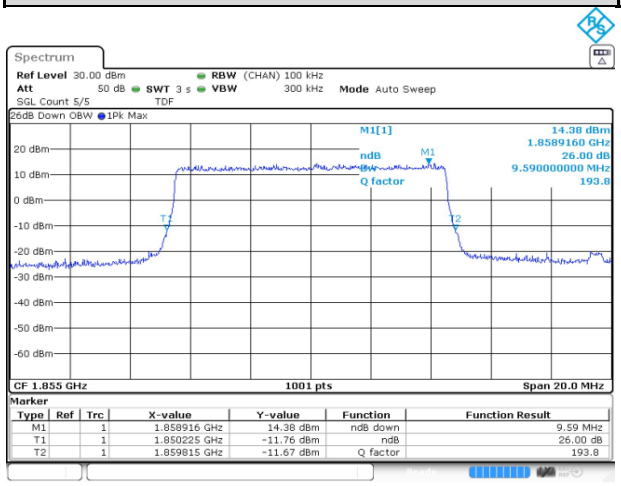
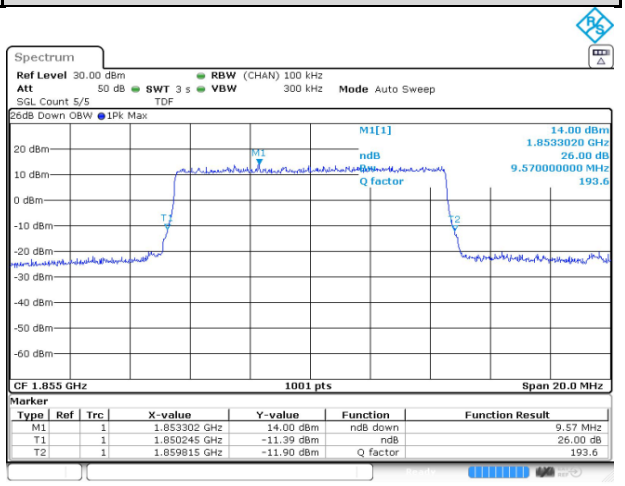
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/10MHz/50/0	Low CH 18650	1855 MHz	**9.59**	**9.57**
	Mid CH 18900	1880 MHz	9.55	9.491
	High CH 19150	1905 MHz	9.59	9.471

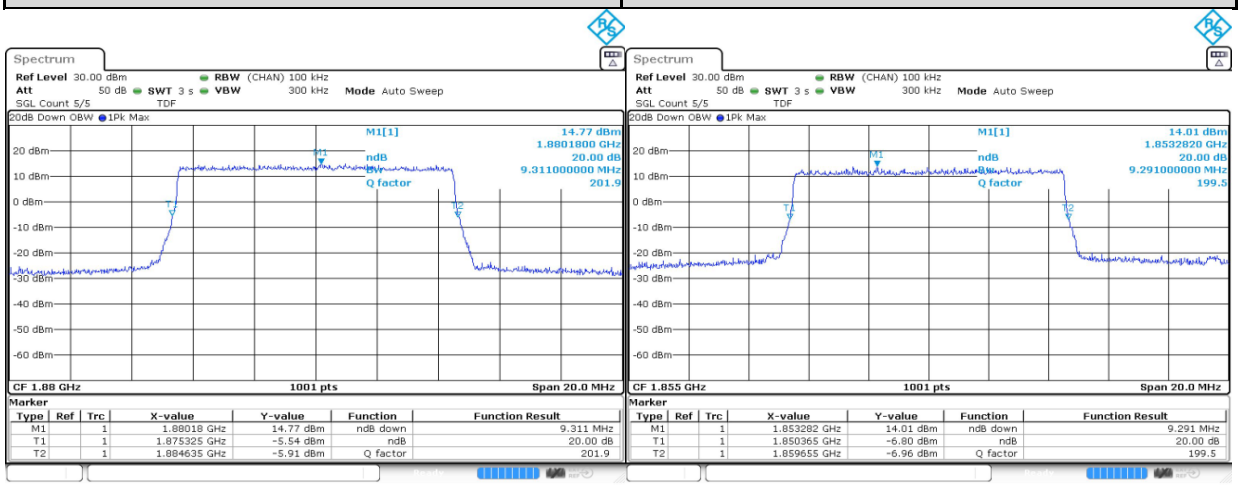
Spectrum Plot of Worst Value	
-26 dBc Bandwidth	
QPSK	16QAM





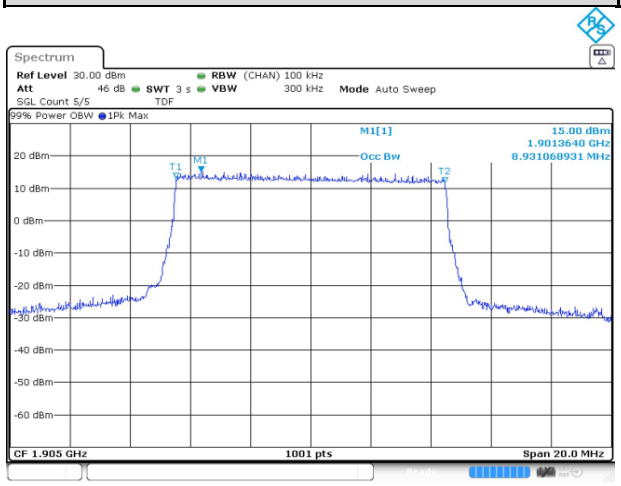
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-20 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/10MHz/50/0	Low CH 18650	1855 MHz	9.271	**9.291**
	Mid CH 18900	1880 MHz	**9.311**	9.231
	High CH 19150	1905 MHz	9.251	9.231

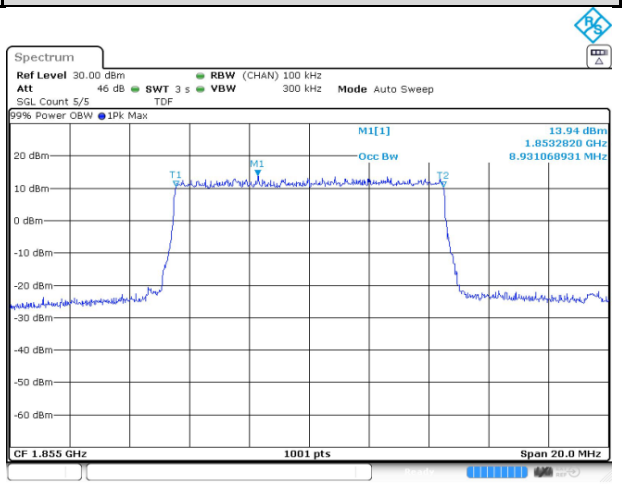
Spectrum Plot of Worst Value	
-20 dBc Bandwidth	
QPSK	16QAM



LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/10MHz/50/0	Low CH 18650	1855 MHz	8.911	**8.931**
	Mid CH 18900	1880 MHz	8.911	8.931
	High CH 19150	1905 MHz	**8.931**	8.931

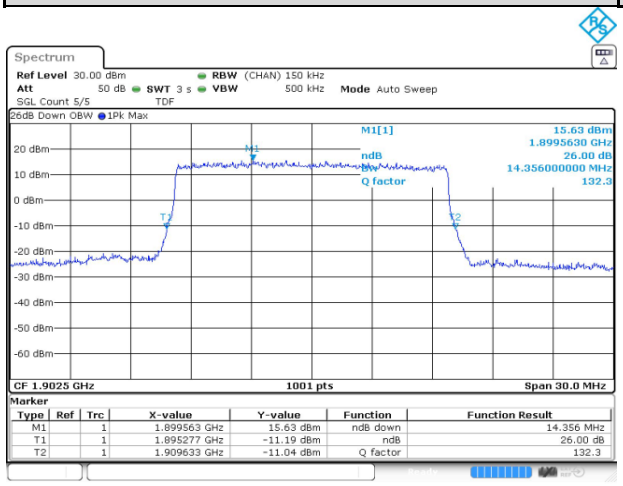
Spectrum Plot of Worst Value	
99% Occupied Bandwidth	
QPSK	16QAM

