	-18.15	43.5	-8.43	199	304	Peak
226.29	37.32	54.9	-17.58	46	-8.68	142	178	Peak
390.3	36.95	51.05	-14.1	46	-9.05	166	127	Peak
736.1	23.88	32.5	-8.62	46	-22.12	180	36	Peak
860.7	23.43	29.99	-6.56	46	-22.57	145	273	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
55.92	29.21	44.84	-15.63	40	-10.79	120	142	Peak
127.47	25.43	45.62	-20.19	43.5	-18.07	249	231	Peak
224.67	32.12	49.74	-17.62	46	-13.88	131	154	Peak
465.2	31.43	44.48	-13.05	46	-14.57	183	236	Peak
704.6	26.99	36.14	-9.15	46	-19.01	121	156	Peak
814.5	35.25	42.7	-7.45	46	-10.75	175	194	Peak

Remarks:

1. Emission Level = Read Level + Factor

   Margin Value = Emission Level – Limit value

2. The other emission levels were very low against the limit.

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 04, 2020	Dec. 03, 2021
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 20, 2020	Feb. 19, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 28, 2020	Aug. 27, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).
3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

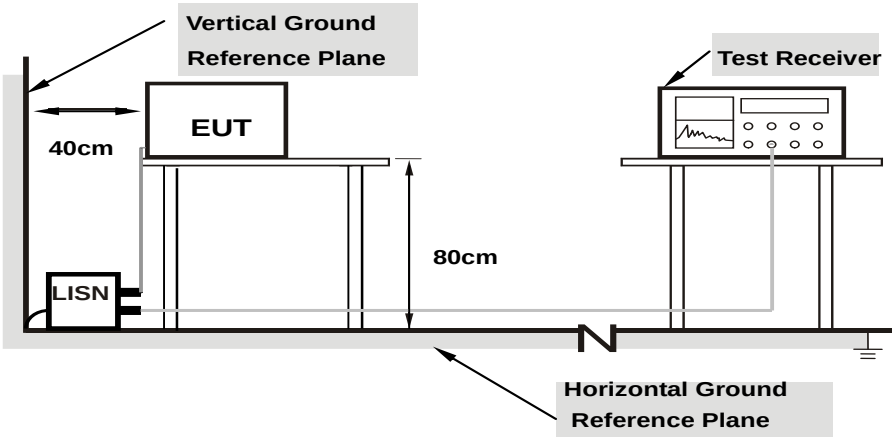
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

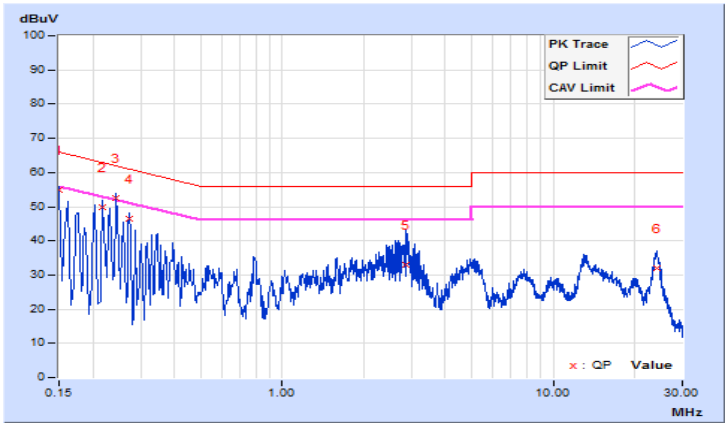
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	18℃, 70%RH
Tested by	Jones Chang	**Test Date**	2021/1/8
Test Mode	Mode A		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	9.65	45.07	32.01	54.72	41.66	66.00	56.00	-11.28	-14.34
2	0.21647	9.66	40.27	27.00	49.93	36.66	62.95	52.95	-13.02	-16.29
3	0.24384	9.66	42.85	32.29	52.51	41.95	61.96	51.96	-9.45	-10.01
4	0.27120	9.66	36.83	22.93	46.49	32.59	61.08	51.08	-14.59	-18.49
5	2.86354	9.72	23.39	11.75	33.11	21.47	56.00	46.00	-22.89	-24.53
6	24.10266	9.84	22.27	16.13	32.11	25.97	60.00	50.00	-27.89	-24.03

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

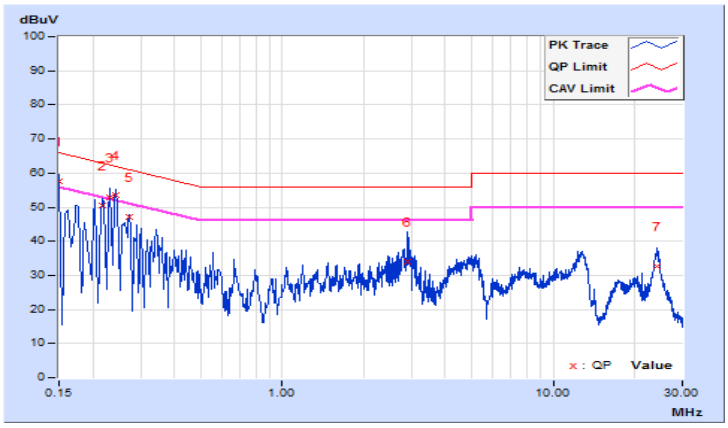


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	18℃, 70%RH
Tested by	Jones Chang	**Test Date**	2021/1/8
Test Mode	Mode A		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	**0.15000**	**9.68**	**47.98**	**33.22**	**57.66**	**42.90**	**66.00**	**56.00**	**-8.34**	**-13.10**
2	0.21647	9.68	40.76	26.32	50.44	36.00	62.95	52.95	-12.51	-16.95
3	0.23211	9.68	43.10	22.58	52.78	32.26	62.37	52.37	-9.59	-20.11
4	0.24384	9.68	43.89	32.79	53.57	42.47	61.96	51.96	-8.39	-9.49
5	0.27120	9.68	37.61	23.76	47.29	33.44	61.08	51.08	-13.79	-17.64
6	2.91437	9.75	24.30	10.66	34.05	20.41	56.00	46.00	-21.95	-25.59
7	24.22778	9.97	22.58	17.48	32.55	27.45	60.00	50.00	-27.45	-22.55

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

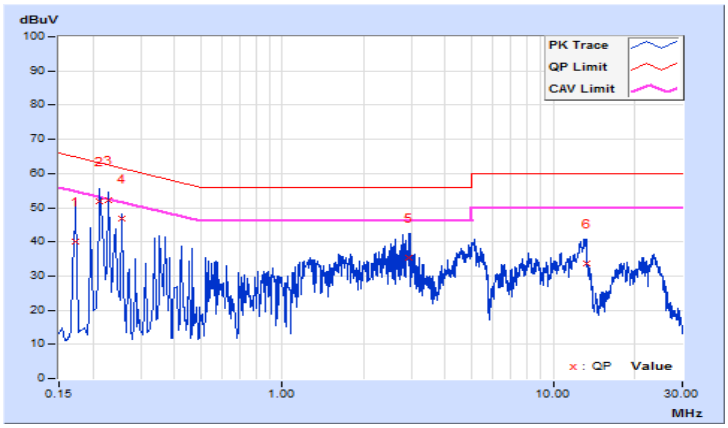


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	18℃, 70%RH
Tested by	Jones Chang	**Test Date**	2021/1/8
Test Mode	Mode B		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17346	9.65	30.57	4.11	40.22	13.76	64.79	54.79	-24.57	-41.03
2	0.21256	9.66	42.36	20.47	52.02	30.13	63.10	53.10	-11.08	-22.97
3	0.22820	9.66	42.56	26.80	52.22	36.46	62.51	52.51	-10.29	-16.05
4	0.25557	9.66	37.18	15.69	46.84	25.35	61.57	51.57	-14.73	-26.22
5	2.94174	9.72	25.76	8.30	35.48	18.02	56.00	46.00	-20.52	-27.98
6	13.25632	9.83	23.88	16.46	33.71	26.29	60.00	50.00	-26.29	-23.71

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

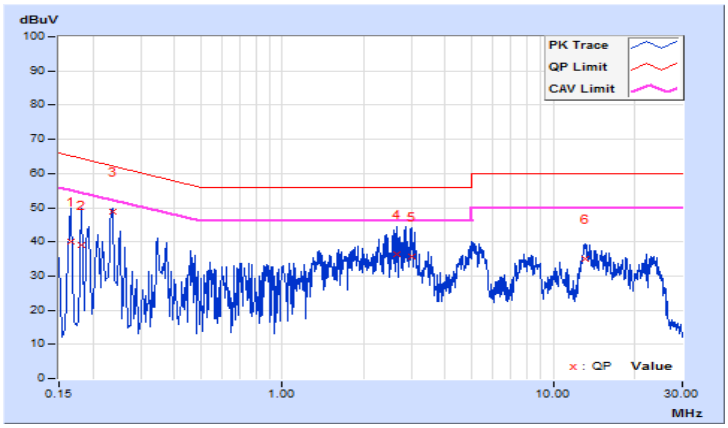


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	18℃, 70%RH
Tested by	Jones Chang	**Test Date**	2021/1/8
Test Mode	Mode B		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.16564	9.68	30.47	3.93	40.15	13.61	65.18	55.18	-25.03	-41.57
2	0.18128	9.68	29.25	3.67	38.93	13.35	64.43	54.43	-25.50	-41.08
3	0.23586	9.68	39.19	24.58	48.87	34.26	62.24	52.24	-13.37	-17.98
4	2.64458	9.74	26.66	11.87	36.40	21.61	56.00	46.00	-19.60	-24.39
5	2.99648	9.75	25.92	11.60	35.67	21.35	56.00	46.00	-20.33	-24.65
6	13.14684	9.89	25.04	18.30	34.93	28.19	60.00	50.00	-25.07	-21.81

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

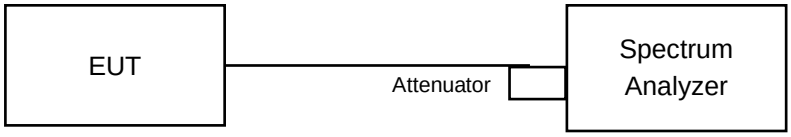


4.3 6 dB Bandwidth Measurement

4.3.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100 kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

SISO_Chain A

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	9.10	0.5	Pass
6	2437	9.09	0.5	Pass
11	2462	9.06	0.5	Pass
12	2467	9.07	0.5	Pass
13	2472	9.09	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.20	0.5	Pass
6	2437	15.19	0.5	Pass
11	2462	15.19	0.5	Pass
12	2467	15.19	0.5	Pass
13	2472	16.41	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.20	0.5	Pass
6	2437	15.19	0.5	Pass
11	2462	15.19	0.5	Pass
12	2467	15.19	0.5	Pass
13	2472	17.64	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	32.70	0.5	Pass
6	2437	35.24	0.5	Pass
9	2452	35.18	0.5	Pass
10	2457	34.05	0.5	Pass
11	2462	36.43	0.5	Pass

802.11ax (HE20)

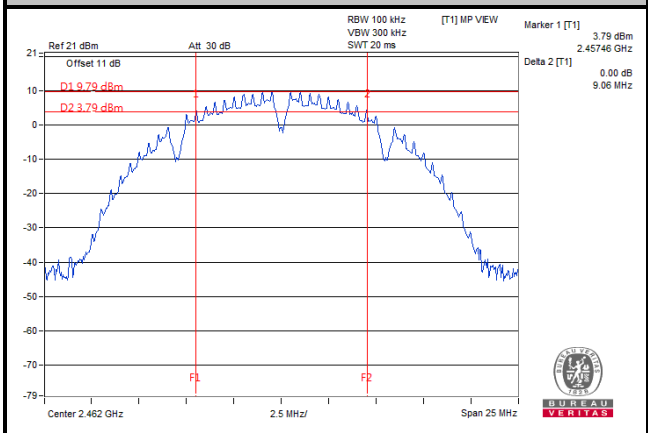
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.64	0.5	Pass
6	2437	15.98	0.5	Pass
11	2462	16.37	0.5	Pass
12	2467	16.68	0.5	Pass
13	2472	18.58	0.5	Pass

802.11ax (HE40)

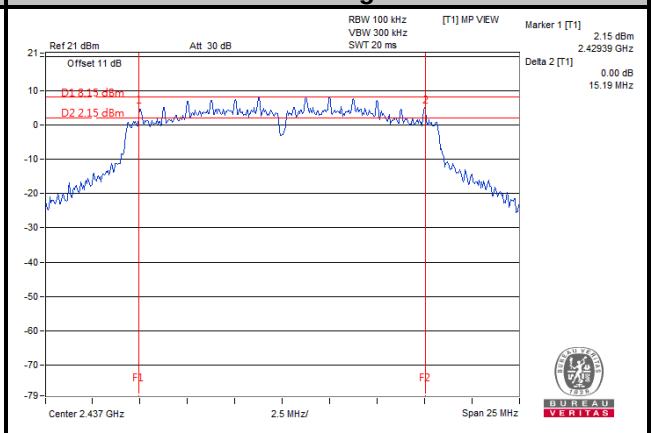
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	35.23	0.5	Pass
6	2437	35.23	0.5	Pass
9	2452	35.72	0.5	Pass
10	2457	36.01	0.5	Pass
11	2462	37.64	0.5	Pass

Spectrum Plot of Worst Value

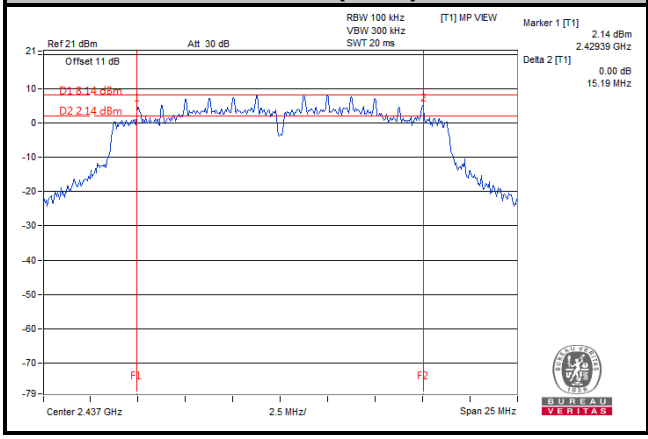
802.11b



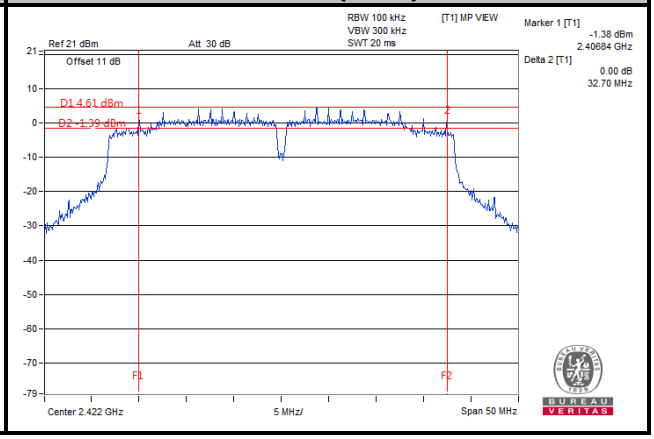
802.11g

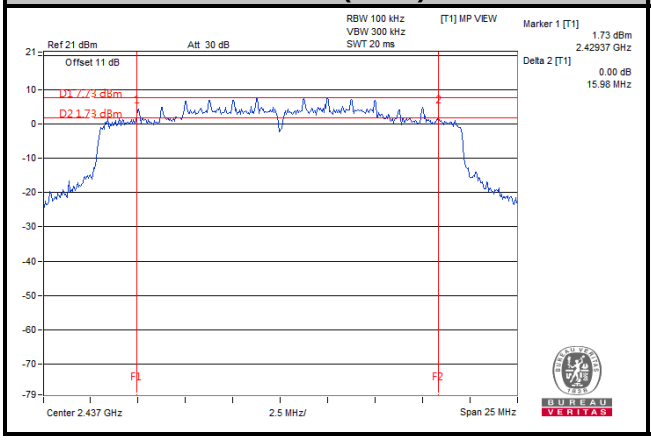
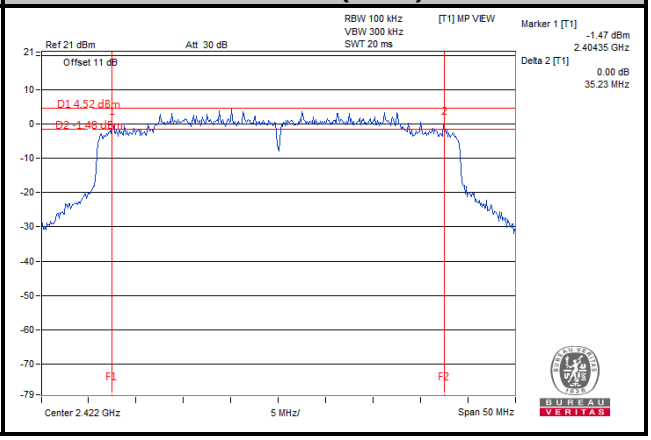


802.11n (HT20)



802.11n (HT40)



802.11ax (HE20)	802.11ax (HE40)
	

SISO_Chain B

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	9.11	0.5	Pass
6	2437	9.08	0.5	Pass
11	2462	9.07	0.5	Pass
12	2467	9.07	0.5	Pass
13	2472	8.60	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.19	0.5	Pass
6	2437	15.19	0.5	Pass
11	2462	15.19	0.5	Pass
12	2467	15.19	0.5	Pass
13	2472	16.41	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.20	0.5	Pass
6	2437	15.19	0.5	Pass
11	2462	15.19	0.5	Pass
12	2467	15.19	0.5	Pass
13	2472	17.64	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	33.87	0.5	Pass
6	2437	33.96	0.5	Pass
9	2452	35.19	0.5	Pass
10	2457	33.99	0.5	Pass
11	2462	36.44	0.5	Pass

802.11ax (HE20)

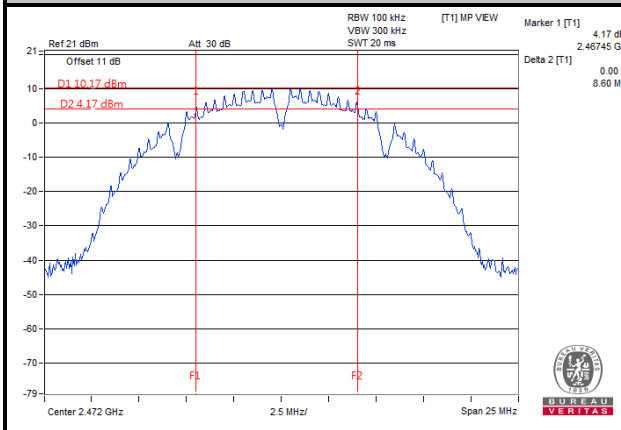
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.88	0.5	Pass
6	2437	17.46	0.5	Pass
11	2462	16.90	0.5	Pass
12	2467	18.04	0.5	Pass
13	2472	18.66	0.5	Pass

802.11ax (HE40)

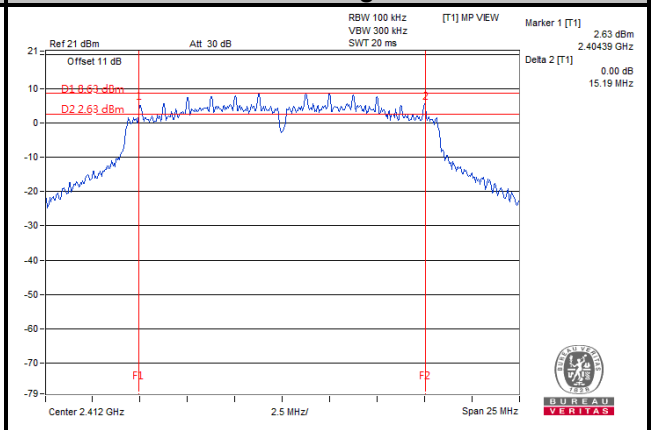
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	34.00	0.5	Pass
6	2437	35.54	0.5	Pass
9	2452	35.43	0.5	Pass
10	2457	36.11	0.5	Pass
11	2462	37.61	0.5	Pass

Spectrum Plot of Worst Value

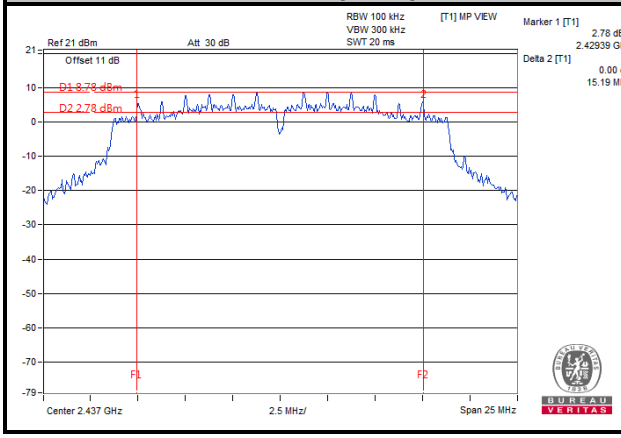
802.11b



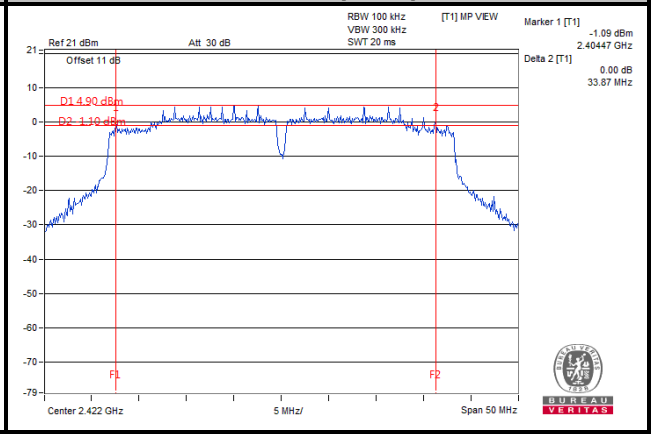
802.11g

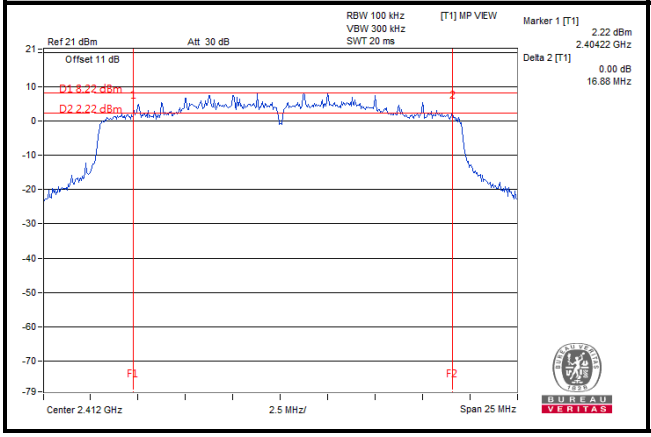
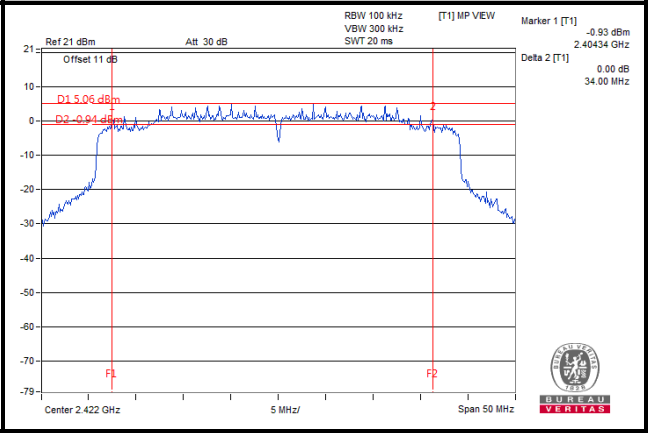


802.11n (HT20)



802.11n (HT40)



802.11ax (HE20)	802.11ax (HE40)
	

MIMO

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain A	Chain B		
1	2412	15.19	15.19	0.5	Pass
6	2437	15.19	15.18	0.5	Pass
11	2462	15.19	15.19	0.5	Pass
12	2467	15.11	15.19	0.5	Pass
13	2472	17.65	17.63	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain A	Chain B		
3	2422	35.16	33.97	0.5	Pass
6	2437	35.07	35.06	0.5	Pass
9	2452	31.40	35.17	0.5	Pass
10	2457	35.18	35.28	0.5	Pass
11	2462	36.45	36.45	0.5	Pass

802.11ax (HE20)

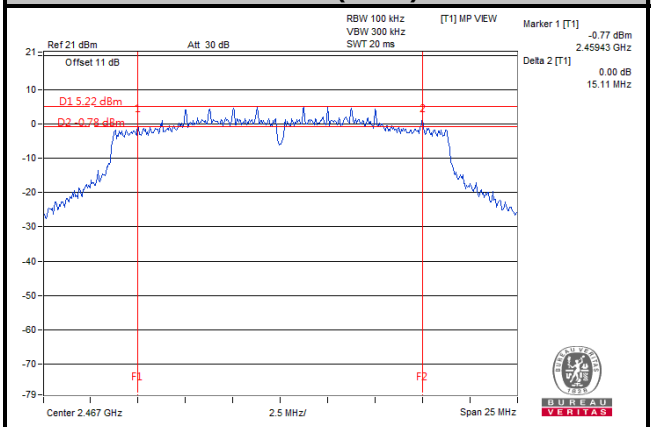
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain A	Chain B		
1	2412	15.19	15.19	0.5	Pass
6	2437	15.19	15.19	0.5	Pass
11	2462	15.19	15.20	0.5	Pass
12	2467	15.19	15.19	0.5	Pass
13	2472	18.61	18.52	0.5	Pass

802.11ax (HE40)

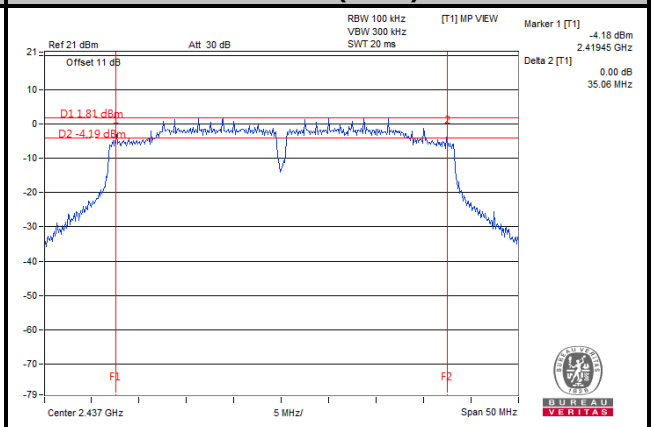
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain A	Chain B		
3	2422	33.96	35.15	0.5	Pass
6	2437	33.95	35.25	0.5	Pass
9	2452	35.19	35.25	0.5	Pass
10	2457	35.34	35.30	0.5	Pass
11	2462	37.58	37.57	0.5	Pass

Spectrum Plot of Worst Value

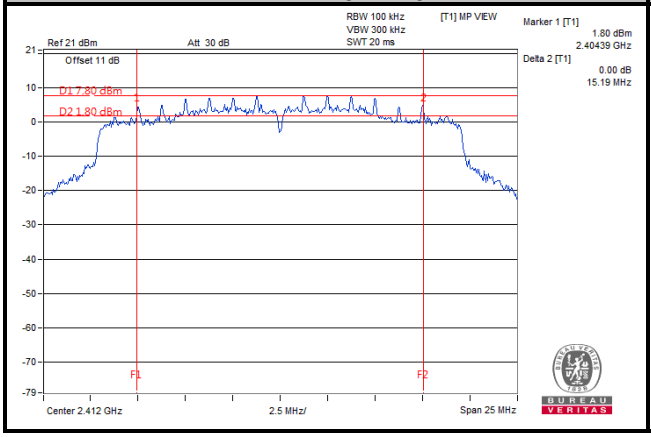
802.11n (HT20)



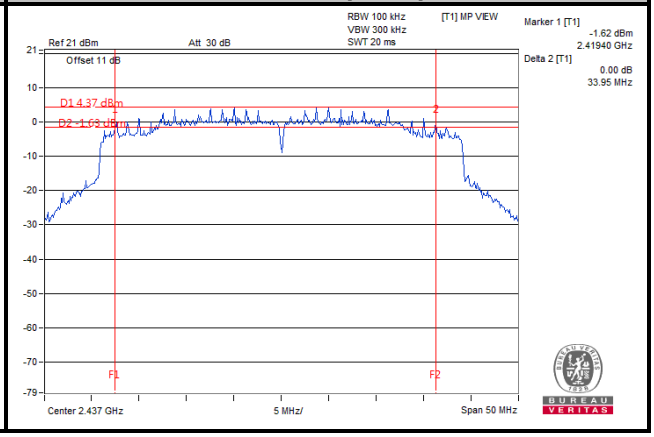
802.11n (HT40)



802.11ax (HE20)



802.11ax (HE40)



Partial RU

SISO_Chain A

802.11ax (HE20) (26, 0)

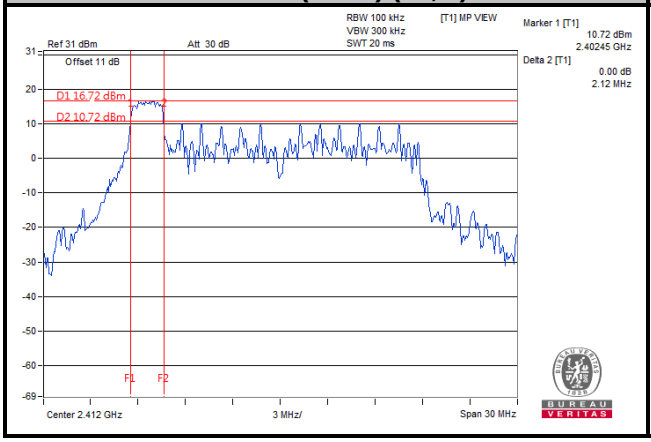
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	2.12	0.5	Pass

802.11ax (HE20) (26, 8)

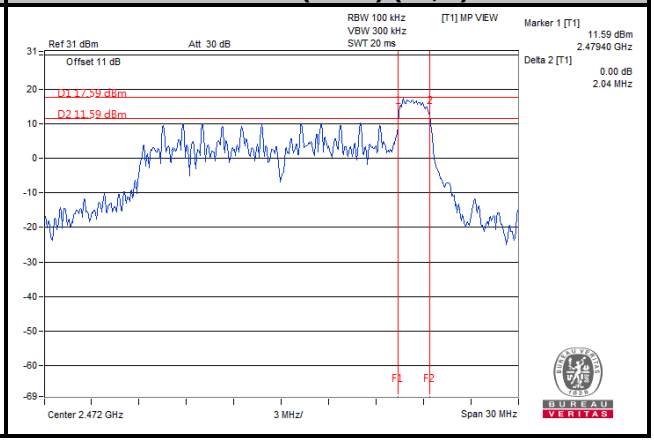
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
13	2472	2.04	0.5	Pass

Spectrum Plot of Worst Value

802.11ax (HE20) (26, 0)



802.11ax (HE20) (26, 8)



SISO_Chain B

802.11ax (HE20) (26, 0)

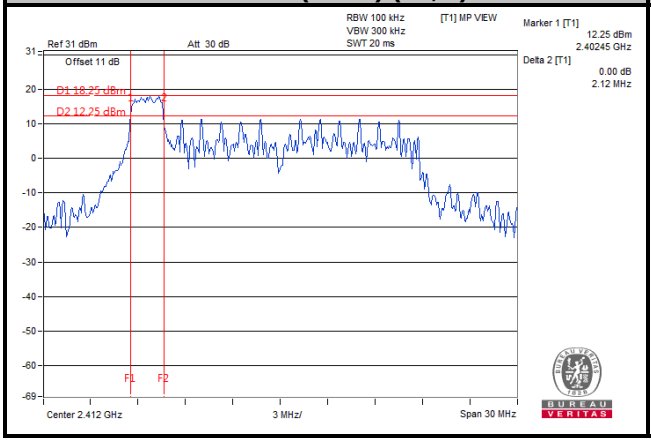
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	2.12	0.5	Pass

802.11ax (HE20) (26, 8)

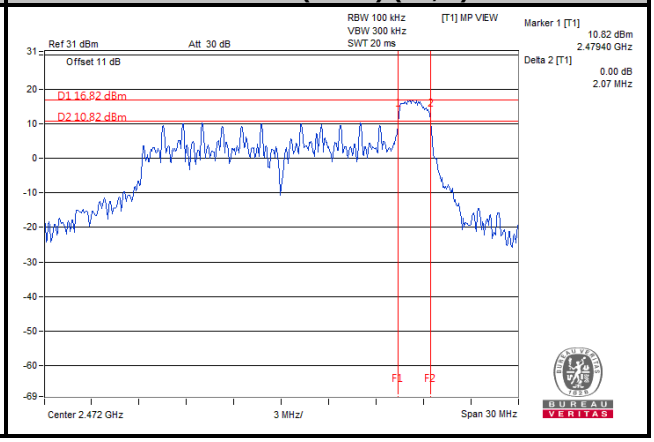
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
13	2472	2.07	0.5	Pass

Spectrum Plot of Worst Value

802.11ax (HE20) (26, 0)



802.11ax (HE20) (26, 8)



MIMO

802.11ax (HE20) (26, 0)

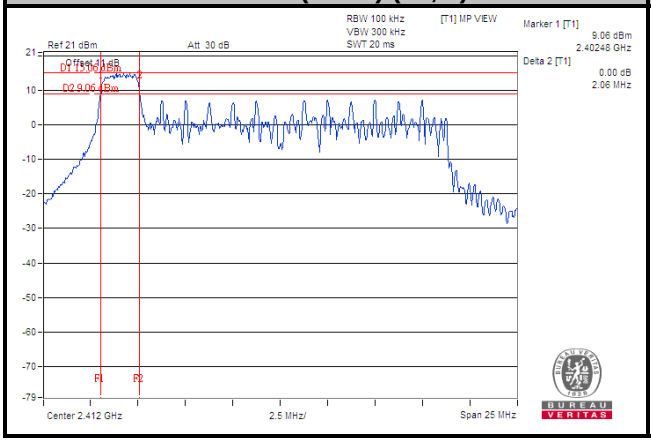
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain A	Chain B		
1	2412	2.06	2.07	0.5	Pass

802.11ax (HE20) (26, 8)

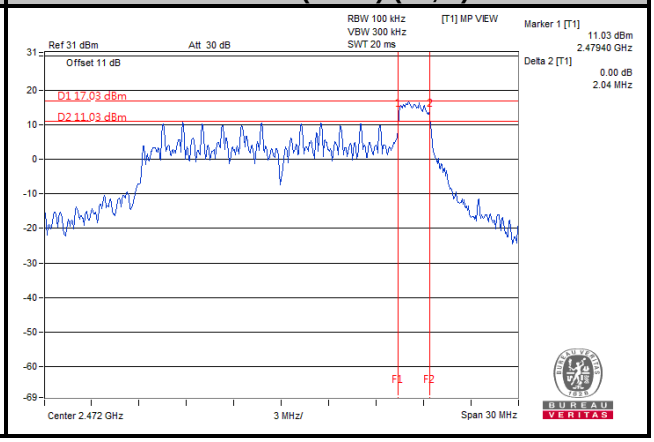
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain A	Chain B		
13	2472	2.06	2.04	0.5	Pass

Spectrum Plot of Worst Value

802.11ax (HE20) (26, 0)

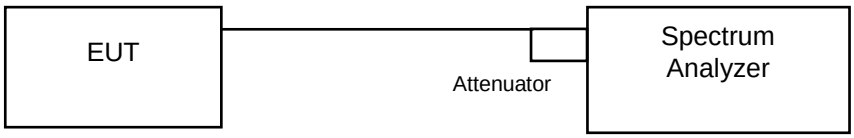


802.11ax (HE20) (26, 8)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.6 Test Results

SISO

Chain A

802.11b

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	13.56	Pass
6	2437	13.56	Pass
11	2462	13.56	Pass
12	2467	13.48	Pass
13	2472	13.56	Pass

802.11g

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	16.80	Pass
6	2437	16.80	Pass
11	2462	16.80	Pass
12	2467	16.80	Pass
13	2472	16.56	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	17.88	Pass
6	2437	17.88	Pass
11	2462	17.88	Pass
12	2467	17.88	Pass
13	2472	17.64	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
3	2422	36.24	Pass
6	2437	36.36	Pass
9	2452	36.24	Pass
10	2457	36.12	Pass
11	2462	36.36	Pass

802.11ax (HE20)

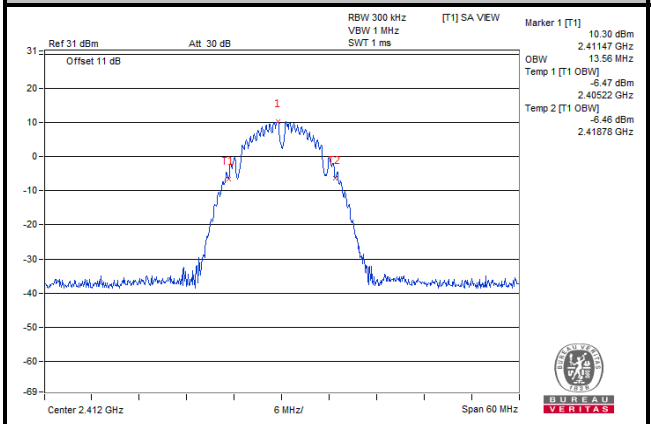
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	18.96	Pass
6	2437	18.96	Pass
11	2462	18.96	Pass
12	2467	18.96	Pass
13	2472	18.84	Pass

802.11ax (HE40)

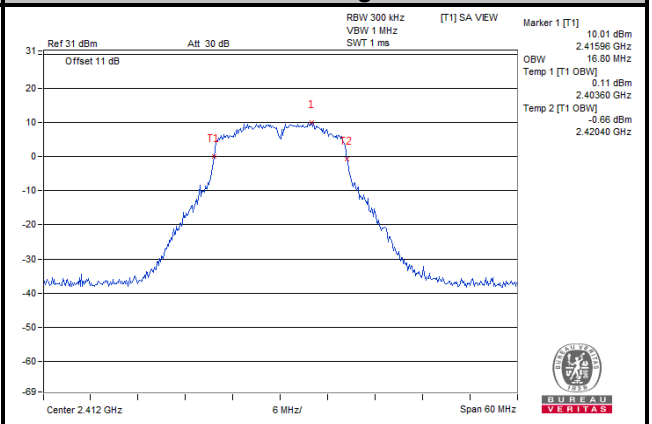
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
3	2422	37.68	Pass
6	2437	37.68	Pass
9	2452	37.68	Pass
10	2457	37.68	Pass
11	2462	37.80	Pass

Spectrum Plot of Worst Value

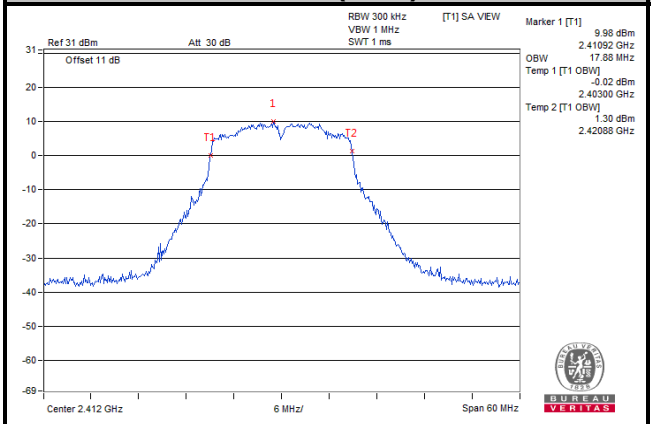
802.11b



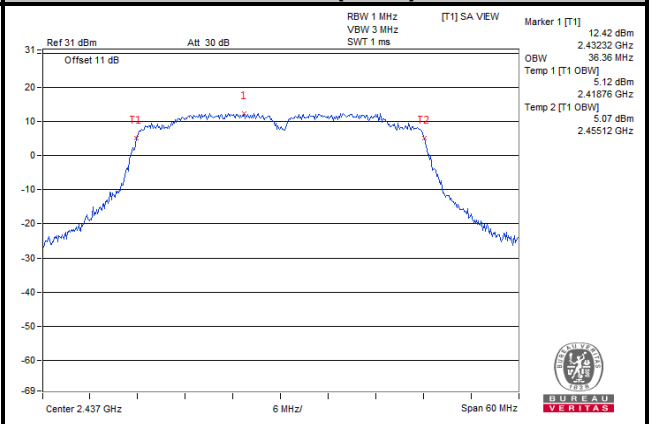
802.11g



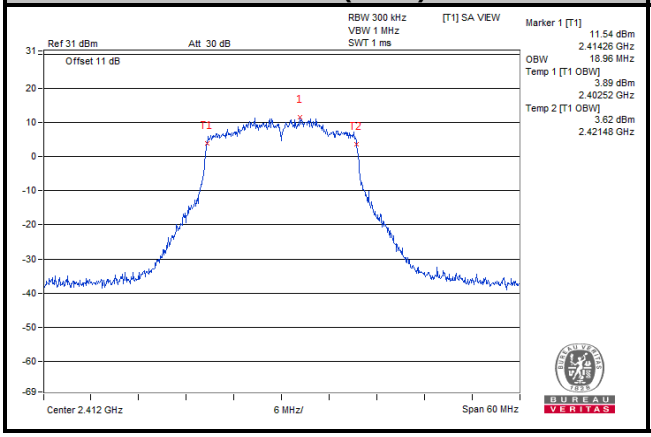
802.11n (HT20)



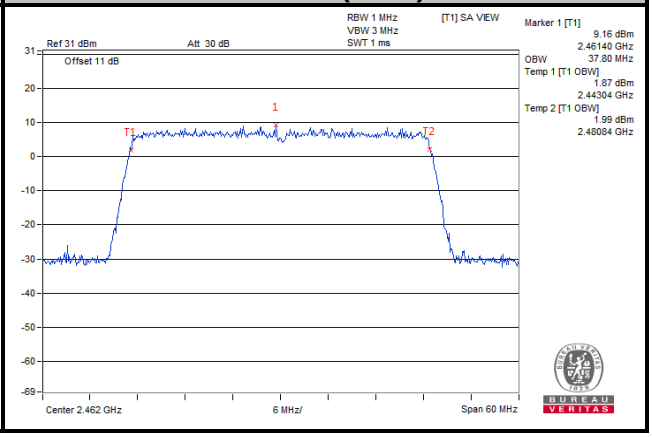
802.11n (HT40)



802.11ax (HE20)



802.11ax (HE40)



Chain B

802.11b

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	13.56	Pass
6	2437	13.56	Pass
11	2462	13.56	Pass
12	2467	13.57	Pass
13	2472	13.56	Pass

802.11g

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	16.80	Pass
6	2437	16.80	Pass
11	2462	16.80	Pass
12	2467	16.80	Pass
13	2472	16.56	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	18.00	Pass
6	2437	18.00	Pass
11	2462	17.88	Pass
12	2467	17.88	Pass
13	2472	17.64	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
3	2422	36.24	Pass
6	2437	36.24	Pass
9	2452	36.24	Pass
10	2457	36.12	Pass
11	2462	36.36	Pass

802.11ax (HE20)

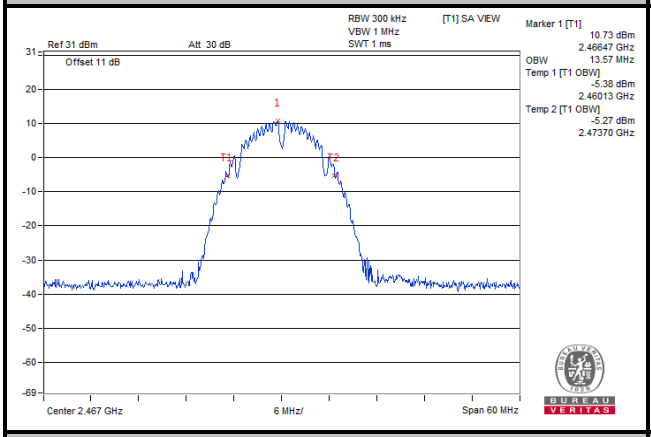
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	18.96	Pass
6	2437	18.96	Pass
11	2462	18.96	Pass
12	2467	18.96	Pass
13	2472	18.84	Pass

802.11ax (HE40)

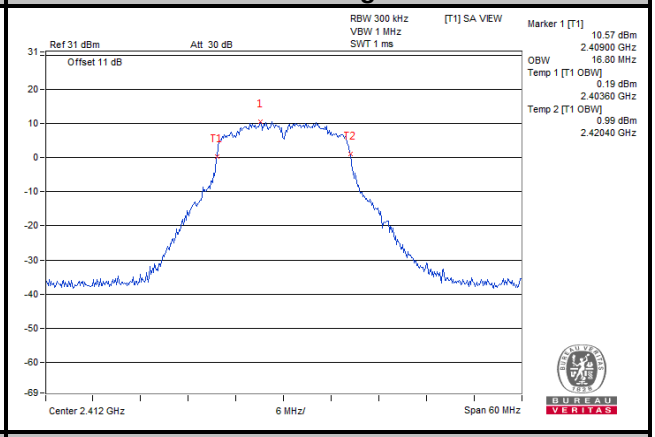
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
3	2422	37.80	Pass
6	2437	37.68	Pass
9	2452	37.92	Pass
10	2457	37.56	Pass
11	2462	37.80	Pass

Spectrum Plot of Worst Value

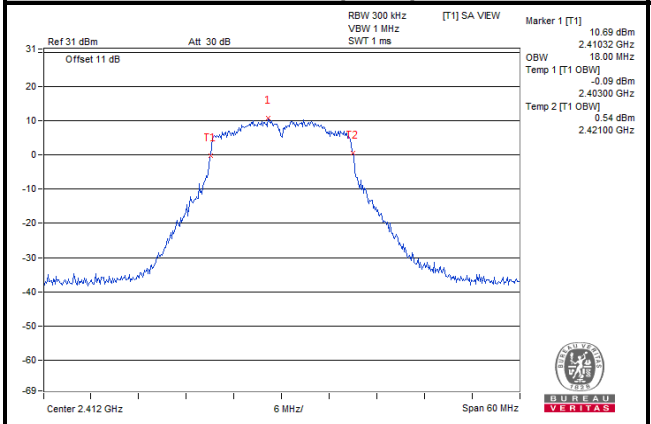
802.11b



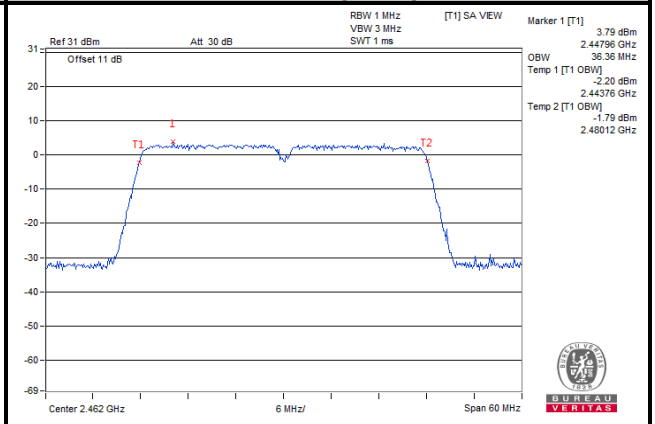
802.11g



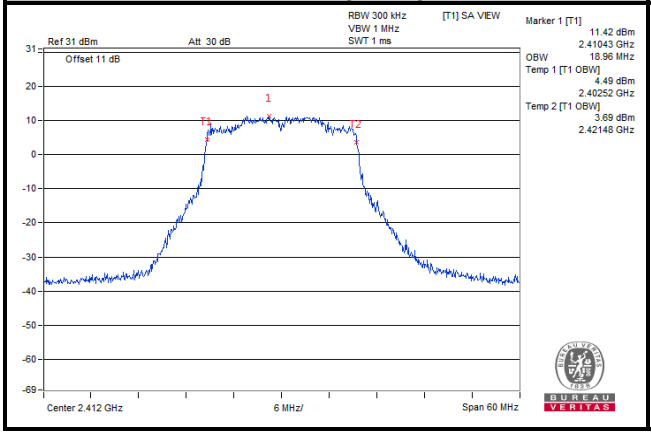
802.11n (HT20)



