FCC RADIO TEST REPORT

FCC ID	:	2ADZRBEACON10
Equipment	:	NOKIA WiFi Beacon 10
Brand Name	:	NOKIA
Model Name	:	Beacon 10
Applicant	:	Nokia Shanghai Bell Co., Ltd. No.388, Ningqiao Rd, Pilot Free Trade Zone, Shanghai, 201206 P.R. China
Manufacturer	:	Nokia of America Corporation 2301 Sugar Bush Rd. Raleigh, NC 27612
Standard	:	FCC Part 15 Subpart E §15.407

The product was received on Mar. 06, 2023 and testing was performed from Mar. 15, 2023 to Apr. 28, 2023. 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.

Louis Wu

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
FR330612B	01	Initial issue of report	May 11, 2023
FR330612B	02	1. Revise Antenna information, Test Result of Power Spectral Density for TXBF Mode, Test Setup for Unwanted Emissions Measurement, Brand Name and appendix A. 2. Add remark in Test Mode 3. This report is an updated version, replacing the report issued on May 11, 2023.	Jun. 05, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403	Emission Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	0.22 dB under the limit at 5143.520 MHz
3.5	15.207	AC Conducted Emission	Pass	13.14 dB under the limit at 0.490 MHz
3.6	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Wei Chen

Report Producer: Lucy Wu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs Wi-Fi 2.4GHz 802.11b/g/n/ac/ax, Wi-Fi 5GHz 802.11a/n/ac/ax and Wi-Fi 6GHz 802.11a/n/ac/ax. **Antenna Type** **WLAN** <Ant. 1>: Dipole Antenna <Ant. 2>: Dipole Antenna <Ant. 3>: Dipole Antenna <Ant. 4>: Dipole Antenna <Ant. 5>: Dipole Antenna <Ant. 6>: Dipole Antenna <Ant. 7>: Dipole Antenna <Ant. 8>: Dipole Antenna

Antenna information		
5150 MHz ~ 5250 MHz	Peak Gain (dBi)	Ant. 1: 2.17 Ant. 2: 3.25 Ant. 3: 2.70 Ant. 4: 2.83
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	Ant. 1: 2.17 Ant. 2: 3.25 Ant. 3: 2.70 Ant. 4: 2.83
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	Ant. 1: 1.52 Ant. 2: 3.26 Ant. 3: 2.81 Ant. 4: 2.39
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	Ant. 1: 2.29 Ant. 2: 2.69 Ant. 3: 2.24 Ant. 4: 2.49

Antenna information for Directional Gain / TXBF Gain		
5150 MHz ~ 5250 MHz	Peak Gain (dBi)	<Ant. 1+2+3+4>: 4.41
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	<Ant. 1+2+3+4>: 4.41
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	<Ant. 1+2+3+4>: 4.36
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	<Ant. 1+2+3+4>: 4.27

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer 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, 03CH20-HY (TAF Code: 3786)
Remark	The Conducted test item and Radiated Spurious Emission test item for Band 2 and Band 3 subcontracted to Sporton International Inc. Wensan Laboratory.

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

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 E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- 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.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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).

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)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42#	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58#	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106#	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Frequency Band	Channel	Freq. (MHz)
5150-5350 MHz	50@	5250
5470-5725 MHz	114@	5570

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122#	5610	128	5640

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138#	5690	144	5720
	142*	5710		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note:

1. The above Frequency and Channel with "*" are 802.11n HT40 and 802.11ac VHT40 and 802.11ax HE40.
2. The above Frequency and Channel with "#" are 802.11ac VHT80 and 802.11ax HE80.
3. The above Frequency and Channel with "@" are 802.11ac VHT160 and 802.11ax HE160.

2.2 Test Mode

This device support 26/52/106/242/484/996-tone RU but does not support 2x996-tone RU on 160MHz channel.

The PSD of partial RU is reduced to be smaller than full RU according to TCB workshop interim guidance Oct. 2018.

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.

The 242-tone RU is covered by 20MHz channel, 484-tone RU is covered by 40MHz channel and 996-tone RU is covered by 80MHz channel.

The SISO mode conducted power is covered by MIMO mode per chain, so only the MIMO mode is tested.

The power for 802.11n and 802.11ac mode is smaller than 802.11ax mode, so all other conducted and radiated test is covered by 802.11ax mode.

The final test modes include the worst data rates for each modulation shown in the table below.

MIMO Mode

Modulation	Data Rate
802.11a	**6 Mbps**
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**
802.11ac VHT80 (Covered by HE80)	**MCS0**
802.11ac VHT160 (Covered by HE160)	**MCS0**
802.11ax HE20	**MCS0**
802.11ax HE40	**MCS0**
802.11ax HE80	**MCS0**
802.11ax HE160	**MCS0**

Remark:

1. The conducted power level of each chain in MIMO mode is equal or higher than SISO mode.
2. Partial RU 26*4, 52*4, 106*4, 242*4, 484*4 has smallest occupied spectrum BW among supported partial RU configuration.

TXBF Mode

Modulation	Data Rate
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0
802.11ax HE160	MCS0

Remark: The conducted power level of each chain in MIMO mode is equal or higher than SISO mode.

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + LAN Link + AC Adapter 1
Remark: For Radiated Test Cases, the tests were performed with Adapter 1.	

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ax HE20	802.11ax HE20	802.11ax HE20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ax HE40	802.11ax HE40	802.11ax HE40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

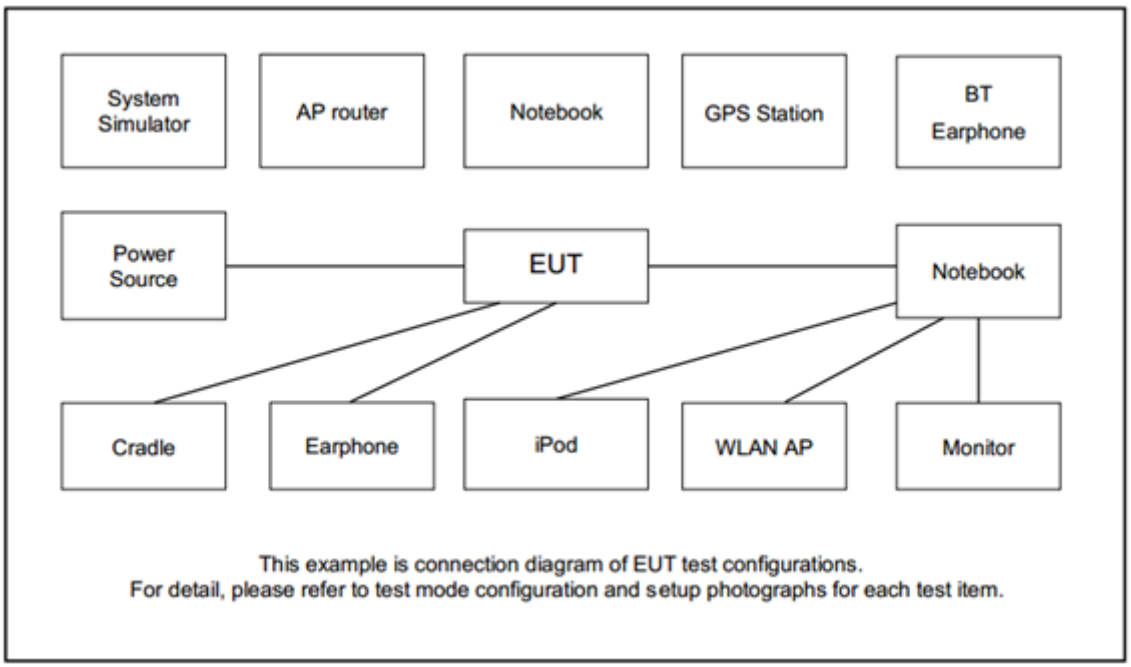
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ax HE80	802.11ax HE80	802.11ax HE80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle		-	-	138

BW160	5150-5350 MHz	5470-5725MHz
	802.11ax HE160	802.11ax HE160
Ch. #	50	114

Ch. #		Band IV：5725-5850 MHz			
		802.11a	802.11ax HE20	802.11ax HE40	802.11ax HE80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

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.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Notebook	DELL	Latitude 3420	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	DELL	Latitude5310	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Phone	Google	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QSPR ver 5.0-00202” 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.

For TXBF mode, the modulation modes and data rates manipulated by the command lines in the engineering program made the EUT link to Phone by power under the normal operation. The “Tera Term 4.106” software tool was used to enable the EUT to transmit signals continuously.

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.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 Emission Bandwidth and 99% Occupied Bandwidth Measurement

3.1.1 Description of Emission Bandwidth and 99% Occupied Bandwidth

26dB and 99% Occupied bandwidth are reporting only.

The minimum 6 dB bandwidth shall be at least 500 kHz for the band 5.725-5.85 GHz.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

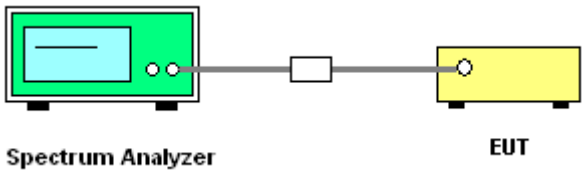
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. 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) ≥ 3 * RBW.
8. For 6dB bandwidth measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 100 kHz and set the Video bandwidth (VBW) ≥ 3 * RBW. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
9. Measure and record the results in the test report.

3.1.4 Test Setup



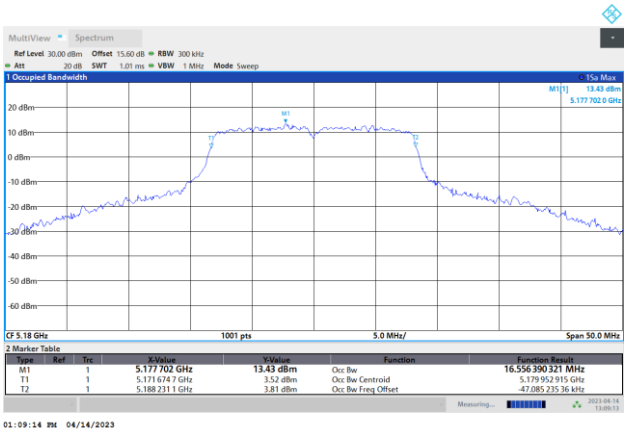
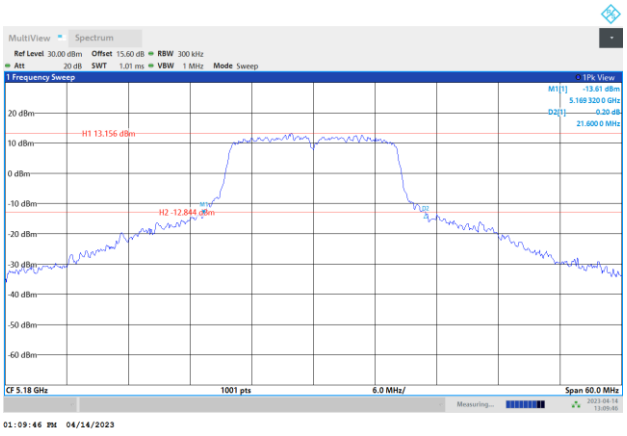
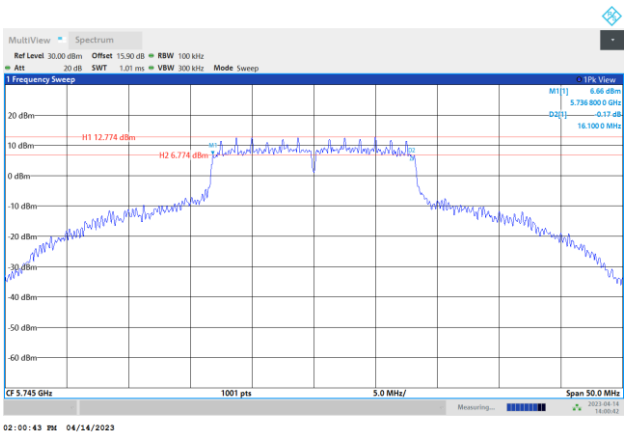
3.1.5 Test Result of Emission Bandwidth and 99% Occupied Bandwidth

Please refer to Appendix A.

MIMO <Ant. 1+2+3+4>

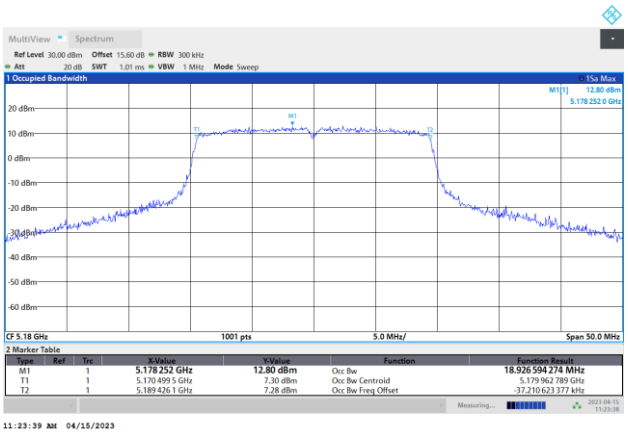
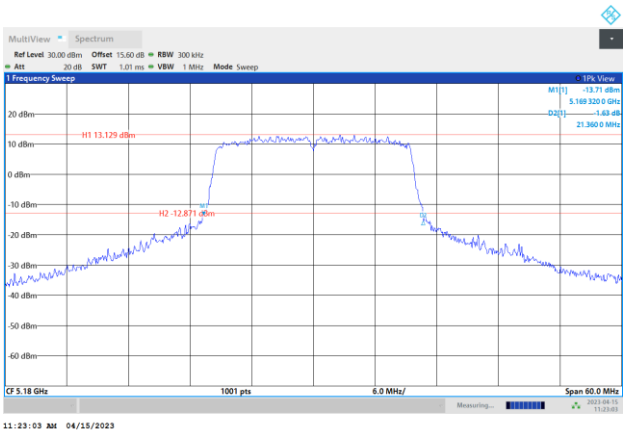
<CDD Mode>

<802.11a>

99% Occupied Bandwidth	26dB Bandwidth
	
6dB Bandwidth	**N/A**
	

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

<802.11ax HE20>

99% Occupied Bandwidth	26dB Bandwidth
	
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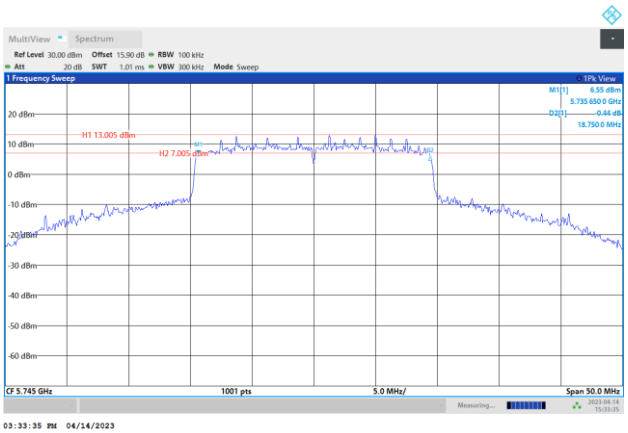
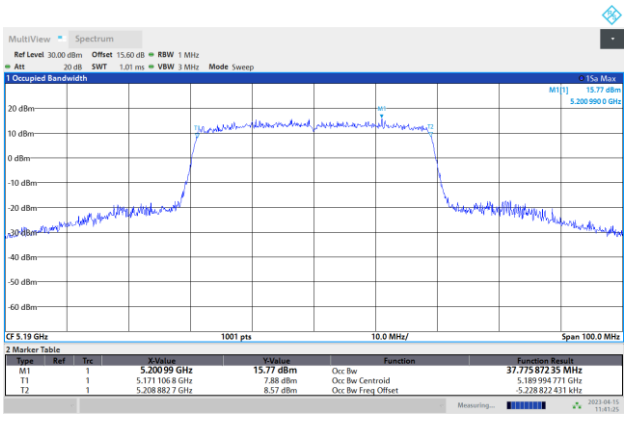
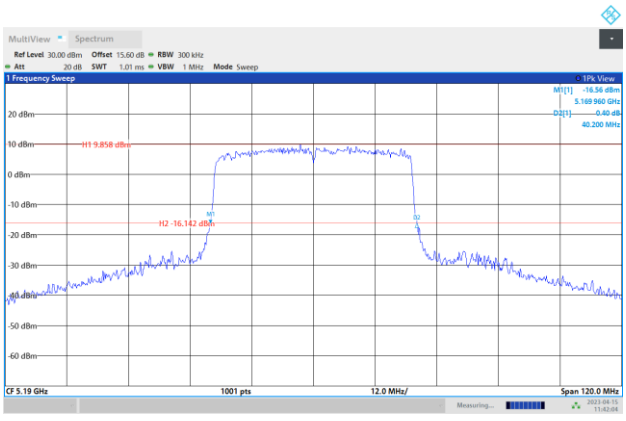
	

Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE40>

99% Occupied Bandwidth	26dB Bandwidth
	
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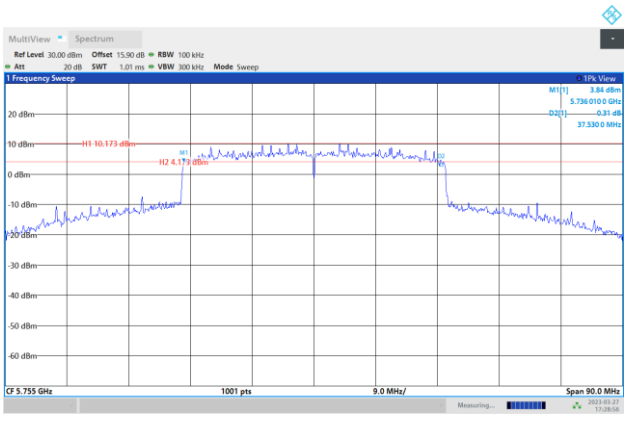
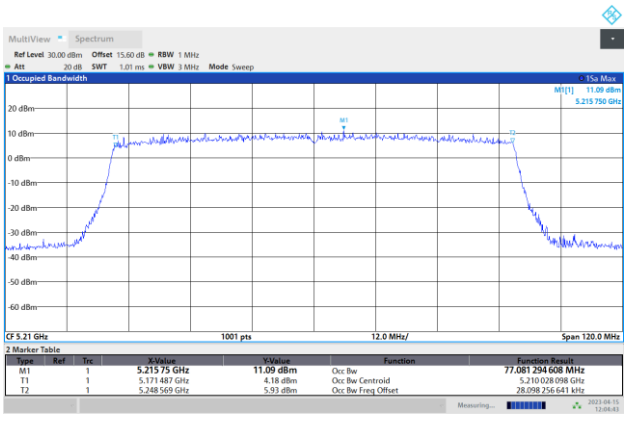
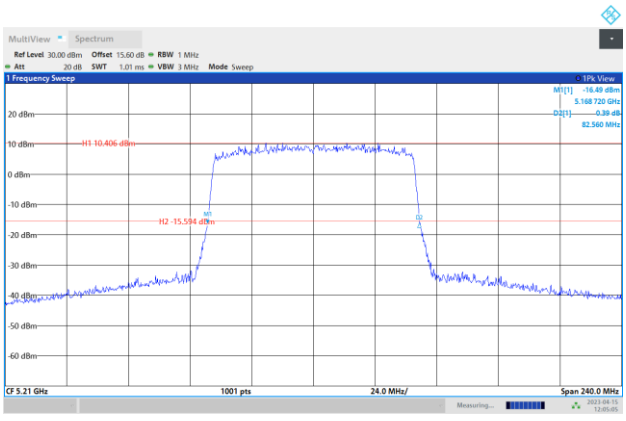
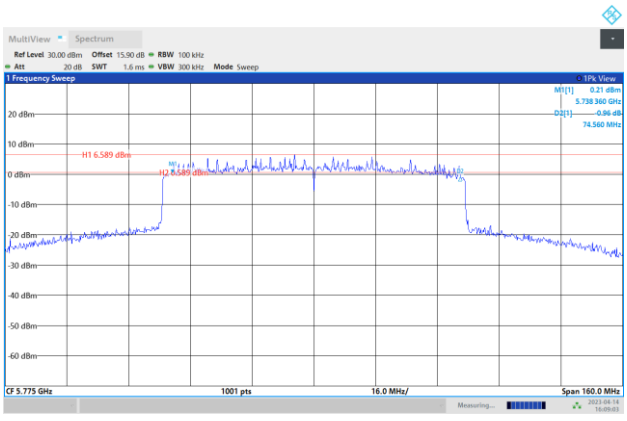
	

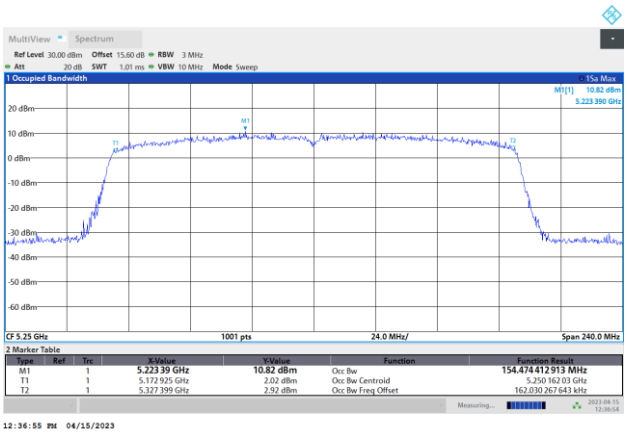
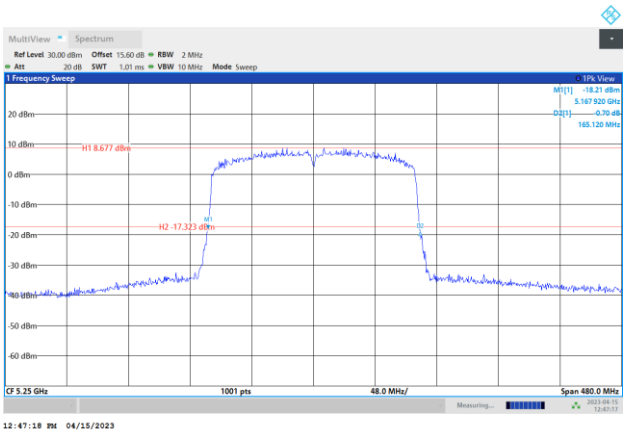
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE80>

99% Occupied Bandwidth	26dB Bandwidth
	
6dB Bandwidth	**N/A**
	

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

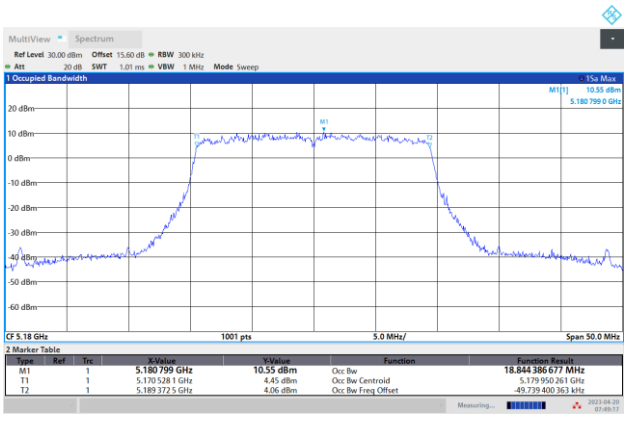
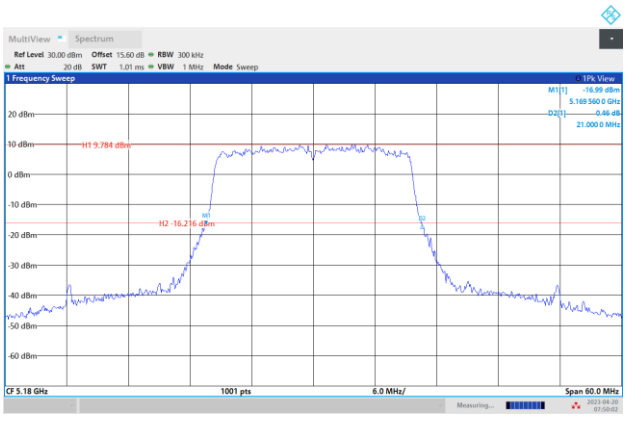
<802.11ax HE160>

99% Occupied Bandwidth	26dB Bandwidth
	

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

<TXBF Modes>

<802.11ax HE20>

99% Occupied Bandwidth	26dB Bandwidth
	
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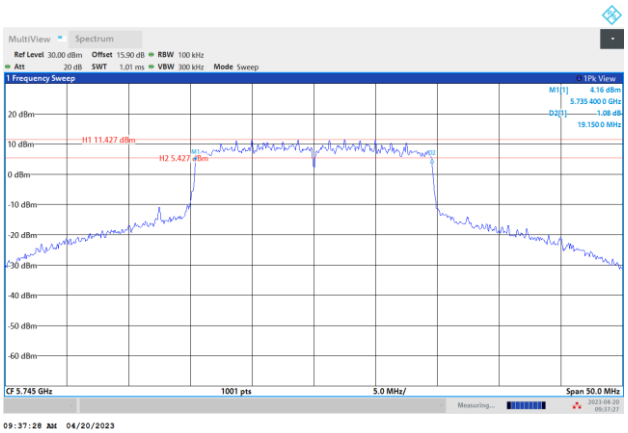
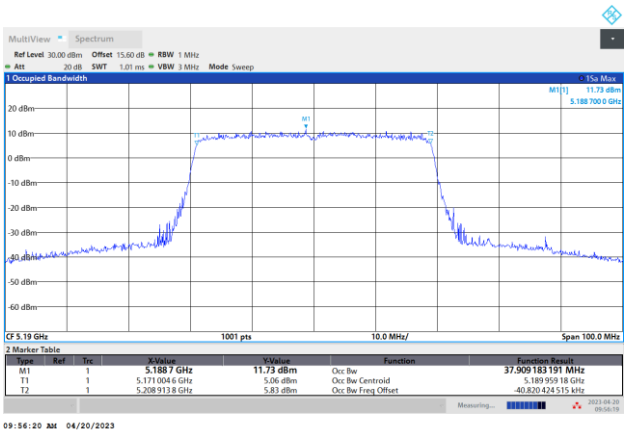
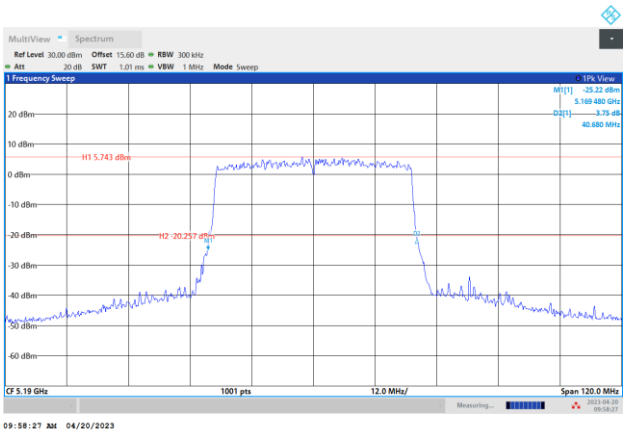
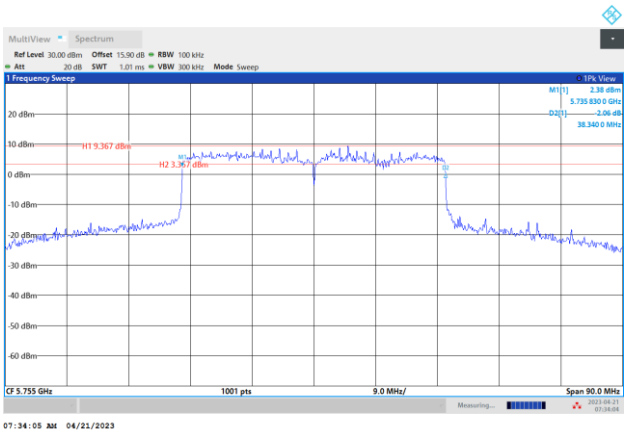
	

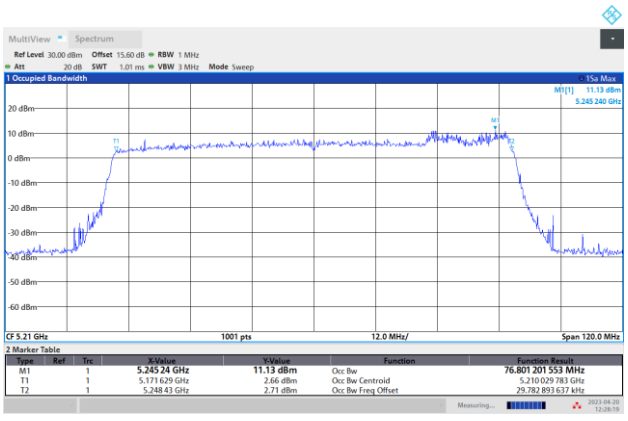
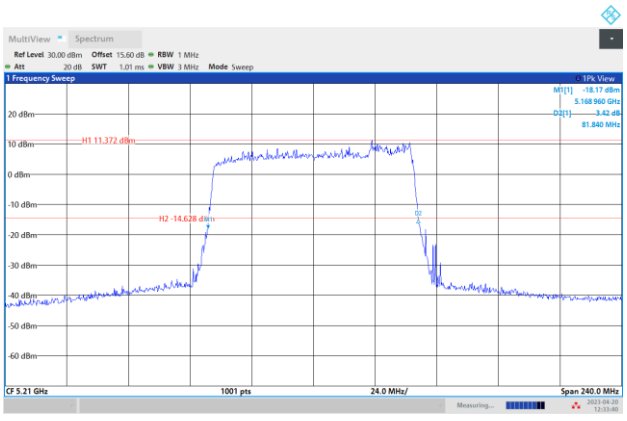
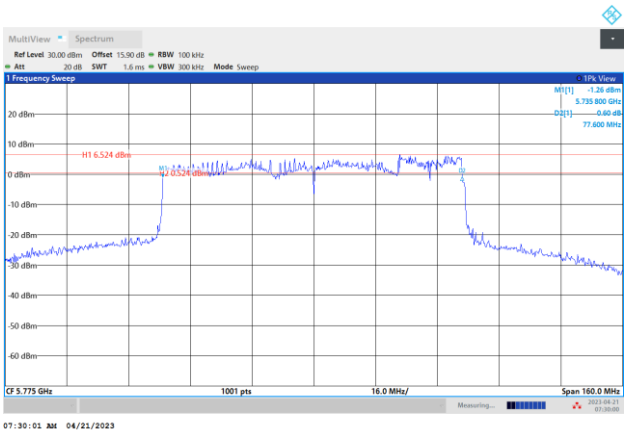
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE40>

99% Occupied Bandwidth	26dB Bandwidth
	
6dB Bandwidth	**N/A**
	

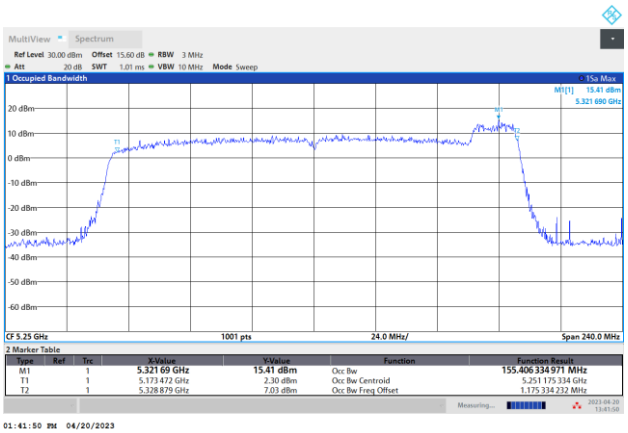
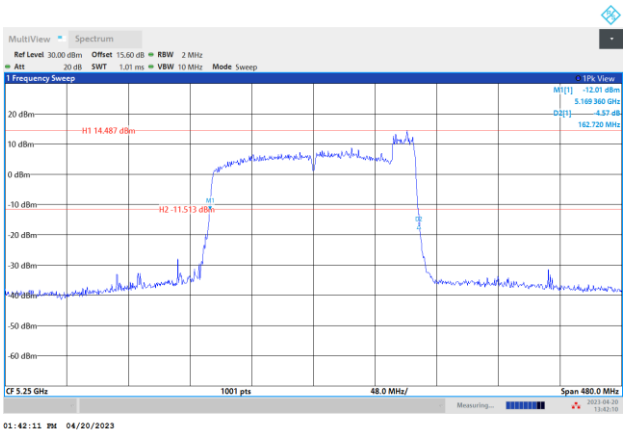
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE80>

99% Occupied Bandwidth	26dB Bandwidth
	
6dB Bandwidth	**N/A**
	

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

<802.11ax HE160>

99% Occupied Bandwidth	26dB Bandwidth
	

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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For the 5.15–5.25 GHz bands:

■ For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

For the 5.25–5.725 GHz bands:

■ The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

For the band 5.725–5.85 GHz:

■ the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

<CDD Modes>

The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01

<TXBF Modes>

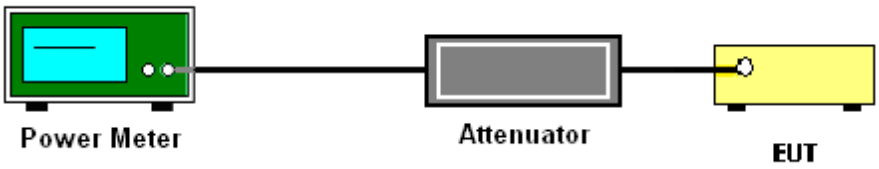
The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For the 5.15–5.25 GHz bands:

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1.0 MHz band.

