

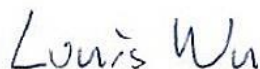


FCC RADIO TEST REPORT

FCC ID : HD5-CT30PX0N
Equipment : Mobile computer
Brand Name : Honeywell
Model Name : CT30PX0N
Applicant : Honeywell International Inc.
9680 Old Bailes Road, Fort Mill, SC 29707 USA
Manufacturer : Honeywell International Inc.
9680 Old Bailes Road, Fort Mill, SC 29707 USA
Standard : FCC Part 15 Subpart C §15.247

The product was received on Nov. 11, 2021 and testing was performed from Nov. 12, 2021 to Dec. 23, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issue Date
FR1N0505C	01	Initial issue of report	Jan. 04, 2022
FR1N0505C	02	1. Revise typo in summary 2. Revise test mode description 3. Revise description in section 3.5.3 4. Revise list of measuring equipment 5. Revise appendix C and D 6. Revise antenna information	Jan. 10, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.247(b)	Power Output Measurement	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15.247(d)	Conducted Band Edges	Pass	-
		Conducted Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	1.56 dB under the limit at 2483.640 MHz
3.6	15.207	AC Conducted Emission	Pass	14.26 dB under the limit at 0.659 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Wei Chen

Report Producer: Celery Wei

1 General Description

1.1 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax, Wi-Fi 5GHz 802.11a/n/ac/ax and NFC.

Product Feature		
Sample 1	EUT with Scanner (S0703)	
Sample 2	EUT with Scanner (6803)	
Sample 3	EUT with Scanner (N6700)	
HW version	EVT1.5	
SW version	311.C1.00.0322-N-DEBUG-G2H	
Antenna Type	WLAN <Ant. 1>: PIFA Antenna <Ant. 2>: PIFA Antenna Bluetooth: PIFA Antenna NFC: Loop Antenna	
Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	Ant. 1: 1.9 Ant. 2: 2.5

Remark: The above EUT's information is declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. CO05-HY, 03CH07-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. TH05-HY (TAF Code: 3786)
Remark	The Conducted test item subcontracted to Sporton International Inc. Wensan Laboratory

FCC designation No.: TW1190 and TW3786

1.4 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find X plane as worst plane.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

2.2 Test Mode

The final test modes consider the modulation and the worst data rates as shown in the table below.

The CDD mode is chosen as worst case configuration for all test cases due to higher power than SISO mode.

The 802.11n/ac mode has no higher power and PSD than 802.11ax mode, thus the 802.11ax mode is chosen as main test configuration, and the 802.11n/ac mode is verified the power.

The 802.11ax mode is investigated among different tones, full resource units (RU), partial resource units. The partial RU has no higher power than full RU's, thus the full RU is chosen as main test configuration.

Single Antenna

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps

MIMO Antenna

Modulation	Data Rate
802.11n HT20 (Covered by HE20)	MCS0
802.11n HT40 (Covered by HE40)	MCS0
802.11ac VHT20 (Covered by HE20)	MCS0
802.11ac VHT40 (Covered by HE40)	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0

Test Cases	
AC Conducted Emission	Mode 1: Bluetooth Link + WLAN Link + USB Cable (Charging from AC Adapter) for Sample 1

<Sample 1>

Ch. #	2400-2483.5 MHz			
	802.11b	802.11g	802.11ax HE20	802.11ax HE40
Low	01	01	01	03
Middle	06	06	06	06
High	11	11	11	09

<Sample 2>

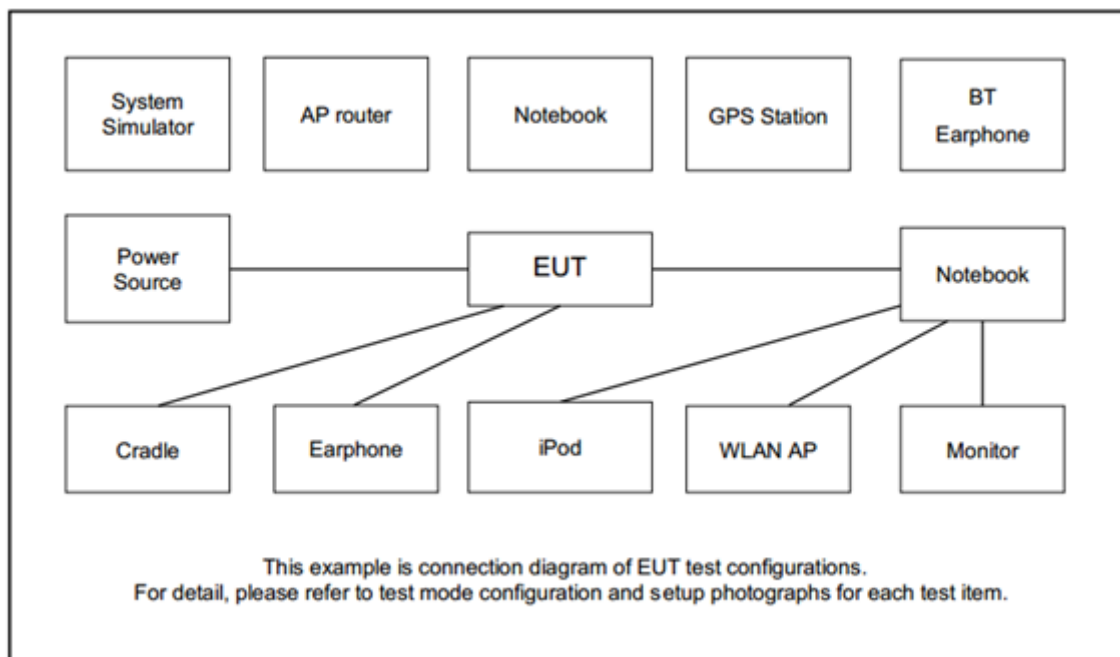
Ch. #	2400-2483.5 MHz	
	802.11b	802.11ax HE20
Low	-	-
Middle	06	-
High	-	11

<Sample 3>

Ch. #	2400-2483.5 MHz	
	802.11b	802.11ax HE20
Low	-	-
Middle	06	-
High	-	11

Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
3.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Notebook	Dell	E3340	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m



2.5 EUT Operation Test Setup

The RF test items, utility “FTM tool Version 1.9” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10 dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

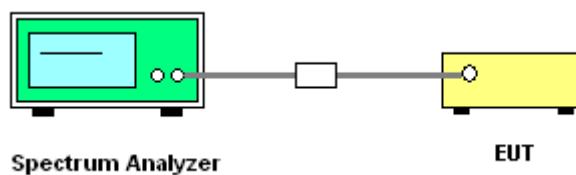
3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.1.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * RBW$.
6. Measure and record the results in the test report.

3.1.4 Test Setup

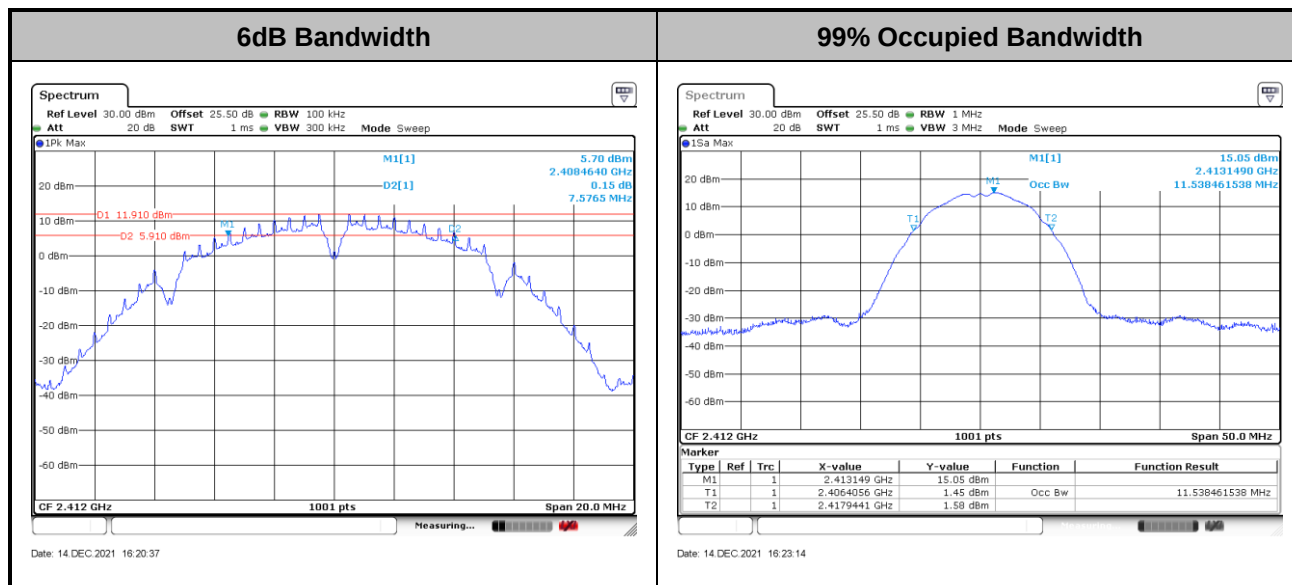




3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

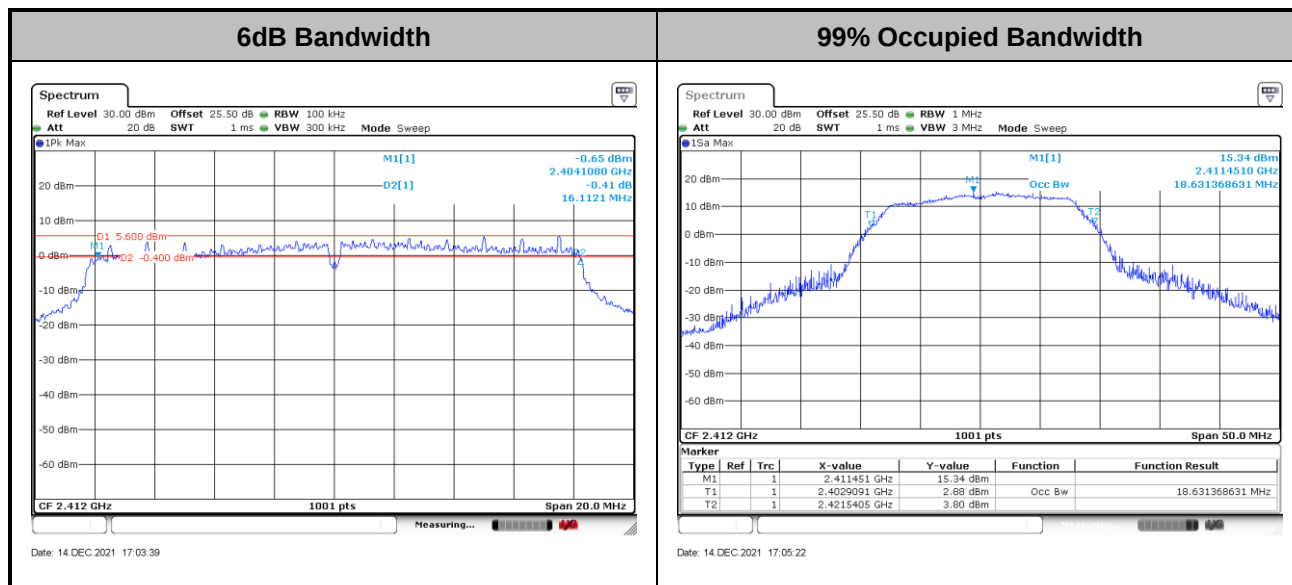
Please refer to Appendix A.

<802.11b>



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

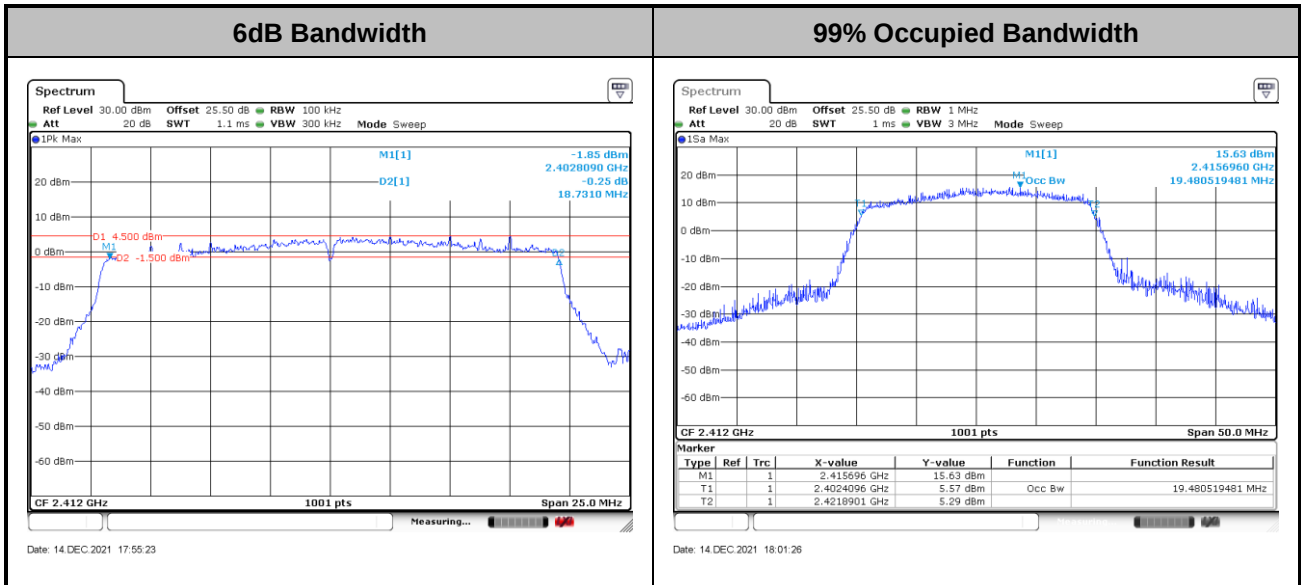
<802.11g>



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

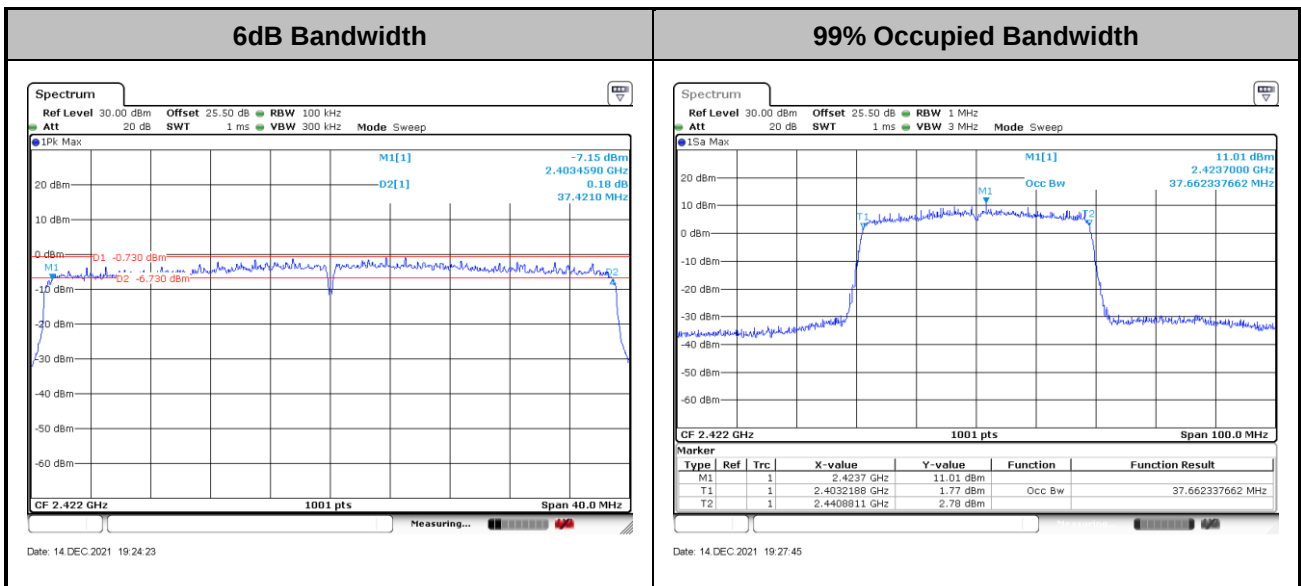


<802.11ax HE20>



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE40>



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5 MHz, the limit for output power is 30 dBm. If transmitting antenna with directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

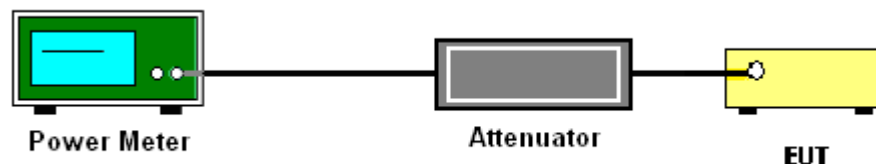
3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.2.3 Test Procedures

1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
2. The RF output of EUT is connected to the power meter by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.3.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

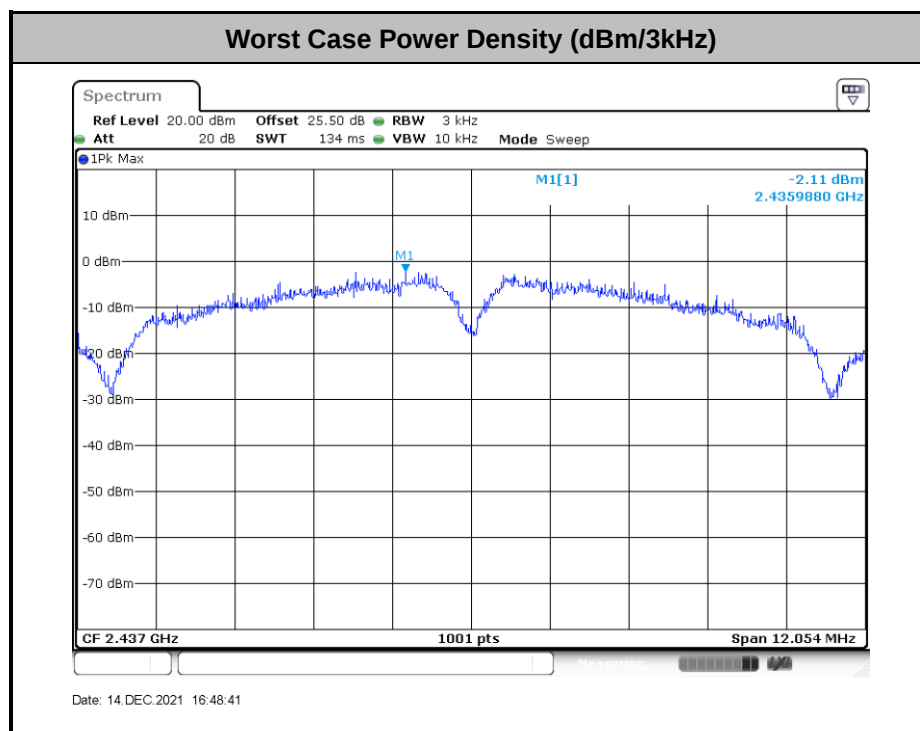
Method (2): Measure and add $10 \log(N)$ dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

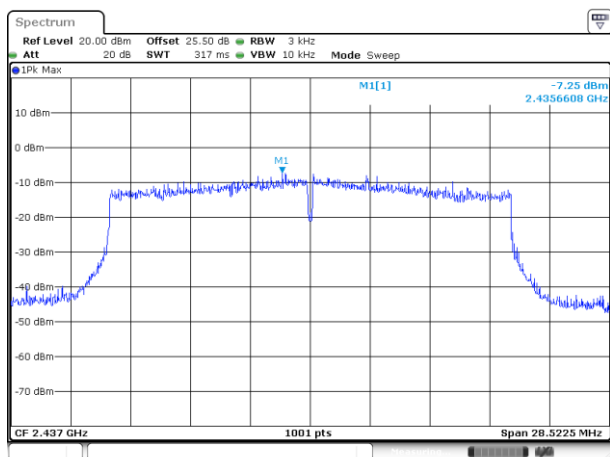




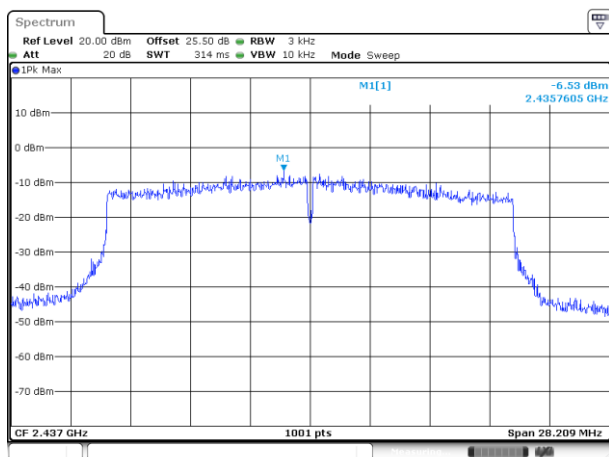
<802.11ax Mode>

Worst Case Power Density (dBm/3kHz)