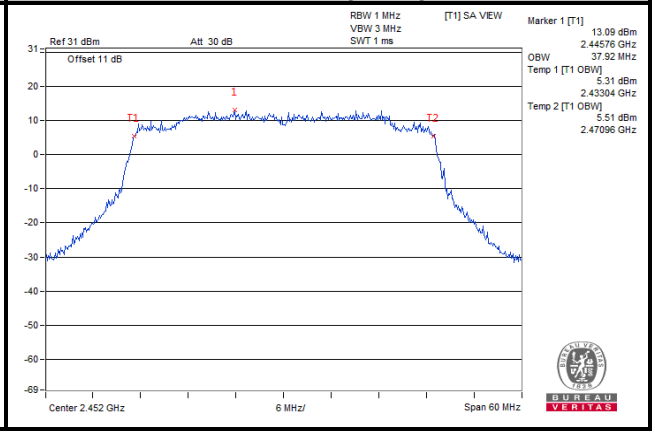
802.11n (HT40)



802.11ax (HE20)



802.11ax (HE40)



MIMO

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain A	Chain B	
1	2412	17.92	17.83	Pass
6	2437	17.88	17.76	Pass
11	2462	17.88	17.88	Pass
12	2467	17.83	17.83	Pass
13	2472	17.64	17.64	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain A	Chain B	
3	2422	36.24	36.36	Pass
6	2437	36.24	36.24	Pass
9	2452	36.12	36.24	Pass
10	2457	36.12	36.12	Pass
11	2462	36.36	36.48	Pass

802.11ax (HE20)

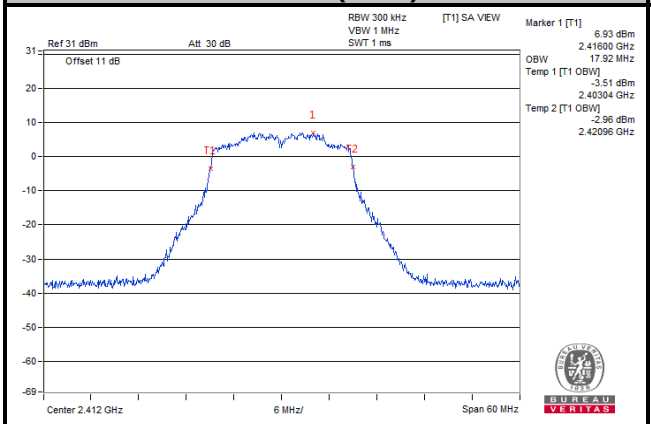
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain A	Chain B	
1	2412	18.96	18.96	Pass
6	2437	18.96	18.96	Pass
11	2462	19.08	19.08	Pass
12	2467	18.96	19.05	Pass
13	2472	18.84	18.72	Pass

802.11ax (HE40)

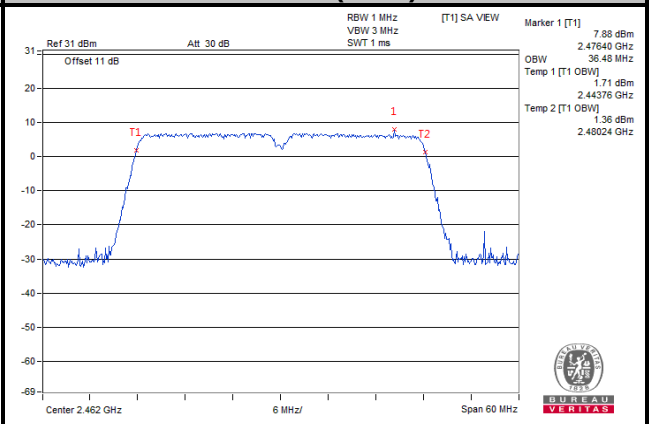
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain A	Chain B	
3	2422	37.92	37.80	Pass
6	2437	37.80	37.92	Pass
9	2452	37.80	37.80	Pass
10	2457	37.68	37.56	Pass
11	2462	37.80	38.04	Pass

Spectrum Plot of Worst Value

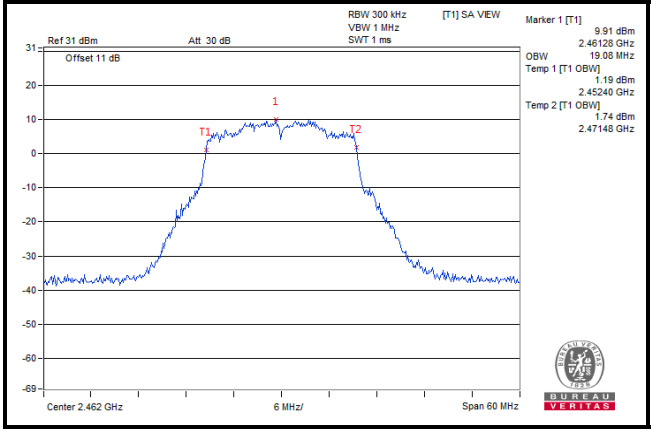
802.11n (HT20)



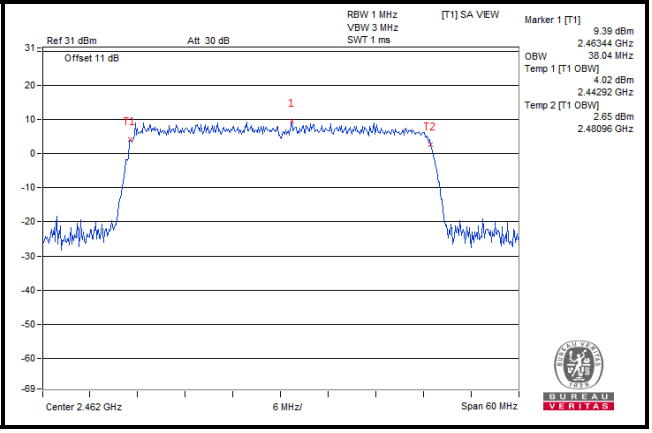
802.11n (HT40)



802.11ax (HE20)



802.11ax (HE40)



4.5 Conducted Output Power Measurement

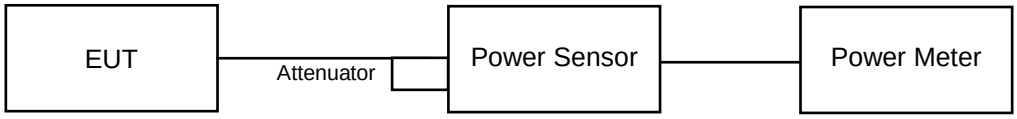
4.5.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30 dBm)
Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20 MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.5.7 Test Results

SISO_Chain A

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	78.343	18.94	30	Pass
6	2437	78.705	18.96	30	Pass
11	2462	77.446	18.89	30	Pass
12	2467	79.25	18.99	30	Pass
13	2472	79.068	18.98	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	78.343	18.94	30	Pass
6	2437	79.25	18.99	30	Pass
11	2462	76.033	18.81	30	Pass
12	2467	76.208	18.82	30	Pass
13	2472	25.003	13.98	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	77.625	18.90	30	Pass
6	2437	77.268	18.88	30	Pass
11	2462	76.208	18.82	30	Pass
12	2467	69.984	18.45	30	Pass
13	2472	20.797	13.18	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	79.068	18.98	30	Pass
6	2437	76.736	18.85	30	Pass
9	2452	71.121	18.52	30	Pass
10	2457	44.875	16.52	30	Pass
11	2462	27.669	14.42	30	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	78.163	18.93	30	Pass
6	2437	77.983	18.92	30	Pass
11	2462	79.433	19.00	30	Pass
12	2467	70.795	18.50	30	Pass
13	2472	25.119	14.00	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	78.886	18.97	30	Pass
6	2437	79.25	18.99	30	Pass
9	2452	77.804	18.91	30	Pass
10	2457	49.091	16.91	30	Pass
11	2462	26.002	14.15	30	Pass

SISO_Chain B

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	88.92	19.49	30	Pass
6	2437	88.512	19.47	30	Pass
11	2462	87.7	19.43	30	Pass
12	2467	87.902	19.44	30	Pass
13	2472	88.92	19.49	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	87.7	19.43	30	Pass
6	2437	88.308	19.46	30	Pass
11	2462	61.802	17.91	30	Pass
12	2467	46.559	16.68	30	Pass
13	2472	24.378	13.87	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	86.696	19.38	30	Pass
6	2437	87.498	19.42	30	Pass
11	2462	87.297	19.41	30	Pass
12	2467	65.013	18.13	30	Pass
13	2472	18.836	12.75	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	78.524	18.95	30	Pass
6	2437	87.902	19.44	30	Pass
9	2452	73.282	18.65	30	Pass
10	2457	49.091	16.91	30	Pass
11	2462	30.903	14.90	30	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	88.512	19.47	30	Pass
6	2437	88.92	19.49	30	Pass
11	2462	88.716	19.48	30	Pass
12	2467	62.373	17.95	30	Pass
13	2472	19.861	12.98	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	88.716	19.48	30	Pass
6	2437	88.512	19.47	30	Pass
9	2452	69.502	18.42	30	Pass
10	2457	49.204	16.92	30	Pass
11	2462	30.974	14.91	30	Pass

MIMO

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
1	2412	18.69	18.67	147.581	21.69	30	Pass
6	2437	18.67	18.66	147.072	21.68	30	Pass
11	2462	18.86	18.83	153.297	21.86	30	Pass
12	2467	16.48	16.41	88.215	19.46	30	Pass
13	2472	12.53	12.60	36.103	15.58	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
3	2422	16.91	16.84	97.397	19.89	30	Pass
6	2437	19.00	18.91	157.236	21.97	30	Pass
9	2452	17.59	17.53	114.036	20.57	30	Pass
10	2457	15.91	15.85	77.453	18.89	30	Pass
11	2462	13.98	13.91	49.607	16.96	30	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
1	2412	18.97	18.92	156.869	21.96	30	Pass
6	2437	18.93	18.90	155.787	21.93	30	Pass
11	2462	18.45	18.35	138.375	21.41	30	Pass
12	2467	15.69	15.50	72.549	18.61	30	Pass
13	2472	11.84	11.75	30.238	14.81	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
3	2422	17.67	17.65	116.689	20.67	30	Pass
6	2437	18.92	18.90	155.608	21.92	30	Pass
9	2452	17.89	17.88	122.894	20.90	30	Pass
10	2457	14.74	14.64	58.892	17.70	30	Pass
11	2462	13.93	13.84	48.928	16.90	30	Pass

Partial RU

SISO_Chain A

802.11ax (HE20) (26, 0)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	75.509	18.78	30	Pass

802.11ax (HE20) (26, 8)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
13	2472	16.634	12.21	30	Pass

802.11ax (HE20) (52, 37)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	75.683	18.79	30	Pass

802.11ax (HE20) (52, 40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
13	2472	17.539	12.44	30	Pass

802.11ax (HE20) (106, 53)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	77.09	18.87	30	Pass

802.11ax (HE20) (106, 54)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
13	2472	18.621	12.70	30	Pass

802.11ax (HE40) (242, 61)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	76.913	18.86	30	Pass

802.11ax (HE40) (242, 62)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
11	2462	18.621	12.70	30	Pass

SISO_Chain B

802.11ax (HE20) (26, 0)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	87.096	19.40	30	Pass

802.11ax (HE20) (26, 8)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
13	2472	15.596	11.93	30	Pass

802.11ax (HE20) (52, 37)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	85.507	19.32	30	Pass

802.11ax (HE20) (52, 40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
13	2472	15.56	11.92	30	Pass

802.11ax (HE20) (106, 53)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	87.096	19.40	30	Pass

802.11ax (HE20) (106, 54)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
13	2472	16.293	12.12	30	Pass

802.11ax (HE40) (242, 61)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	87.297	19.41	30	Pass

802.11ax (HE40) (242, 62)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
11	2462	18.707	12.72	30	Pass

MIMO

802.11ax (HE20) (26, 0)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
1	2412	18.89	18.82	153.654	21.87	30	Pass

802.11ax (HE20) (26, 8)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
13	2472	10.52	10.48	22.441	13.51	30	Pass

802.11ax (HE20) (52, 37)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
1	2412	18.92	18.81	154.016	21.88	30	Pass

802.11ax (HE20) (52, 40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
13	2472	9.52	9.37	17.603	12.46	30	Pass

802.11ax (HE20) (106, 53)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
1	2412	18.91	18.87	154.894	21.90	30	Pass

802.11ax (HE20) (106, 54)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
13	2472	8.71	8.68	14.809	11.71	30	Pass

802.11ax (HE40) (242, 61)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
3	2422	18.80	18.85	152.594	21.84	30	Pass

802.11ax (HE40) (242, 62)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain A	Chain B				
11	2462	11.52	11.48	28.251	14.51	30	Pass

4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.6.2 Test Setup

4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. Set analyzer center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d. Set the VBW ≥ 3 × RBW.
e. Detector = peak.
f. Sweep time = auto couple.
g. Trace mode = max hold.
h. Allow trace to fully stabilize.
i. Use the peak marker function to determine the maximum amplitude level within the RBW.

For Average Power (Duty cycle ≥ 98%)

a. Set instrument center frequency to DTS channel center frequency.
b. Set span to at least 1.5 times the OBW.
c. Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d. Set VBW ≥3 x RBW.
e. Detector = power averaging (RMS) or sample detector (when RMS not available).
f. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g. Sweep time = auto couple.
h. Employ trace averaging (RMS) mode over a minimum of 100 traces.
i. Use the peak marker function to determine the maximum amplitude level.

For Average Power (Duty cycle < 98%)

a. Measure the duty cycle (x).

b. Set instrument center frequency to DTS channel center frequency.

c. Set span to at least 1.5 times the OBW.

d. Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.

e. Set VBW ≥3 x RBW.

f. Detector = power averaging (RMS) or sample detector (when RMS not available).

g. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.

h. Sweep time = auto couple.

i. Do not use sweep triggering. Allow sweep to “free run”.

j. Employ trace averaging (RMS) mode over a minimum of 100 traces.

k. Use the peak marker function to determine the maximum amplitude level.

l. Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.6.7 Test Results

SISO_Chain A

802.11b

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-15.85	8	Pass
6	2437	-15.40	8	Pass
11	2462	-16.49	8	Pass
12	2467	-16.32	8	Pass
13	2472	-16.05	8	Pass

802.11g

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-19.09	0.12	-18.97	8	Pass
6	2437	-18.42	0.12	-18.30	8	Pass
11	2462	-19.24	0.12	-19.12	8	Pass
12	2467	-21.99	0.12	-21.87	8	Pass
13	2472	-23.53	0.12	-23.41	8	Pass

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-18.48	0.15	-18.33	8	Pass
6	2437	-19.00	0.15	-18.85	8	Pass
11	2462	-18.67	0.15	-18.52	8	Pass
12	2467	-24.65	0.15	-24.50	8	Pass
13	2472	-26.85	0.15	-26.70	8	Pass

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
3	2422	-22.26	8	Pass
6	2437	-21.75	8	Pass
9	2452	-23.48	8	Pass
10	2457	-25.62	8	Pass
11	2462	-31.48	8	Pass

802.11ax (HE20)

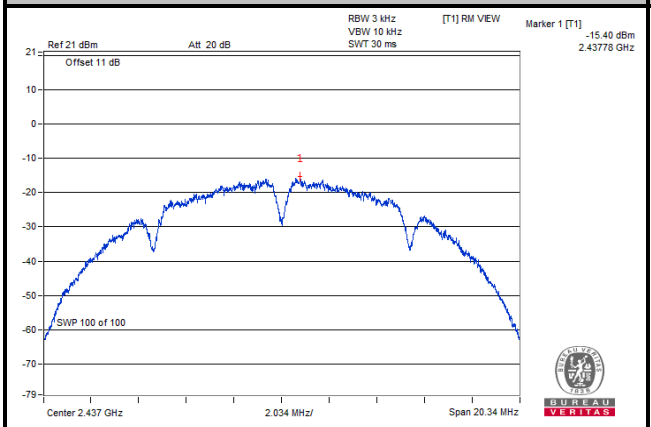
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-19.80	0.1	-19.70	8	Pass
6	2437	-19.60	0.1	-19.50	8	Pass
11	2462	-19.81	0.1	-19.71	8	Pass
12	2467	-20.35	0.1	-20.25	8	Pass
13	2472	-27.49	0.1	-27.39	8	Pass

802.11ax (HE40)

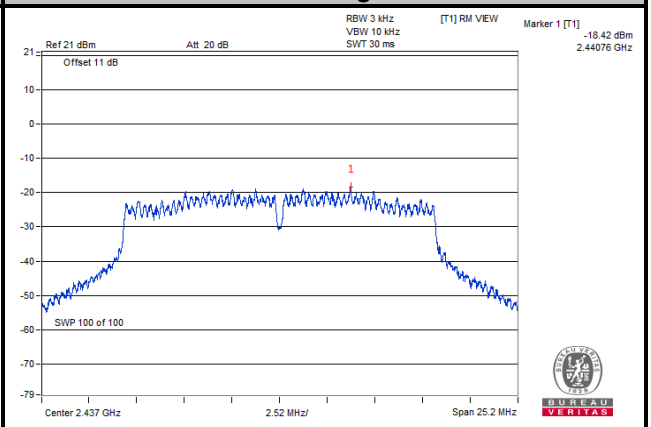
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
3	2422	-22.61	8	Pass
6	2437	-22.33	8	Pass
9	2452	-26.23	8	Pass
10	2457	-26.05	8	Pass
11	2462	-28.16	8	Pass

Spectrum Plot of Worst Value

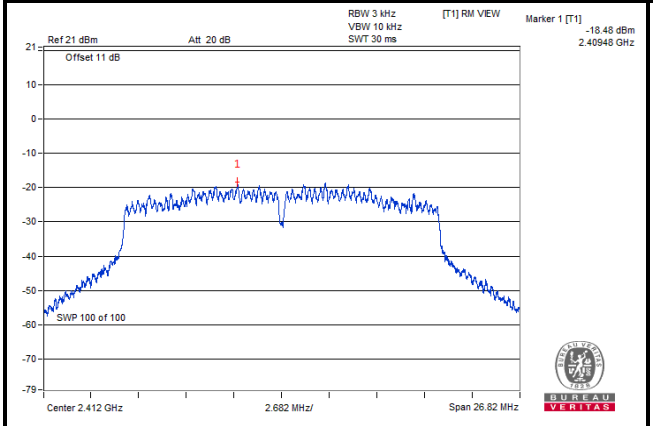
802.11b



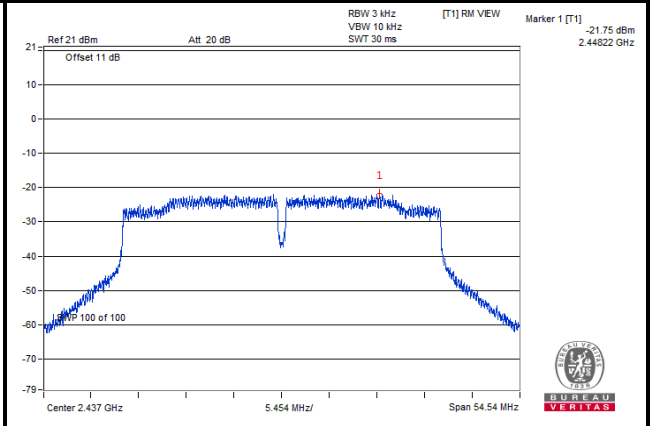
802.11g



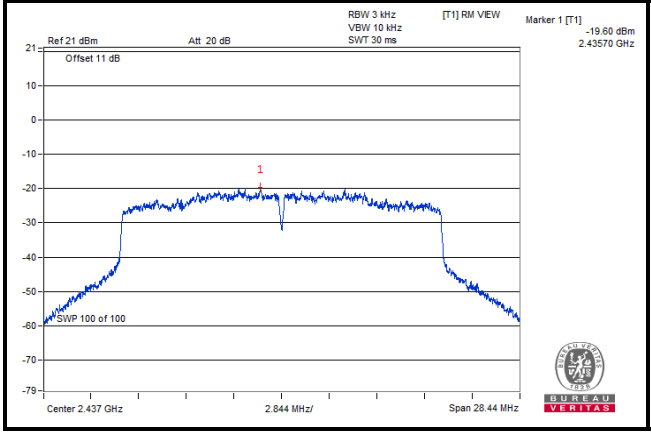
802.11n (HT20)



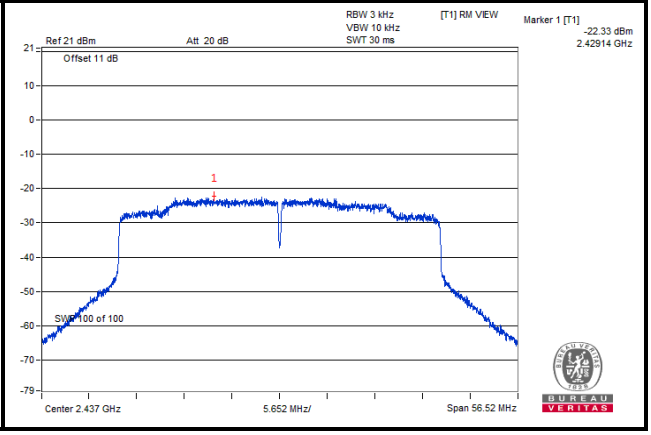
802.11n (HT40)



802.11ax (HE20)



802.11ax (HE40)



SISO_Chain B

802.11b

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-15.49	8	Pass
6	2437	-14.66	8	Pass
11	2462	-16.02	8	Pass
12	2467	-15.16	8	Pass
13	2472	-15.53	8	Pass

802.11g

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-18.26	0.14	-18.12	8	Pass
6	2437	-18.19	0.14	-18.05	8	Pass
11	2462	-19.57	0.14	-19.43	8	Pass
12	2467	-21.05	0.14	-20.91	8	Pass
13	2472	-24.17	0.14	-24.03	8	Pass

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-18.41	0.11	-18.3	8	Pass
6	2437	-17.52	0.11	-17.41	8	Pass
11	2462	-18.00	0.11	-17.89	8	Pass
12	2467	-19.81	0.11	-19.7	8	Pass
13	2472	-26.61	0.11	-26.5	8	Pass

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
3	2422	-21.03	8	Pass
6	2437	-20.67	8	Pass
9	2452	-22.24	8	Pass
10	2457	-26.14	8	Pass
11	2462	-30.40	8	Pass

802.11ax (HE20)

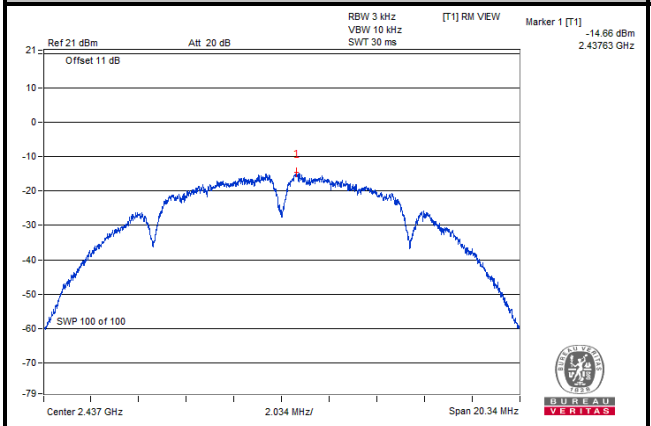
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-19.05	0.13	-18.92	8	Pass
6	2437	-19.02	0.13	-18.89	8	Pass
11	2462	-19.64	0.13	-19.51	8	Pass
12	2467	-21.51	0.13	-21.38	8	Pass
13	2472	-28.72	0.13	-28.59	8	Pass

802.11ax (HE40)

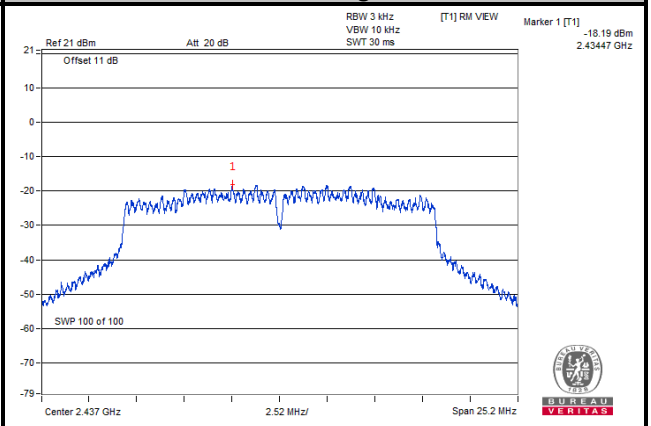
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
3	2422	-22.91	8	Pass
6	2437	-22.14	8	Pass
9	2452	-23.63	8	Pass
10	2457	-26.54	8	Pass
11	2462	-29.76	8	Pass

Spectrum Plot of Worst Value

802.11b



802.11g



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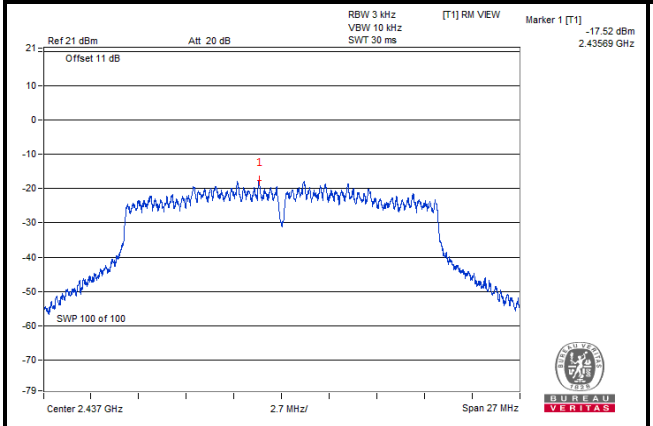

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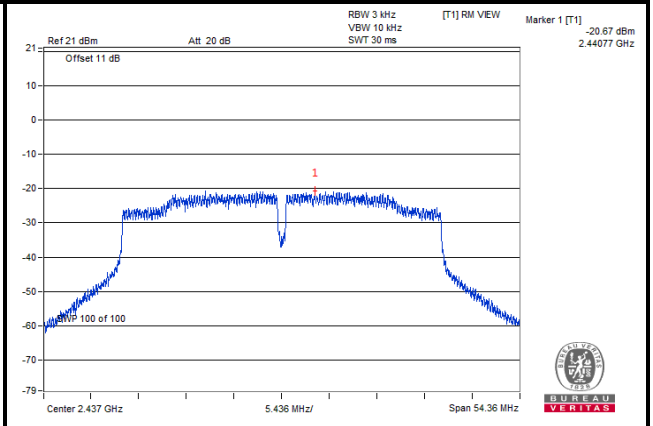
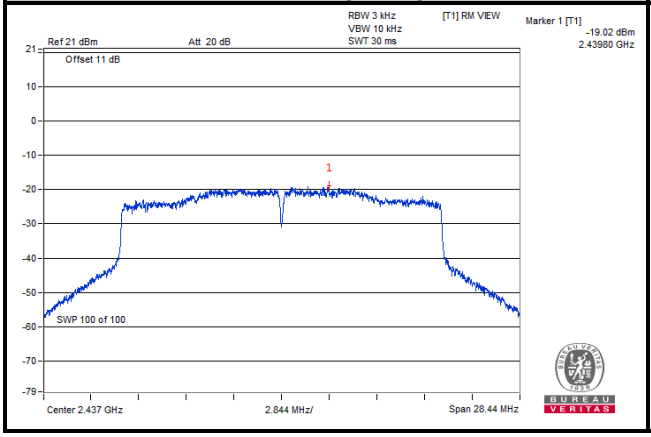
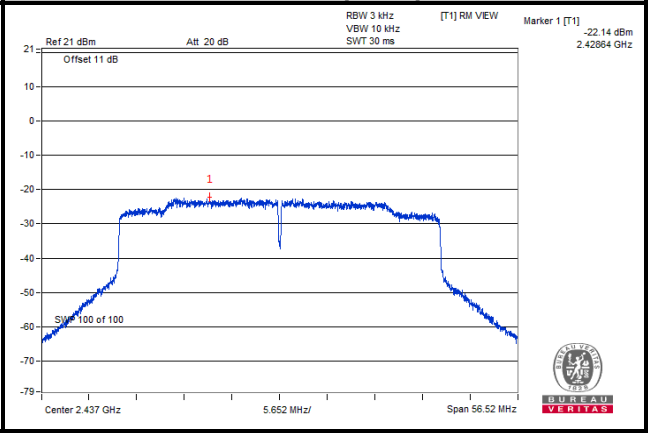


802.11ax (HE20)



802.11ax (HE40)



MIMO

802.11n (HT20)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	1	2412	-21.15	3.01	0.15	-17.99	8	Pass
	6	2437	-21.88	3.01	0.15	-18.72	8	Pass
	11	2462	-21.56	3.01	0.15	-18.4	8	Pass
	12	2467	-20.53	3.01	0.15	-17.37	8	Pass
	13	2472	-25.28	3.01	0.15	-22.12	8	Pass
B	1	2412	-18.13	3.01	0.15	-14.97	8	Pass
	6	2437	-21.86	3.01	0.15	-18.7	8	Pass
	11	2462	-20.98	3.01	0.15	-17.82	8	Pass
	12	2467	-21.42	3.01	0.15	-18.26	8	Pass
	13	2472	-24.92	3.01	0.15	-21.76	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11n (HT40)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	3	2422	-24.86	3.01	-21.85	8	Pass
	6	2437	-24.55	3.01	-21.54	8	Pass
	9	2452	-23.88	3.01	-20.87	8	Pass
	10	2457	-24.57	3.01	-21.56	8	Pass
	11	2462	-27.17	3.01	-24.16	8	Pass
B	3	2422	-23.85	3.01	-20.84	8	Pass
	6	2437	-24.67	3.01	-21.66	8	Pass
	9	2452	-24.23	3.01	-21.22	8	Pass
	10	2457	-24.25	3.01	-21.24	8	Pass
	11	2462	-26.79	3.01	-23.78	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE20)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	1	2412	-19.63	3.01	0.1	-16.52	8	Pass
	6	2437	-19.93	3.01	0.1	-16.82	8	Pass
	11	2462	-20.99	3.01	0.1	-17.88	8	Pass
	12	2467	-22.76	3.01	0.1	-19.65	8	Pass
	13	2472	-25.89	3.01	0.1	-22.78	8	Pass
B	1	2412	-20	3.01	0.1	-16.89	8	Pass
	6	2437	-19.39	3.01	0.1	-16.28	8	Pass
	11	2462	-20.81	3.01	0.1	-17.7	8	Pass
	12	2467	-22.43	3.01	0.1	-19.32	8	Pass
	13	2472	-26.17	3.01	0.1	-23.06	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.

2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

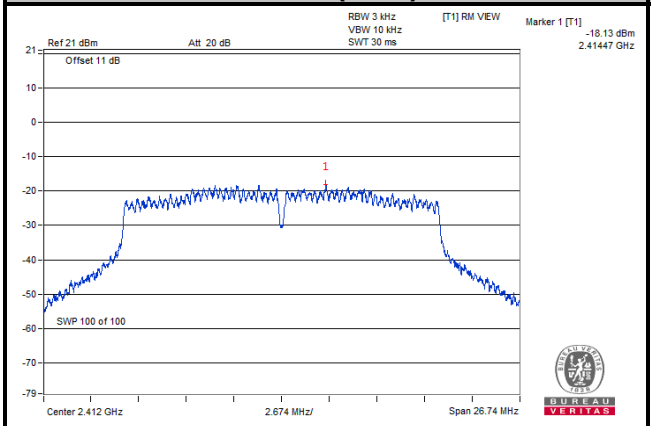
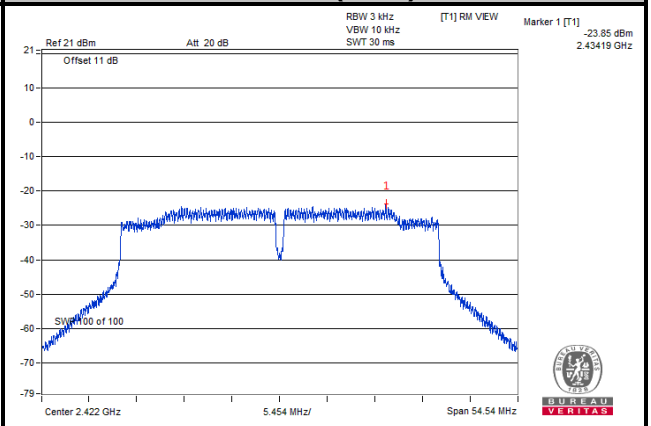
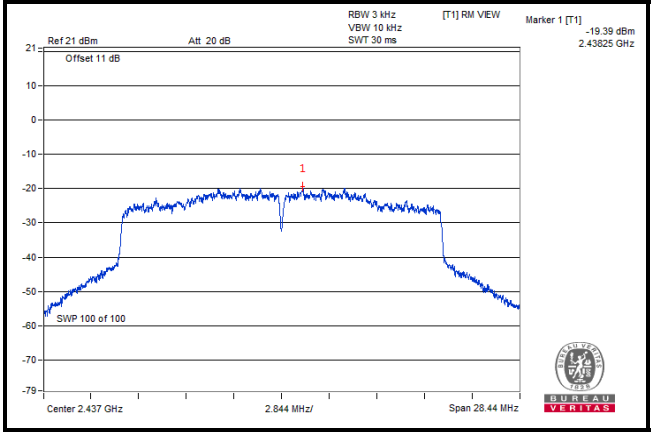
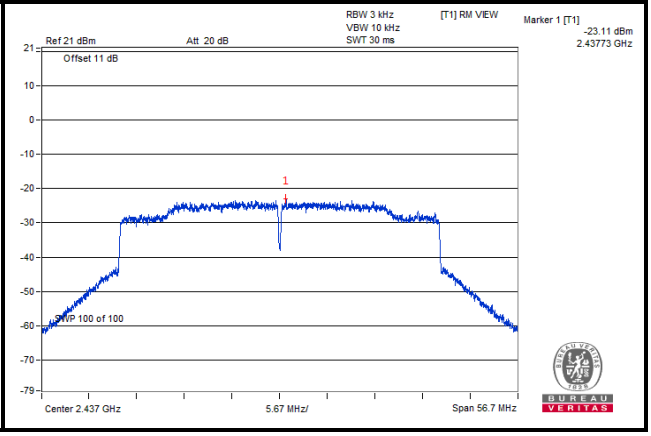
802.11ax (HE40)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	3	2422	-24.78	3.01	-21.77	8	Pass
	6	2437	-23.11	3.01	-20.1	8	Pass
	9	2452	-23.66	3.01	-20.65	8	Pass
	10	2457	-25.34	3.01	-22.33	8	Pass
	11	2462	-27.51	3.01	-24.5	8	Pass
B	3	2422	-24.59	3.01	-21.58	8	Pass
	6	2437	-23.25	3.01	-20.24	8	Pass
	9	2452	-23.74	3.01	-20.73	8	Pass
	10	2457	-25.95	3.01	-22.94	8	Pass
	11	2462	-28.04	3.01	-25.03	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.

2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

Spectrum Plot of Worst Value	
802.11n (HT20)	802.11n (HT40)
	
802.11ax (HE20)	802.11ax (HE40)
	

Partial RU

SISO_Chain A

802.11ax (HE20) (26, 0)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-9.59	0.1	-9.49	8	Pass

802.11ax (HE20) (26, 8)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
13	2472	-7.00	0.1	-6.9	8	Pass

802.11ax (HE20) (52, 37)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-11.76	0.1	-11.66	8	Pass

802.11ax (HE20) (52, 40)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
13	2472	-11.83	0.1	-11.73	8	Pass

802.11ax (HE20) (106, 53)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-15.42	0.1	-15.32	8	Pass

802.11ax (HE20) (106, 54)

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
13	2472	-13.92	0.1	-13.82	8	Pass

802.11ax (HE40) (242, 61)

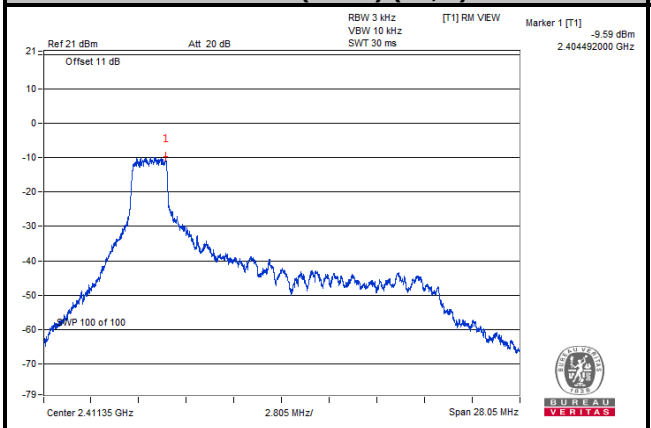
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
3	2422	-17.20	8	Pass

802.11ax (HE40) (242, 62)

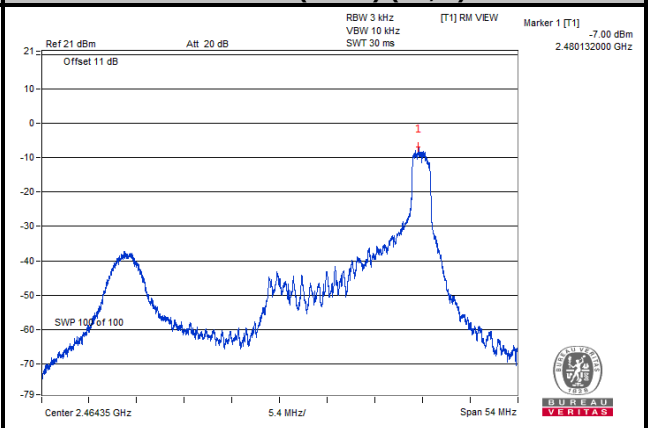
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
11	2462	-15.91	0.69	-15.22	8	Pass

Spectrum Plot of Worst Value

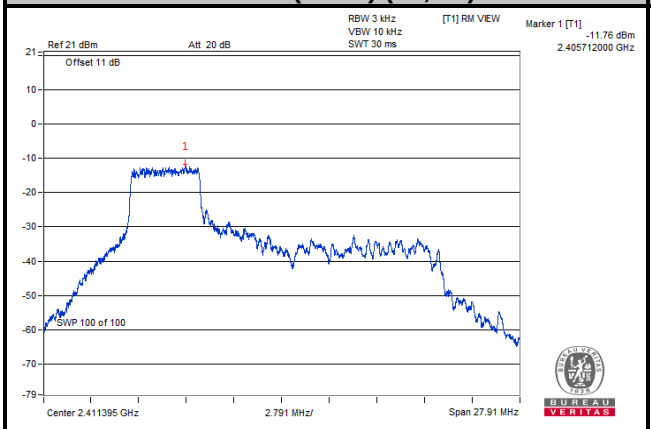
802.11ax (HE20) (26, 0)



802.11ax (HE20) (26, 8)



802.11ax (HE20) (52, 37)



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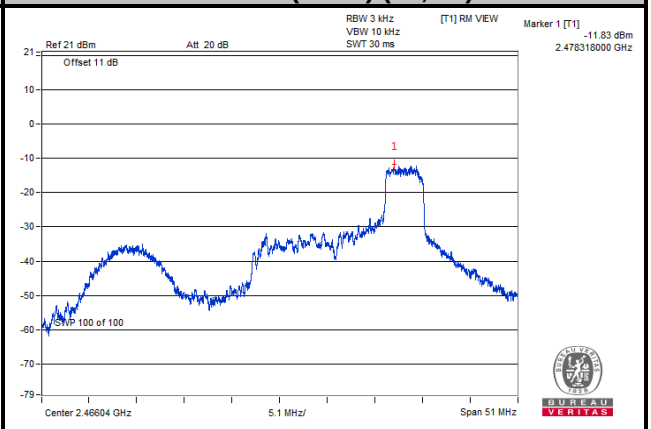
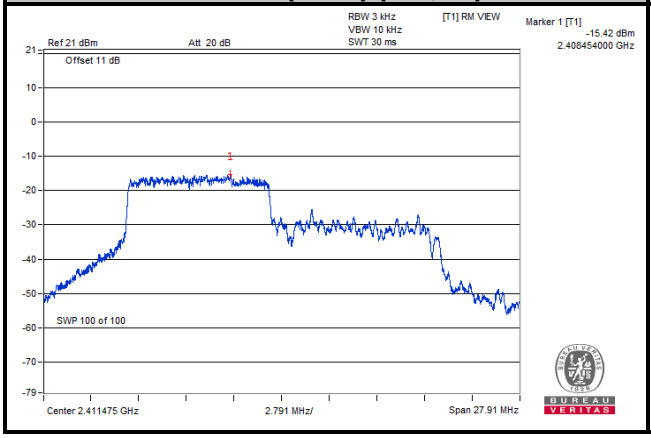
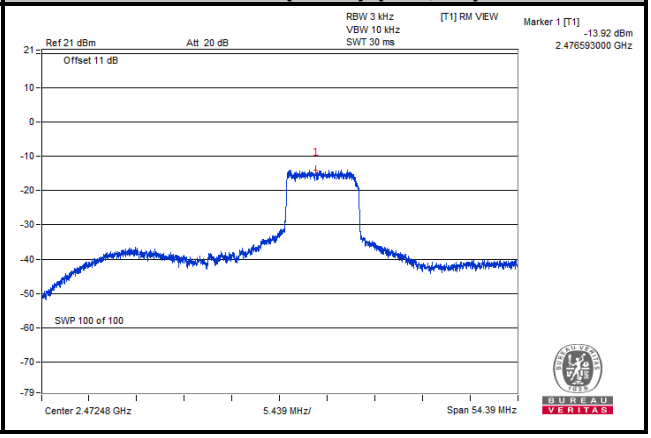
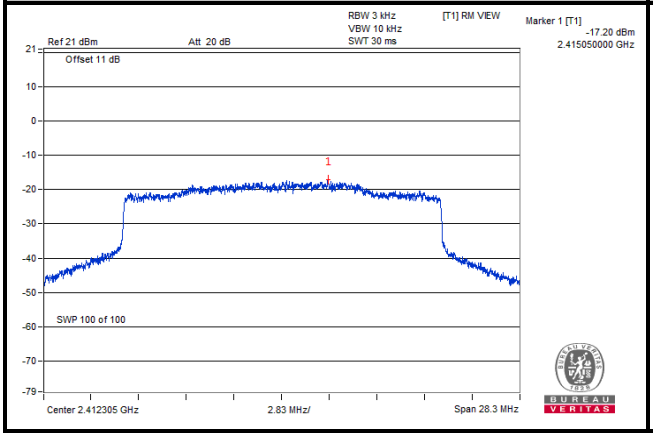
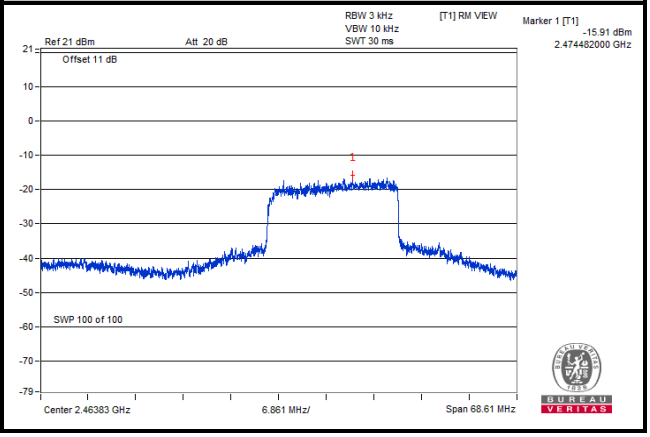


802.11ax (HE20) (106, 53)



802.11ax (HE20) (106, 54)



802.11ax (HE40) (242, 61)	802.11ax (HE40) (242, 62)
	

SISO_Chain B

802.11ax (HE20) (26, 0)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-9.07	0.13	-8.94	8	Pass

802.11ax (HE20) (26, 8)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
13	2472	-9.5	0.13	-9.37	8	Pass

802.11ax (HE20) (52, 37)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-10.77	0.13	-10.64	8	Pass

802.11ax (HE20) (52, 40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
13	2472	-12.97	0.13	-12.84	8	Pass

802.11ax (HE20) (106, 53)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-13.52	0.13	-13.39	8	Pass

802.11ax (HE20) (106, 54)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
13	2472	-14.65	0.13	-14.52	8	Pass

802.11ax (HE40) (242, 61)

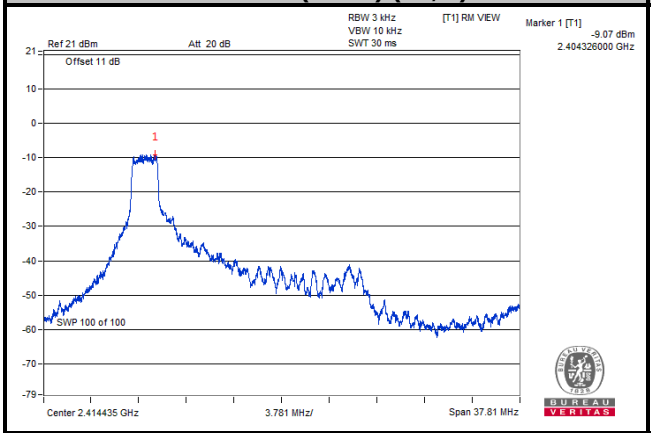
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor (dB)	PSD with Duty Factor (dBm)	Limit (dBm/3 kHz)	Pass / Fail
3	2422	-17.29	0.7	-16.59	8	Pass

802.11ax (HE40) (242, 62)