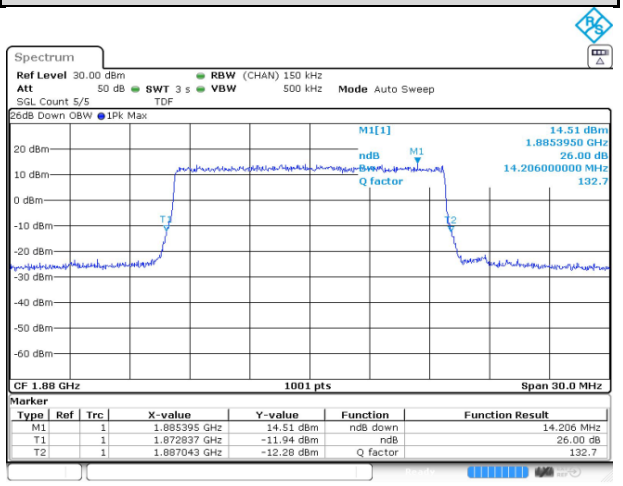




LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/15MHz/75/0	Low CH 18675	1857.5 MHz	14.326	14.146
	Mid CH 18900	1880 MHz	14.236	**14.206**
	High CH 19125	1902.5 MHz	**14.356**	14.146

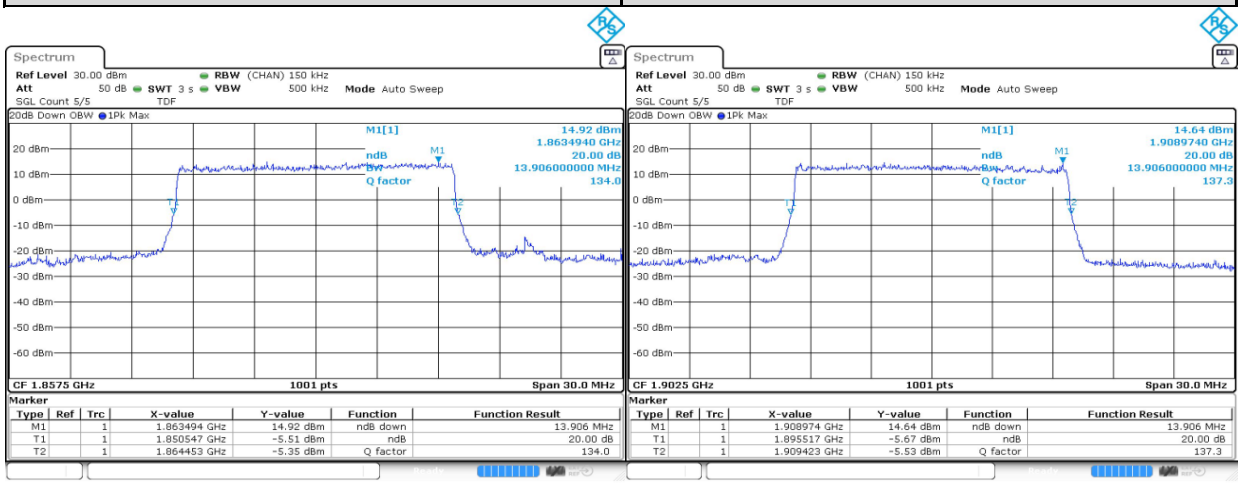
Spectrum Plot of Worst Value	
-26 dBc Bandwidth	
QPSK	16QAM





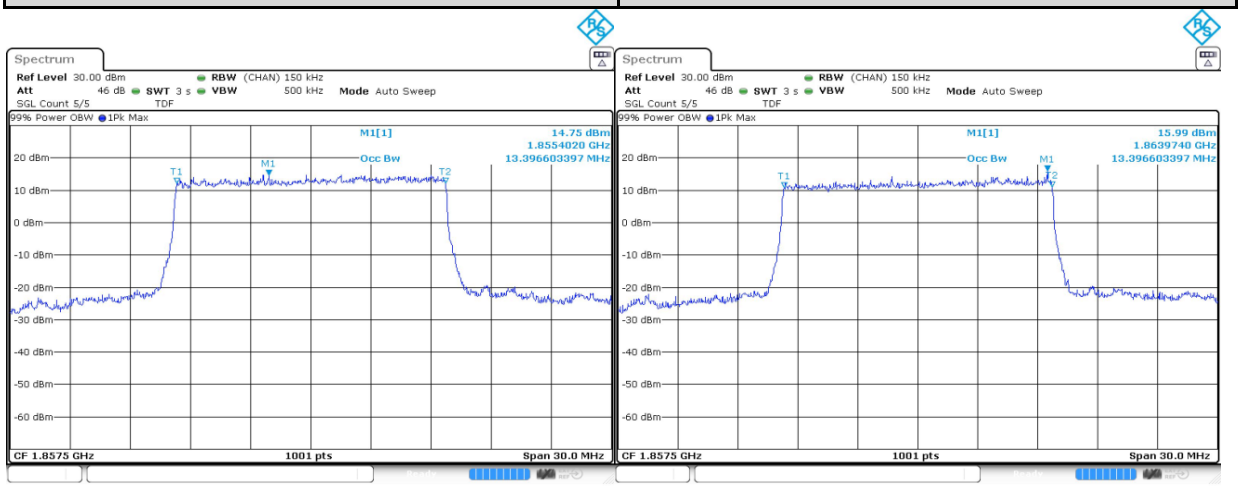
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-20 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/15MHz/75/0	Low CH 18675	1857.5 MHz	**13.906**	13.786
	Mid CH 18900	1880 MHz	13.846	13.876
	High CH 19125	1902.5 MHz	13.846	**13.906**

Spectrum Plot of Worst Value	
-20 dBc Bandwidth	
QPSK	16QAM



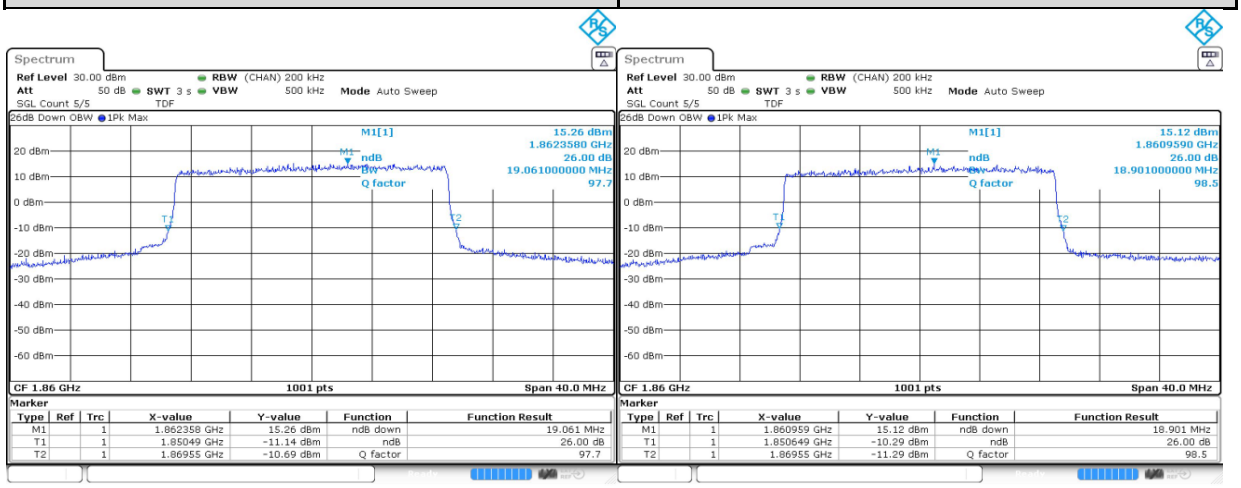
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/15MHz/75/0	Low CH 18675	1857.5 MHz	**13.397**	**13.397**
	Mid CH 18900	1880 MHz	13.367	13.367
	High CH 19125	1902.5 MHz	13.367	13.367

Spectrum Plot of Worst Value	
99% Occupied Bandwidth	
QPSK	16QAM



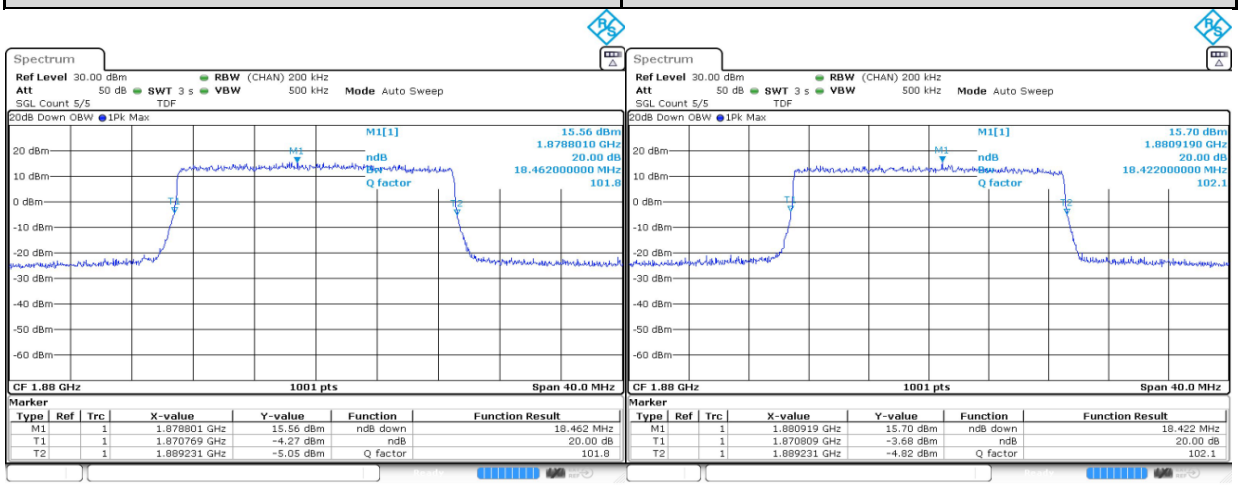
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/20MHz/100/0	Low CH 18700	1860 MHz	**19.061**	**18.901**
	Mid CH 18900	1880 MHz	18.861	18.901
	High CH 19100	1900 MHz	18.901	18.781