MIMO Ant. 1



MIMO Ant. 2



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

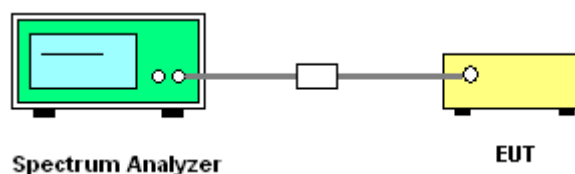
3.4.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.4.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.11.3 Emission level measurement.
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

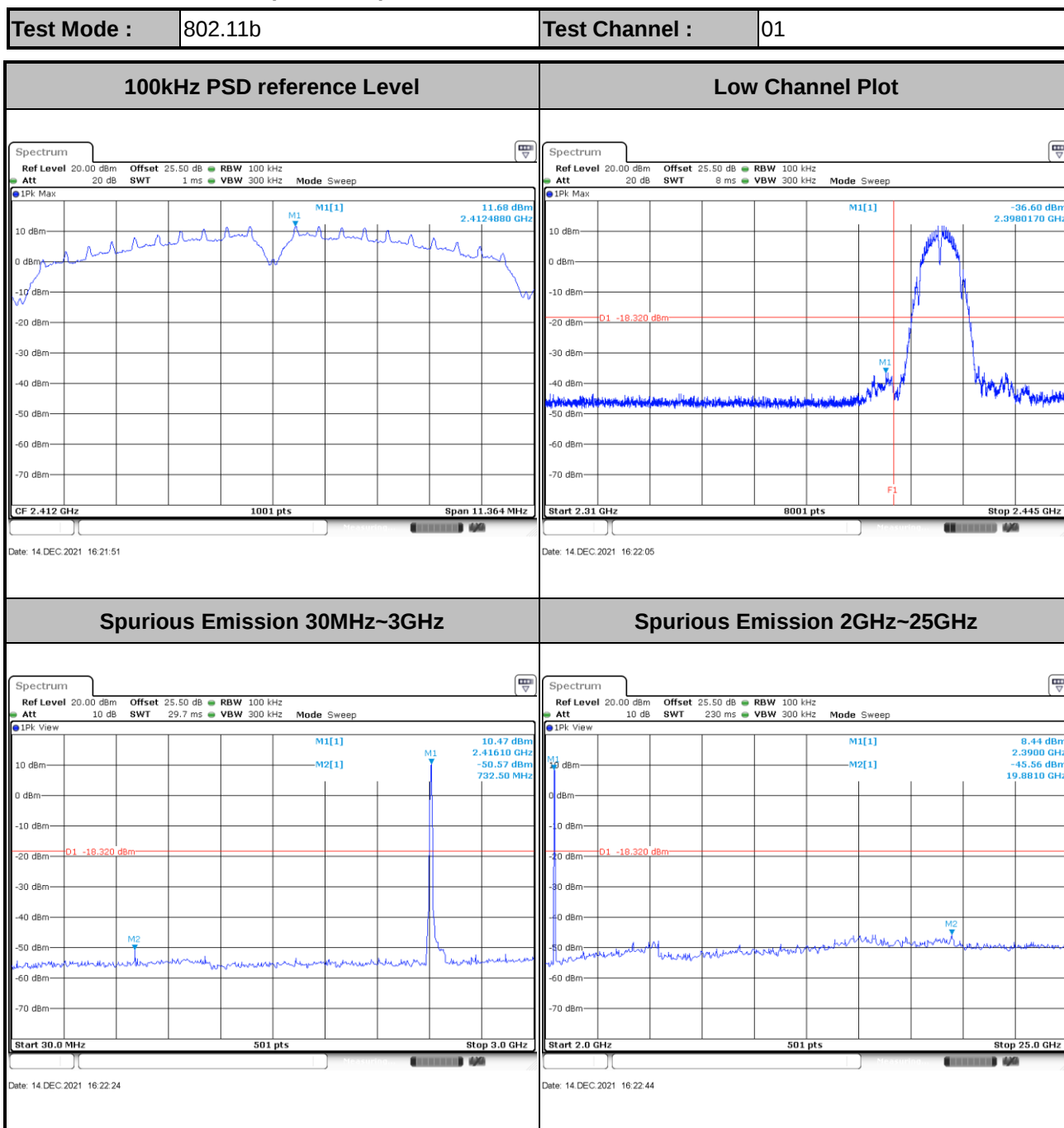
3.4.4 Test Setup





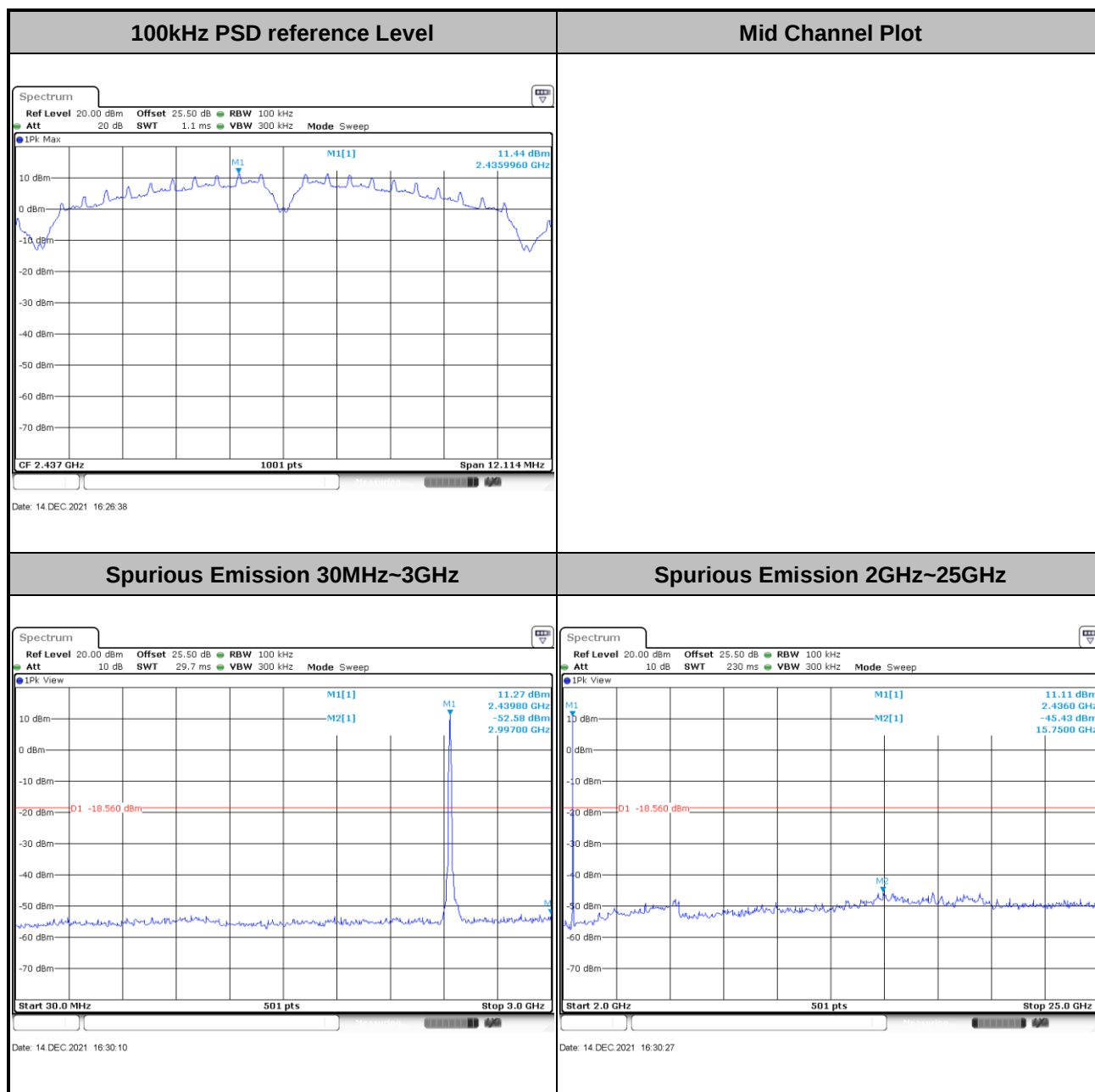
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Ant. 1 (Measured)



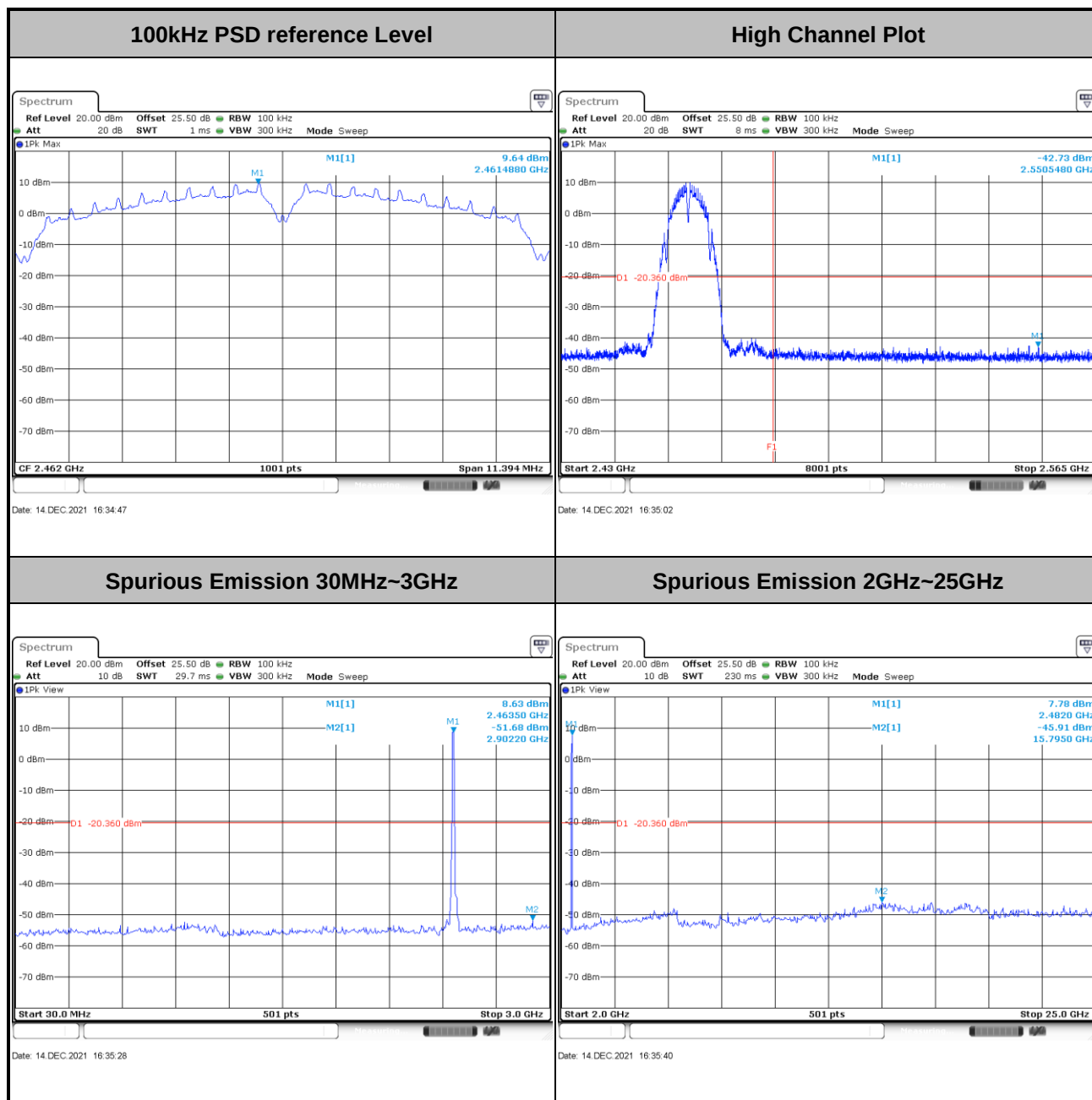


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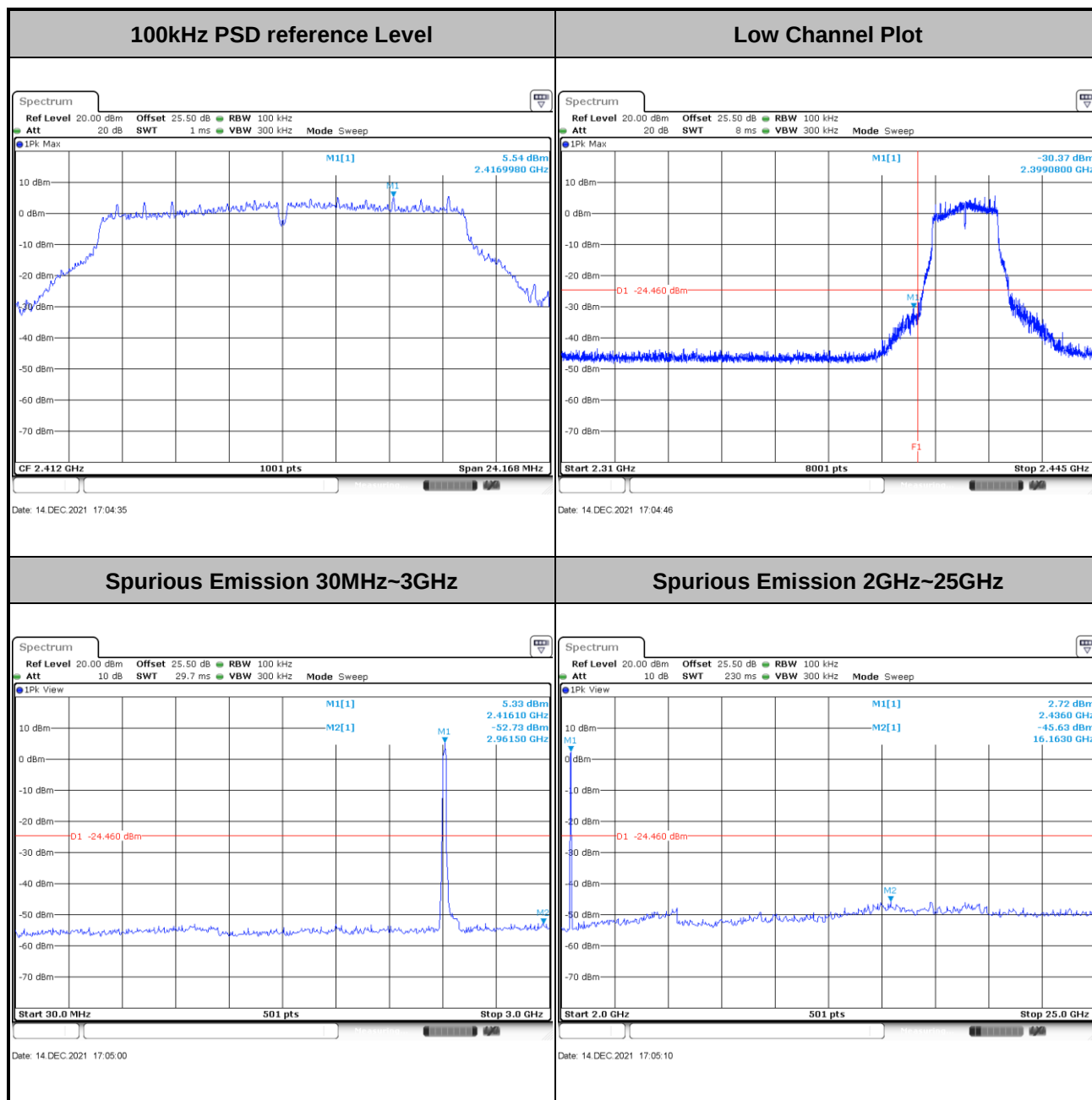


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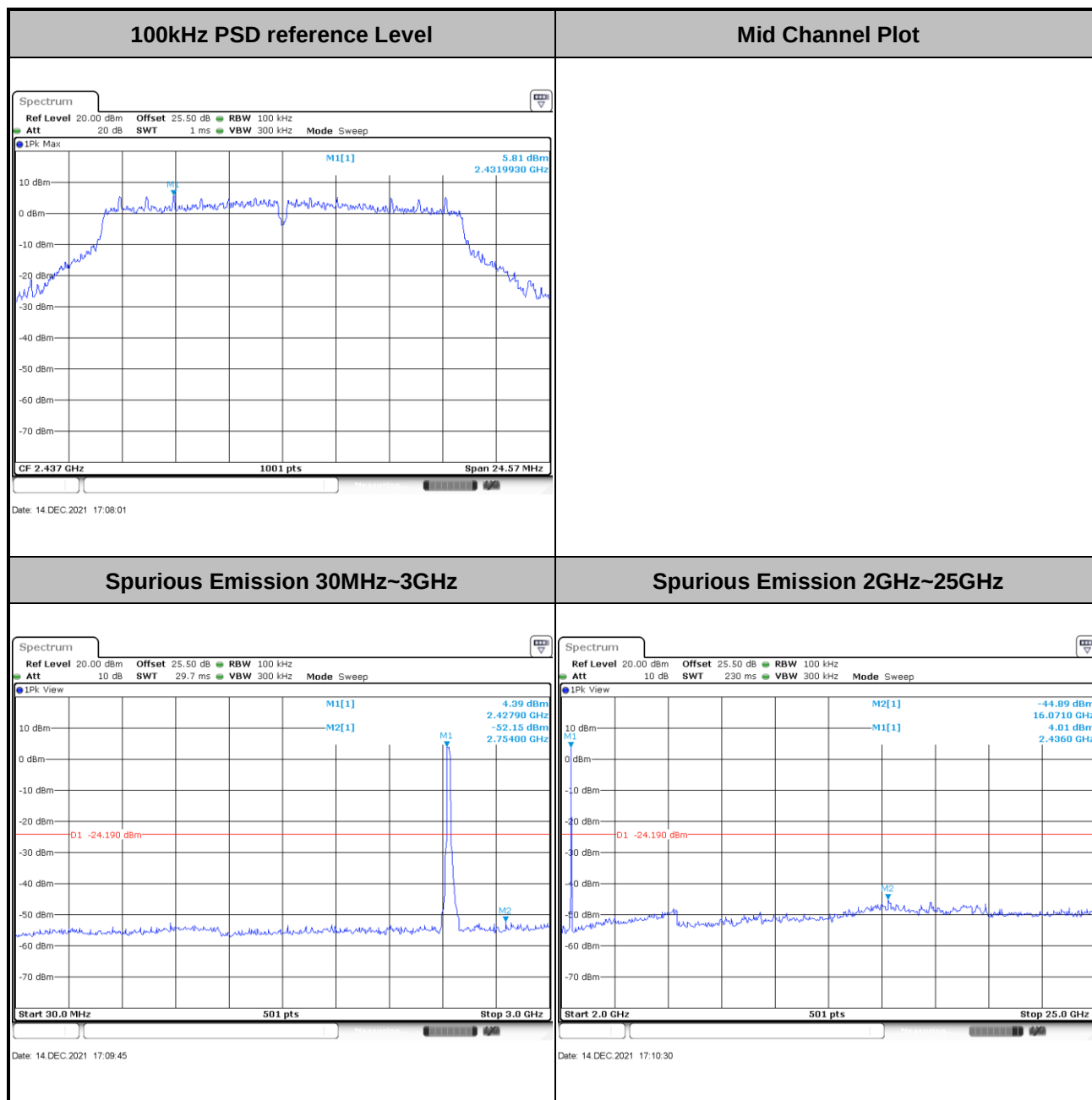


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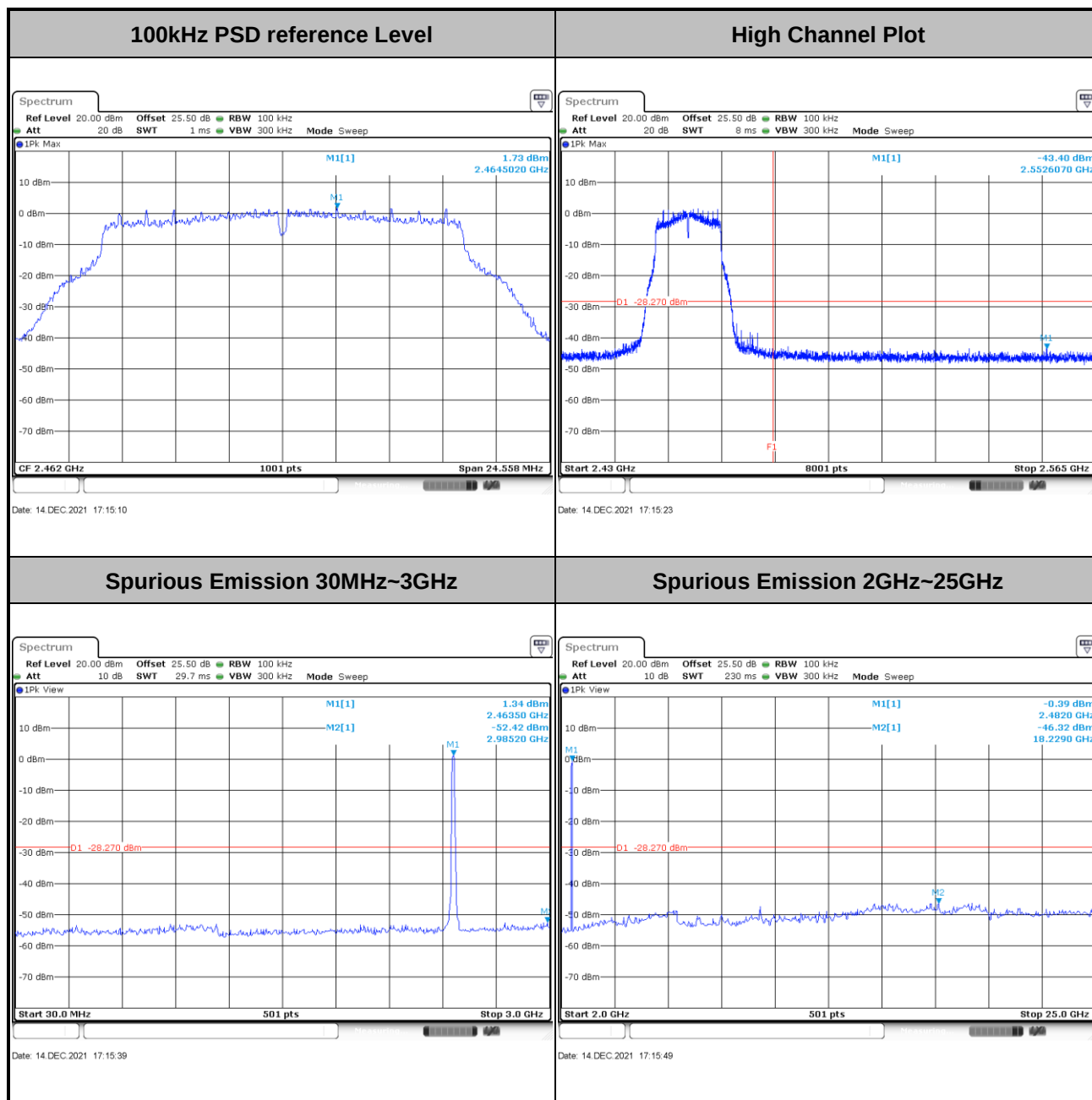