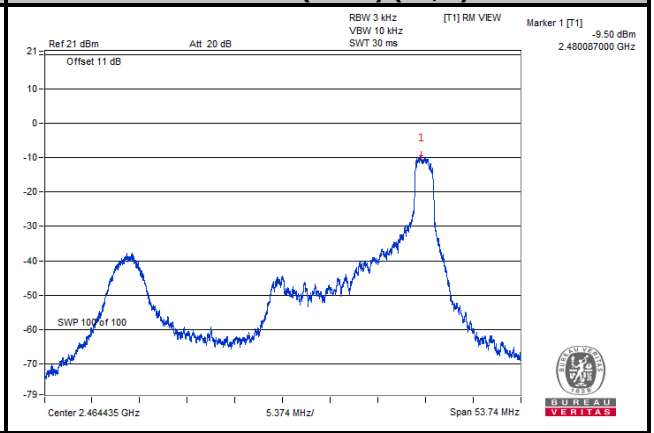
Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
11	2462	-17.15	8	Pass

Spectrum Plot of Worst Value

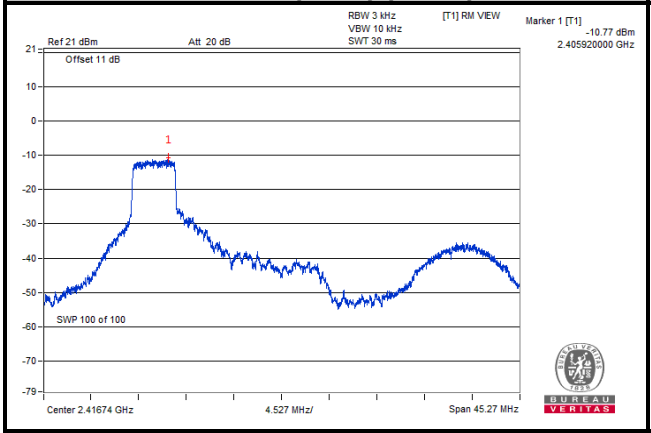
802.11ax (HE20) (26, 0)



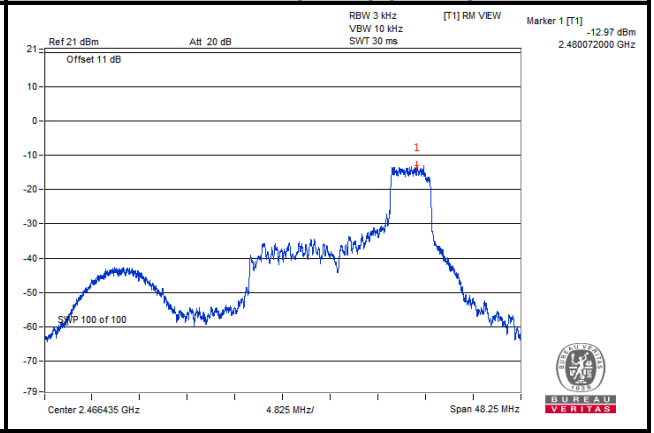
802.11ax (HE20) (26, 8)



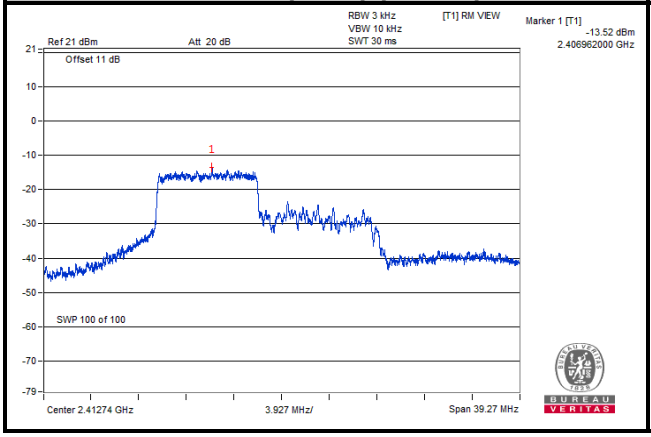
802.11ax (HE20) (52, 37)



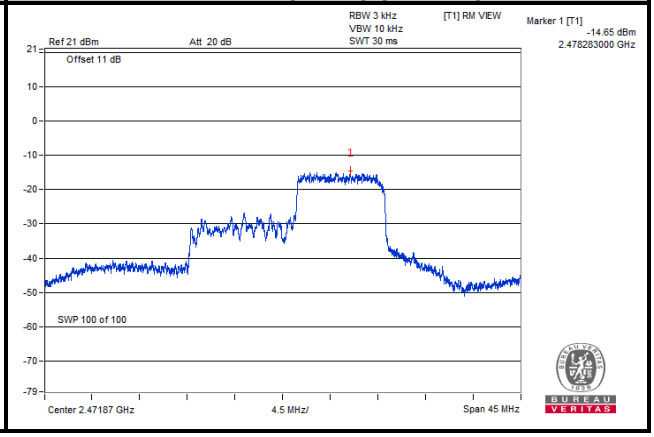
802.11ax (HE20) (52, 40)

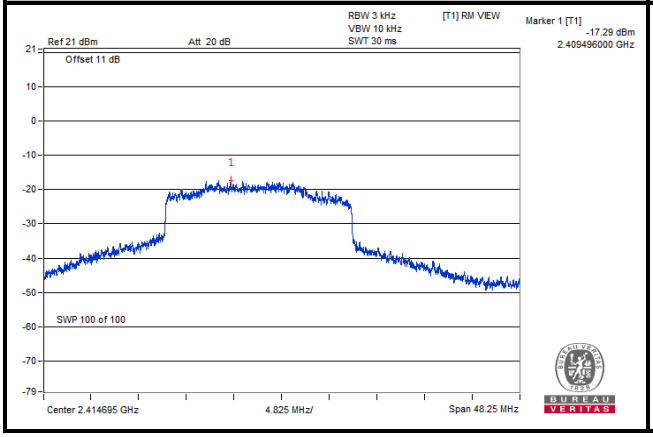
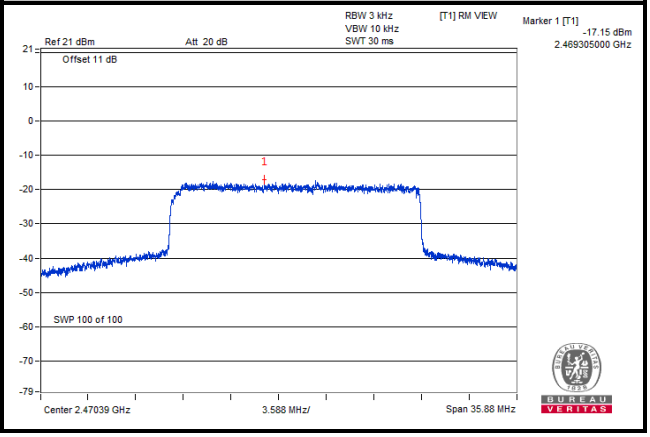


802.11ax (HE20) (106, 53)



802.11ax (HE20) (106, 54)



802.11ax (HE40) (242, 61)	802.11ax (HE40) (242, 62)
	

MIMO

802.11ax (HE20) (26, 0)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	1	2412	-11.49	3.01	0.1	-8.38	8	Pass
B	1	2412	-12.22	3.01	0.1	-9.11	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE20) (26, 8)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	13	2472	-8.29	3.01	0.1	-5.18	8	Pass
B	13	2472	-9.24	3.01	0.1	-6.13	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE20) (52, 37)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	1	2412	-12.88	3.01	0.1	-9.77	8	Pass
B	1	2412	-12.14	3.01	0.1	-9.03	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE20) (52, 40)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	13	2472	-14.37	3.01	0.1	-11.26	8	Pass
B	13	2472	-14.03	3.01	0.1	-10.92	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE20) (106, 53)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	1	2412	-15.18	3.01	0.1	-12.07	8	Pass
B	1	2412	-13.86	3.01	0.1	-10.75	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.

2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE20) (106, 54)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	13	2472	-14.88	3.01	0.1	-11.77	8	Pass
B	13	2472	-14.17	3.01	0.1	-11.06	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.

2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE40) (242, 61)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	3	2422	-17.35	3.01	0.74	-13.6	8	Pass
B	3	2422	-17.45	3.01	0.74	-13.7	8	Pass

NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.

2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11ax (HE40) (242, 62)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
A	11	2462	-17.68	3.01	0.73	-13.94	8	Pass
B	11	2462	-18.63	3.01	0.73	-14.89	8	Pass

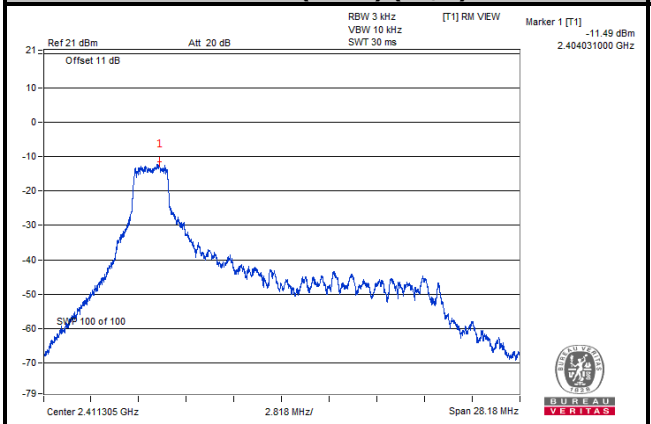
NOTE:

1. Uncorrelated, Directional gain = 10 log[(10$^{G1/10}$ + 10$^{G2/10}$) / 2]= 1.33 dBi < 6 dBi, so the limit no need to reduced.

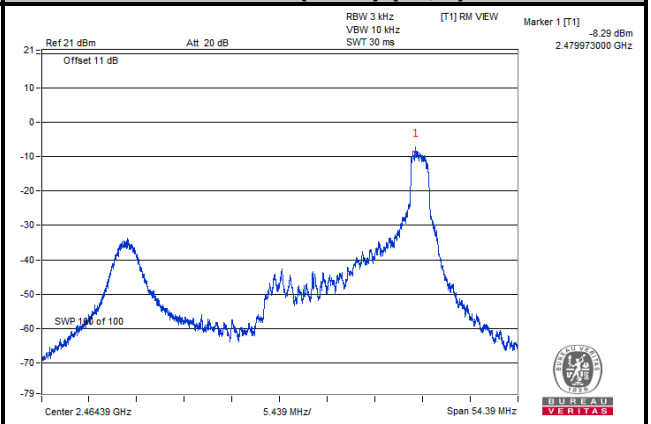
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

Spectrum Plot of Worst Value

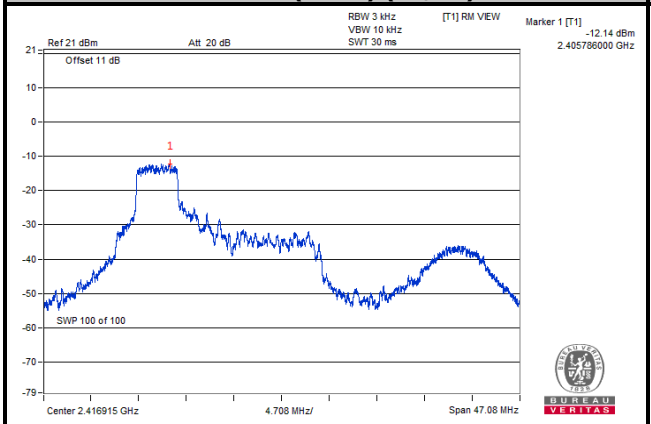
802.11ax (HE20) (26, 0)



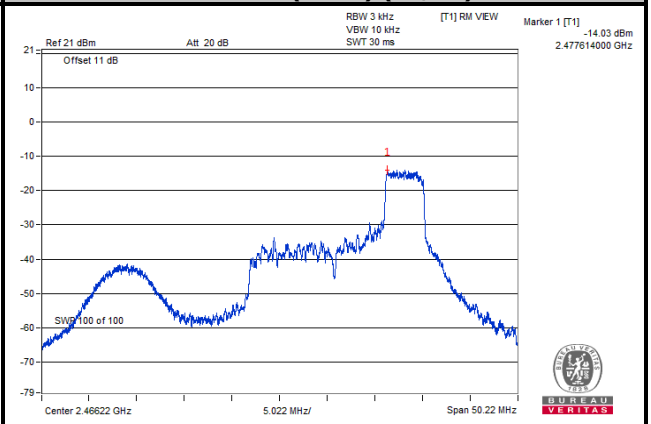
802.11ax (HE20) (26, 8)



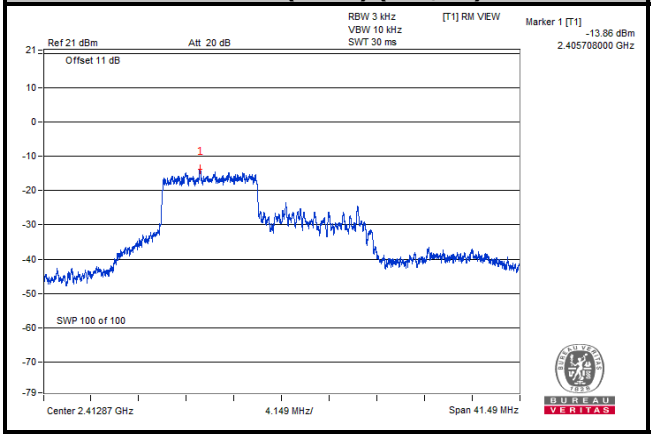
802.11ax (HE20) (52, 37)



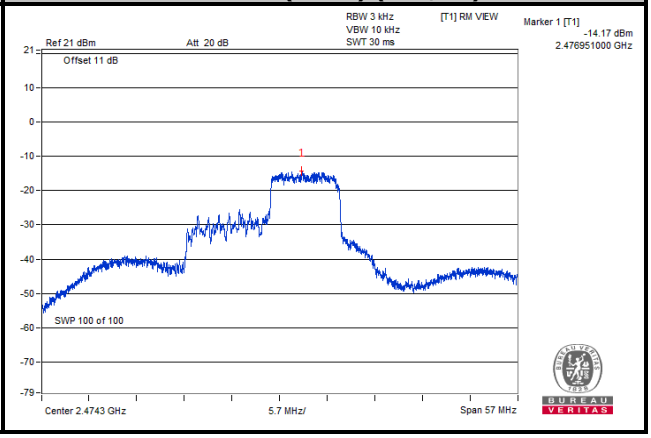
802.11ax (HE20) (52, 40)

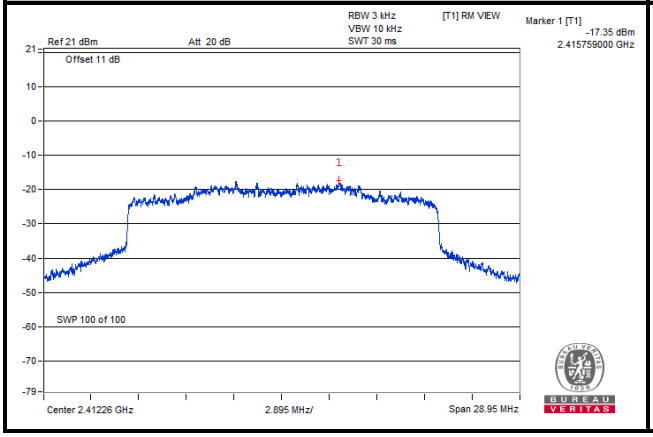
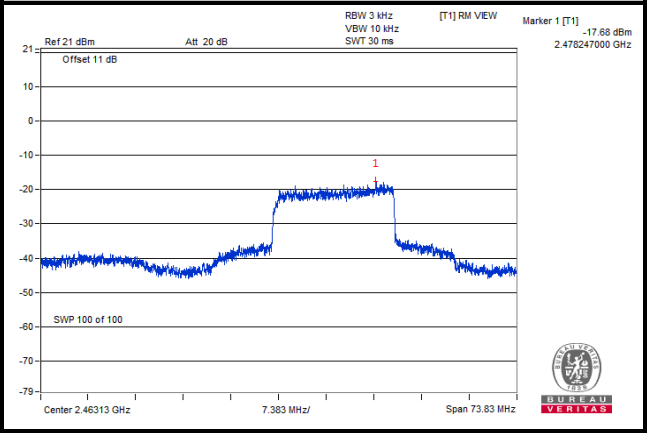


802.11ax (HE20) (106, 53)



802.11ax (HE20) (106, 54)



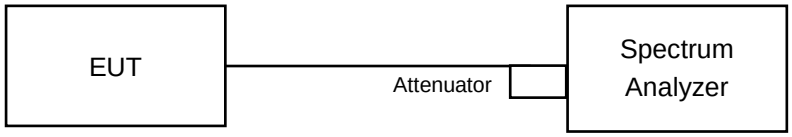
802.11ax (HE40) (242, 61)	802.11ax (HE40) (242, 62)
	

4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

Below -30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

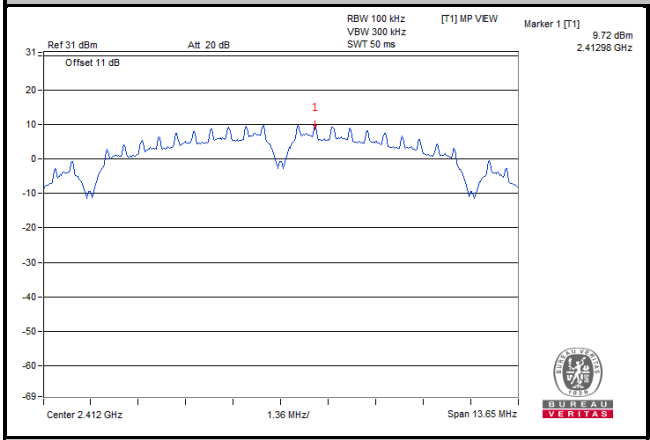
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

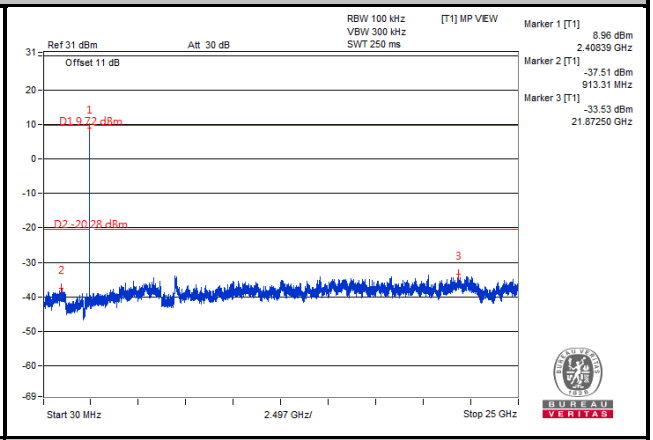
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 30 dB offset below D1. It shows compliance with the requirement.

SISO_Chain A

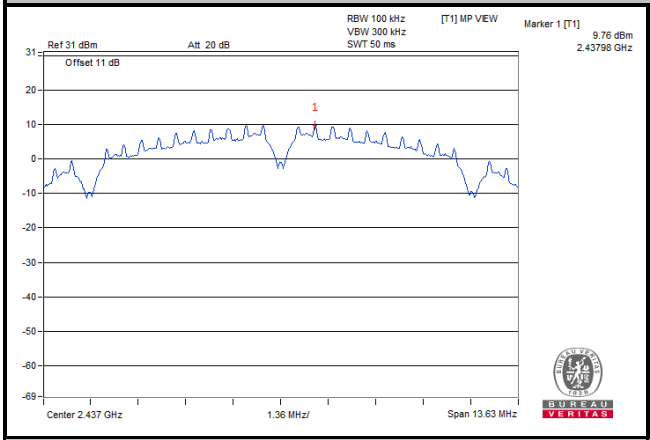
802.11b

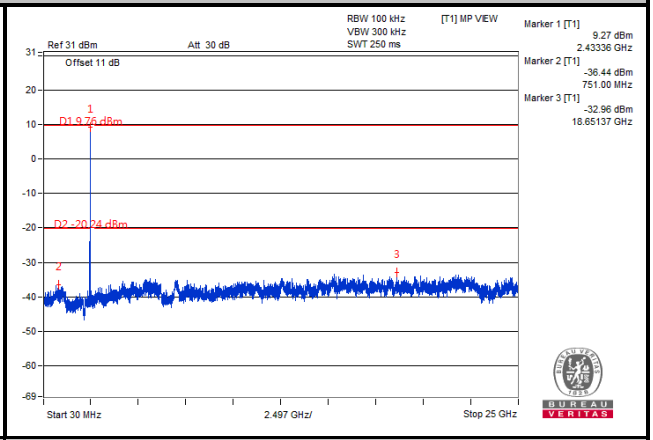
Ch 1



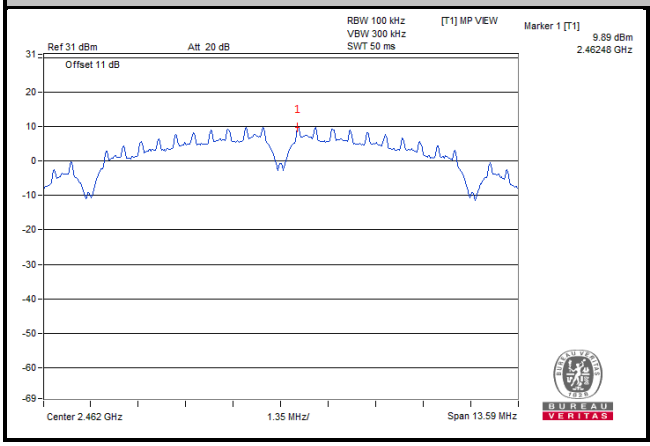


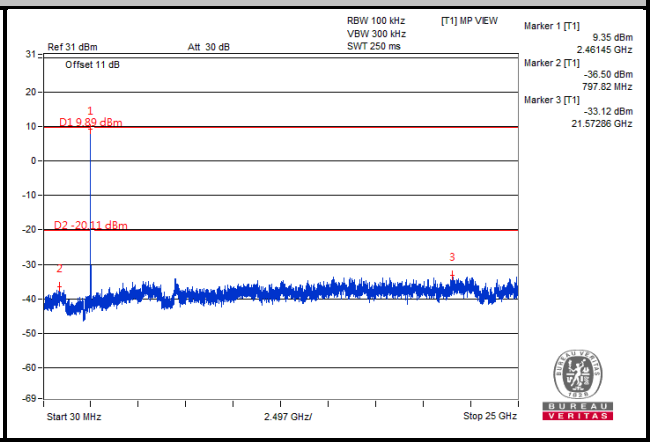
Ch 6



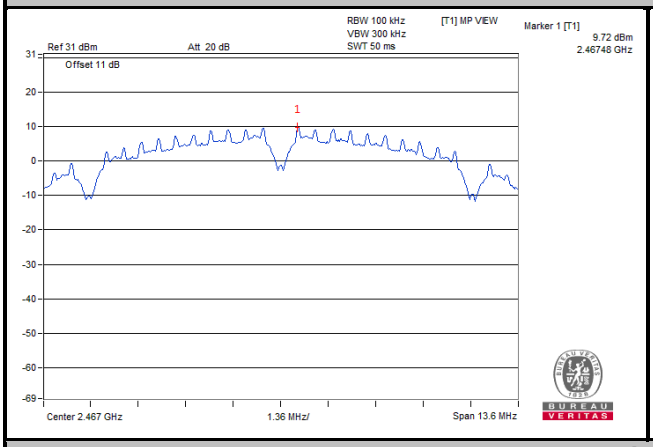


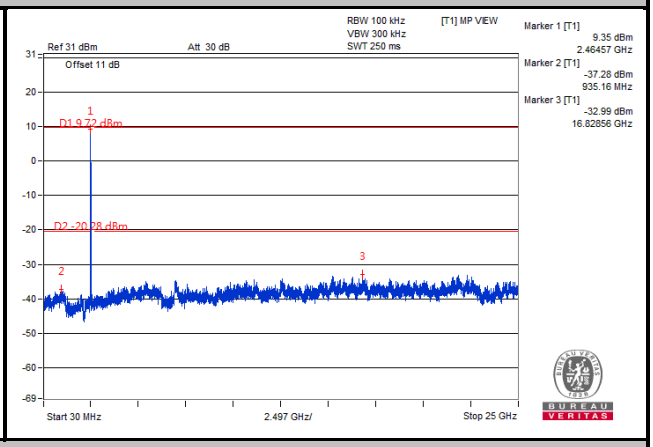
Ch 11



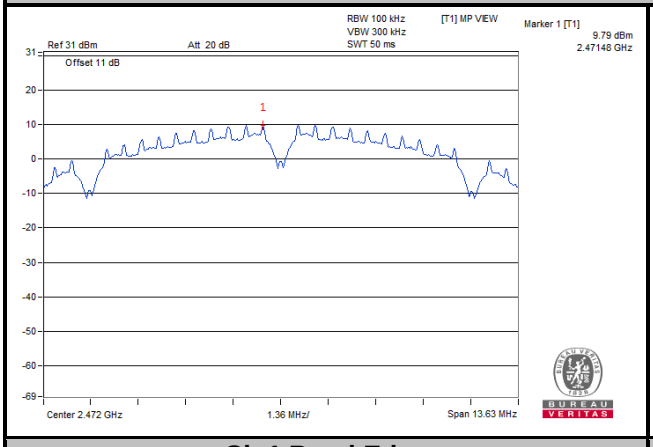


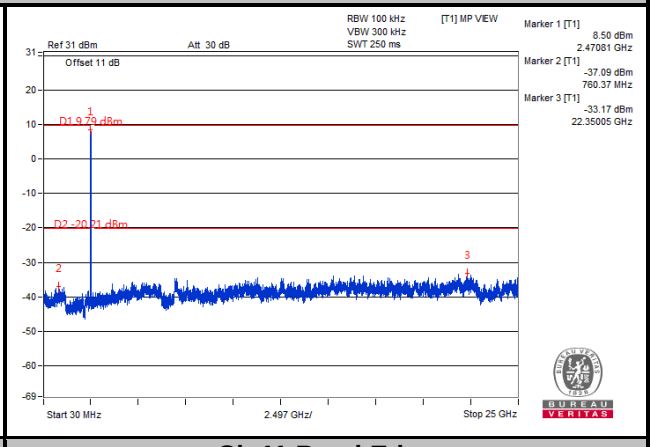
Ch 12



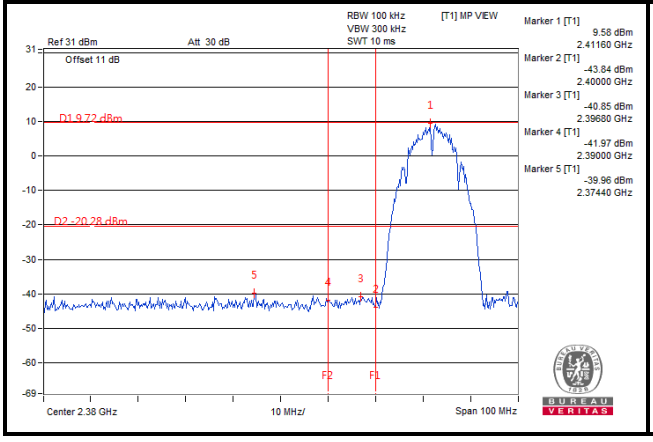


Ch 13

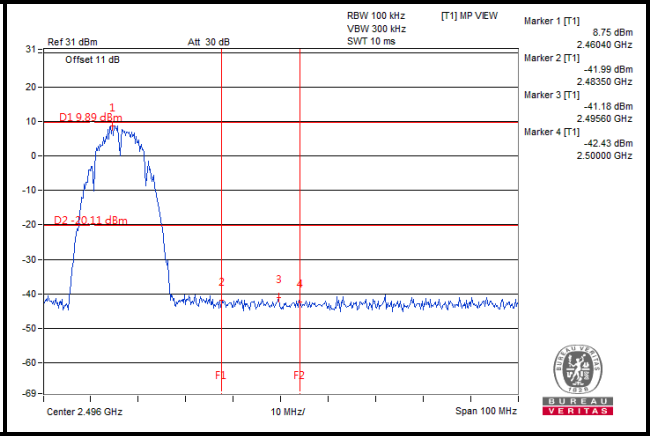


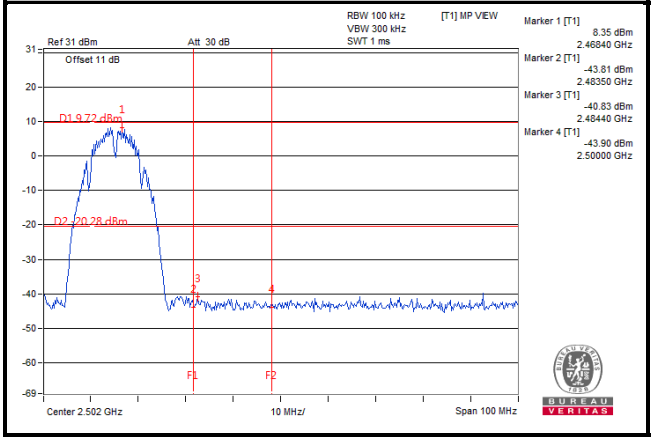
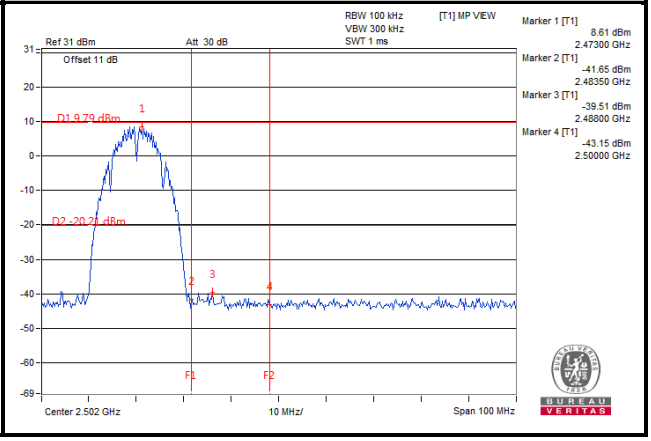


Ch 1 Band Edge



Ch 11 Band Edge

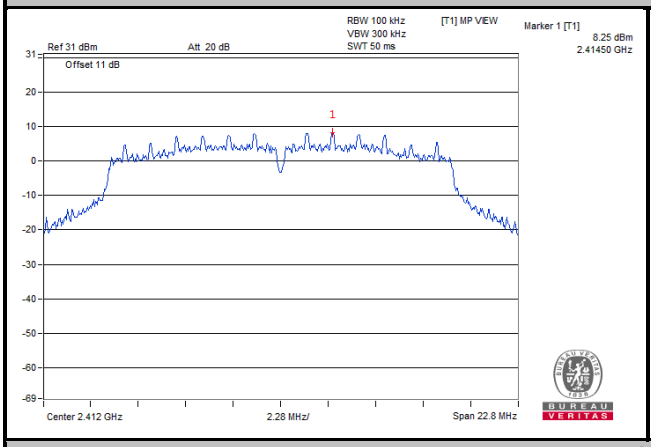


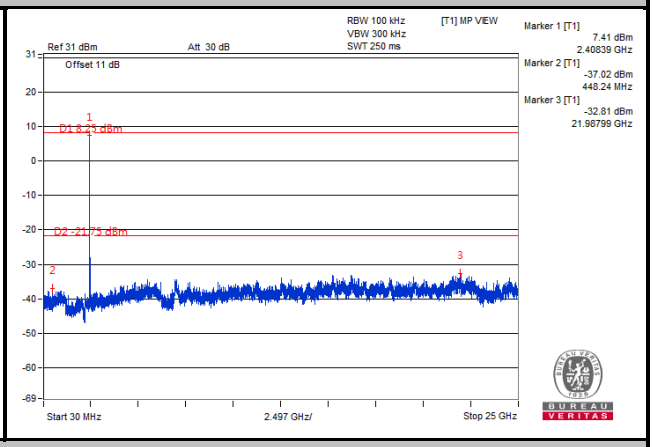
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

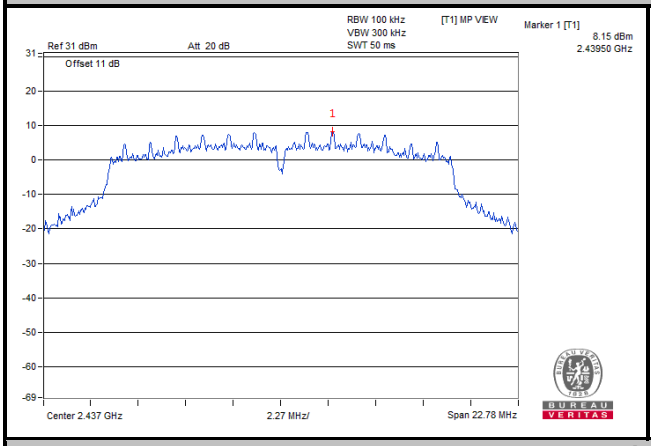
802.11g

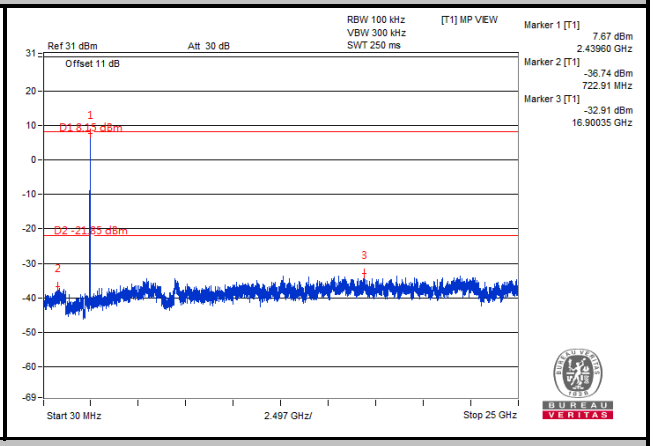
Ch 1



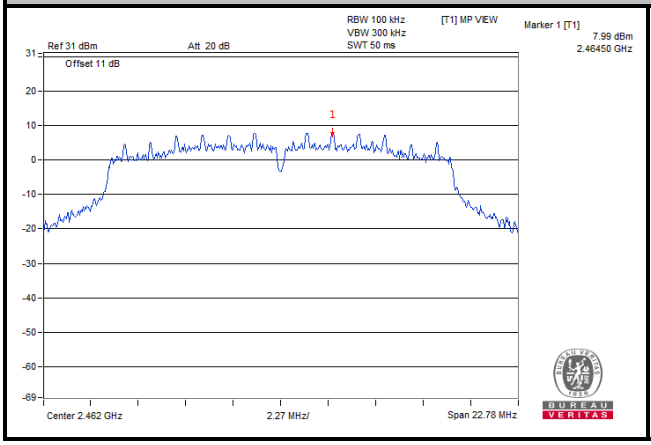


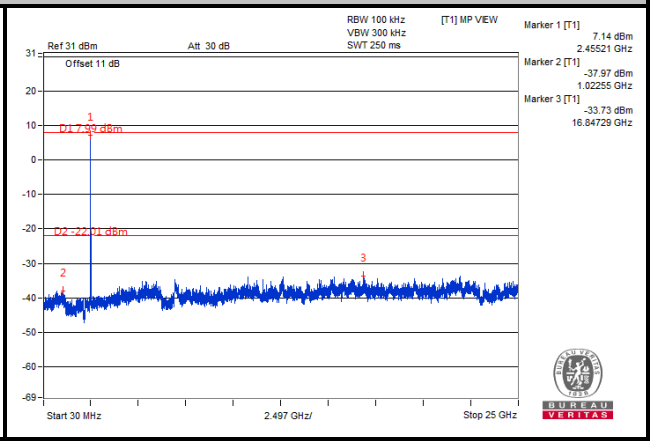
Ch 6



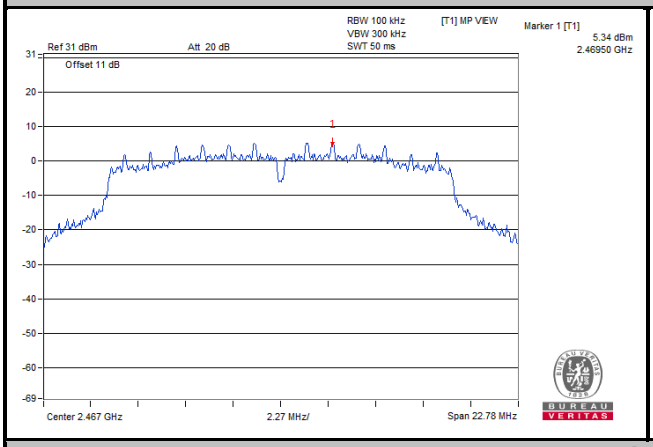


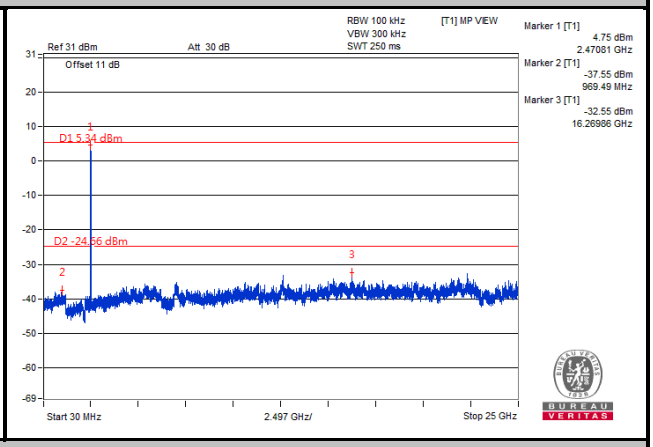
Ch 11



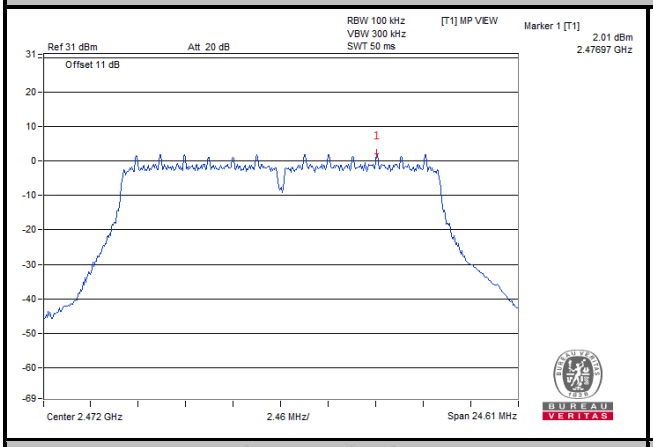


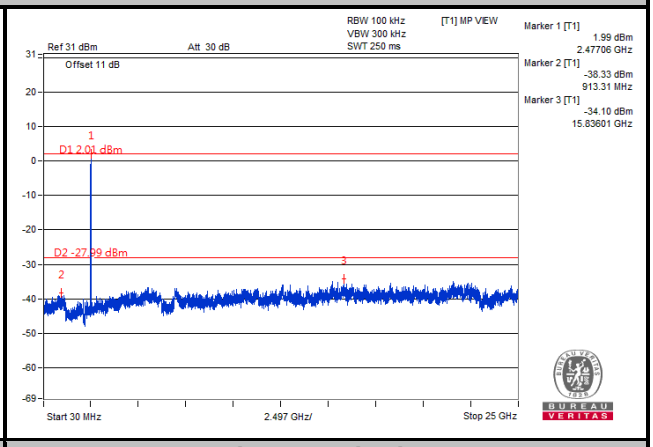
Ch 12



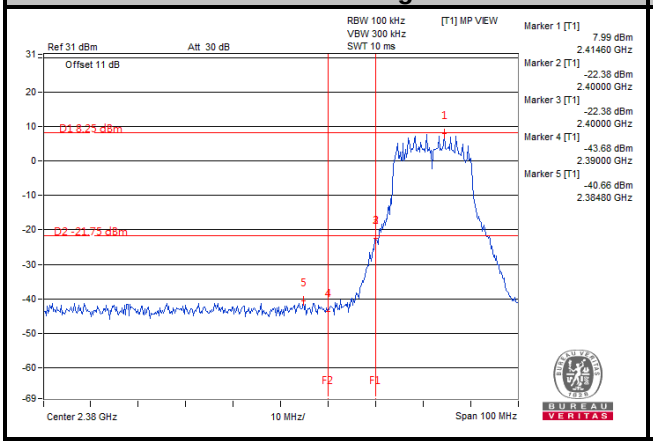


Ch 13

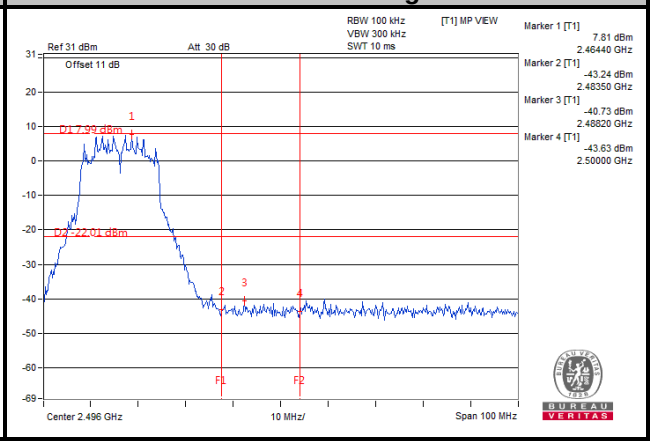


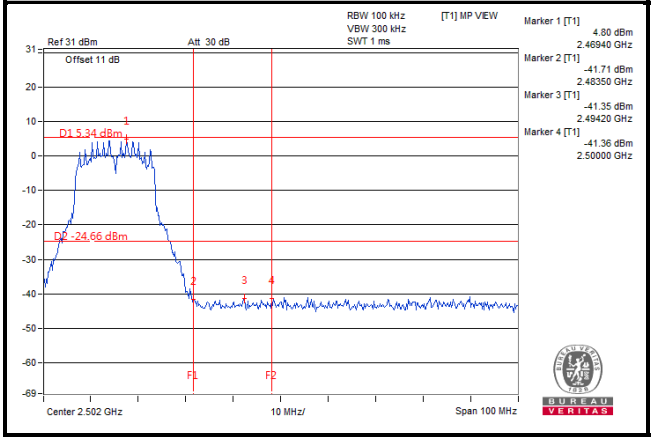
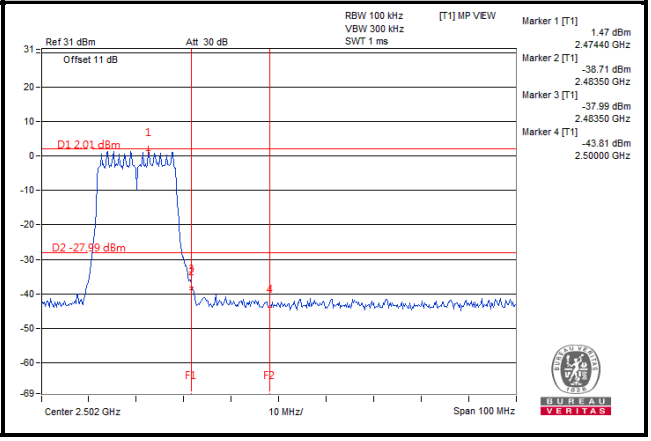


Ch 1 Band Edge



Ch 11 Band Edge

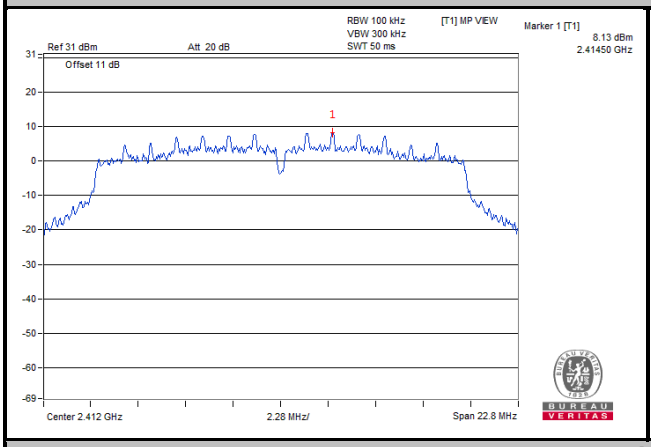


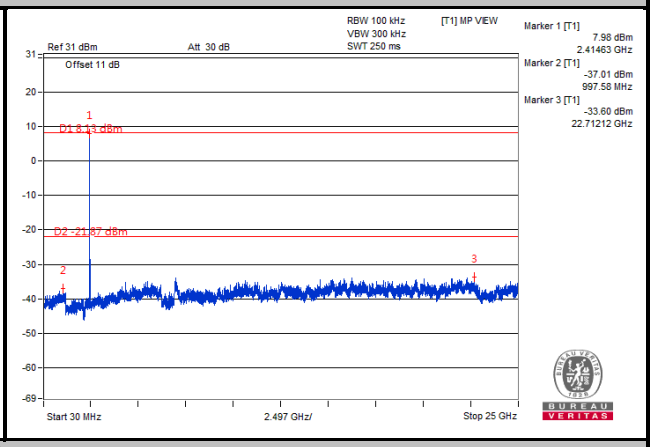
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

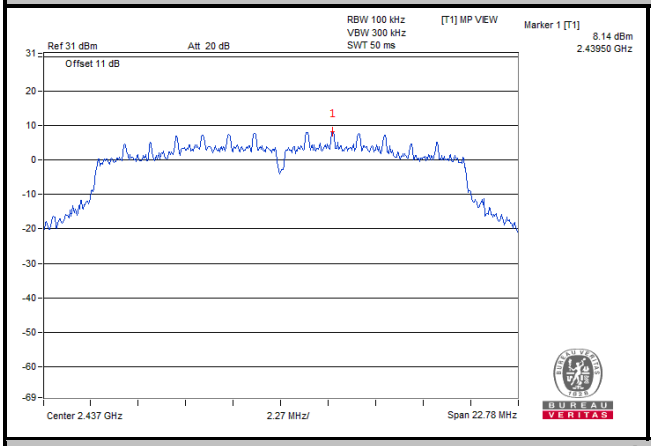
802.11n (HT20)