Spectrum Plot of Worst Value	
-26 dBc Bandwidth	
QPSK	16QAM



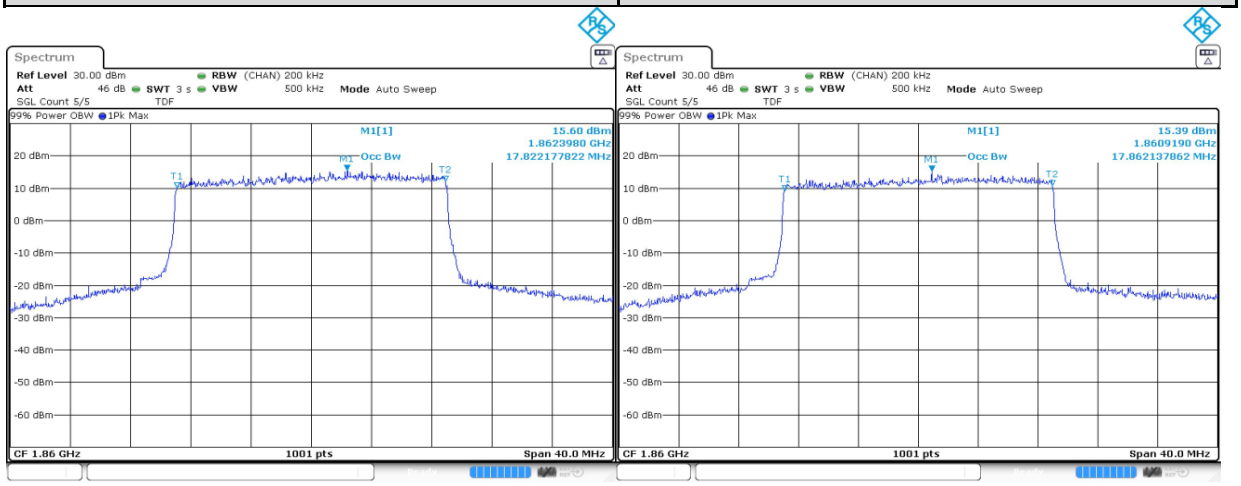
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-20 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/20MHz/100/0	Low CH 18700	1860 MHz	18.422	18.382
	Mid CH 18900	1880 MHz	**18.462**	**18.422**
	High CH 19100	1900 MHz	18.422	18.382

Spectrum Plot of Worst Value	
-20 dBc Bandwidth	
QPSK	16QAM



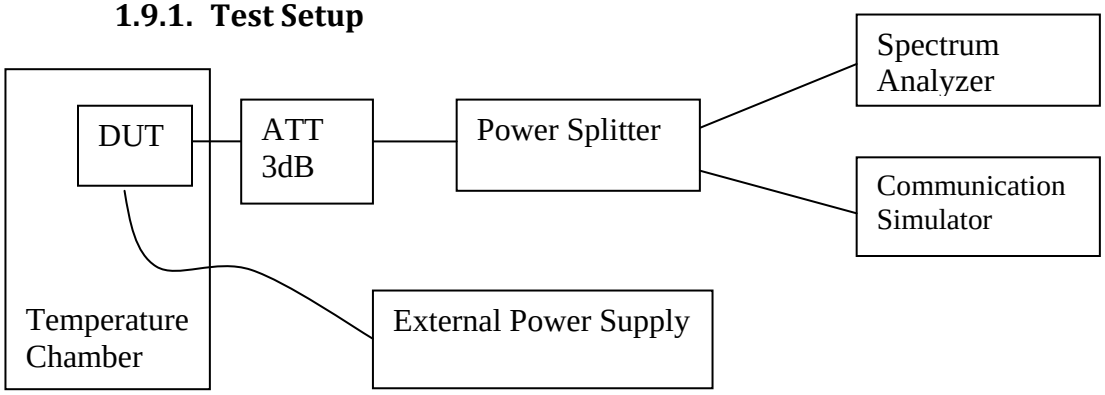
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 2/20MHz/100/0	Low CH 18700	1860 MHz	**17.822**	**17.862**
	Mid CH 18900	1880 MHz	17.822	17.822
	High CH 19100	1900 MHz	17.782	17.822

Spectrum Plot of Worst Value	
99% Occupied Bandwidth	
QPSK	16QAM



1.9. Frequency Stability

1.9.1. Test Setup



1) The DUT is placed in the temperature chamber and DUT is power up by external power supply to control the DC input voltage.
2) The temperature chamber could control the temperature and humidity and external power supply could control the test voltage range from minimum to maximum operating voltage.
3) Measured frequency error from the communication simulator by vary below step :
   i. Vary temperature of the temperature chamber from -20 ~ 60 deg C (10 deg C / Step) and set external supply voltage constant at nominal voltage.
   ii. Vary external supply voltage from minimum to maximum operation voltage support by DUT and set temperature chamber constant at room temp.
4) All the measurement was done at mid channel for each band.

1.9.2. Test Limit

As per manufacturer declared product operating at -20 to 60 deg C with spec of +/- 0.1ppm.

1.9.3. Frequency Stability – LTE Band 2 (1850 -1910 MHz)

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 1.4 MHz			
		Low Channel		High Channel	
		1850.7MHz		1909.3MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	60	1850.699981	-0.010172	1909.299971	-0.015164
	50	1850.700022	0.01188	1909.299984	-0.008444
	40	1850.699984	-0.008425	1909.299973	-0.014101
	30	1850.700019	0.010203	1909.299982	-0.00935
	20	1850.699971	-0.01549	1909.299977	-0.012302
	10	1850.699976	-0.013233	1909.300018	0.00968
	0	1850.699986	-0.007482	1909.299979	-0.010796
	-10	1850.699991	-0.004939	1909.30001	0.005252
	-20	1850.700024	0.012939	1909.300018	0.009395

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 1.4 MHz			
		Low Channel		High Channel	
		1850.7MHz		1909.3MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**9**	1850.700021	0.011092	1909.300026	0.013591
	7.5	1850.699974	-0.014191	1909.29998	-0.010564
	6	1850.699985	-0.008023	1909.300016	0.008294

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 3 MHz			
		Low Channel		High Channel	
		1851.5MHz		1908.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**60**	1851.500016	0.008769	1908.500016	0.00841
	50	1851.500021	0.011535	1908.50002	0.010411
	40	1851.500021	0.011497	1908.500023	0.012053
	30	1851.50002	0.010848	1908.500023	0.012248
	20	1851.500021	0.011543	1908.500023	0.012
	10	1851.500019	0.010454	1908.500024	0.012622
	0	1851.500022	0.011821	1908.500018	0.009279
	-10	1851.50002	0.011064	1908.50002	0.010336
	-20	1851.499978	-0.011628	1908.500023	0.012165

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 3 MHz			
		Low Channel		High Channel	
		1851.5MHz		1908.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**9**	1851.500021	0.011435	1908.500023	0.012158
	7.5	1851.50003	0.016032	1908.500022	0.011483
	6	1851.50002	0.010917	1908.500021	0.010981

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		1852.5MHz		1907.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**60**	1852.499984	-0.008857	1907.500015	0.007672
	50	1852.499983	-0.009297	1907.500013	0.006607
	40	1852.499982	-0.009977	1907.499982	-0.009187
	30	1852.499983	-0.009282	1907.500014	0.007184
	20	1852.499985	-0.008077	1907.499981	-0.010184
	10	1852.499982	-0.009568	1907.500016	0.008219
	0	1852.49998	-0.010819	1907.500016	0.008257
	-10	1852.499988	-0.006432	1907.500016	0.008137
	-20	1852.499983	-0.00929	1907.500017	0.008782