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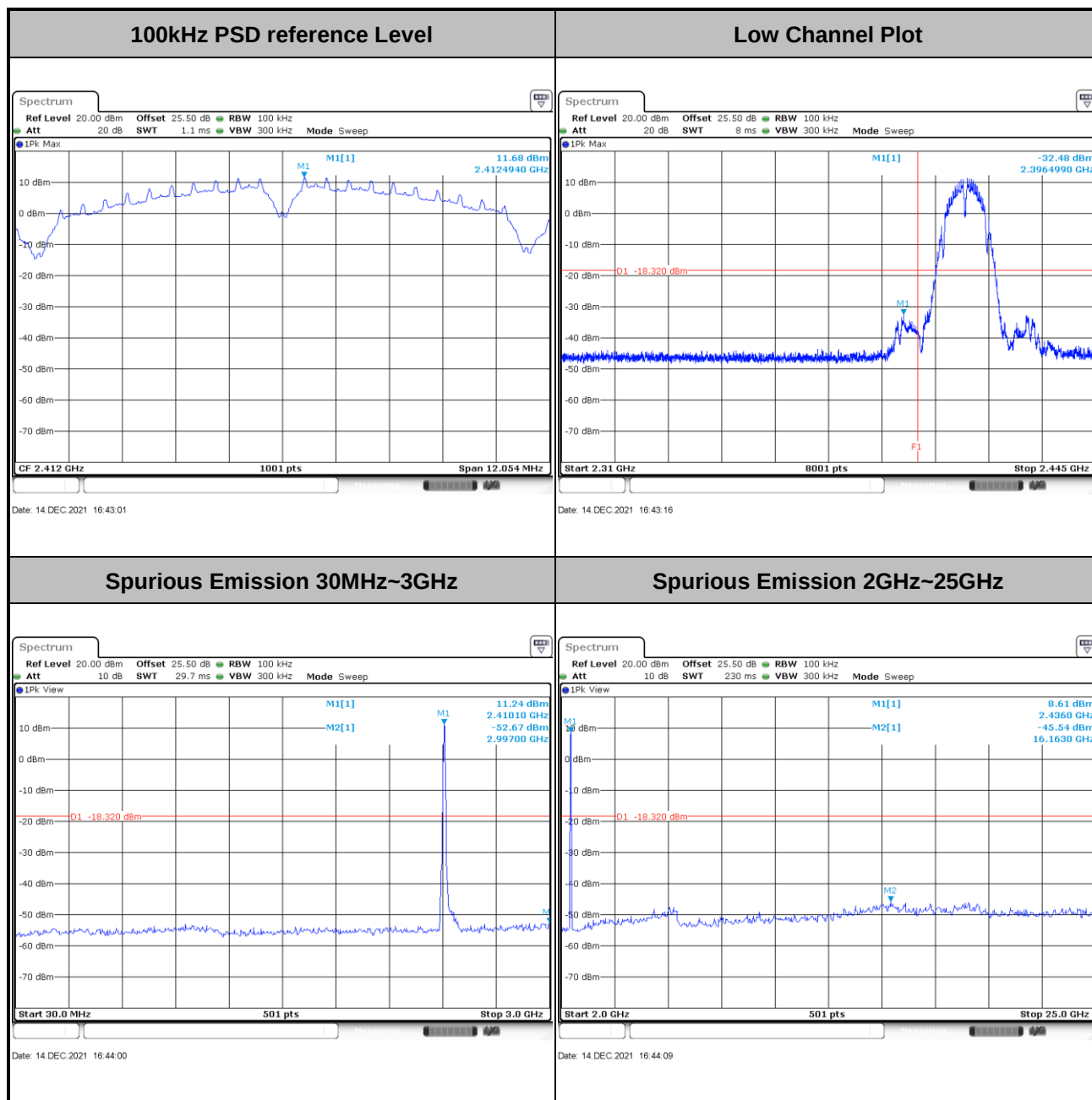
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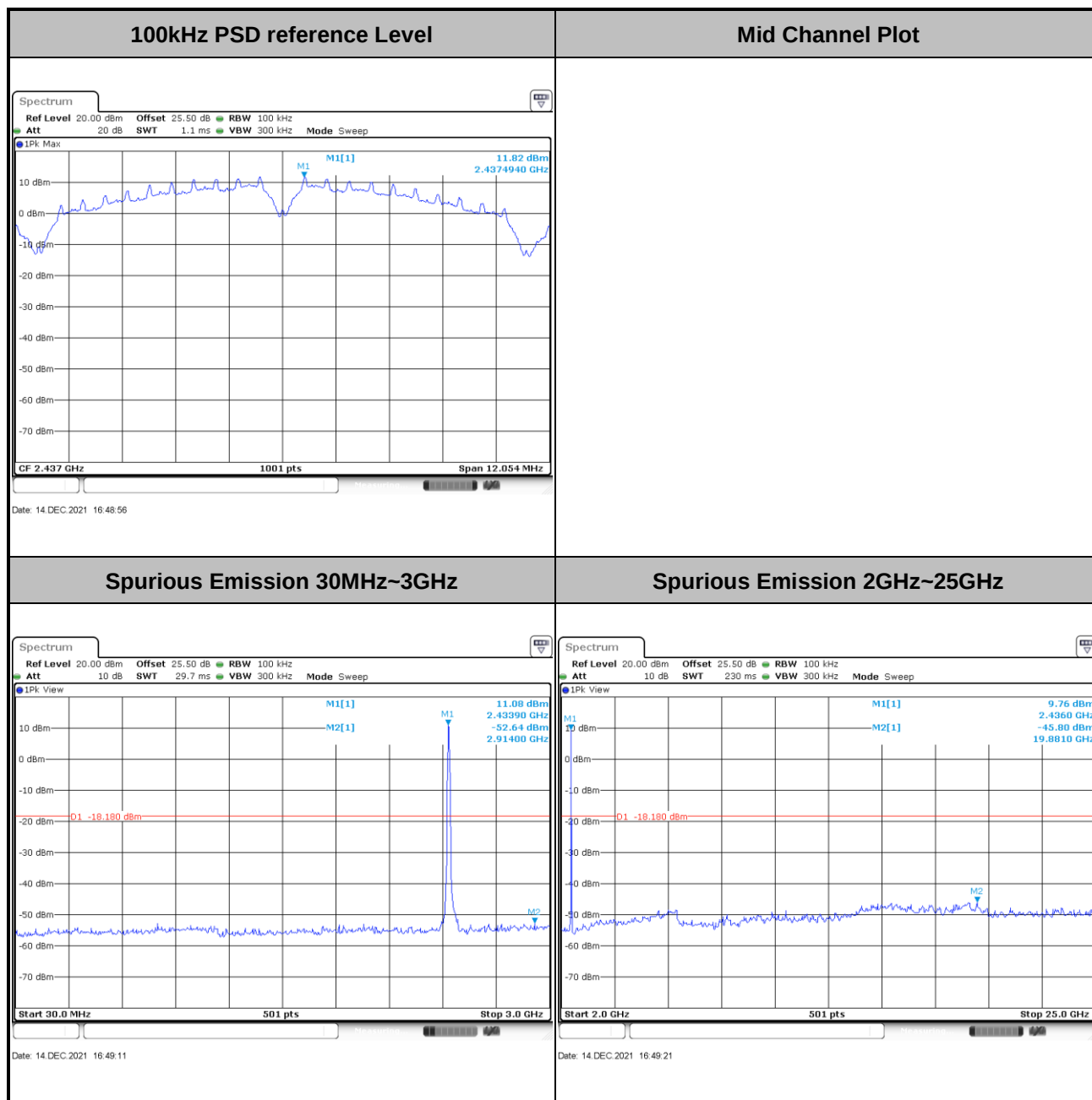
Number of TX = 1, Ant. 2 (Measured)

Test Mode :	802.11b	Test Channel :	01
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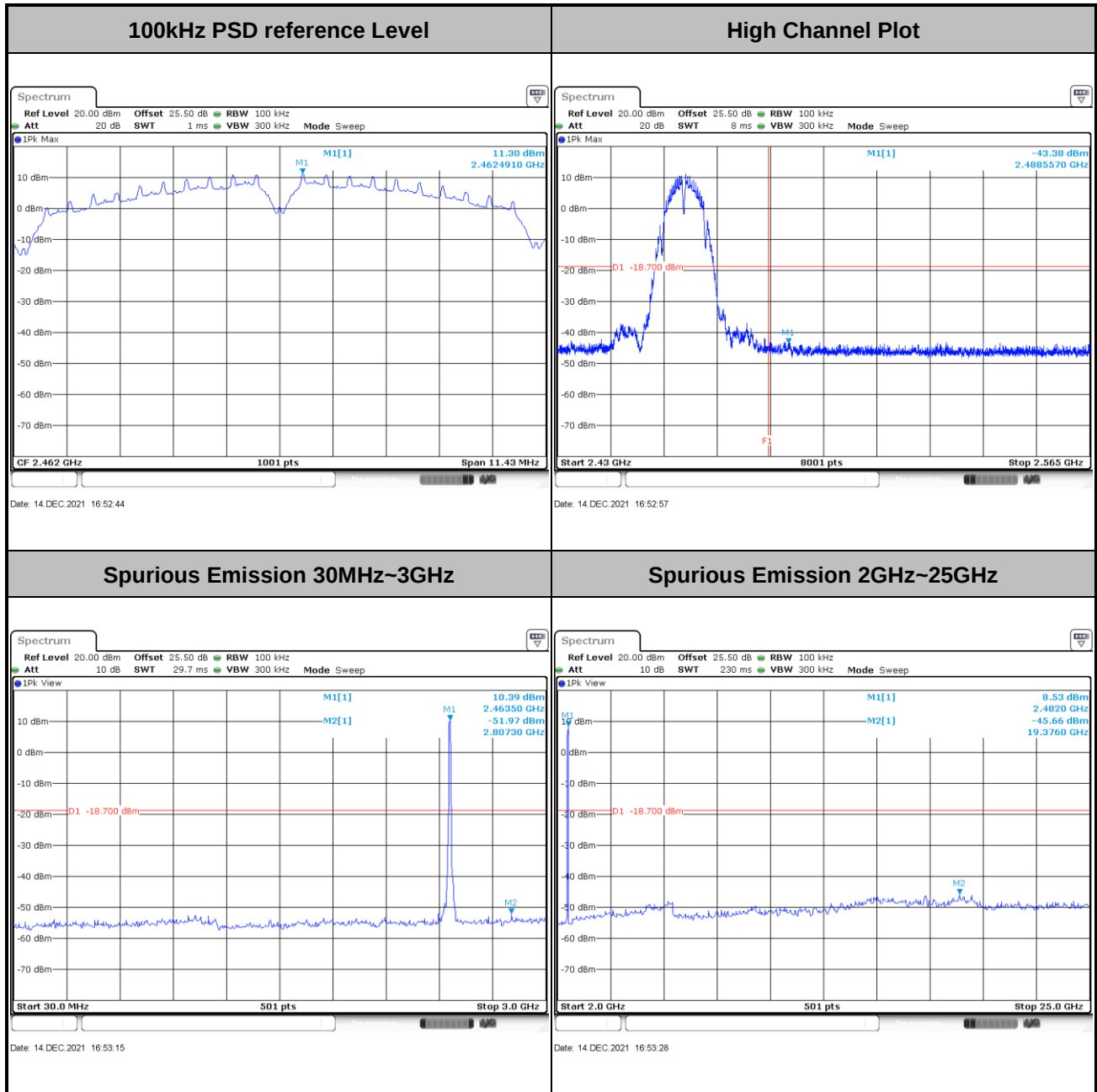


Test Mode :	802.11b	Test Channel :	06
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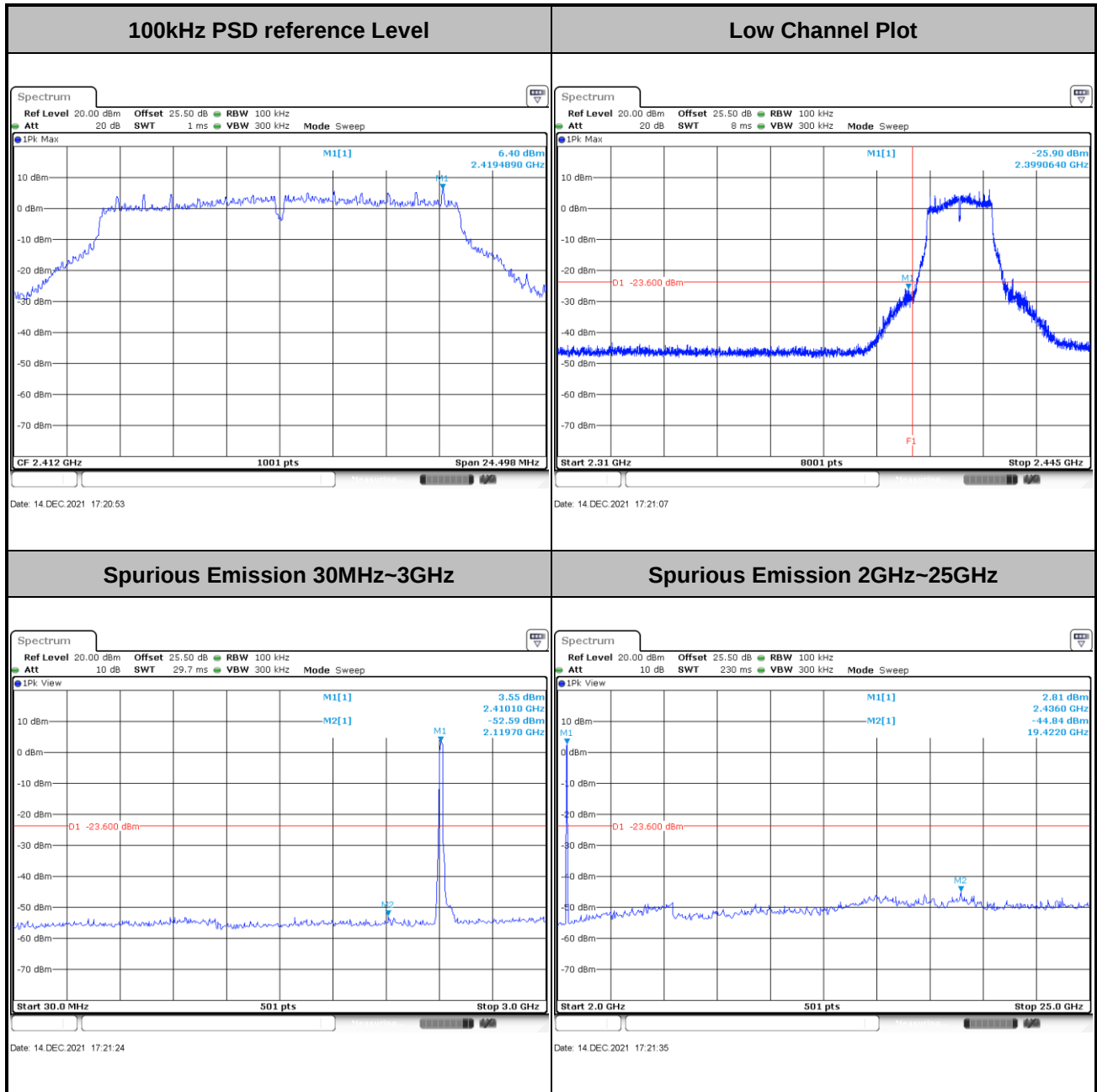


