RF TEST REPORT

FCC / ISED

APPLICANT
Stryker Endoscopy

MODEL NAME
0240031065

FCC ID
SSH-SYNK4KTX

ISED ID
4919C-SYNK4KTX

REPORT NUMBER
HA220502-SYK-001-R01

TEST REPORT

Date of Issue
June 22, 2022

Test Site
Hyundai C-Tech, Inc. dba HCT America, Inc.
1726 Ringwood Ave, San Jose, CA 95131, USA

Applicant	Stryker Endoscopy
Applicant Address	5900 Optical Court, San Jose, CA 95138, USA
FCC ID	SSH-SYNK4KTX
ISED ID	4919C-SYNK4KTX
Model Name	0240031065
EUT Type	SYNK 4K Wireless Transmitter
Modulation Type	64QAM, 16QAM, OFDM
FCC Classification	Unlicensed National Information Infrastructure (NII)
FCC Rule Part(s)	Part 15.407
ISED Rule Part(s)	RSS-247 Issue 2 (February 2017) RSS-Gen Issue 5 Amd 2 (February 2021)
Test Procedure	ANSI C63.10-2013, KDB 789033 D02 v02r01, KDB 662911 D01

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures required. The results of testing in this report apply only to the product which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Hyundai C-Tech, Inc. dba HCT America, Inc. certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By	**Reviewed By**
Yongsoo Park	Sunwoo Kim
Test Engineer	Technical Manager

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REVISION HISTORY

The revision history for this document is shown in table.

TEST REPORT NO.	DATE	DESCRIPTION
HA220502-SYK-001-R01	June 22, 2022	Initial Issue

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1. GENERAL INFORMATION

EUT DESCRIPTION

Model	0240031065
EUT Type	SYNK 4K Wireless Transmitter
Serial Number	20J586344
Series Models	0240031061
Power Supply	12 V d.c. / 2.5 A; 24 V d.c. / 2.0 A External AC-DC adapter (Model : AFM30US12 / BPM150S24F11)
RF Specification	5 GHz proprietary : 20 MHz / 40 MHz
Transmitter Chain	4x4 MIMO
Operating Environment	Indoor
Operating Temperature	10 °C ~ 40 °C

RF SPECIFICATION SUBJECT TO THE REPORT

RF Specification	5 GHz proprietary : 20 MHz
Transmitter Chain	4 x 4 MIMO
Frequency Range [1)]	5180 MHz – 5240 MHz 5260 MHz – 5320 MHz 5500 MHz – 5720 MHz 5740 MHz – 5840 MHz
Modulation Type	64QAM, 16QAM, OFDM
Antenna Specification [2)]	Antenna Type : Chip Antenna Antenna Gain : 2.0 dBi
Firmware Version [3)]	ST 2.7.2 + Draco 7.5.101
Hardware Version [3)]	P43576 Rev. U
Date(s) of Tests	May 3, 2022 ~ May 9, 2022 / June 22, 2022

Note(s) :
1. The frequency range 5600 MHz - 5650 MHz is not used in Canada.
2. Antenna information is based on the document provided.
3. Firmware and Hardware Version are as received by the client.

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ANTENNA DIRECTIONAL GAIN

Directional Gain (5 GHz : Uncorrelated) = 10 log[($10^{(2.0/10)}$+$10^{(2.0/10)}$ + $10^{(2.0/10)}$+$10^{(2.0/10)}$) / 4] = 2.0 dBi
Directional Gain (5 GHz : Correlated) = 10 log[($10^{(2.0/20)}$+$10^{(2.0/20)}$ + $10^{(2.0/20)}$+$10^{(2.0/20)}$)^2 / 4] = 8.02 dBi

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2. METHODOLOGY

The measurement procedure described in FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 dated December 14, 2017 entitled "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E" and ANSI C63.10(Version : 2013) 'the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices' were used in the measurement.

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E. The EUT should also comply with the requirements of RSS-Gen issue 5, RSS-247 issue 2.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. Also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emission, the relative positions of this hand-held transmitter (EUT) were rotated through three orthogonal axes according to the requirements in Section 8 of ANSI C63.10. (Version: 2013)

DESCRIPTION OF TEST MODES

The EUT has been tested at 5 GHz test mode. An application software was used to control the channels. The power level was preset by the manufacturer.

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

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4. FACILITIES AND ACCREDITATIONS

FACILITIES

The SAC (Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at 1726 Ringwood Avenue, San Jose, California 95131, USA.
The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.

EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

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5. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. 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 provisions of this section."