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		1852.5MHz		1907.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**9**	1852.499983	-0.009359	1907.499983	-0.008909
	7.5	1852.49998	-0.010548	1907.500014	0.007192
	6	1852.499982	-0.009938	1907.500014	0.007552

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 10 MHz			
		Low Channel		High Channel	
		1855MHz		1905MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**60**	1855.000014	0.00775	1904.999975	-0.013044
	50	1855.000014	0.007388	1904.999981	-0.01022
	40	1854.999985	-0.008128	1904.999979	-0.011099
	30	1855.000013	0.007118	1904.99998	-0.010701
	20	1855.000017	0.009192	1904.99998	-0.010415
	10	1855.000016	0.008753	1904.999982	-0.009522
	0	1854.999989	-0.006	1904.999984	-0.008546
	-10	1854.999986	-0.007388	1904.999981	-0.010055
	-20	1854.999985	-0.008012	1904.999981	-0.009724

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 10 MHz			
		Low Channel		High Channel	
		1855MHz		1905MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**9**	1855.000015	0.008205	1904.99998	-0.010333
	7.5	1855.000015	0.007904	1904.999981	-0.010002
	6	1855.000015	0.008012	1904.999982	-0.009694

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 15 MHz			
		Low Channel		High Channel	
		1857.5MHz		1902.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**60**	1857.500022	0.01186	1902.500017	0.009113
	50	1857.500022	0.011691	1902.500022	0.011346
	40	1857.500019	0.010158	1902.500022	0.011361
	30	1857.500025	0.013693	1902.50002	0.010346
	20	1857.500019	0.010435	1902.50002	0.010722
	10	1857.500018	0.009565	1902.500019	0.010098
	0	1857.50002	0.010813	1902.500022	0.011617
	-10	1857.500019	0.010443	1902.500026	0.013617
	-20	1857.500022	0.011883	1902.500024	0.012677

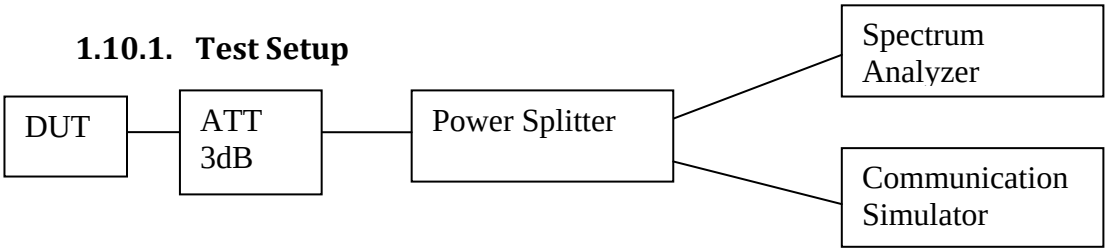
Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 15 MHz			
		Low Channel		High Channel	
		1857.5MHz		1902.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**9**	1857.500019	0.01022	1902.500018	0.009452
	7.5	1857.500022	0.011929	1902.50003	0.01558
	6	1857.500019	0.010066	1902.50002	0.010655

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 20 MHz			
		Low Channel		High Channel	
		1860MHz		1900MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**60**	1859.999981	-0.009983	1900.000013	0.00707
	50	1859.999983	-0.009252	1900.000014	0.007378
	40	1859.999981	-0.010029	1900.000014	0.007273
	30	1859.999981	-0.01009	1900.000014	0.007582
	20	1859.999984	-0.008706	1900.000017	0.009005
	10	1859.99998	-0.011013	1900.000017	0.008869
	0	1859.999972	-0.015028	1899.999986	-0.007582
	-10	1859.999982	-0.009814	1900.000014	0.007431
	-20	1859.999976	-0.012752	1900.000015	0.008041

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 20 MHz			
		Low Channel		High Channel	
		1860MHz		1900MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 2	**9**	1859.999981	-0.010221	1900.000013	0.006927
	7.5	1859.999981	-0.010475	1900.000014	0.007122
	6	1859.999975	-0.013613	1899.999987	-0.007017

1.10. Band Edge Conducted Spurious Emission

1.10.1. Test Setup



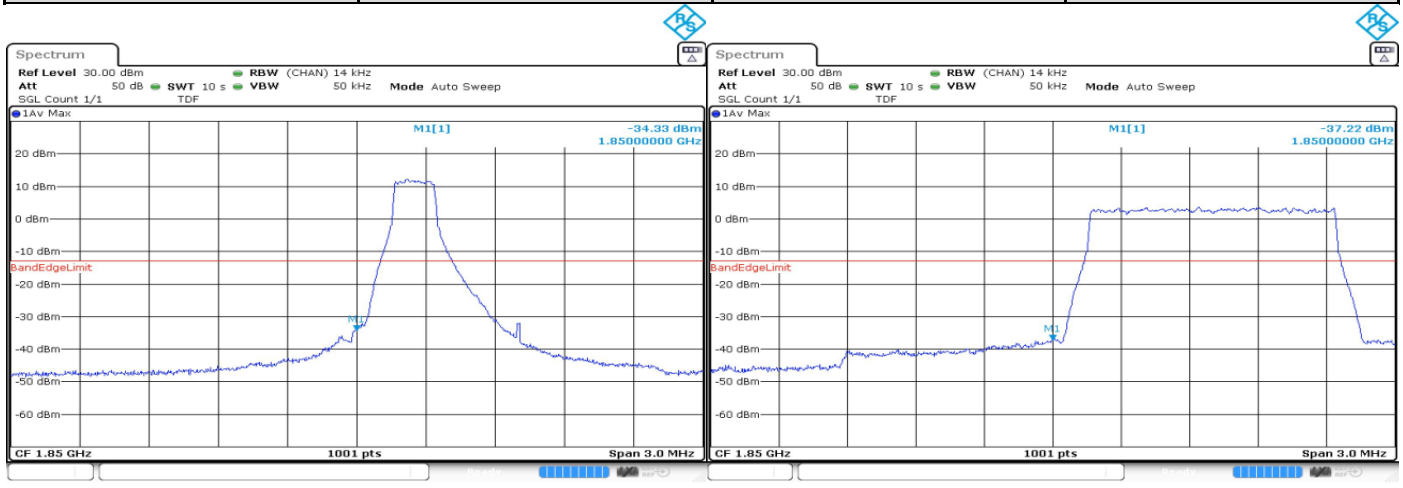
1) The DUT transmitter output port was connected to communication simulator with above setup.
2) Path loss for the measurement included.
3) Set DUT to transmit maximum power through communication simulator.
4) The band edges of lowest and highest channels with the highest RF powers were measured.
5) The center frequency of spectrum is the band edge frequency, span is 3MHz, RBW is 1~3% of EBW and VBW is at least 3 times of RBW.
6) Record the maximum trace plot into the test report.

1.10.2. Test Limit

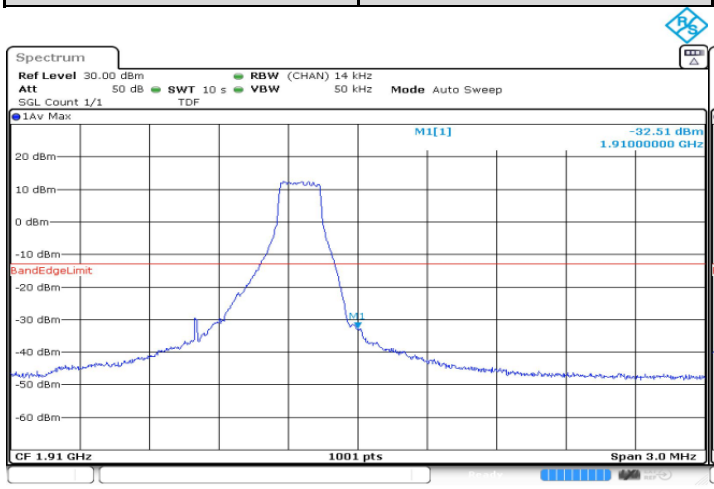
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) dB. In the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