For the 5.25–5.725 GHz bands:

The maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

For the band 5.725–5.85 GHz:

The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Section F) Maximum power spectral density.

For the band 5.15−5.25 GHz, 5.25−5.35 GHz, and 5.47−5.725 GHz:

<CDD Modes>

 # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

<TXBF Modes>

 # Method SA-3 #

(power averaging (rms) detection with max hold):

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time ≤ (number of points in sweep) × T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
  Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

1. The RF output of EUT is connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

   The total final Power Spectral Density is from a device with 4 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, output 3 and output 4 to obtain the value for the first frequency bin of the summed spectrum.

For the band 5.725–5.85 GHz:

<CDD Modes>

 # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300kHz.
- Set VBW ≥ 1 MHz.
- Add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

<TXBF Modes>

 # Method SA-3 #

(power averaging (rms) detection with max hold):

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW ≥ 1 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
- Sweep time ≤ (number of points in sweep) × T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

  Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

1. The RF output of EUT is connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

   Method (c): Measure and add 10 log(N_{ANT}) dB.

   With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

3.3.4 Test Setup

3.3.5 Test Result of Power Spectral Density

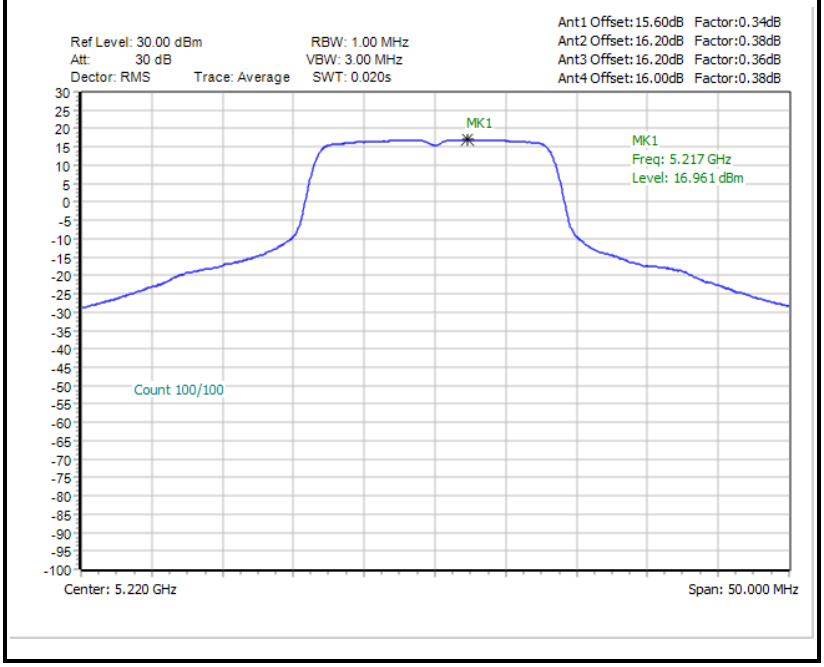
Please refer to Appendix A.

For the band 5.15−5.25 GHz, 5.25−5.35 GHz, and 5.47−5.725 GHz:

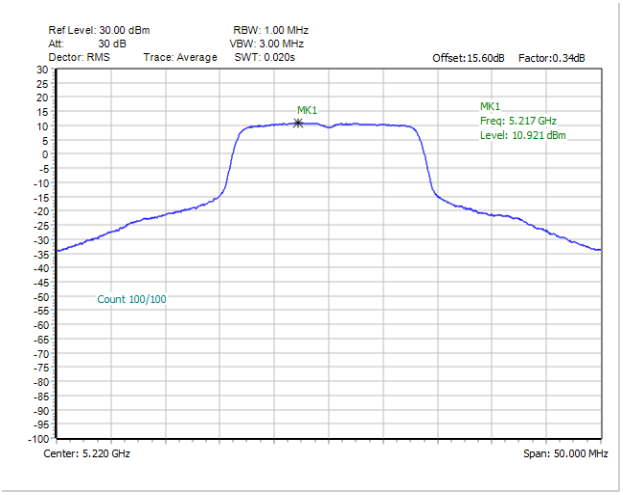
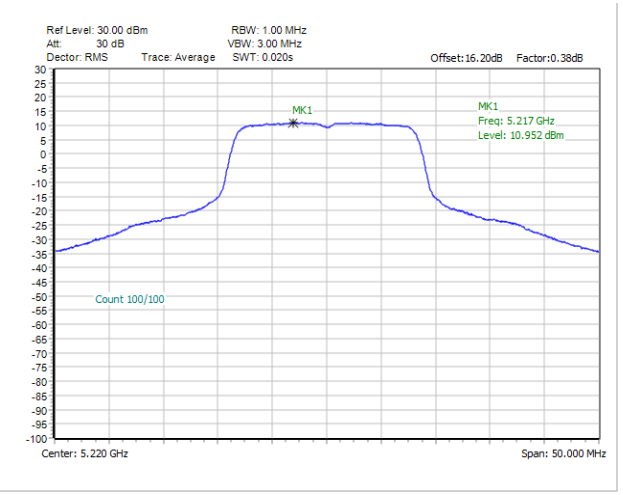
<CDD Modes>

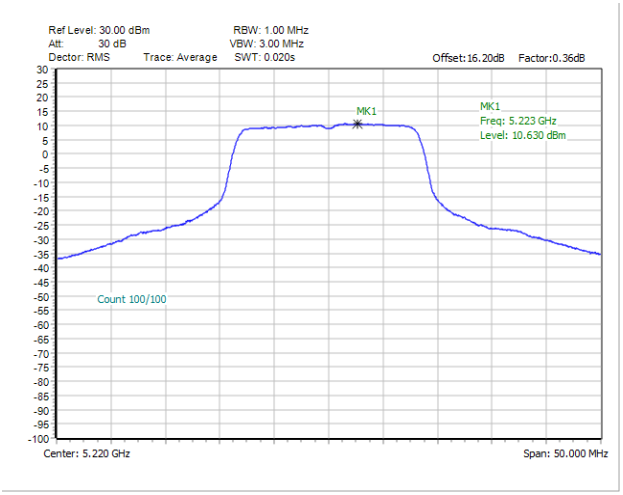
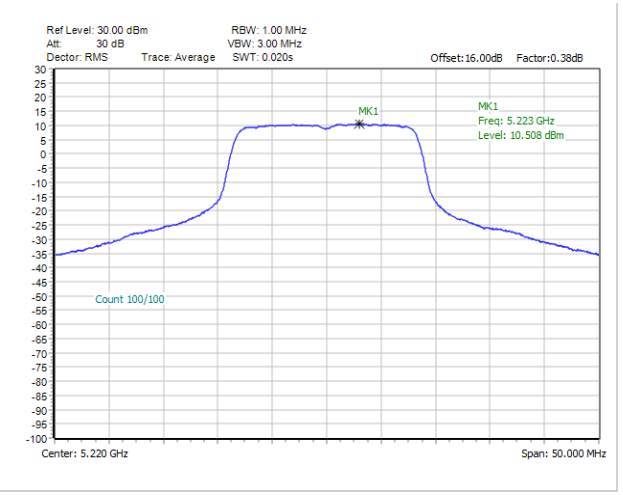
<802.11a>

Maximum Power Density Plot (dBm/MHz)



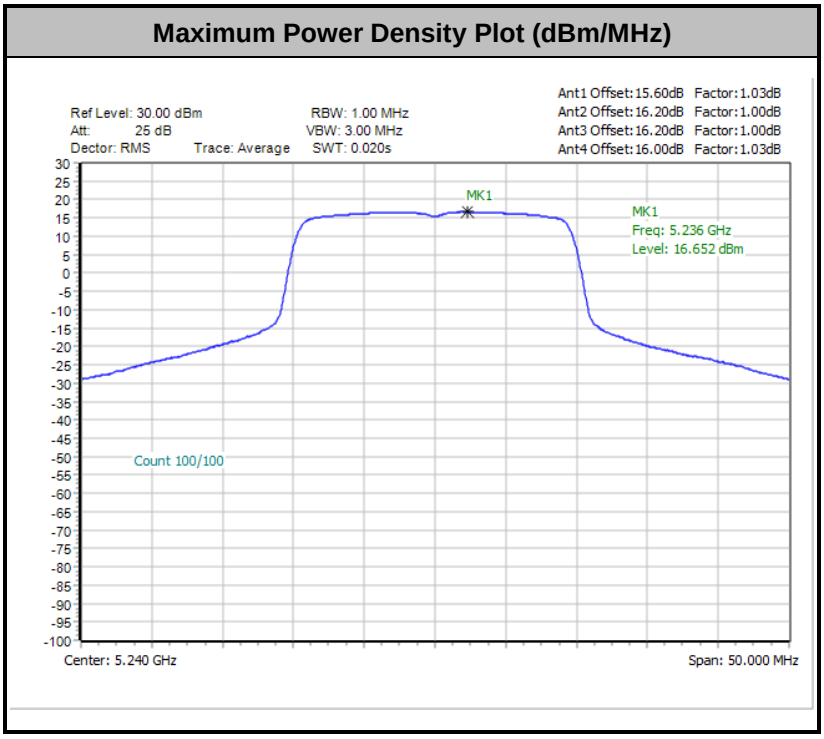
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

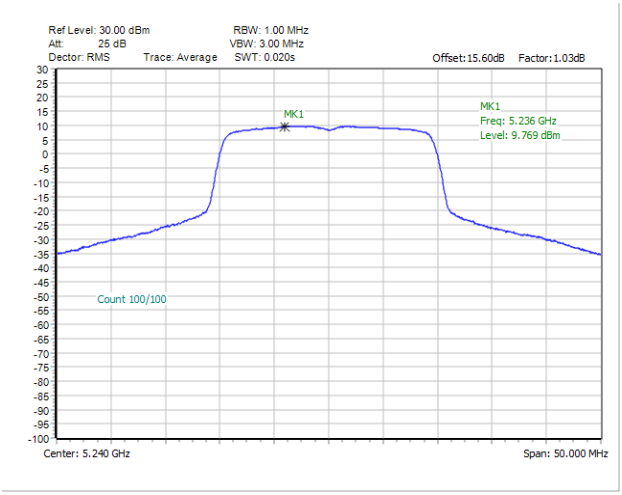
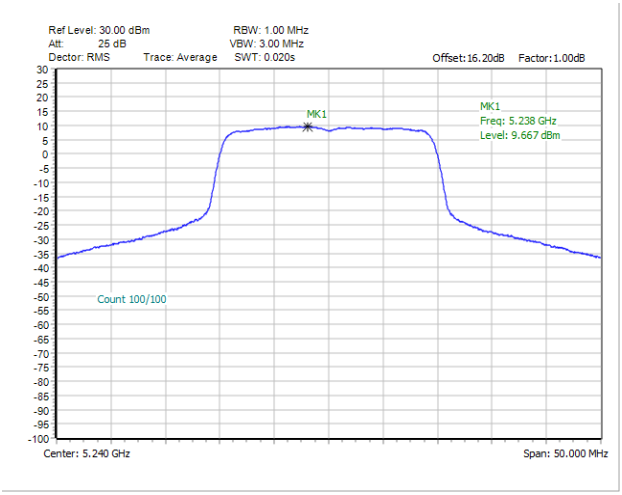
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

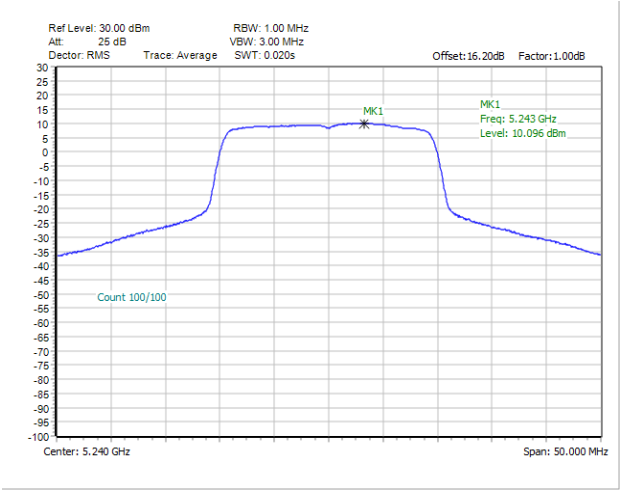
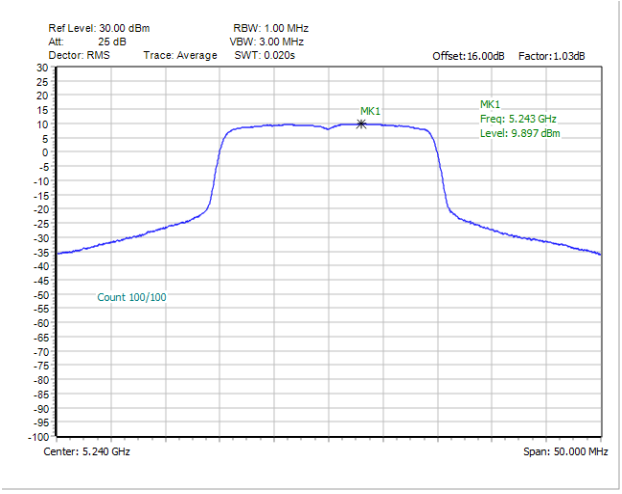
<802.11ax HE20 Full RU>

Maximum Power Density Plot (dBm/MHz)



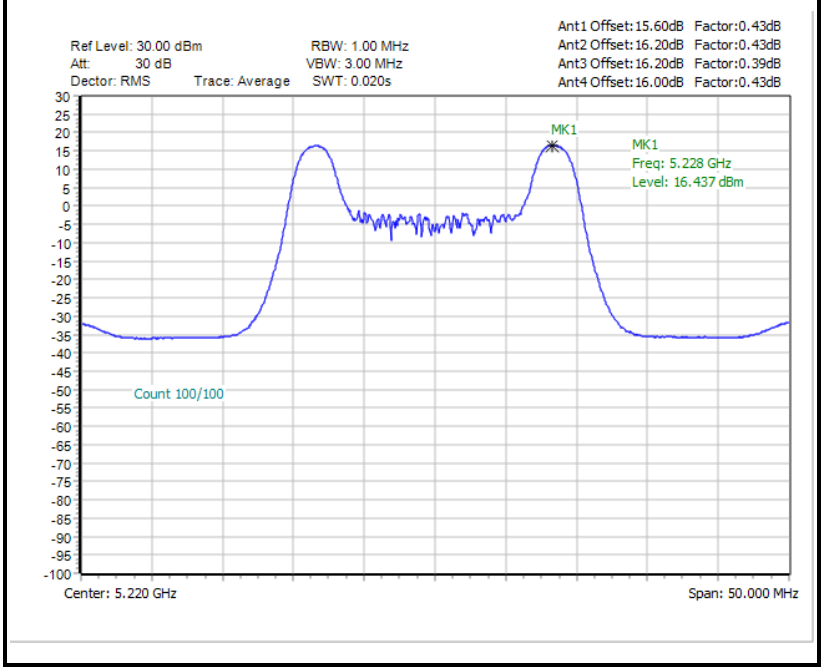
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

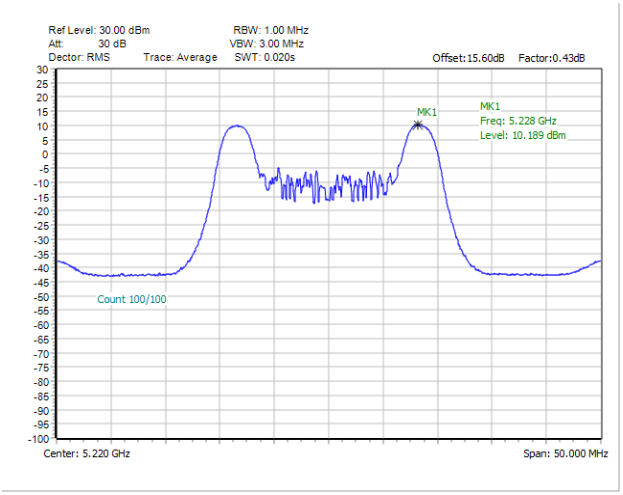
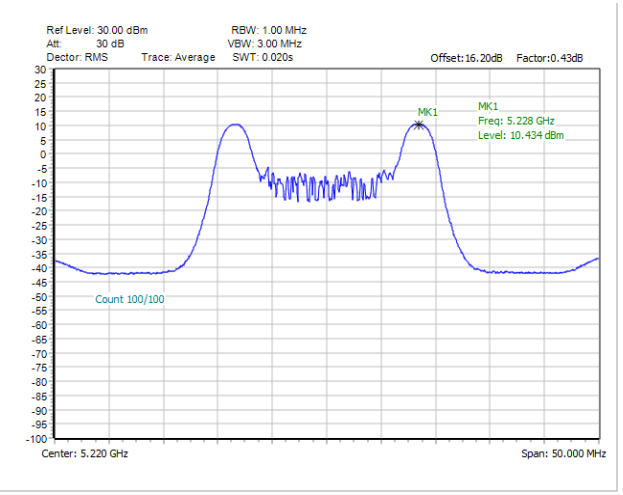
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

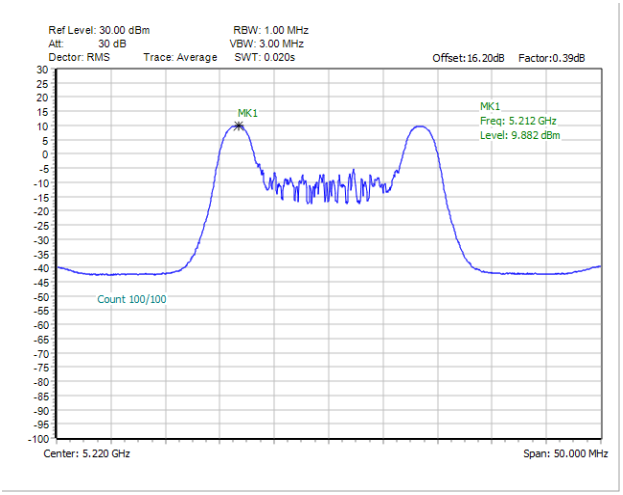
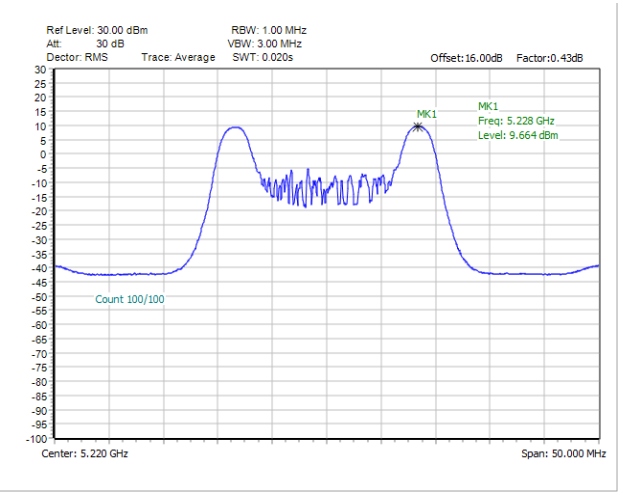
<802.11ax HE20 26*4 RU>

Maximum Power Density Plot (dBm/MHz)



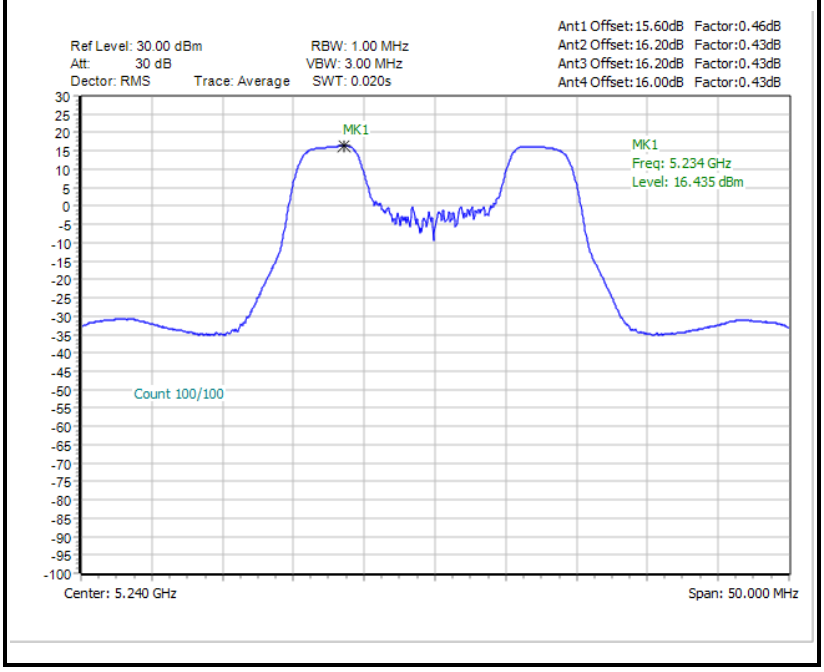
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

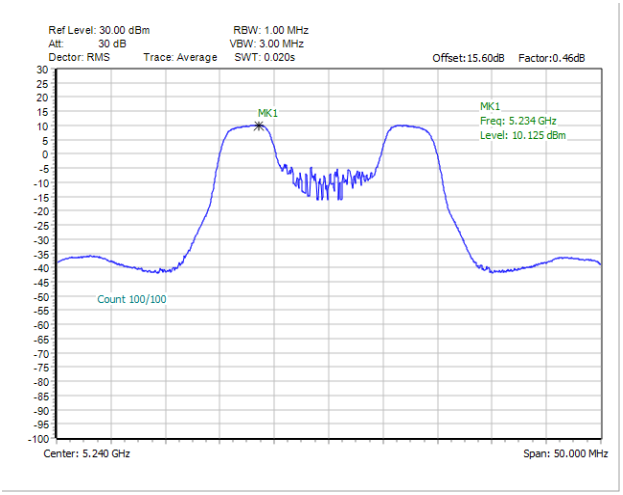
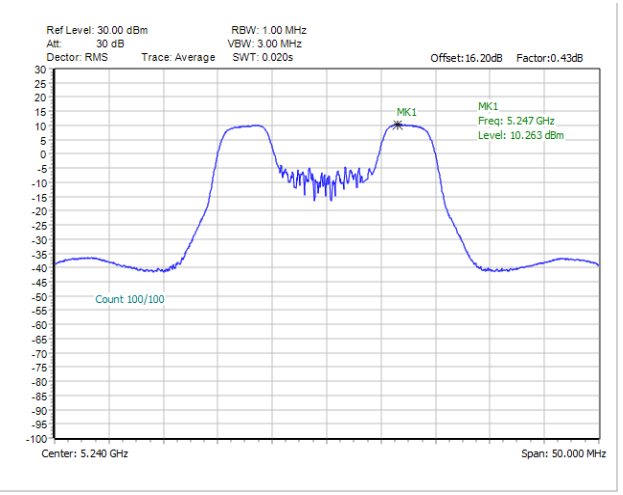
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

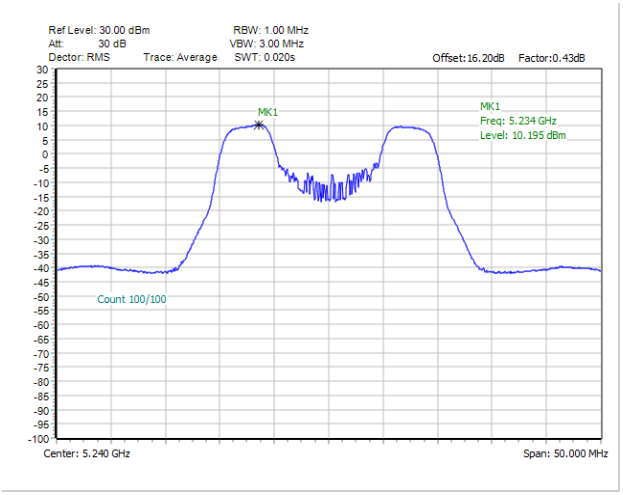
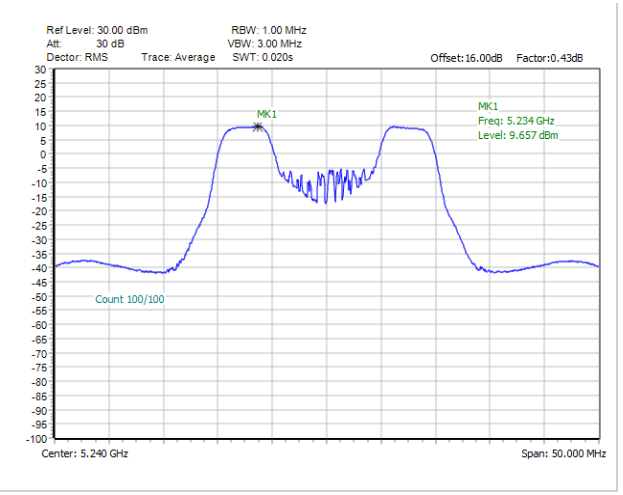
<802.11ax HE20 52*4 RU>

Maximum Power Density Plot (dBm/MHz)



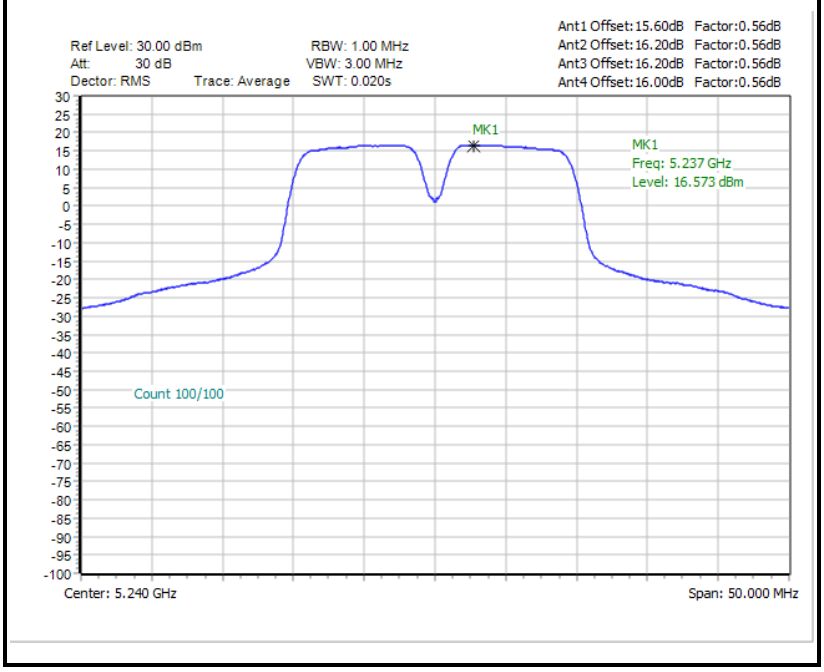
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