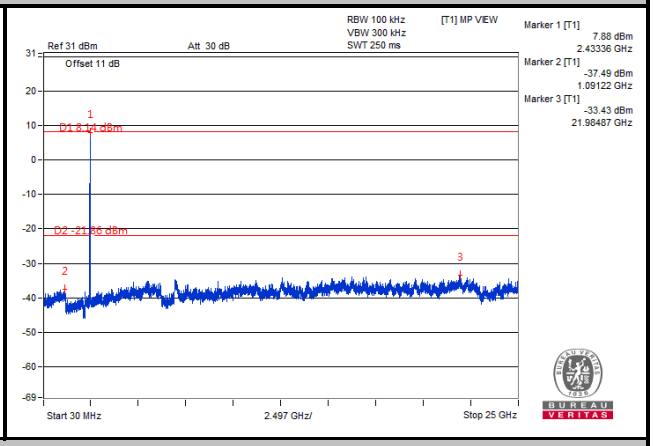
Ch 1



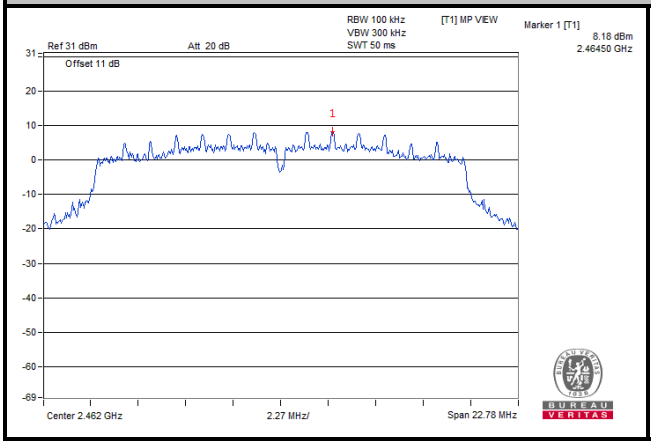


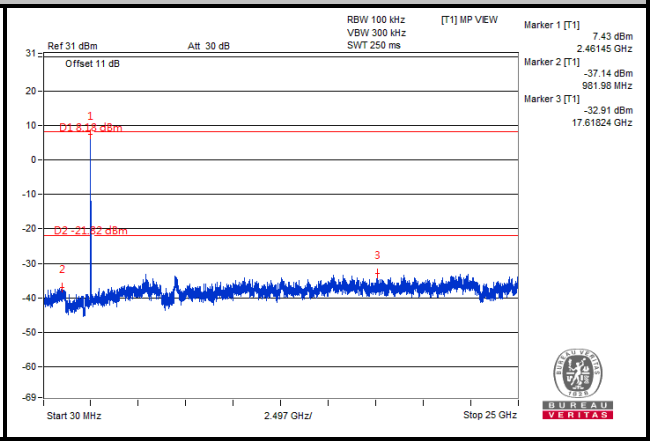
Ch 6



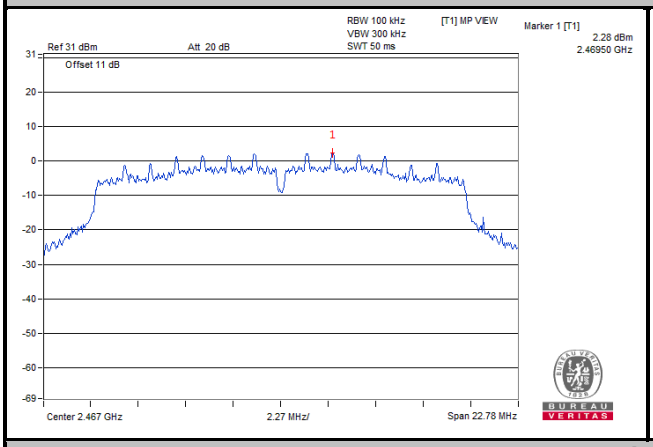


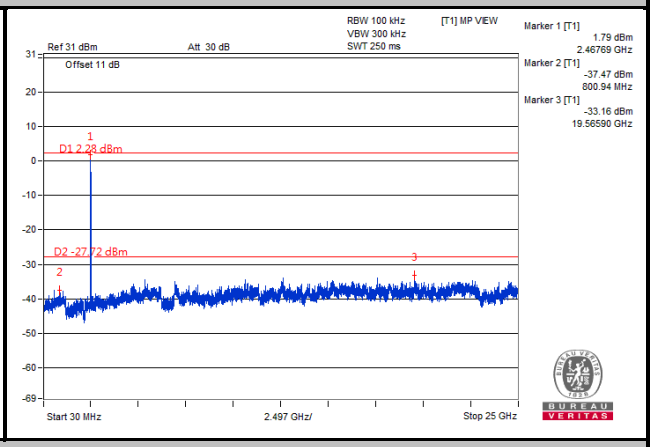
Ch 11



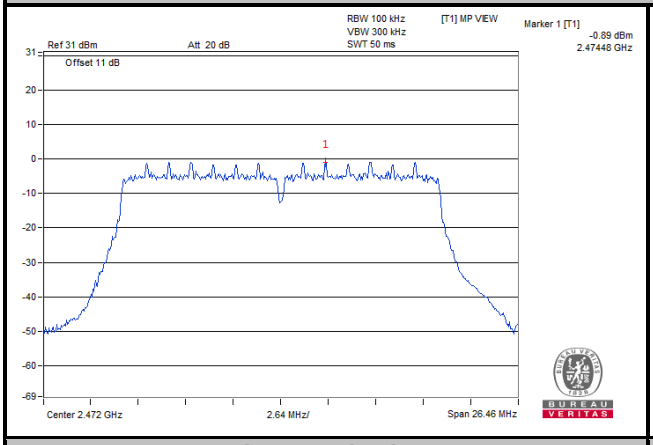


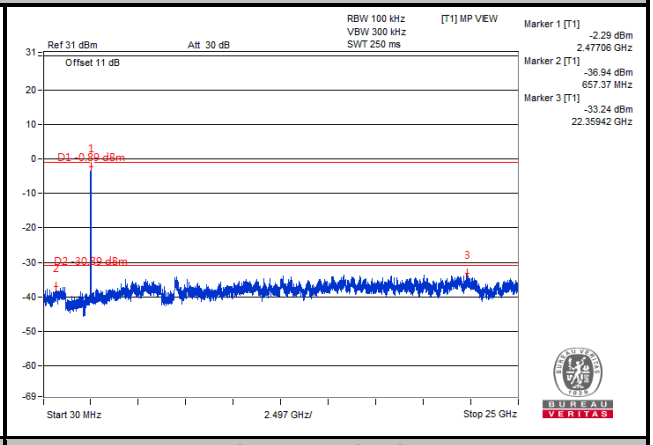
Ch 12



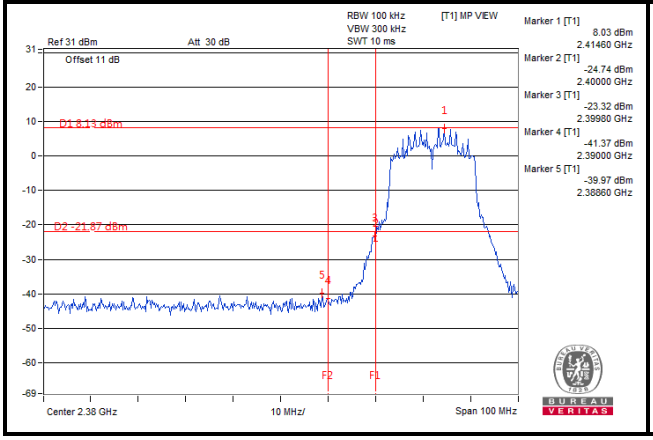


Ch 13

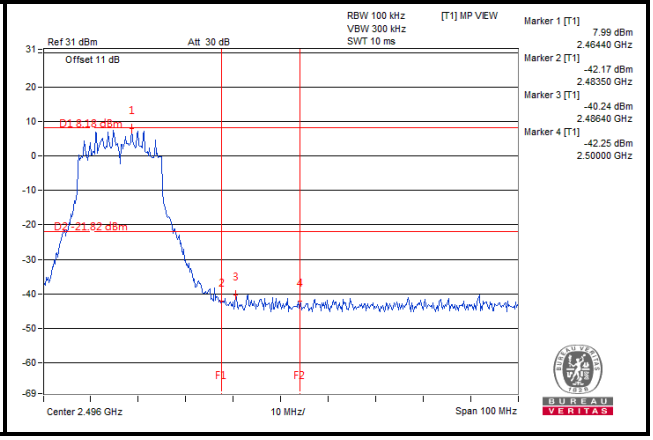


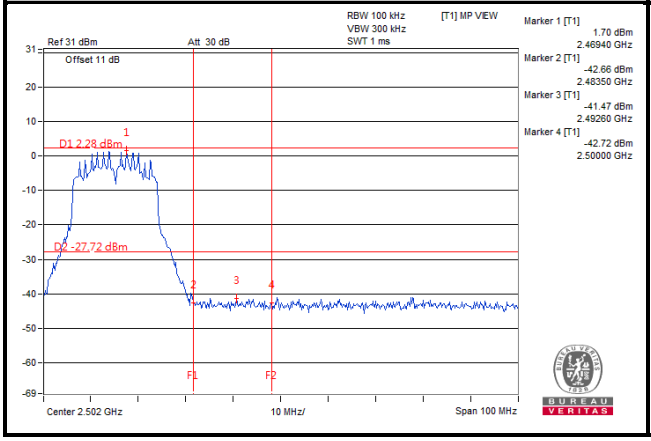
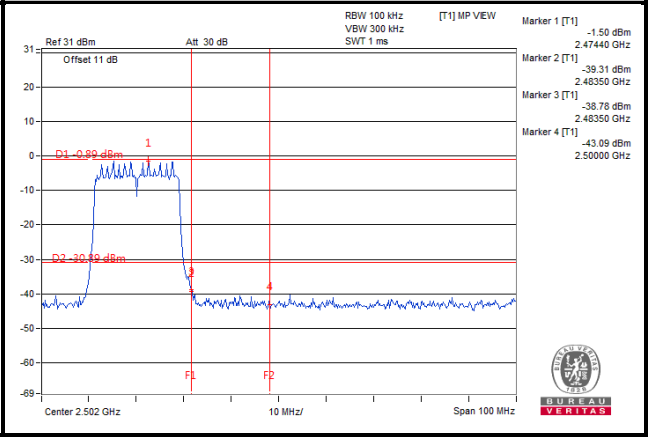


Ch 1 Band Edge



Ch 11 Band Edge

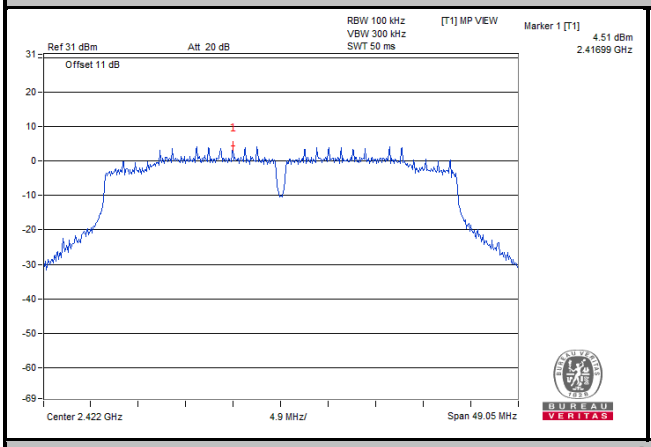


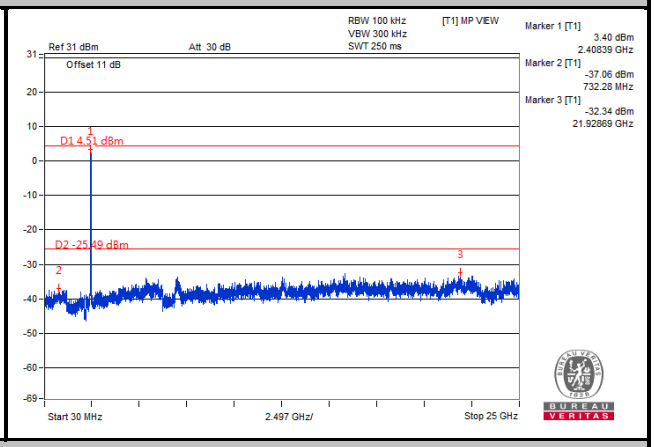
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

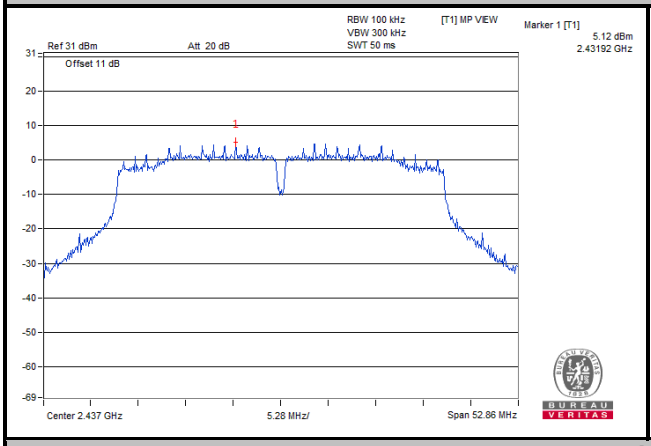
802.11n (HT40)

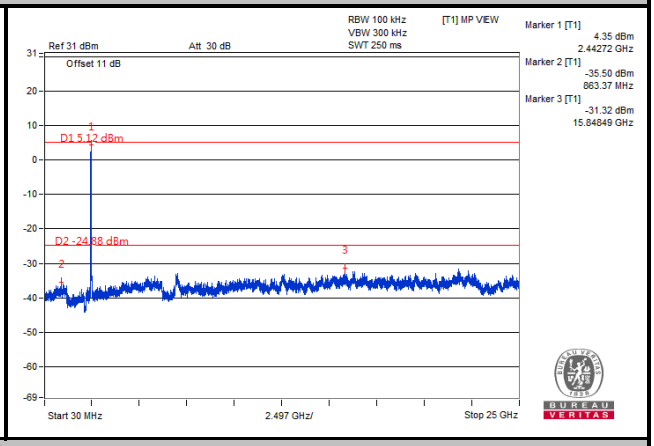
Ch 3



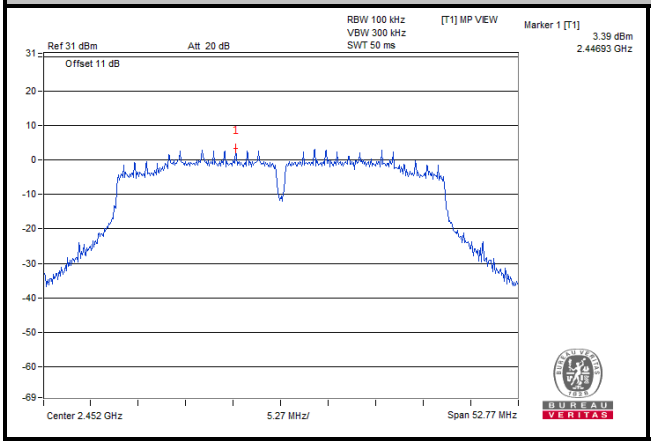


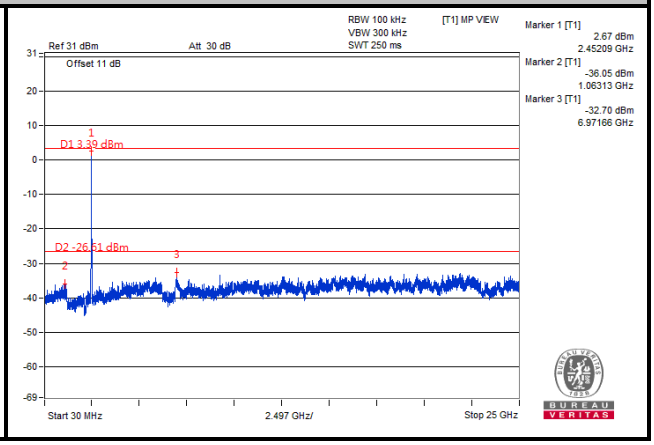
Ch 6



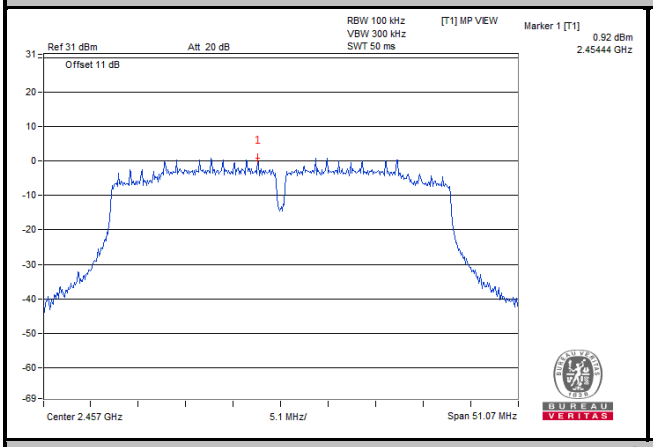


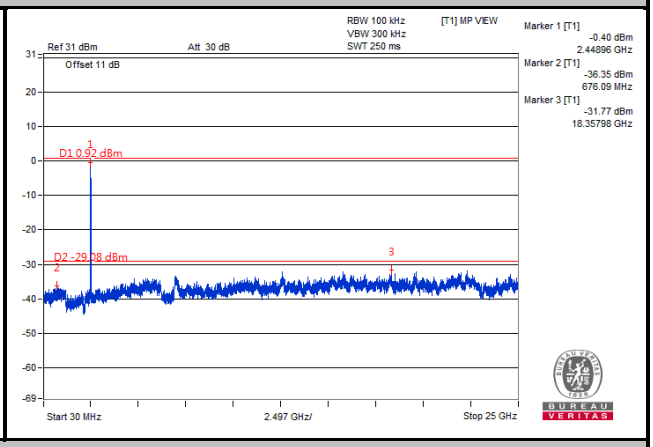
Ch 9



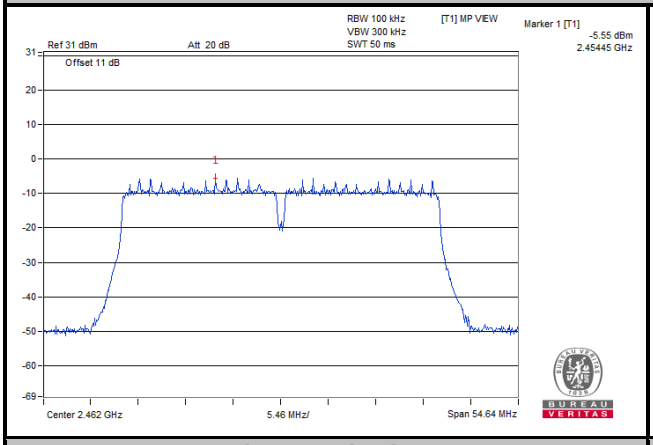


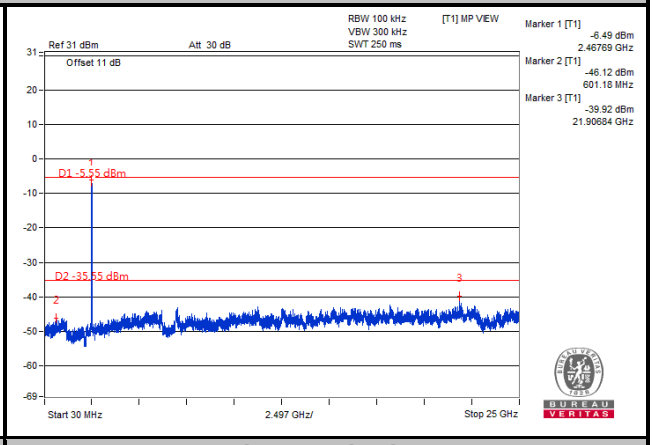
Ch 10



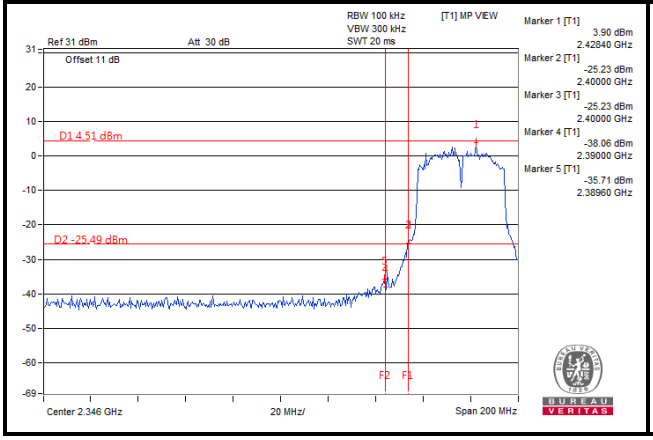


Ch 11

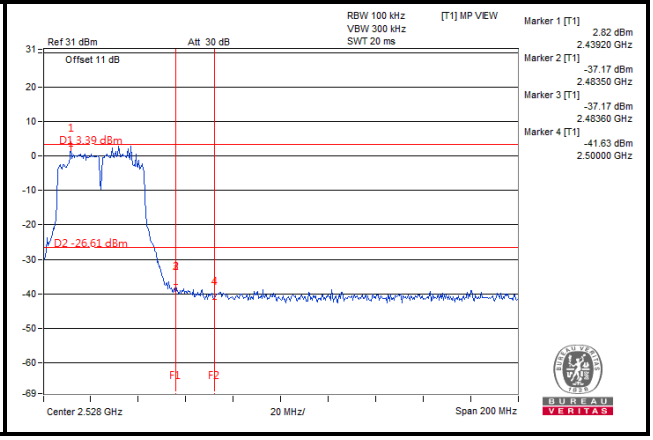


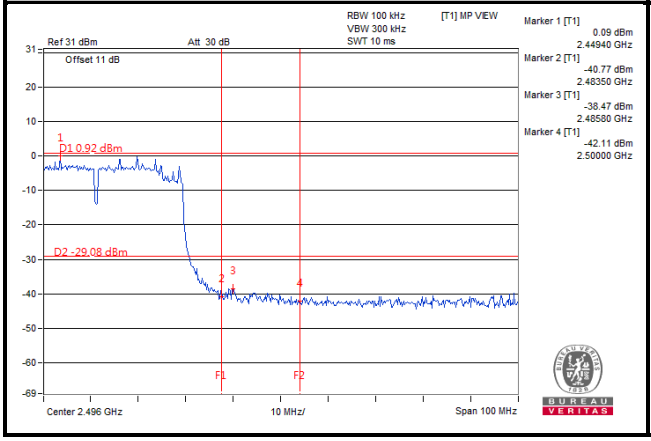
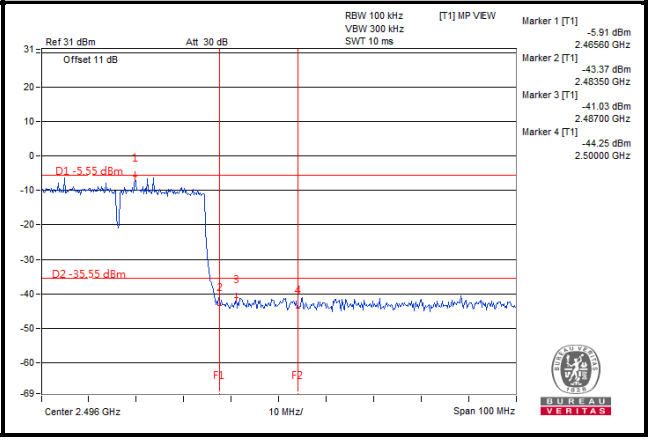


Ch 3 Band Edge



Ch 9 Band Edge

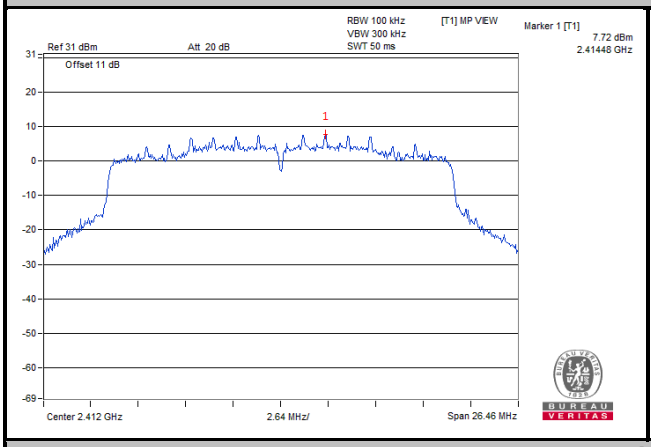


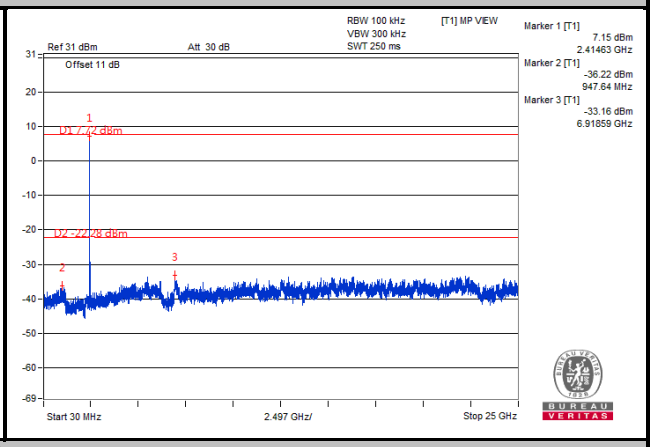
Ch 10 Band Edge	Ch 11 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

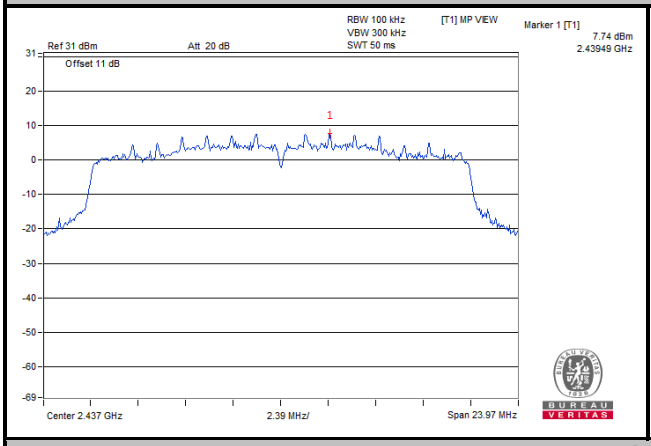
802.11ax (HE20)

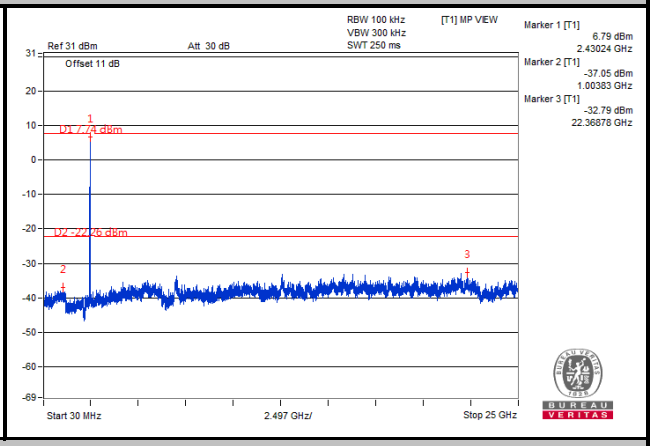
Ch 1



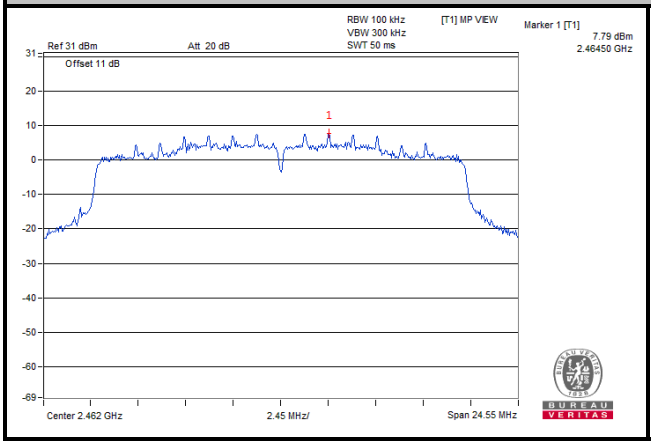


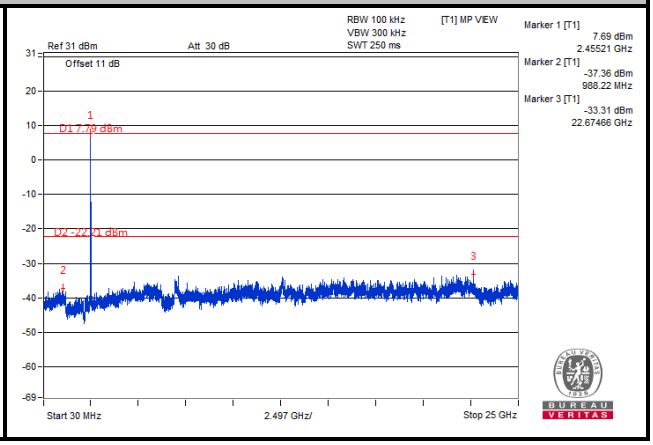
Ch 6



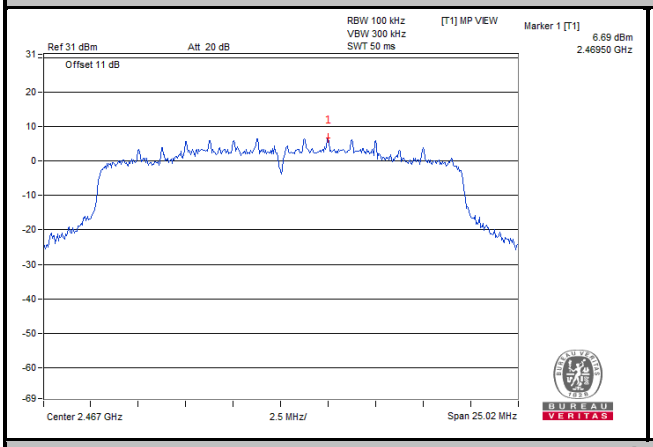


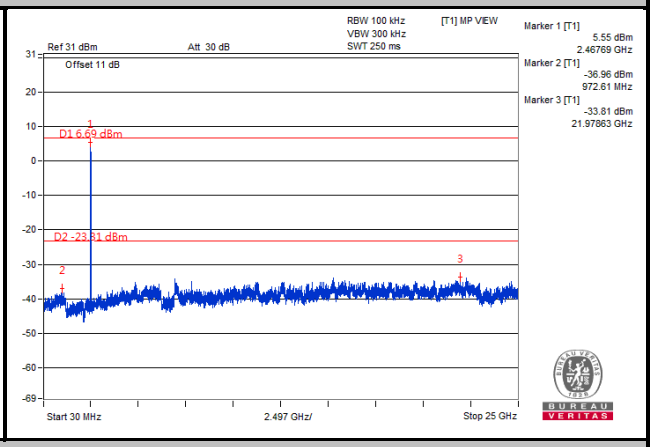
Ch 11



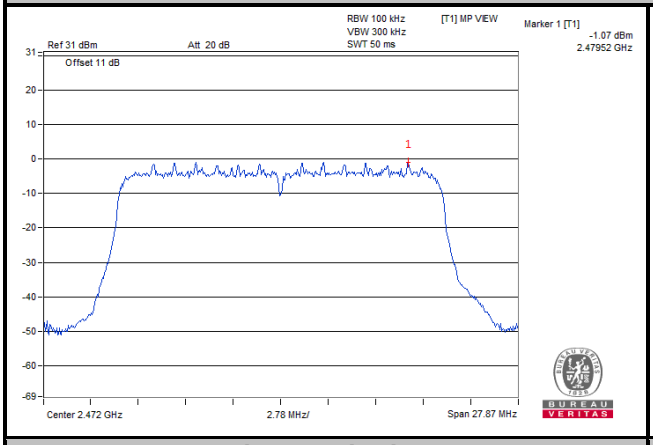


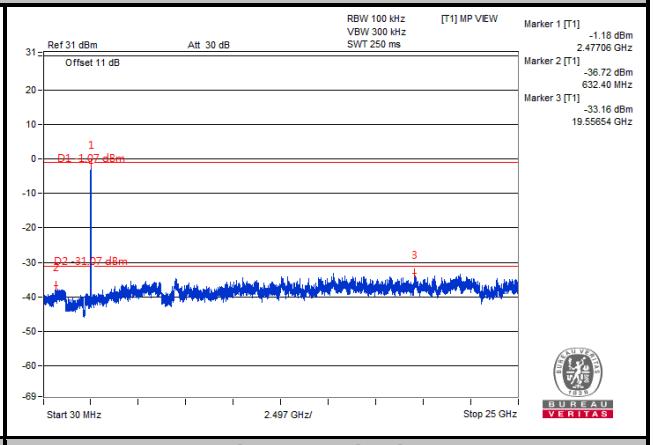
Ch 12



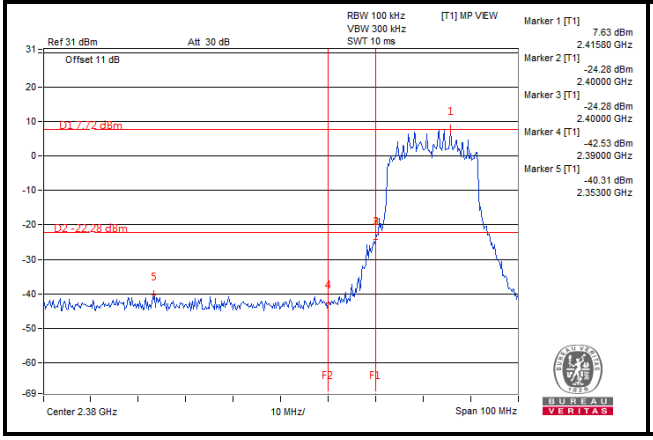


Ch 13

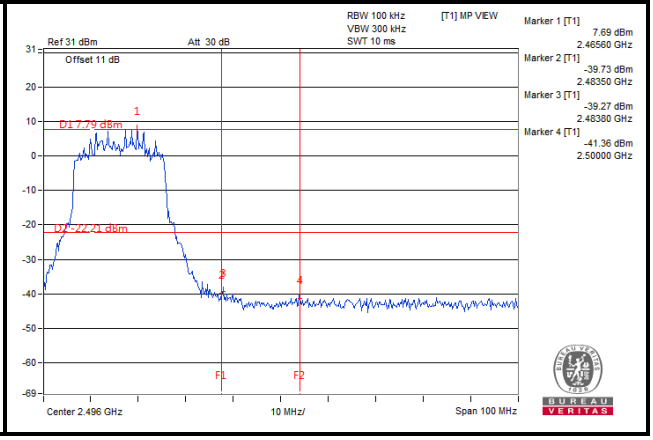


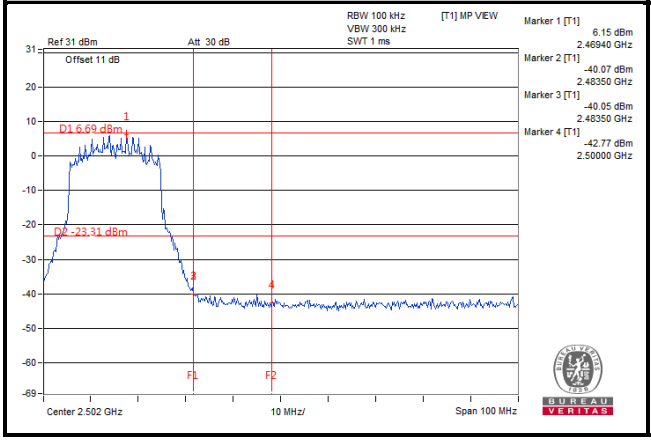
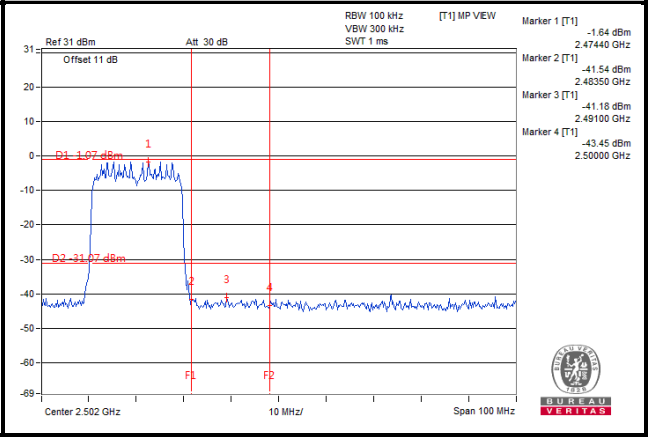


Ch 1 Band Edge



Ch 11 Band Edge

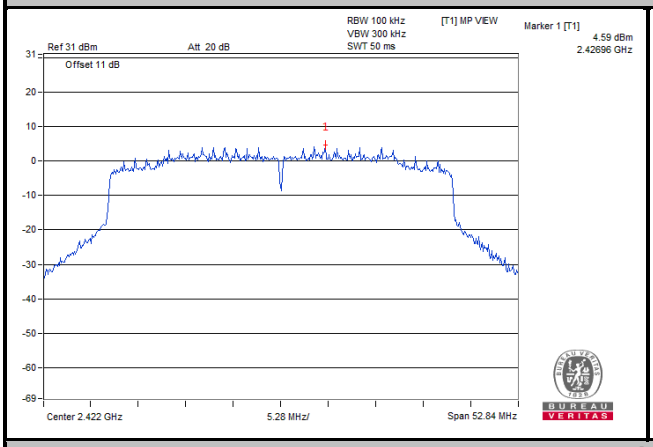


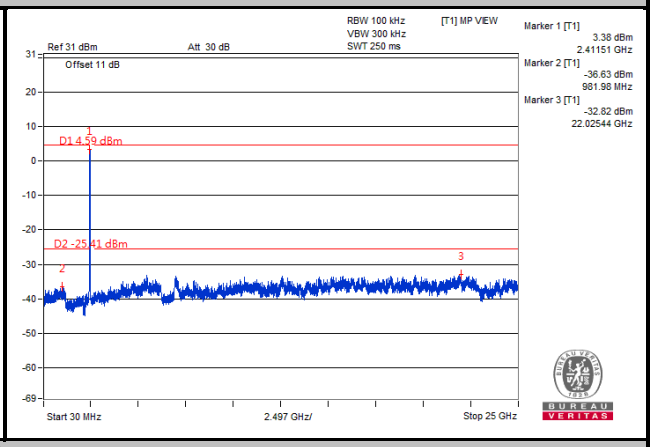
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

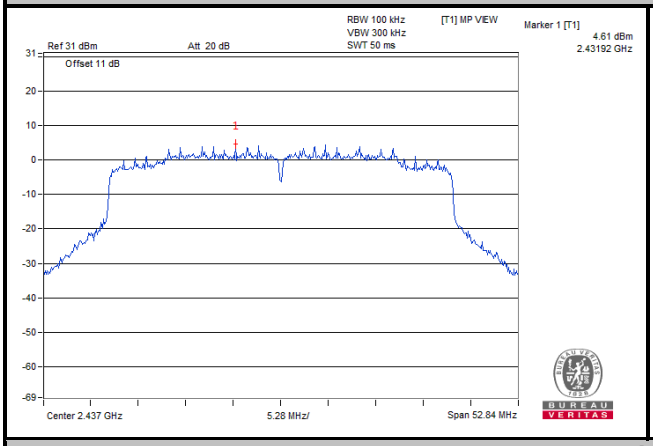
802.11ax (HE40)

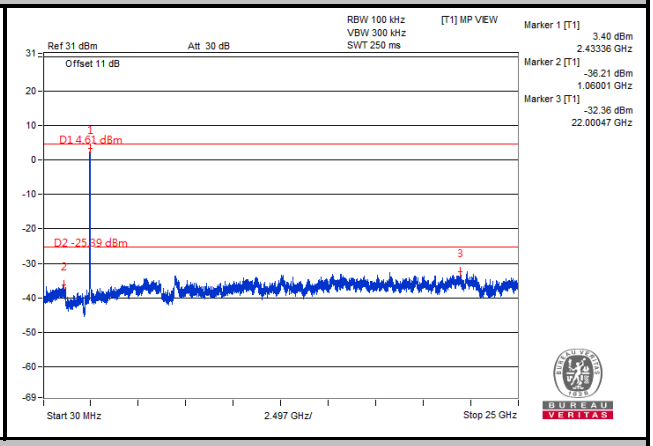
Ch 3



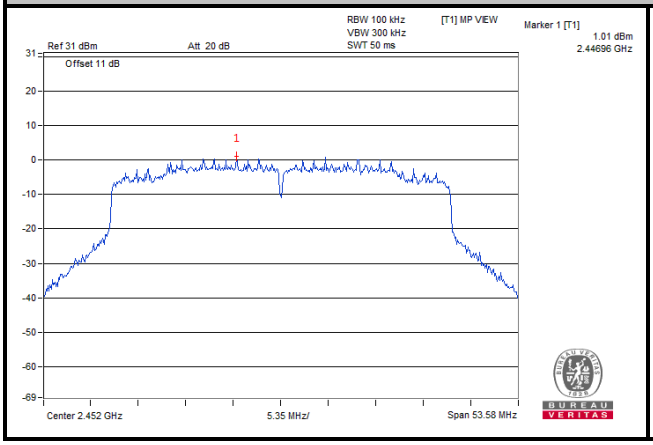


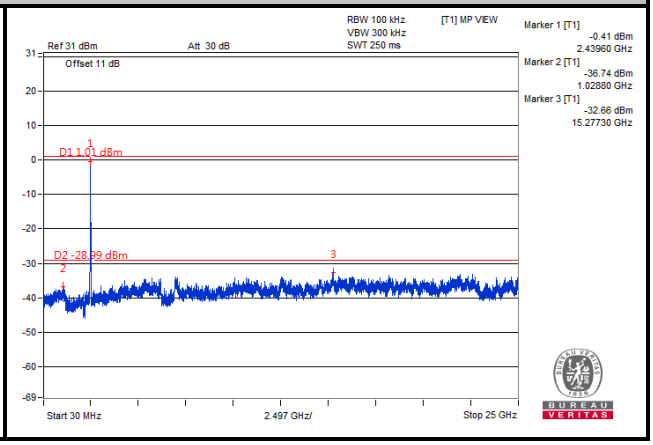
Ch 6



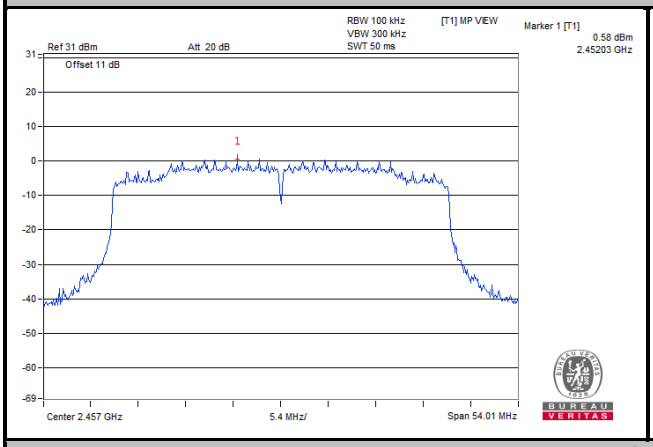


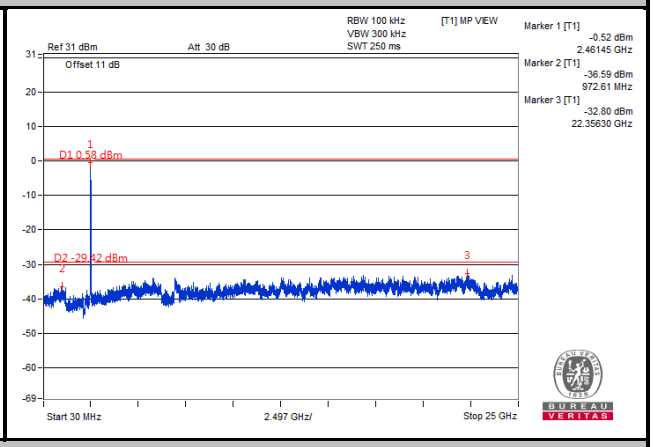
Ch 9



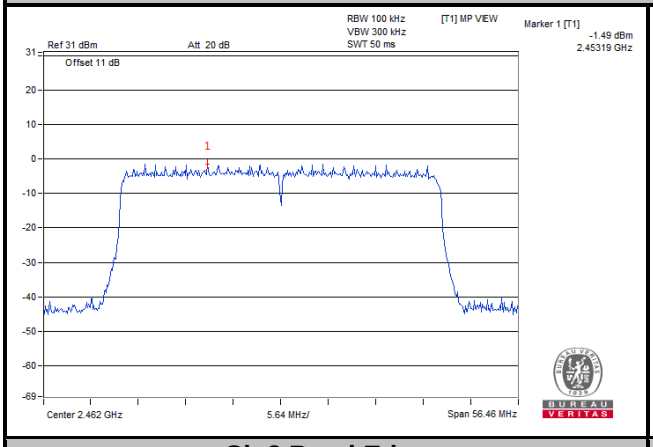


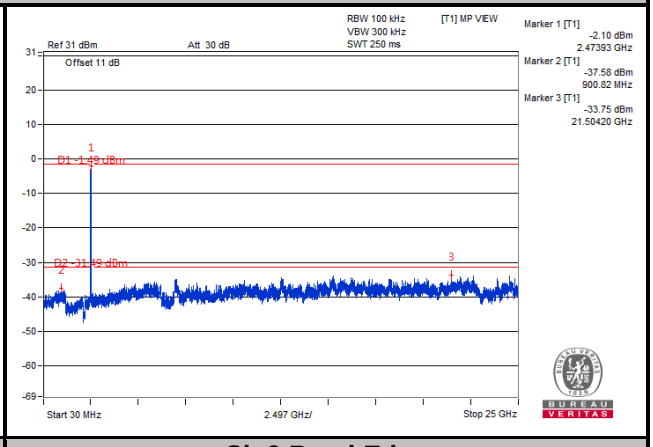
Ch 10



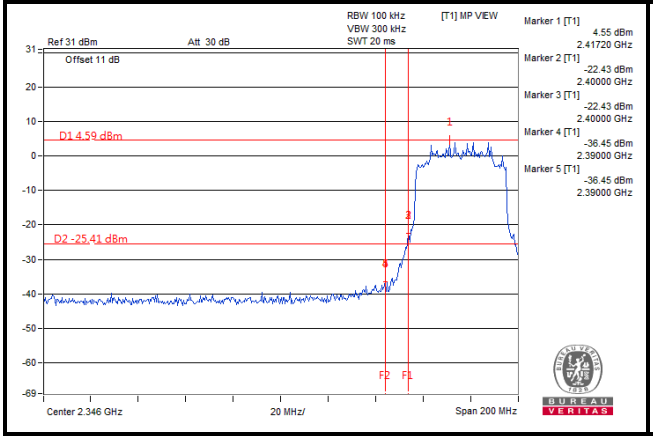


Ch 11

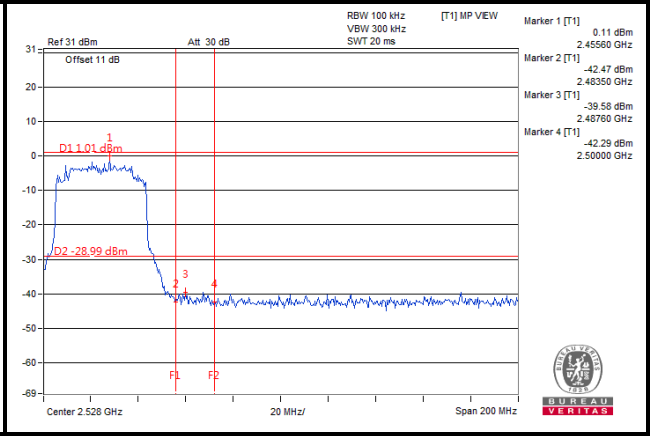


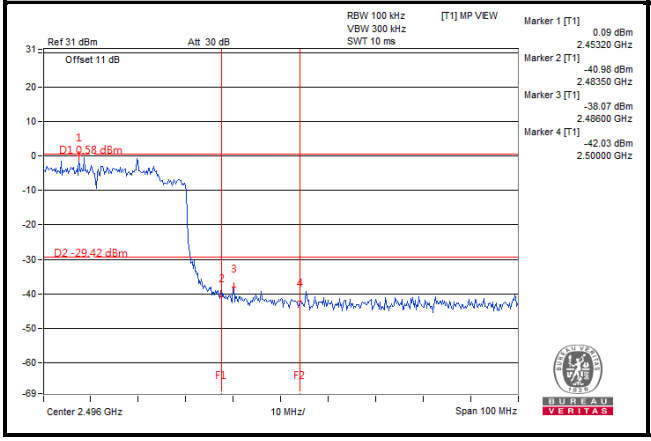
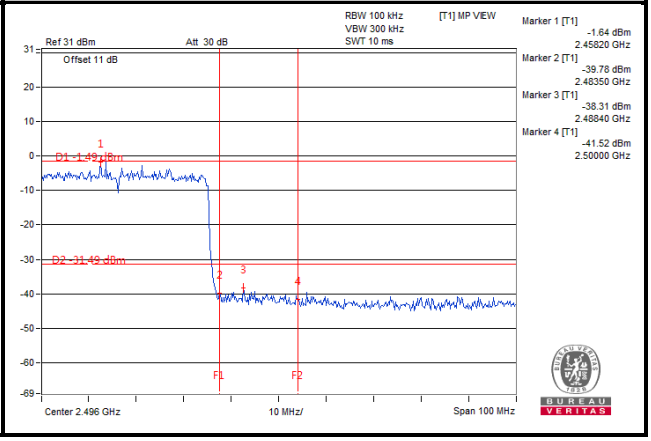