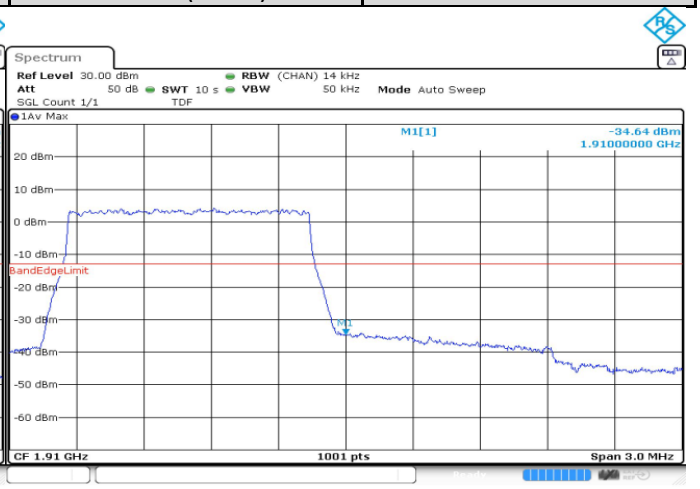
1.10.3. Band Edge Conducted Spurious Emission – LTE Band 2 (1850 -1910 MHz)

Band 2, 1.4MHz QPSK, Low CH 18607			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0

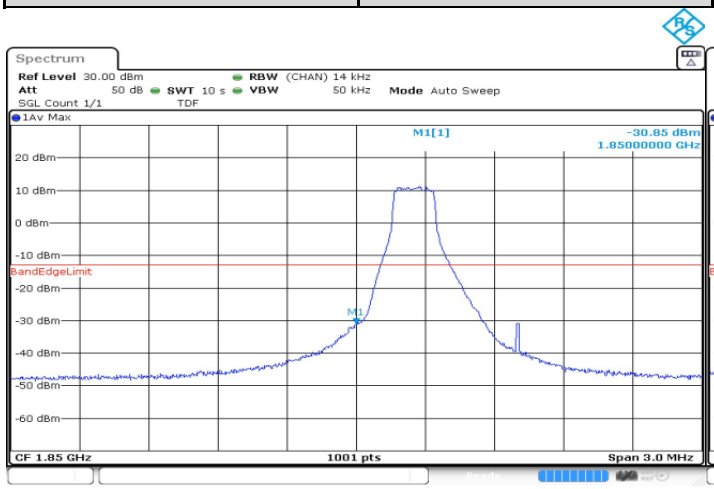


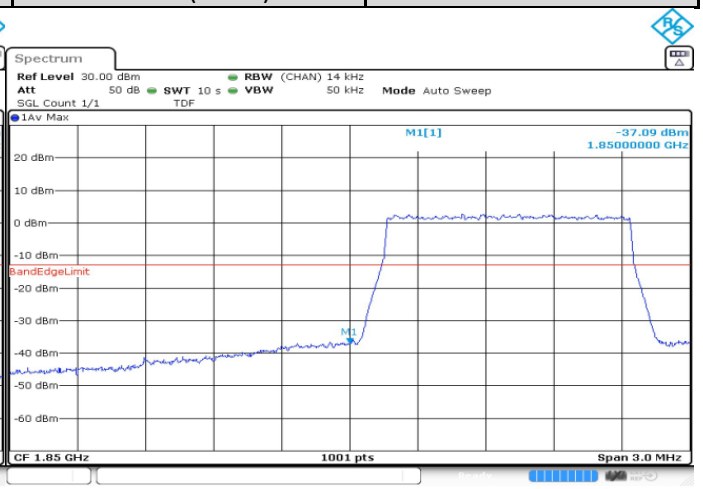
Band 2, 1.4MHz QPSK, High CH 19193			
RB = 1	Offset = X-1	RB = X (100%)	Offset = 0



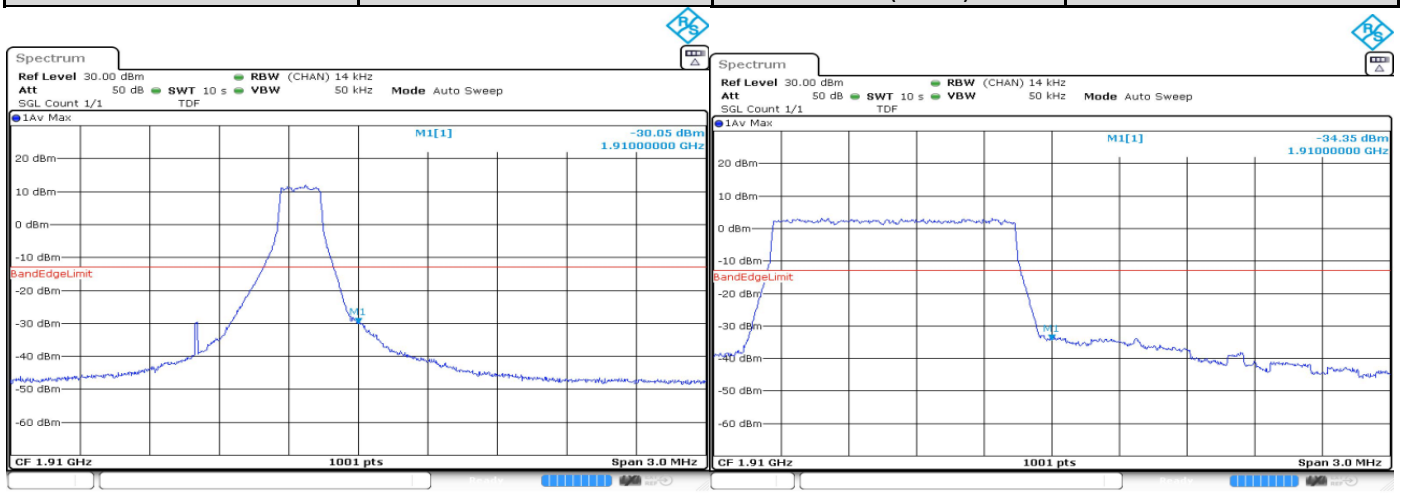


Band 2, 1.4MHz 16-QAM, Low CH 18607			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0