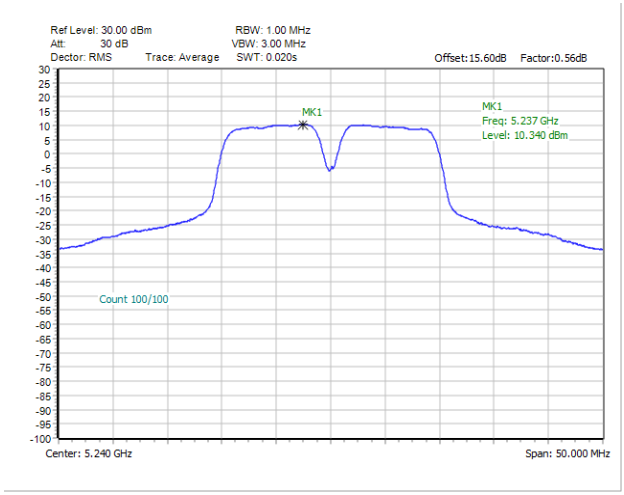
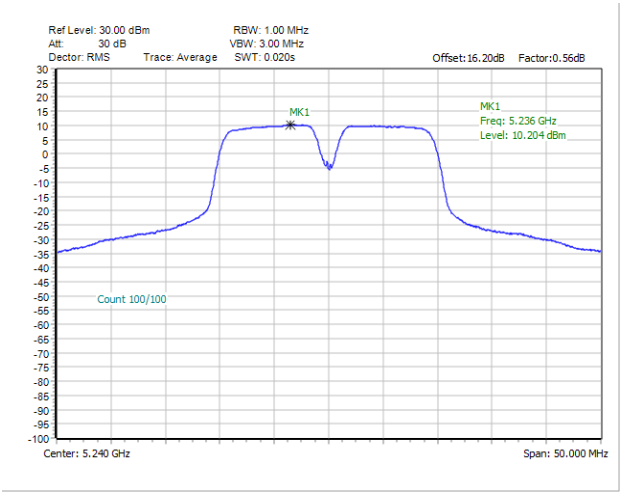
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

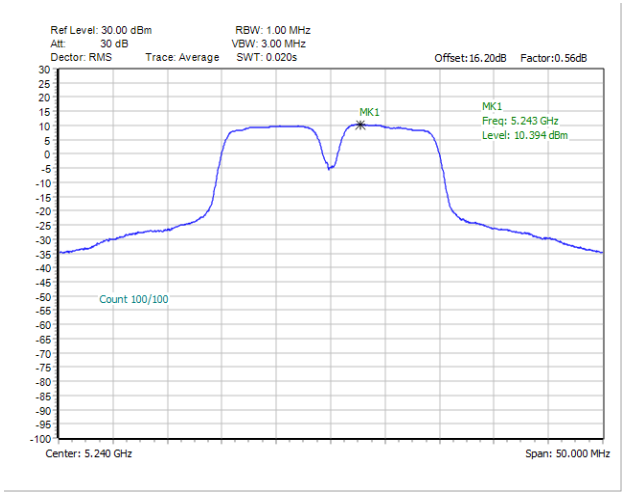
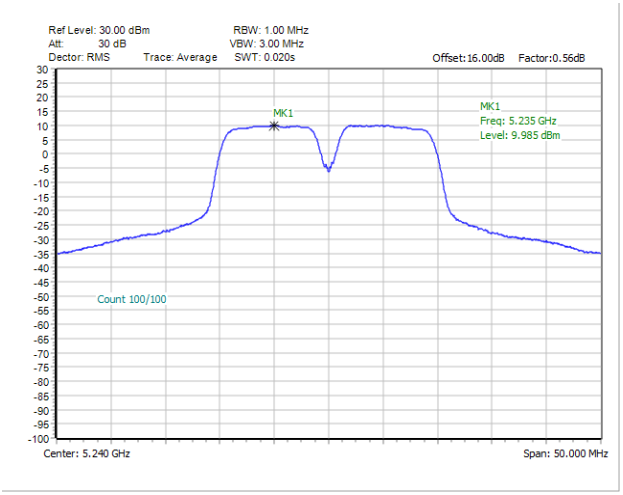
<802.11ax HE20 106*4 RU>

Maximum Power Density Plot (dBm/MHz)



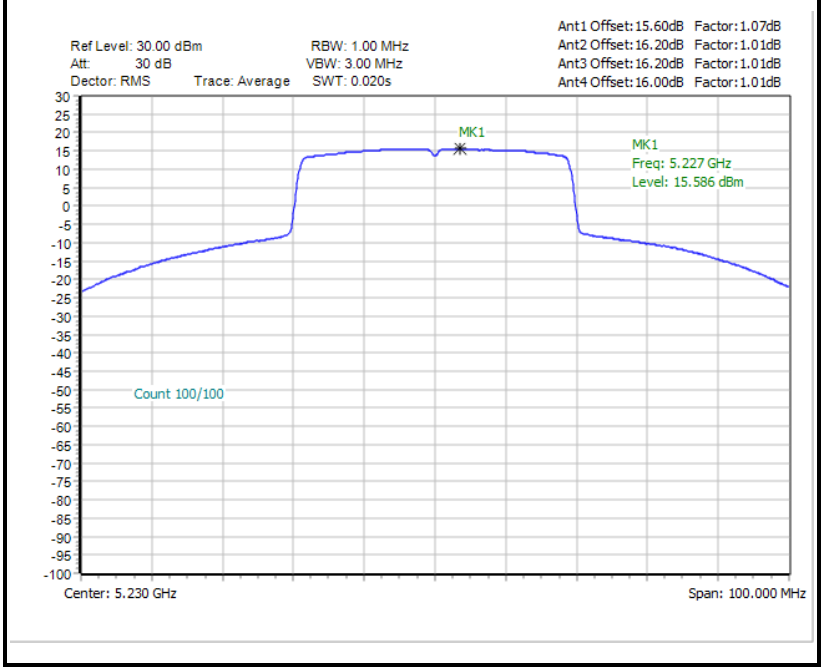
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

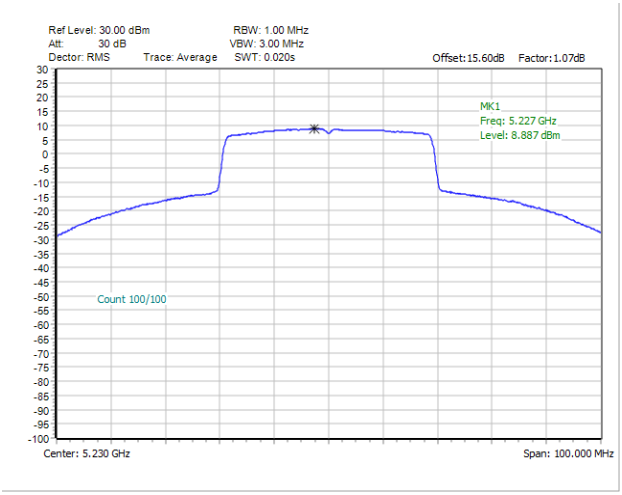
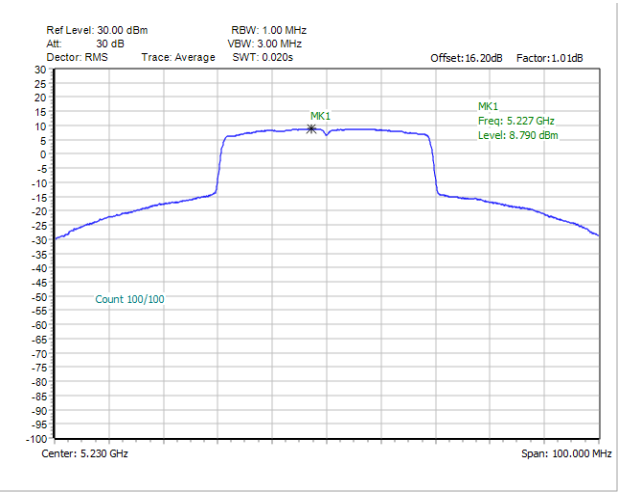
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

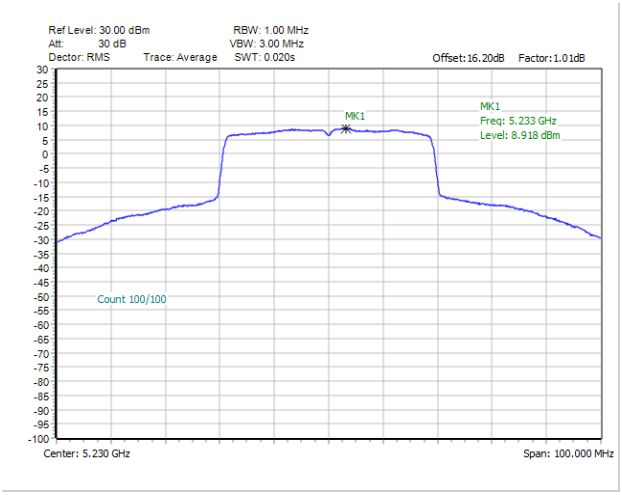
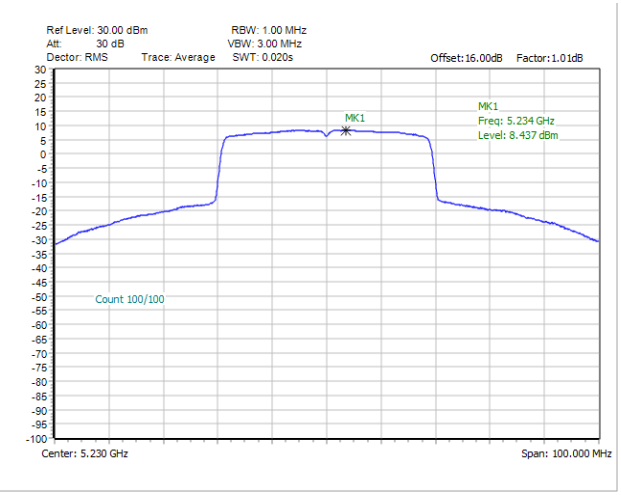
<802.11ax HE40 Full RU>

Maximum Power Density Plot (dBm/MHz)



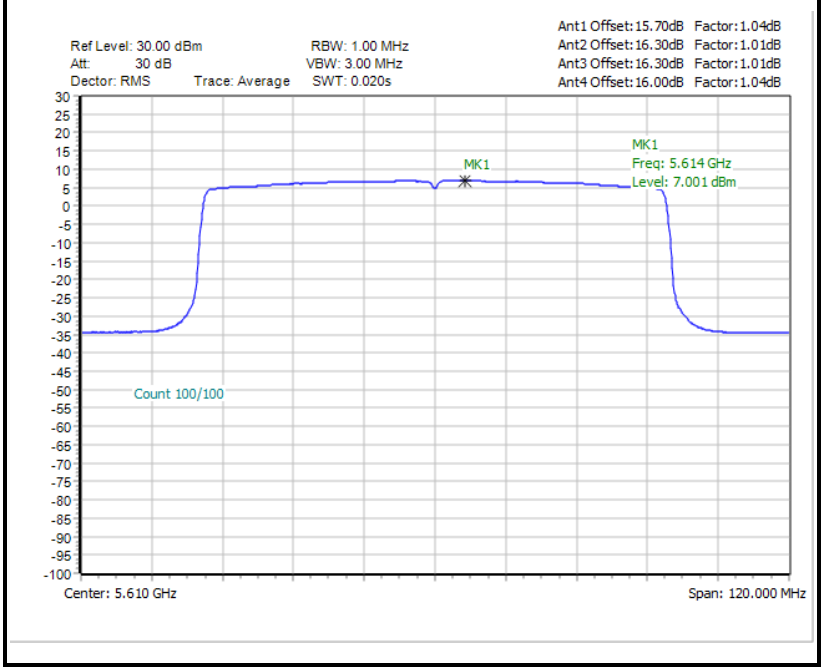
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

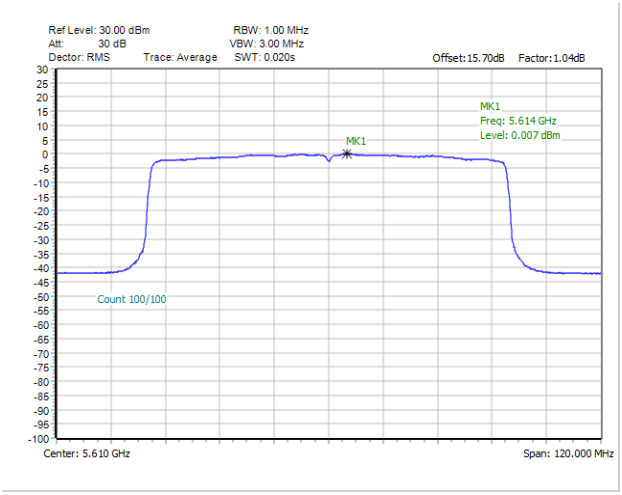
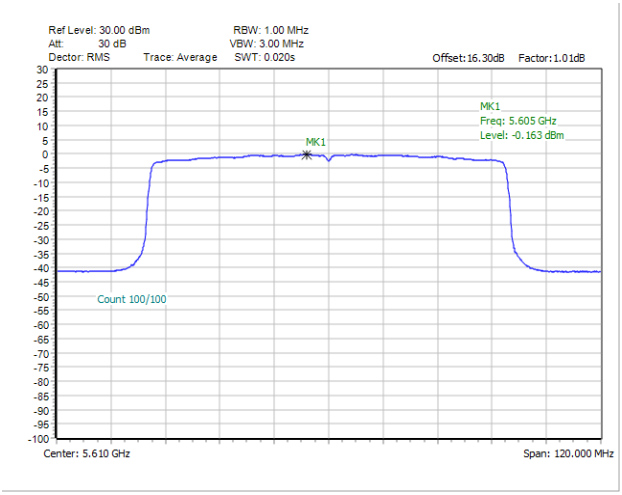
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

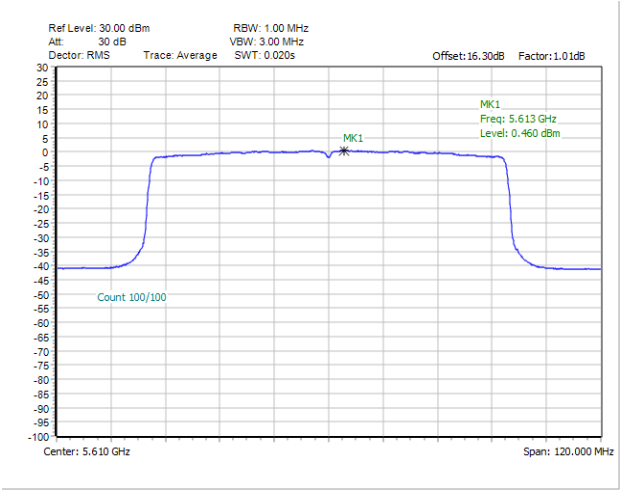
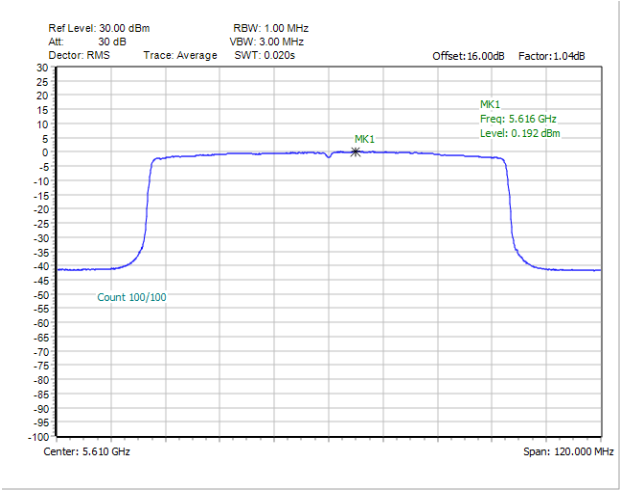
<802.11ax HE80 Full RU>

Maximum Power Density Plot (dBm/MHz)



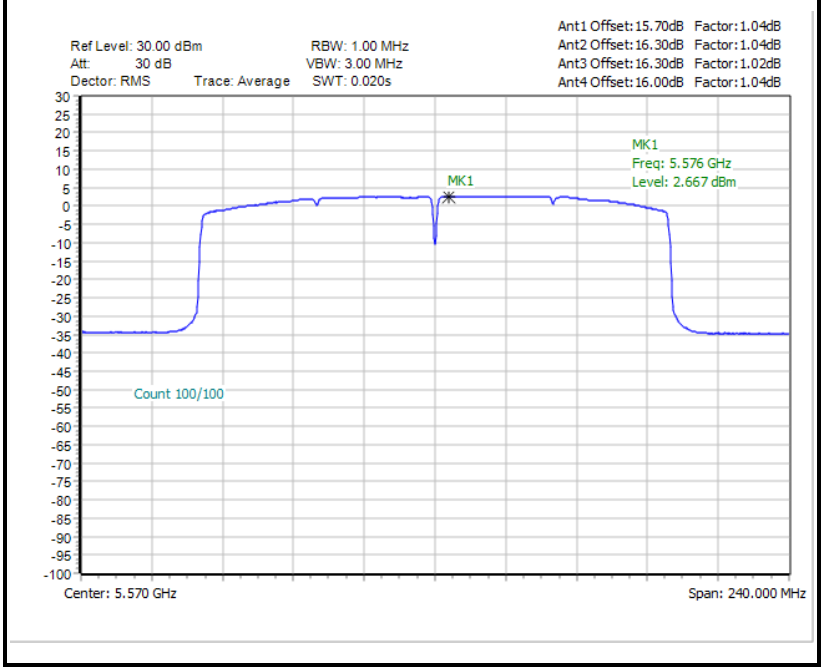
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

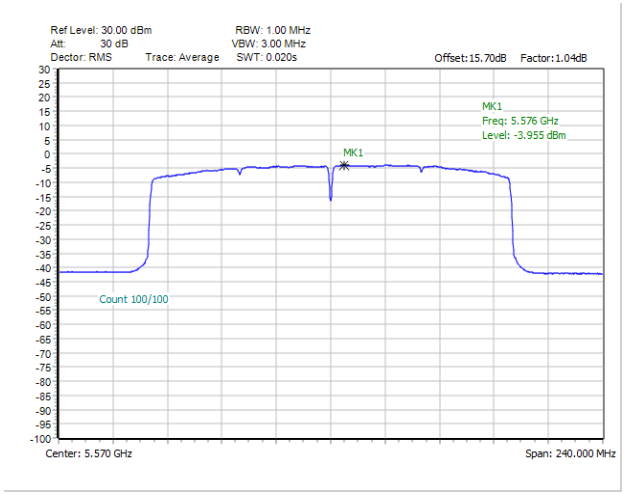
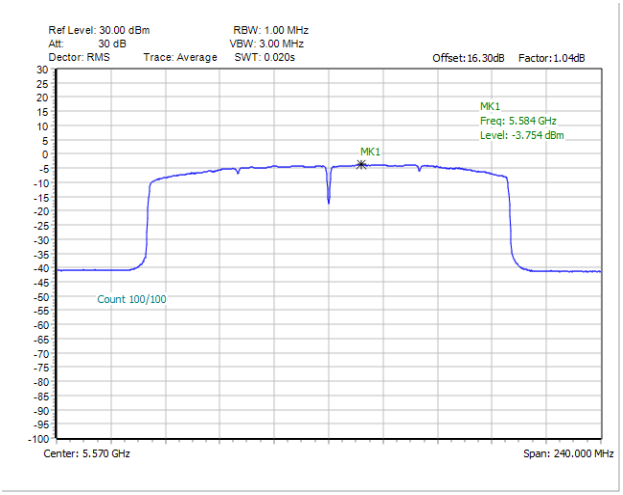
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

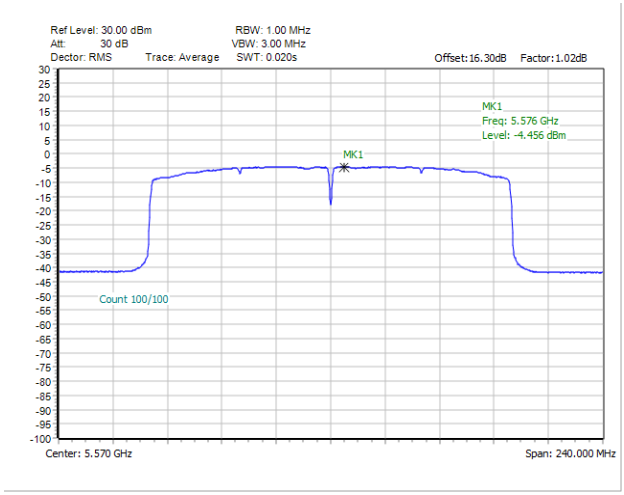
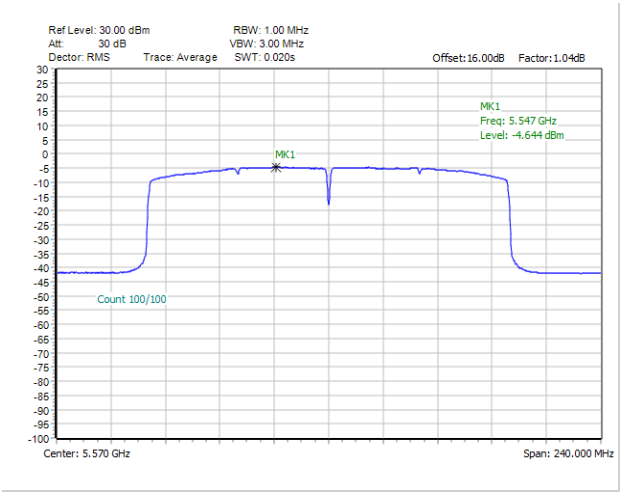
<802.11ax HE160 Full RU>

Maximum Power Density Plot (dBm/MHz)



Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

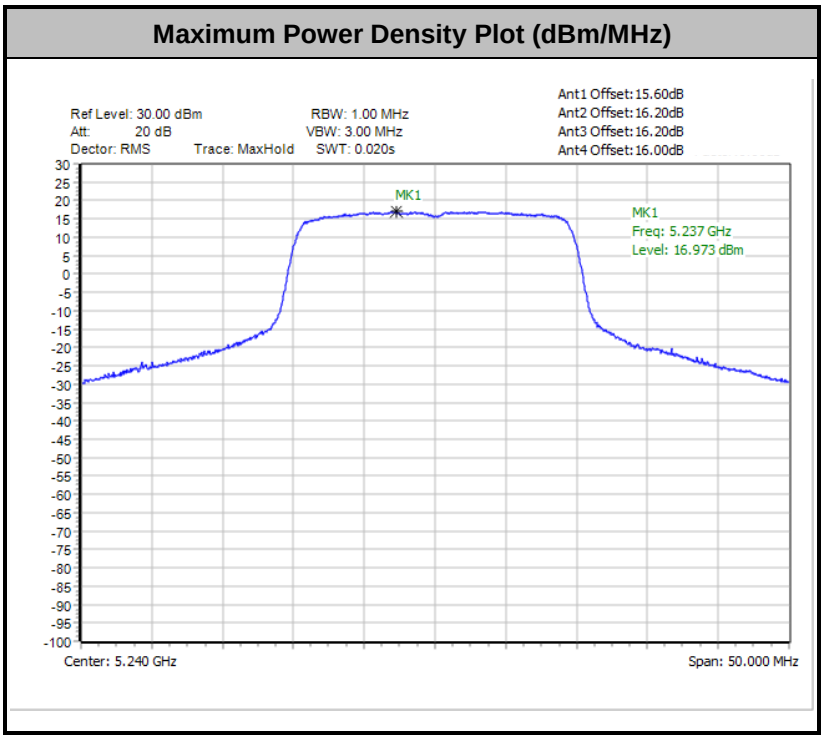
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

Note: Average Power Density (dB) = Measured value+ Duty Factor

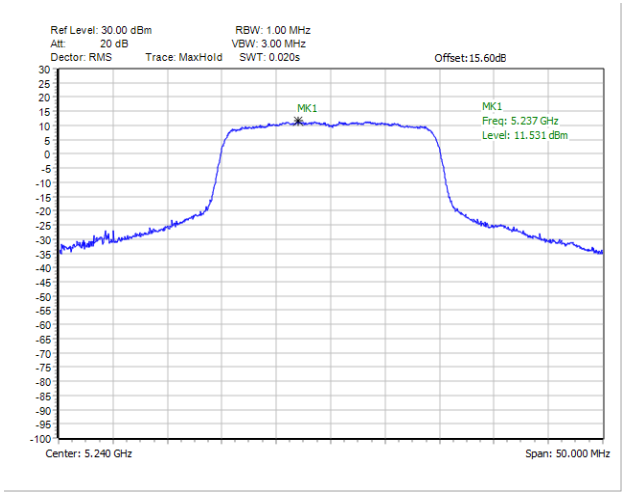
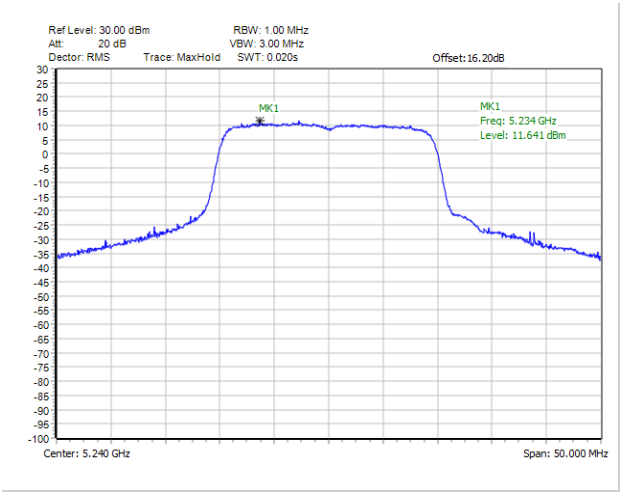
<TXBF Modes>

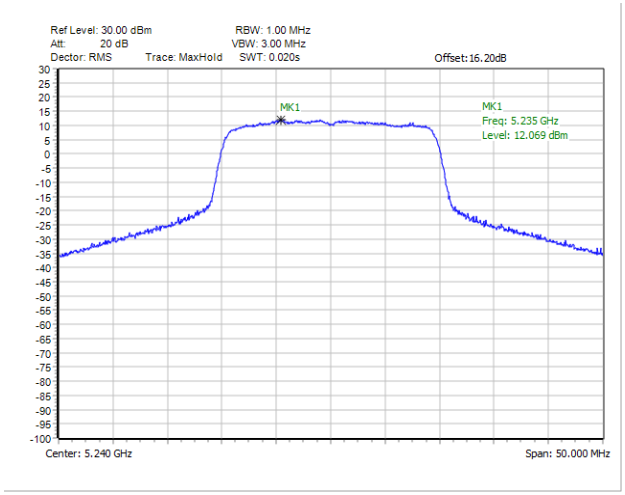
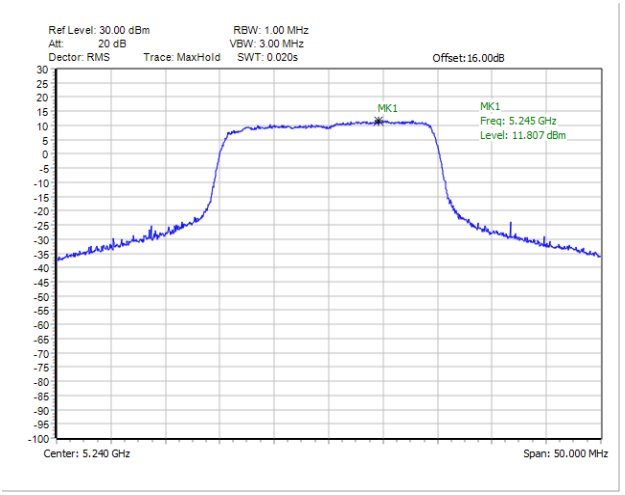
<802.11ax HE20 Full RU>

Maximum Power Density Plot (dBm/MHz)



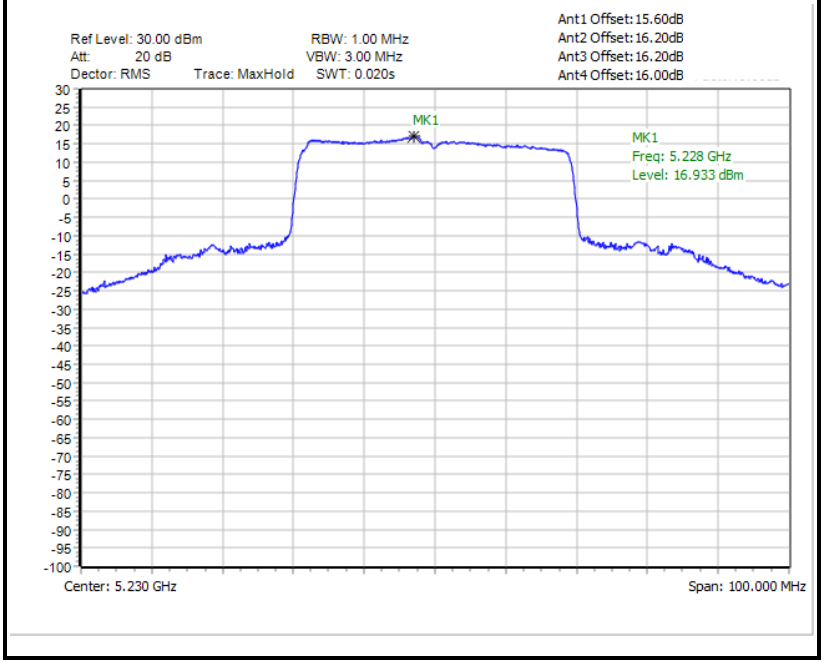
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

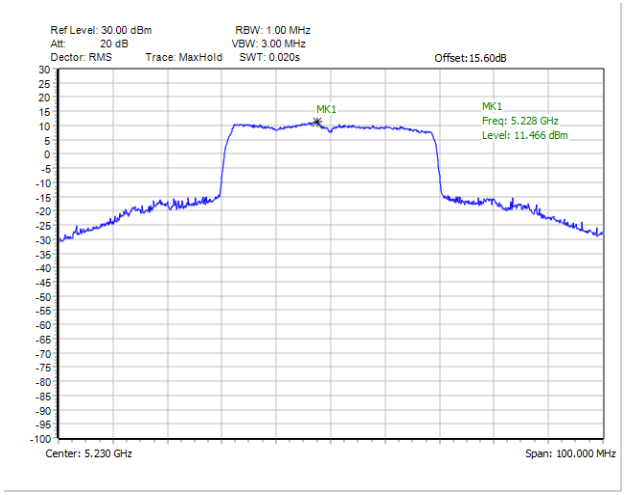
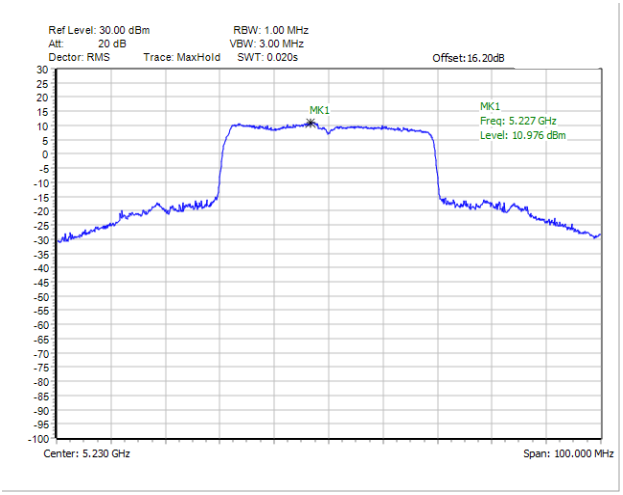
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