Ch 3 Band Edge



Ch 9 Band Edge



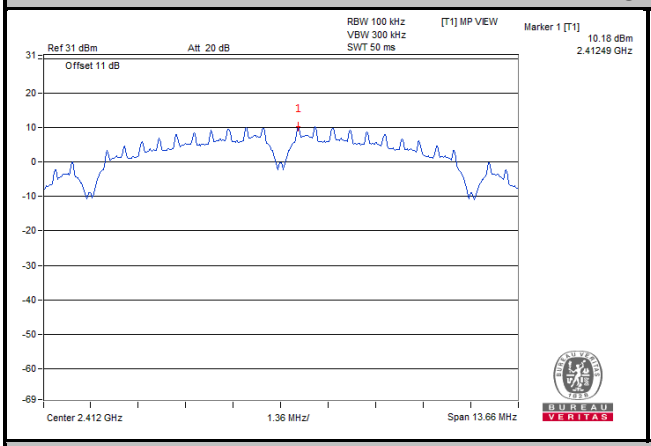
Ch 10 Band Edge	Ch 11 Band Edge
	

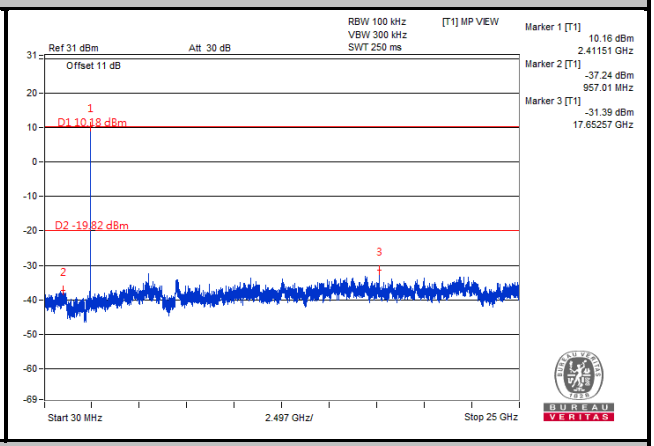
Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

SISO_Chain B

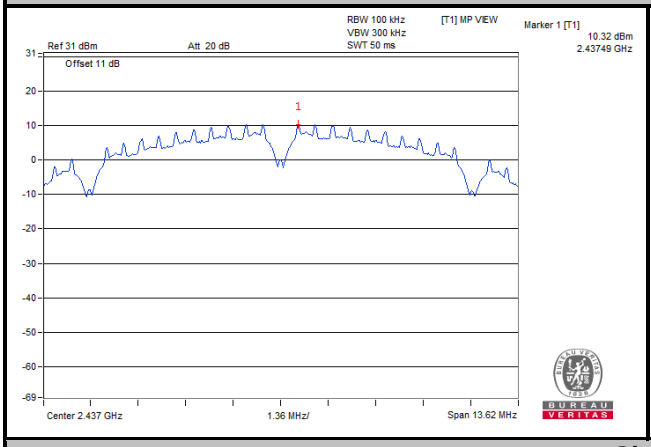
802.11b

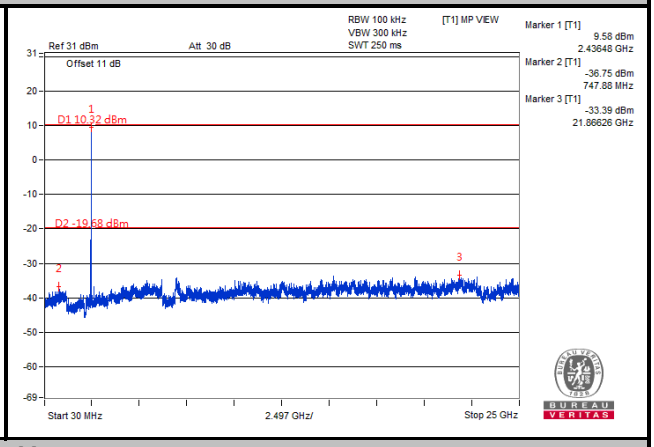
Ch 1



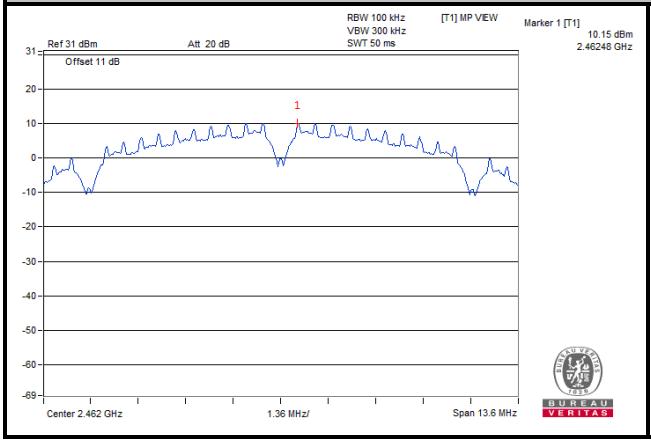


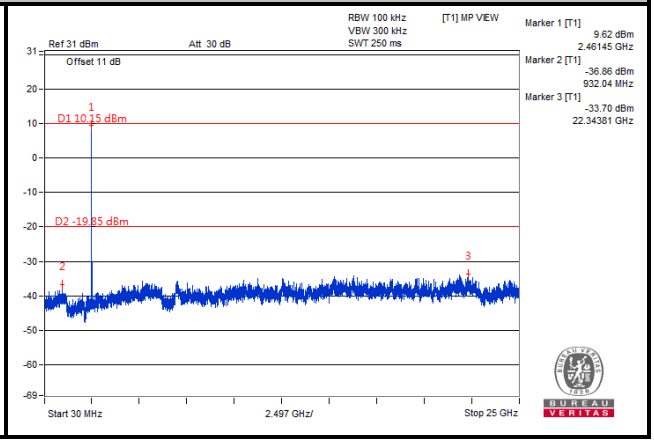
Ch 6



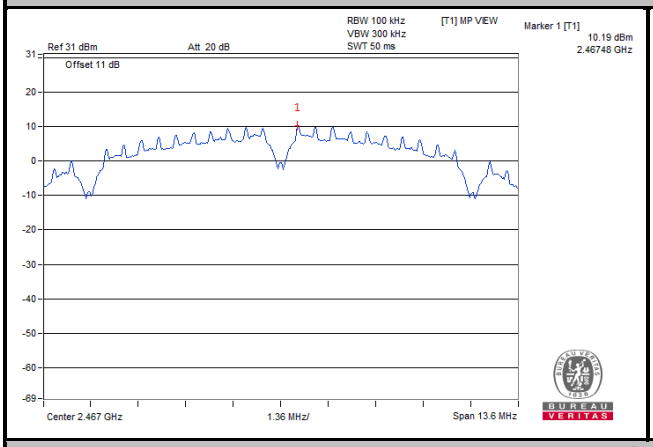


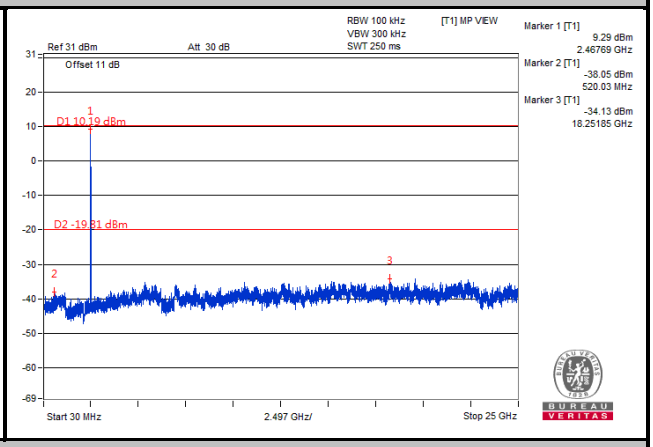
Ch 11



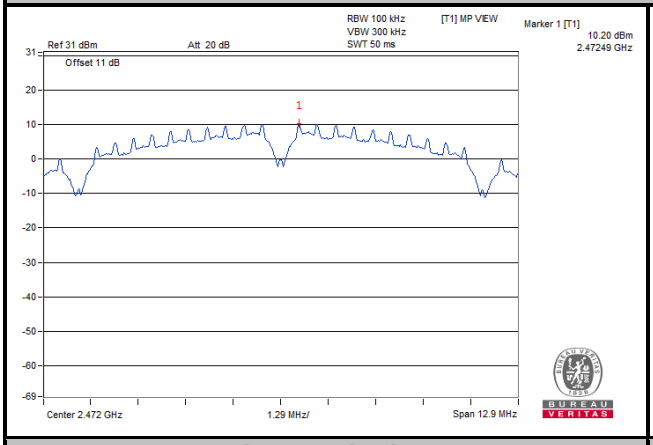


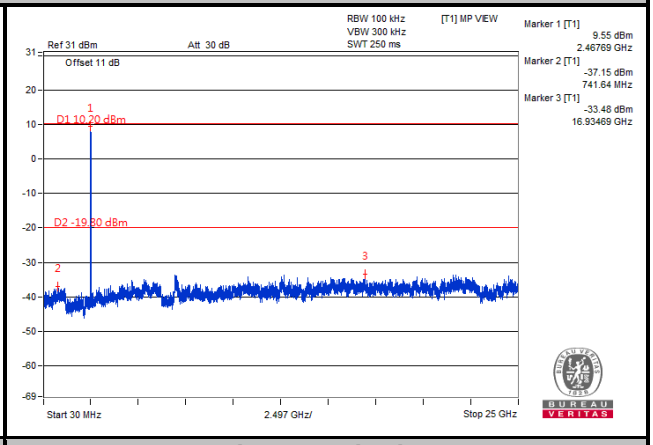
Ch 12



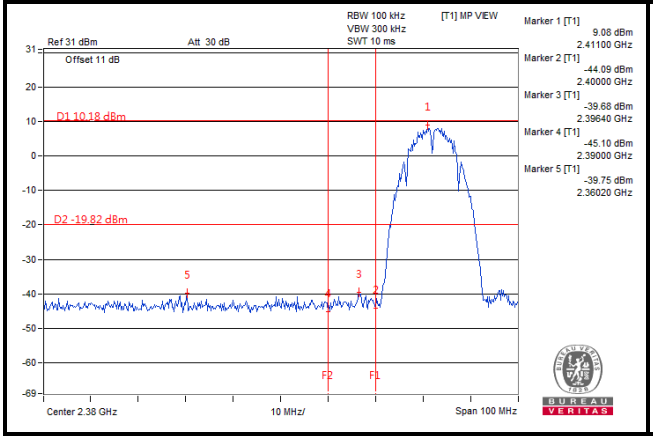


Ch 13

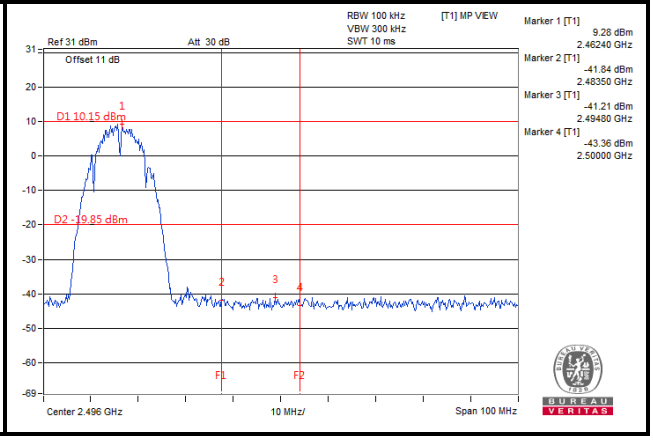


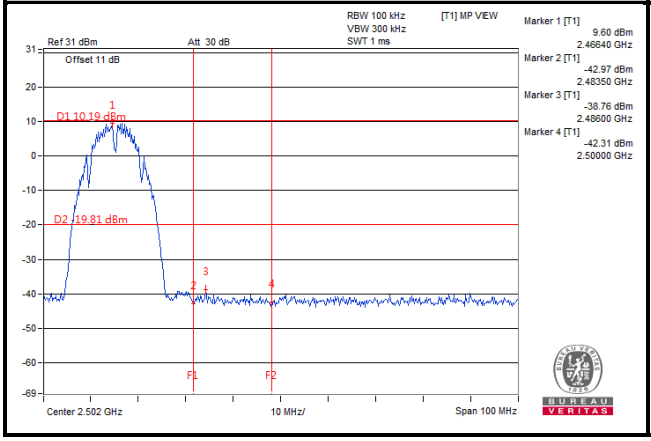
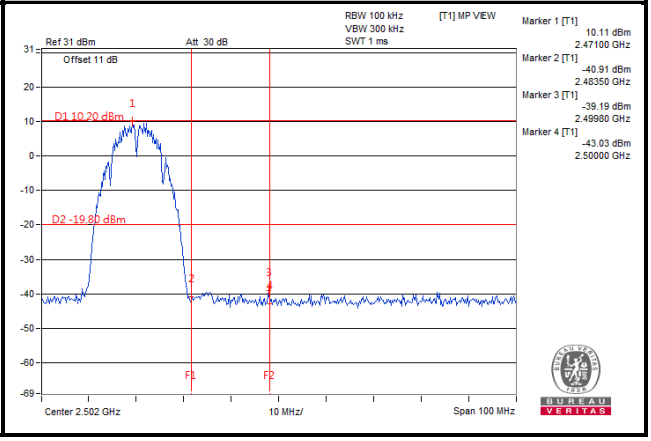


Ch 1 Band Edge



Ch 11 Band Edge

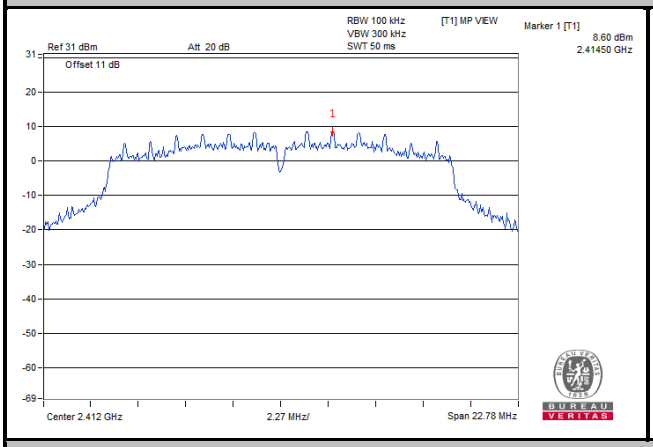


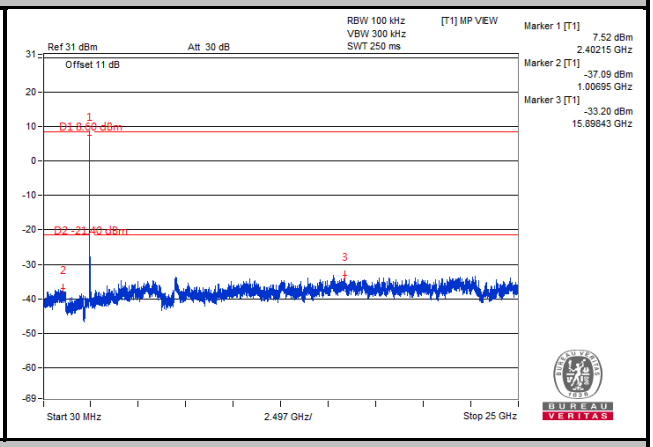
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

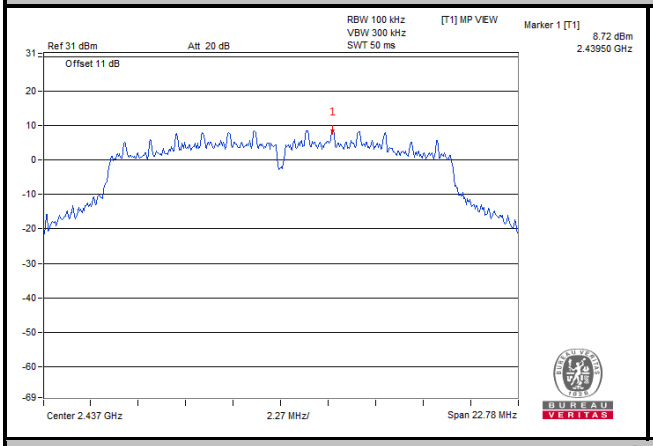
802.11g

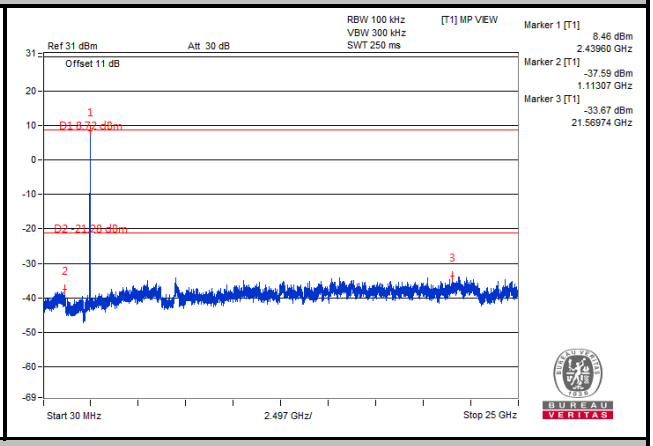
Ch 1



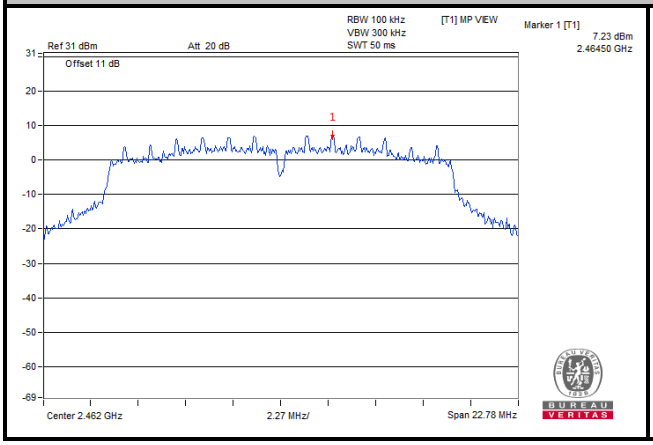


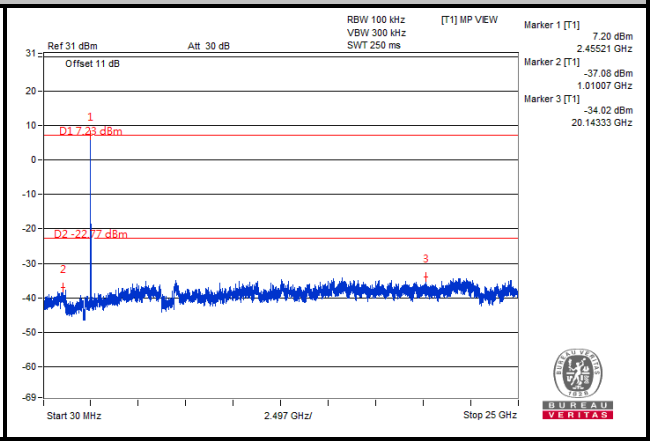
Ch 6



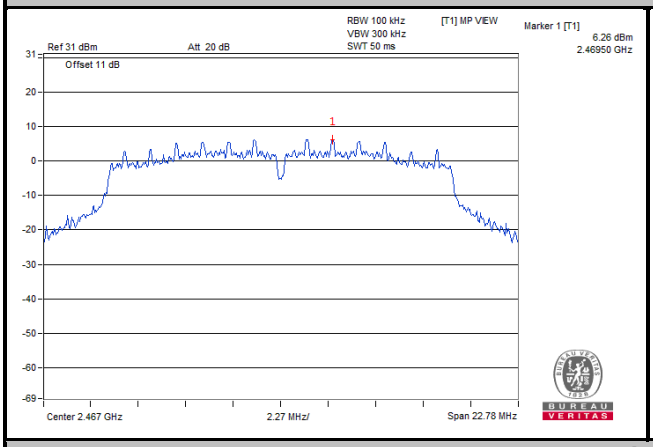


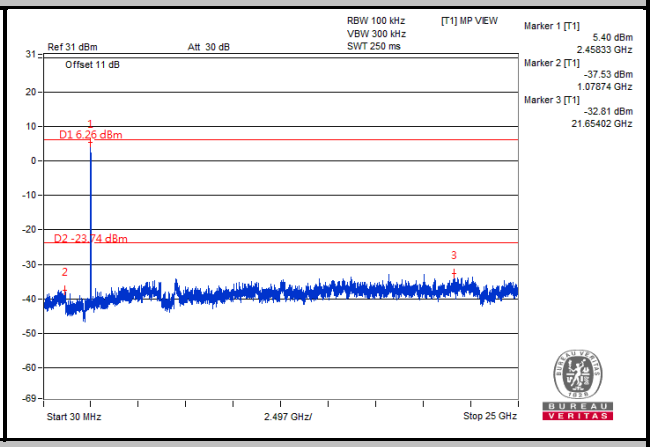
Ch 11



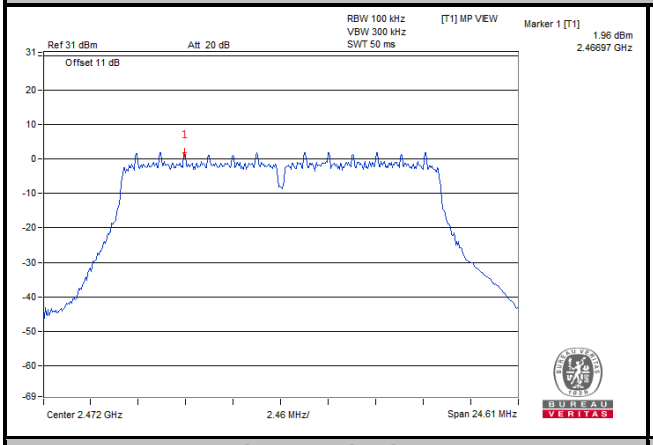


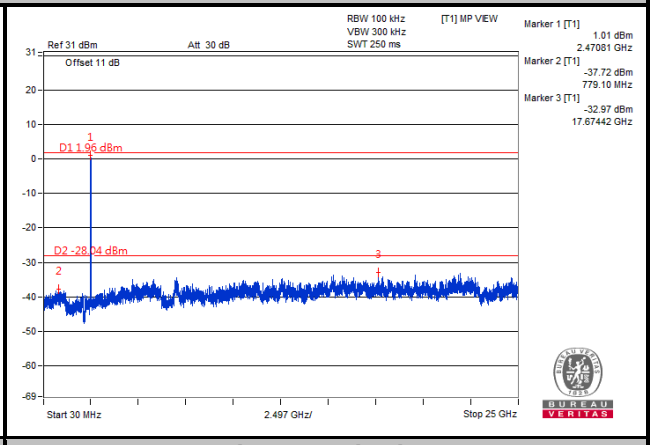
Ch 12



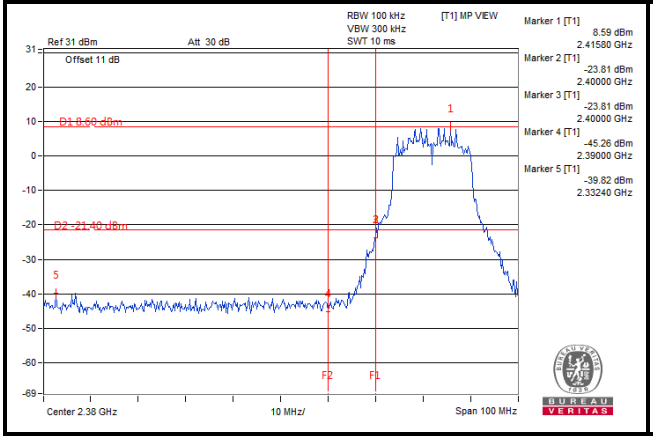


Ch 13

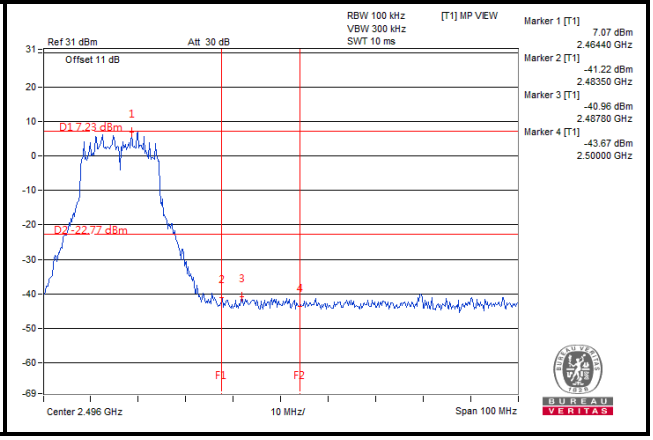


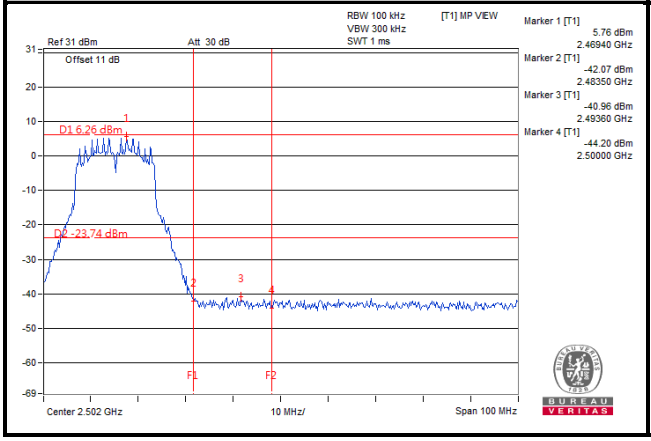
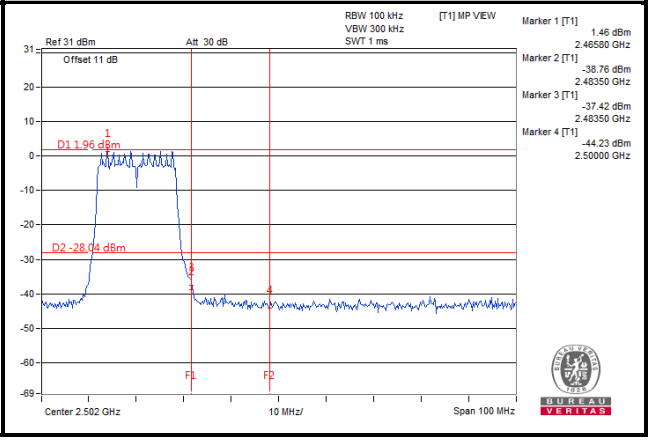


Ch 1 Band Edge



Ch 11 Band Edge

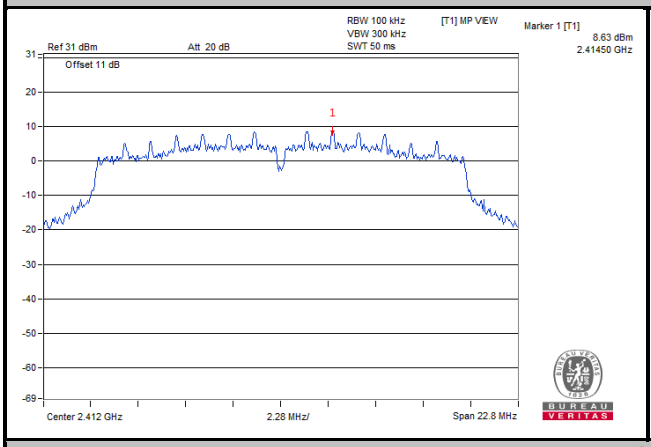


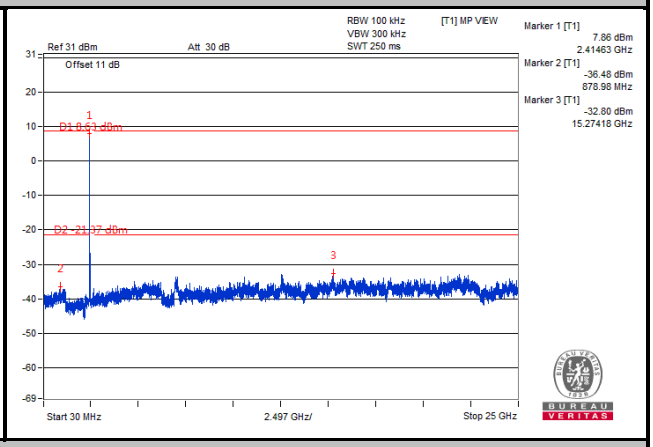
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

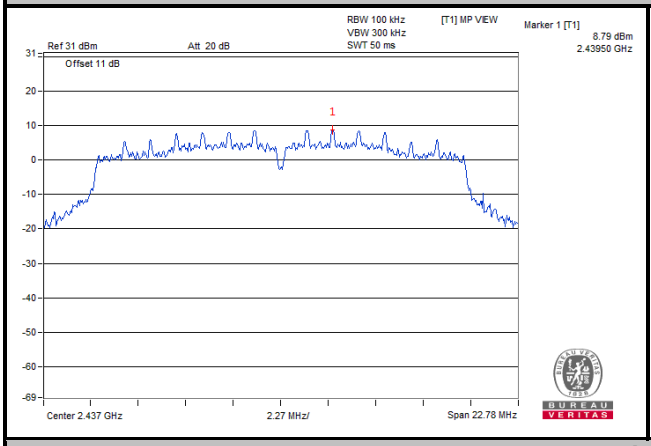
802.11n (HT20)

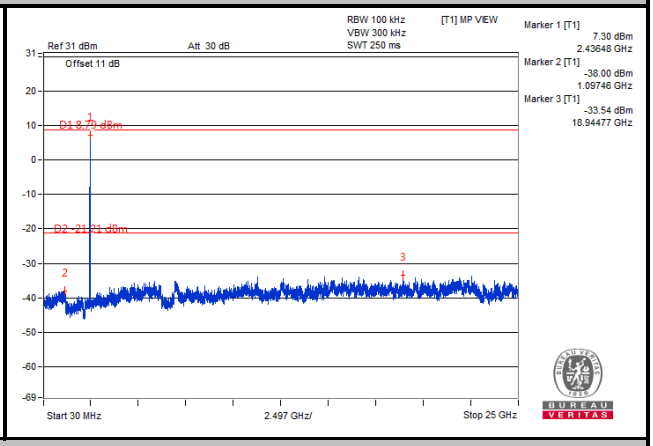
Ch 1



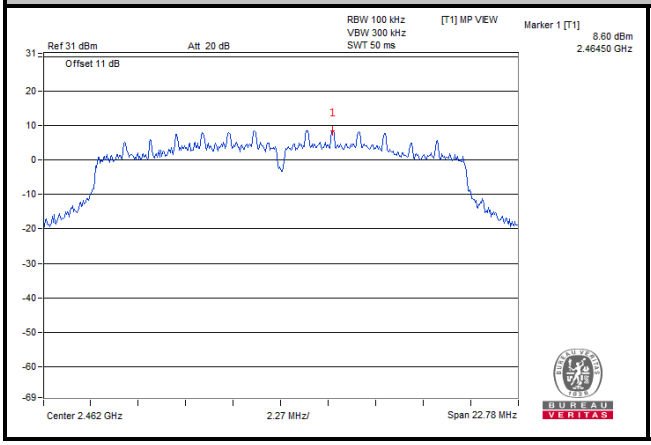


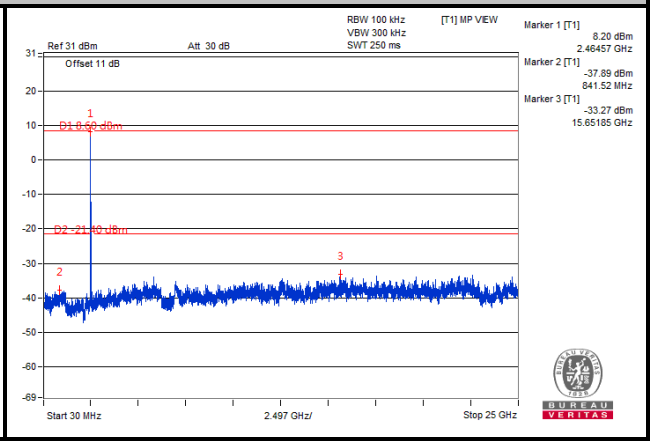
Ch 6



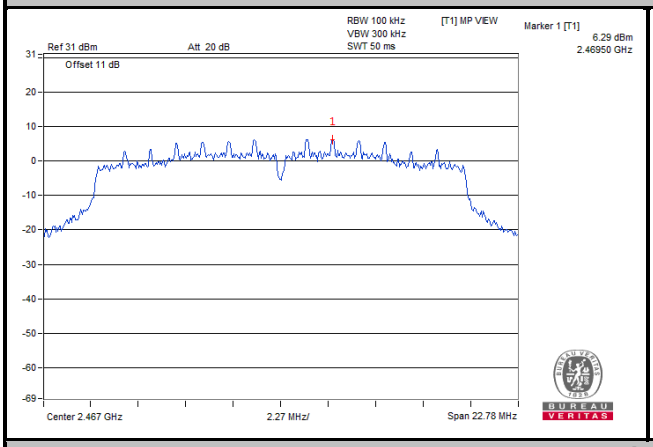


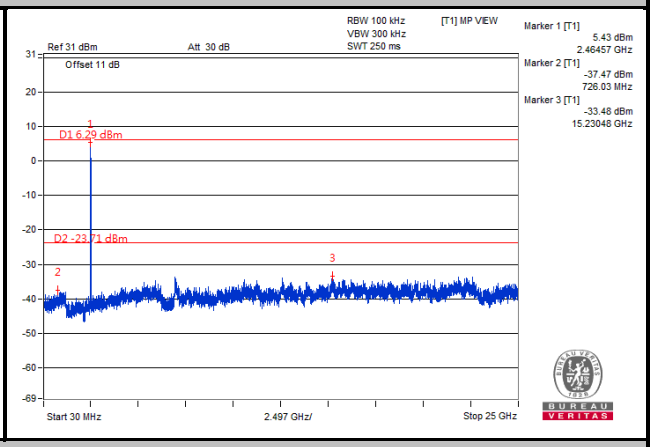
Ch 11



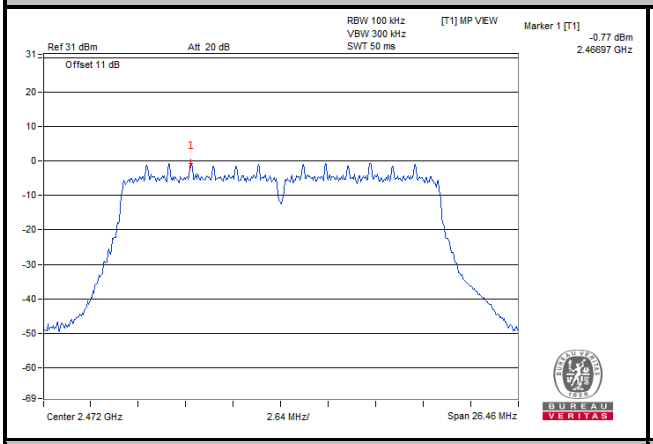


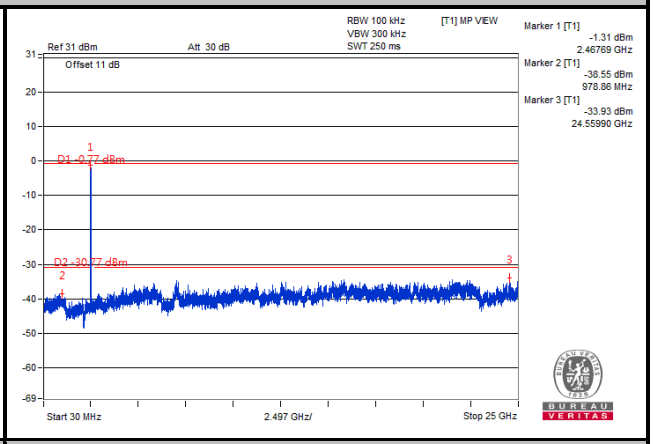
Ch 12



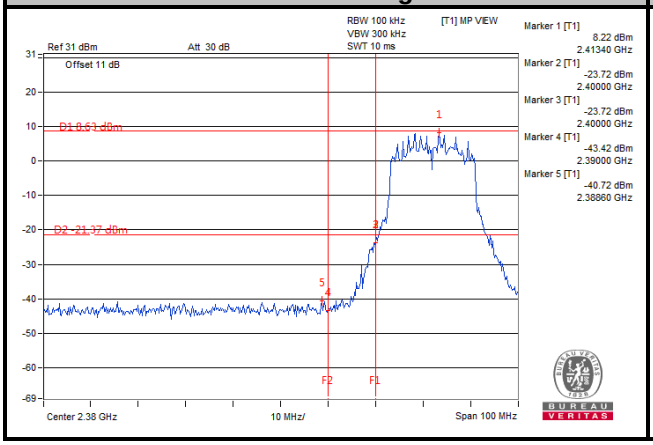


Ch 13

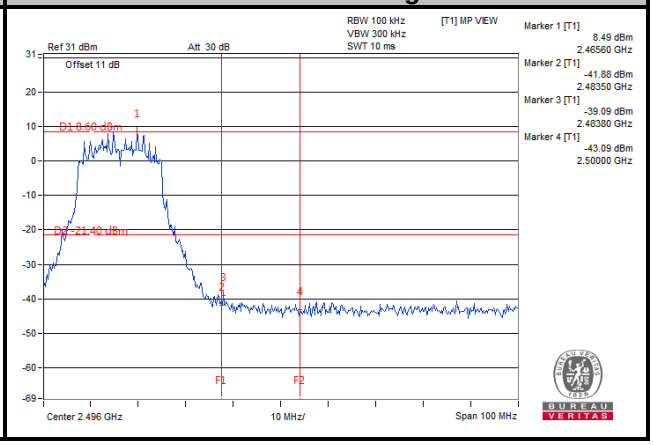


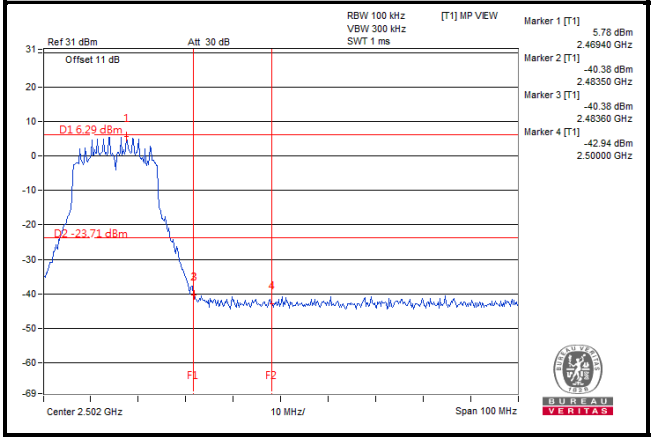
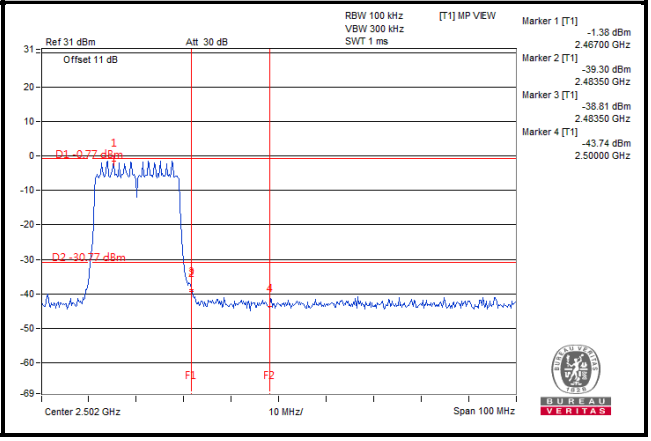


Ch 1 Band Edge



Ch 11 Band Edge

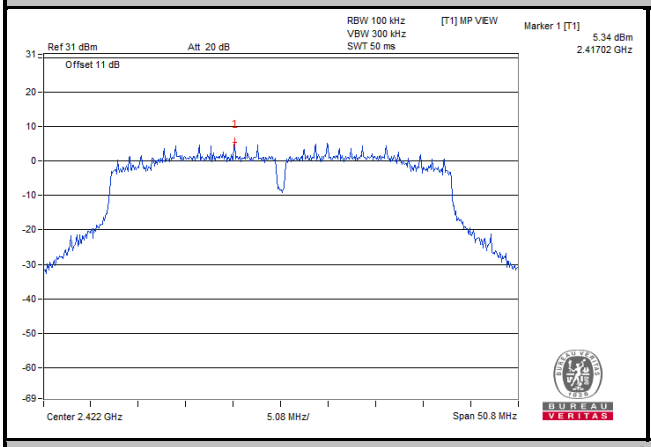


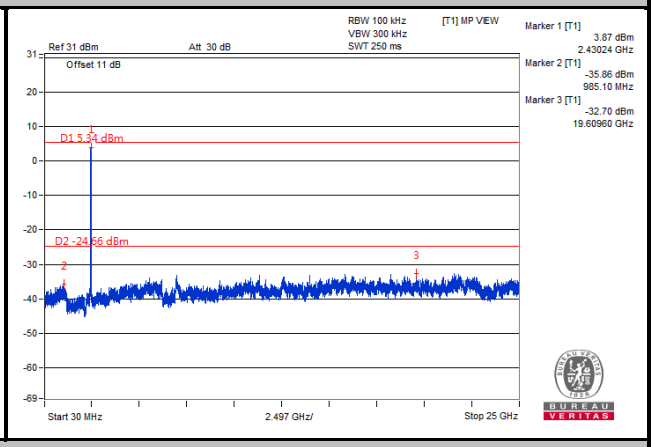
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

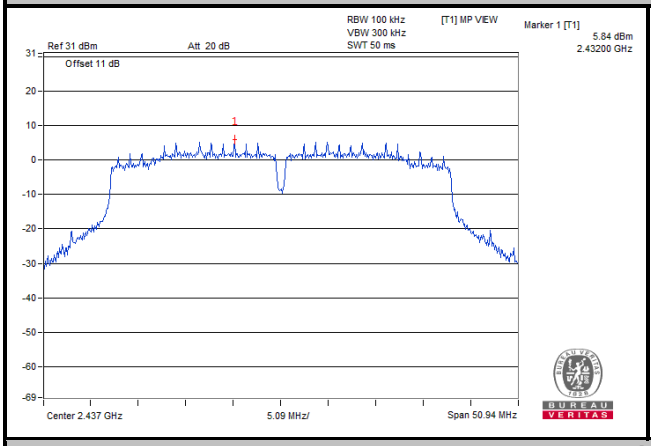
802.11n (HT40)