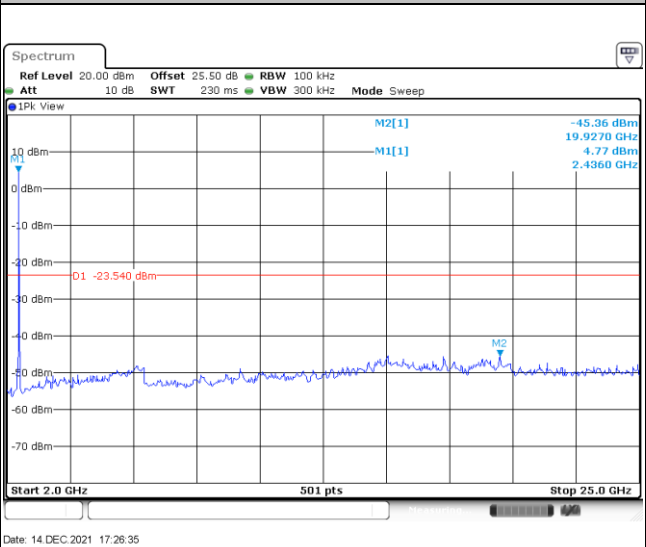
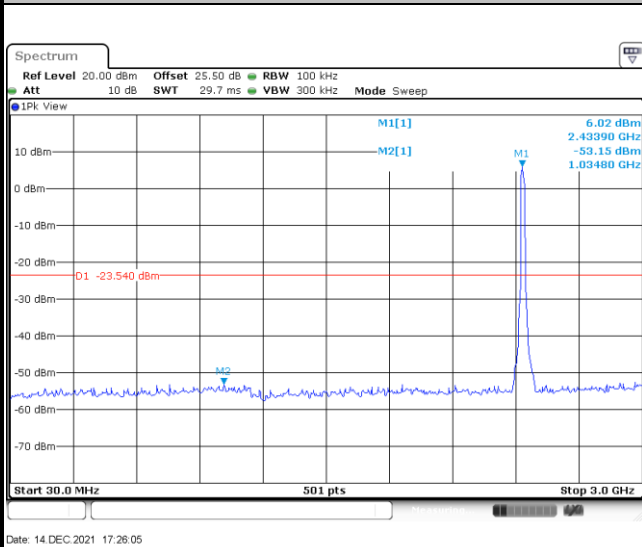
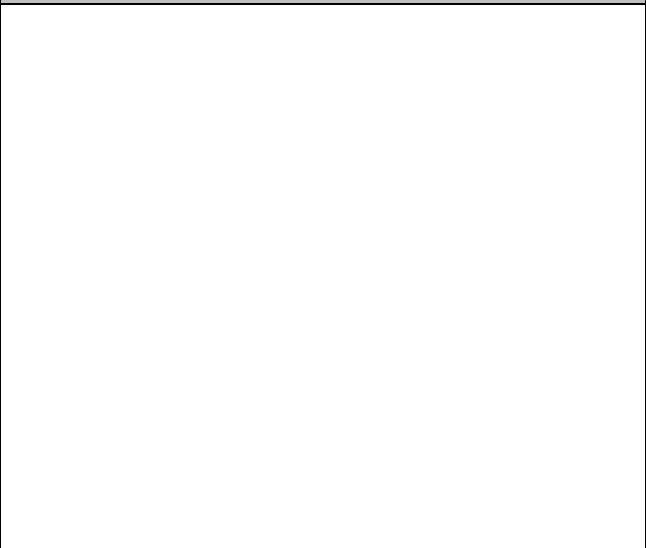
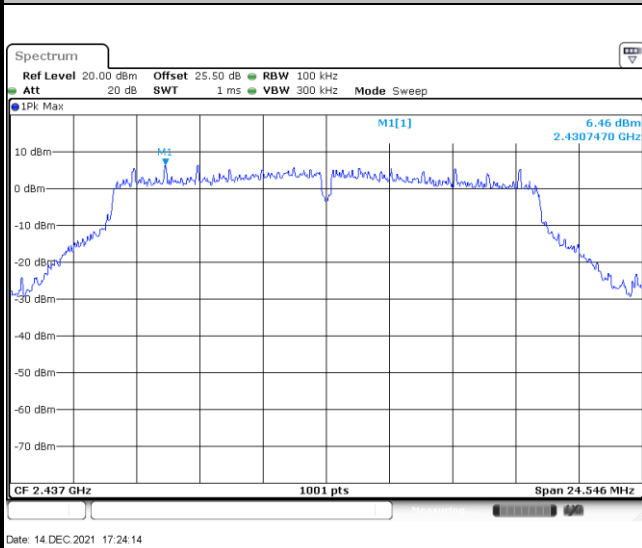
Test Mode :	802.11b	Test Channel :	11
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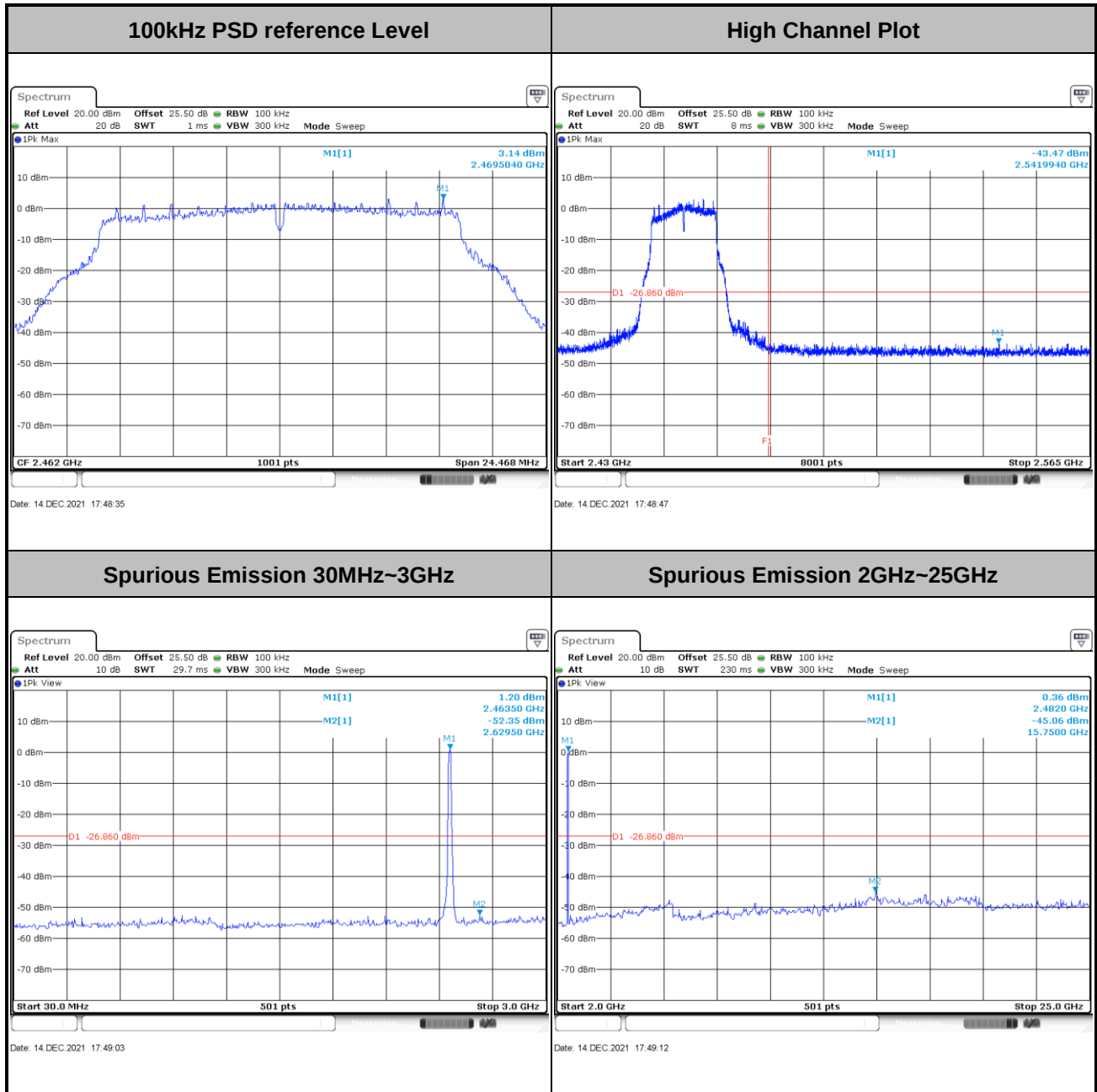
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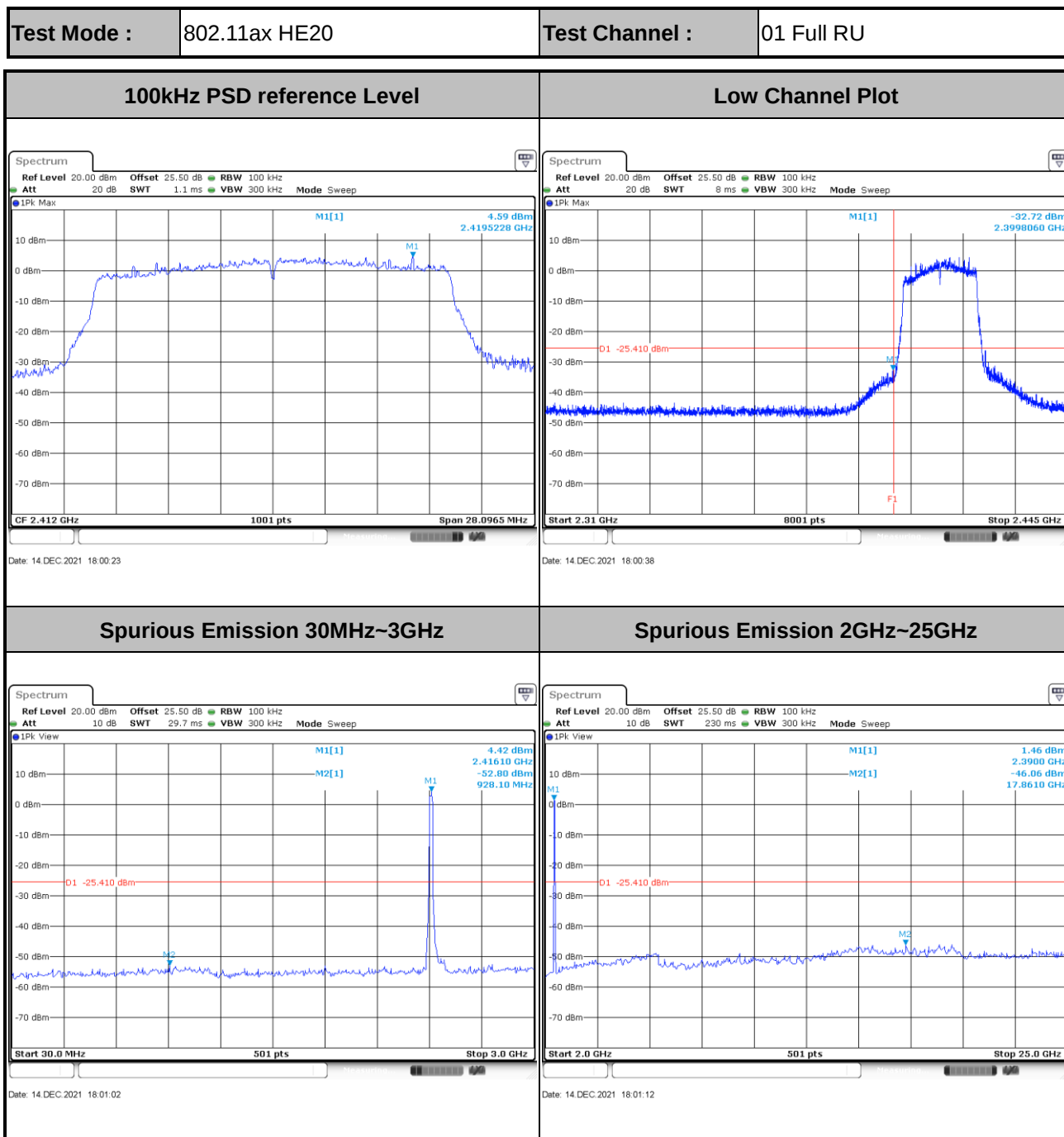


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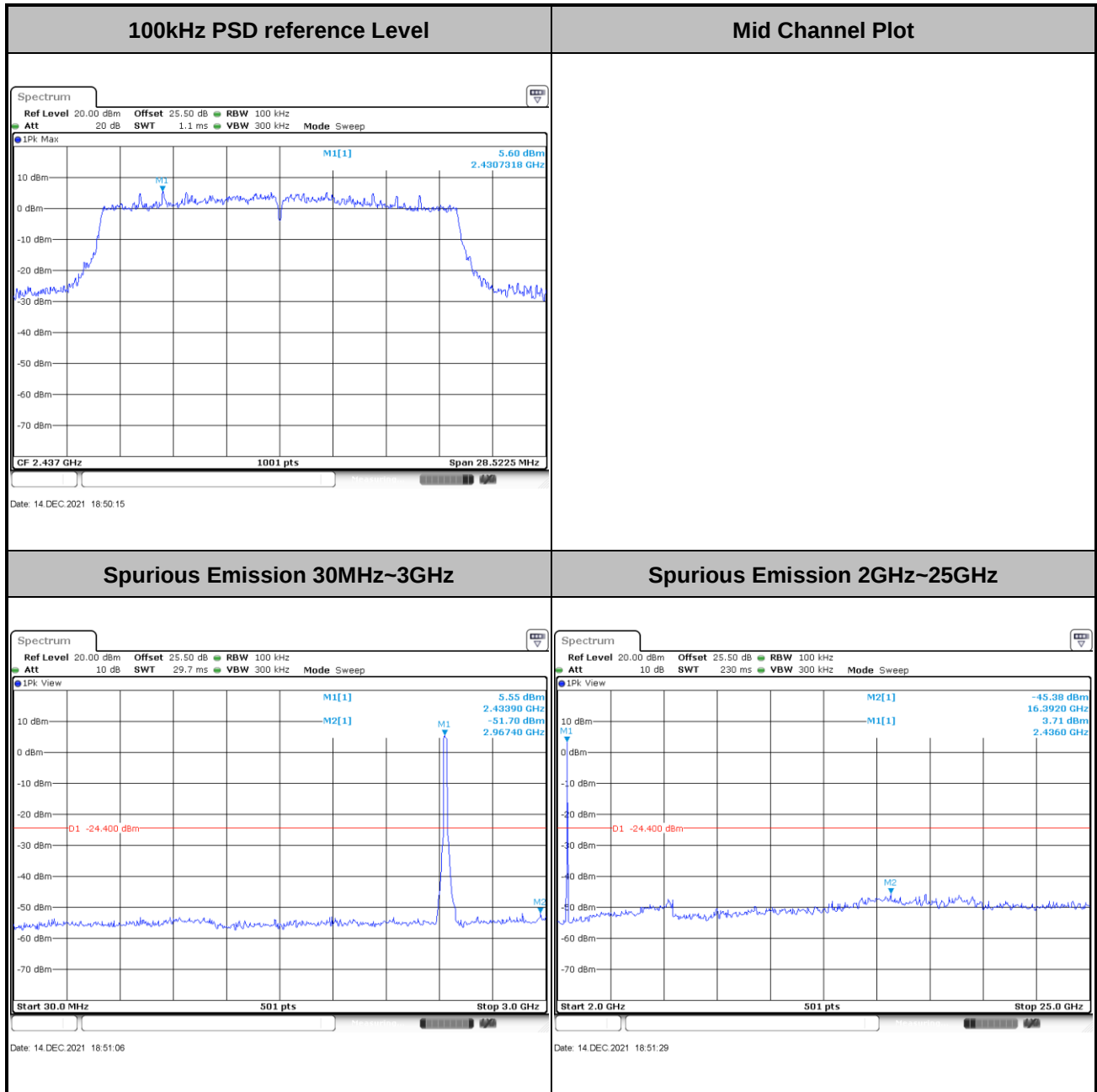


Number of TX = 2, Ant. 1 (Measured)



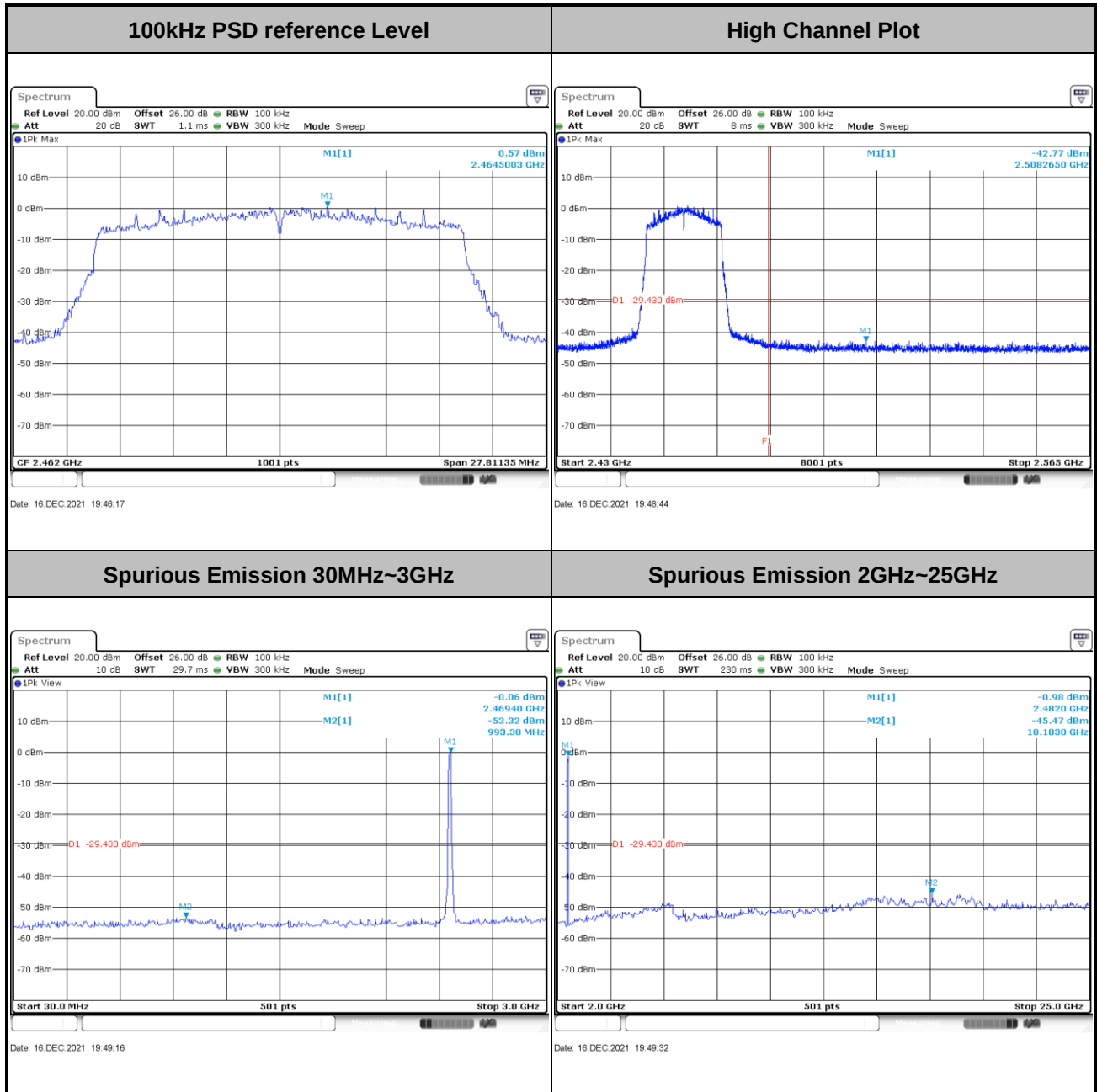


Test Mode :	802.11ax HE20	Test Channel :	06 Full RU
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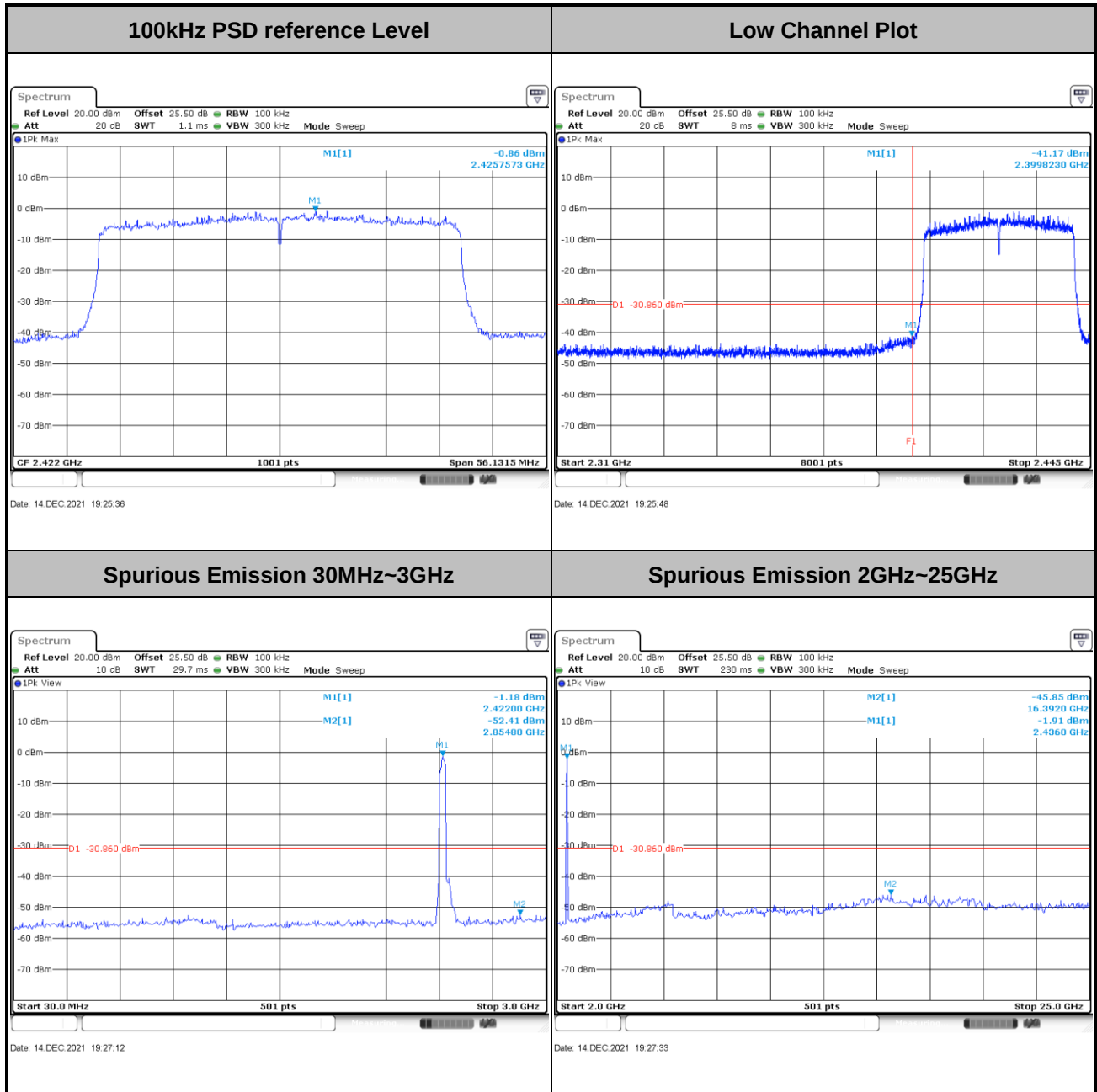