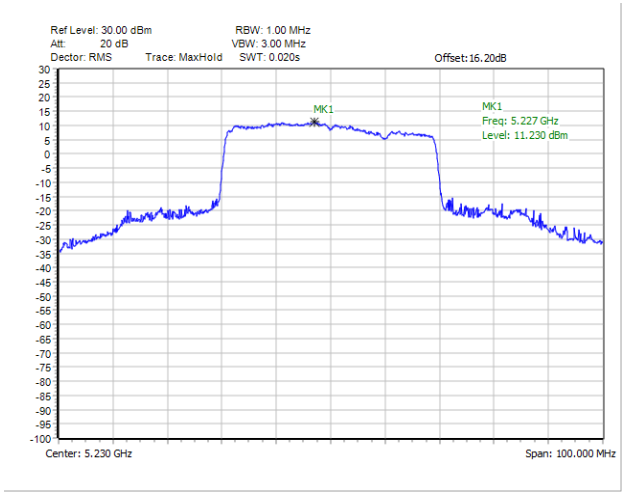
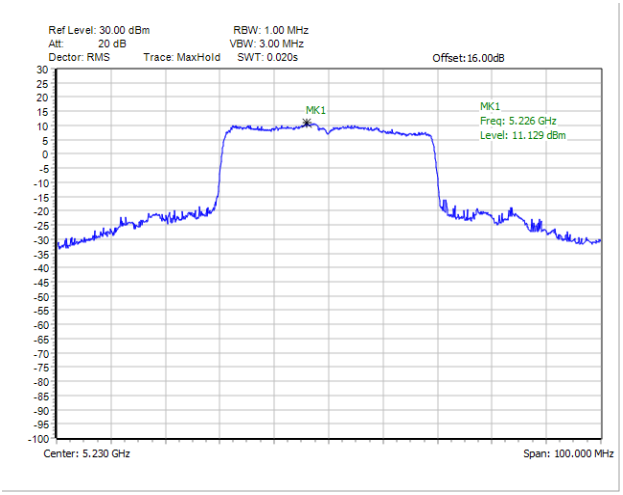
<802.11ax HE40 Full RU>

Maximum Power Density Plot (dBm/MHz)



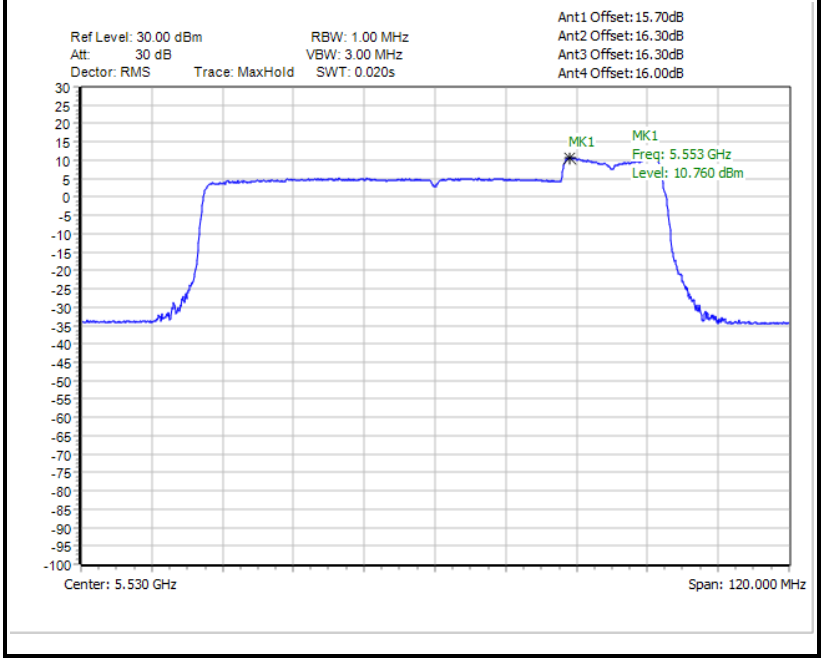
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

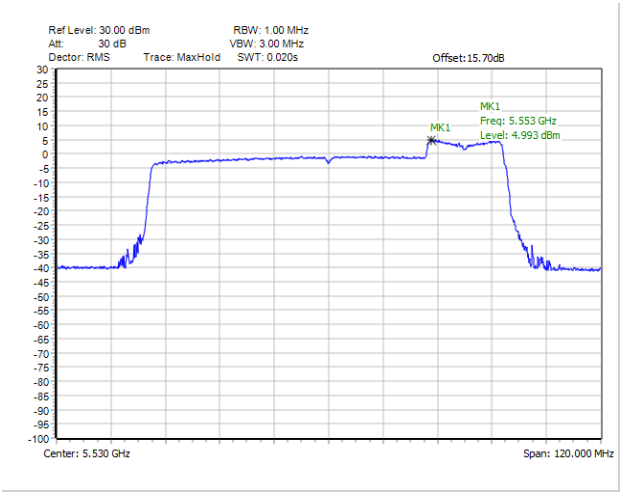
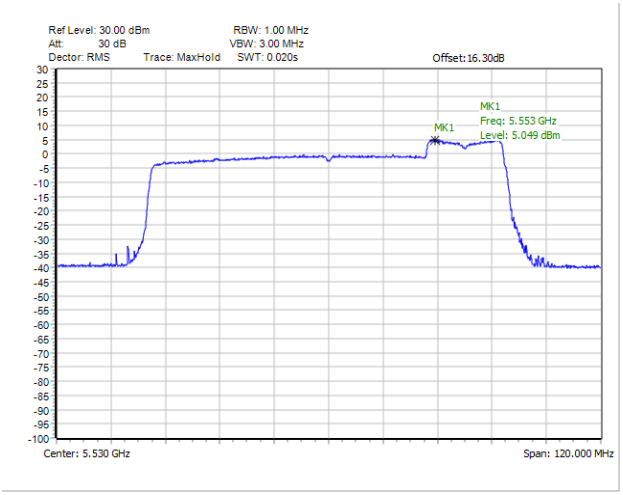
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

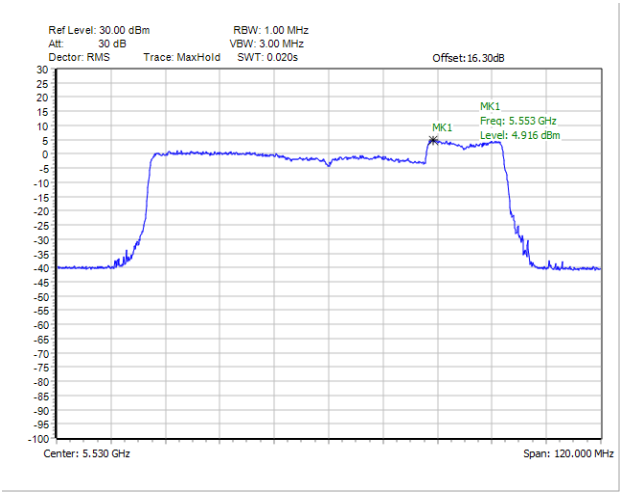
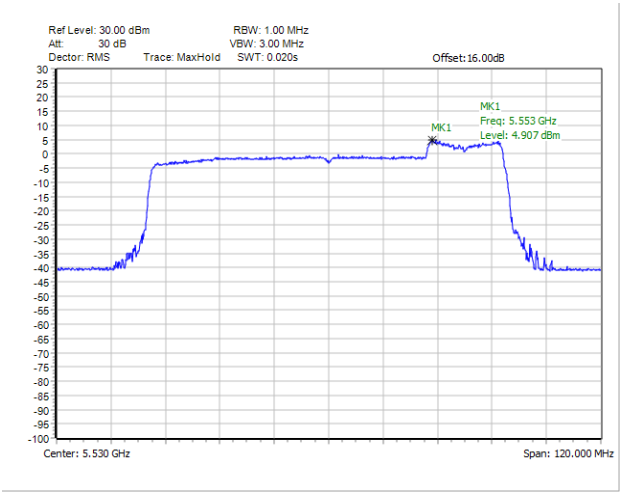
<802.11ax HE80 Full RU>

Maximum Power Density Plot (dBm/MHz)



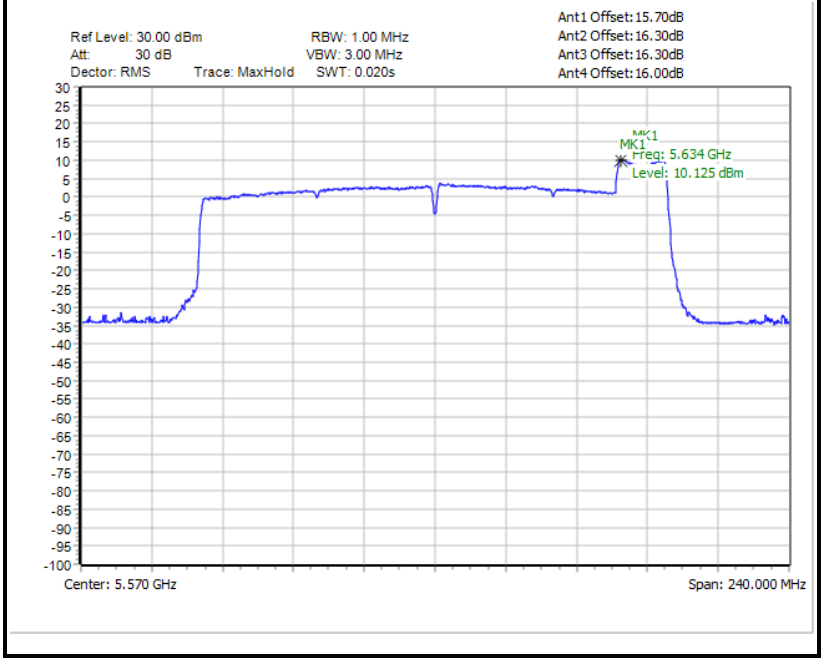
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

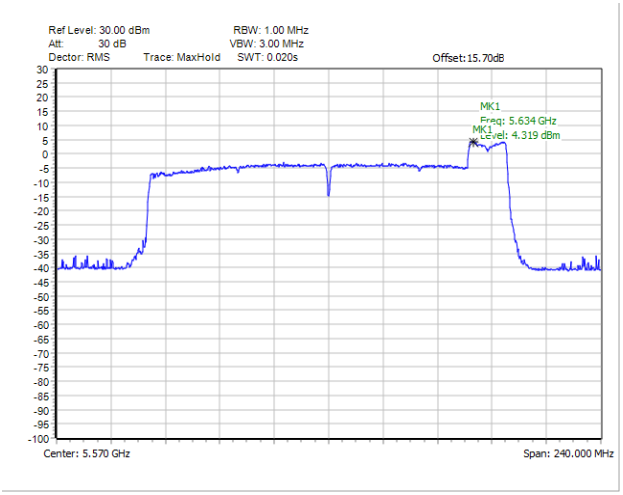
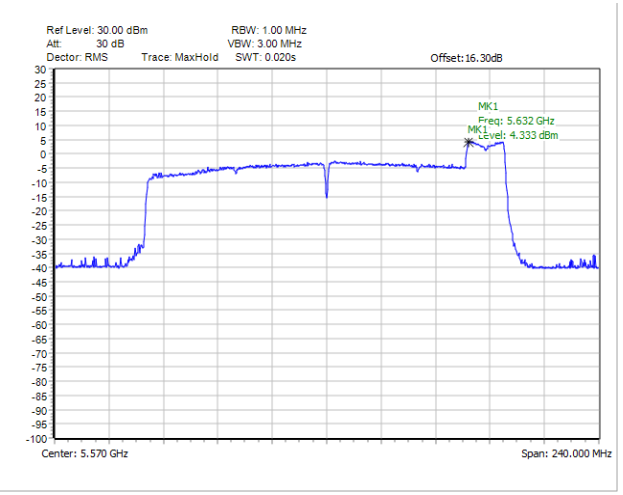
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

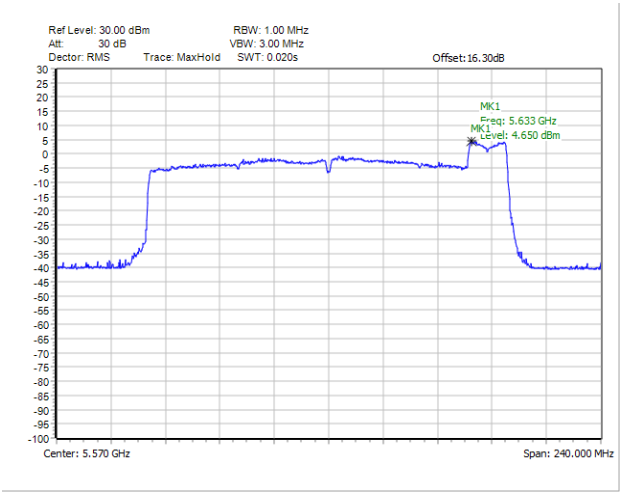
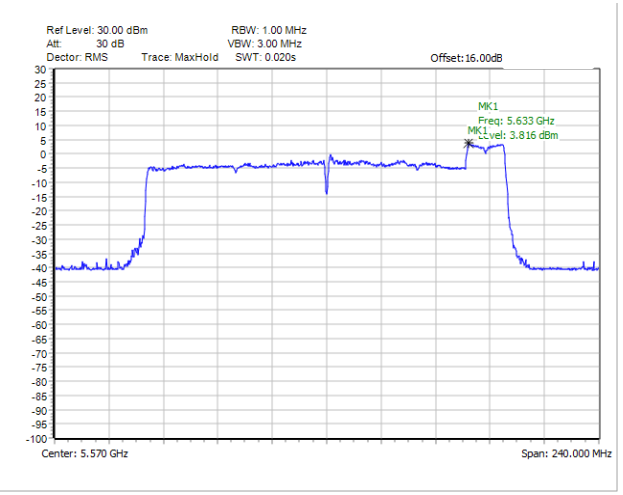
<802.11ax HE160 Full RU>

Maximum Power Density Plot (dBm/MHz)



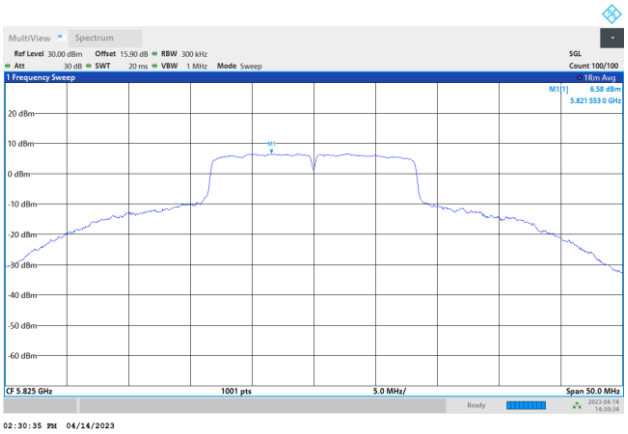
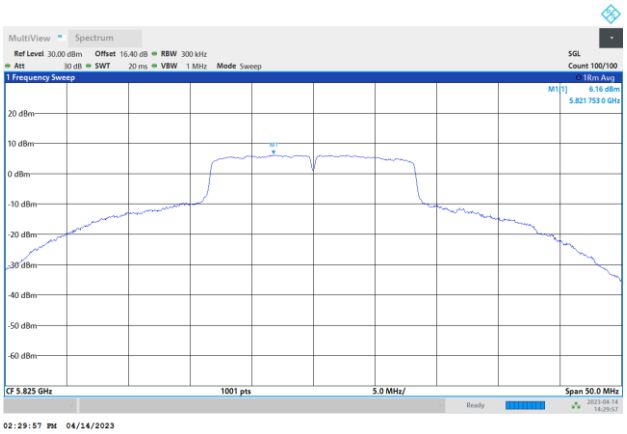
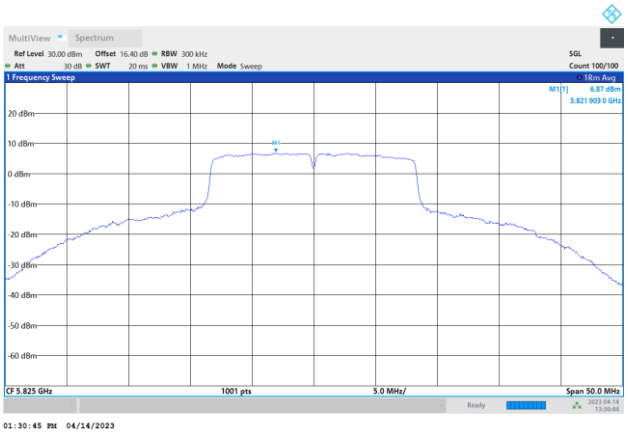
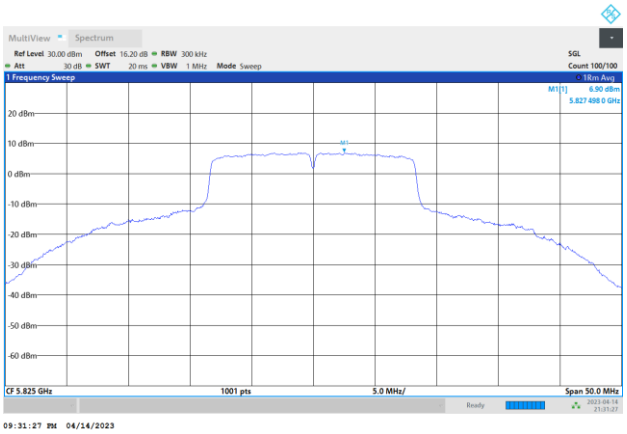
Remark: The test plot is showing a bin by bin combined result mathematically adds four traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

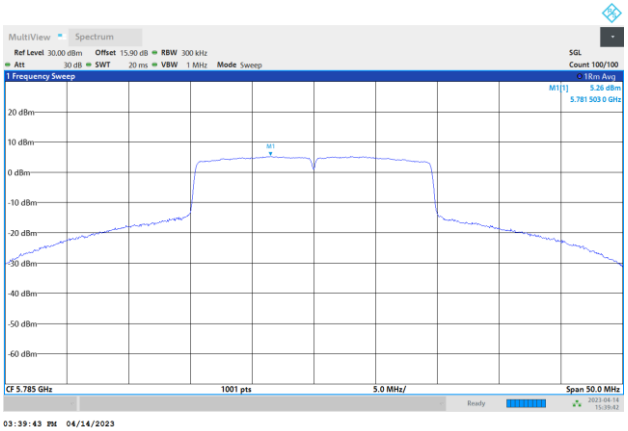
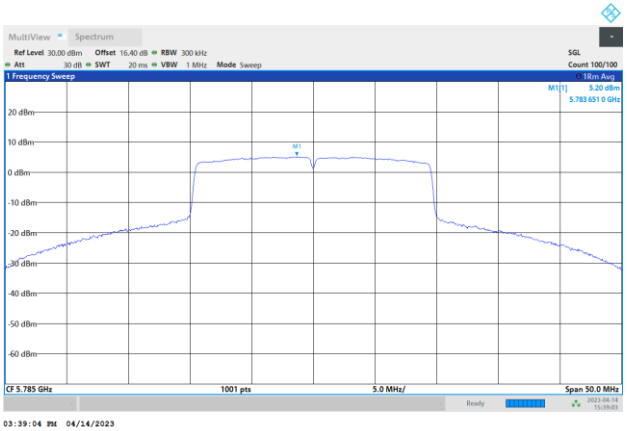
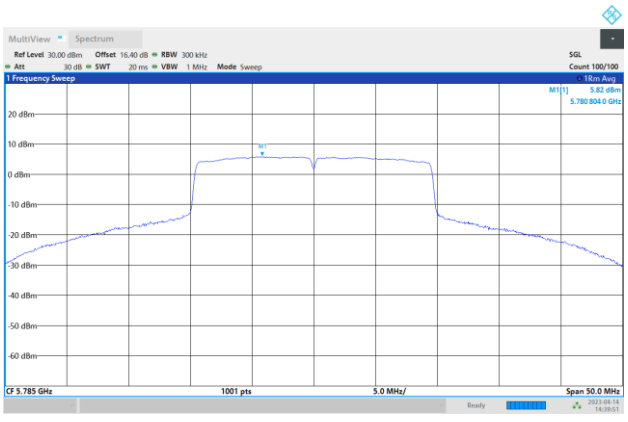
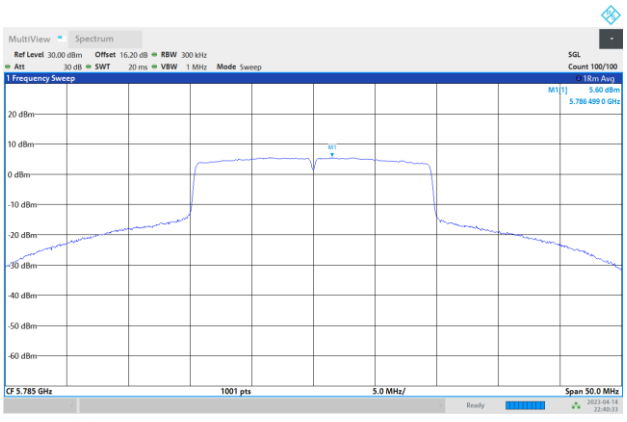
Maximum Power Density Plot Trace 3 (Ant 3)	Maximum Power Density Plot Trace 4 (Ant 4)
	

For the band 5.725–5.85 GHz:

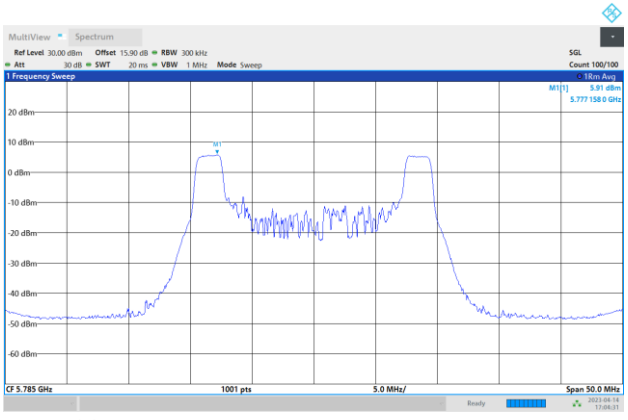
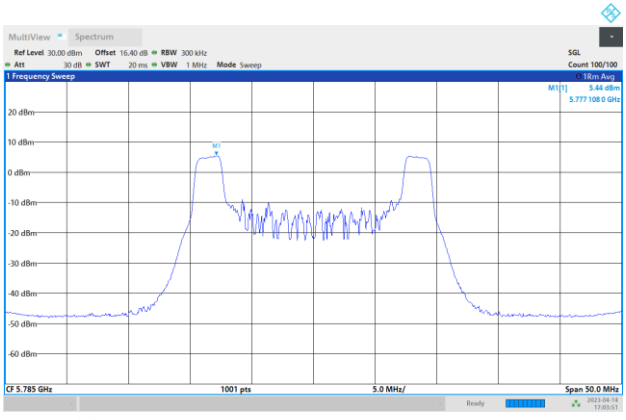
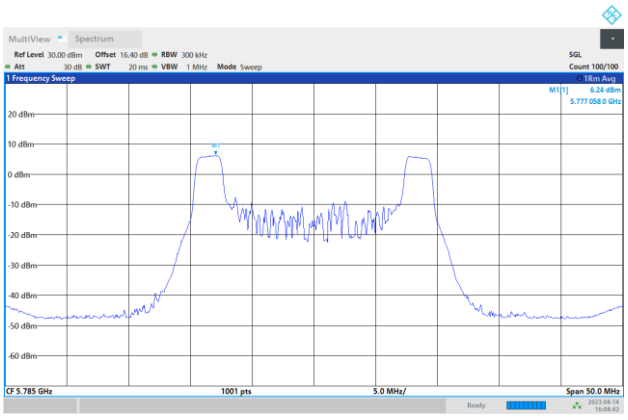
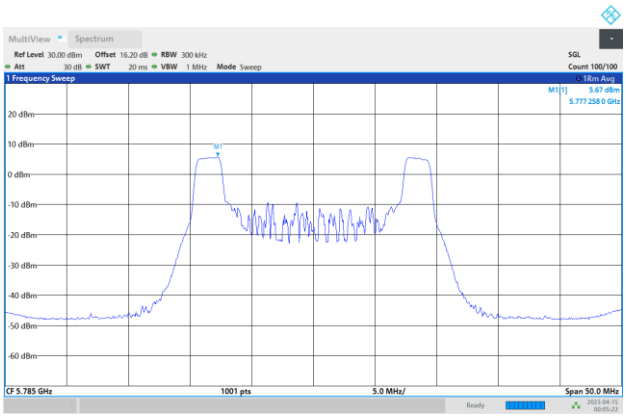
<CDD Modes>
<802.11a>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

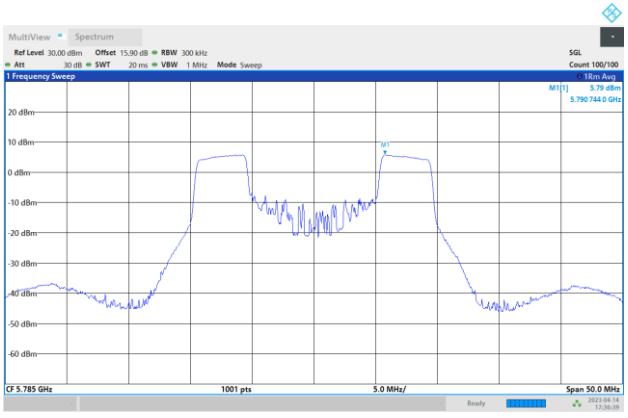
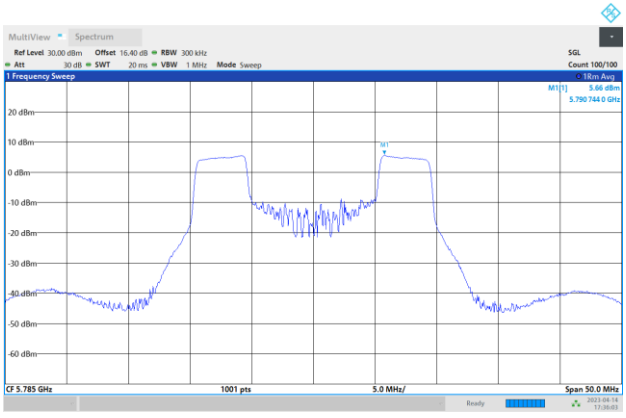
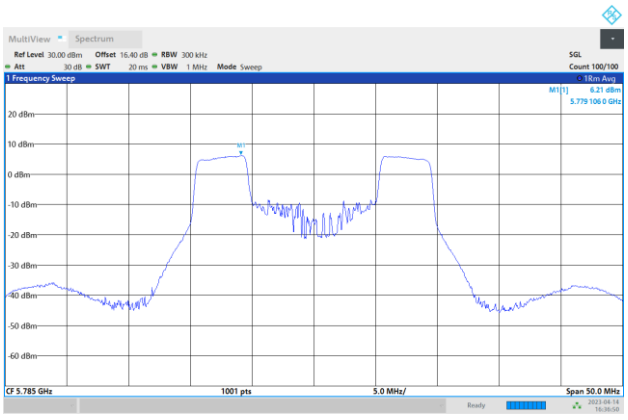
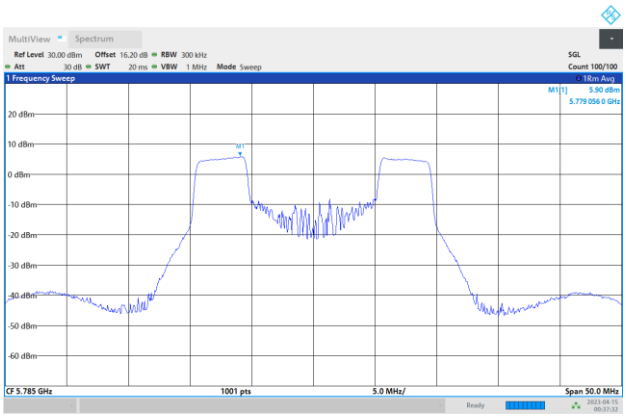
<802.11ax HE20 Full RU>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