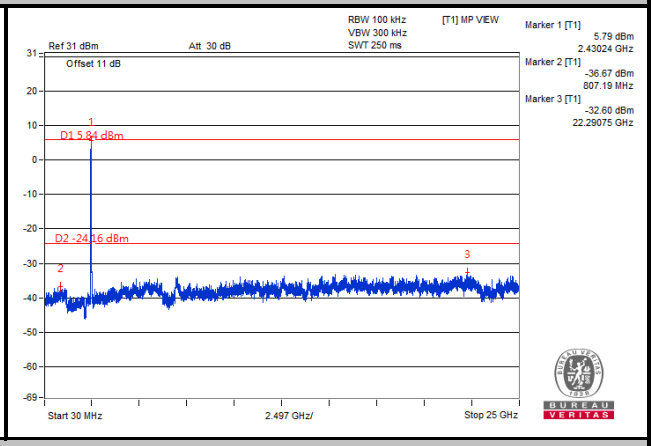
Ch 3



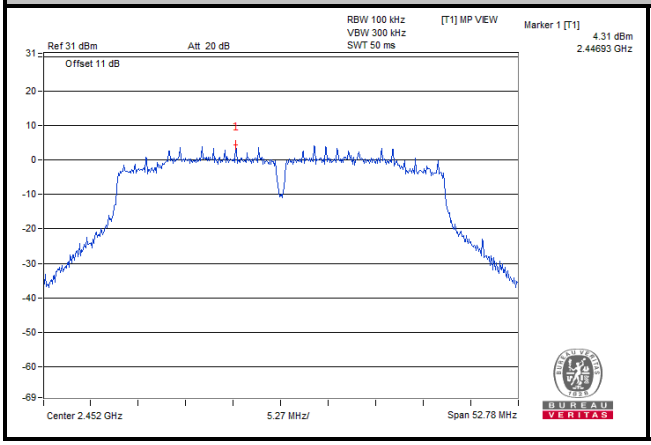


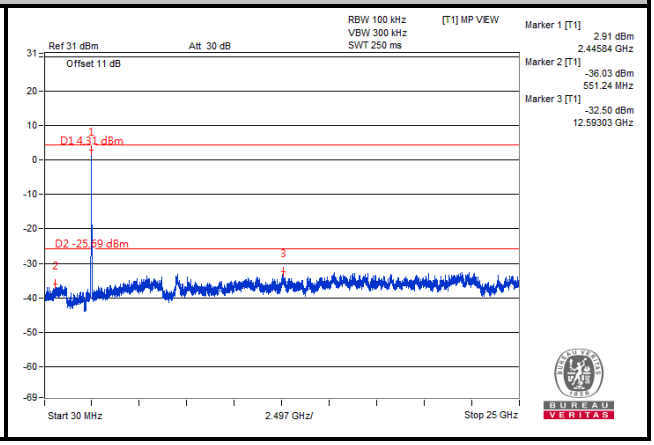
Ch 6



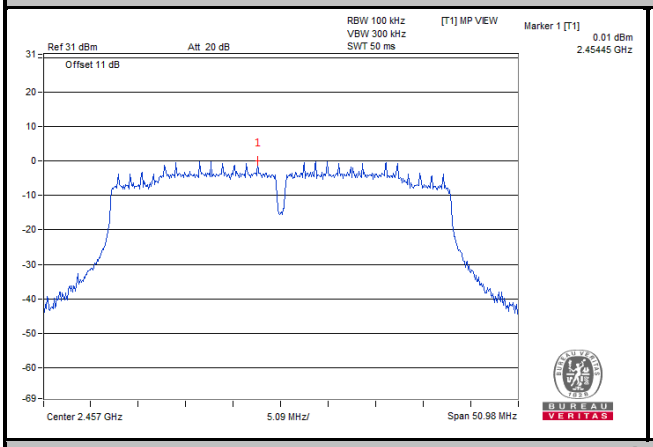


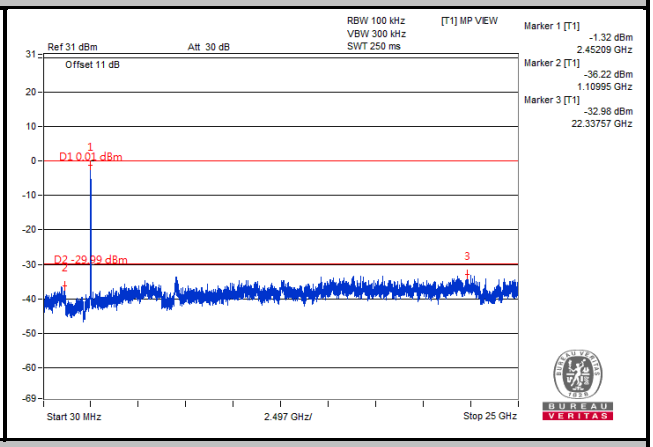
Ch 9



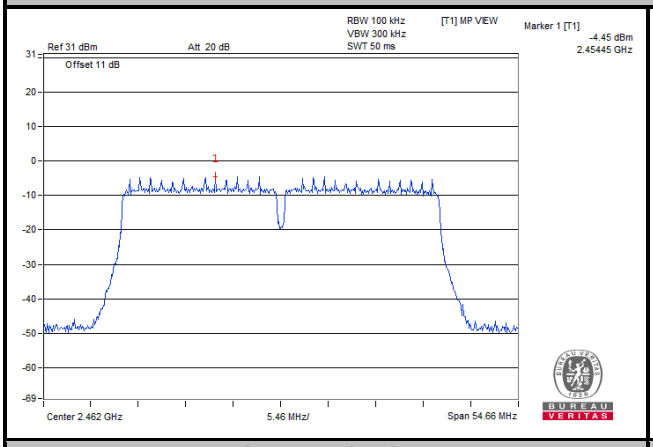


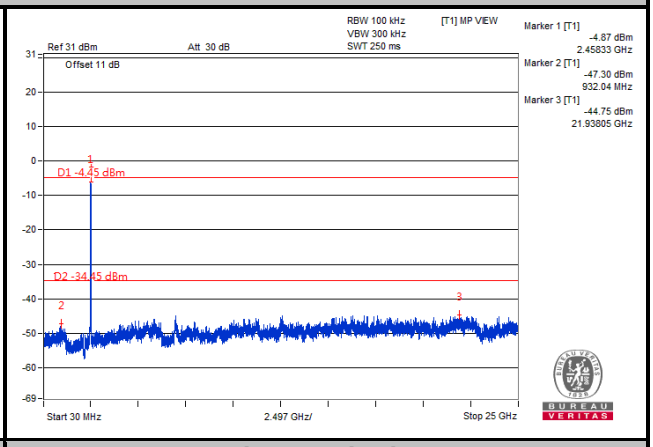
Ch 10



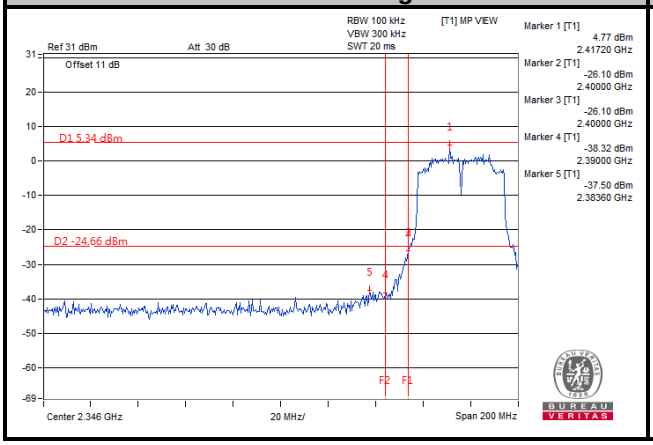


Ch 11

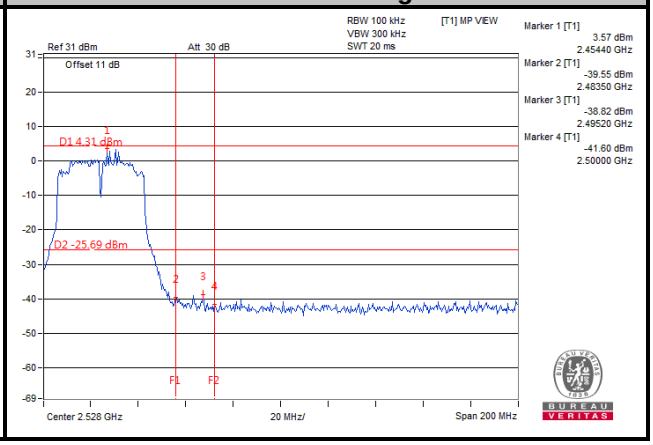


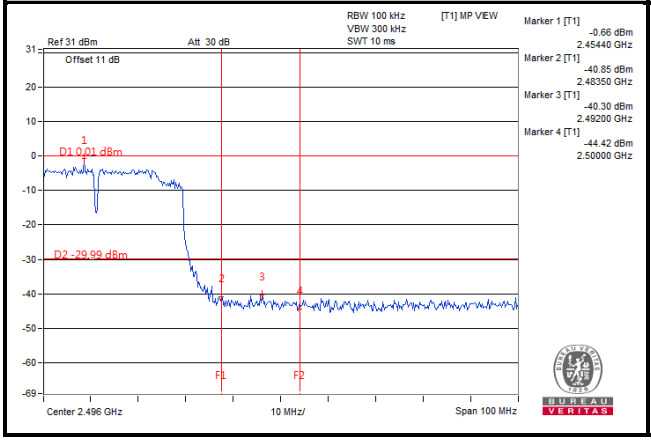
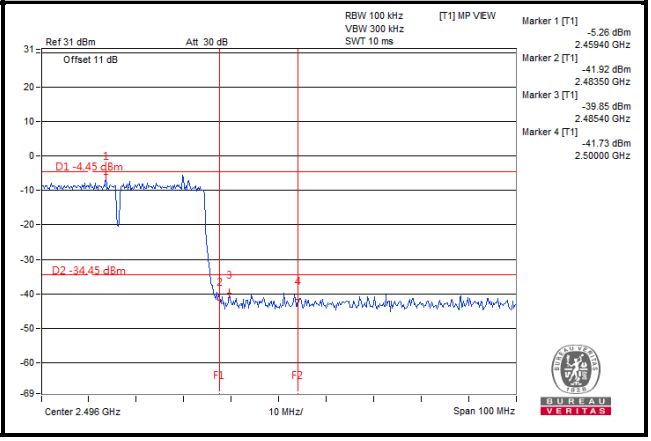


Ch 3 Band Edge



Ch 9 Band Edge

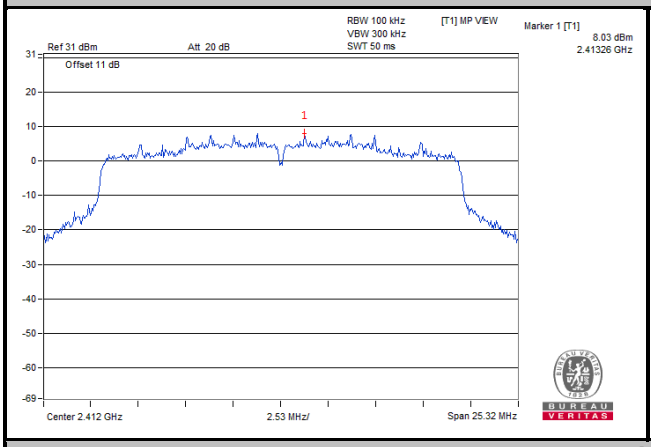


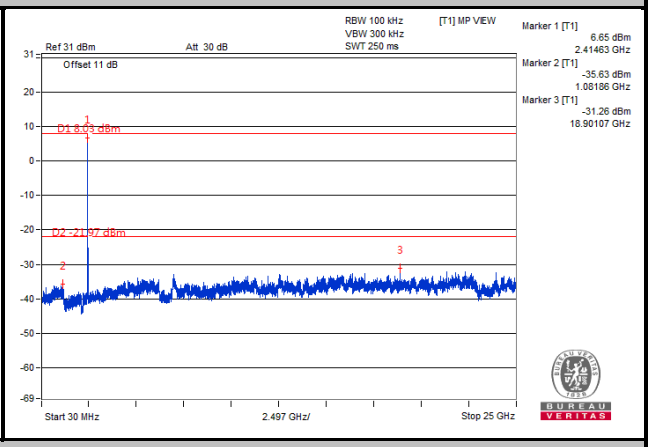
Ch 10 Band Edge	Ch 11 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

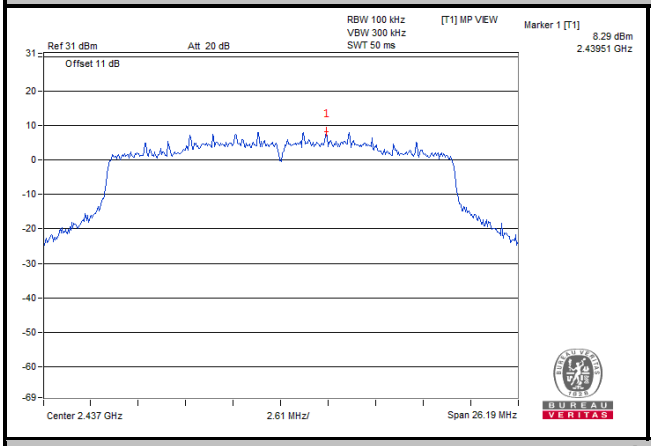
802.11ax (HE20)

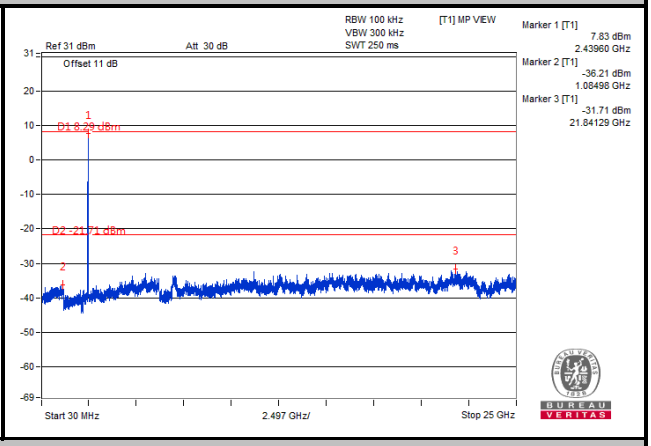
Ch 1



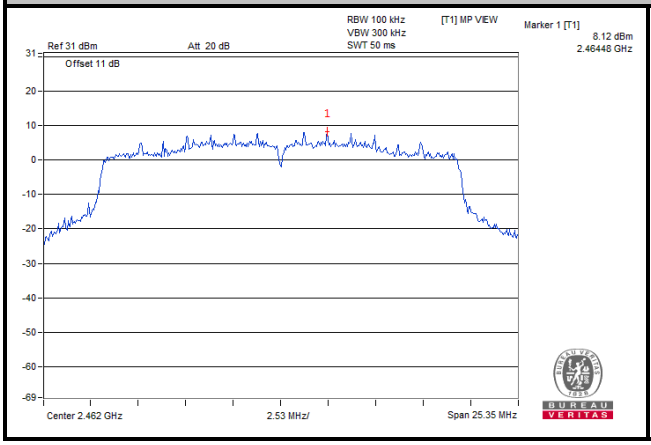


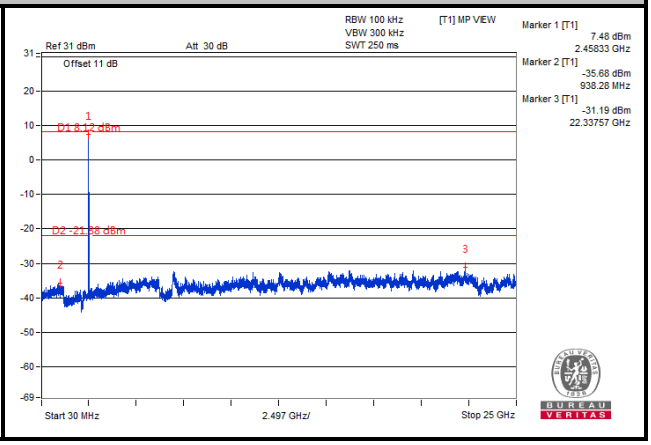
Ch 6



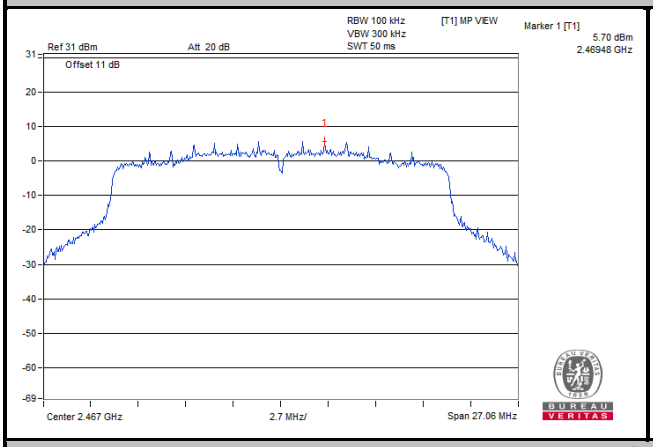


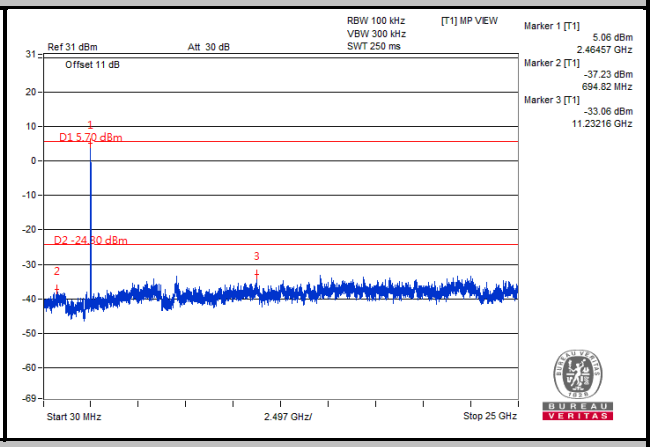
Ch 11



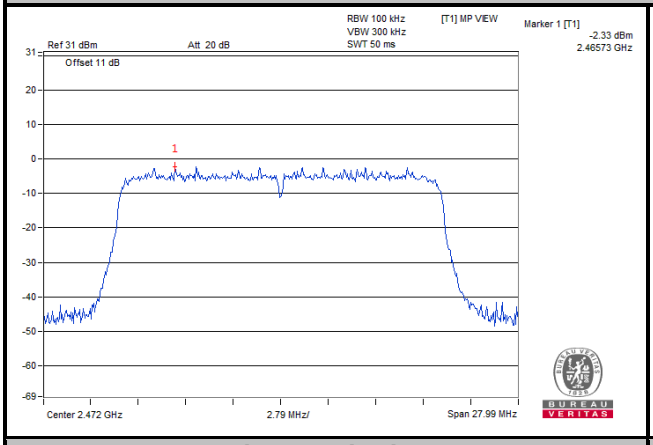


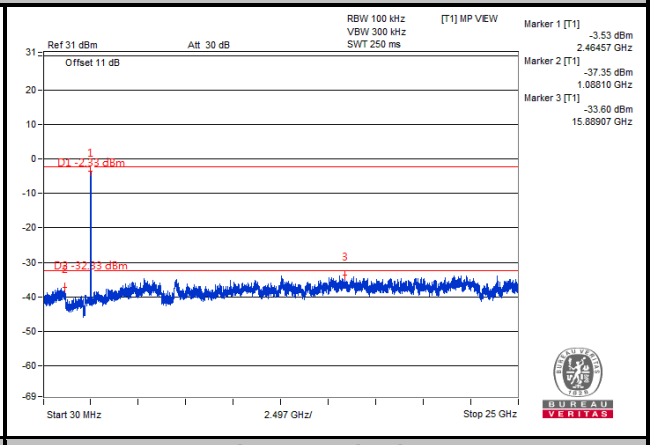
Ch 12



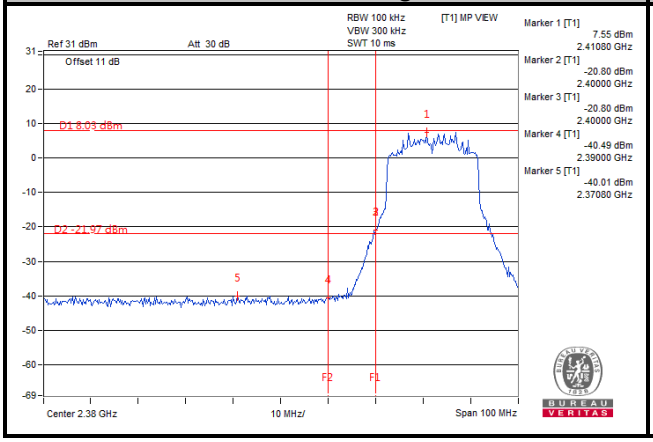


Ch 13

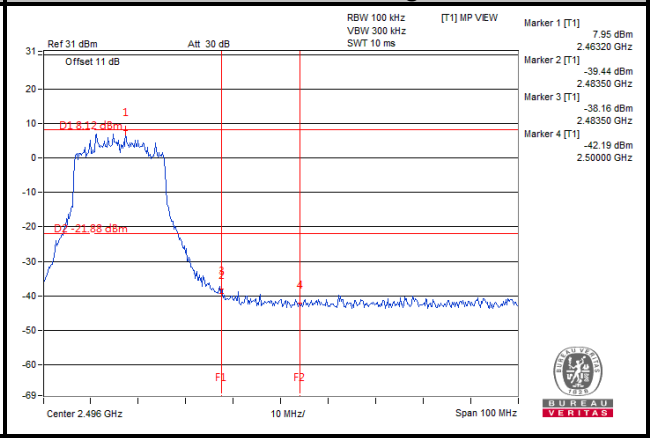


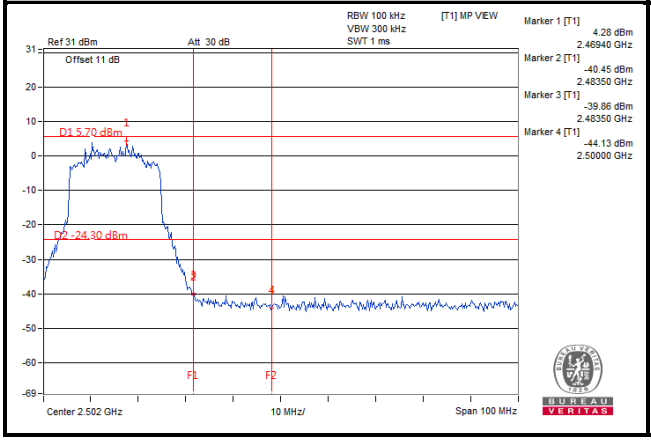
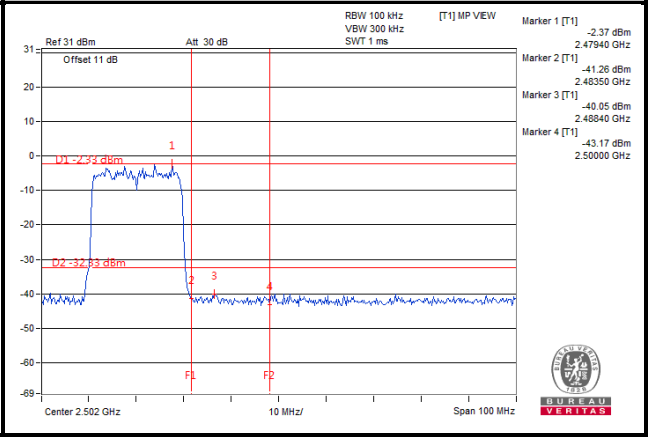


Ch 1 Band Edge



Ch 11 Band Edge

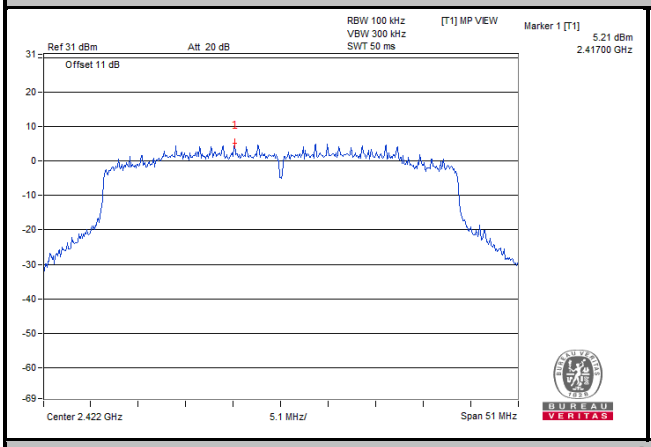


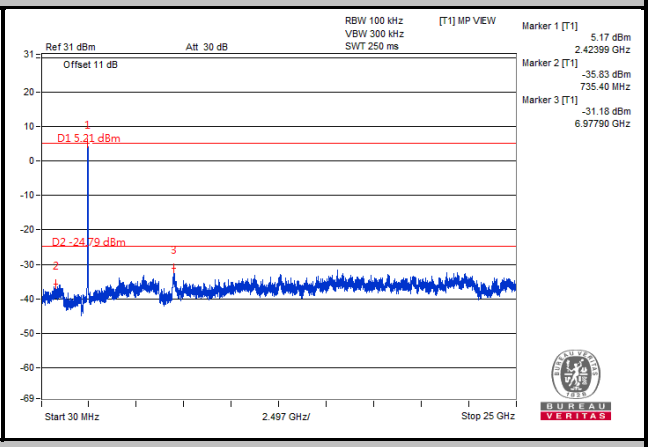
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

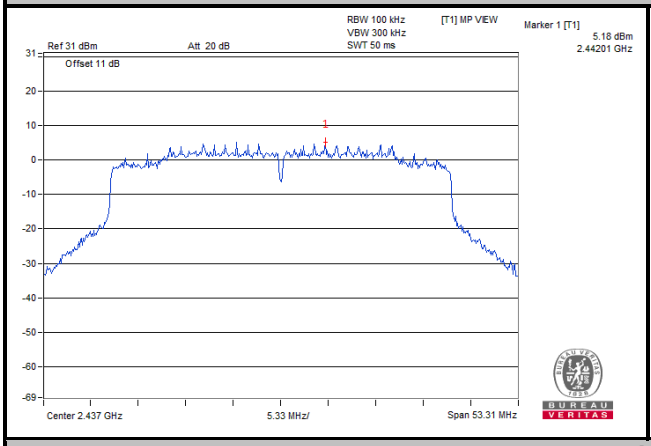
802.11ax (HE40)

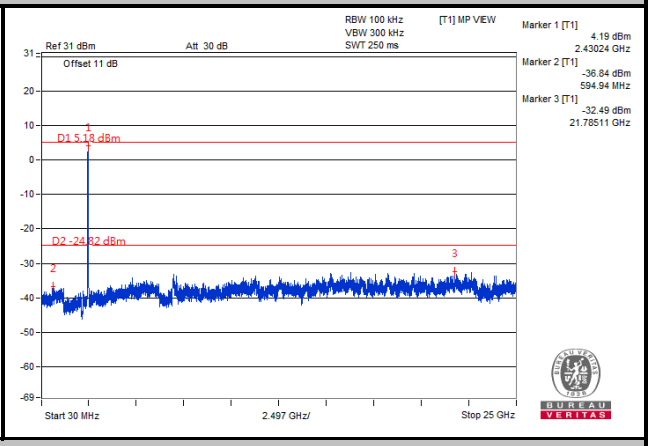
Ch 3



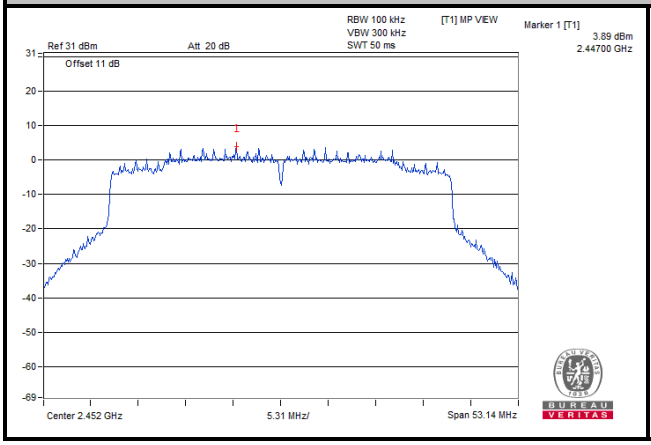


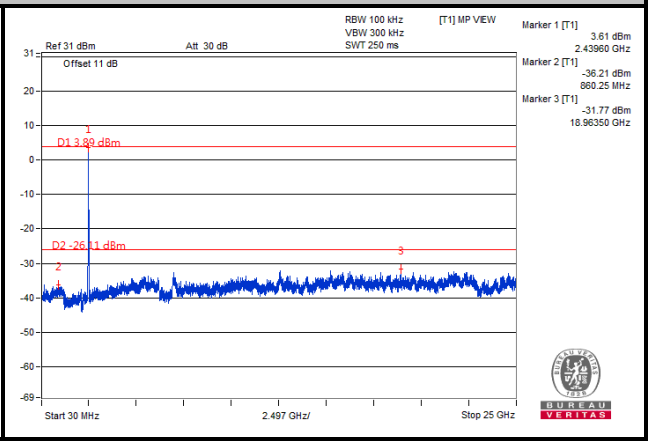
Ch 6



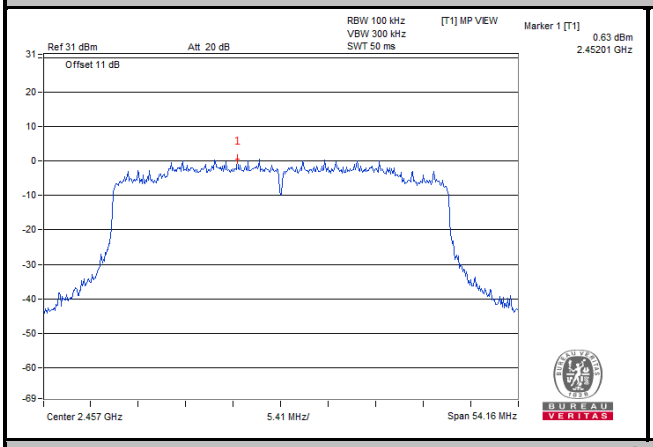


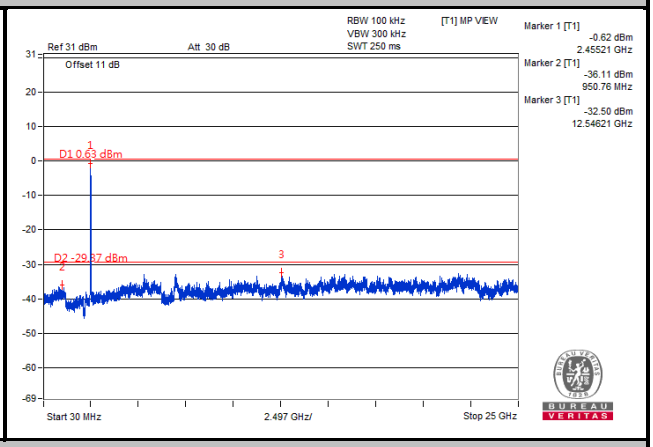
Ch 9



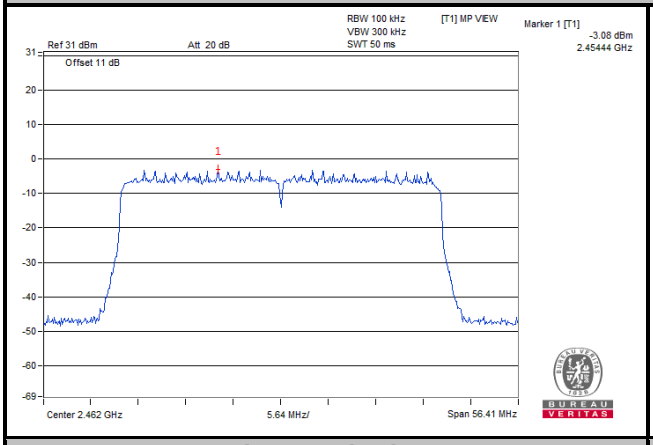


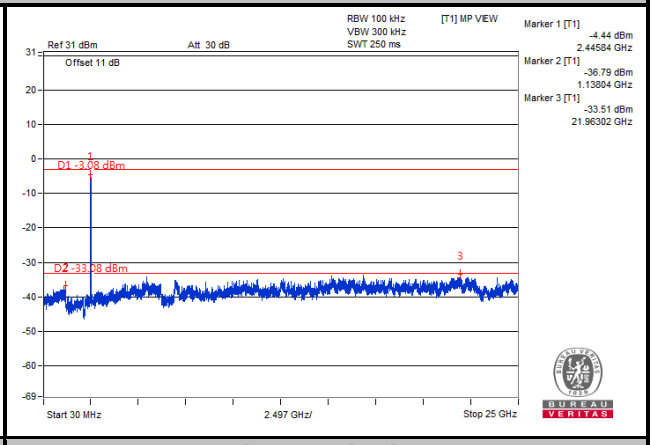
Ch 10



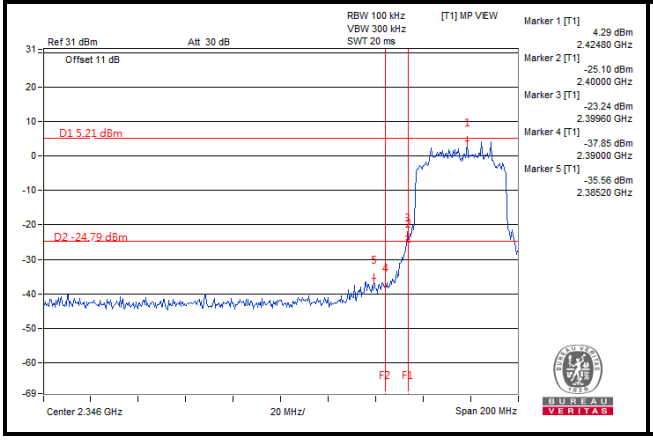


Ch 11

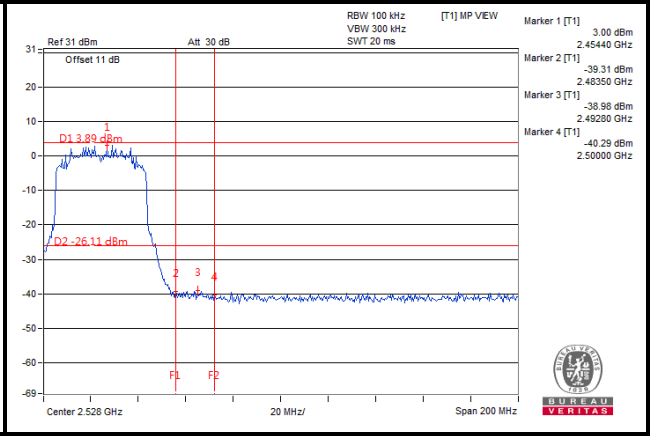


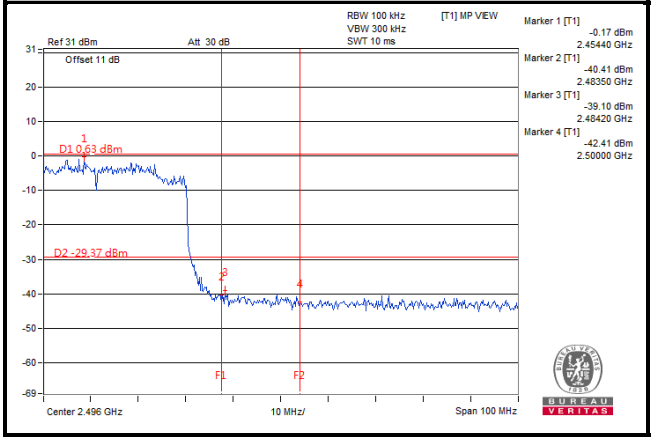
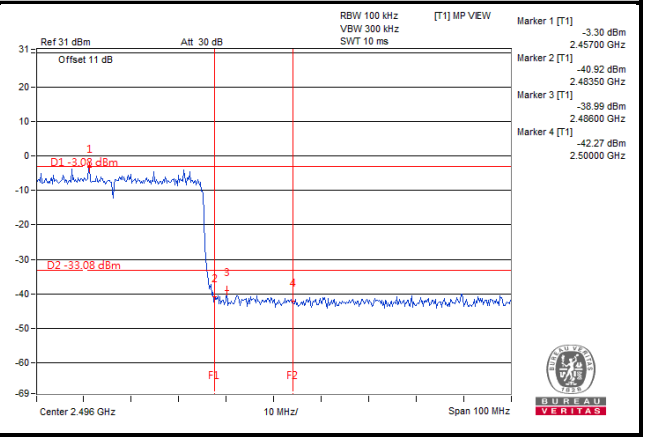


Ch 3 Band Edge



Ch 9 Band Edge

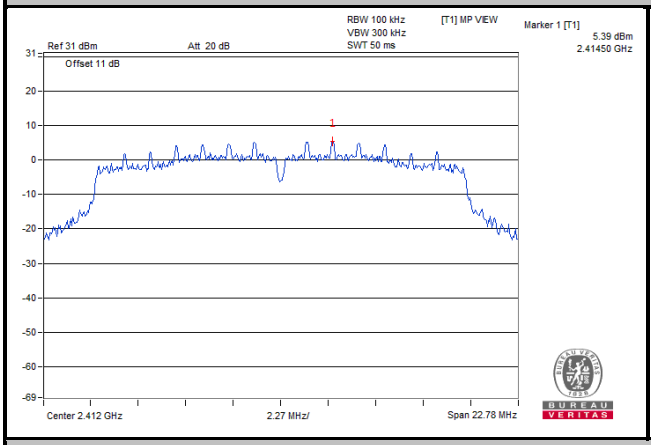


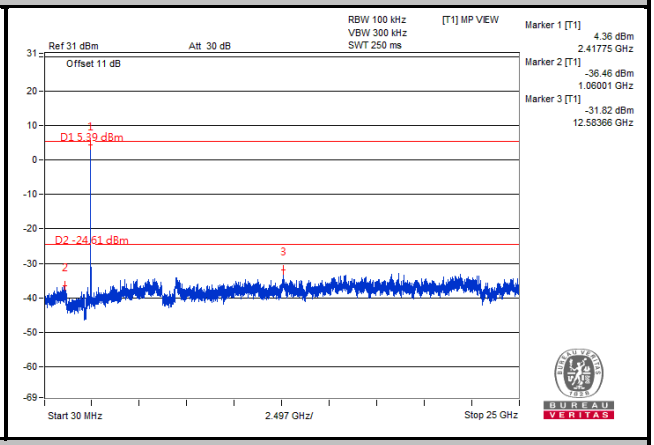
Ch 10 Band Edge	Ch 11 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

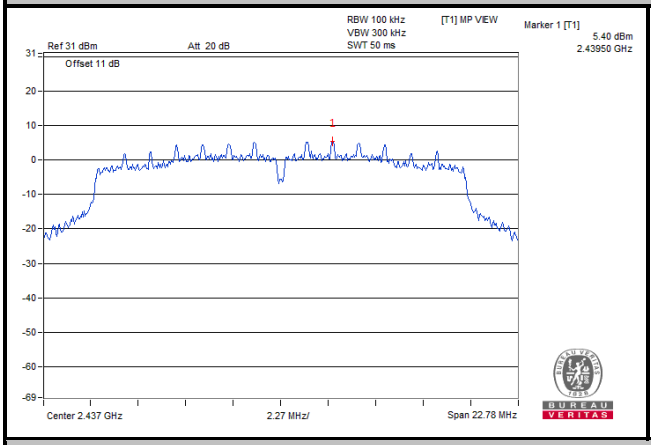
MIMO
802.11n (HT20)
CHAIN A

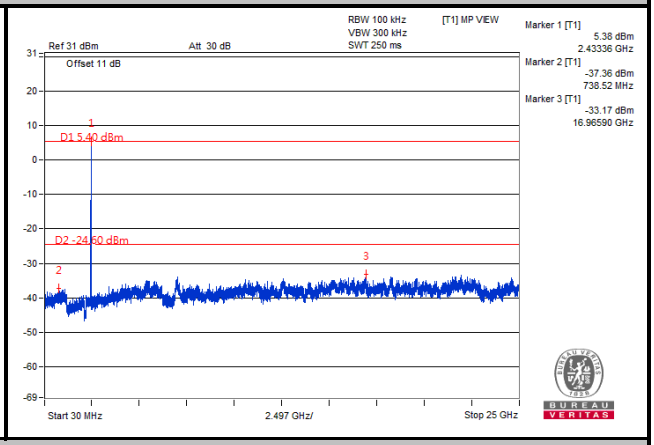
Ch 1



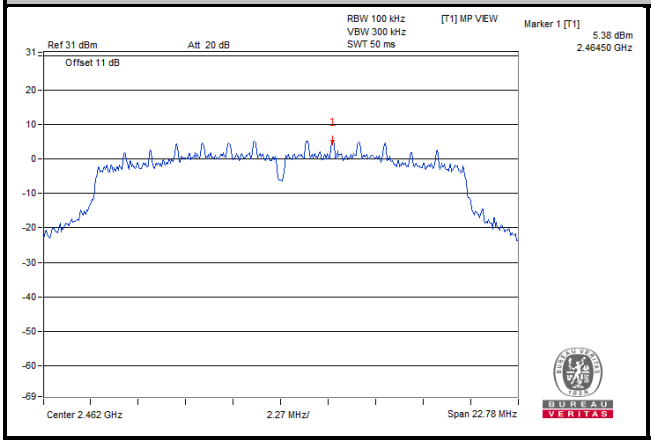


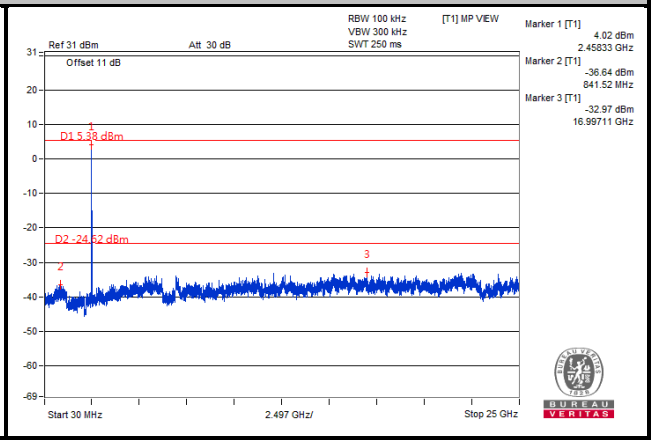
Ch 6



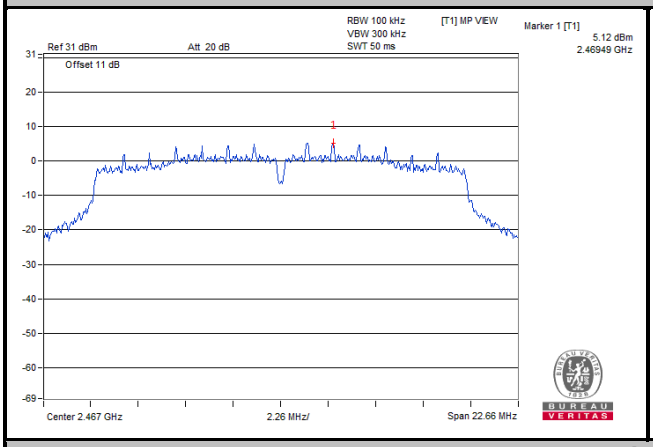


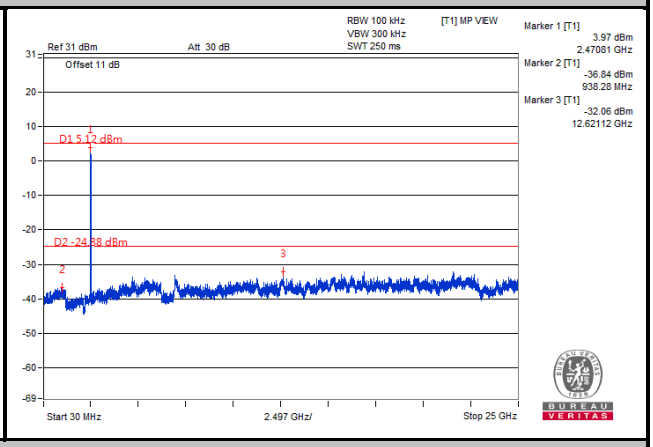
Ch 11



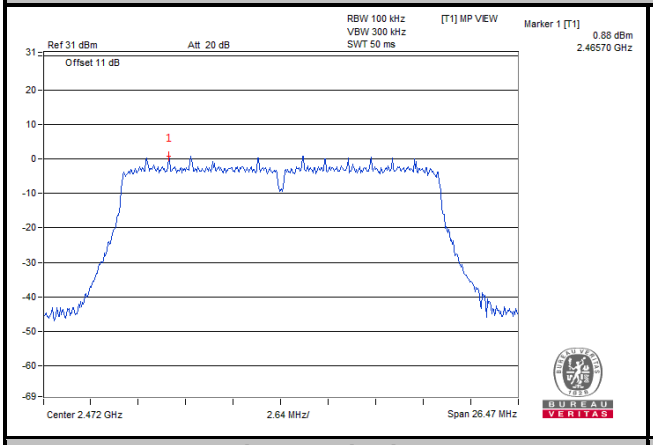


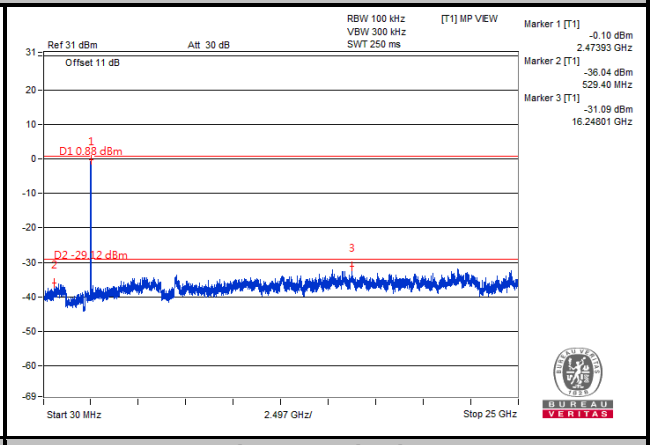
Ch 12



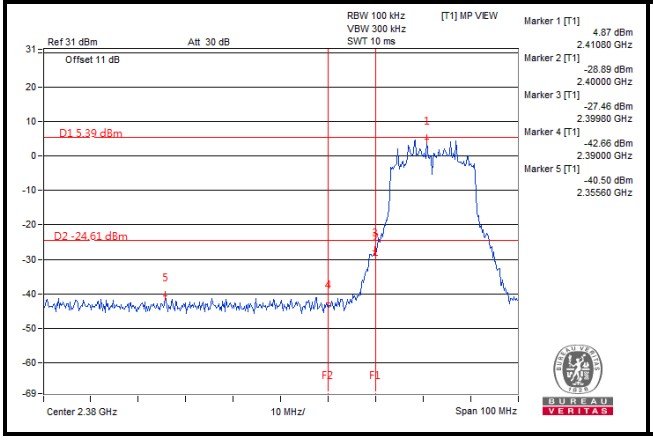


Ch 13

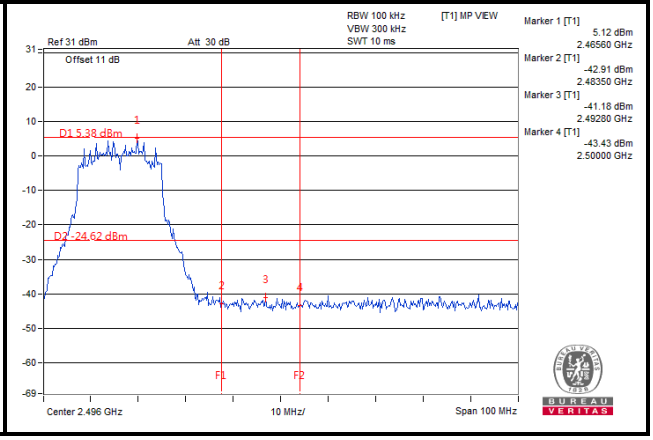


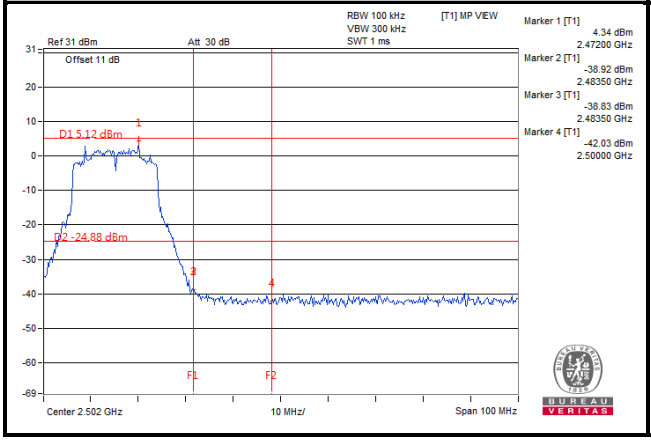
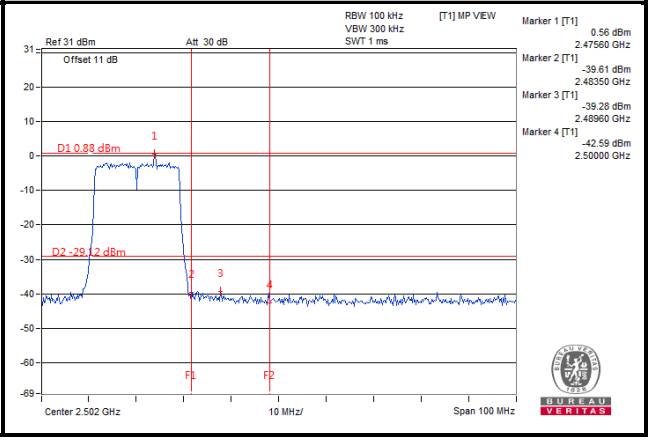