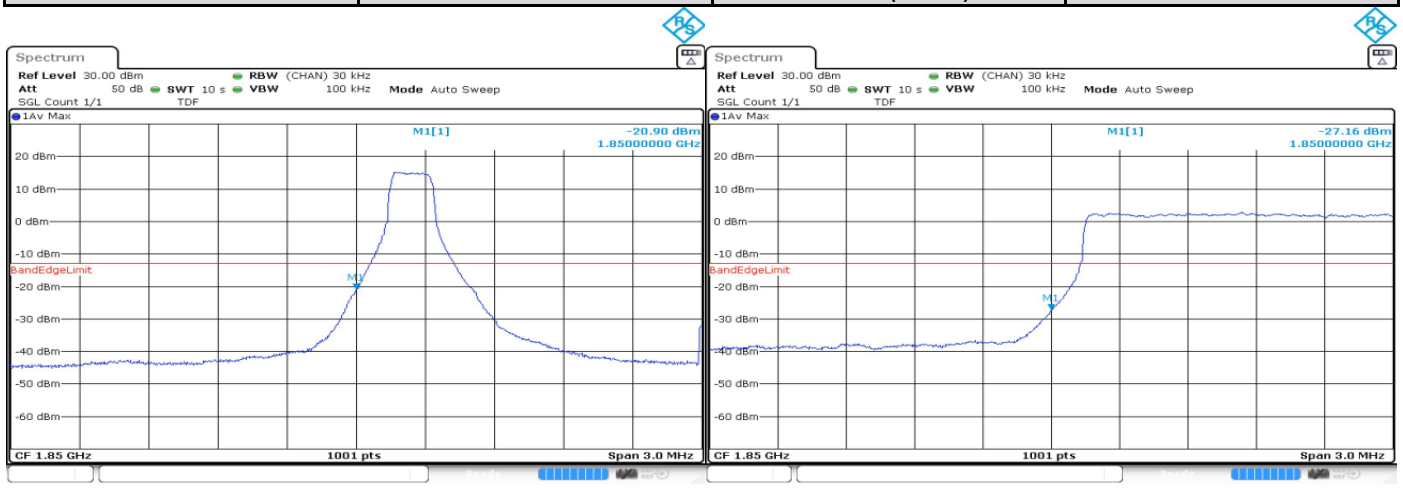




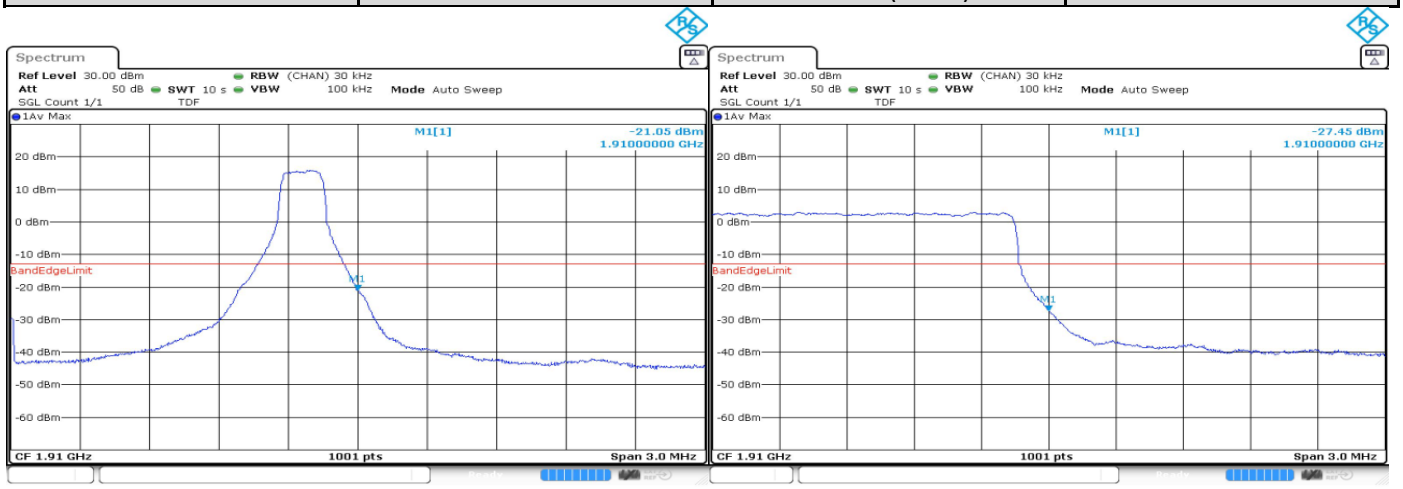
Band 2, 1.4MHz 16-QAM, High CH 19193			
RB = 1	Offset = X-1	RB = X (100%)	Offset = 0



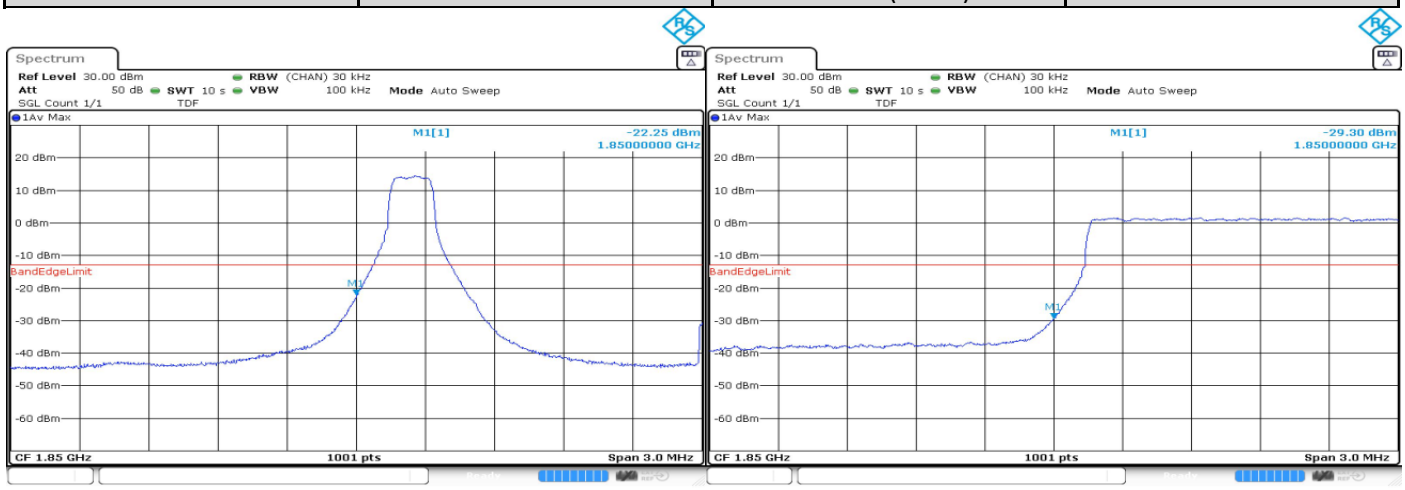
Band 2, 3MHz QPSK, Low CH 18615			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0



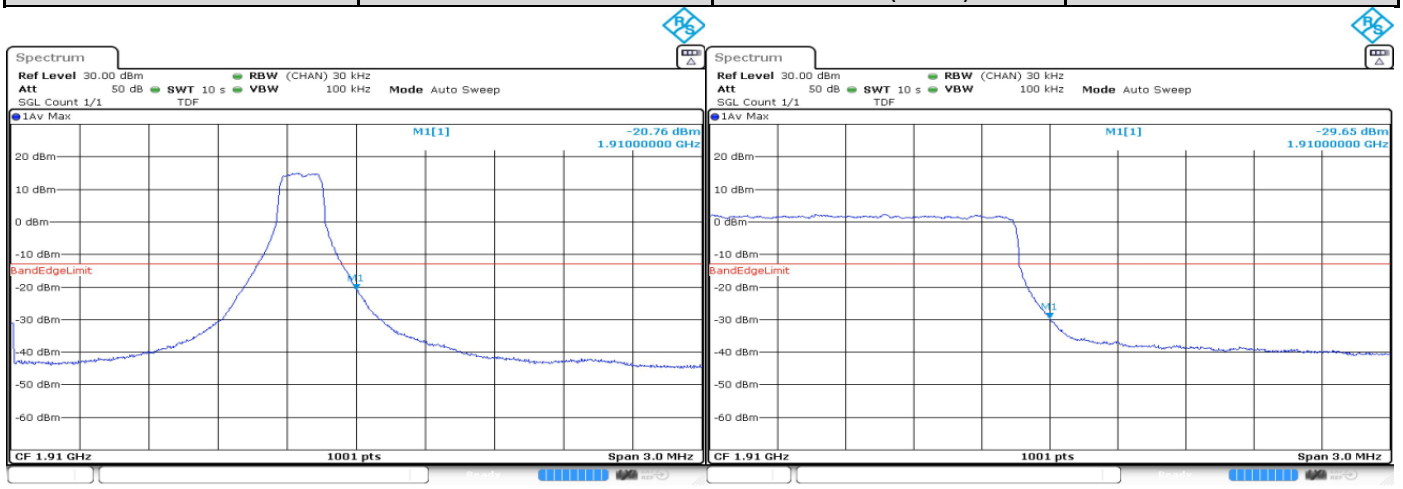
Band 2, 3MHz QPSK, High CH 19185			
RB = 1	Offset = X-1	RB = X (100%)	Offset = 0



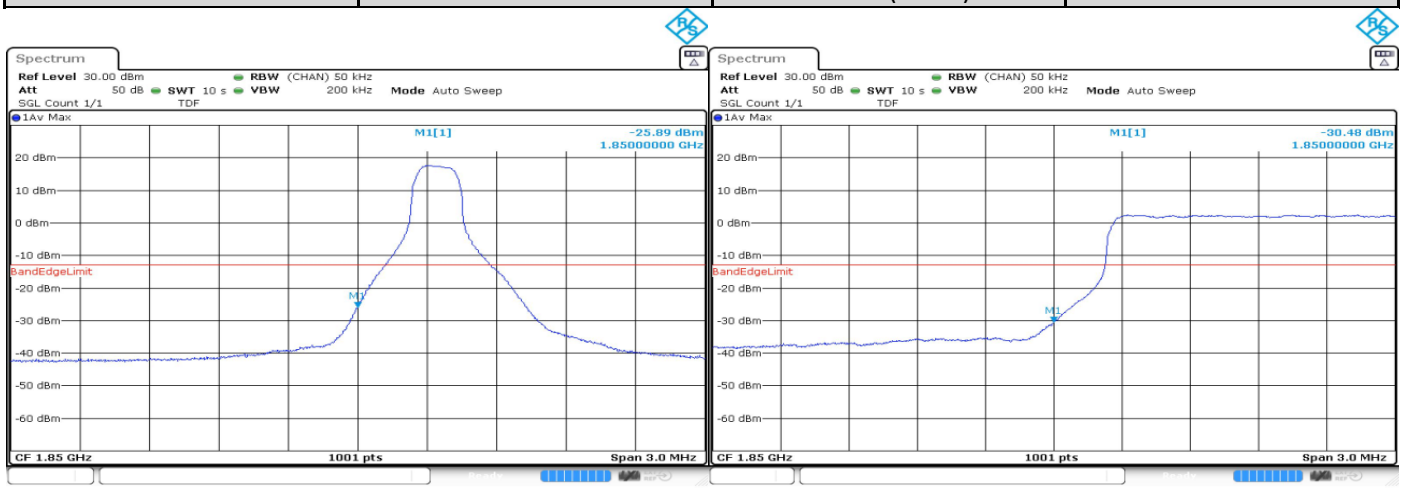
Band 2, 3MHz 16-QAM, Low CH 18615			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0