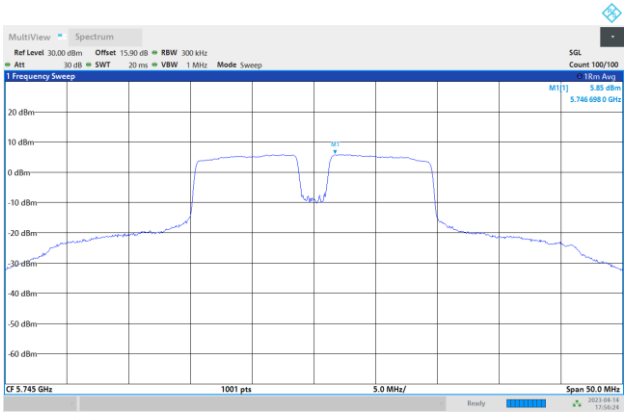
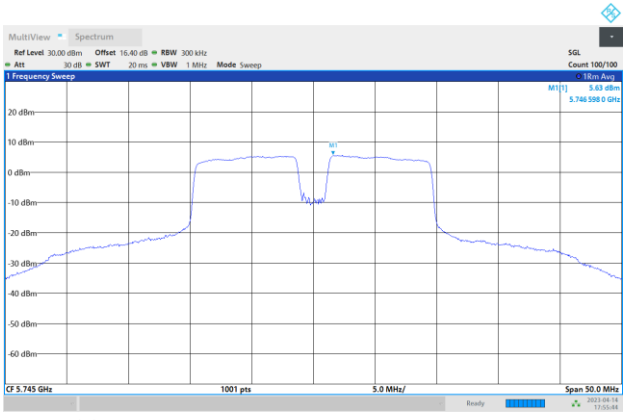
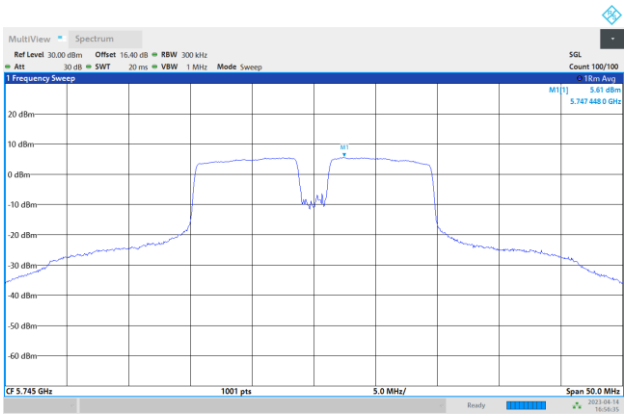
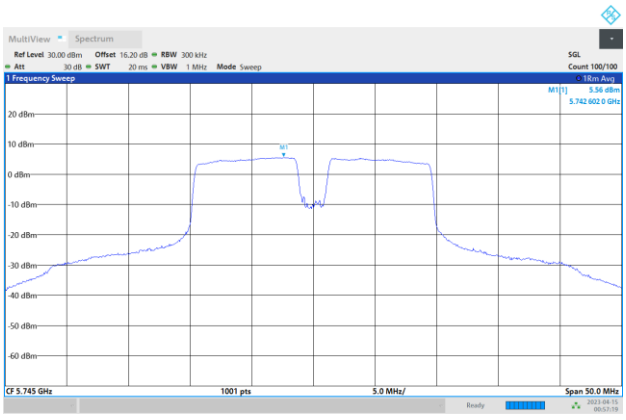
<802.11ax HE20 26*4 RU>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

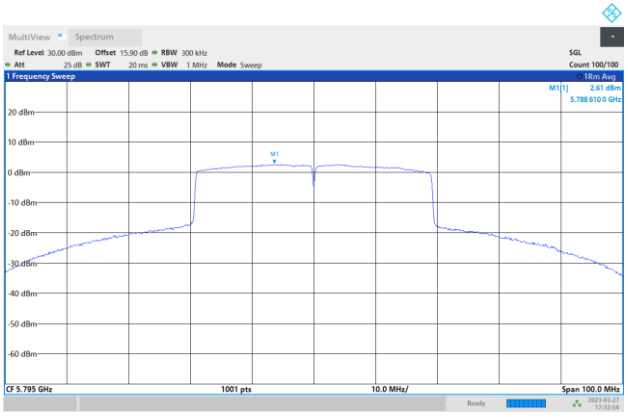
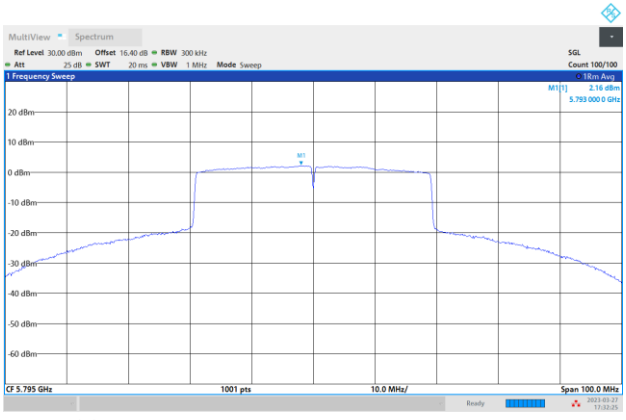
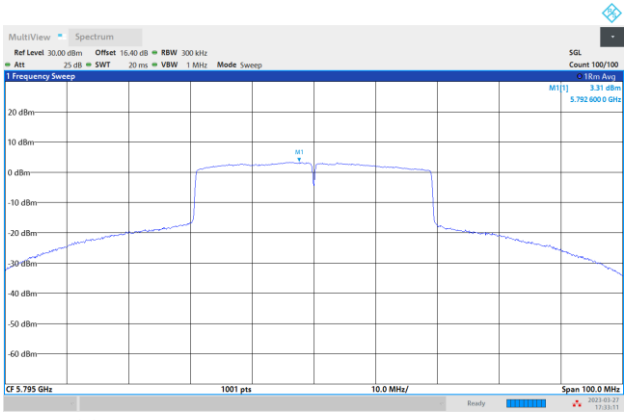
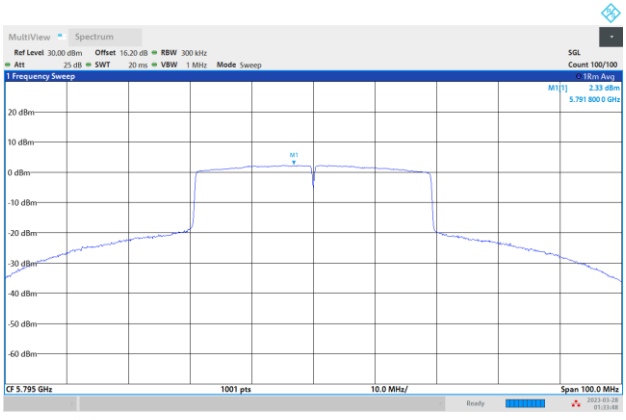
<802.11ax HE20 52*4 RU>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

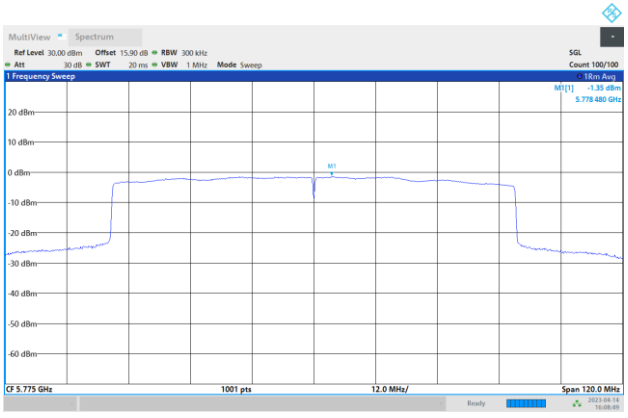
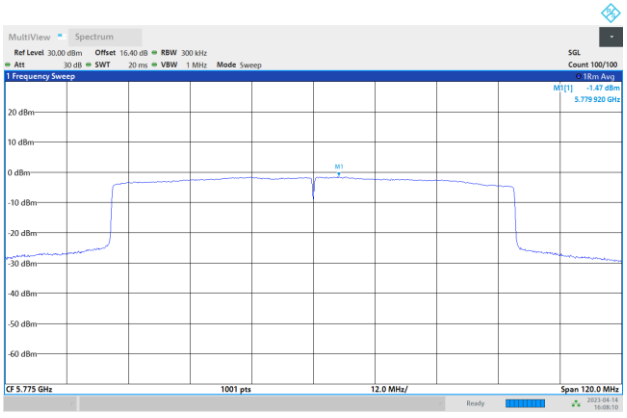
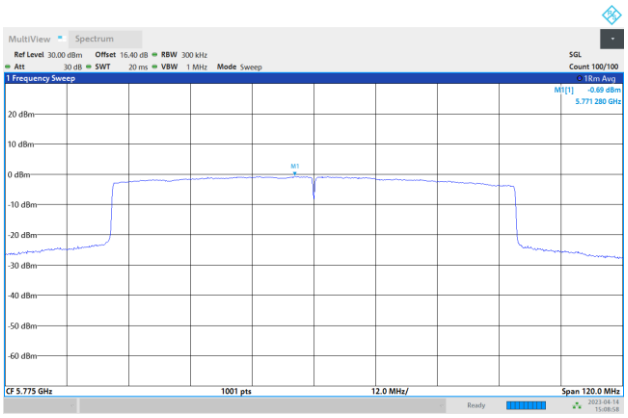
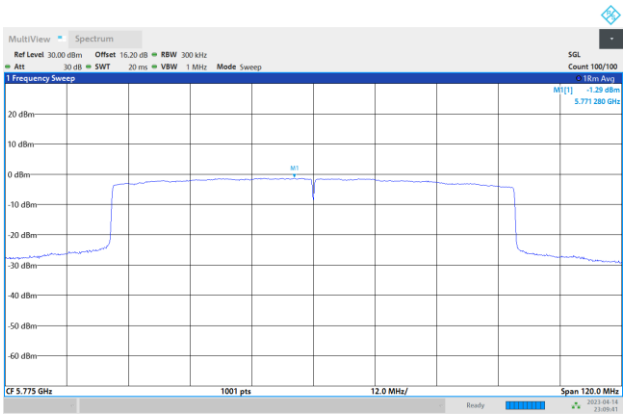
<802.11ax HE20 106*4 RU>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

<802.11ax HE40 Full RU>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

<802.11ax HE80 Full RU>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	**MIMO Ant. 2**
	
MIMO Ant. 3	**MIMO Ant. 4**
	

<TXBF Modes>

<802.11ax HE20 Full RU>

Maximum Power Density Plot (dBm/300kHz)	
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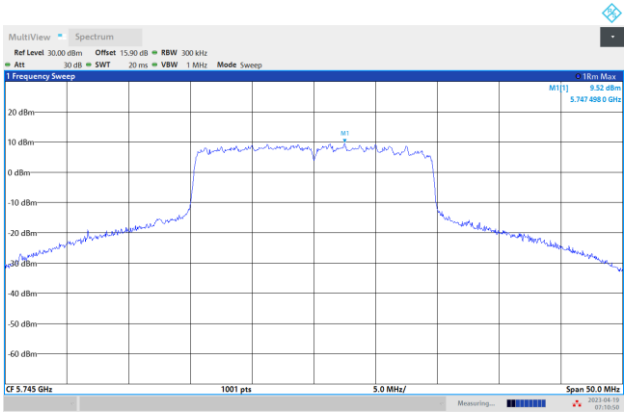	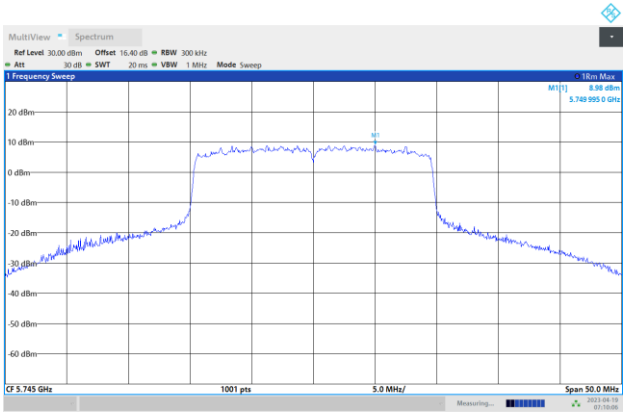
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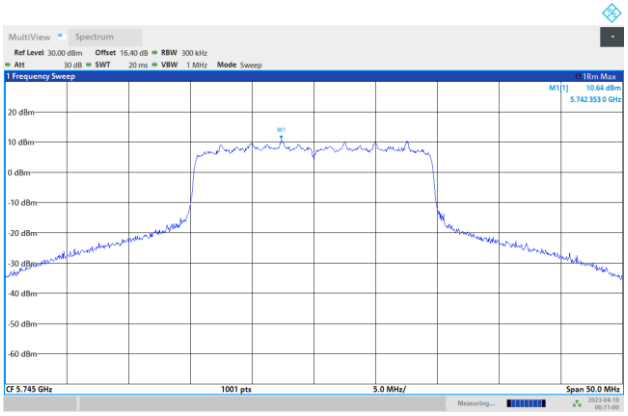	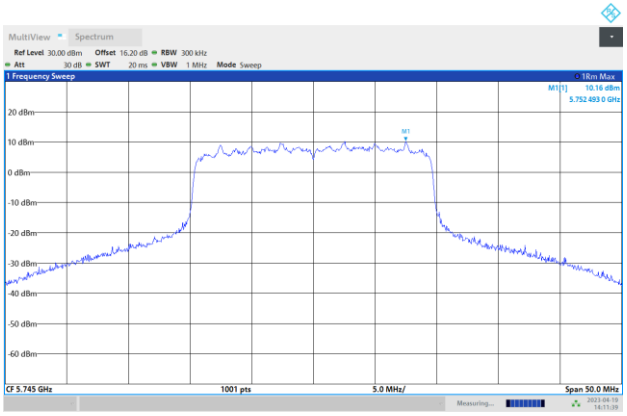

<802.11ax HE40 Full RU>

Maximum Power Density Plot (dBm/300kHz)	
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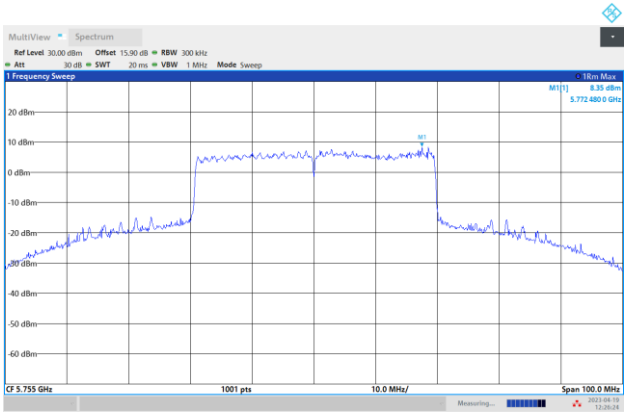	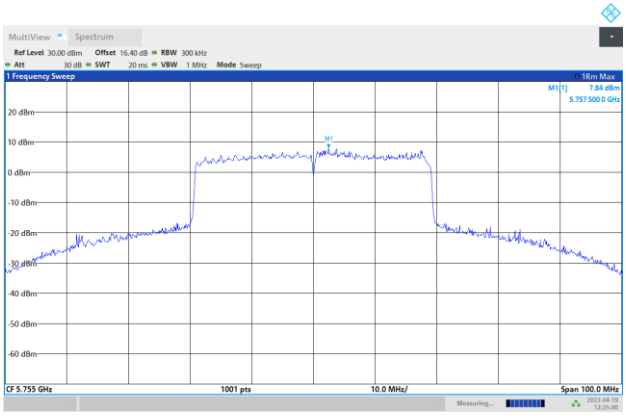
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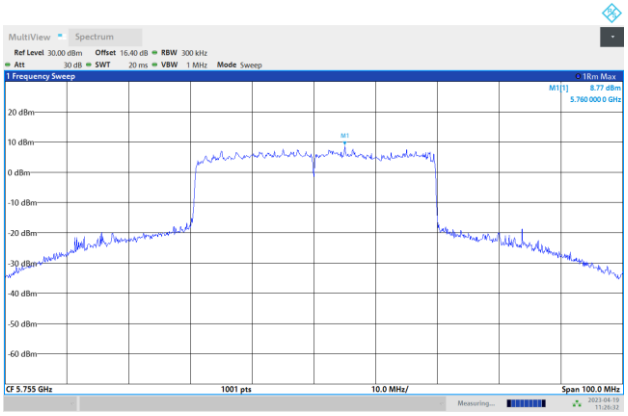	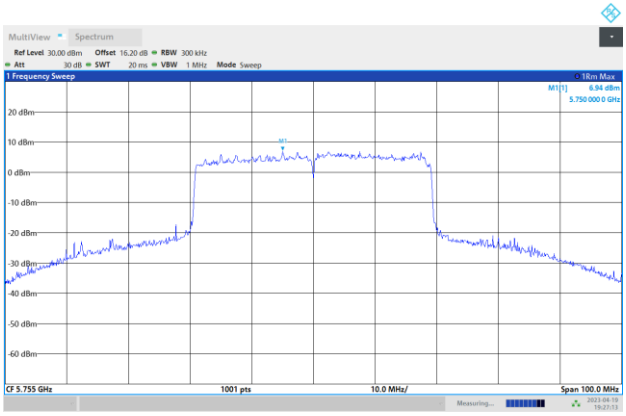

<802.11ax HE80 Full RU>

Maximum Power Density Plot (dBm/300kHz)	
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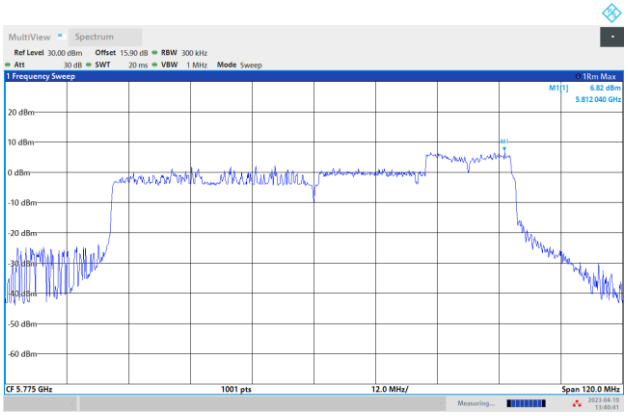
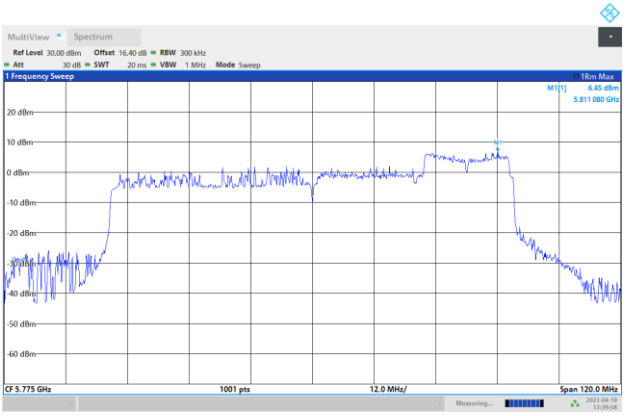
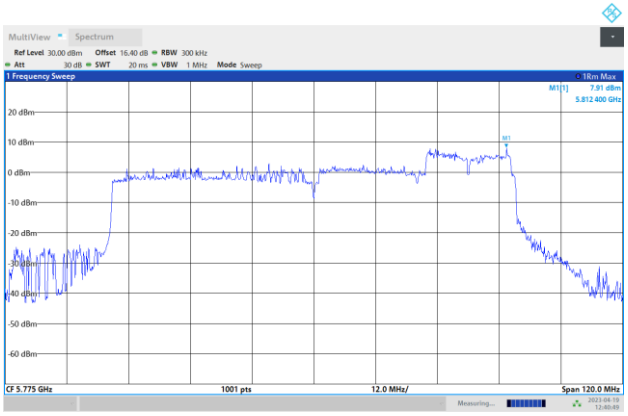
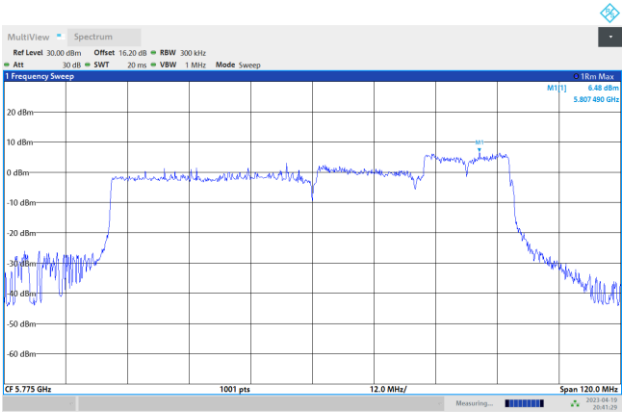
	
MIMO Ant. 3	**MIMO Ant. 4**
	

3.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.4.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) Unwanted spurious emissions falls in restricted bands shall comply with the general field strength limits as below table:

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

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBµV/m)
- 27	68.3

(3) KDB789033 D02 v02r01 G)2)c)

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of −27 dBm/MHz.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

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 FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000 MHz

- RBW = 120 kHz
- VBW = 300 kHz
- Detector = Peak
- Trace mode = max hold

(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

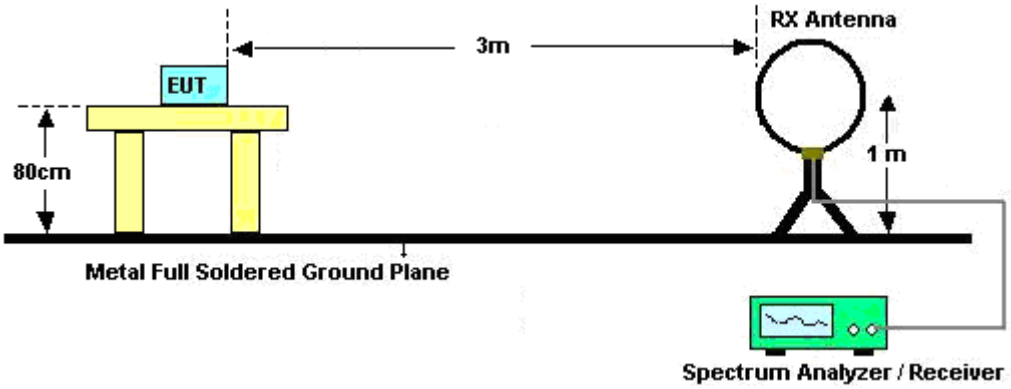
(3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

2. 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.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
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 "-".

3.4.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz

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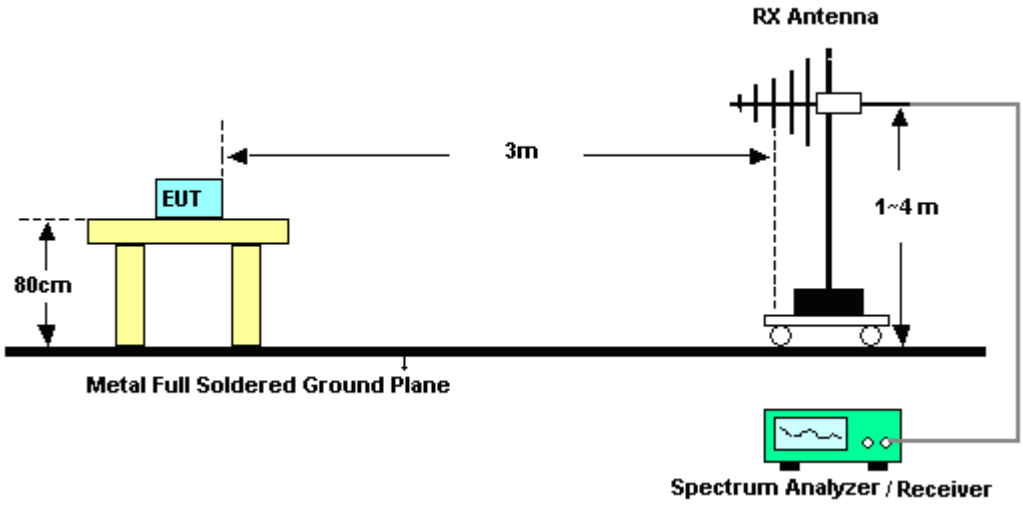

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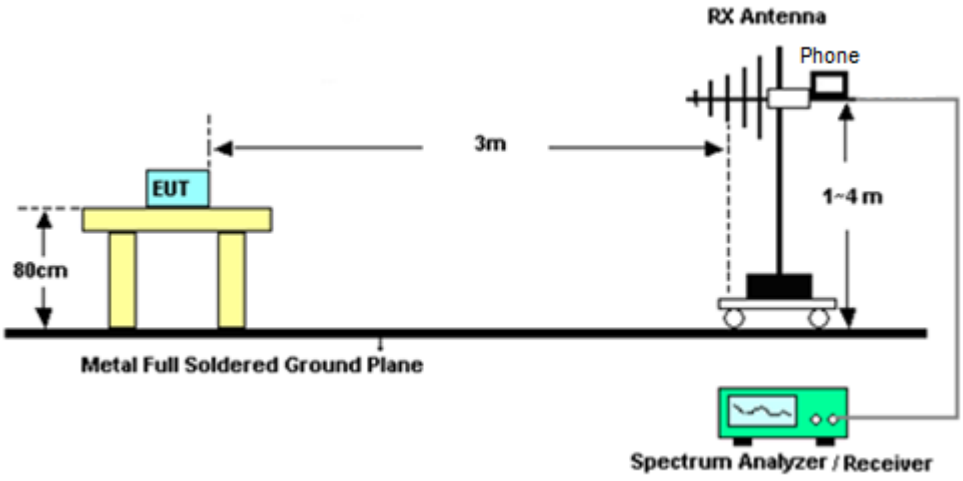
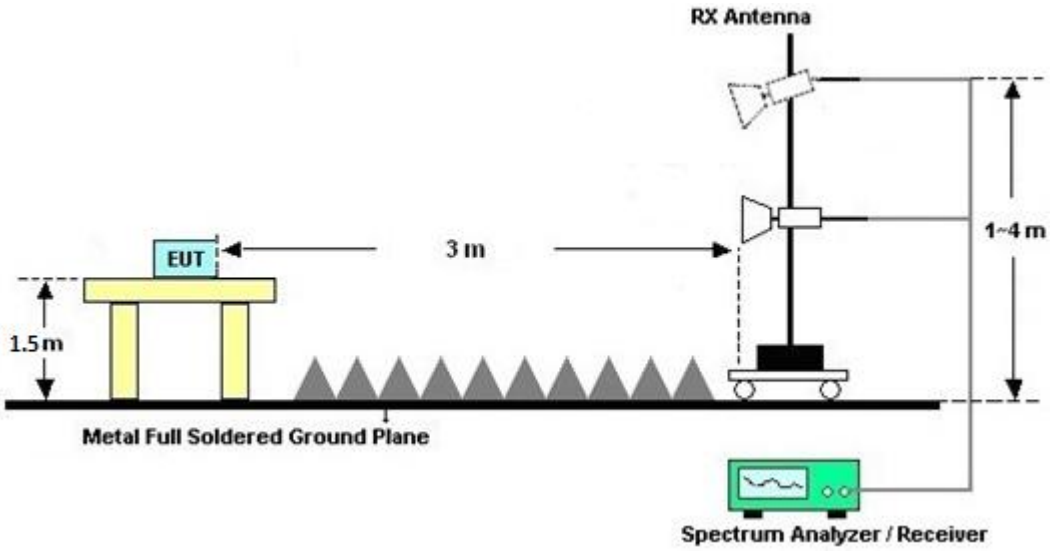


For radiated test from 1GHz to 18GHz

<CDD Mode>



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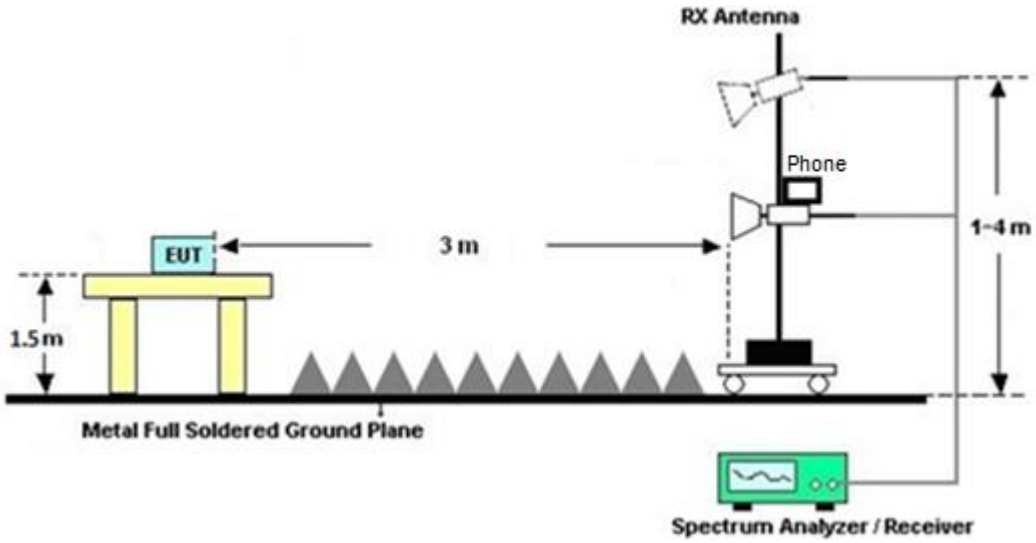
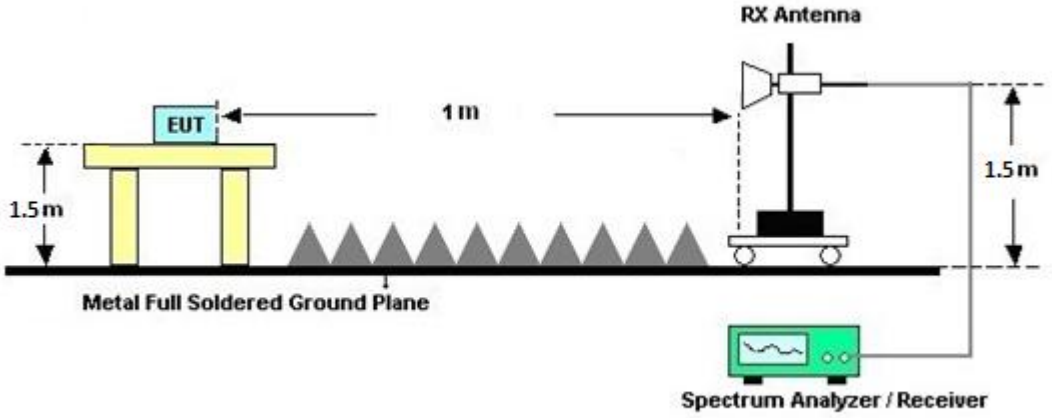


For radiated test above 18GHz

<CDD Mode>



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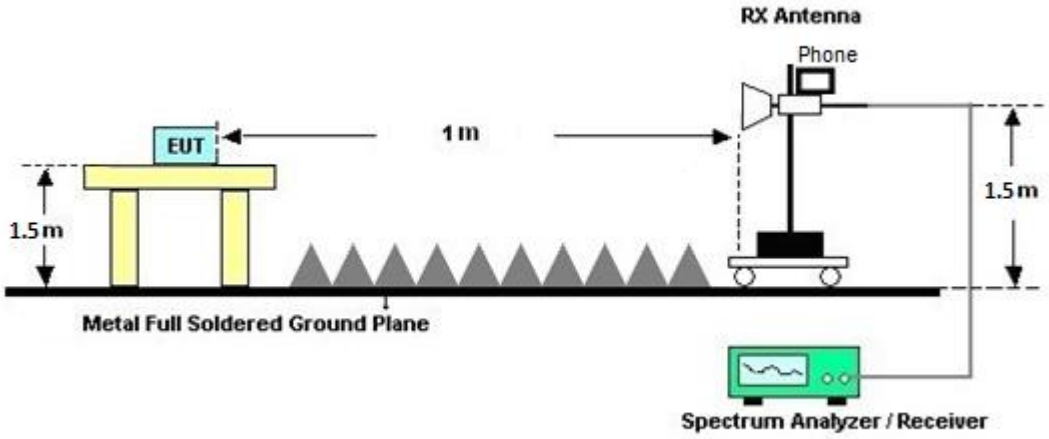


3.4.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

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 came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 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 (dBμV)	
	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.