Test Mode :	802.11ax HE20	Test Channel :	11 Full RU
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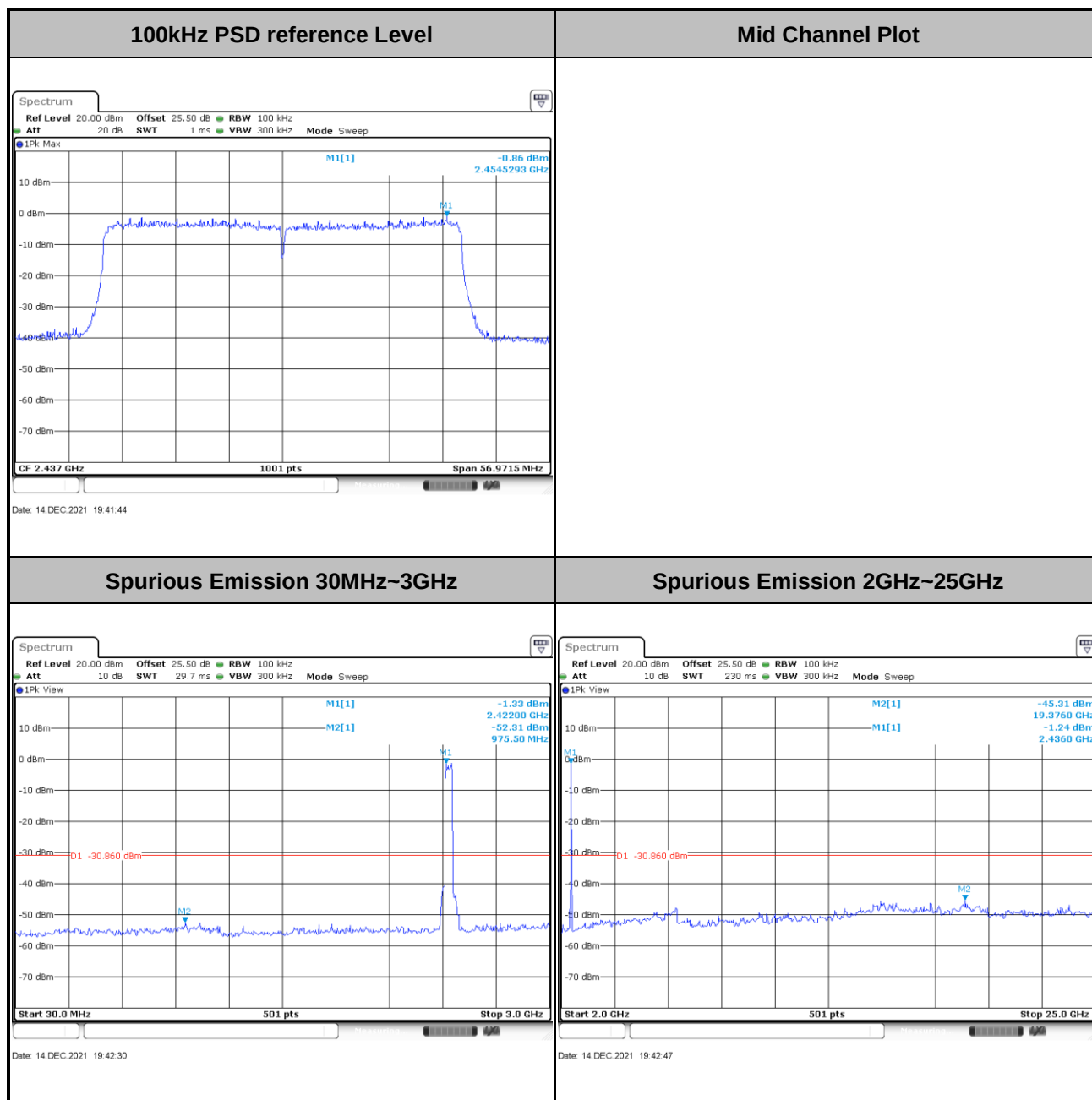


Test Mode :	802.11ax HE40	Test Channel :	03 Full RU
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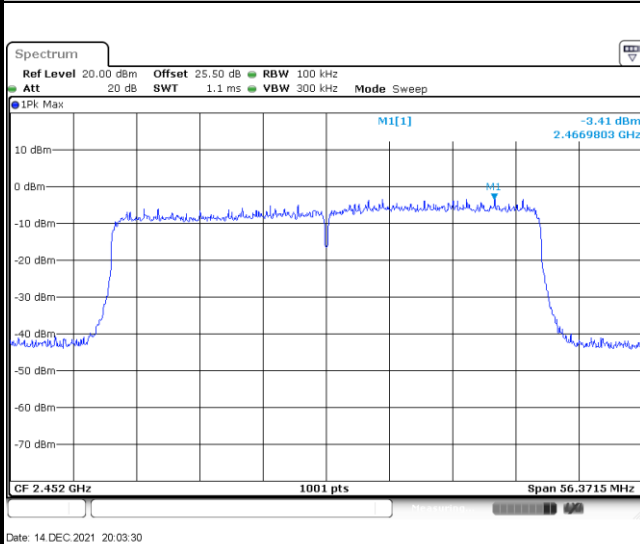
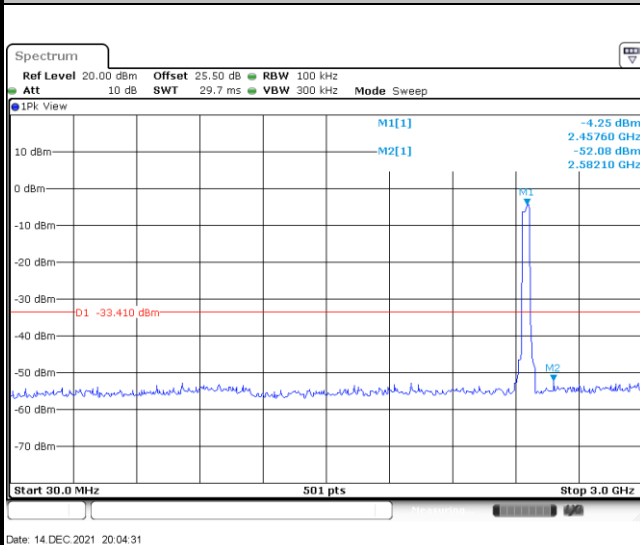
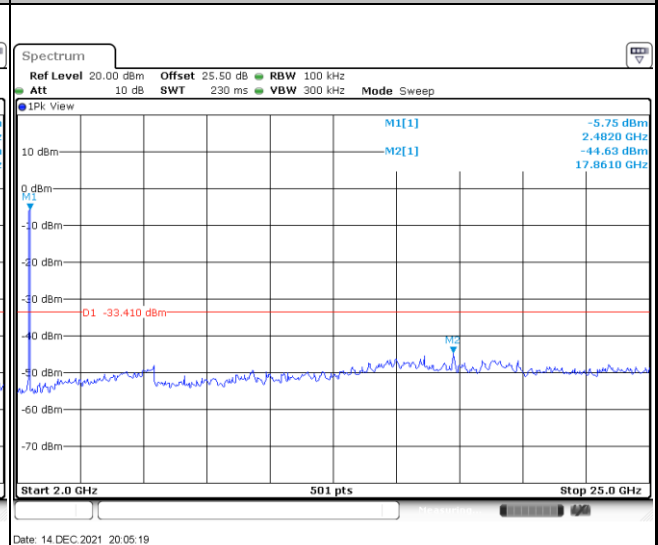


Test Mode :	802.11ax HE40	Test Channel :	06 Full RU
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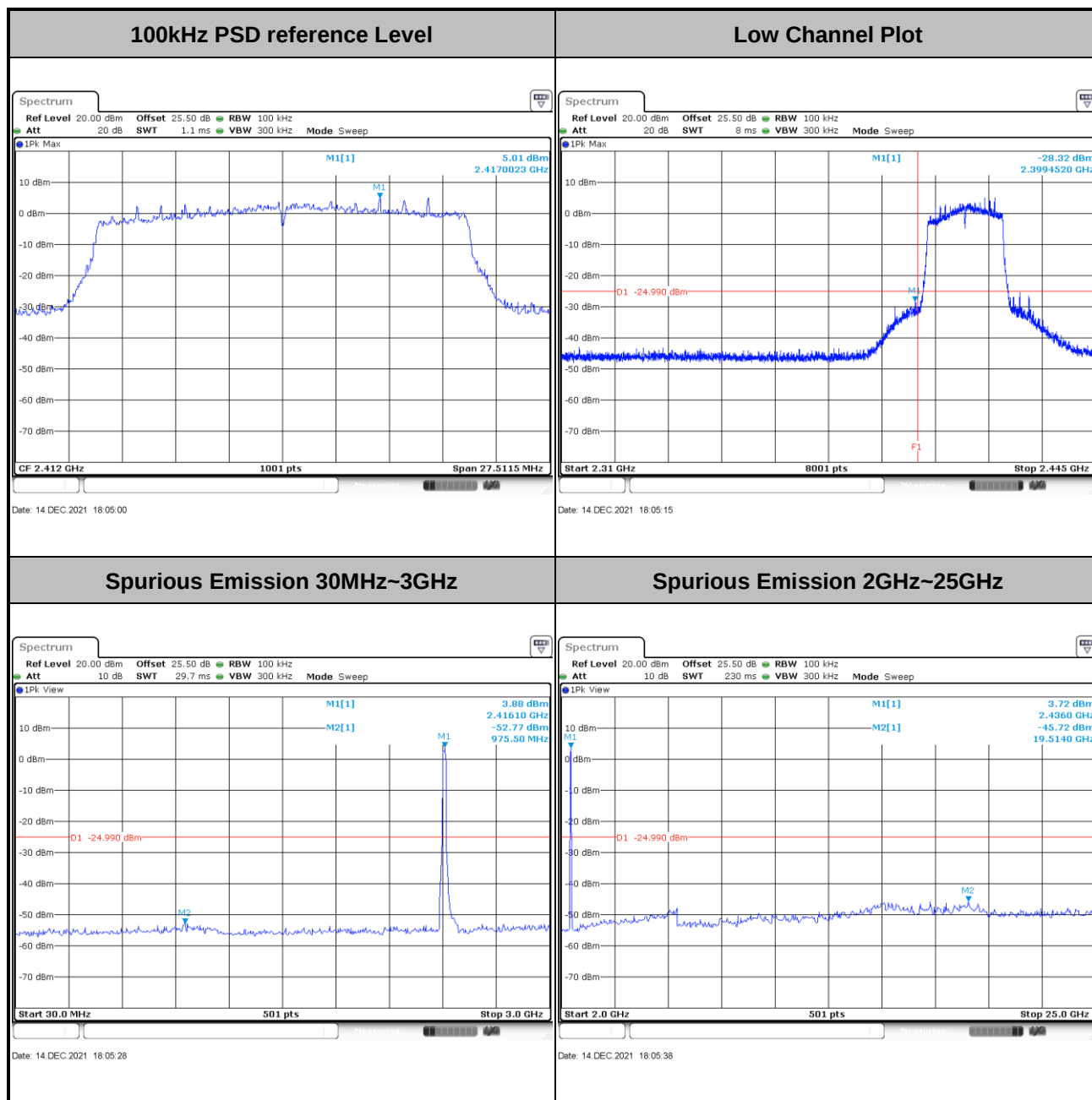
Test Mode :	802.11ax HE40	Test Channel :	09 Full RU
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100kHz PSD reference Level**High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



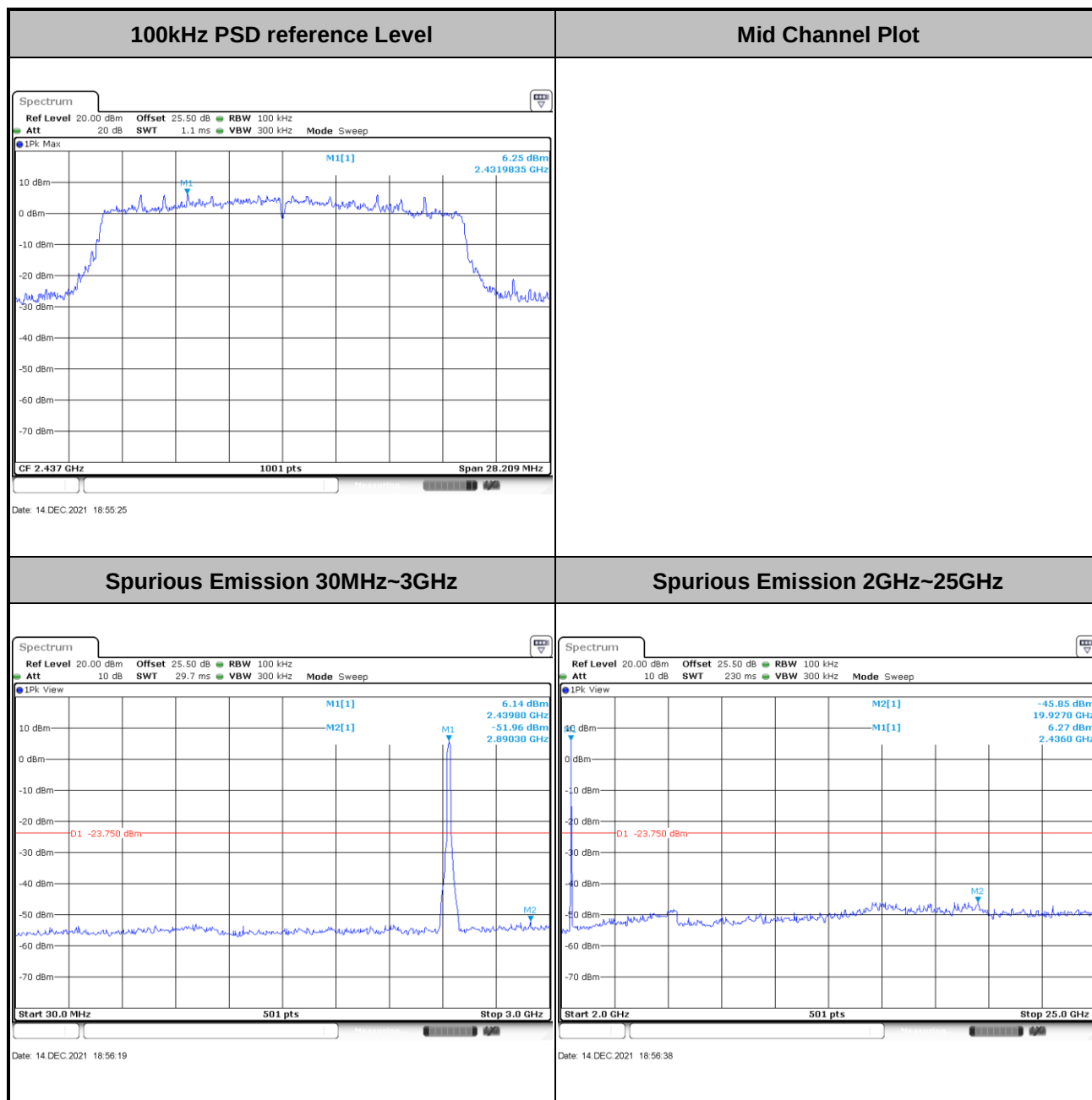
Number of TX = 2, Ant. 2 (Measured)

Test Mode :	802.11ax HE20	Test Channel :	01 Full RU
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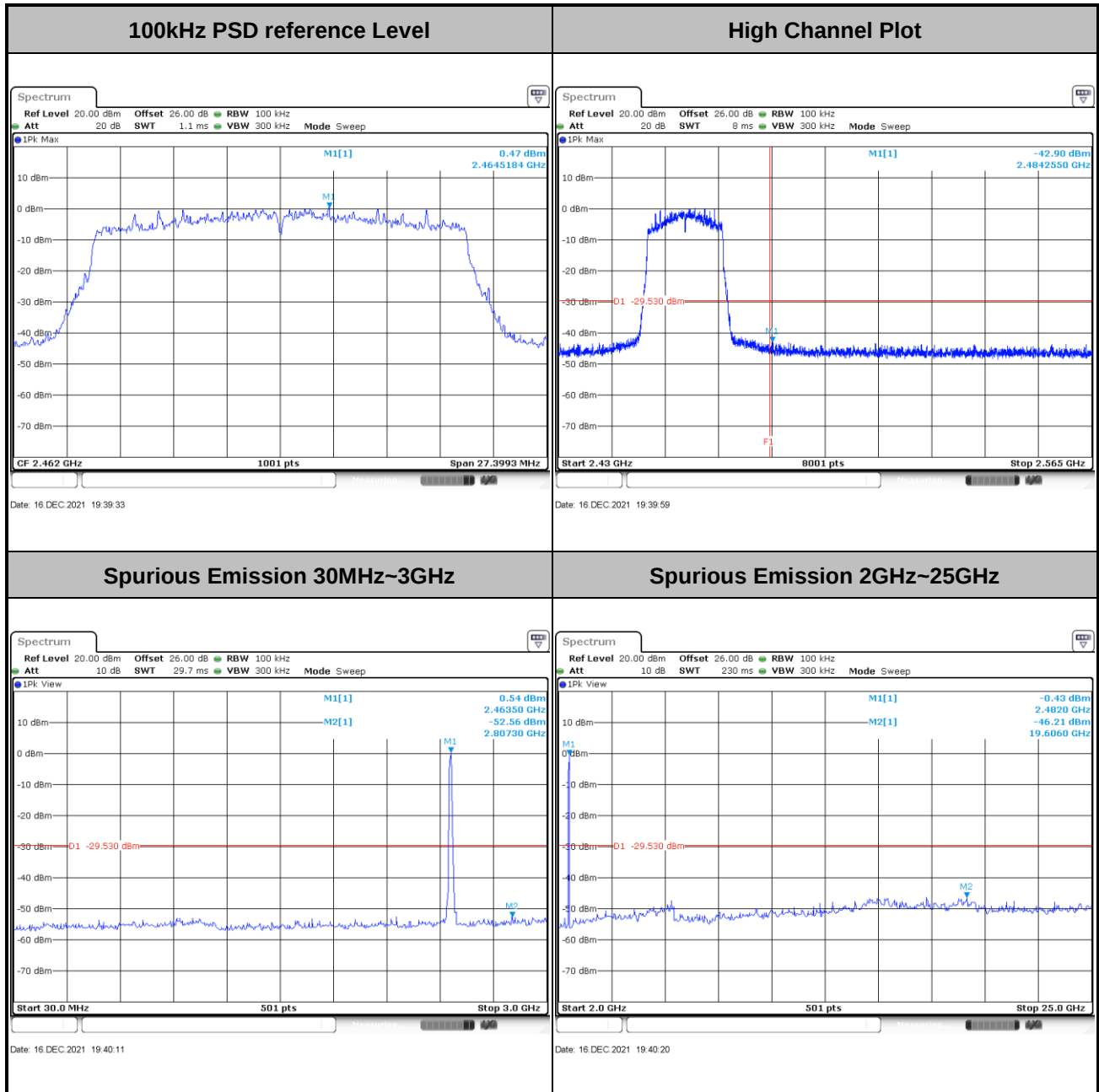


Test Mode :	802.11ax HE20	Test Channel :	06 Full RU
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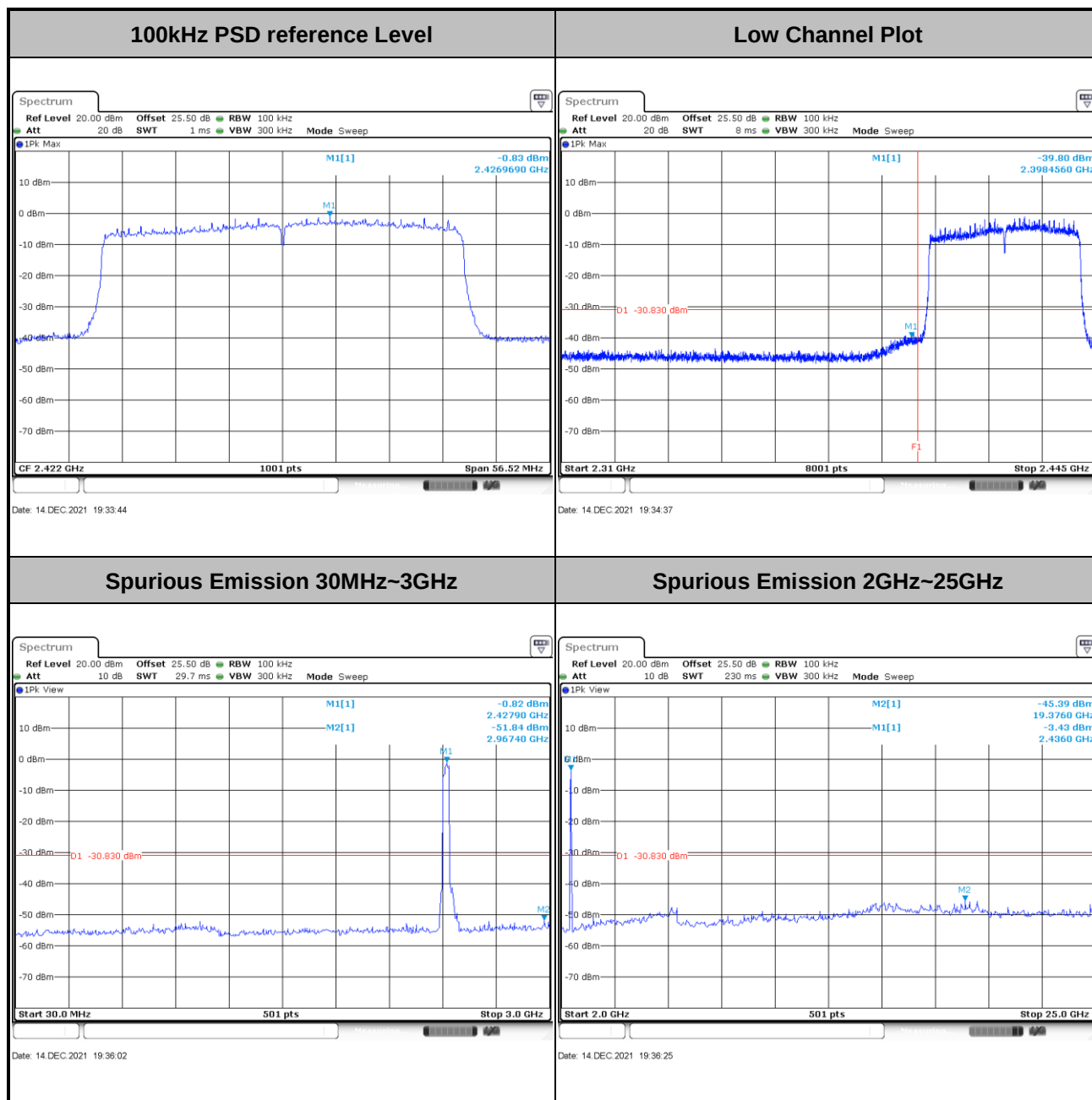