Ch 1 Band Edge



Ch 11 Band Edge

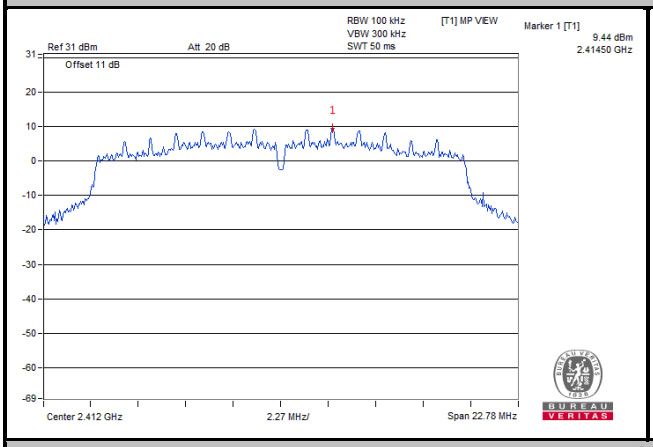


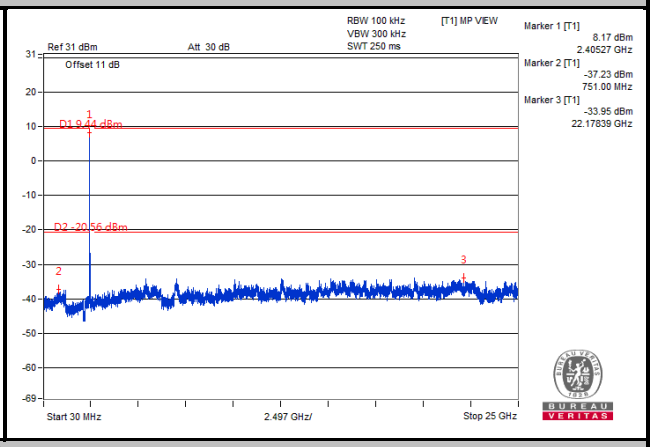
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

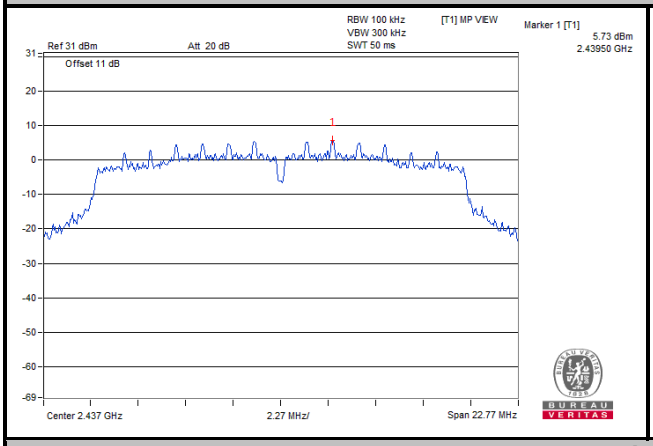
CHAIN B

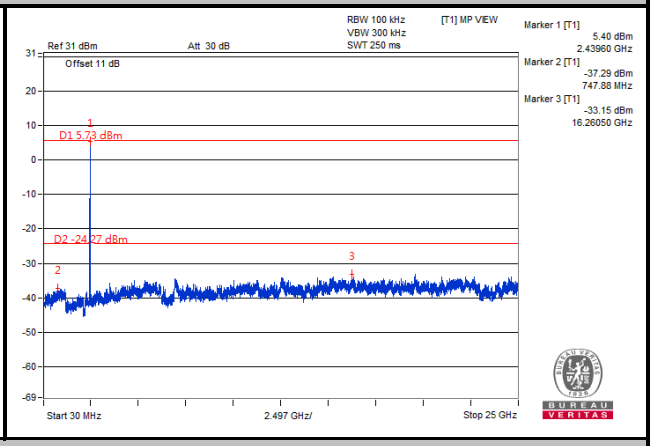
Ch 1



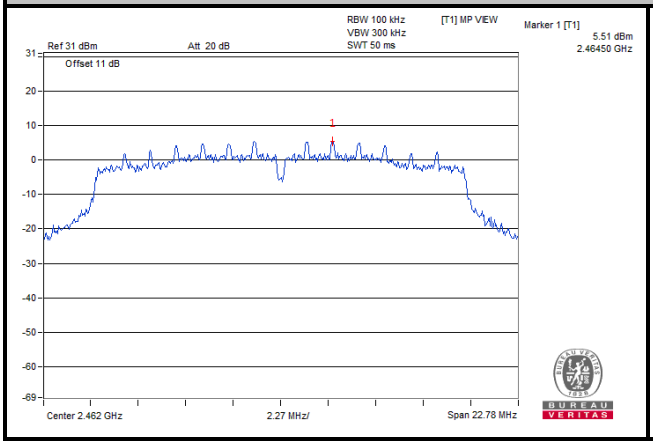


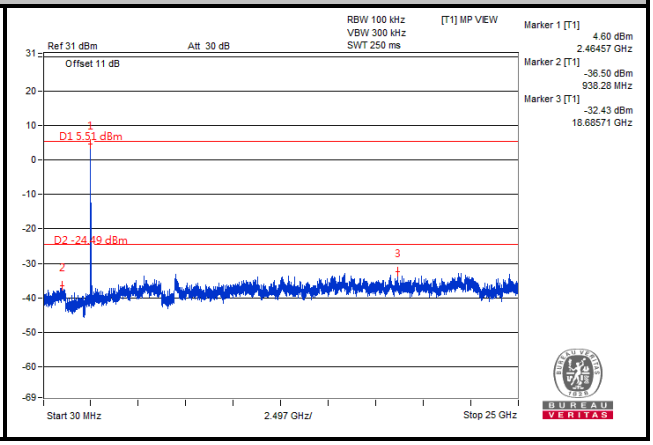
Ch 6



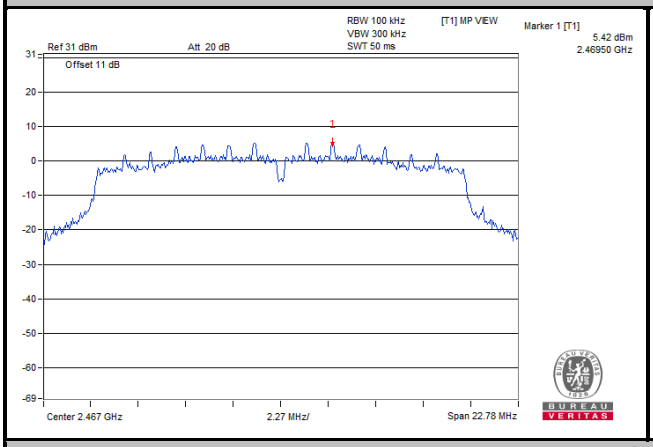


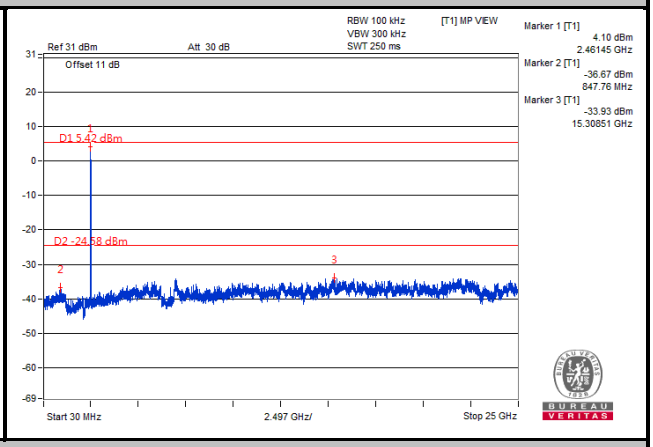
Ch 11



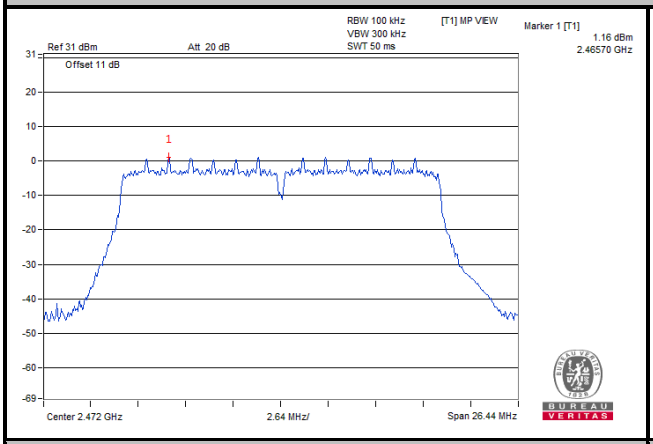


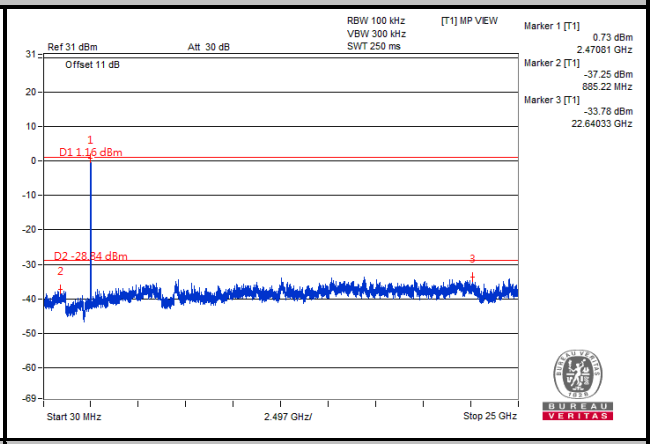
Ch 12



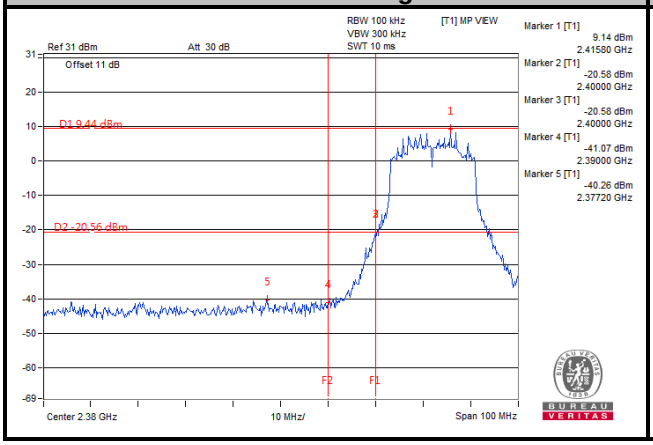


Ch 13

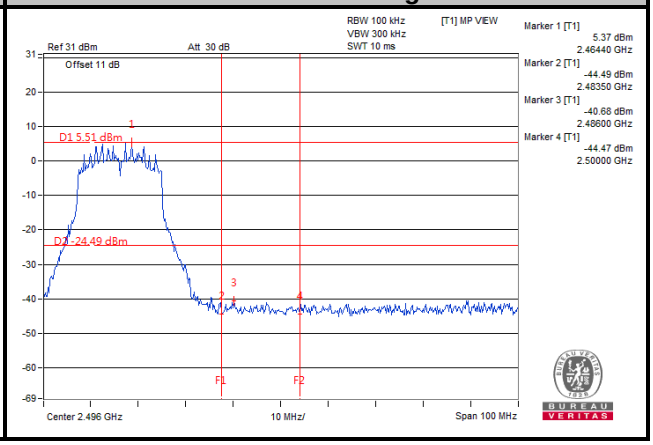


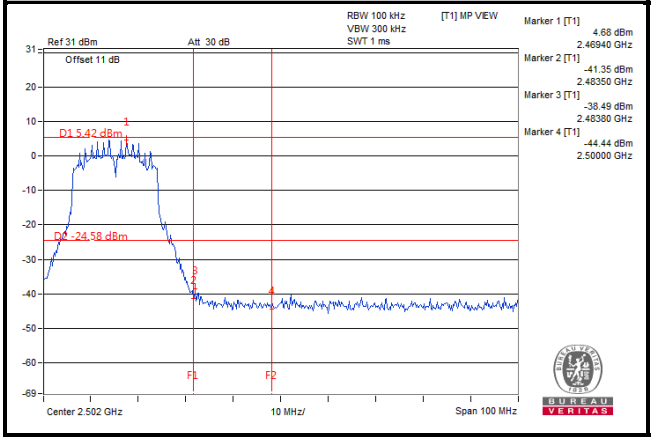
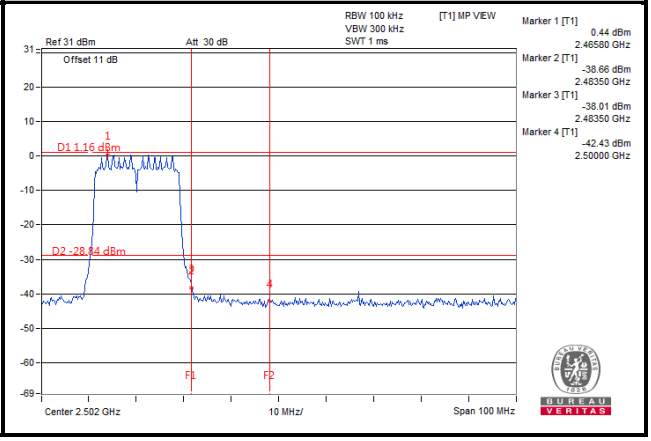


Ch 1 Band Edge



Ch 11 Band Edge



Ch 12 Band Edge	Ch 13 Band Edge
	

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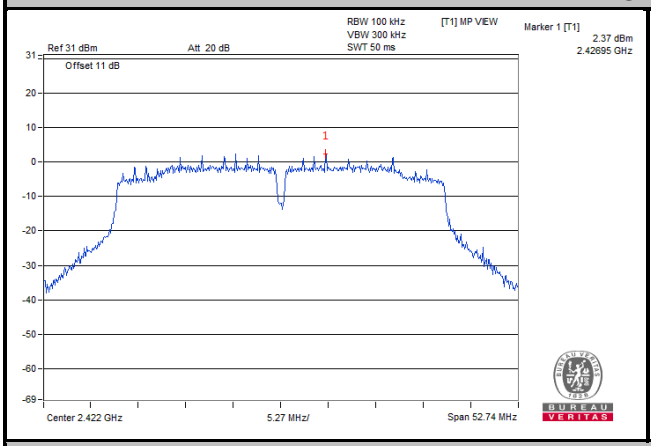
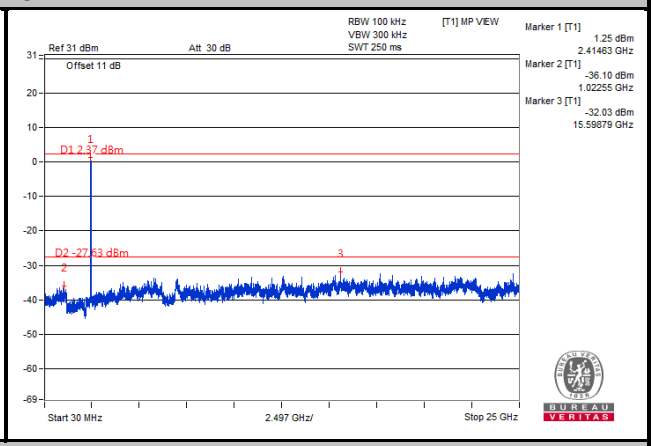
802.11n (HT40)

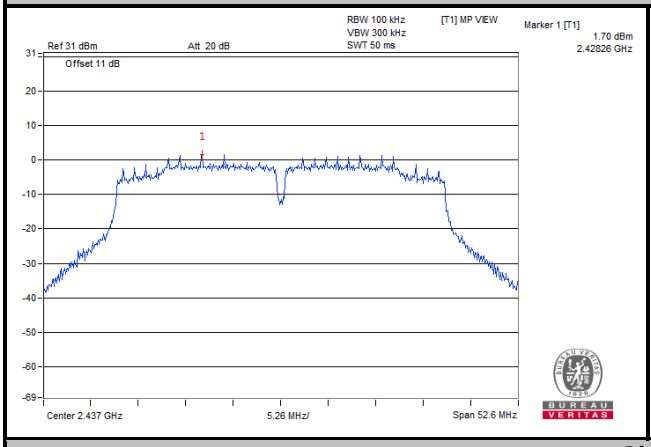
CHAIN A

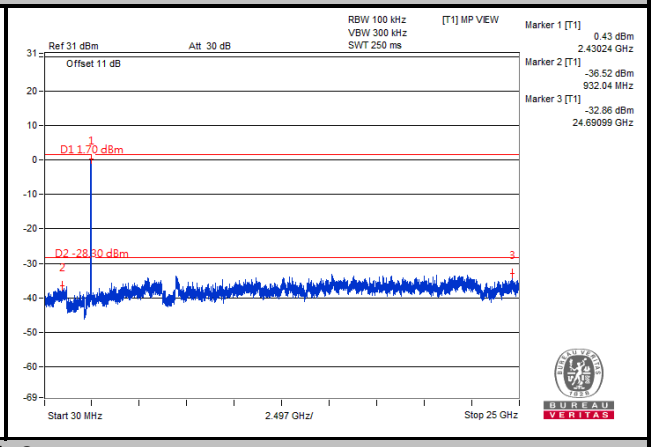
Ch 3



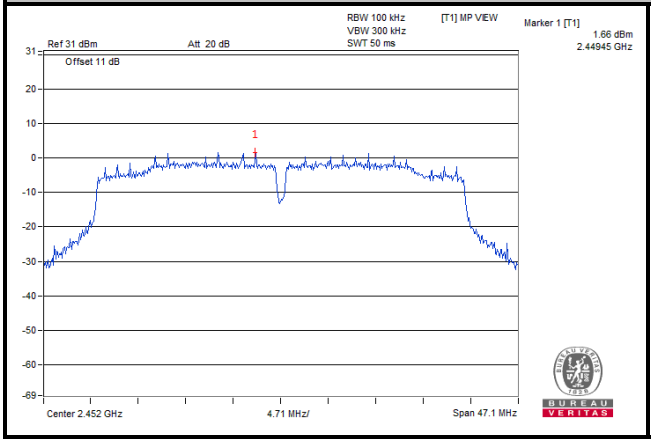


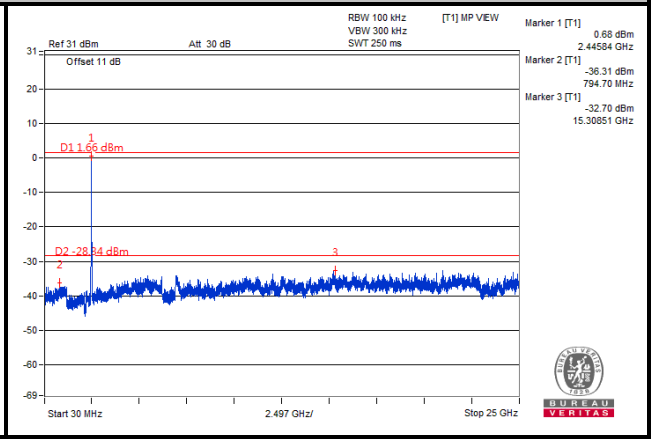
Ch 6



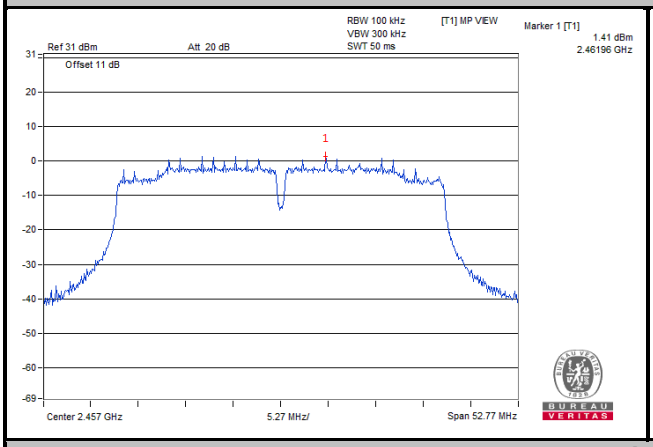


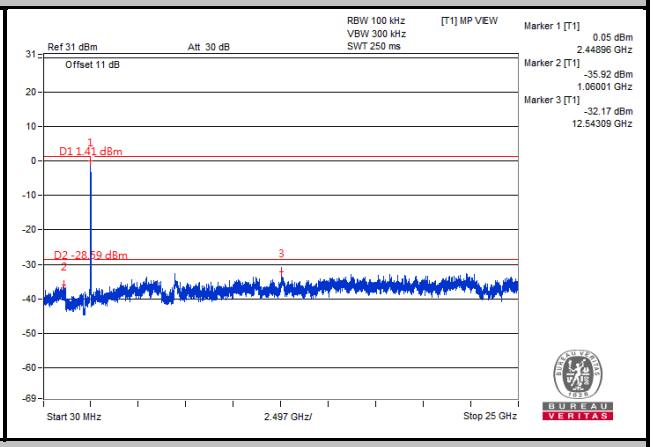
Ch 9



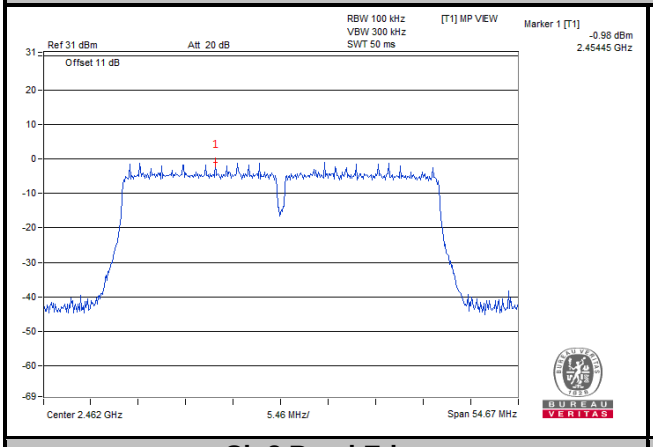


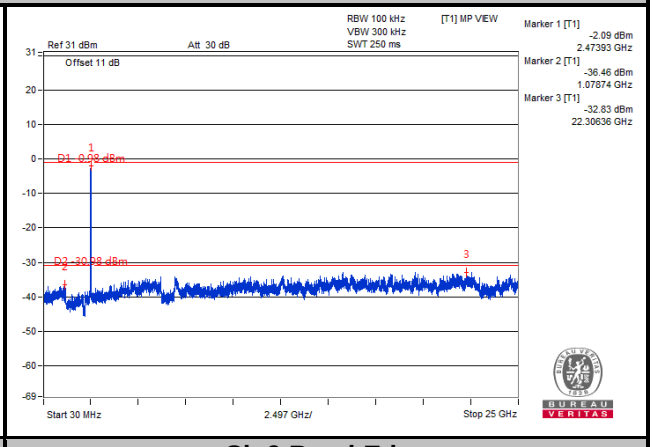
Ch 10



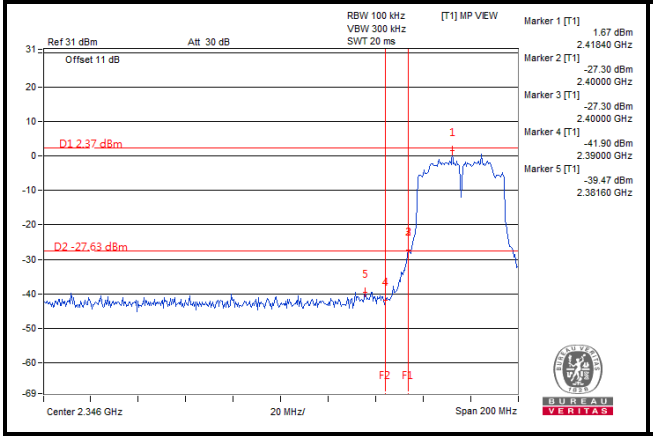


Ch 11

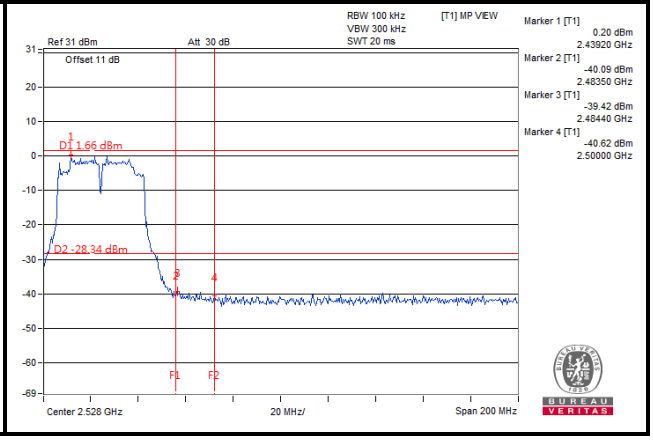


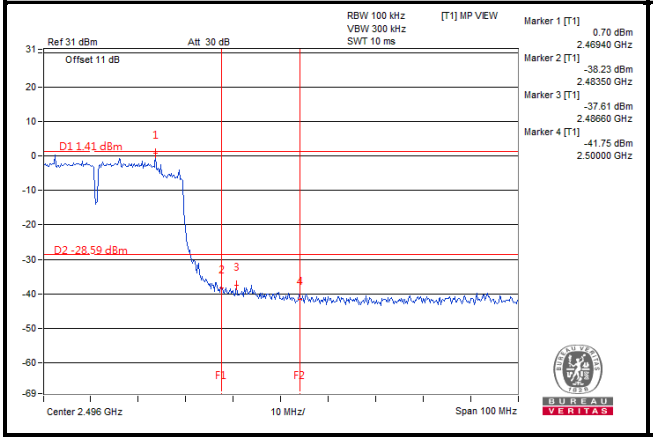
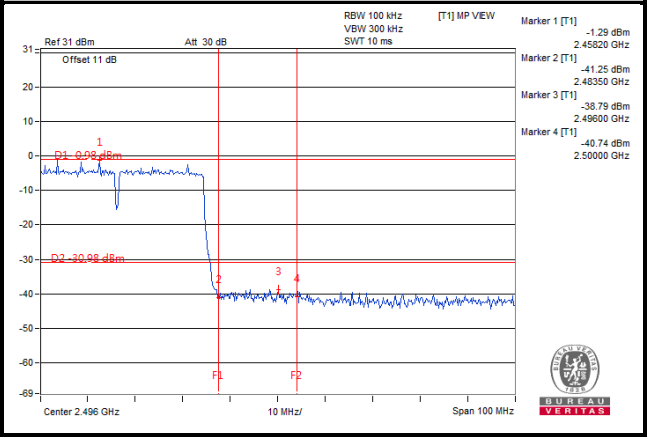


Ch 3 Band Edge



Ch 9 Band Edge

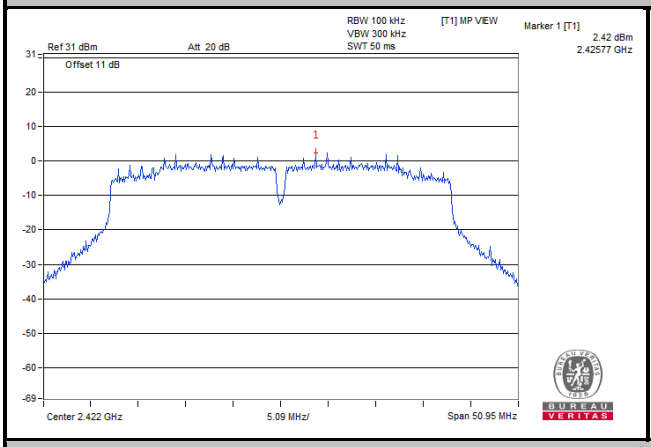


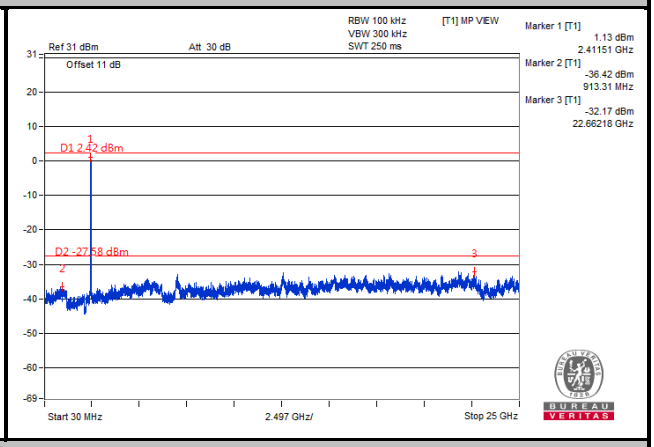
Ch 10 Band Edge	Ch 11 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

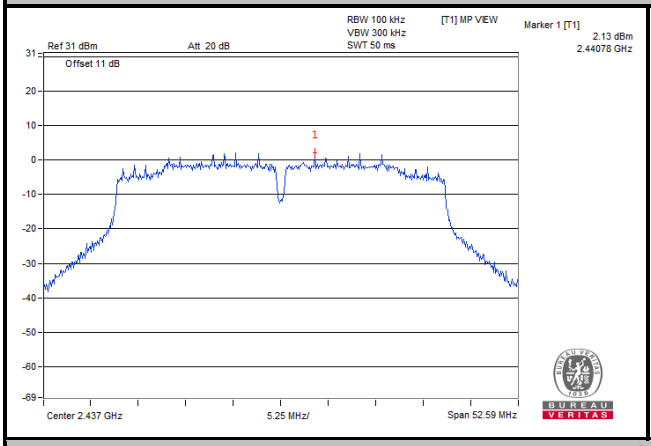
CHAIN B

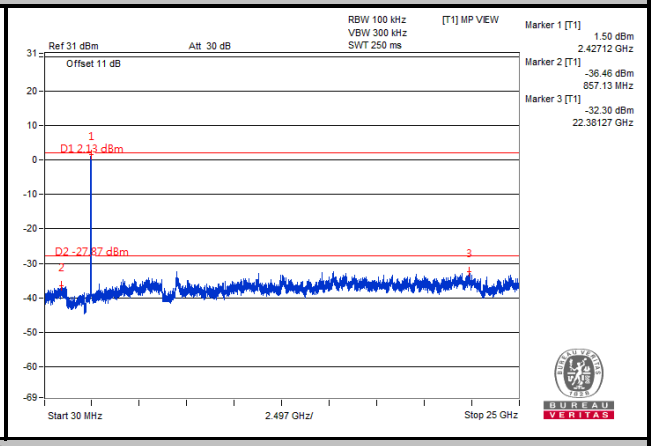
Ch 3



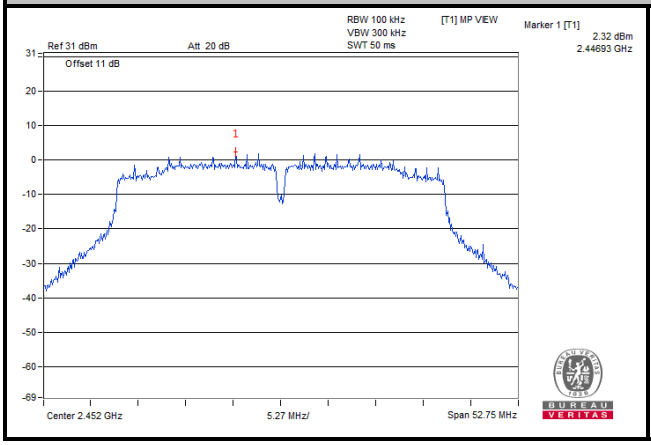


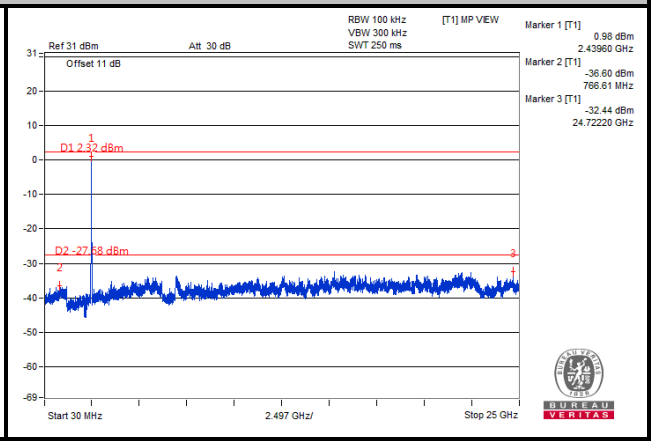
Ch 6



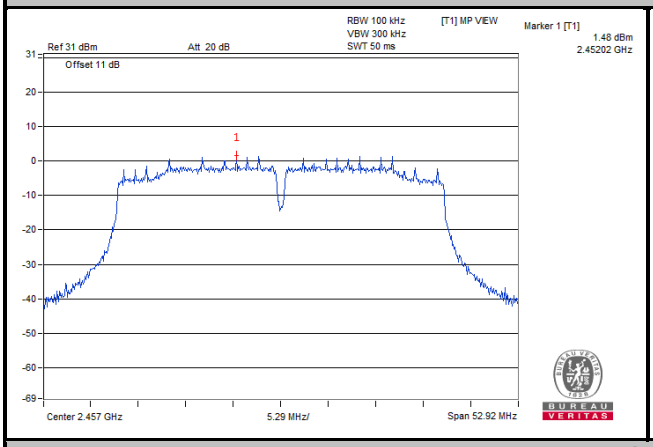


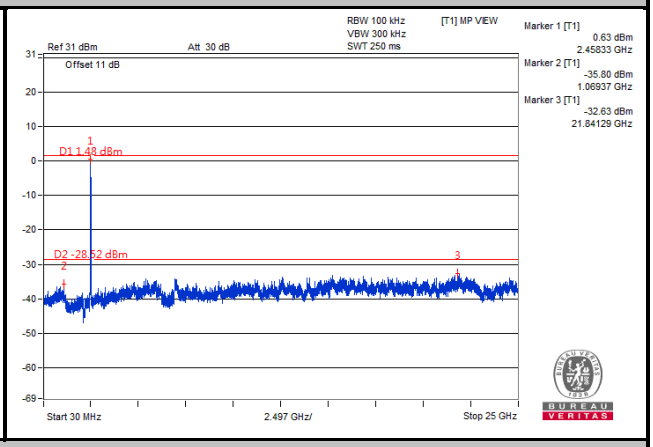
Ch 9



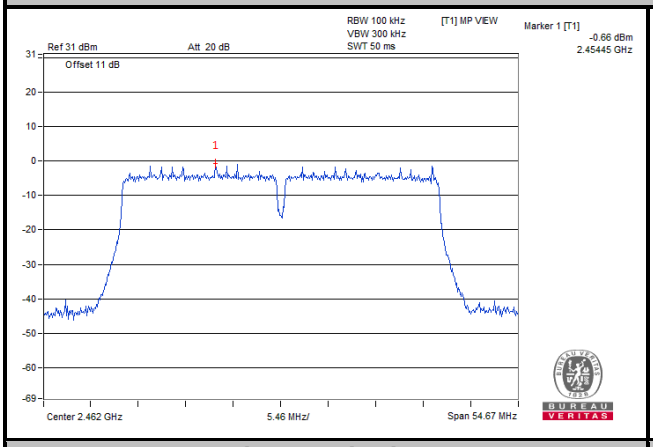


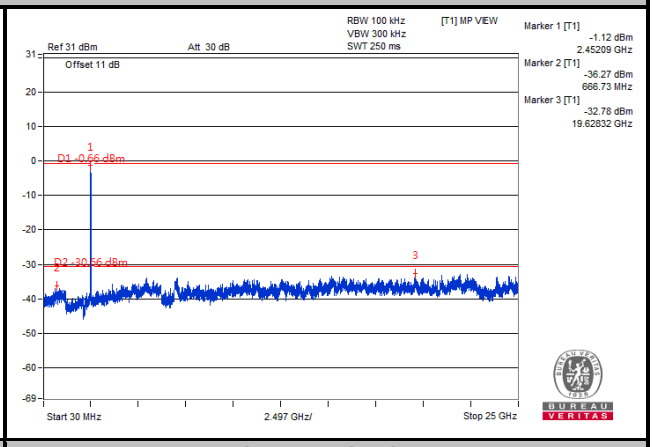
Ch 10



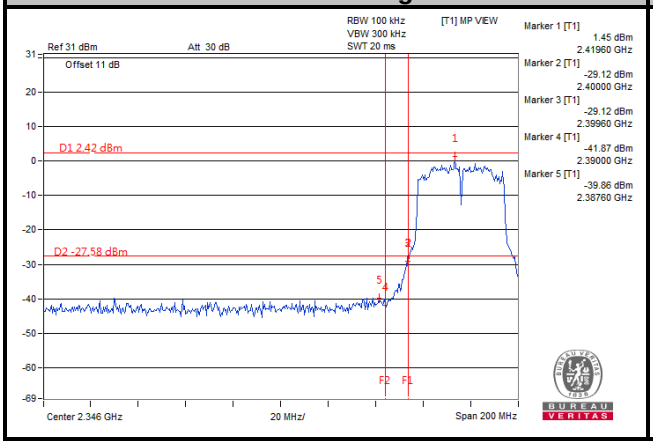


Ch 11

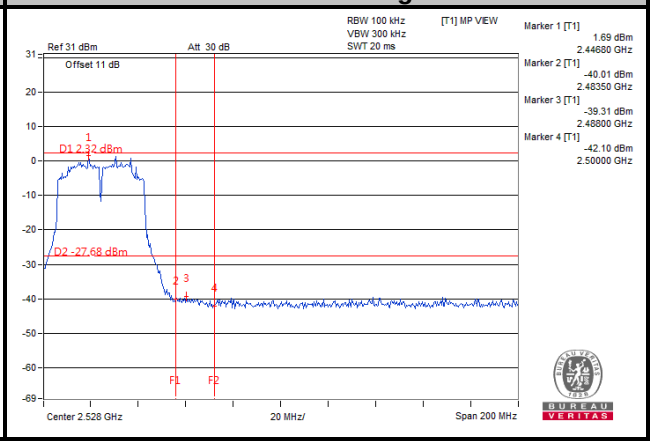


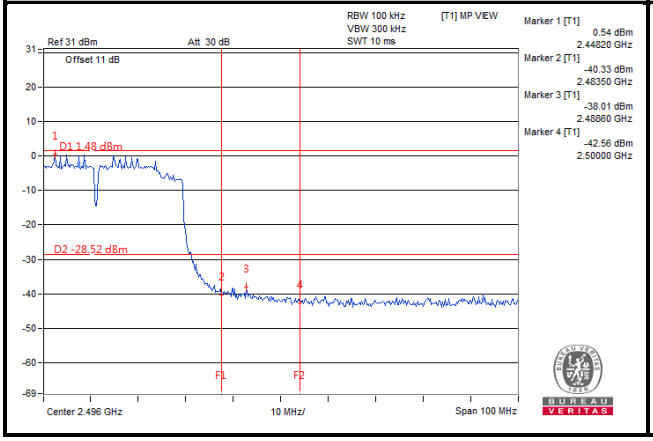
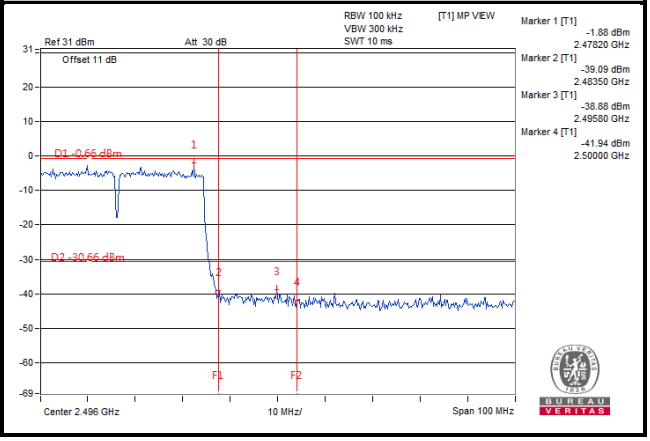


Ch 3 Band Edge



Ch 9 Band Edge



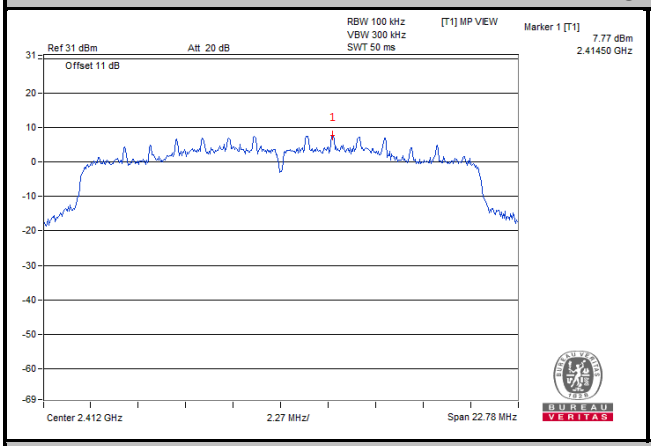
Ch 10 Band Edge	Ch 11 Band Edge
	

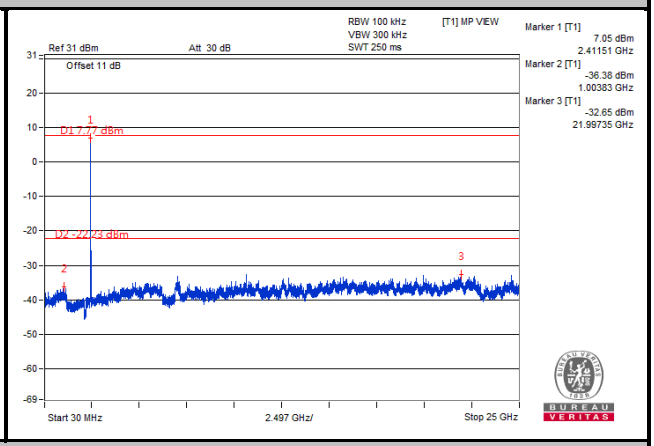
Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

802.11ax (HE20)

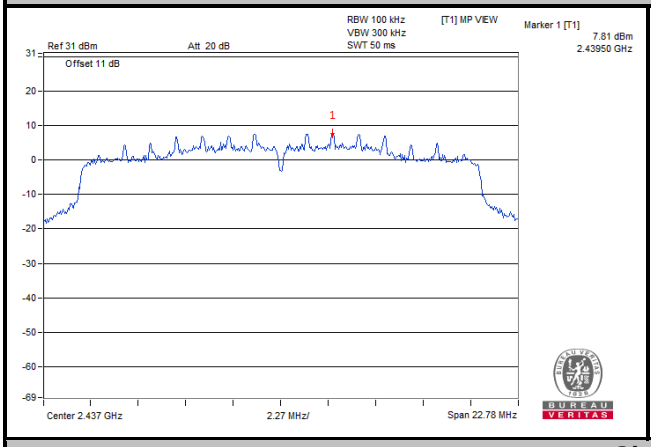
CHAIN A

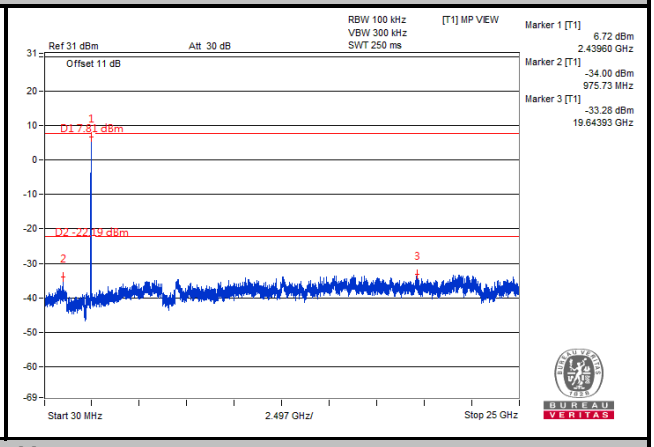
Ch 1



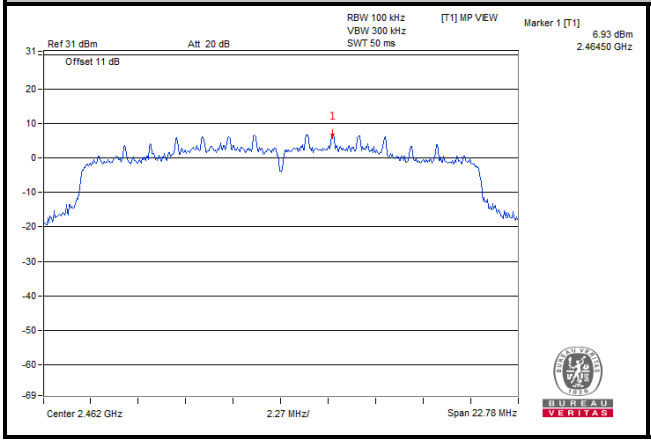


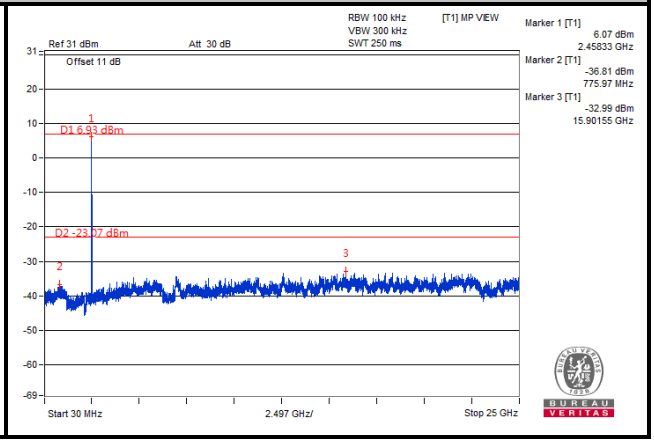
Ch 6





Ch 11





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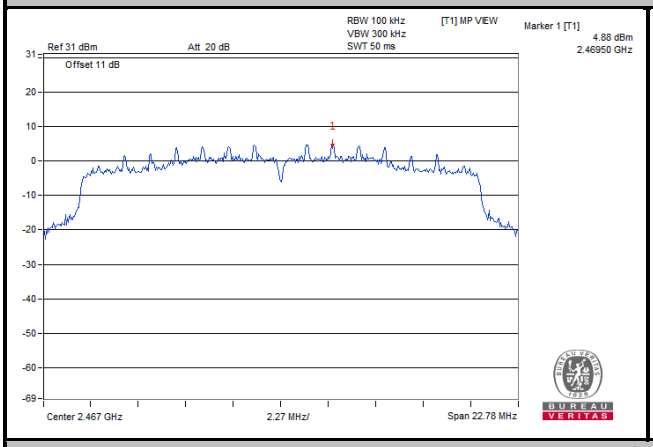
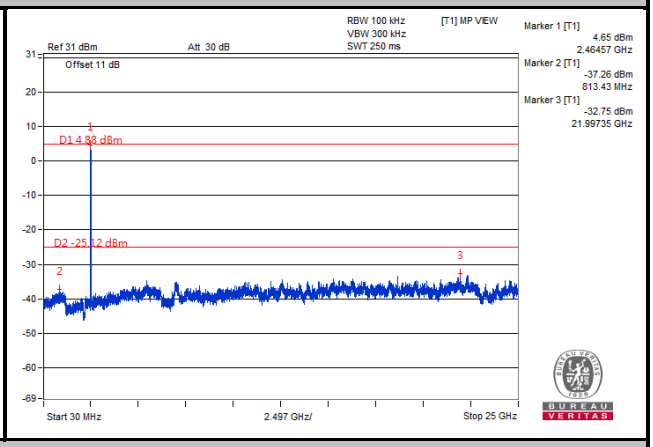
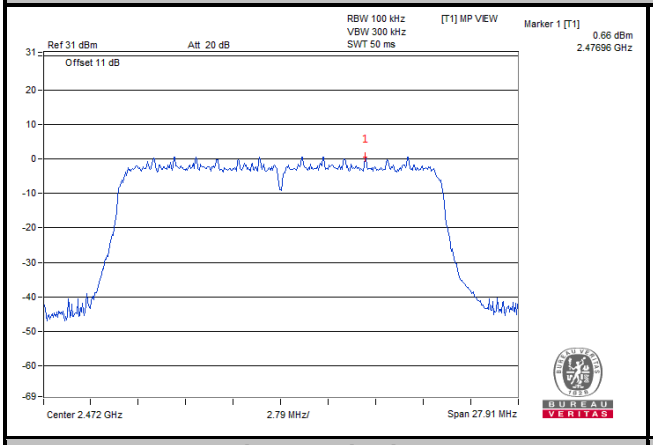
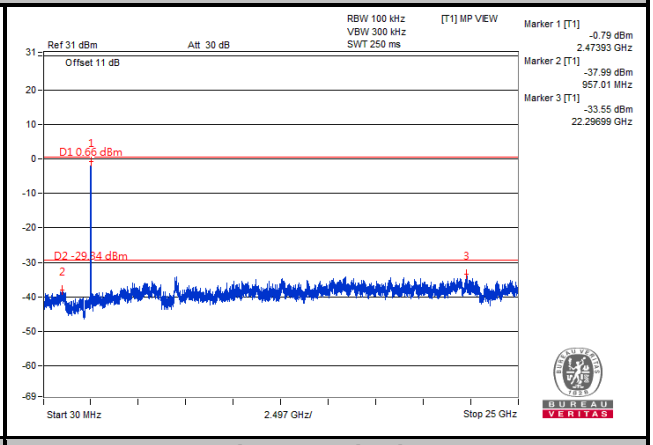