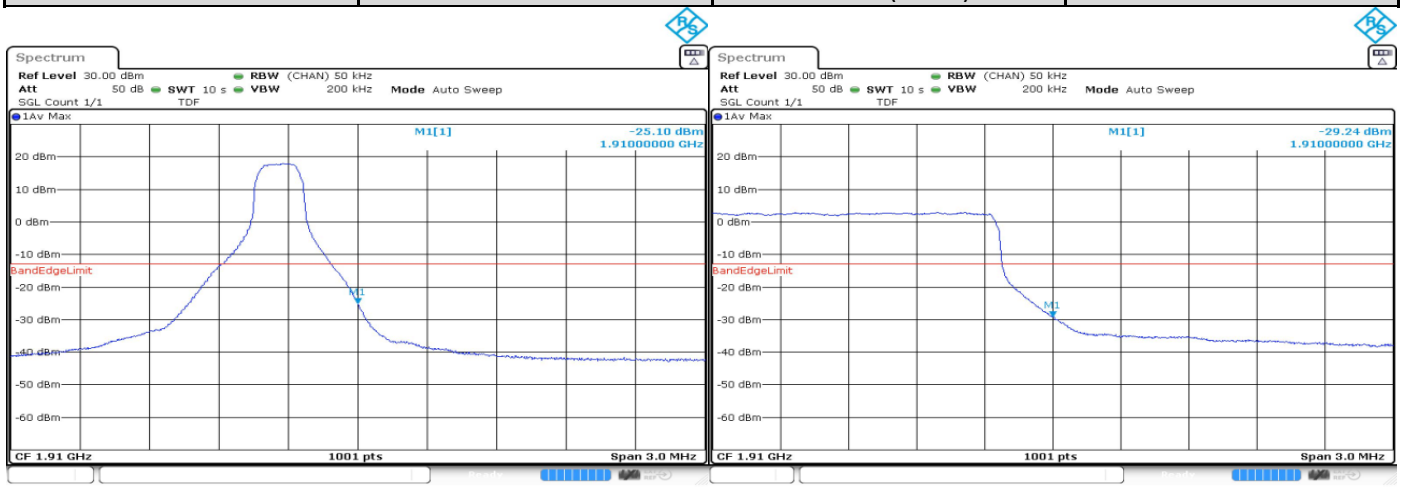
Band 2, 3MHz 16-QAM, High CH 19185			
RB = 1	Offset = X-1	RB = X (100%)	Offset = 0



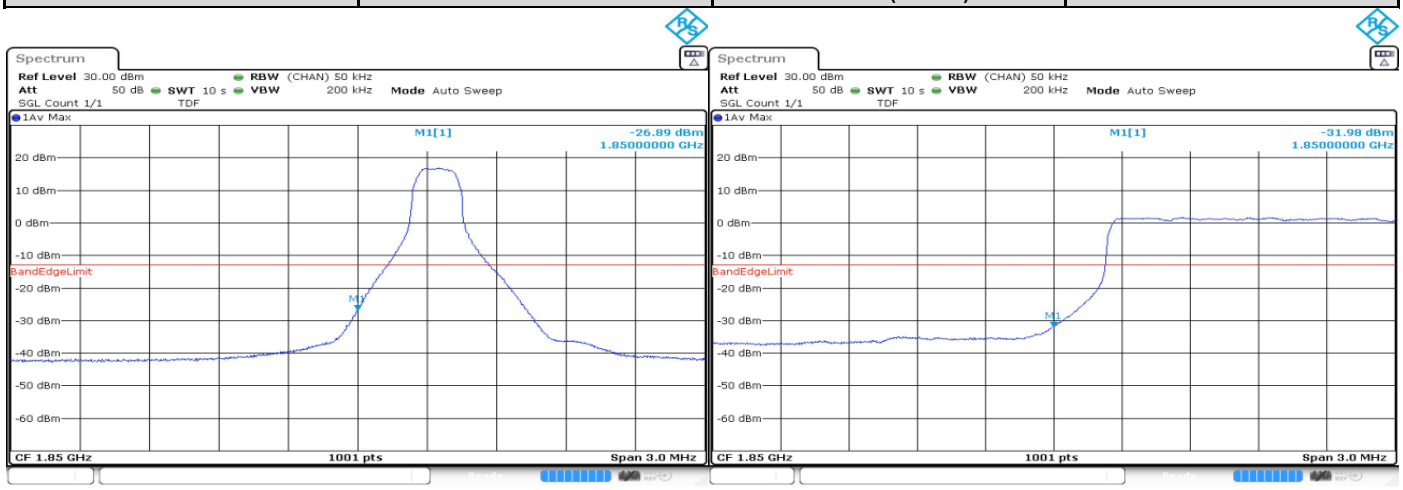
Band 2, 5MHz QPSK, Low CH 18625			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0



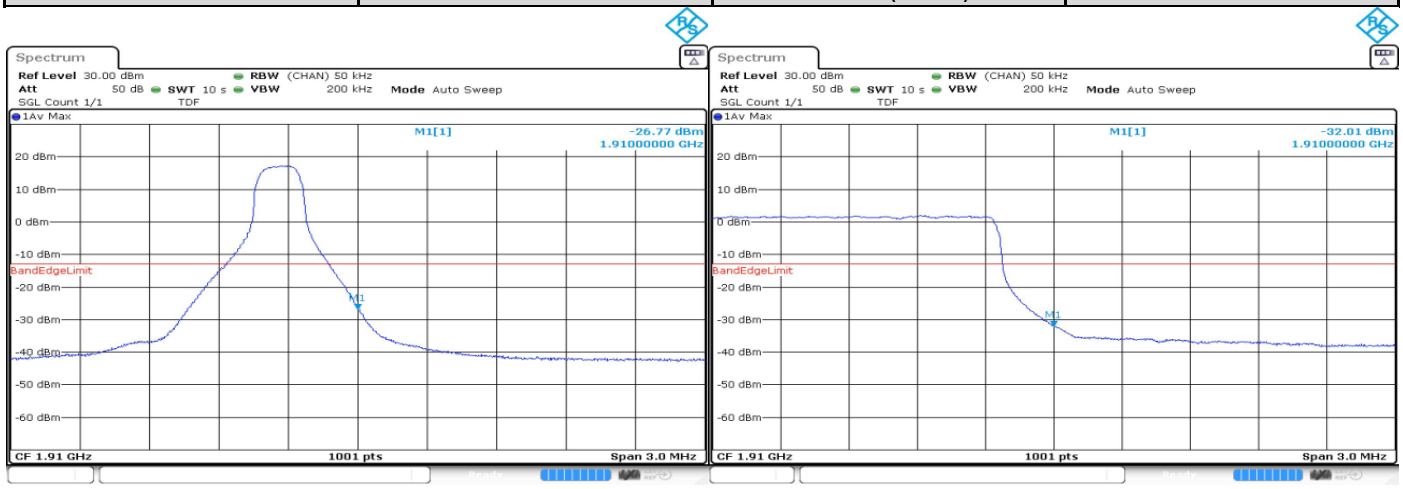
Band 2, 5MHz QPSK, High CH 19175			
RB = 1	Offset =X-1	RB = X (100%)	Offset = 0



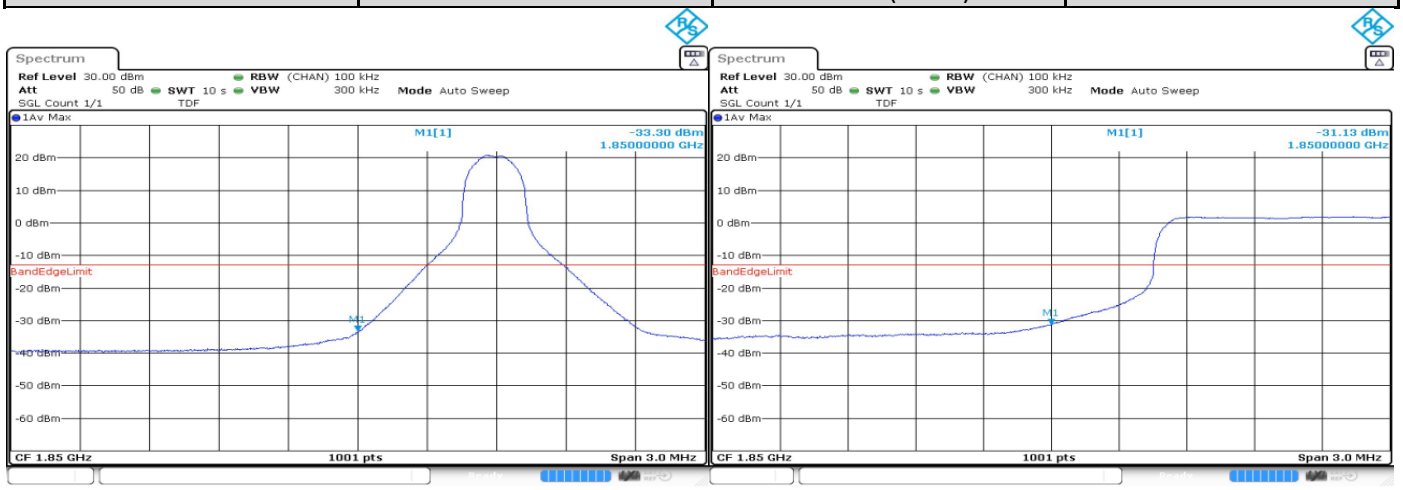
Band 2, 5MHz 16-QAM, Low CH 18625			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0