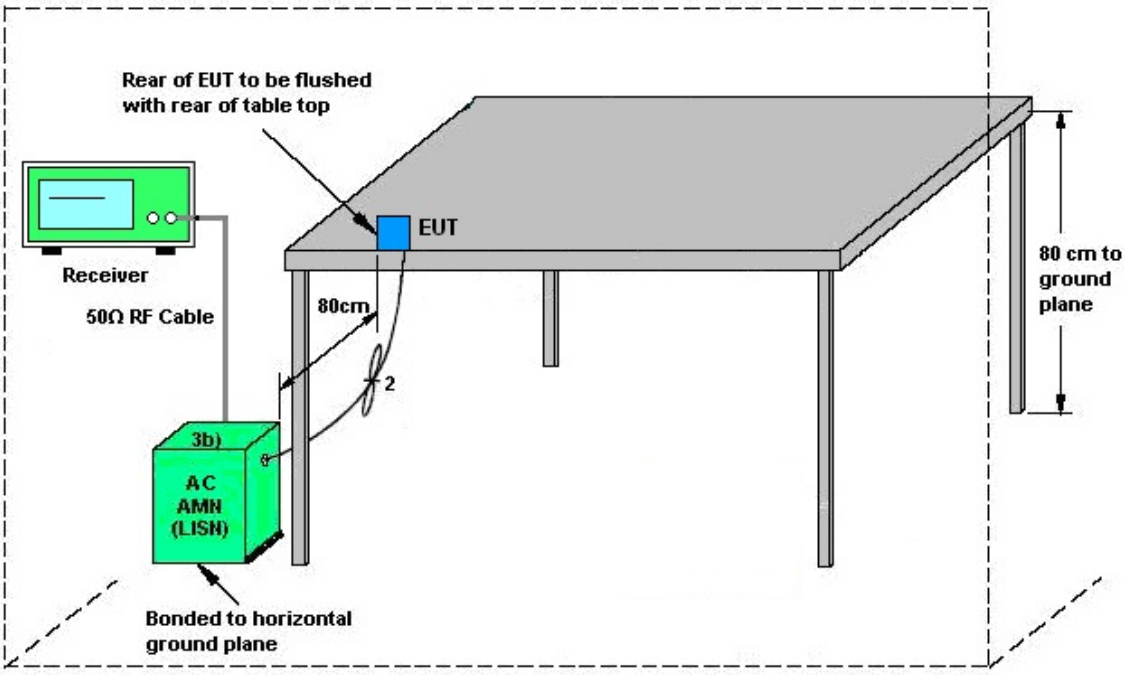
3.5.2 Measuring Instruments

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

3.5.3 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 with Maximum Hold Mode.

3.5.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Antenna Requirements

3.6.1 Standard Applicable

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.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

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. 24, 2022	Mar. 15, 2023~ Apr. 13, 2023	Apr. 23, 2023	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 01, 2022	Mar. 15, 2023~ Apr. 13, 2023	Nov. 30, 2023	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 20, 2022	Mar. 15, 2023~ Apr. 13, 2023	Sep. 19, 2023	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 21, 2022	Mar. 15, 2023~ Apr. 13, 2023	Apr. 20, 2023	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 03, 2022	Mar. 15, 2023~ Apr. 13, 2023	Oct. 02, 2023	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Dec. 28, 2022	Mar. 15, 2023~ Apr. 09, 2023	Dec. 27, 2023	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Mar. 24, 2023	Apr. 10, 2023~ Apr. 13, 2023	Mar. 23, 2024	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 21, 2022	Mar. 15, 2023~ Apr. 13, 2023	Jul. 20, 2023	Radiation (03CH07-HY)
Spectrum Analyzer	Keysight	Keysight	MY60241058	10Hz~44GHz	Jul. 07, 2022	Mar. 15, 2023~ Apr. 13, 2023	Jul. 06, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682/4	30MHz to 18GHz	Feb. 22, 2023	Mar. 15, 2023~ Apr. 13, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4	9kHz to 18GHz	Feb. 22, 2023	Mar. 15, 2023~ Apr. 13, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4	9kHz to 18GHz	Feb. 22, 2023	Mar. 15, 2023~ Apr. 13, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 16, 2022	Mar. 15, 2023~ Apr. 13, 2023	Sep. 15, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 22, 2023	Mar. 15, 2023~ Apr. 13, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Mar. 15, 2023~ Apr. 13, 2023	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Mar. 15, 2023~ Apr. 13, 2023	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Mar. 15, 2023~ Apr. 13, 2023	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Mar. 15, 2023~ Apr. 13, 2023	N/A	Radiation (03CH07-HY)
Software	Audix	E3	N/A	N/A	N/A	Mar. 15, 2023~ Apr. 13, 2023	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 14, 2023	Mar. 15, 2023~ Apr. 13, 2023	Mar. 13, 2024	Radiation (03CH07-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY57290111	3Hz~26.5GHz	Dec. 15, 2022	Mar. 15, 2023~ Apr. 13, 2023	Dec. 14, 2023	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Nov. 24, 2022	Mar. 15, 2023~ Apr. 13, 2023	Nov. 23, 2023	Radiation (03CH07-HY)
EMI Test Receiver	Keysight	N9038A	MY59053012	N/A	Nov. 18, 2022	Mar. 16, 2023~ Apr. 28, 2023	Nov. 17, 2023	Radiation (03CH20-HY)
Signal Analyzer	Keysight	N9010B	MY60241058	N/A	Jul. 07, 2022	Mar. 16, 2023~ Apr. 28, 2023	Jul. 06, 2023	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Jan. 02, 2023	Mar. 16, 2023~ Apr. 28, 2023	Jan. 01, 2024	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45SE	980792	N/A	Nov. 14, 2022	Mar. 16, 2023~ Apr. 28, 2023	Nov. 13, 2023	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 28, 2022	Mar. 16, 2023~ Apr. 28, 2023	Jun. 27, 2023	Radiation (03CH20-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 20, 2022	Mar. 16, 2023~ Apr. 28, 2023	Sep. 19, 2023	Radiation (03CH20-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D&00802 N1D01N-06	55606 & 08	30MHz~1GHz	Oct. 22, 2022	Mar. 16, 2023~ Apr. 28, 2023	Oct. 21, 2023	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	02360	1GHz~18GHz	Nov. 04, 2022	Mar. 16, 2023~ Apr. 28, 2023	Nov. 03, 2023	Radiation (03CH20-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00994	18GHz-40GHz	Nov. 04, 2022	Mar. 16, 2023~ Apr. 28, 2023	Nov. 03, 2023	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-302	SN3	N/A	Sep. 28, 2022	Mar. 16, 2023~ Apr. 28, 2023	Sep. 27, 2023	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,804 015/2,804027 /2	N/A	Jan. 18, 2023	Mar. 16, 2023~ Apr. 28, 2023	Jan. 17, 2024	Radiation (03CH20-HY)
Software	Audix	E3 6.2009-8-24	RK-002156	N/A	N/A	Mar. 16, 2023~ Apr. 28, 2023	N/A	Radiation (03CH20-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Mar. 16, 2023~ Apr. 28, 2023	N/A	Radiation (03CH20-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Mar. 16, 2023~ Apr. 28, 2023	N/A	Radiation (03CH20-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Mar. 16, 2023~ Apr. 28, 2023	N/A	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 17, 2022	Mar. 20, 2023~ Apr. 15, 2023	Nov. 16, 2023	Conducted (TH05-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 17, 2022	Apr. 11, 2023~ Apr. 24, 2023	Nov. 16, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 13, 2022	Mar. 20, 2023~ Apr. 24, 2023	Dec. 12, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO 31 (NO:182)	10MHz~6GHz	Jan. 11, 2023	Mar. 20, 2023~ Apr. 24, 2023	Jan. 10, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO 32 (NO:43)	10MHz~6GHz	Dec. 07, 2022	Mar. 20, 2023~ Apr. 24, 2023	Dec. 06, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	15I00041SNO 09 (NO:128)	10MHz~6GHz	Jan. 19, 2023	Mar. 20, 2023~ Apr. 24, 2023	Jan. 18, 2024	Conducted (TH05-HY)
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV3044	101466	10Hz~44GHz	Feb. 01, 2023	Mar. 20, 2023~ Apr. 24, 2023	Jan. 31, 2024	Conducted (TH05-HY)
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV3044	101467	10Hz~44GHz	Feb. 01, 2023	Mar. 20, 2023~ Apr. 24, 2023	Jan. 31, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101434	10Hz~44GHz	Oct. 28, 2022	Mar. 20, 2023~ Apr. 24, 2023	Oct. 27, 2023	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101436	10Hz~44GHz	Nov. 23, 2022	Mar. 20, 2023~ Apr. 24, 2023	Nov. 22, 2023	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Mar. 23, 2023	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2022	Mar. 23, 2023	Nov. 30, 2023	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2022	Mar. 23, 2023	Nov. 16, 2023	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 17, 2022	Mar. 23, 2023	Nov. 16, 2023	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Mar. 23, 2023	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Aug. 01, 2022	Mar. 23, 2023	Jul. 31, 2023	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 29, 2022	Mar. 23, 2023	Dec. 28, 2023	Conduction (CO05-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.5 dB

<For 03CH07-HY>

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.5 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.5 dB

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.2 dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.3 dB

<For 03CH20-HY>

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.5 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.3 dB

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.8 dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.4 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer	Derek Hsu and Sylvia Li	Temperature	21~25	°C
Test Date	2023/03/20~2023/04/24	Relative Humidity	51~54	%

<CDD Mode>

TEST RESULTS DATA
26dB and 99% OBW

Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)				IC 99% Bandwidth EIRP Limit (dBm)
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4
11a	6Mbps	4	36	5180	21.60	20.76	20.34	20.58	16.56	16.46	16.40	16.43	22.15
11a	6Mbps	4	44	5220	21.42	20.94	20.76	20.76	16.57	16.50	16.48	16.45	22.16
11a	6Mbps	4	48	5240	20.88	20.88	20.88	20.70	16.52	16.46	16.49	16.45	22.16

TEST RESULTS DATA
Average Power Table

FCC Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Conducted Power (dBm)					FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
11a	6Mbps	4	36	5180	21.60	21.96	20.82	21.27	27.45	30.00	3.25	Pass
11a	6Mbps	4	44	5220	22.45	22.47	21.86	22.08	28.24	30.00	3.25	Pass
11a	6Mbps	4	48	5240	22.47	22.19	21.84	22.29	28.22	30.00	3.25	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
11a	6Mbps	4	36	5180	0.34	0.38	0.36	0.38	16.22	17	4.41	Pass
11a	6Mbps	4	44	5220	0.34	0.38	0.36	0.38	16.96	17	4.41	Pass
11a	6Mbps	4	48	5240	0.34	0.38	0.36	0.38	16.89	17	4.41	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	Note
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	
11a	6Mbps	4	52	5260	19.32	19.20	19.38	19.20	23.83	
11a	6Mbps	4	60	5300	19.56	19.20	19.50	19.38	23.83	
11a	6Mbps	4	64	5320	19.32	19.32	19.44	19.38	23.86	

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
11a	6Mbps	4	52	5260	16.36	16.38	16.41	16.38	23.14	29.14			
11a	6Mbps	4	60	5300	16.36	16.38	16.41	16.36	23.14	29.14			
11a	6Mbps	4	64	5320	16.37	16.39	16.40	16.36	23.14	29.14			

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Conducted Power (dBm)					FCC Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
11a	6Mbps	4	52	5260	16.00	16.13	15.61	15.92	21.94	23.83	3.25	25.19	30.00	Pass
11a	6Mbps	4	60	5300	15.99	15.99	15.61	15.99	21.92	23.83	3.25	25.17	30.00	Pass
11a	6Mbps	4	64	5320	16.49	16.43	15.74	16.13	22.23	23.86	3.25	25.48	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
11a	6Mbps	4	52	5260	0.34	0.38	0.36	0.38	10.71	11.00	4.41	Pass
11a	6Mbps	4	60	5300	0.34	0.38	0.36	0.38	10.71	11.00	4.41	Pass
11a	6Mbps	4	64	5320	0.34	0.38	0.36	0.38	10.96	11.00	4.41	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	6 dB Bandwidth for Straddle Channel (MHz)			
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
11a	6Mbps	4	100	5500	19.38	19.20	19.20	19.44	23.83	----	----	----	----
11a	6Mbps	4	116	5580	19.26	19.14	19.38	19.68	23.82	----	----	----	----
11a	6Mbps	4	140	5700	19.26	19.38	19.32	19.32	23.85	----	----	----	----

Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	6 dB Bandwidth for Straddle Channel (MHz)			
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
11a	6Mbps	4	144	5720	14.90	14.72	14.84	14.90	22.68	3.20	3.20	3.20	3.20

Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4
11a	6Mbps	4	100	5500	16.38	16.37	16.37	16.37	23.14	29.14
11a	6Mbps	4	116	5580	16.38	16.37	16.37	16.38	23.14	29.14
11a	6Mbps	4	140	5700	16.37	16.37	16.38	16.37	23.14	29.14

Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4
11a	6Mbps	4	144	5720	13.26	13.24	13.24	13.23	22.22	28.22

TEST RESULTS DATA
Average Power Table

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Conducted Power (dB)					FCC Power Limit (dBm)	DG (dBi)	FCC EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
11a	6Mbps	4	100	5500	16.35	16.44	15.84	16.14	22.22	23.83	3.26	25.48	30.00	Pass
11a	6Mbps	4	116	5580	16.60	16.45	15.97	16.19	22.33	23.82	3.26	25.59	30.00	Pass
11a	6Mbps	4	140	5700	15.97	15.91	15.48	15.80	21.81	23.85	3.26	25.07	30.00	Pass

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Conducted Power (dB)					FCC Power Limit (dBm)	DG (dBi)	FCC EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
11a	6Mbps	4	144	5720	16.78	16.10	15.43	15.97	22.12	22.68	3.26	25.38	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
11a	6Mbps	4	100	5500	0.34	0.38	0.36	0.38	10.91	11.00	4.36	Pass
11a	6Mbps	4	116	5580	0.34	0.38	0.36	0.38	10.99	11.00	4.36	Pass
11a	6Mbps	4	140	5700	0.34	0.38	0.36	0.38	10.52	11.00	4.36	Pass

FCC Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
11a	6Mbps	4	144	5720	0.34	0.38	0.36	0.38	10.85	11.00	4.36	Pass

TEST RESULTS DATA
6dB and 99% OBW

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																		
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	26dB Bandwidth (MHz)				6 dB Bandwidth (MHz)				99% Bandwidth (MHz)				6 dB Min. Limit (MHz)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4		
11a	6Mbps	4	149	5745	35.64	33.90	31.50	25.68	16.10	16.10	16.10	16.40	19.94	17.40	16.84	16.70	0.5	Pass
11a	6Mbps	4	157	5785	35.46	34.32	35.70	34.68	16.10	16.35	16.00	16.15	18.64	17.95	18.37	18.22	0.5	Pass
11a	6Mbps	4	165	5825	40.80	41.94	39.24	39.18	16.25	16.20	15.85	16.10	28.28	28.43	23.87	23.19	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Conducted Power (dBm)					FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/ Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
11a	6Mbps	4	149	5745	23.95	23.40	23.31	23.42	29.55	30.00	2.69	Pass
11a	6Mbps	4	157	5785	23.60	23.30	23.69	23.56	29.56	30.00	2.69	Pass
11a	6Mbps	4	165	5825	23.84	23.31	23.65	23.91	29.70	30.00	2.69	Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																			
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)				Duty Factor (dB)				Average Power Density with Duty Factor (dBm/500kHz)					Average PSD Limit (dBm/500kHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	SUM			
11a	6Mbps	4	149	5745	2.22				0.34	0.38	0.36	0.38	9.30	9.12	9.14	9.10	15.32	30.00	4.27	Pass
11a	6Mbps	4	157	5785	2.22				0.34	0.38	0.36	0.38	8.82	8.67	9.40	9.17	15.42	30.00	4.27	Pass
11a	6Mbps	4	165	5825	2.22				0.34	0.38	0.36	0.38	9.14	8.76	9.45	9.50	15.52	30.00	4.27	Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2, Ant. 3, Ant. 4) + 10 log (n)

TEST RESULTS DATA
26dB and 99% OBW

Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)				IC 99% Bandwidth EIRP Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4
HE20	MCS0	4	36	5180	Full	21.36	21.06	21.18	21.30	18.93	18.88	18.91	18.85	22.75
HE20	MCS0	4	44	5220	Full	21.24	21.90	21.48	20.82	18.93	18.91	18.92	18.62	22.70
HE20	MCS0	4	48	5240	Full	21.48	21.06	21.48	21.42	18.91	18.90	18.92	18.87	22.76
HE40	MCS0	4	38	5190	Full	40.20	40.44	40.32	40.08	37.78	37.89	37.87	37.87	23.01
HE40	MCS0	4	46	5230	Full	66.60	69.00	59.28	48.48	38.77	38.42	38.29	38.20	23.01
HE80	MCS0	4	42	5210	Full	82.56	82.32	83.04	82.56	77.08	77.21	77.00	77.00	23.01

TEST RESULTS DATA
Average Power Table

FCC Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	36	5180	Full	20.45	20.77	20.28	20.18	26.45	30.00	3.25	Pass
HE20	MCS0	4	36	5180	26*4	15.13	15.12	14.58	14.73	20.92	30.00	3.25	Pass
HE20	MCS0	4	36	5180	52*4	17.66	17.90	17.33	17.34	23.58	30.00	3.25	Pass
HE20	MCS0	4	36	5180	106*4	19.94	20.28	19.69	19.72	25.93	30.00	3.25	Pass
HE20	MCS0	4	44	5220	Full	21.99	21.99	21.52	21.51	27.78	30.00	3.25	Pass
HE20	MCS0	4	44	5220	26*4	16.65	16.80	16.00	16.01	22.40	30.00	3.25	Pass
HE20	MCS0	4	44	5220	52*4	19.23	19.22	18.43	18.42	24.86	30.00	3.25	Pass
HE20	MCS0	4	44	5220	106*4	21.95	21.98	21.42	21.41	27.72	30.00	3.25	Pass
HE20	MCS0	4	48	5240	Full	21.76	21.62	21.57	21.83	27.72	30.00	3.25	Pass
HE20	MCS0	4	48	5240	26*4	16.53	16.58	16.00	16.24	22.36	30.00	3.25	Pass
HE20	MCS0	4	48	5240	52*4	19.08	18.97	18.50	18.69	24.84	30.00	3.25	Pass
HE20	MCS0	4	48	5240	106*4	21.75	21.56	21.34	21.68	27.61	30.00	3.25	Pass
HE40	MCS0	4	38	5190	Full	19.74	19.98	19.33	19.46	25.66	30.00	3.25	Pass
HE40	MCS0	4	46	5230	Full	23.92	23.85	23.50	23.46	29.71	30.00	3.25	Pass
HE80	MCS0	4	42	5210	Full	17.48	18.12	17.44	17.20	23.59	30.00	3.25	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
HE20	MCS0	4	36	5180	Full	1.03	1.00	1.00	1.03	15.18	17.00	4.41	Pass
HE20	MCS0	4	36	5180	26*4	0.43	0.43	0.39	0.43	14.83	17.00	4.41	Pass
HE20	MCS0	4	36	5180	52*4	0.46	0.43	0.43	0.43	15.17	17.00	4.41	Pass
HE20	MCS0	4	36	5180	106*4	0.56	0.56	0.56	0.56	14.69	17.00	4.41	Pass
HE20	MCS0	4	44	5220	Full	1.03	1.00	1.00	1.03	16.63	17.00	4.41	Pass
HE20	MCS0	4	44	5220	26*4	0.43	0.43	0.39	0.43	16.44	17.00	4.41	Pass
HE20	MCS0	4	44	5220	52*4	0.46	0.43	0.43	0.43	16.40	17.00	4.41	Pass
HE20	MCS0	4	44	5220	106*4	0.56	0.56	0.56	0.56	16.55	17.00	4.41	Pass
HE20	MCS0	4	48	5240	Full	1.03	1.00	1.00	1.03	16.65	17.00	4.41	Pass
HE20	MCS0	4	48	5240	26*4	0.43	0.43	0.39	0.43	16.40	17.00	4.41	Pass
HE20	MCS0	4	48	5240	52*4	0.46	0.43	0.43	0.43	16.44	17.00	4.41	Pass
HE20	MCS0	4	48	5240	106*4	0.56	0.56	0.56	0.56	16.57	17.00	4.41	Pass
HE40	MCS0	4	38	5190	Full	1.07	1.01	1.01	1.01	11.64	17.00	4.41	Pass
HE40	MCS0	4	46	5230	Full	1.07	1.01	1.01	1.01	15.59	17.00	4.41	Pass
HE80	MCS0	4	42	5210	Full	1.04	1.01	1.01	1.04	6.60	17.00	4.41	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	Note
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	52	5260	Full	21.06	21.18	21.12	20.94	23.98	
HE20	MCS0	4	60	5300	Full	20.94	21.12	21.24	20.82	23.98	
HE20	MCS0	4	64	5320	Full	21.12	21.12	21.18	20.88	23.98	
HE40	MCS0	4	54	5270	Full	40.32	40.44	40.32	40.08	23.98	
HE40	MCS0	4	62	5310	Full	40.20	40.32	40.20	40.20	23.98	
HE80	MCS0	4	58	5290	Full	83.04	82.56	82.56	83.04	23.98	
HE160	MCS0	4	50	5250	Full	165.12	164.64	164.64	165.60	23.98	

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)			
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
HE20	MCS0	4	52	5260	Full	18.86	18.86	18.84	18.83	23.75	29.75			
HE20	MCS0	4	60	5300	Full	18.85	18.86	18.84	18.84	23.75	29.75			
HE20	MCS0	4	64	5320	Full	18.88	18.85	18.84	18.86	23.75	29.75			
HE40	MCS0	4	54	5270	Full	37.83	37.81	37.82	37.78	23.98	30.00			
HE40	MCS0	4	62	5310	Full	37.82	37.79	37.79	37.86	23.98	30.00			
HE80	MCS0	4	58	5290	Full	77.20	76.96	77.08	77.08	23.98	30.00			
HE160	MCS0	4	50	5250	Full	154.47	154.73	154.48	154.88	23.98	30.00			

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					FCC Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
HE20	MCS0	4	52	5260	Full	16.09	16.08	15.72	15.89	21.97	23.98	3.25	25.22	30.00	Pass
HE20	MCS0	4	52	5260	26*4	10.32	10.65	9.91	10.19	16.30	23.98	3.25	19.55	30.00	Pass
HE20	MCS0	4	52	5260	52*4	13.54	13.68	12.98	13.36	19.42	23.98	3.25	22.67	30.00	Pass
HE20	MCS0	4	52	5260	106*4	16.00	16.04	15.60	15.79	21.88	23.98	3.25	25.13	30.00	Pass
HE20	MCS0	4	60	5300	Full	16.00	16.00	15.58	16.00	21.92	23.98	3.25	25.17	30.00	Pass
HE20	MCS0	4	60	5300	26*4	10.44	10.52	9.70	10.55	16.34	23.98	3.25	19.59	30.00	Pass
HE20	MCS0	4	60	5300	52*4	12.99	13.13	12.59	13.12	18.98	23.98	3.25	22.23	30.00	Pass
HE20	MCS0	4	60	5300	106*4	15.50	15.43	15.00	15.44	21.37	23.98	3.25	24.62	30.00	Pass
HE20	MCS0	4	64	5320	Full	16.00	15.92	15.12	15.63	21.70	23.98	3.25	24.95	30.00	Pass
HE20	MCS0	4	64	5320	26*4	10.81	10.80	10.05	10.77	16.64	23.98	3.25	19.89	30.00	Pass
HE20	MCS0	4	64	5320	52*4	12.75	13.06	12.21	12.74	18.72	23.98	3.25	21.97	30.00	Pass
HE20	MCS0	4	64	5320	106*4	15.90	15.87	15.00	15.52	21.61	23.98	3.25	24.86	30.00	Pass
HE40	MCS0	4	54	5270	Full	17.84	17.78	17.37	17.61	23.67	23.98	3.25	26.92	30.00	Pass
HE40	MCS0	4	62	5310	Full	17.94	18.00	17.69	18.00	23.93	23.98	3.25	27.18	30.00	Pass
HE80	MCS0	4	58	5290	Full	17.84	18.00	17.93	18.00	23.96	23.98	3.25	27.21	30.00	Pass
HE160	MCS0	4	50	5250	Full	15.42	15.31	14.97	15.08	21.22	23.98	3.25	24.47	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
HE20	MCS0	4	52	5260	Full	1.03	1.00	1.00	1.03	10.80	11.00	4.41	Pass
HE20	MCS0	4	52	5260	26*4	0.43	0.43	0.39	0.43	10.41	11.00	4.41	Pass
HE20	MCS0	4	52	5260	52*4	0.46	0.43	0.43	0.43	10.71	11.00	4.41	Pass
HE20	MCS0	4	52	5260	106*4	0.56	0.56	0.56	0.56	10.78	11.00	4.41	Pass
HE20	MCS0	4	60	5300	Full	1.03	1.00	1.00	1.03	10.80	11.00	4.41	Pass
HE20	MCS0	4	60	5300	26*4	0.43	0.43	0.39	0.43	10.51	11.00	4.41	Pass
HE20	MCS0	4	60	5300	52*4	0.46	0.43	0.43	0.43	10.38	11.00	4.41	Pass
HE20	MCS0	4	60	5300	106*4	0.56	0.56	0.56	0.56	10.35	11.00	4.41	Pass
HE20	MCS0	4	64	5320	Full	1.03	1.00	1.00	1.03	10.59	11.00	4.41	Pass
HE20	MCS0	4	64	5320	26*4	0.43	0.43	0.39	0.43	10.58	11.00	4.41	Pass
HE20	MCS0	4	64	5320	52*4	0.46	0.43	0.43	0.43	10.06	11.00	4.41	Pass
HE20	MCS0	4	64	5320	106*4	0.56	0.56	0.56	0.56	10.49	11.00	4.41	Pass
HE40	MCS0	4	54	5270	Full	1.07	1.01	1.01	1.01	9.72	11.00	4.41	Pass
HE40	MCS0	4	62	5310	Full	1.07	1.01	1.01	1.01	9.87	11.00	4.41	Pass
HE80	MCS0	4	58	5290	Full	1.04	1.01	1.01	1.04	6.87	11.00	4.41	Pass
HE160	MCS0	4	50	5250	Full	1.04	1.04	1.02	1.04	1.45	11.00	4.41	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	6 dB Bandwidth for Straddle Channel (MHz)			
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
HE20	MCS0	4	100	5500	Full	21.30	21.18	21.12	20.88	23.98	----	----	----	----
HE20	MCS0	4	116	5580	Full	21.06	20.82	21.54	20.94	23.98	----	----	----	----
HE20	MCS0	4	140	5700	Full	20.94	21.06	21.24	21.12	23.98	----	----	----	----
HE40	MCS0	4	102	5510	Full	40.20	40.20	40.44	40.20	23.98	----	----	----	----
HE40	MCS0	4	110	5550	Full	40.20	40.20	40.20	40.08	23.98	----	----	----	----
HE40	MCS0	4	134	5670	Full	40.44	40.56	40.20	40.56	23.98	----	----	----	----
HE80	MCS0	4	106	5530	Full	82.80	82.32	82.80	82.80	23.98	----	----	----	----
HE80	MCS0	4	122	5610	Full	83.04	82.56	82.56	83.04	23.98	----	----	----	----
HE160	MCS0	4	114	5570	Full	165.60	164.64	166.08	164.64	23.98	----	----	----	----

Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	6 dB Bandwidth for Straddle Channel (MHz)			
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
HE20	MCS0	4	144	5720	Full	15.50	15.44	15.56	15.44	22.89	4.40	4.40	4.45	4.35
HE40	MCS0	4	142	5710	Full	35.04	35.16	35.28	35.28	23.98	4.08	3.63	3.81	3.90
HE80	MCS0	4	138	5690	Full	76.52	76.28	76.28	76.28	23.98	3.72	3.72	3.56	4.04

Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4
HE20	MCS0	4	100	5500	Full	18.87	18.84	18.85	18.85	23.75	29.75
HE20	MCS0	4	116	5580	Full	18.85	18.85	18.85	18.85	23.75	29.75
HE20	MCS0	4	140	5700	Full	18.88	18.85	18.86	18.86	23.75	29.75
HE40	MCS0	4	102	5510	Full	37.88	37.84	37.83	37.80	23.98	30.00
HE40	MCS0	4	110	5550	Full	37.83	37.90	37.88	37.81	23.98	30.00
HE40	MCS0	4	134	5670	Full	37.81	37.88	37.84	37.93	23.98	30.00
HE80	MCS0	4	106	5530	Full	77.31	77.16	77.21	77.14	23.98	30.00
HE80	MCS0	4	122	5610	Full	77.10	77.16	77.07	77.12	23.98	30.00
HE160	MCS0	4	114	5570	Full	154.66	154.64	155.08	154.98	23.98	30.00

Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4
HE20	MCS0	4	144	5720	Full	14.49	14.47	14.45	14.46	22.60	28.60
HE40	MCS0	4	142	5710	Full	33.99	33.96	33.98	33.95	23.98	30.00
HE80	MCS0	4	138	5690	Full	73.65	73.65	73.62	73.60	23.98	30.00