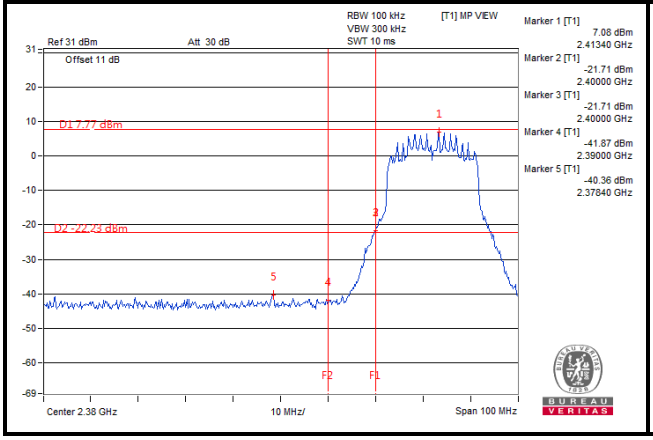


Ch 13

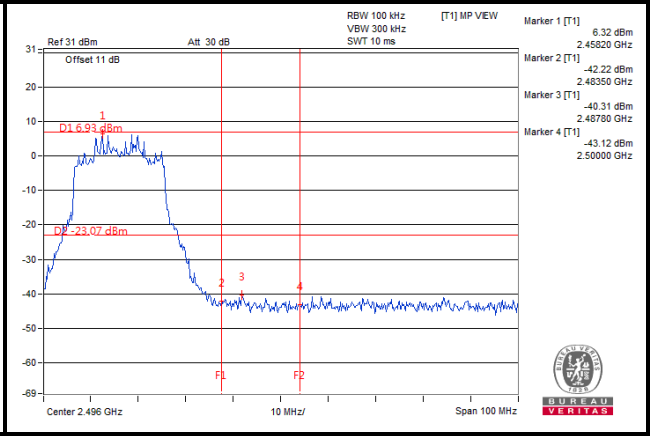


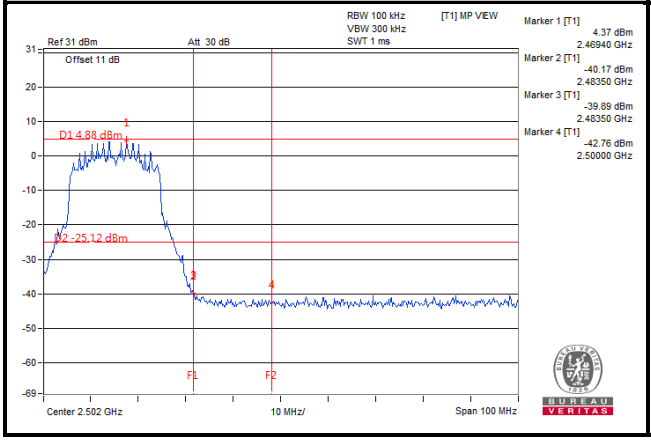
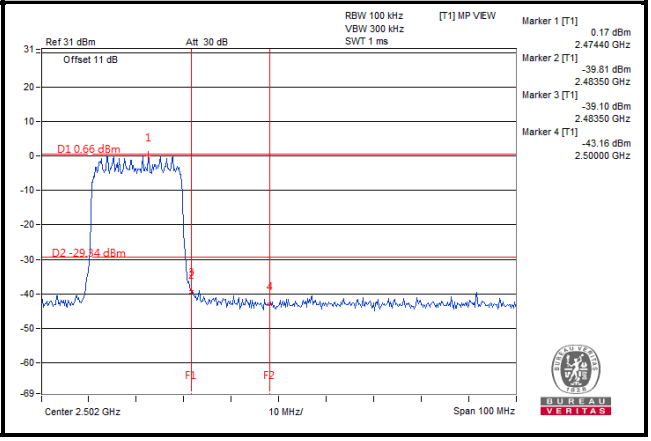


Ch 1 Band Edge



Ch 11 Band Edge

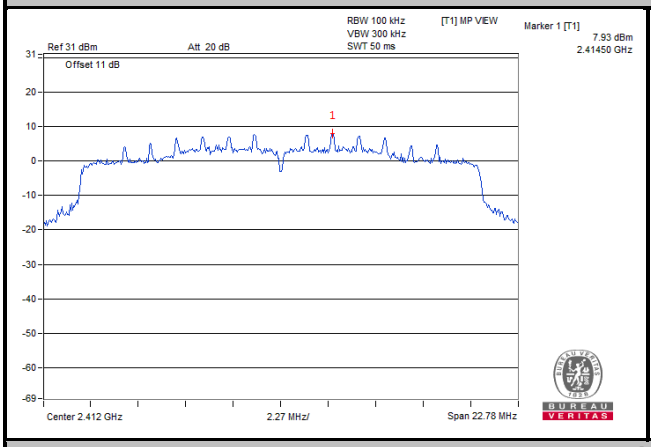


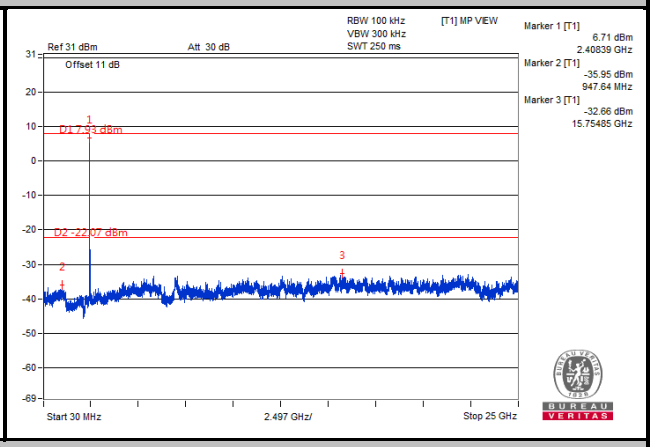
Ch 12 Band Edge	Ch 13 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

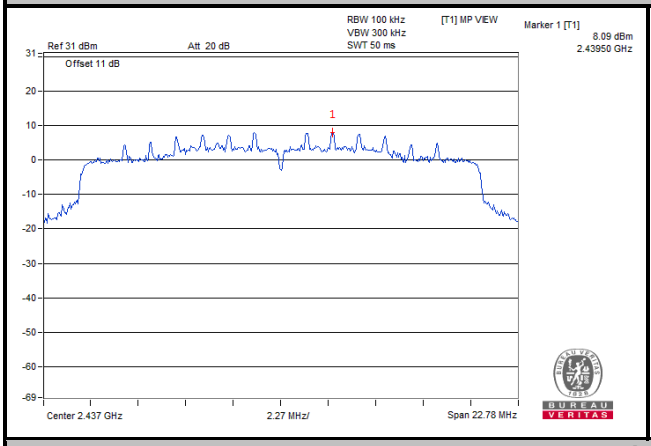
CHAIN B

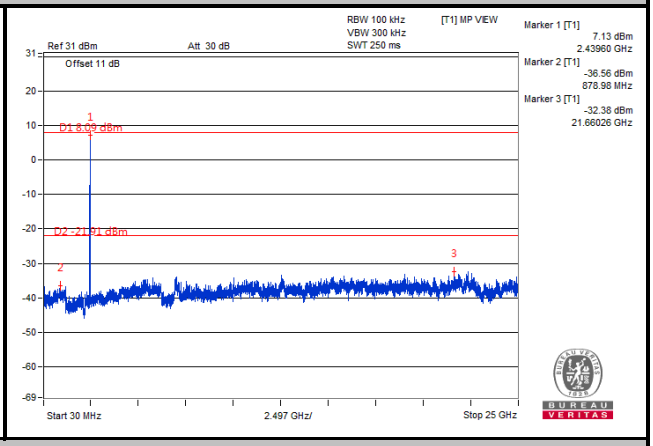
Ch 1



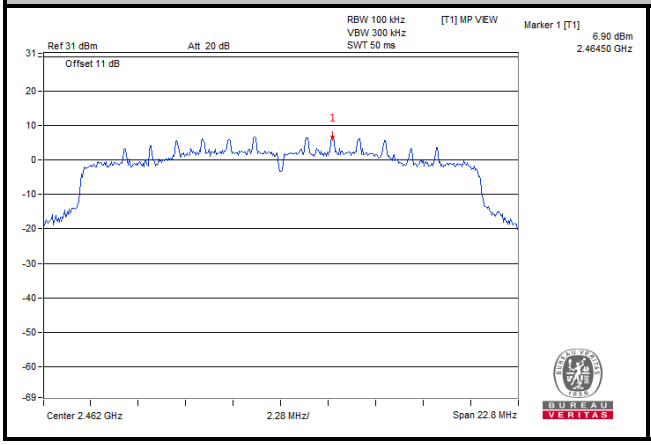


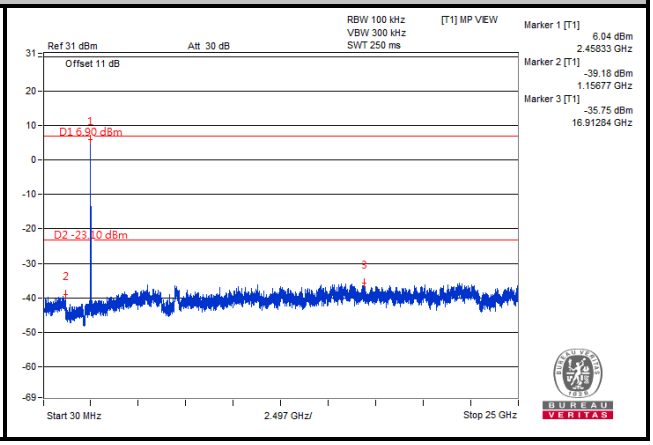
Ch 6



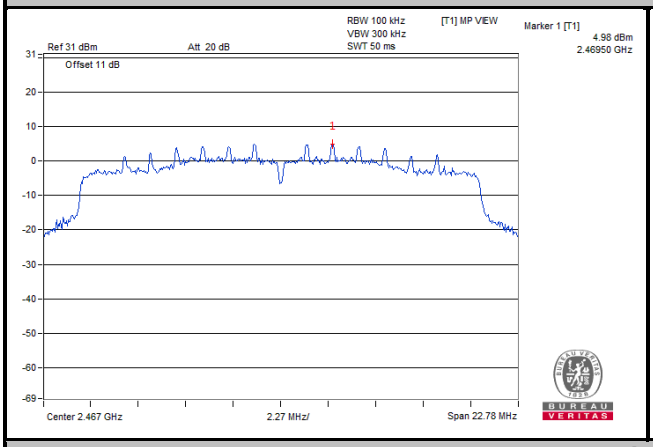


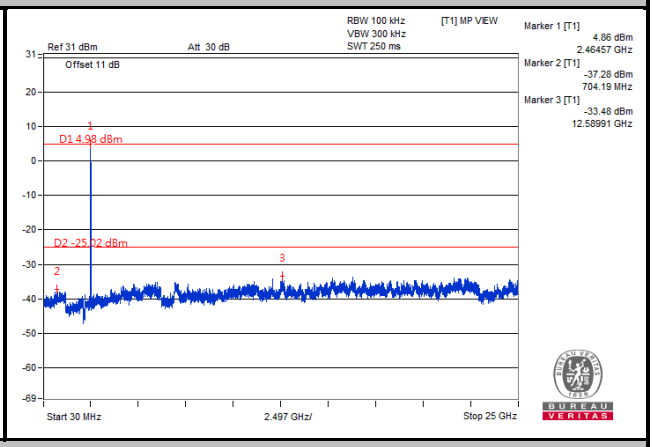
Ch 11



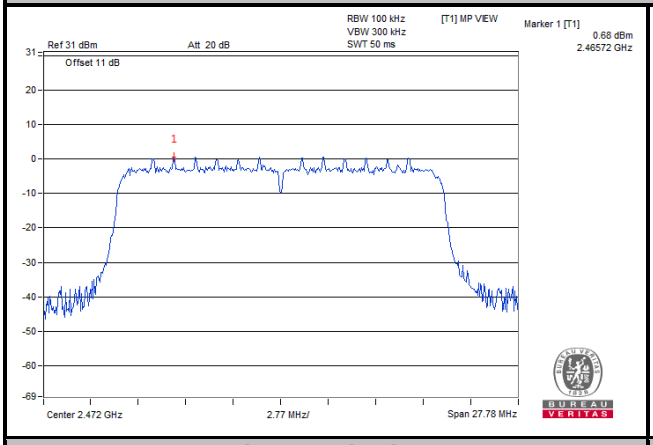


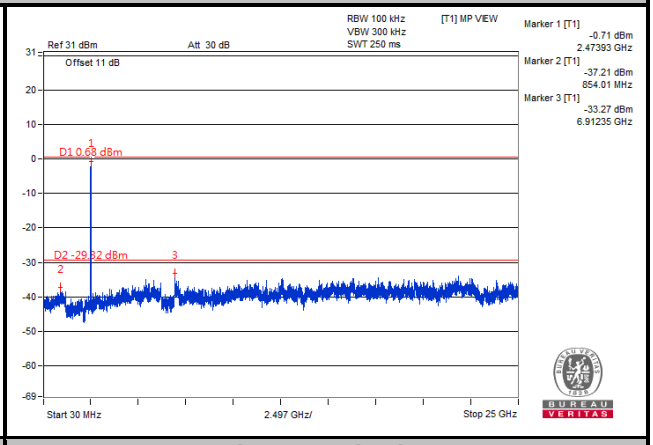
Ch 12



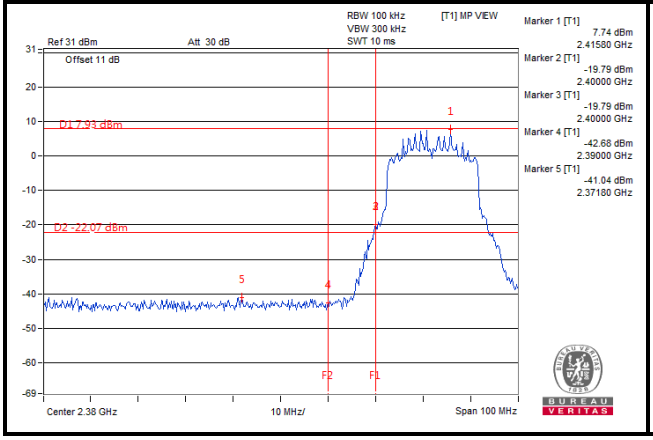


Ch 13

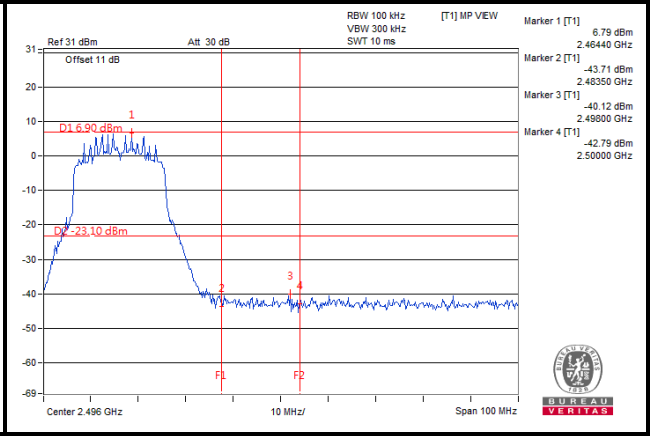


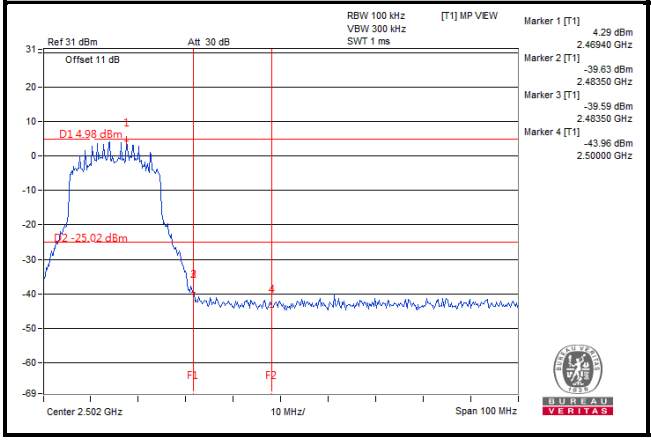
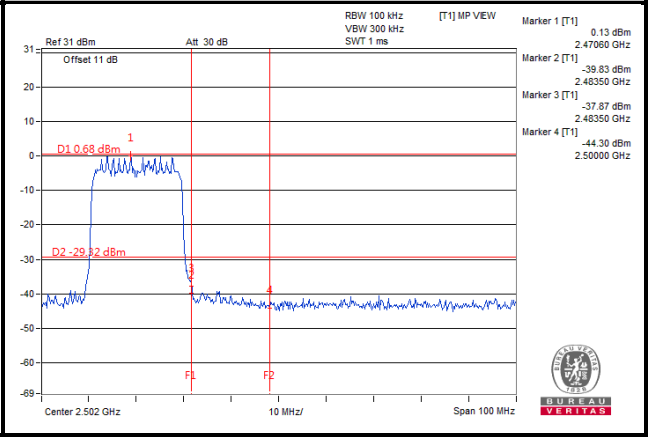


Ch 1 Band Edge



Ch 11 Band Edge



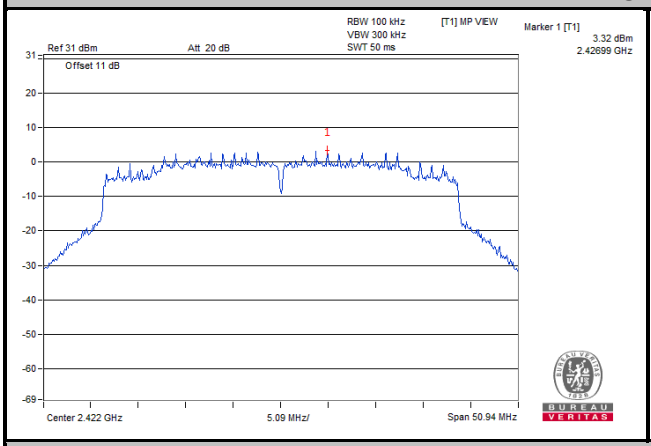
Ch 12 Band Edge	Ch 13 Band Edge
	

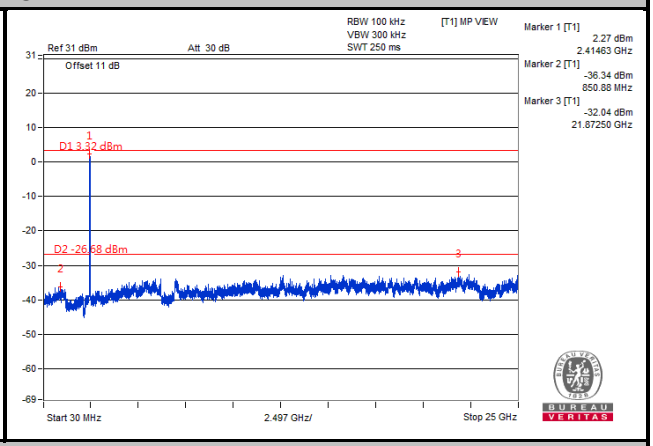
Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

802.11ax (HE40)

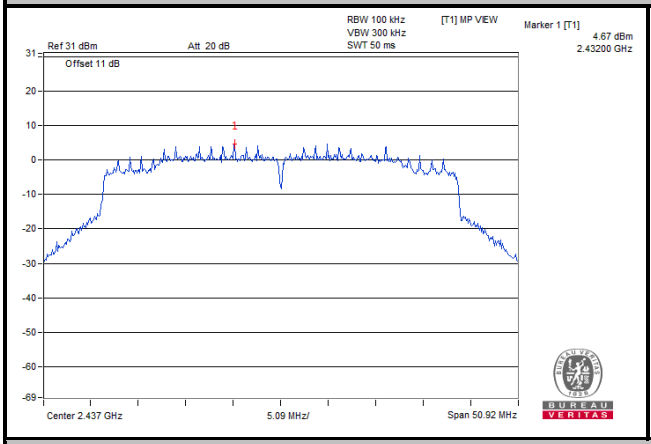
CHAIN A

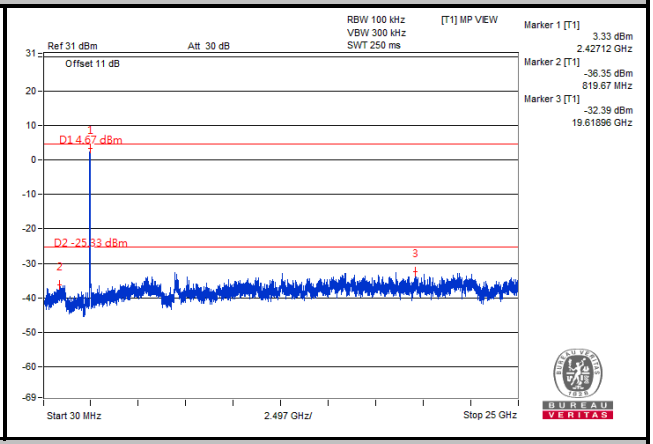
Ch 3



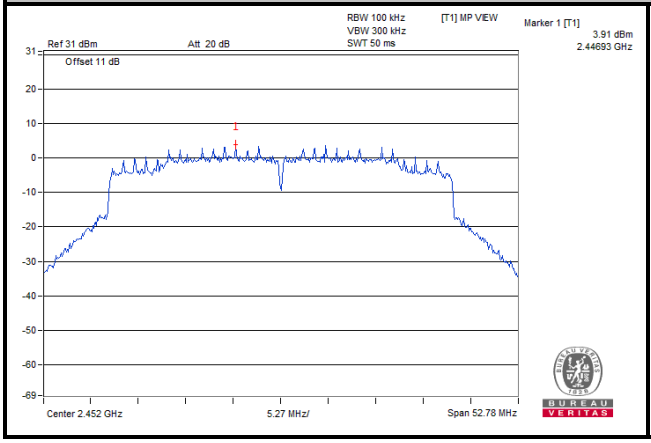


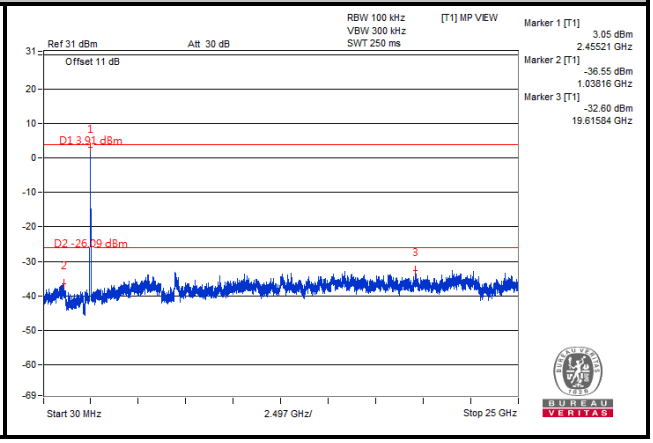
Ch 6



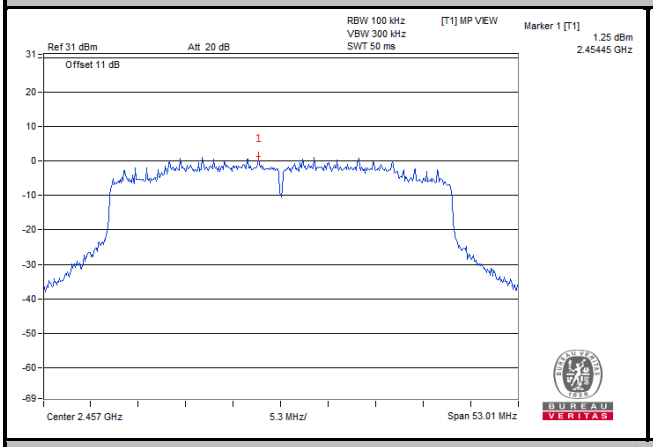


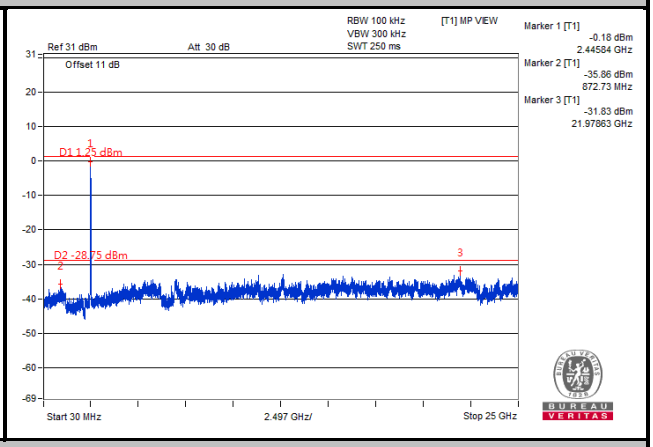
Ch 9



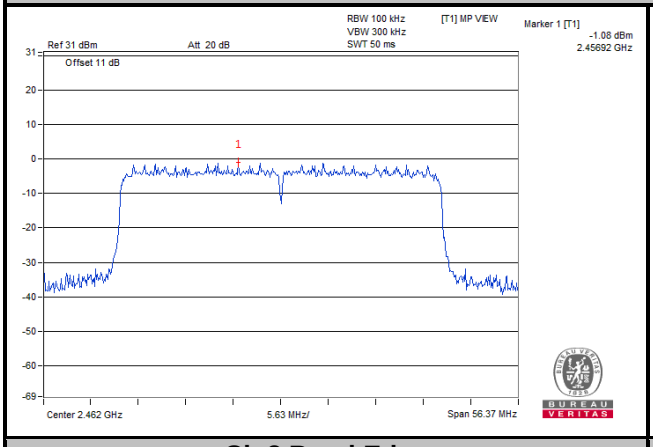


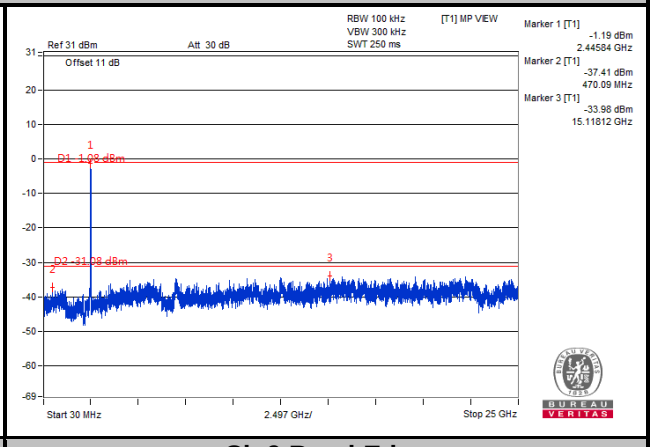
Ch 10



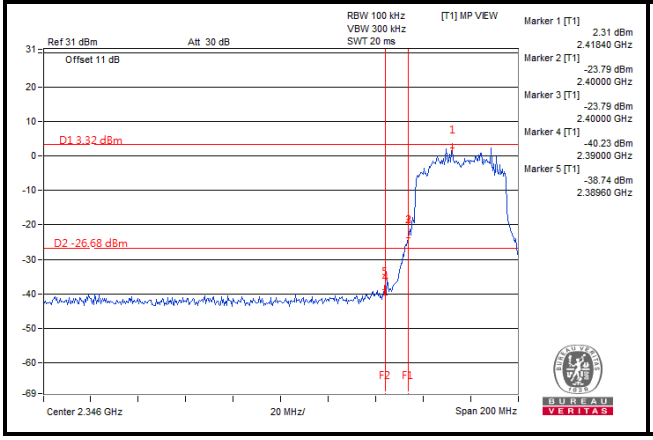


Ch 11

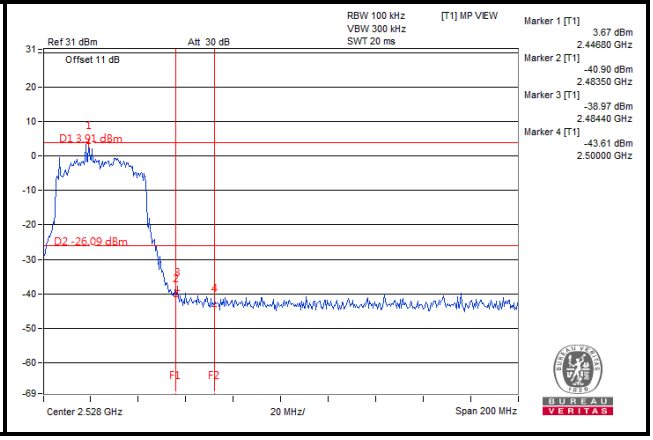


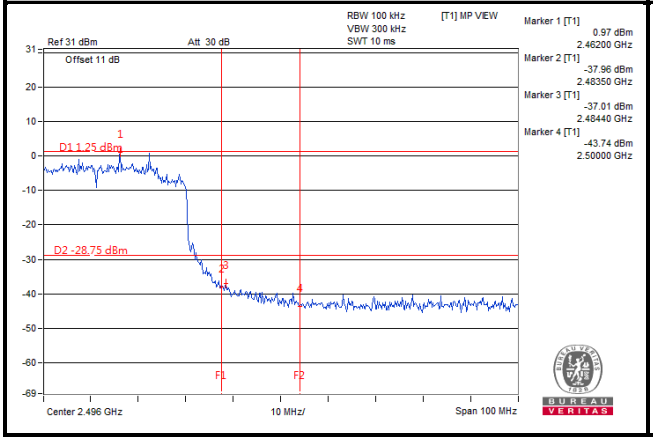
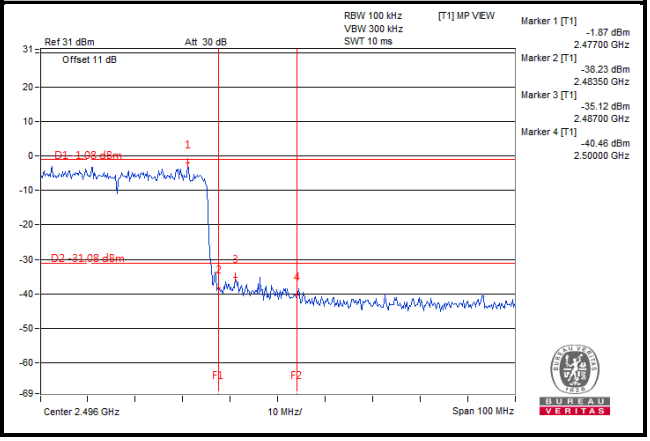


Ch 3 Band Edge



Ch 9 Band Edge

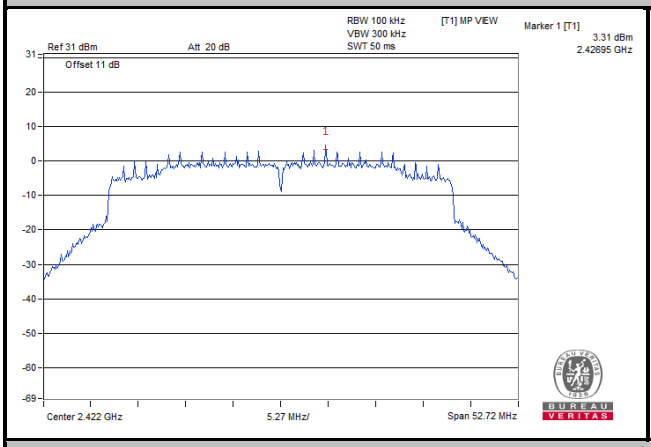


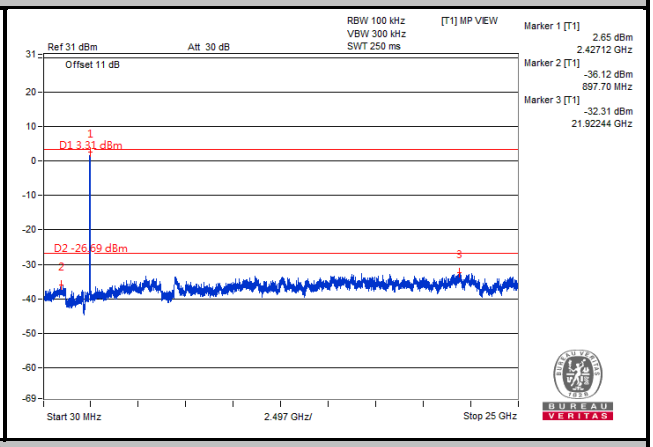
Ch 10 Band Edge	Ch 11 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

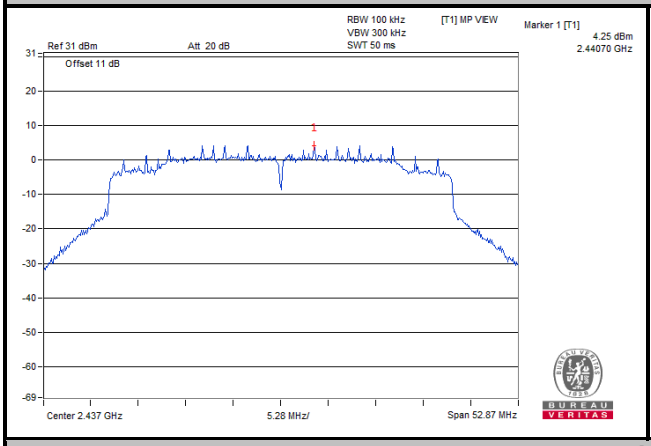
CHAIN B

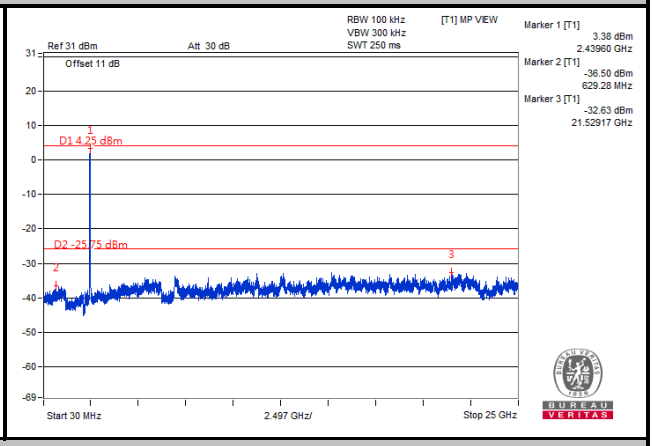
Ch 3



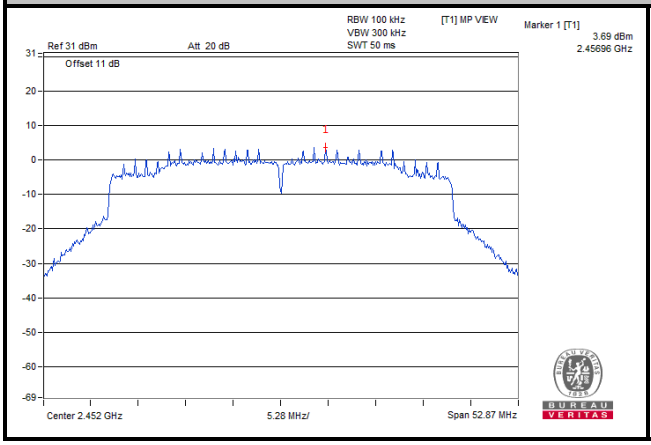


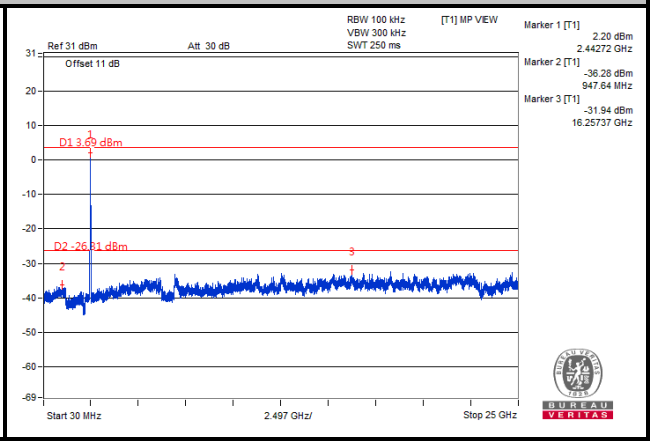
Ch 6



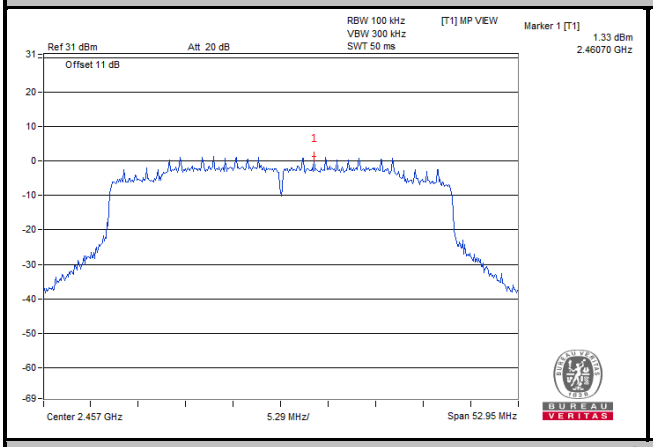


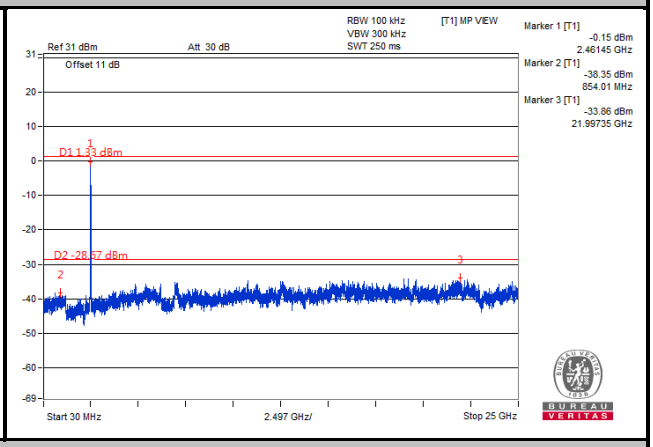
Ch 9



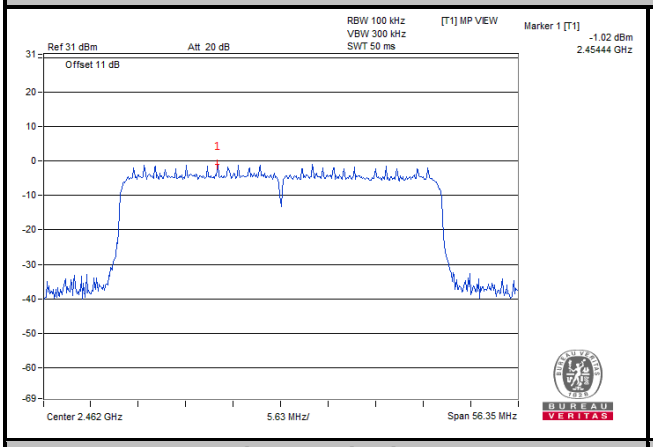


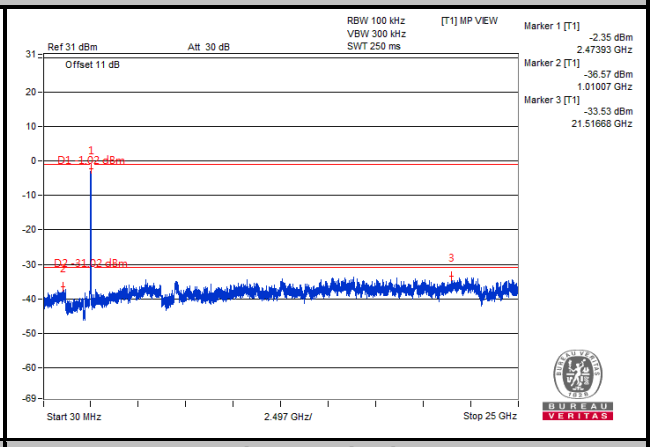
Ch 10



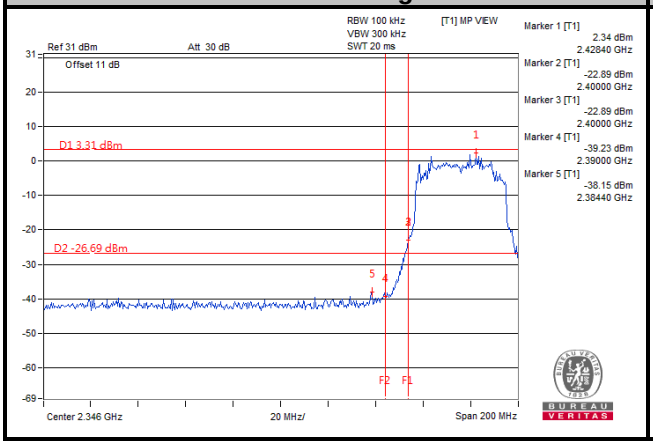


Ch 11

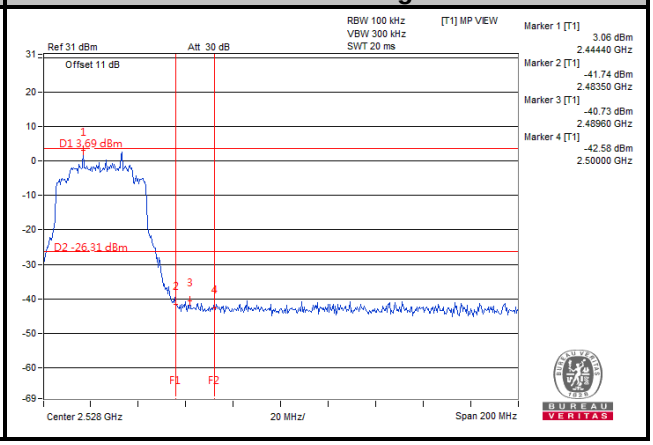


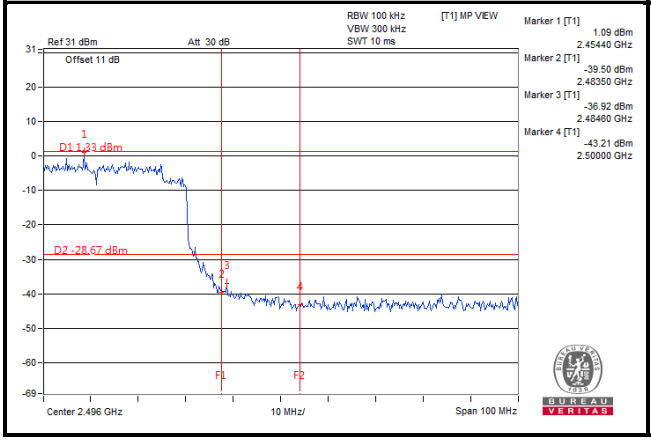
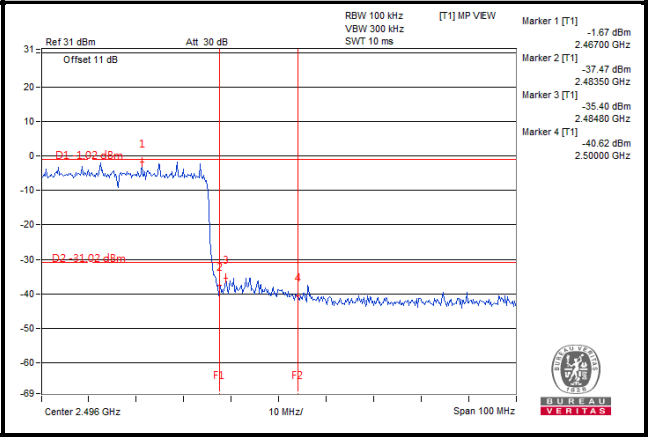


Ch 3 Band Edge



Ch 9 Band Edge



Ch 10 Band Edge	Ch 11 Band Edge
	

Note: VIEW is just to prevent pulse from entering. The method is using maxhold first, wait to waveform stable then view.

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
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Fax: 886-3-6668323

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Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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