Test Mode :	802.11ax HE20	Test Channel :	11 Full RU
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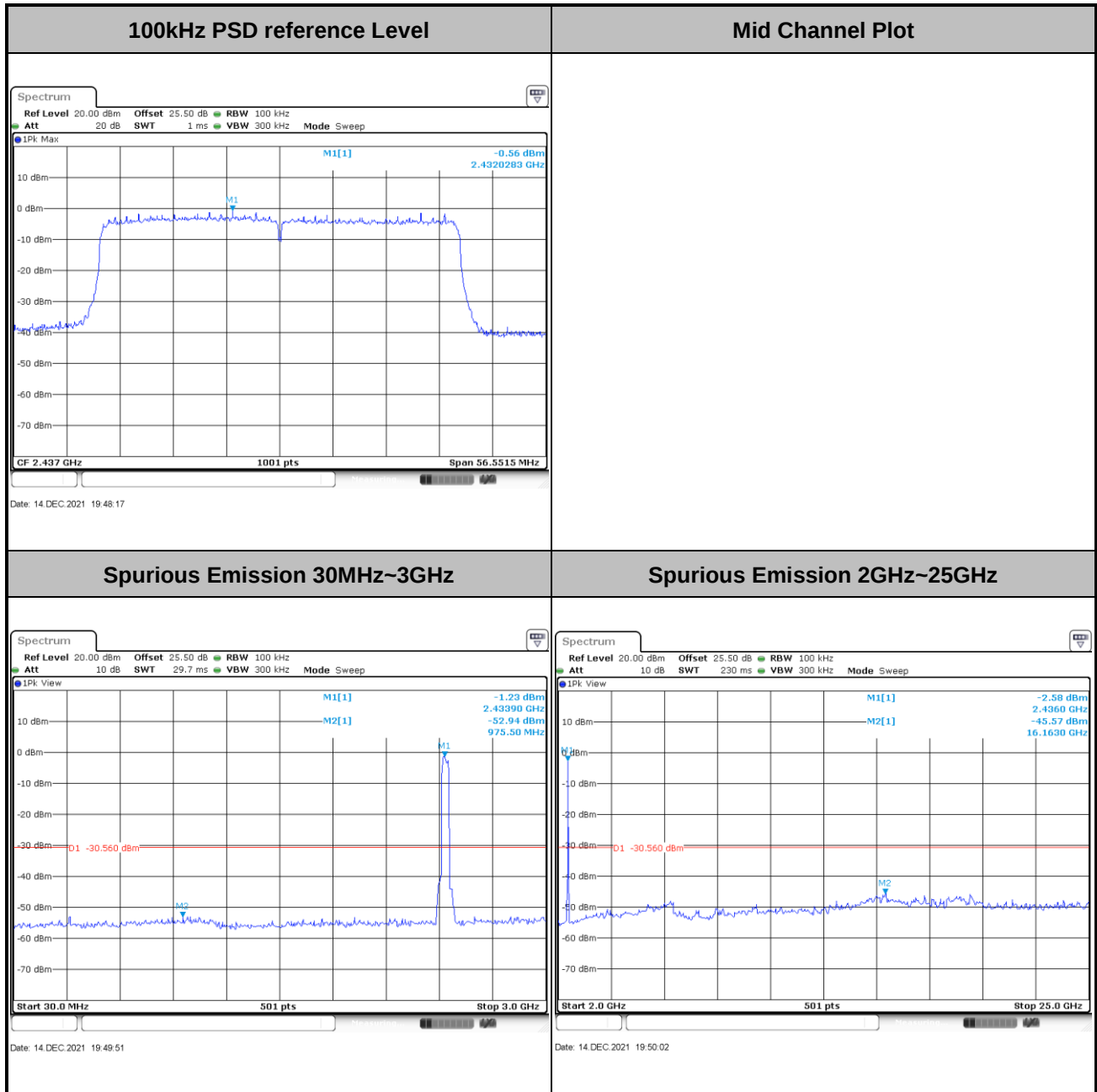


Test Mode :	802.11ax HE40	Test Channel :	03 Full RU
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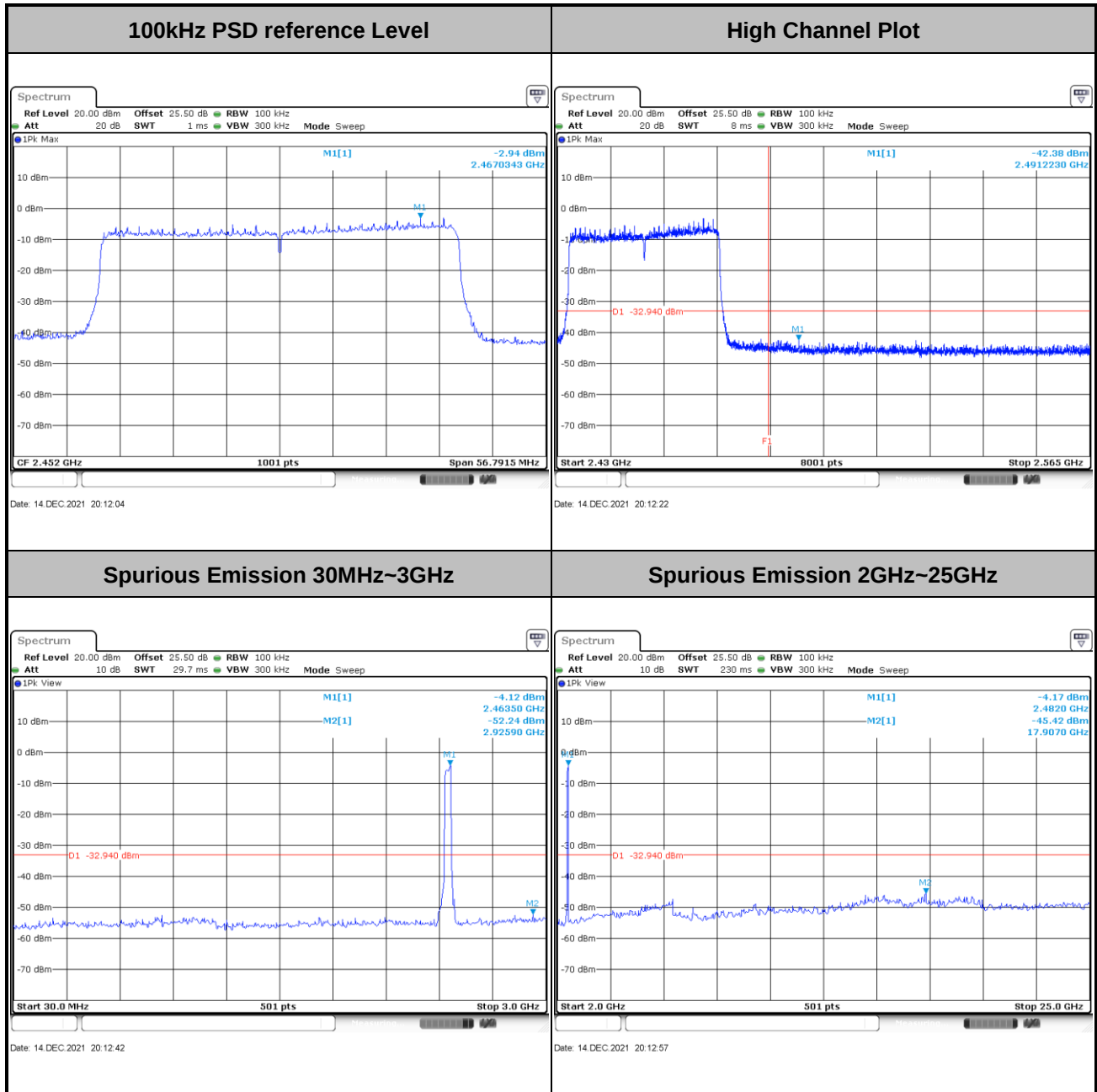


Test Mode :	802.11ax HE40	Test Channel :	06 Full RU
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Test Mode :	802.11ax HE40	Test Channel :	09 Full RU
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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device is measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.



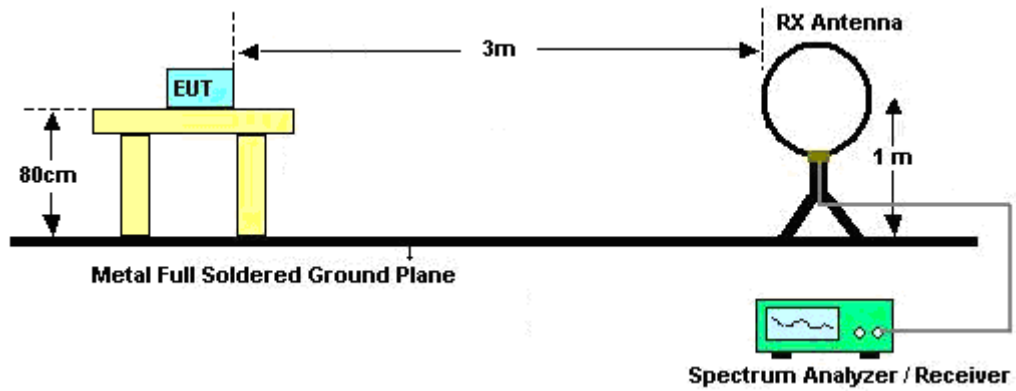
3.5.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-”.
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-”.
8. Use the following spectrum analyzer settings:
 - For average measurement:
The procedure for method trace averaging is as follows:
 - a) RBW = 1 MHz.
 - b) VBW $\geq [3 \times \text{RBW}]$.
 - c) Detector = RMS (power averaging), if $[\text{span} / (\# \text{ of points in sweep})] \leq \text{RBW} / 2$. Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.
 - d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - e) Sweep time = auto.

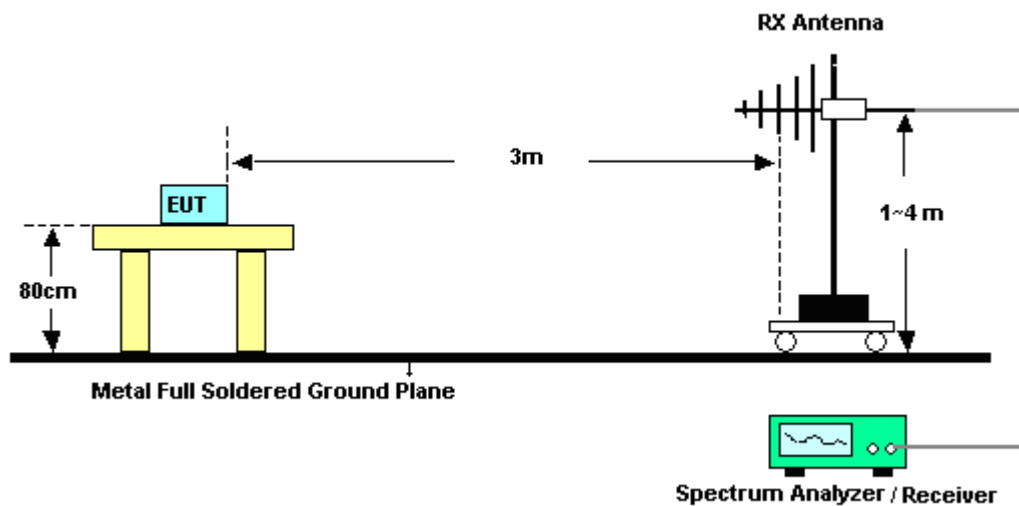
- f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of $1 / D$, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)
- g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
- 1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is $[10 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.
 - 2) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

3.5.4 Test Setup

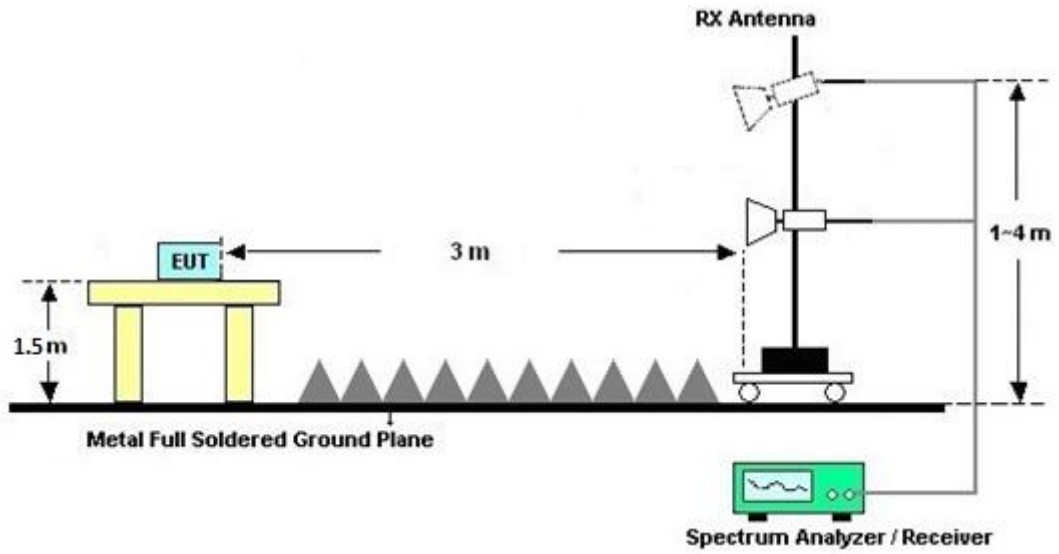
For radiated emissions below 30MHz



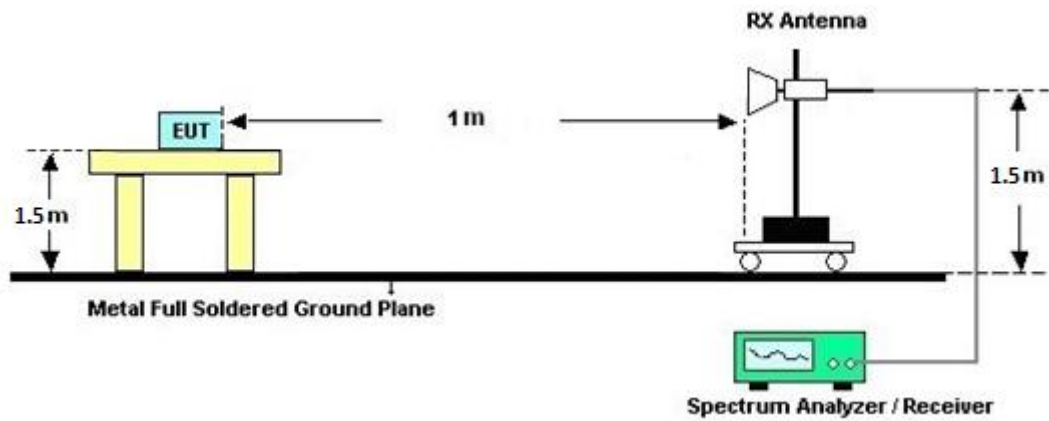
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



**3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)**

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result comes out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

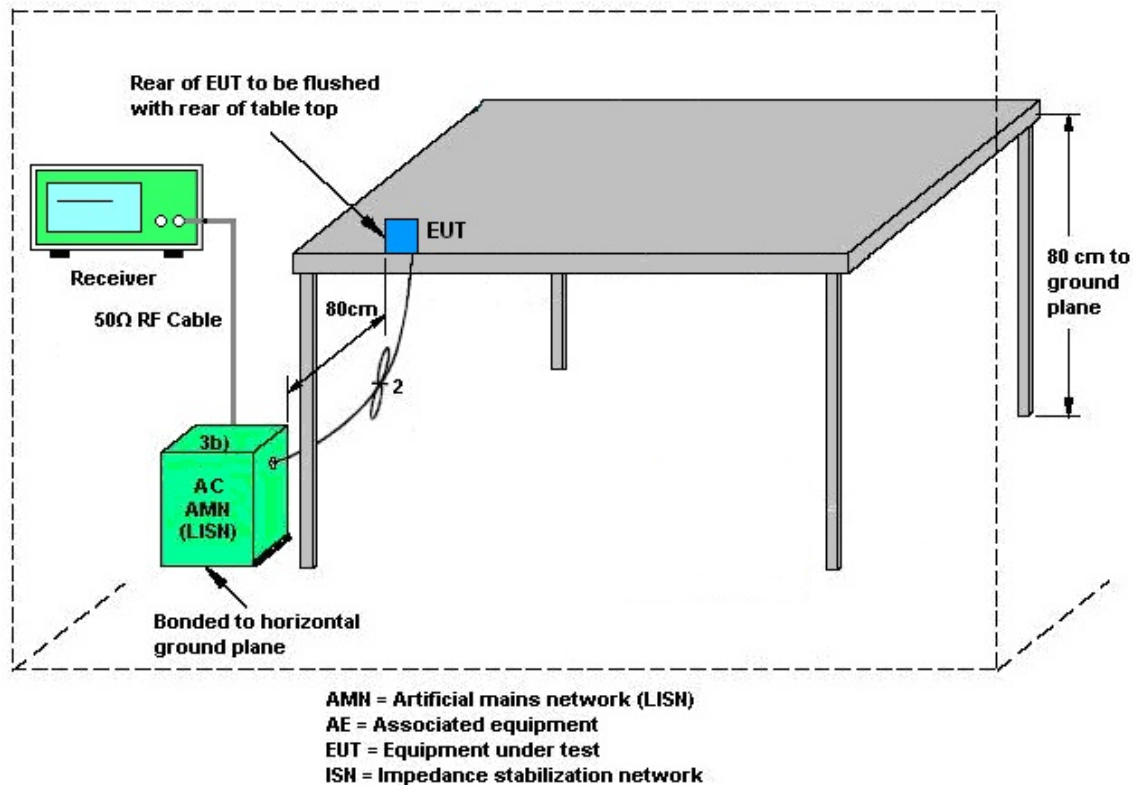
3.6.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.6.3 Test Procedures

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN shall be used.
6. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
7. The frequency range from 150 kHz to 30 MHz is scanned.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	1.90	2.50	2.50	5.22	0.00	0.00

Power Limit Reduction = $DG(\text{Power}) - 6\text{dBi}$, (min = 0)

PSD Limit Reduction = $DG(\text{PSD}) - 6\text{dBi}$, (min = 0)



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	35419 & 03	30MHz~1GHz	Apr. 28, 2021	Nov. 15, 2021~Dec. 23, 2021	Apr. 27, 2022	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 01, 2020	Nov. 15, 2021~Nov. 29, 2021	Nov. 30, 2021	Radiation (03CH07-HY)
Horn Antenna	ESCO	3117	00066584	1GHz~18GHz	Oct. 25, 2021	Nov. 29, 2021~Dec. 23, 2021	Oct. 24, 2022	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Nov. 15, 2021~Dec. 23, 2021	Jan. 03, 2022	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 22, 2021	Nov. 15, 2021~Dec. 23, 2021	Apr. 21, 2022	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 04, 2021	Nov. 15, 2021~Dec. 23, 2021	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Oct. 04, 2021	Nov. 15, 2021~Dec. 23, 2021	Oct. 03, 2022	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Jul. 22, 2021	Nov. 15, 2021~Dec. 23, 2021	Jul. 21, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682-4	30MHz to 18GHz	Feb. 24, 2021	Nov. 15, 2021~Dec. 23, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971-4	9kHz to 18GHz	Feb. 24, 2021	Nov. 15, 2021~Dec. 23, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655-4	9kHz to 18GHz	Feb. 24, 2021	Nov. 15, 2021~Dec. 23, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2,80 1606/2	18GHz~40GHz	Feb. 24, 2021	Nov. 15, 2021~Dec. 23, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 17, 2021	Nov. 15, 2021~Dec. 23, 2021	Sep. 16, 2022	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Nov. 15, 2021~Dec. 23, 2021	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Nov. 15, 2021~Dec. 23, 2021	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Nov. 15, 2021~Dec. 23, 2021	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Nov. 15, 2021~Dec. 23, 2021	N/A	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	N/A	N/A	N/A	Nov. 15, 2021~Dec. 23, 2021	N/A	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	18GHz~40GHz	Dec. 02, 2020	Nov. 15, 2021~Nov. 30, 2021	Dec. 01, 2021	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	18GHz~40GHz	Nov. 30, 2021	Nov. 30, 2021~Dec. 23, 2021	Nov. 29, 2022	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 23, 2021	Nov. 15, 2021~Dec. 23, 2021	Jul. 22, 2022	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 09, 2021	Nov. 15, 2021~Dec. 23, 2021	Mar. 08, 2022	Radiation (03CH07-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Nov. 12, 2021	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 30, 2020	Nov. 12, 2021	Nov. 29, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 18, 2020	Nov. 12, 2021	Nov. 17, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 01, 2020	Nov. 12, 2021	Nov. 30, 2021	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Nov. 12, 2021	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-FN	00691	N/A	Jul. 28, 2021	Nov. 12, 2021	Jul. 27, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 31, 2020	Nov. 12, 2021	Dec. 30, 2021	Conduction (CO05-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 16, 2021	Nov. 16, 2021~Dec. 16, 2021	Nov. 15, 2022	Conducted (TH05-HY)
Power Meter	DARE	RPR3006W	13I00030SNO31(NO:182)	10MHz~6GHz	Dec. 30, 2020	Nov. 16, 2021~Dec. 16, 2021	Dec. 29, 2021	Conducted (TH05-HY)
Power Meter	Anritsu	MA2411B	846202	300MHz~40GHz	Sep. 30, 2021	Nov. 16, 2021~Dec. 16, 2021	Sep. 29, 2022	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	Nov. 16, 2021~Dec. 16, 2021	Aug. 29, 2022	Conducted (TH05-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW191204(BOX8)	N/A	Jan. 07, 2021	Nov. 16, 2021~Dec. 16, 2021	Jan. 06, 2022	Conducted (TH05-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.1 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.8 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.0 dB
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Mina Liu	Temperature:	21~25	°C
Test Date:	2021/11/16~2021/12/16	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant1	Ant2	Ant1	Ant2		
11b	1Mbps	1	1	2412	11.54	11.54	7.58	8.04	0.50	Pass
11b	1Mbps	1	6	2437	11.54	11.49	8.08	8.04	0.50	Pass
11b	1Mbps	1	11	2462	11.39	11.49	7.60	7.62	0.50	Pass
11g	6Mbps	1	1	2412	18.63	18.78	16.11	16.33	0.50	Pass
11g	6Mbps	1	6	2437	18.83	18.58	16.38	16.36	0.50	Pass
11g	6Mbps	1	11	2462	18.23	18.38	16.37	16.31	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	19.80	19.80		30.00	30.00	1.90	2.50	21.70	22.30	36.00	36.00	Pass
11b	1Mbps	1	6	2437	19.60	19.90		30.00	30.00	1.90	2.50	21.50	22.40	36.00	36.00	Pass
11b	1Mbps	1	11	2462	17.90	19.70		30.00	30.00	1.90	2.50	19.80	22.20	36.00	36.00	Pass
11g	6Mbps	1	1	2412	17.40	17.80		30.00	30.00	1.90	2.50	19.30	20.30	36.00	36.00	Pass
11g	6Mbps	1	6	2437	18.10	18.40		30.00	30.00	1.90	2.50	20.00	20.90	36.00	36.00	Pass
11g	6Mbps	1	11	2462	14.20	15.00		30.00	30.00	1.90	2.50	16.10	17.50	36.00	36.00	Pass