TEST RESULTS DATA
Average Power Table

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dB)					FCC Power Limit (dBm)	DG (dBi)	FCC EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
HE20	MCS0	4	100	5500	Full	16.34	16.26	15.95	16.15	22.20	23.98	3.26	25.46	30.00	Pass
HE20	MCS0	4	100	5500	26*4	11.18	10.69	10.09	10.78	16.72	23.98	3.26	19.98	30.00	Pass
HE20	MCS0	4	100	5500	52*4	13.67	13.28	13.00	13.43	19.37	23.98	3.26	22.63	30.00	Pass
HE20	MCS0	4	100	5500	106*4	15.83	15.72	15.38	15.65	21.67	23.98	3.26	24.93	30.00	Pass
HE20	MCS0	4	116	5580	Full	16.05	15.82	15.67	15.66	21.82	23.98	3.26	25.08	30.00	Pass
HE20	MCS0	4	116	5580	26*4	10.73	10.11	10.04	10.21	16.30	23.98	3.26	19.56	30.00	Pass
HE20	MCS0	4	116	5580	52*4	13.24	12.78	12.43	12.70	18.82	23.98	3.26	22.08	30.00	Pass
HE20	MCS0	4	116	5580	106*4	16.01	15.80	15.53	15.64	21.77	23.98	3.26	25.03	30.00	Pass
HE20	MCS0	4	140	5700	Full	16.01	15.95	15.69	15.69	21.86	23.98	3.26	25.12	30.00	Pass
HE20	MCS0	4	140	5700	26*4	11.06	10.74	10.04	10.34	16.58	23.98	3.26	19.84	30.00	Pass
HE20	MCS0	4	140	5700	52*4	13.73	13.18	12.82	12.85	19.18	23.98	3.26	22.44	30.00	Pass
HE20	MCS0	4	140	5700	106*4	16.00	15.90	15.49	15.68	21.79	23.98	3.26	25.05	30.00	Pass
HE40	MCS0	4	102	5510	Full	17.88	17.31	17.54	17.32	23.54	23.98	3.26	26.80	30.00	Pass
HE40	MCS0	4	110	5550	Full	18.14	17.41	17.29	17.11	23.53	23.98	3.26	26.79	30.00	Pass
HE40	MCS0	4	134	5670	Full	18.25	17.39	17.94	17.26	23.75	23.98	3.26	27.01	30.00	Pass
HE80	MCS0	4	106	5530	Full	18.50	17.91	17.68	17.56	23.95	23.98	3.26	27.21	30.00	Pass
HE80	MCS0	4	122	5610	Full	17.96	17.72	18.07	18.05	23.97	23.98	3.26	27.23	30.00	Pass
HE160	MCS0	4	114	5570	Full	17.01	16.85	16.45	16.62	22.76	23.98	3.26	26.02	30.00	Pass

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dB)					FCC Power Limit (dBm)	DG (dBi)	FCC EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
HE20	MCS0	4	144	5720	Full	16.67	15.98	15.71	15.78	22.07	22.89	3.26	25.33	30.00	Pass
HE20	MCS0	4	144	5720	26*4	11.49	10.91	10.05	10.48	16.79	22.89	3.26	20.05	30.00	Pass
HE20	MCS0	4	144	5720	52*4	14.09	13.49	12.82	12.85	19.37	22.89	3.26	22.63	30.00	Pass
HE20	MCS0	4	144	5720	106*4	16.66	15.93	15.65	15.77	22.04	22.89	3.26	25.30	30.00	Pass
HE40	MCS0	4	142	5710	Full	18.18	17.96	17.70	17.25	23.81	23.98	3.26	27.07	30.00	Pass
HE80	MCS0	4	138	5690	Full	17.99	17.74	17.56	16.91	23.59	23.98	3.26	26.85	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
HE20	MCS0	4	100	5500	Full	1.03	1.00	1.00	1.03	10.97	11.00	4.36	Pass
HE20	MCS0	4	100	5500	26*4	0.43	0.43	0.39	0.43	10.71	11.00	4.36	Pass
HE20	MCS0	4	100	5500	52*4	0.46	0.43	0.43	0.43	10.82	11.00	4.36	Pass
HE20	MCS0	4	100	5500	106*4	0.56	0.56	0.56	0.56	10.58	11.00	4.36	Pass
HE20	MCS0	4	116	5580	Full	1.03	1.00	1.00	1.03	10.75	11.00	4.36	Pass
HE20	MCS0	4	116	5580	26*4	0.43	0.43	0.39	0.43	10.44	11.00	4.36	Pass
HE20	MCS0	4	116	5580	52*4	0.46	0.43	0.43	0.43	10.27	11.00	4.36	Pass
HE20	MCS0	4	116	5580	106*4	0.56	0.56	0.56	0.56	10.65	11.00	4.36	Pass
HE20	MCS0	4	140	5700	Full	1.03	1.00	1.00	1.03	10.75	11.00	4.36	Pass
HE20	MCS0	4	140	5700	26*4	0.43	0.43	0.39	0.43	10.72	11.00	4.36	Pass
HE20	MCS0	4	140	5700	52*4	0.46	0.43	0.43	0.43	10.55	11.00	4.36	Pass
HE20	MCS0	4	140	5700	106*4	0.56	0.56	0.56	0.56	10.57	11.00	4.36	Pass
HE40	MCS0	4	102	5510	Full	1.07	1.01	1.01	1.01	9.61	11.00	4.36	Pass
HE40	MCS0	4	110	5550	Full	1.07	1.01	1.01	1.01	9.63	11.00	4.36	Pass
HE40	MCS0	4	134	5670	Full	1.07	1.01	1.01	1.01	9.86	11.00	4.36	Pass
HE80	MCS0	4	106	5530	Full	1.04	1.01	1.01	1.04	6.92	11.00	4.36	Pass
HE80	MCS0	4	122	5610	Full	1.04	1.01	1.01	1.04	7.00	11.00	4.36	Pass
HE160	MCS0	4	114	5570	Full	1.04	1.04	1.02	1.04	2.67	11.00	4.36	Pass

FCC Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)				Average Power Density with Duty Factor (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4			
HE20	MCS0	4	144	5720	Full	1.03	1.00	1.00	1.03	10.92	11.00	4.36	Pass
HE20	MCS0	4	144	5720	26*4	0.43	0.43	0.39	0.43	10.87	11.00	4.36	Pass
HE20	MCS0	4	144	5720	52*4	0.46	0.43	0.43	0.43	10.89	11.00	4.36	Pass
HE20	MCS0	4	144	5720	106*4	0.56	0.56	0.56	0.56	10.86	11.00	4.36	Pass
HE40	MCS0	4	142	5710	Full	1.07	1.01	1.01	1.01	9.85	11.00	4.36	Pass
HE80	MCS0	4	138	5690	Full	1.04	1.01	1.01	1.04	6.54	11.00	4.36	Pass

TEST RESULTS DATA
6dB and 99% OBW

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																			
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26dB Bandwidth (MHz)				6 dB Bandwidth (MHz)				99% Bandwidth (MHz)				6 dB Min. Limit (MHz)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4		
HE20	MCS0	4	149	5745	Full	35.94	33.00	28.14	25.32	18.75	18.70	18.70	18.45	19.67	19.13	19.13	19.03	0.5	Pass
HE20	MCS0	4	157	5785	Full	37.74	37.80	39.06	37.56	18.75	18.40	18.70	18.85	19.97	19.46	19.88	19.59	0.5	Pass
HE20	MCS0	4	165	5825	Full	44.22	45.24	41.40	37.50	18.20	18.60	18.60	18.70	26.39	26.16	22.78	19.81	0.5	Pass
HE40	MCS0	4	151	5755	Full	78.00	74.04	67.32	65.16	37.53	37.80	37.98	36.72	42.87	39.28	38.57	38.45	0.5	Pass
HE40	MCS0	4	159	5795	Full	78.36	79.32	77.88	69.84	37.17	37.62	37.71	37.62	39.80	38.97	39.53	38.68	0.5	Pass
HE80	MCS0	4	155	5775	Full	136.80	126.24	127.92	111.84	74.56	76.00	76.16	75.68	77.63	77.55	77.53	77.45	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/ Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	149	5745	Full	23.95	23.51	23.62	23.60	29.69	30.00	2.69	Pass
HE20	MCS0	4	149	5745	26*4	17.67	17.01	16.91	17.15	23.22	30.00	2.69	Pass
HE20	MCS0	4	149	5745	52*4	20.31	19.65	19.61	19.61	25.83	30.00	2.69	Pass
HE20	MCS0	4	149	5745	106*4	23.12	22.58	22.45	22.67	28.73	30.00	2.69	Pass
HE20	MCS0	4	157	5785	Full	23.80	23.46	23.95	23.90	29.80	30.00	2.69	Pass
HE20	MCS0	4	157	5785	26*4	17.54	17.08	17.47	17.44	23.41	30.00	2.69	Pass
HE20	MCS0	4	157	5785	52*4	20.25	19.61	20.16	20.04	26.04	30.00	2.69	Pass
HE20	MCS0	4	157	5785	106*4	23.01	22.62	22.70	23.14	28.89	30.00	2.69	Pass
HE20	MCS0	4	165	5825	Full	23.65	23.23	23.78	23.65	29.60	30.00	2.69	Pass
HE20	MCS0	4	165	5825	26*4	17.83	17.00	17.51	17.42	23.47	30.00	2.69	Pass
HE20	MCS0	4	165	5825	52*4	20.37	19.49	20.00	19.82	25.95	30.00	2.69	Pass
HE20	MCS0	4	165	5825	106*4	22.87	22.31	22.68	22.79	28.69	30.00	2.69	Pass
HE40	MCS0	4	151	5755	Full	24.40	23.95	23.80	23.52	29.95	30.00	2.69	Pass
HE40	MCS0	4	159	5795	Full	23.88	23.20	23.97	23.21	29.60	30.00	2.69	Pass
HE80	MCS0	4	155	5775	Full	22.91	22.51	23.14	22.91	28.89	30.00	2.69	Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																			
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	10log (500kHz /RBW) Factor (dB)				Duty Factor (dB)				Average Power Density with Duty Factor (dBm/500kHz)					Average PSD Limit (dBm/500kHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	SUM			
HE20	MCS0	4	149	5745	Full	2.22				1.03	1.00	1.00	1.03	8.84	8.51	8.81	8.59	14.86	30.00	4.27	Pass
HE20	MCS0	4	149	5745	26*4	2.22				0.43	0.43	0.39	0.43	8.78	8.11	8.36	8.17	14.80	30.00	4.27	Pass
HE20	MCS0	4	149	5745	52*4	2.22				0.46	0.43	0.43	0.43	8.78	8.26	8.50	7.98	14.80	30.00	4.27	Pass
HE20	MCS0	4	149	5745	106*4	2.22				0.56	0.56	0.56	0.56	8.63	8.41	8.39	8.34	14.65	30.00	4.27	Pass
HE20	MCS0	4	157	5785	Full	2.22				1.03	1.00	1.00	1.03	8.51	8.42	9.04	8.85	15.06	30.00	4.27	Pass
HE20	MCS0	4	157	5785	26*4	2.22				0.43	0.43	0.39	0.43	8.55	8.08	8.85	8.32	14.87	30.00	4.27	Pass
HE20	MCS0	4	157	5785	52*4	2.22				0.46	0.43	0.43	0.43	8.47	8.31	8.86	8.54	14.88	30.00	4.27	Pass
HE20	MCS0	4	157	5785	106*4	2.22				0.56	0.56	0.56	0.56	8.46	8.31	8.43	8.62	14.64	30.00	4.27	Pass
HE20	MCS0	4	165	5825	Full	2.22				1.03	1.00	1.00	1.03	8.34	8.15	8.81	8.48	14.83	30.00	4.27	Pass
HE20	MCS0	4	165	5825	26*4	2.22				0.43	0.43	0.39	0.43	8.73	8.10	8.60	8.47	14.75	30.00	4.27	Pass
HE20	MCS0	4	165	5825	52*4	2.22				0.46	0.43	0.43	0.43	8.51	7.85	8.62	7.90	14.64	30.00	4.27	Pass
HE20	MCS0	4	165	5825	106*4	2.22				0.56	0.56	0.56	0.56	8.25	7.97	8.59	8.21	14.61	30.00	4.27	Pass
HE40	MCS0	4	151	5755	Full	2.22				1.07	1.01	1.01	1.01	6.51	6.14	6.26	5.94	12.53	30.00	4.27	Pass
HE40	MCS0	4	159	5795	Full	2.22				1.07	1.01	1.01	1.01	5.90	5.39	6.54	5.56	12.56	30.00	4.27	Pass
HE80	MCS0	4	155	5775	Full	2.22				1.04	1.01	1.01	1.04	1.91	1.76	2.54	1.97	8.56	30.00	4.27	Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2, Ant. 3, Ant. 4) + 10 log (n)

<TXBF Mode>

TEST RESULTS DATA
26dB and 99% OBW

Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)				IC 99% Bandwidth EIRP Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4
HE20	MCS0	4	36	5180	Full	21.00	21.12	21.18	21.06	18.84	18.87	18.89	18.87	22.75
HE20	MCS0	4	44	5220	Full	21.36	21.42	20.94	21.18	18.93	18.92	18.92	18.90	22.77
HE20	MCS0	4	48	5240	Full	21.24	21.30	21.06	21.24	18.94	18.97	18.90	18.90	22.76
HE40	MCS0	4	38	5190	Full	40.68	40.08	40.08	40.08	37.91	37.68	37.84	37.92	23.01
HE40	MCS0	4	46	5230	Full	45.12	43.08	40.68	41.28	38.53	38.04	38.26	38.11	23.01
HE80	MCS0	4	42	5210	Full	81.84	82.08	81.84	82.32	76.80	76.82	76.41	76.60	23.01

TEST RESULTS DATA
Average Power Table

FCC Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	36	5180	Full	17.13	17.03	16.20	16.77	22.82	30.00	4.41	Pass
HE20	MCS0	4	44	5220	Full	21.11	21.32	20.60	20.40	26.89	30.00	4.41	Pass
HE20	MCS0	4	48	5240	Full	21.18	20.95	20.95	20.78	26.99	30.00	4.41	Pass
HE40	MCS0	4	38	5190	Full	15.40	15.97	15.36	15.36	21.55	30.00	4.41	Pass
HE40	MCS0	4	46	5230	Full	22.61	22.49	22.15	21.85	28.31	30.00	4.41	Pass
HE80	MCS0	4	42	5210	Full	14.71	15.93	13.70	14.34	20.77	30.00	4.41	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I MIMO 4Tx Mode Ant 1 + 2 + 3 + 4									
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	Pass /Fail
						Ant 1 + 2 + 3 + 4		Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	36	5180	Full	12.66	17.00	4.41	Pass
HE20	MCS0	4	44	5220	Full	16.81	17.00	4.41	Pass
HE20	MCS0	4	48	5240	Full	16.97	17.00	4.41	Pass
HE40	MCS0	4	38	5190	Full	9.71	17.00	4.41	Pass
HE40	MCS0	4	46	5230	Full	16.93	17.00	4.41	Pass
HE80	MCS0	4	42	5210	Full	10.51	17.00	4.41	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	Note
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	52	5260	Full	20.82	21.18	21.00	20.76	23.98	
HE20	MCS0	4	60	5300	Full	21.24	21.12	21.12	21.24	23.98	
HE20	MCS0	4	64	5320	Full	21.36	21.12	21.12	21.00	23.98	
HE40	MCS0	4	54	5270	Full	40.92	40.44	40.44	40.68	23.98	
HE40	MCS0	4	62	5310	Full	40.56	40.32	40.08	40.08	23.98	
HE80	MCS0	4	58	5290	Full	83.04	82.08	81.84	81.84	23.98	
HE160	MCS0	4	50	5250	Full	162.72	162.72	162.24	163.68	23.98	

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)			
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
HE20	MCS0	4	52	5260	Full	18.93	18.89	18.87	18.88	23.76	29.76			
HE20	MCS0	4	60	5300	Full	18.89	18.89	18.91	19.01	23.76	29.76			
HE20	MCS0	4	64	5320	Full	18.89	18.89	18.87	18.90	23.76	29.76			
HE40	MCS0	4	54	5270	Full	37.80	37.78	37.75	37.85	23.98	30.00			
HE40	MCS0	4	62	5310	Full	37.86	37.78	37.80	37.68	23.98	30.00			
HE80	MCS0	4	58	5290	Full	76.85	76.80	76.88	76.92	23.98	30.00			
HE160	MCS0	4	50	5250	Full	155.41	155.13	154.50	156.53	23.98	30.00			

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					DG (dBi)	EIRP Power (dBm)	FCC EIRP Power Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	52	5260	Full	14.47	14.30	14.13	13.80	20.20	4.41	24.61	30.00
HE20	MCS0	4	60	5300	Full	15.11	15.05	14.65	14.37	20.83	4.41	25.24	30.00
HE20	MCS0	4	64	5320	Full	14.70	14.85	14.02	14.59	20.57	4.41	24.98	30.00
HE40	MCS0	4	54	5270	Full	16.69	17.01	17.05	16.38	22.81	4.41	27.22	30.00
HE40	MCS0	4	62	5310	Full	16.66	16.31	16.13	16.01	22.31	4.41	26.72	30.00
HE80	MCS0	4	58	5290	Full	15.49	15.37	15.04	14.55	21.15	4.41	25.56	30.00
HE160	MCS0	4	50	5250	Full	14.48	13.87	14.14	13.50	20.03	4.41	24.44	30.00

TEST RESULTS DATA
Power Spectral Density

Band II MIMO 4Tx Mode Ant 1 + 2 + 3 + 4									
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Power Density (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
						Ant 1 + 2 + 3 + 4		Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	52	5260	Full	10.61	11.00	4.41	Pass
HE20	MCS0	4	60	5300	Full	10.93	11.00	4.41	Pass
HE20	MCS0	4	64	5320	Full	10.76	11.00	4.41	Pass
HE40	MCS0	4	54	5270	Full	10.86	11.00	4.41	Pass
HE40	MCS0	4	62	5310	Full	10.40	11.00	4.41	Pass
HE80	MCS0	4	58	5290	Full	10.61	11.00	4.41	Pass
HE160	MCS0	4	50	5250	Full	9.53	11.00	4.41	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	6 dB Bandwidth for Straddle Channel (MHz)			
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
HE20	MCS0	4	100	5500	Full	21.24	21.12	21.12	21.12	23.98	----	----	----	----
HE20	MCS0	4	116	5580	Full	21.12	20.76	20.88	20.94	23.98	----	----	----	----
HE20	MCS0	4	140	5700	Full	21.00	21.06	21.18	21.24	23.98	----	----	----	----
HE40	MCS0	4	102	5510	Full	40.20	40.08	40.68	40.32	23.98	----	----	----	----
HE40	MCS0	4	110	5550	Full	40.44	40.20	40.08	40.44	23.98	----	----	----	----
HE40	MCS0	4	134	5670	Full	40.44	40.68	40.56	40.08	23.98	----	----	----	----
HE80	MCS0	4	106	5530	Full	82.32	81.84	82.56	82.08	23.98	----	----	----	----
HE80	MCS0	4	122	5610	Full	81.84	82.80	82.32	81.36	23.98	----	----	----	----
HE160	MCS0	4	114	5570	Full	164.16	163.20	162.72	163.68	23.98	----	----	----	----

Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26 dB Bandwidth (MHz)				FCC 26dB Bandwidth Power Limit (dBm)	6 dB Bandwidth for Straddle Channel (MHz)			
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1	Ant 2	Ant 3	Ant 4
HE20	MCS0	4	144	5720	Full	15.56	15.56	15.62	15.56	22.92	4.55	4.60	4.55	4.55
HE40	MCS0	4	142	5710	Full	35.28	35.40	35.04	35.40	23.98	4.08	3.99	3.63	4.08
HE80	MCS0	4	138	5690	Full	76.28	76.04	75.80	76.04	23.98	3.40	3.40	3.40	3.88

Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4
HE20	MCS0	4	100	5500	Full	18.88	18.89	18.92	18.72	23.72	29.72
HE20	MCS0	4	116	5580	Full	18.96	18.88	18.90	18.82	23.75	29.75
HE20	MCS0	4	140	5700	Full	18.93	18.88	18.89	18.89	23.76	29.76
HE40	MCS0	4	102	5510	Full	37.79	37.75	37.83	37.84	23.98	30.00
HE40	MCS0	4	110	5550	Full	37.84	37.78	37.77	37.69	23.98	30.00
HE40	MCS0	4	134	5670	Full	37.90	37.75	37.86	37.79	23.98	30.00
HE80	MCS0	4	106	5530	Full	77.05	76.91	77.03	77.05	23.98	30.00
HE80	MCS0	4	122	5610	Full	76.87	76.96	76.71	76.67	23.98	30.00
HE160	MCS0	4	114	5570	Full	155.64	155.51	155.66	156.38	23.98	30.00

Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)				IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4
HE20	MCS0	4	144	5720	Full	14.51	14.52	14.51	14.47	22.60	28.60
HE40	MCS0	4	142	5710	Full	34.01	33.88	34.06	34.13	23.98	30.00
HE80	MCS0	4	138	5690	Full	73.65	73.56	73.26	73.57	23.98	30.00

TEST RESULTS DATA
Average Power Table

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dB)					FCC Power Limit (dBm)	DG (dBi)	FCC EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
HE20	MCS0	4	100	5500	Full	14.95	14.44	14.41	14.25	20.54	23.98	4.36	24.90	30.00	Pass
HE20	MCS0	4	116	5580	Full	15.07	14.30	14.56	14.25	20.58	23.98	4.36	24.94	30.00	Pass
HE20	MCS0	4	140	5700	Full	14.47	14.14	13.75	13.17	19.93	23.98	4.36	24.29	30.00	Pass
HE40	MCS0	4	102	5510	Full	15.25	14.72	15.02	14.99	21.02	23.98	4.36	25.38	30.00	Pass
HE40	MCS0	4	110	5550	Full	17.29	16.84	15.93	16.34	22.65	23.98	4.36	27.01	30.00	Pass
HE40	MCS0	4	134	5670	Full	16.99	17.05	16.24	16.10	22.64	23.98	4.36	27.00	30.00	Pass
HE80	MCS0	4	106	5530	Full	15.67	15.73	14.88	15.04	21.37	23.98	4.36	25.73	30.00	Pass
HE80	MCS0	4	122	5610	Full	15.86	15.19	15.92	15.61	21.67	23.98	4.36	26.03	30.00	Pass
HE160	MCS0	4	114	5570	Full	14.96	14.73	14.51	13.87	20.56	23.98	4.36	24.92	30.00	Pass

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dB)					FCC Power Limit (dBm)	DG (dBi)	FCC EIRP Power (dBm)	FCC EIRP Power Limit (dBm)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4		
HE20	MCS0	4	144	5720	Full	15.52	15.26	14.74	14.32	21.01	22.92	4.36	25.37	30.00	Pass
HE40	MCS0	4	142	5710	Full	16.40	16.33	16.11	15.68	22.16	23.98	4.36	26.52	30.00	Pass
HE80	MCS0	4	138	5690	Full	15.78	15.08	15.18	14.33	21.14	23.98	4.36	25.50	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band III MIMO 4Tx Mode Ant 1 + 2 + 3 + 4									
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Power Density (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
						Ant 1 + 2 + 3 + 4		Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	100	5500	Full	10.94	11.00	4.36	Pass
HE20	MCS0	4	116	5580	Full	10.88	11.00	4.36	Pass
HE20	MCS0	4	140	5700	Full	9.86	11.00	4.36	Pass
HE40	MCS0	4	102	5510	Full	9.39	11.00	4.36	Pass
HE40	MCS0	4	110	5550	Full	10.97	11.00	4.36	Pass
HE40	MCS0	4	134	5670	Full	10.95	11.00	4.36	Pass
HE80	MCS0	4	106	5530	Full	10.76	11.00	4.36	Pass
HE80	MCS0	4	122	5610	Full	10.73	11.00	4.36	Pass
HE160	MCS0	4	114	5570	Full	10.13	11.00	4.36	Pass

FCC Band III Straddle Channel MIMO 4Tx Mode Ant 1 + 2 + 3 + 4									
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Power Density (dBm/MHz)	PSD Limit (dBm/ MHz)	DG (dBi)	Pass /Fail
						Ant 1 + 2 + 3 + 4		Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	144	5720	Full	10.29	11.00	4.36	Pass
HE40	MCS0	4	142	5710	Full	10.57	11.00	4.36	Pass
HE80	MCS0	4	138	5690	Full	10.49	11.00	4.36	Pass

TEST RESULTS DATA
6dB and 99% OBW

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																			
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26dB Bandwidth (MHz)				6 dB Bandwidth (MHz)				99% Bandwidth (MHz)				6 dB Min. Limit (MHz)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4		
HE20	MCS0	4	149	5745	Full	25.44	22.68	22.20	20.76	19.15	18.95	19.00	18.95	19.07	19.02	18.98	18.84	0.5	Pass
HE20	MCS0	4	157	5785	Full	25.50	21.96	23.04	21.96	19.05	18.85	18.95	18.90	19.00	18.97	19.02	18.97	0.5	Pass
HE20	MCS0	4	165	5825	Full	29.58	28.50	25.26	21.60	19.10	18.55	19.10	18.15	19.11	19.08	19.05	18.94	0.5	Pass
HE40	MCS0	4	151	5755	Full	50.64	53.76	62.88	40.92	38.84	37.98	37.80	36.81	38.48	38.09	37.90	38.04	0.5	Pass
HE40	MCS0	4	159	5795	Full	65.40	63.00	63.00	40.92	38.52	38.52	38.34	38.70	38.34	38.10	38.29	38.06	0.5	Pass
HE80	MCS0	4	155	5775	Full	84.24	82.56	83.28	83.28	77.60	63.68	53.12	74.88	77.21	76.97	76.90	77.15	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/ Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	149	5745	Full	22.40	22.08	21.90	21.35	27.97	30.00	4.27	Pass
HE20	MCS0	4	157	5785	Full	21.94	21.39	21.82	21.28	27.64	30.00	4.27	Pass
HE20	MCS0	4	165	5825	Full	21.80	21.14	21.57	20.88	27.38	30.00	4.27	Pass
HE40	MCS0	4	151	5755	Full	22.96	22.57	22.33	21.95	28.49	30.00	4.27	Pass
HE40	MCS0	4	159	5795	Full	22.53	21.82	21.99	21.56	28.01	30.00	4.27	Pass
HE80	MCS0	4	155	5775	Full	21.61	20.98	21.41	20.85	27.24	30.00	4.27	Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	10log (500kHz /RBW) Factor (dB)				Average Power Density (dBm/500kHz)					Average PSD Limit (dBm/500kHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	SUM		Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	149	5745	Full	2.22				11.74	11.20	12.86	12.38	18.88	30.00	4.27	Pass
HE20	MCS0	4	157	5785	Full	2.22				11.07	10.78	11.44	11.49	17.51	30.00	4.27	Pass
HE20	MCS0	4	165	5825	Full	2.22				10.94	10.59	11.27	11.86	17.88	30.00	4.27	Pass
HE40	MCS0	4	151	5755	Full	2.22				10.57	10.06	10.99	9.16	17.01	30.00	4.27	Pass
HE40	MCS0	4	159	5795	Full	2.22				9.95	9.29	10.02	9.36	16.04	30.00	4.27	Pass
HE80	MCS0	4	155	5775	Full	2.22				9.04	8.67	10.13	8.70	16.15	30.00	4.27	Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2, Ant. 3, Ant. 4) + 10 log (n)

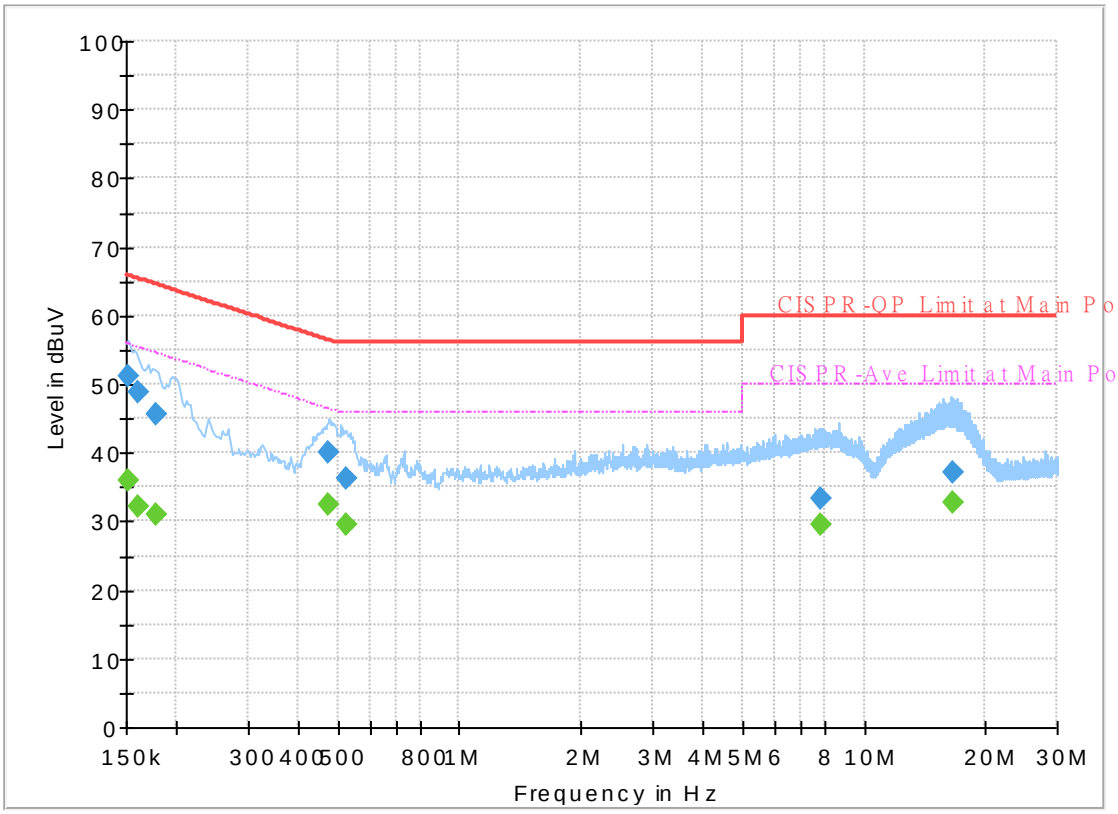
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Calvin Wang	**Temperature :**	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO :	330612
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