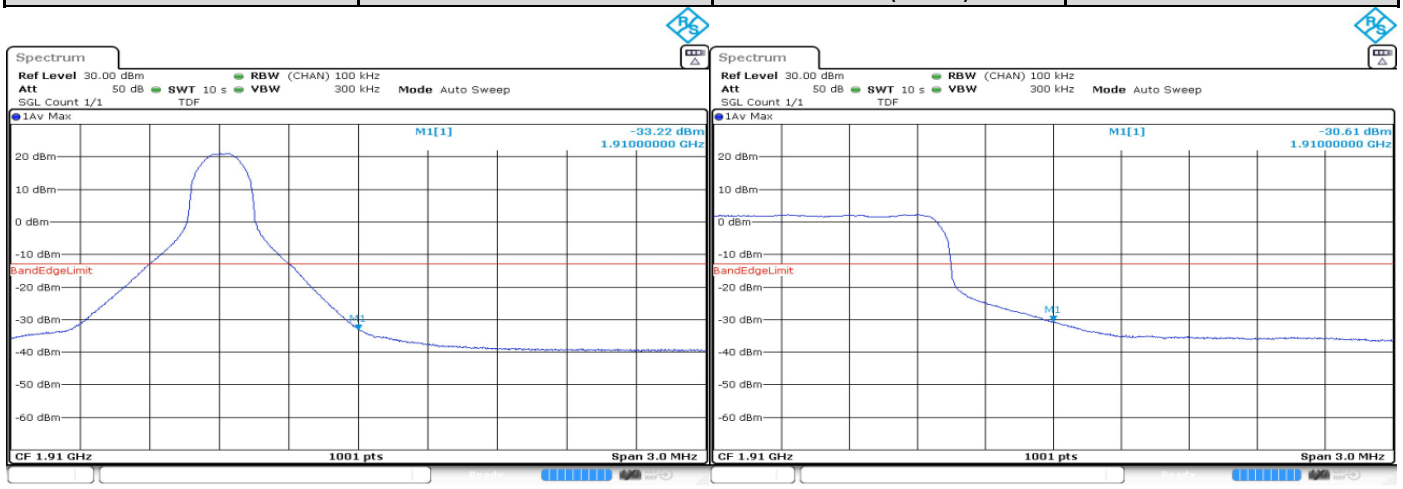
Band 2, 5MHz 16-QAM, High CH 19175			
RB = 1	Offset =X-1	RB = X (100%)	Offset = 0



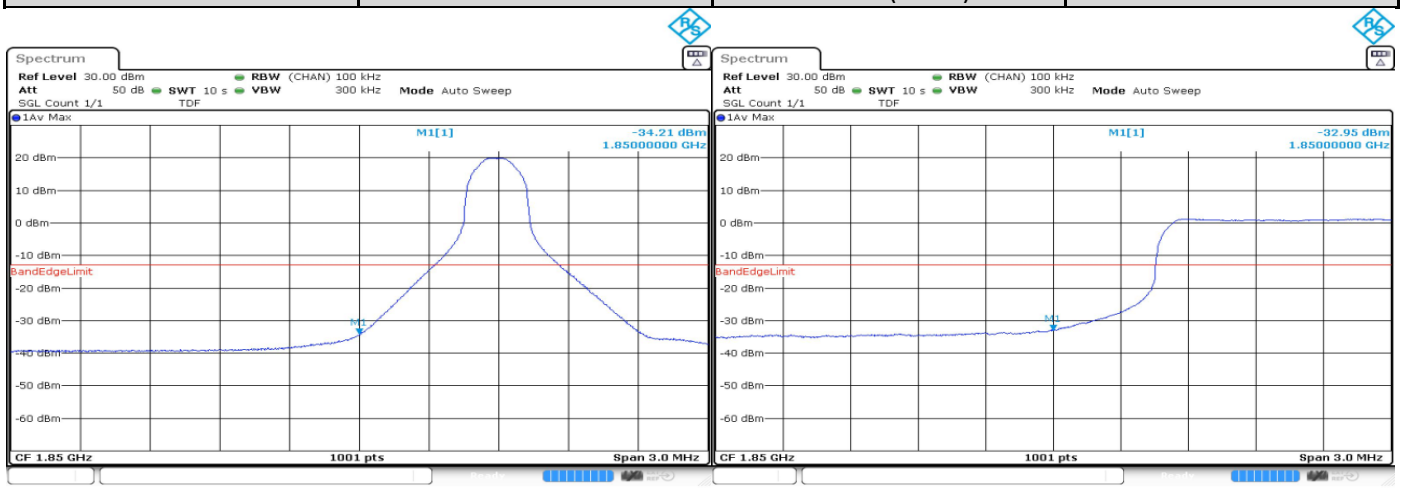
Band 2, 10MHz QPSK, Low CH 18650			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0



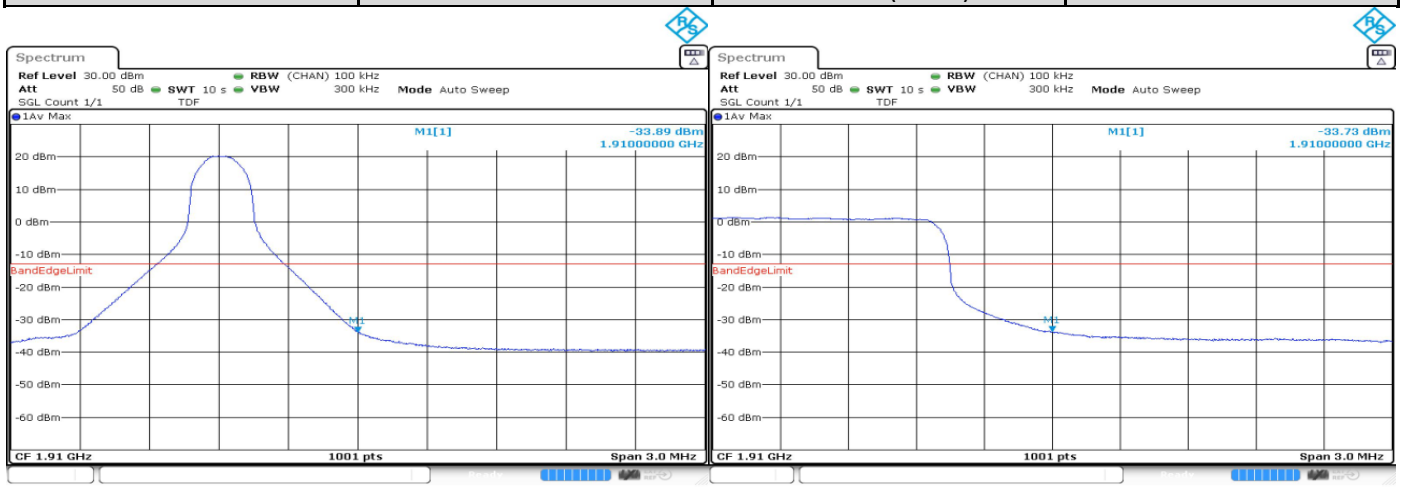
Band 2, 10MHz QPSK, High CH 19150			
RB = 1	Offset =X-1	RB = X (100%)	Offset = 0



Band 2, 10MHz 16-QAM, Low CH 18650			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0



Band 2, 10MHz 16-QAM, High CH 19150			
RB = 1	Offset =X-1	RB = X (100%)	Offset = 0



Band 2, 15MHz QPSK, Low CH 18675			
RB = 1	Offset = 0	RB = X (100%)	Offset = 0