2.4GHz Band MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
HT20	MCS0	2	1	2412	16.20	16.30	19.26	30.00		2.50		21.76		36.00		Pass
HT20	MCS0	2	6	2437	18.00	18.30	21.16	30.00		2.50		23.66		36.00		Pass
HT20	MCS0	2	11	2462	13.00	12.80	15.91	30.00		2.50		18.41		36.00		Pass
HT40	MCS0	2	3	2422	13.60	13.70	16.66	30.00		2.50		19.16		36.00		Pass
HT40	MCS0	2	6	2437	14.10	13.90	17.01	30.00		2.50		19.51		36.00		Pass
HT40	MCS0	2	9	2452	10.90	10.80	13.86	30.00		2.50		16.36		36.00		Pass
VHT20	MCS0	2	1	2412	16.20	16.30	19.26	30.00		2.50		21.76		36.00		Pass
VHT20	MCS0	2	6	2437	18.00	18.30	21.16	30.00		2.50		23.66		36.00		Pass
VHT20	MCS0	2	11	2462	13.00	12.80	15.91	30.00		2.50		18.41		36.00		Pass
VHT40	MCS0	2	3	2422	13.60	13.70	16.66	30.00		2.50		19.16		36.00		Pass
VHT40	MCS0	2	6	2437	14.10	13.90	17.01	30.00		2.50		19.51		36.00		Pass
VHT40	MCS0	2	9	2452	10.90	10.80	13.86	30.00		2.50		16.36		36.00		Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band Single Antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	-2.54	-2.62		1.90	2.50	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-2.15	-2.11		1.90	2.50	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-3.78	-2.51		1.90	2.50	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-7.57	-6.95		1.90	2.50	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-7.05	-6.43		1.90	2.50	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-10.63	-9.93		1.90	2.50	8.00	8.00	Pass

Measured power density (dBm) has offset with cable loss.

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band MIMO											
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
						Ant1	Ant2	Ant1	Ant2		
HE20	MCS0	2	1	2412	Full	19.48	19.53	18.73	18.34	0.50	Pass
HE20	MCS0	2	6	2437	Full	19.73	19.63	19.02	18.81	0.50	Pass
HE20	MCS0	2	11	2462	Full	19.38	19.38	18.54	18.27	0.50	Pass
HE40	MCS0	2	3	2422	Full	37.66	37.56	37.42	37.68	0.50	Pass
HE40	MCS0	2	6	2437	Full	38.06	37.76	37.98	37.70	0.50	Pass
HE40	MCS0	2	9	2452	Full	37.96	37.96	37.58	37.86	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																	
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
HE20	MCS0	2	1	2412	Full	16.30	16.40	19.36	30.00		2.50		21.86		36.00		Pass
HE20	MCS0	2	1	2412	26/0	10.50	11.00	13.77	30.00		2.50		16.27		36.00		Pass
HE20	MCS0	2	1	2412	52/37	12.70	14.20	16.52	30.00		2.50		19.02		36.00		Pass
HE20	MCS0	2	1	2412	106/53	15.80	16.20	19.01	30.00		2.50		21.51		36.00		Pass
HE20	MCS0	2	6	2437	Full	18.10	18.40	21.26	30.00		2.50		23.76		36.00		Pass
HE20	MCS0	2	6	2437	26/4	12.20	12.70	15.47	30.00		2.50		17.97		36.00		Pass
HE20	MCS0	2	6	2437	52/39	15.20	15.70	18.47	30.00		2.50		20.97		36.00		Pass
HE20	MCS0	2	6	2437	106/53	17.50	18.50	21.04	30.00		2.50		23.54		36.00		Pass
HE20	MCS0	2	11	2462	Full	13.10	12.90	16.01	30.00		2.50		18.51		36.00		Pass
HE20	MCS0	2	11	2462	26/8	6.50	6.90	9.71	30.00		2.50		12.21		36.00		Pass
HE20	MCS0	2	11	2462	52/40	8.80	9.60	12.23	30.00		2.50		14.73		36.00		Pass
HE20	MCS0	2	11	2462	106/54	12.10	12.80	15.47	30.00		2.50		17.97		36.00		Pass
HE40	MCS0	2	3	2422	Full	13.70	13.80	16.76	30.00		2.50		19.26		36.00		Pass
HE40	MCS0	2	3	2422	242/61	13.00	12.20	15.63	30.00		2.50		18.13		36.00		Pass
HE40	MCS0	2	6	2437	Full	14.20	14.00	17.11	30.00		2.50		19.61		36.00		Pass
HE40	MCS0	2	6	2437	242/61	13.10	12.70	15.91	30.00		2.50		18.41		36.00		Pass
HE40	MCS0	2	9	2452	Full	11.00	10.90	13.96	30.00		2.50		16.46		36.00		Pass
HE40	MCS0	2	9	2452	242/62	9.10	9.10	12.11	30.00		2.50		14.61		36.00		Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band MIMO													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
						Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
HE20	MCS0	2	1	2412	Full	-8.71	-8.84	-5.70	5.22		8.00		Pass
HE20	MCS0	2	1	2412	26/0	-9.12	-8.87	-5.86	5.22		8.00		Pass
HE20	MCS0	2	1	2412	52/37	-9.15	-8.88	-5.87	5.22		8.00		Pass
HE20	MCS0	2	1	2412	106/53	-9.04	-8.86	-5.85	5.22		8.00		Pass
HE20	MCS0	2	6	2437	Full	-7.25	-6.53	-3.52	5.22		8.00		Pass
HE20	MCS0	2	6	2437	26/4	-7.29	-6.57	-3.56	5.22		8.00		Pass
HE20	MCS0	2	6	2437	52/39	-7.60	-6.76	-3.75	5.22		8.00		Pass
HE20	MCS0	2	6	2437	106/53	-7.35	-6.64	-3.63	5.22		8.00		Pass
HE20	MCS0	2	11	2462	Full	-12.52	-12.55	-9.51	5.22		8.00		Pass
HE20	MCS0	2	11	2462	26/8	-12.54	-12.62	-9.53	5.22		8.00		Pass
HE20	MCS0	2	11	2462	52/40	-13.12	-12.69	-9.68	5.22		8.00		Pass
HE20	MCS0	2	11	2462	106/54	-12.55	-12.71	-9.54	5.22		8.00		Pass
HE40	MCS0	2	3	2422	Full	-14.95	-15.10	-11.94	5.22		8.00		Pass
HE40	MCS0	2	3	2422	242/61	-15.06	-15.35	-12.05	5.22		8.00		Pass
HE40	MCS0	2	6	2437	Full	-15.06	-14.59	-11.58	5.22		8.00		Pass
HE40	MCS0	2	6	2437	242/61	-15.50	-15.04	-12.03	5.22		8.00		Pass
HE40	MCS0	2	9	2452	Full	-17.79	-17.48	-14.47	5.22		8.00		Pass
HE40	MCS0	2	9	2452	242/62	-17.83	-17.93	-14.82	5.22		8.00		Pass

Measured power density (dBm) has offset with cable loss.



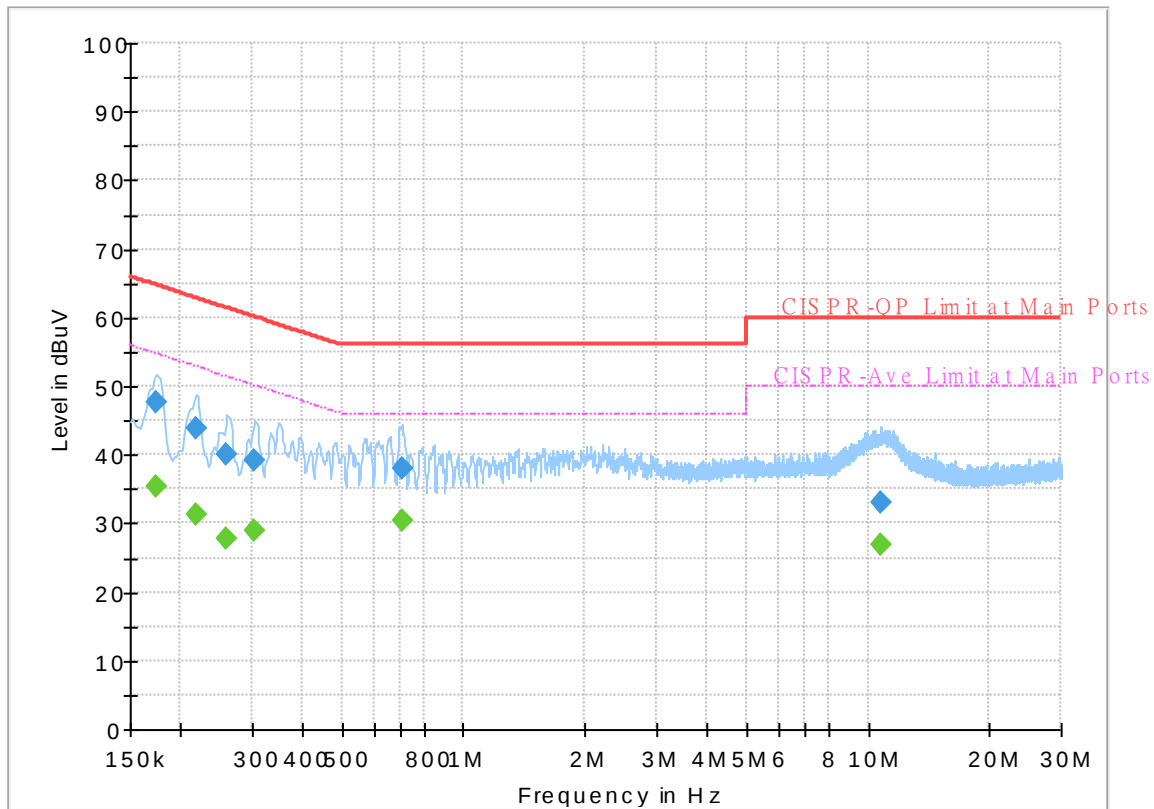
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	Temperature :	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO : 1N0505
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



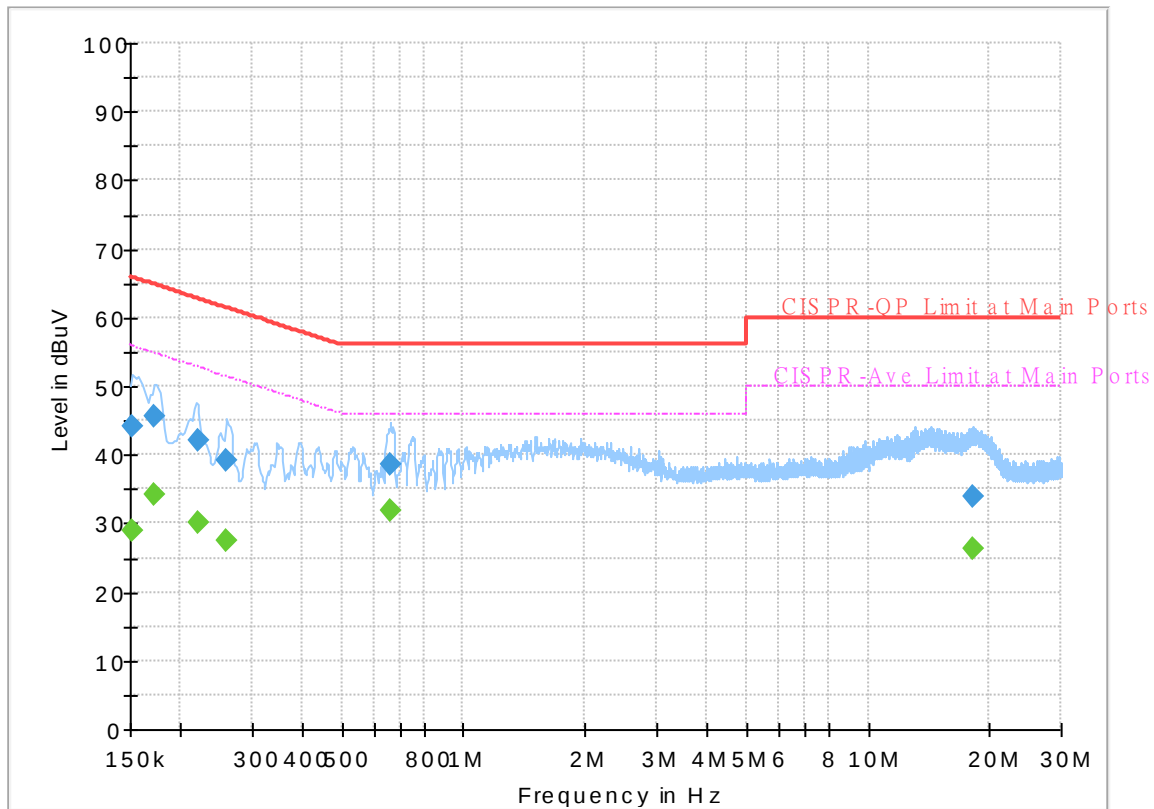
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.174750	---	35.44	54.73	19.29	L1	OFF	19.7
0.174750	47.62	---	64.73	17.11	L1	OFF	19.7
0.217500	---	31.16	52.91	21.75	L1	OFF	19.7
0.217500	43.87	---	62.91	19.04	L1	OFF	19.7
0.260250	---	27.86	51.42	23.56	L1	OFF	19.7
0.260250	40.01	---	61.42	21.41	L1	OFF	19.7
0.305250	---	28.93	50.10	21.17	L1	OFF	19.7
0.305250	39.31	---	60.10	20.79	L1	OFF	19.7
0.703500	---	30.45	46.00	15.55	L1	OFF	20.0
0.703500	38.14	---	56.00	17.86	L1	OFF	20.0
10.763250	---	26.76	50.00	23.24	L1	OFF	20.2
10.763250	33.18	---	60.00	26.82	L1	OFF	20.2

EUT Information

Report NO : 1N0505
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	29.05	55.88	26.83	N	OFF	19.7
0.152250	44.29	---	65.88	21.59	N	OFF	19.7
0.172500	---	34.08	54.84	20.76	N	OFF	19.7
0.172500	45.60	---	64.84	19.24	N	OFF	19.7
0.219750	---	30.01	52.83	22.82	N	OFF	19.7
0.219750	42.23	---	62.83	20.60	N	OFF	19.7
0.260250	---	27.62	51.42	23.80	N	OFF	19.7
0.260250	39.20	---	61.42	22.22	N	OFF	19.7
0.658500	---	31.74	46.00	14.26	N	OFF	20.0
0.658500	38.50	---	56.00	17.50	N	OFF	20.0
18.228750	---	26.31	50.00	23.69	N	OFF	20.5
18.228750	33.99	---	60.00	26.01	N	OFF	20.5



Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh and Ken Wu	Temperature :	17.9~22.2°C
		Relative Humidity :	53.1~69%



<Sample 1>

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2389.59	56.51	-17.49	74	41.74	32.04	18.14	35.41	400	87	P	H
		2388.225	49.11	-4.89	54	34.36	32.03	18.13	35.41	400	87	A	H
	*	2412	113.03	-	-	98.13	32.12	18.2	35.42	400	87	P	H
	*	2412	108.94	-	-	94.04	32.12	18.2	35.42	400	87	A	H
													H
													H
		2388.435	54.61	-19.39	74	39.86	32.03	18.13	35.41	400	114	P	V
		2388.435	46.35	-7.65	54	31.6	32.03	18.13	35.41	400	114	A	V
	*	2412	110.29	-	-	95.39	32.12	18.2	35.42	400	114	P	V
	*	2412	107.17	-	-	92.27	32.12	18.2	35.42	400	114	A	V
													V
													V
802.11b CH 06 2437MHz		2375.94	53.92	-20.08	74	39.3	31.96	18.07	35.41	393	92	P	H
		2387.42	44.02	-9.98	54	29.28	32.02	18.13	35.41	393	92	A	H
	*	2437	112.53	-	-	97.58	32.17	18.21	35.43	393	92	P	H
	*	2437	108.99	-	-	94.04	32.17	18.21	35.43	393	92	A	H
		2485.09	55.37	-18.63	74	40.23	32.34	18.25	35.45	393	92	P	H
		2485.72	45.57	-8.43	54	30.43	32.34	18.25	35.45	393	92	A	H
		2327.08	54.23	-19.77	74	39.97	31.8	17.85	35.39	396	127	P	V
		2382.66	44.06	-9.94	54	29.36	32	18.11	35.41	396	127	A	V
	*	2437	111.84	-	-	96.89	32.17	18.21	35.43	396	127	P	V
	*	2437	108.25	-	-	93.3	32.17	18.21	35.43	396	127	A	V
		2491.88	54.96	-19.04	74	39.8	32.37	18.25	35.46	396	127	P	V
		2485.44	45.05	-8.95	54	29.91	32.34	18.25	35.45	396	127	A	V