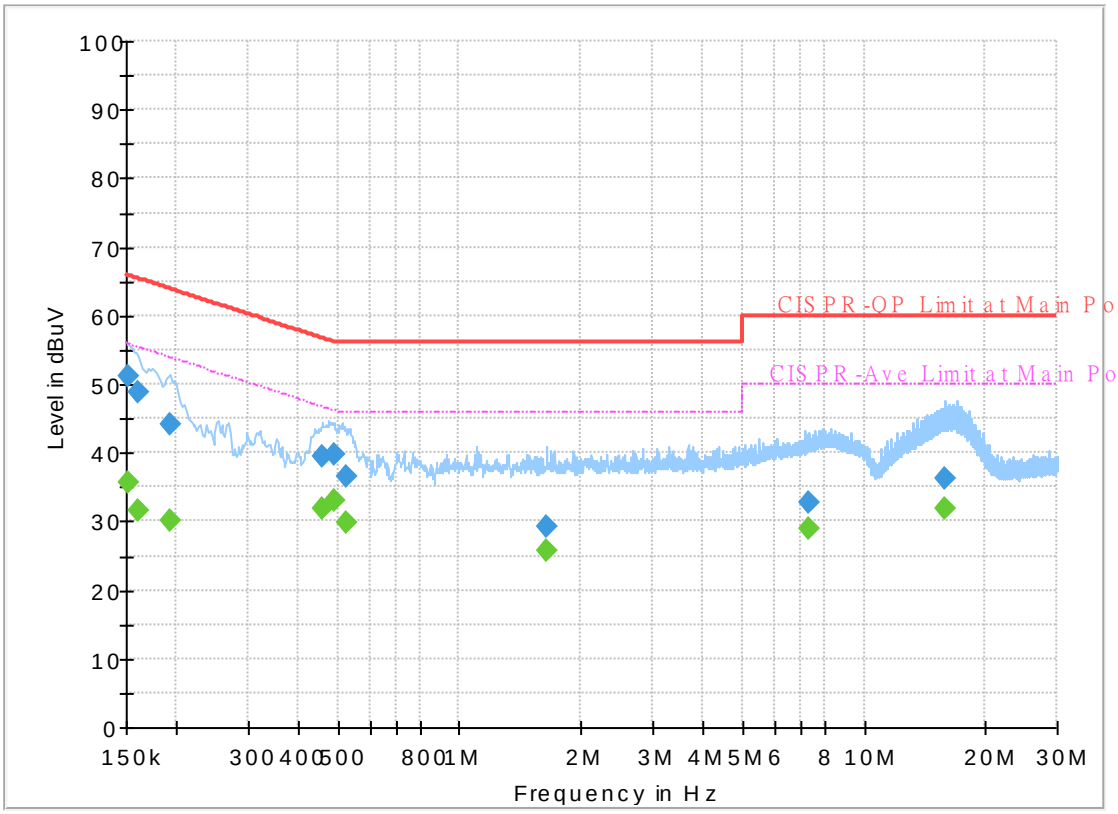
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	35.98	55.88	19.90	L1	OFF	19.9
0.152250	51.29	---	65.88	14.59	L1	OFF	19.9
0.161250	---	32.08	55.40	23.32	L1	OFF	19.9
0.161250	48.92	---	65.40	16.48	L1	OFF	19.9
0.177000	---	30.98	54.63	23.65	L1	OFF	19.9
0.177000	45.66	---	64.63	18.97	L1	OFF	19.9
0.476250	---	32.56	46.40	13.84	L1	OFF	19.9
0.476250	40.15	---	56.40	16.25	L1	OFF	19.9
0.523500	---	29.39	46.00	16.61	L1	OFF	19.9
0.523500	36.30	---	56.00	19.70	L1	OFF	19.9
7.802250	---	29.46	50.00	20.54	L1	OFF	20.1
7.802250	33.42	---	60.00	26.58	L1	OFF	20.1
16.552500	---	32.64	50.00	17.36	L1	OFF	20.4
16.552500	37.19	---	60.00	22.81	L1	OFF	20.4

EUT Information

Report NO :	330612
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	---	35.82	55.88	20.06	N	OFF	19.9
0.152250	51.06	---	65.88	14.82	N	OFF	19.9
0.161250	---	31.53	55.40	23.87	N	OFF	19.9
0.161250	48.72	---	65.40	16.68	N	OFF	19.9
0.192750	---	30.26	53.92	23.66	N	OFF	19.9
0.192750	44.12	---	63.92	19.80	N	OFF	19.9
0.458250	---	31.91	46.72	14.81	N	OFF	19.9
0.458250	39.43	---	56.72	17.29	N	OFF	19.9
0.489750	---	33.03	46.17	13.14	N	OFF	19.9
0.489750	39.66	---	56.17	16.51	N	OFF	19.9
0.523500	---	29.92	46.00	16.08	N	OFF	19.9
0.523500	36.63	---	56.00	19.37	N	OFF	19.9
1.641750	---	25.63	46.00	20.37	N	OFF	19.9
1.641750	29.28	---	56.00	26.72	N	OFF	19.9
7.293750	---	28.94	50.00	21.06	N	OFF	20.1
7.293750	32.69	---	60.00	27.31	N	OFF	20.1
15.823500	---	31.95	50.00	18.05	N	OFF	20.5
15.823500	36.20	---	60.00	23.80	N	OFF	20.5

Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh and Ken Wu	Temperature :	20.1~25.5°C
		Relative Humidity :	52.3~68.1%

<CDD Mode>

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2+3+4		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5150	61.18	-12.82	74	49.35	34.1	12.05	34.32	279	336	P	H
		5150	52.45	-1.55	54	40.62	34.1	12.05	34.32	279	336	A	H
	*	5180	112.09	-	-	100.06	34.28	12.05	34.3	279	336	P	H
	*	5180	105.22	-	-	93.19	34.28	12.05	34.3	279	336	A	H
													H
													H
		5146.9	60.59	-13.41	74	48.78	34.09	12.05	34.33	237	90	P	V
		5148.72	51.27	-2.73	54	39.45	34.1	12.05	34.33	237	90	A	V
	*	5180	118.86	-	-	106.83	34.28	12.05	34.3	237	90	P	V
	*	5180	111.81	-	-	99.78	34.28	12.05	34.3	237	90	A	V
													V
													V
802.11a CH 44 5220MHz		5058.24	51.29	-22.71	74	39.22	34.08	11.89	33.9	344	332	P	H
		5047.32	42.84	-11.16	54	30.74	34.11	11.89	33.9	344	332	A	H
	*	5220	116.98	-	-	104.37	34.4	12.1	33.89	344	332	P	H
	*	5220	111.52	-	-	98.91	34.4	12.1	33.89	344	332	A	H
		5435.36	51.21	-22.79	74	38.27	34.61	12.2	33.87	344	332	P	H
		5456.36	42.4	-11.6	54	29.34	34.73	12.2	33.87	344	332	A	H
		5140.66	53.48	-20.52	74	41.24	34.08	12.05	33.89	159	82	P	V
		5148.2	43.49	-10.51	54	31.23	34.1	12.05	33.89	159	82	A	V
	*	5220	121.64	-	-	109.03	34.4	12.1	33.89	159	82	P	V
	*	5220	116.73	-	-	104.12	34.4	12.1	33.89	159	82	A	V
		5373.48	53.23	-20.77	74	40.59	34.4	12.12	33.88	159	82	P	V
		5367.32	45.44	-8.56	54	32.8	34.4	12.12	33.88	159	82	A	V

802.11a CH 48 5240MHz		5085.54	51.6	-22.4	74	39.52	34.03	11.94	33.89	300	146	P	H
		5137.8	42.72	-11.28	54	30.53	34.08	12	33.89	300	146	A	H
	*	5240	118.8	-	-	106.18	34.4	12.11	33.89	300	146	P	H
	*	5240	111.27	-	-	98.65	34.4	12.11	33.89	300	146	A	H
		5456.92	51.3	-22.7	74	38.24	34.73	12.2	33.87	300	146	P	H
		5378.8	42.92	-11.08	54	30.28	34.4	12.12	33.88	300	146	A	H
		5101.14	53.15	-20.85	74	41.04	34	12	33.89	171	81	P	V
		5099.58	43.51	-10.49	54	31.46	34	11.94	33.89	171	81	A	V
	*	5240	122.26	-	-	109.64	34.4	12.11	33.89	171	81	P	V
	*	5240	116.38	-	-	103.76	34.4	12.11	33.89	171	81	A	V
		5382.44	52.49	-21.51	74	39.84	34.4	12.13	33.88	171	81	P	V
		5388.88	44.77	-9.23	54	32.12	34.4	12.13	33.88	171	81	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		10360	46.55	-21.65	68.2	49.4	37.3	18.66	58.81	-	-	P	H
		15540	48.88	-25.12	74	42.84	40.2	22.58	56.74	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a CH 36 5180MHz													H
		10360	51.76	-16.44	68.2	54.61	37.3	18.66	58.81	400	40	P	V
		15540	48.41	-25.59	74	42.37	40.2	22.58	56.74	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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)
		10440	47.33	-20.87	68.2	50.01	37.3	18.74	58.72	-	-	P	H
		15660	63.51	-10.49	74	57.04	40.38	22.64	56.55	124	203	P	H
		15660	52.89	-1.11	54	46.42	40.38	22.64	56.55	124	203	A	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a CH 44 5220MHz		10440	50.26	-17.94	68.2	52.94	37.3	18.74	58.72	381	35	P	V
		15660	53.69	-20.31	74	47.22	40.38	22.64	56.55	235	128	P	V
		15660	44.8	-9.2	54	38.33	40.38	22.64	56.55	235	128	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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)
		10480	49.94	-18.26	68.2	52.55	37.3	18.77	58.68	300	194	P	H
		15720	61.7	-12.3	74	54.92	40.54	22.69	56.45	130	203	P	H
		15720	53.18	-0.82	54	46.4	40.54	22.69	56.45	130	203	A	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a CH 48 5240MHz													H
		10480	52.03	-16.17	68.2	54.64	37.3	18.77	58.68	400	245	P	V
		15720	56.77	-17.23	74	49.99	40.54	22.69	56.45	400	160	P	V
		15720	46.11	-7.89	54	39.33	40.54	22.69	56.45	400	160	A	V
													V
													V
													V
													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.

Band 1 5150~5250MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		5150	53.73	-20.27	74	41.9	34.1	12.05	34.32	300	0	P	H
		5150	48.21	-5.79	54	36.38	34.1	12.05	34.32	300	0	A	H
	*	5180	111.95	-	-	99.92	34.28	12.05	34.3	300	0	P	H
	*	5180	104.55	-	-	92.52	34.28	12.05	34.3	300	0	A	H
802.11ax													H
HE20 Full													H
CH 36		5150	59.57	-14.43	74	47.74	34.1	12.05	34.32	175	82	P	V
5180MHz		5150	52.39	-1.61	54	40.56	34.1	12.05	34.32	175	82	A	V
	*	5180	117.82	-	-	105.79	34.28	12.05	34.3	175	82	P	V
	*	5180	110.77	-	-	98.74	34.28	12.05	34.3	175	82	A	V
													V
													V
		5073.84	51.85	-22.15	74	39.76	34.05	11.94	33.9	342	328	P	H
		5078.78	42.3	-11.7	54	30.22	34.04	11.94	33.9	342	328	A	H
	*	5220	119.61	-	-	107	34.4	12.1	33.89	342	328	P	H
	*	5220	112.03	-	-	99.42	34.4	12.1	33.89	342	328	A	H
802.11ax		5379.92	51.78	-22.22	74	39.14	34.4	12.12	33.88	342	328	P	H
HE20 Full		5458.88	42.12	-11.88	54	29.05	34.74	12.2	33.87	342	328	A	H
CH 44		5061.36	52.51	-21.49	74	40.39	34.08	11.94	33.9	206	80	P	V
5220MHz		5150	43.3	-10.7	54	31.04	34.1	12.05	33.89	206	80	A	V
	*	5220	120.67	-	-	108.06	34.4	12.1	33.89	206	80	P	V
	*	5220	116.12	-	-	103.51	34.4	12.1	33.89	206	80	A	V
		5364.8	51.75	-22.25	74	39.11	34.4	12.12	33.88	206	80	P	V
		5375.44	43.94	-10.06	54	31.3	34.4	12.12	33.88	206	80	A	V

		5054.08	51.77	-22.23	74	39.69	34.09	11.89	33.9	356	335	P	H
		5066.56	42.27	-11.73	54	30.16	34.07	11.94	33.9	356	335	A	H
	*	5240	117.88	-	-	105.26	34.4	12.11	33.89	356	335	P	H
	*	5240	110.69	-	-	98.07	34.4	12.11	33.89	356	335	A	H
802.11ax		5403.44	50.67	-23.33	74	38	34.42	12.13	33.88	356	335	P	H
HE20 Full		5457.76	42.18	-11.82	54	29.12	34.73	12.2	33.87	356	335	A	H
CH 48		5016.9	51.78	-22.22	74	39.61	34.23	11.84	33.9	217	80	P	V
5240MHz		5094.9	42.93	-11.07	54	30.87	34.01	11.94	33.89	217	80	A	V
	*	5240	120.87	-	-	108.25	34.4	12.11	33.89	217	80	P	V
	*	5240	115.23	-	-	102.61	34.4	12.11	33.89	217	80	A	V
		5438.16	52.36	-21.64	74	39.4	34.63	12.2	33.87	217	80	P	V
		5387.76	43.81	-10.19	54	31.16	34.4	12.13	33.88	217	80	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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)
		10360	46.25	-21.95	68.2	49.1	37.3	18.66	58.81	-	-	P	H
		15540	48.57	-25.43	74	42.53	40.2	22.58	56.74	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 36		10360	47.51	-20.69	68.2	50.36	37.3	18.66	58.81	-	-	P	V
5180MHz		15540	49.99	-24.01	74	43.95	40.2	22.58	56.74	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		10440	48.63	-19.57	68.2	51.31	37.3	18.74	58.72	300	193	P	H
		15660	61.82	-12.18	74	55.35	40.38	22.64	56.55	129	202	P	H
		15660	53.1	-0.9	54	46.63	40.38	22.64	56.55	129	202	A	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 44		10440	49.16	-19.04	68.2	51.84	37.3	18.74	58.72	392	247	P	V
5220MHz		15660	57.95	-16.05	74	51.48	40.38	22.64	56.55	400	162	P	V
		15660	46.58	-7.42	54	40.11	40.38	22.64	56.55	400	162	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		10480	47.64	-20.56	68.2	50.25	37.3	18.77	58.68	300	194	P	H
		15720	62.9	-11.1	74	56.12	40.54	22.69	56.45	130	203	P	H
		15720	53.29	-0.71	54	46.51	40.54	22.69	56.45	130	203	A	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 48		10480	48.77	-19.43	68.2	51.38	37.3	18.77	58.68	400	245	P	V
5240MHz		15720	57.48	-16.52	74	50.7	40.54	22.69	56.45	400	160	P	V
		15720	47.05	-6.95	54	40.27	40.54	22.69	56.45	400	160	A	V
													V
													V
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													V
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													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.

Band 1 5150~5250MHz

WIFI 802.11ax HE20 Partial 106*4 (Band Edge @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		5149.5	54.4	-19.6	74	42.14	34.1	12.05	33.89	289	0	P	H
		5150	47.58	-6.42	54	35.32	34.1	12.05	33.89	289	0	A	H
	*	5180	112.53	-	-	100.09	34.28	12.05	33.89	289	0	P	H
802.11ax	*	5180	105.02	-	-	92.58	34.28	12.05	33.89	289	0	A	H
HE20													H
Partial													H
106*4		5148.72	59.39	-14.61	74	47.13	34.1	12.05	33.89	257	75	P	V
CH 36		5150	53.18	-0.82	54	40.92	34.1	12.05	33.89	257	75	A	V
5180MHz	*	5180	116.12	-	-	103.68	34.28	12.05	33.89	257	75	P	V
	*	5180	109.44	-	-	97	34.28	12.05	33.89	257	75	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ax HE40 Full (Band Edge @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		5143.26	58.18	-15.82	74	46.37	34.09	12.05	34.33	351	149	P	H
		5145.86	50.41	-3.59	54	38.6	34.09	12.05	34.33	351	149	A	H
	*	5190	110.03	-	-	97.88	34.34	12.1	34.29	351	149	P	H
	*	5190	103.25	-	-	91.1	34.34	12.1	34.29	351	149	A	H
802.11ax		5360.88	49.55	-24.45	74	37.17	34.4	12.12	34.14	351	149	P	H
HE40 Full		5459.16	41.09	-12.91	54	28.2	34.74	12.2	34.05	351	149	A	H
CH 38		5149.24	58.41	-15.59	74	46.59	34.1	12.05	34.33	180	101	P	V
5190MHz		5150	52.91	-1.09	54	41.08	34.1	12.05	34.32	180	101	A	V
	*	5190	112.46	-	-	100.31	34.34	12.1	34.29	180	101	P	V
	*	5190	105.5	-	-	93.35	34.34	12.1	34.29	180	101	A	V
		5369.84	50.48	-23.52	74	38.09	34.4	12.12	34.13	180	101	P	V
		5359.2	42.02	-11.98	54	29.64	34.4	12.12	34.14	180	101	A	V
		5149.76	55.76	-18.24	74	43.94	34.1	12.05	34.33	121	360	P	H
		5149.76	47.82	-6.18	54	36	34.1	12.05	34.33	121	360	A	H
	*	5230	111.24	-	-	98.98	34.4	12.11	34.25	121	360	P	H
	*	5230	104.81	-	-	92.55	34.4	12.11	34.25	121	360	A	H
802.11ax		5380.76	50.2	-23.8	74	37.79	34.4	12.13	34.12	121	360	P	H
HE40 Full		5447.68	41.15	-12.85	54	28.32	34.69	12.2	34.06	121	360	A	H
CH 46		5142.22	58.26	-15.74	74	46.46	34.08	12.05	34.33	200	84	P	V
5230MHz		5142.48	51.13	-2.87	54	39.33	34.08	12.05	34.33	200	84	A	V
	*	5230	119.88	-	-	107.62	34.4	12.11	34.25	200	84	P	V
	*	5230	112.93	-	-	100.67	34.4	12.11	34.25	200	84	A	V
		5415.48	54	-20	74	41.47	34.49	12.13	34.09	200	84	P	V
		5397.28	44.16	-9.84	54	31.73	34.4	12.13	34.1	200	84	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ax HE40 Full (Harmonic @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		10380	45.89	-22.31	68.2	48.72	37.3	18.66	58.79	-	-	P	H
		15570	48.34	-25.66	74	42.23	40.2	22.61	56.7	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE40 Full													H
CH 38		10380	45.45	-22.75	68.2	48.28	37.3	18.66	58.79	-	-	P	V
5190MHz		15570	48.44	-25.56	74	42.33	40.2	22.61	56.7	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		10460	47.14	-21.06	68.2	49.8	37.3	18.74	58.7	-	-	P	H
		15690	58.24	-15.76	74	51.61	40.47	22.66	56.5	131	204	P	H
		15690	51.61	-2.39	54	44.98	40.47	22.66	56.5	131	204	A	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE40 Full													H
CH 46		10460	46.84	-21.36	68.2	49.5	37.3	18.74	58.7	-	-	P	V
5230MHz		15690	52.74	-21.26	74	46.11	40.47	22.66	56.5	400	161	P	V
		15690	45.51	-8.49	54	38.88	40.47	22.66	56.5	400	161	A	V
													V
													V
													V
													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.

Band 1 5150~5250MHz

WIFI 802.11ax HE80 Full (Band Edge @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
802.11ax HE80 Full CH 42 5210MHz		5139.88	57.26	-16.74	74	45.51	34.08	12	34.33	302	360	P	H
		5140.4	49.3	-4.7	54	37.5	34.08	12.05	34.33	302	360	A	H
	*	5210	104.32	-	-	92.09	34.4	12.1	34.27	302	360	P	H
	*	5210	96.98	-	-	84.75	34.4	12.1	34.27	302	360	A	H
		5414.92	49.49	-24.51	74	36.96	34.49	12.13	34.09	302	360	P	H
		5460	40.74	-13.26	54	27.85	34.74	12.2	34.05	302	360	A	H
		5143.52	62.85	-11.15	74	51.04	34.09	12.05	34.33	227	87	P	V
		5143.52	53.78	-0.22	54	41.97	34.09	12.05	34.33	227	87	A	V
	*	5210	110.55	-	-	98.32	34.4	12.1	34.27	227	87	P	V
	*	5210	103.63	-	-	91.4	34.4	12.1	34.27	227	87	A	V
		5422.48	50.93	-23.07	74	38.28	34.53	12.2	34.08	227	87	P	V
		5456.08	41.54	-12.46	54	28.67	34.72	12.2	34.05	227	87	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ax HE80 Full (Harmonic @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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)
		10420	46.4	-21.8	68.2	49.14	37.3	18.7	58.74	-	-	P	H
		15630	48.28	-25.72	74	41.95	40.29	22.64	56.6	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE80 Full													H
CH 42		10420	45.9	-22.3	68.2	48.64	37.3	18.7	58.74	-	-	P	V
5210MHz		15630	48.3	-25.7	74	41.97	40.29	22.64	56.6	-	-	P	V
													V
													V
													V
													V
													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.

Emission above 18GHz

WIFI 802.11ax HE80 Full (SHF @ 1m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2+3+4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE80 Full SHF		20840	42.01	-31.99	74	56.83	37.74	7.44	60	150	201	P	H
		20840	37.95	-16.05	54	52.77	37.74	7.44	60	150	201	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		38658	42.85	-31.15	74	47.88	43.34	12.24	60.61	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Emission below 1GHz

WIFI 802.11ax HE80 Full (LF @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2+3+4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE80 Full LF		42.69	27.9	-12.1	40	38.37	18.05	1.44	29.96	-	-	P	H
		125.04	33.87	-9.63	43.5	44.34	17.43	2.07	29.97	-	-	P	H
		250.05	33.71	-12.29	46	42.67	18.32	2.63	29.91	-	-	P	H
		794.2	31.88	-14.12	46	28.62	27.85	5	29.59	-	-	P	H
		864.9	33.09	-12.91	46	28.2	28.78	5.32	29.21	-	-	P	H
		947.5	34.47	-11.53	46	27.66	30.14	5.51	28.84	-	-	P	H
													H
													H
													H
													H
													H
													H
		30.27	33.44	-6.56	40	37.73	24.39	1.4	30.08	-	-	P	V
		125.04	32.42	-11.08	43.5	42.89	17.43	2.07	29.97	-	-	P	V
		250.05	35.91	-10.09	46	44.87	18.32	2.63	29.91	-	-	P	V
		769	30.98	-15.02	46	28.06	27.8	4.8	29.68	-	-	P	V
		866.3	33.35	-12.65	46	28.46	28.77	5.32	29.2	-	-	P	V
		956.6	34.71	-11.29	46	27.37	30.63	5.51	28.8	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2+3+4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5612.6	53.16	-15.04	68.2	39.7	34.9	12.46	33.9	392	143	P	H
		5696.8	60.31	-42.53	102.84	46.75	34.99	12.49	33.92	392	143	P	H
		5719.8	79.41	-31.33	110.74	65.8	35.04	12.5	33.93	392	143	P	H
		5723.4	92.13	-26.42	118.55	78.51	35.05	12.5	33.93	392	143	P	H
	*	5745	121.9	-	-	108.22	35.09	12.52	33.93	392	143	P	H
	*	5745	115.54	-	-	101.86	35.09	12.52	33.93	392	143	A	H
													H
802.11a													H
CH 149		5603.4	53.24	-14.96	68.2	39.78	34.9	12.46	33.9	225	185	P	V
5745MHz		5686	66.01	-28.86	94.87	52.47	34.97	12.49	33.92	225	185	P	V
		5716.6	82.07	-27.78	109.85	68.47	35.03	12.5	33.93	225	185	P	V
		5725	97.39	-24.81	122.2	83.77	35.05	12.5	33.93	225	185	P	V
	*	5745	124.12	-	-	110.44	35.09	12.52	33.93	225	185	P	V
	*	5745	118.78	-	-	105.1	35.09	12.52	33.93	225	185	A	V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		5648.2	51.81	-16.39	68.2	38.35	34.9	12.47	33.91	389	141	P	H
		5699.4	52.96	-51.8	104.76	39.39	35	12.49	33.92	389	141	P	H
		5712.6	52.97	-55.76	108.73	39.37	35.03	12.5	33.93	389	141	P	H
		5723.8	56.7	-62.76	119.46	43.08	35.05	12.5	33.93	389	141	P	H
	*	5785	122.21	-	-	108.52	35.1	12.53	33.94	389	141	P	H
	*	5785	115.51	-	-	101.82	35.1	12.53	33.94	389	141	A	H
		5850.2	51.47	-70.27	121.74	37.73	35.1	12.6	33.96	389	141	P	H
		5862.8	51.46	-57.15	108.61	37.61	35.13	12.68	33.96	389	141	P	H
		5896	51.51	-38.11	89.62	37.61	35.19	12.68	33.97	389	141	P	H
		5941.4	51.35	-16.85	68.2	37.3	35.2	12.83	33.98	389	141	P	H
													H
802.11a CH 157 5785MHz													H
		5644.8	54.64	-13.56	68.2	41.18	34.9	12.47	33.91	221	186	P	V
		5669.2	54.46	-27.99	82.45	40.94	34.94	12.49	33.91	221	186	P	V
		5711	56.6	-51.68	108.28	43	35.02	12.5	33.92	221	186	P	V
		5725	61.25	-60.95	122.2	47.63	35.05	12.5	33.93	221	186	P	V
	*	5785	124.73	-	-	111.04	35.1	12.53	33.94	221	186	P	V
	*	5785	118.69	-	-	105	35.1	12.53	33.94	221	186	A	V
		5850.2	54.51	-67.23	121.74	40.77	35.1	12.6	33.96	221	186	P	V
		5855.8	52.97	-57.61	110.58	39.22	35.11	12.6	33.96	221	186	P	V
		5909.8	53.53	-25.89	79.42	39.56	35.2	12.75	33.98	221	186	P	V
		5941.4	50.65	-17.55	68.2	36.6	35.2	12.83	33.98	221	186	P	V
													V
													V

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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)
	*	5825	121.51	-	-	107.76	35.1	12.6	33.95	400	142	P	H
	*	5825	115.69	-	-	101.94	35.1	12.6	33.95	400	142	A	H
		5854.4	76.38	-35.79	112.17	62.63	35.11	12.6	33.96	400	142	P	H
		5855.4	79.41	-31.28	110.69	65.66	35.11	12.6	33.96	400	142	P	H
		5876.4	55.16	-49	104.16	41.3	35.15	12.68	33.97	400	142	P	H
		5931.2	52.72	-15.48	68.2	38.75	35.2	12.75	33.98	400	142	P	H
													H
802.11a													H
CH 165	*	5825	123.89	-	-	110.14	35.1	12.6	33.95	198	186	P	V
5825MHz	*	5825	118.55	-	-	104.8	35.1	12.6	33.95	198	186	A	V
		5851.2	87.05	-32.41	119.46	73.31	35.1	12.6	33.96	198	186	P	V
		5855.4	81.33	-29.36	110.69	67.58	35.11	12.6	33.96	198	186	P	V
		5875.2	60.01	-45.04	105.05	46.15	35.15	12.68	33.97	198	186	P	V
		5928	52.3	-15.9	68.2	38.33	35.2	12.75	33.98	198	186	P	V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
802.11a CH 149 5745MHz		11490	51.92	-22.08	74	50.85	38.19	19.76	56.88	257	175	P	H
		11490	48.6	-5.4	54	47.53	38.19	19.76	56.88	257	175	A	H
		17235	65.29	-2.91	68.2	55.77	41.4	23.81	55.69	100	193	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11490	50.47	-23.53	74	49.4	38.19	19.76	56.88	373	90	P	V
		11490	43.72	-10.28	54	42.65	38.19	19.76	56.88	373	90	A	V
		17235	64.33	-3.87	68.2	54.81	41.4	23.81	55.69	388	271	P	V
													V
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WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		11570	50.51	-23.49	74	49.16	38.27	19.83	56.75	253	127	P	H
		11570	43.95	-10.05	54	42.6	38.27	19.83	56.75	253	127	A	H
		17355	66.67	-1.53	68.2	56.75	41.51	23.91	55.5	100	186	P	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a CH 157 5785MHz													H
		11570	49.17	-24.83	74	47.82	38.27	19.83	56.75	100	318	P	V
		11570	42.48	-11.52	54	41.13	38.27	19.83	56.75	100	318	A	V
		17355	67.39	-0.81	68.2	57.47	41.51	23.91	55.5	366	273	P	V
													V
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WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		11650	51.72	-22.28	74	50.06	38.4	19.91	56.65	179	235	P	H
		11650	47.47	-6.53	54	45.81	38.4	19.91	56.65	179	235	A	H
		17475	66.59	-1.61	68.2	56.46	41.45	24	55.32	100	184	P	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a CH 165 5825MHz													H
		11650	52.09	-21.91	74	50.43	38.4	19.91	56.65	400	98	P	V
		11650	43.69	-10.31	54	42.03	38.4	19.91	56.65	400	98	A	V
		17475	63.46	-4.74	68.2	53.33	41.45	24	55.32	353	276	P	V
													V
													V
													V
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													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (Band Edge @ 3m)

WIFI Ant. 1+2+3+4	Note	Frequency (MHz)	Level (dBµV/m)	Margin (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)
		5642.2	52.63	-15.57	68.2	39.17	34.9	12.47	33.91	400	143	P	H
		5699	65.09	-39.37	104.46	51.52	35	12.49	33.92	400	143	P	H
		5720	89.06	-21.74	110.8	75.45	35.04	12.5	33.93	400	143	P	H
		5722.6	94.47	-22.26	116.73	80.85	35.05	12.5	33.93	400	143	P	H
	*	5745	121.26	-	-	107.58	35.09	12.52	33.93	400	143	P	H
	*	5745	115.03	-	-	101.35	35.09	12.52	33.93	400	143	A	H
802.11ax													H
HE20 Full													H
CH 149		5646	54.69	-13.51	68.2	41.23	34.9	12.47	33.91	223	185	P	V
5745MHz		5695.8	67.85	-34.25	102.1	54.29	34.99	12.49	33.92	223	185	P	V
		5720	86.7	-24.1	110.8	73.09	35.04	12.5	33.93	223	185	P	V
		5724	96.4	-23.52	119.92	82.78	35.05	12.5	33.93	223	185	P	V
	*	5745	123.46	-	-	109.78	35.09	12.52	33.93	223	185	P	V
	*	5745	118	-	-	104.32	35.09	12.52	33.93	223	185	A	V
													V
													V