802.11b CH 11 2462MHz	*	2462	111.01	-	-	95.97	32.25	18.23	35.44	303	90	P	H
	*	2462	107.63	-	-	92.59	32.25	18.23	35.44	303	90	A	H
		2484.4	57.84	-16.16	74	42.7	32.34	18.25	35.45	303	90	P	H
		2483.56	49.69	-4.31	54	34.56	32.33	18.25	35.45	303	90	A	H
													H
													H
	*	2462	111.86	-	-	96.82	32.25	18.23	35.44	342	125	P	V
	*	2462	108.55	-	-	93.51	32.25	18.23	35.44	342	125	A	V
		2483.52	56.71	-17.29	74	41.58	32.33	18.25	35.45	342	125	P	V
		2483.56	48.43	-5.57	54	33.3	32.33	18.25	35.45	342	125	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	44.33	-29.67	74	55.2	34.2	12.9	57.97	-	-	P	H
		14490	48.17	-25.83	74	44.6	39.67	21.99	58.09	-	-	P	H
		14490	36.9	-17.1	54	33.33	39.67	21.99	58.09	-	-	A	H
		16140	49.68	-24.32	74	40.56	42.3	23.6	56.78	-	-	P	H
		16140	39.82	-14.18	54	30.7	42.3	23.6	56.78	-	-	A	H
		17715	51.36	-22.64	74	40.89	41.97	24.65	56.15	-	-	P	H
		17715	41.94	-12.06	54	31.47	41.97	24.65	56.15	-	-	A	H
													H
													H
													H
													H
													H
		4824	42.7	-31.3	74	53.57	34.2	12.9	57.97	-	-	P	V
		14475	48.18	-25.82	74	44.67	39.62	21.98	58.09	-	-	P	V
		14475	38.36	-15.64	54	34.85	39.62	21.98	58.09	-	-	A	V
		15660	49.86	-24.14	74	42.65	41.16	23.17	57.12	-	-	P	V
		15660	37.32	-16.68	54	30.11	41.16	23.17	57.12	-	-	A	V
		17700	52.65	-21.35	74	42.17	42	24.64	56.16	-	-	P	V
		17700	41.48	-12.52	54	31	42	24.64	56.16	-	-	A	V
													V
													V
													V
													V
													V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 06 2437MHz		4874	42.65	-31.35	74	53.5	34.2	12.86	57.91	-	-	P	H
		7311	52.27	-21.73	74	59.16	36.1	14.92	57.91	100	76	P	H
		7311	48.6	-5.4	54	55.49	36.1	14.92	57.91	100	76	A	H
		14499	48.08	-25.92	74	44.47	39.7	22	58.09	-	-	P	H
		14499	38.63	-15.37	54	35.02	39.7	22	58.09	-	-	A	H
		15870	49.75	-24.25	74	41.4	41.91	23.38	56.94	-	-	P	H
		15870	38.75	-15.25	54	30.4	41.91	23.38	56.94	-	-	A	H
		17715	51.9	-22.1	74	41.43	41.97	24.65	56.15	-	-	P	H
		17715	41.76	-12.24	54	31.29	41.97	24.65	56.15	-	-	A	H
													H
													H
													H
		4874	42.85	-31.15	74	53.7	34.2	12.86	57.91	-	-	P	V
		7311	52.6	-21.4	74	59.49	36.1	14.92	57.91	100	10	P	V
		7311	48.4	-5.6	54	55.29	36.1	14.92	57.91	100	10	A	V
		14475	47.37	-26.63	74	43.86	39.62	21.98	58.09	-	-	P	V
		16155	49.94	-24.06	74	40.79	42.3	23.62	56.77	-	-	P	V
		16155	40.03	-13.97	54	30.88	42.3	23.62	56.77	-	-	A	V
		17955	52.35	-21.65	74	41.7	41.85	24.81	56.01	-	-	P	V
		17955	42.54	-11.46	54	31.89	41.85	24.81	56.01	-	-	A	V
													V
													V
													V
													V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 11 2462MHz		4924	43.23	-30.77	74	53.99	34.25	12.84	57.85	-	-	P	H
		7386	47.81	-26.19	74	54.64	36.24	14.91	57.98	-	-	P	H
		14490	47.86	-26.14	74	44.29	39.67	21.99	58.09	-	-	P	H
		16125	49.97	-24.03	74	40.86	42.3	23.59	56.78	-	-	P	H
		16125	39.97	-14.03	54	30.86	42.3	23.59	56.78	-	-	A	H
		17745	51.94	-22.06	74	41.49	41.91	24.67	56.13	-	-	P	H
		17745	41.94	-12.06	54	31.49	41.91	24.67	56.13	-	-	A	H
													H
													H
													H
													H
													H
		4924	43.08	-30.92	74	53.84	34.25	12.84	57.85	-	-	P	V
		7386	47.98	-26.02	74	54.81	36.24	14.91	57.98	-	-	P	V
		14499	48.59	-25.41	74	44.98	39.7	22	58.09	-	-	P	V
		14499	38.83	-15.17	54	35.22	39.7	22	58.09	-	-	A	V
		16155	49.78	-24.22	74	40.63	42.3	23.62	56.77	-	-	P	V
		16155	39.79	-14.21	54	30.64	42.3	23.62	56.77	-	-	A	V
		17805	51.18	-22.82	74	40.76	41.81	24.71	56.1	-	-	P	V
		17805	42.15	-11.85	54	31.73	41.81	24.71	56.1	-	-	A	V
													V
													V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												
	3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												
	4. The emission level close to 18GHz is checked that the average emission level is noise floor only.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.17	65.51	-8.49	74	50.74	32.04	18.14	35.41	400	86	P	H
		2389.905	52.35	-1.65	54	37.44	32.04	18.29	35.42	400	86	A	H
	*	2414	111.81	-	-	96.9	32.13	18.2	35.42	400	86	P	H
	*	2414	104.32	-	-	89.26	32.13	18.35	35.42	400	86	A	H
													H
													H
		2389.17	64.21	-9.79	74	49.44	32.04	18.14	35.41	400	111	P	V
		2390	51.02	-2.98	54	36.11	32.04	18.29	35.42	400	111	A	V
	*	2412	109.99	-	-	95.09	32.12	18.2	35.42	400	111	P	V
	*	2412	101.88	-	-	86.83	32.12	18.35	35.42	400	111	A	V
													V
													V
802.11g CH 06 2437MHz		2346.12	54.97	-19.03	74	40.63	31.8	17.94	35.4	393	89	P	H
		2389.94	44.83	-9.17	54	29.92	32.04	18.29	35.42	393	89	A	H
	*	2437	113.13	-	-	98.18	32.17	18.21	35.43	393	89	P	H
	*	2437	105.05	-	-	89.95	32.17	18.36	35.43	393	89	A	H
		2484.95	57.87	-16.13	74	42.73	32.34	18.25	35.45	393	89	P	H
		2485.23	47.55	-6.45	54	32.26	32.34	18.4	35.45	393	89	A	H
		2387.7	54.41	-19.59	74	39.66	32.03	18.13	35.41	394	127	P	V
		2388.82	44.51	-9.49	54	29.6	32.03	18.29	35.41	394	127	A	V
	*	2437	111.34	-	-	96.39	32.17	18.21	35.43	394	127	P	V
	*	2437	103.42	-	-	88.32	32.17	18.36	35.43	394	127	A	V
		2483.83	57.09	-16.91	74	41.95	32.34	18.25	35.45	394	127	P	V
		2483.9	46.58	-7.42	54	31.29	32.34	18.4	35.45	394	127	A	V



802.11g CH 11 2462MHz	*	2462	109.28	-	-	94.24	32.25	18.23	35.44	303	92	P	H
	*	2462	101.5	-	-	86.31	32.25	18.38	35.44	303	92	A	H
		2483.52	65.18	-8.82	74	50.05	32.33	18.25	35.45	303	92	P	H
		2483.88	52.22	-1.78	54	36.93	32.34	18.4	35.45	303	92	A	H
													H
													H
	*	2462	107.31	-	-	92.27	32.25	18.23	35.44	342	134	P	V
	*	2462	100.17	-	-	84.98	32.25	18.38	35.44	342	134	A	V
		2483.56	62.35	-11.65	74	47.22	32.33	18.25	35.45	342	134	P	V
		2483.96	49.45	-4.55	54	34.16	32.34	18.4	35.45	342	134	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	43.12	-30.88	74	53.99	34.2	12.9	57.97	-	-	P	H
		14490	48.48	-25.52	74	44.91	39.67	21.99	58.09	-	-	P	H
		14490	38.05	-15.95	54	34.48	39.67	21.99	58.09	-	-	A	H
		16155	50.59	-23.41	74	41.44	42.3	23.62	56.77	-	-	P	H
		16155	39.99	-14.01	54	30.84	42.3	23.62	56.77	-	-	A	H
		17700	52.26	-21.74	74	41.78	42	24.64	56.16	-	-	P	H
		17700	41.64	-12.36	54	31.16	42	24.64	56.16	-	-	A	H
													H
													H
													H
													H
													H
		4824	43.17	-30.83	74	54.04	34.2	12.9	57.97	-	-	P	V
		14475	47.95	-26.05	74	44.44	39.62	21.98	58.09	-	-	P	V
		16125	50.04	-23.96	74	40.93	42.3	23.59	56.78	-	-	P	V
		16125	40.11	-13.89	54	31	42.3	23.59	56.78	-	-	A	V
		17895	51.8	-22.2	74	41.17	41.9	24.77	56.04	-	-	P	V
		17895	41.24	-12.76	54	30.61	41.9	24.77	56.04	-	-	A	V
													V
													V
													V
													V
													V
													V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 06 2437MHz		4874	43.13	-30.87	74	53.98	34.2	12.86	57.91	-	-	P	H
		7311	50.92	-23.08	74	57.81	36.1	14.92	57.91	100	97	P	H
		7311	41.44	-12.56	54	48.33	36.1	14.92	57.91	100	97	A	H
		14499	48.19	-25.81	74	44.58	39.7	22	58.09	-	-	P	H
		14499	39.46	-14.54	54	35.85	39.7	22	58.09	-	-	A	H
		16140	49.95	-24.05	74	40.83	42.3	23.6	56.78	-	-	P	H
		16140	39.65	-14.35	54	30.53	42.3	23.6	56.78	-	-	A	H
		17775	51.75	-22.25	74	41.32	41.85	24.69	56.11	-	-	P	H
		17775	41.45	-12.55	54	31.02	41.85	24.69	56.11	-	-	A	H
													H
													H
													H
		4875	43.21	-30.79	74	54.06	34.2	12.86	57.91	-	-	P	V
		7311	51.22	-22.78	74	58.11	36.1	14.92	57.91	100	10	P	V
		7311	41.54	-12.46	54	48.43	36.1	14.92	57.91	100	10	A	V
		14475	47.37	-26.63	74	43.86	39.62	21.98	58.09	-	-	P	V
		16125	50.36	-23.64	74	41.25	42.3	23.59	56.78	-	-	P	V
		16125	40.37	-13.63	54	31.26	42.3	23.59	56.78	-	-	A	V
		17730	51.82	-22.18	74	41.36	41.94	24.66	56.14	-	-	P	V
		17730	40.81	-13.19	54	30.35	41.94	24.66	56.14	-	-	A	V
													V
													V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 11 2462MHz		4924	42.72	-31.28	74	53.48	34.25	12.84	57.85	-	-	P	H
		7386	43.67	-30.33	74	50.5	36.24	14.91	57.98	-	-	P	H
		14505	48.43	-25.57	74	44.8	39.71	22.01	58.09	-	-	P	H
		14505	37.68	-16.32	54	34.05	39.71	22.01	58.09	-	-	A	H
		15795	50.55	-23.45	74	42.58	41.67	23.31	57.01	-	-	P	H
		15795	39.33	-14.67	54	31.36	41.67	23.31	57.01	-	-	A	H
		17910	51.76	-22.24	74	41.12	41.89	24.78	56.03	-	-	P	H
		17910	41.19	-12.81	54	30.55	41.89	24.78	56.03	-	-	A	H
													H
													H
													H
													H
		4924	42.43	-31.57	74	53.19	34.25	12.84	57.85	-	-	P	V
		7386	42.68	-31.32	74	49.51	36.24	14.91	57.98	-	-	P	V
		14490	47.95	-26.05	74	44.38	39.67	21.99	58.09	-	-	P	V
		16185	49.57	-24.43	74	40.4	42.3	23.63	56.76	-	-	P	V
		16185	39.46	-14.54	54	30.29	42.3	23.63	56.76	-	-	A	V
		17700	51.3	-22.7	74	40.82	42	24.64	56.16	-	-	P	V
		17700	41.21	-12.79	54	30.73	42	24.64	56.16	-	-	A	V
													V
													V
													V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												
	3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												
	4. The emission level close to 18GHz is checked that the average emission level is noise floor only.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		30	22.69	-17.31	40	27.25	24.57	0.9	30.03	-	-	P	H
		158.52	29.9	-13.6	43.5	41.2	16.58	2.1	29.98	-	-	P	H
		283.8	35.79	-10.21	46	44.08	18.94	2.75	29.98	-	-	P	H
		307.7	35.63	-10.37	46	43.48	19.29	2.84	29.98	-	-	P	H
		871.2	31.51	-14.49	46	27.23	28.76	4.63	29.11	-	-	P	H
		955.2	33.09	-12.91	46	26.34	30.55	4.89	28.69	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
		30	33.29	-6.71	40	37.85	24.57	0.9	30.03	-	-	P	V
		46.74	25.26	-14.74	40	38.26	15.78	1.23	30.01	-	-	P	V
		58.35	24.14	-15.86	40	40.96	11.83	1.36	30.01	-	-	P	V
		307.7	28.69	-17.31	46	36.54	19.29	2.84	29.98	-	-	P	V
		892.9	31.71	-14.29	46	27.36	28.66	4.65	28.96	-	-	P	V
		959.4	32.65	-13.35	46	25.61	30.8	4.91	28.67	-	-	P	V
													V
													V
													V
													V
													V
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2389.905	56.85	-17.15	74	42.09	32.04	18.14	35.42	313	91	P	H
		2388.855	45.35	-8.65	54	30.59	32.03	18.14	35.41	313	91	A	H
	*	2412	111.82	-	-	96.92	32.12	18.2	35.42	313	91	P	H
	*	2412	108.37	-	-	93.47	32.12	18.2	35.42	313	91	A	H
													H
													H
		2389.275	54.74	-19.26	74	39.97	32.04	18.14	35.41	400	54	P	V
		2388.96	44.71	-9.29	54	29.95	32.03	18.14	35.41	400	54	A	V
	*	2412	109.66	-	-	94.76	32.12	18.2	35.42	400	54	P	V
	*	2412	106.49	-	-	91.59	32.12	18.2	35.42	400	54	A	V
													V
													V
802.11b CH 06 2437MHz		2383.78	54.29	-19.71	74	39.58	32	18.12	35.41	131	103	P	H
		2385.46	44.22	-9.78	54	29.5	32.01	18.12	35.41	131	103	A	H
	*	2437	111.16	-	-	96.21	32.17	18.21	35.43	131	103	P	H
	*	2437	107.38	-	-	92.43	32.17	18.21	35.43	131	103	A	H
		2497.97	54.49	-19.51	74	39.3	32.39	18.26	35.46	131	103	P	H
		2485.23	45.3	-8.7	54	30.16	32.34	18.25	35.45	131	103	A	H
		2342.9	54.38	-19.62	74	40.06	31.8	17.92	35.4	344	55	P	V
		2385.6	44.29	-9.71	54	29.57	32.01	18.12	35.41	344	55	A	V
	*	2437	109.17	-	-	94.22	32.17	18.21	35.43	344	55	P	V
	*	2437	105.92	-	-	90.97	32.17	18.21	35.43	344	55	A	V
		2495.52	54.53	-19.47	74	39.36	32.38	18.25	35.46	344	55	P	V
		2485.23	45.05	-8.95	54	29.91	32.34	18.25	35.45	344	55	A	V



802.11b CH 11 2462MHz	*	2462	110.11	-	-	95.07	32.25	18.23	35.44	100	75	P	H
	*	2462	106.91	-	-	91.87	32.25	18.23	35.44	100	75	A	H
		2484	58.15	-15.85	74	43.01	32.34	18.25	35.45	100	75	P	H
		2484.12	49.76	-4.24	54	34.62	32.34	18.25	35.45	100	75	A	H
													H
													H
	*	2462	109.13	-	-	94.09	32.25	18.23	35.44	387	53	P	V
	*	2462	105.86	-	-	90.82	32.25	18.23	35.44	387	53	A	V
		2484.44	55.41	-18.59	74	40.27	32.34	18.25	35.45	387	53	P	V
		2485.52	46.57	-7.43	54	31.43	32.34	18.25	35.45	387	53	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	44.16	-29.84	74	55.03	34.2	12.9	57.97	-	-	P	H
		14490	48.09	-25.91	74	44.52	39.67	21.99	58.09	-	-	P	H
		14490	39.23	-14.77	54	35.66	39.67	21.99	58.09	-	-	A	H
		16110	50.18	-23.82	74	41.08	42.3	23.59	56.79	-	-	P	H
		16110	39.15	-14.85	54	30.05	42.3	23.59	56.79	-	-	A	H
		17820	51.59	-22.41	74	41.14	41.82	24.72	56.09	-	-	P	H
		17820	40.61	-13.39	54	30.16	41.82	24.72	56.09	-	-	A	H
													H
													H
													H
													H
													H
		4824	44.14	-29.86	74	55.01	34.2	12.9	57.97	-	-	P	V
		14490	48.39	-25.61	74	44.82	39.67	21.99	58.09	-	-	P	V
		14490	39.47	-14.53	54	35.9	39.67	21.99	58.09	-	-	A	V
		15915	50.51	-23.49	74	41.99	42	23.42	56.9	-	-	P	V
		15915	40.51	-13.49	54	31.99	42	23.42	56.9	-	-	A	V
		17940	51.77	-22.23	74	41.13	41.86	24.8	56.02	-	-	P	V
		17940	41.77	-12.23	54	31.13	41.86	24.8	56.02	-	-	A	V
													V
													V
													V
													V
													V



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 06 2437MHz		4874	45.49	-28.51	74	56.34	34.2	12.86	57.91	-	-	P	H
		7311	45.53	-28.47	74	52.42	36.1	14.92	57.91	-	-	P	H
		14475	47.72	-26.28	74	44.21	39.62	21.98	58.09	-	-	P	H
		15975	50.02	-23.98	74	41.38	42	23.49	56.85	-	-	P	H
		15975	39	-15	54	30.36	42	23.49	56.85	-	-	A	H
		17715	51.68	-22.32	74	41.21	41.97	24.65	56.15	-	-	P	H
		17715	42.49	-11.51	54	32.02	41.97	24.65	56.15	-	-	A	H
													H
													H
													H
													H
													H
		4874	45.72	-28.28	74	56.57	34.2	12.86	57.91	-	-	P	V
		7311	43.63	-30.37	74	50.52	36.1	14.92	57.91	-	-	P	V
		14490	47.99	-26.01	74	44.42	39.67	21.99	58.09	-	-	P	V
		15795	49.52	-24.48	74	41.55	41.67	23.31	57.01	-	-	P	V
		15795	40.53	-13.47	54	32.56	41.67	23.31	57.01	-	-	A	V
		17745	51.3	-22.7	74	40.85	41.91	24.67	56.13	-	-	P	V
		17745	41.34	-12.66	54	30.89	41.91	24.67	56.13	-	-	A	V
													V
													V
													V
													V
													V



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 11 2462MHz		4924	42.9	-31.1	74	53.66	34.25	12.84	57.85	-	-	P	H
		7386	42.05	-31.95	74	48.88	36.24	14.91	57.98	-	-	P	H
		14499	48.04	-25.96	74	44.43	39.7	22	58.09	-	-	P	H
		14499	39.02	-14.98	54	35.41	39.7	22	58.09	-	-	A	H
		15915	50.28	-23.72	74	41.76	42	23.42	56.9	-	-	P	H
		15915	40.11	-13.89	54	31.59	42	23.42	56.9	-	-	A	H
		17865	51.23	-22.77	74	40.67	41.87	24.75	56.06	-	-	P	H
		17865	40.77	-13.23	54	30.21	41.87	24.75	56.06	-	-	A	H
													H
													H
													H
													H
		4924	43.61	-30.39	74	54.37	34.25	12.84	57.85	-	-	P	V
		7386	41.66	-32.34	74	48.49	36.24	14.91	57.98	-	-	P	V
		14475	48.37	-25.63	74	44.86	39.62	21.98	58.09	-	-	P	V
		14475	39.38	-14.62	54	35.87	39.62	21.98	58.09	-	-	A	V
		16125	50.03	-23.97	74	40.92	42.3	23.59	56.78	-	-	P	V
		16125	39.64	-14.36	54	30.53	42.3	23.59	56.78	-	-	A	V
		17730	51.49	-22.51	74	41.03	41.94	24.66	56.14	-	-	P	V
		17730	42.13	-11.87	54	31.67	41.94	24.66	56.14	-	-	A	V
													V
													V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												
	3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												
	4. The emission level close to 18GHz is checked that the average emission level is noise floor only.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2390	63.22	-10.78	74	48.46	32.04	18.14	35.42	312	90	P	H
		2389.905	51.92	-2.08	54	37.01	32.04	18.29	35.42	312	90	A	H
	*	2412	111.84	-	-	96.94	32.12	18.2	35.42	312	90	P	H
	*	2412	104.22	-	-	89.17	32.12	18.35	35.42	312	90	A	H
													H
													H
		2390	57.76	-16.24	74	43	32.04	18.14	35.42	400	125	P	V
		2390	47.21	-6.79	54	32.3	32.04	18.29	35.42	400	125	A	V
	*	2412	106.91	-	-	92.01	32.12	18.2	35.42	400	125	P	V
	*	2412	98.19	-	-	83.14	32.12	18.35	35.42	400	125	A	V
													V
													V
802.11g CH 06 2437MHz		2351.72	55.05	-18.95	74	40.67	31.81	17.97	35.4	131	103	P	H
		2389.94	45.33	-8.67	54	30.42	32.04	18.29	35.42	131	103	A	H
	*	2437	111.79	-	-	96.84	32.17	18.21	35.43	131	103	P	H
	*	2437	104.44	-	-	89.34	32.17	18.36	35.43	131	103	A	H
		2485.86	59.5	-14.5	74	44.36	32.34	18.25	35.45	131	103	P	H
		2483.5	48.16	-5.84	54	32.88	32.33	18.4	35.45	131	103	A	H
		2351.02	53.99	-20.01	74	39.61	31.81	17.97	35.4	346	55	P	V
		2389.52	44.18	-9.82	54	29.26	32.04	18.29	35.41	346	55	A	V
	*	2437	110	-	-	95.05	32.17	18.21	35.43	346	55	P	V
	*	2437	102.83	-	-	87.73	32.17	18.36	35.43	346	55	A	V
		2484.67	56.4	-17.6	74	41.26	32.34	18.25	35.45	346	55	P	V
		2484.88	46.09	-7.91	54	30.8	32.34	18.4	35.45	346	55	A	V



802.11g CH 11 2462MHz	*	2462	108.1	-	-	93.06	32.25	18.23	35.44	233	98	P	H
	*	2462	100.84	-	-	85.65	32.25	18.38	35.44	233	98	A	H
		2483.84	67.56	-6.44	74	52.42	32.34	18.25	35.45	233	98	P	H
		2483.64	52.17	-1.83	54	36.89	32.33	18.4	35.45	233	98	A	H
													H
													H
	*	2462	105.82	-	-	90.78	32.25	18.23	35.44	388	43	P	V
	*	2462	98.11	-	-	82.92	32.25	18.38	35.44	388	43	A	V
		2483.8	66	-8	74	50.86	32.34	18.25	35.45	388	43	P	V
		2483.84	50.36	-3.64	54	35.07	32.34	18.4	35.45	388	43	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												