(1) The antenna of this E.U.T is permanently attached and there is no provision for connection to an external antenna.
(2) The E.U.T Complies with the requirement of §15.203

According to RSS-Gen Issue 5 (Section 6.8) :

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

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6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty
Output Power, Conducted	± 0.35 dB
Occupied Bandwidth	± 12.4 kHz
Unwanted Emissions, Conducted	± 0.46 dB
Radiated Emissions (below 1 GHz)	± 6.09 dB
Radiated Emissions (Above 1 GHz)	± 5.23 dB

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7. DESCRIPTION OF TESTS

7.1. DUTY CYCLE

TEST SETUP

TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.
Measurement is performed in accordance with the section B.2 in KDB 789033 D02 v02r01.

The largest available value of RBW is 8 MHz and VBW is 50 MHz.
The zero-span method of measuring duty cycle shall not be used if T ≤ 6.25 microseconds. (50/6.25 = 8)
The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/*T*.

- RBW = 8 MHz (the largest available value)
- VBW = 8 MHz (≥ RBW)
- SPAN = 0 Hz
- Detector = Peak
- Number of points in sweep > 100
- Trace mode = Clear write
- Measure T_{total} and T_{on}
- Calculate Duty Cycle = T_{on}/ T_{total} and Duty Cycle Factor = 10*log(1/Duty Cycle)

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7.2. 6 dB BANDWIDTH / 26 dB BANDWIDTH / 99 % OCCUPIED BANDWIDTH

LIMIT

Emission bandwidth was measured to define the minimum frequency range which the spectrum is integrated for maximum conducted output power measurement.

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

TEST SETUP

TEST PROCEDURE (26 dB Bandwidth)

Testing was performed according to the section C.1 in KDB 789033 D02 v02r01.
The transmitter output is connected to the spectrum analyzer.
The Spectrum Analyzer setting :

- RBW = Approximately 1 % of the emission bandwidth
- VBW > RBW
- Detector = Peak
- Trace mode = max hold
- Sweep = auto couple
- Measure the maximum width of the emission that is 26 dB down from the maximum 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 %.

TEST PROCEDURE (6 dB Bandwidth)

Testing was performed according to the procedure C.1 in KDB 789033 D02 v02r01.
The transmitter output is connected to the Spectrum Analyzer.

- RBW = 100 kHz
- VBW ≥ 3*RBW
- Detector = Peak
- Trace mode = Max hold
- Allow the trace to stabilize
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points(upper and lower frequencies) that are attenuated by 6 dB relative to the maximum lever measured in the fundamental emission.

Note(s) :
1. The bandwidth measurement function from the spectrum analyzer is used to measure X dB bandwidth.
2. 26 dB bandwidth is used to determine the conducted power limits for the FCC.

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TEST PROCEDURE (99% Bandwidth)

Testing was performed according to the section D in KDB 789033 D02 v02r01.
The transmitter output is connected to the spectrum analyzer.

- RBW = 1% ~ 5% of the occupied bandwidth
- VBW ≒ 3 x RBW
- Detector = Peak
- Trace mode = max hold
- Sweep = auto couple
- Allow the trace to stabilize

Note(s) :
1. 99% Emission bandwidth is used to determine the conducted output power limits for Canada.

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7.3. OUTPUT POWER

LIMIT

Band	Device Type	47 CFR §15.407(a)(1)	RSS-247, Section 6.2.1.1
U-NII 1	Master (Outdoor)	≤ 1 W (= 30dBm) ≤ 125 mW (= 21dBm) EIRP at max elevation angle (30°) from horizon	Indoor only for LE LAN devces ≤ 200 mW e.i.r.p. or ≤ 10 + 10 log(B) dBm e.i.r.p. whichever power is less, where B is 99% bandwidth in MHz
	Master (Indoor)	≤ 1 W (= 30dBm)	
	Client Device	≤ 250 mW (= 24 dBm)	

Band	47 CFR §15.407(a)(2)	RSS-247, 6.2.2.1 / 6.2.3.1
U-NII 2a	≤ 250 mW or ≤ 11 dBm + 10 log (B) Whichever is less (where B is the 26 dB Emission BW in MHz)	≤ 250 mW or ≤ 11 dBm + 10 log (B) ≤ 1 W e.i.r.p. or ≤ 17 dBm + 10 log (B) e.i.r.p. Whichever power is less (where B is 99% BW in MHz)
U-NII 2c		

Band	47 CFR §15.407(a)(3)(i)	RSS-247, 6.2.4.1
U-NII 3	≤ 1 W (= 30dBm)	≤ 1 W (= 30dBm)

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TEST SETUP

TEST PROCEDURE

Refer to the section E.2.d) in KDB 789033 D02 v02r01
The transmitter output is connected to the Spectrum Analyzer.
Spectrum analyzer's integrated band power measurement function was used.

- Measure the duty cycle.
- Set span to encompass the 26 dB EBW or 99 % OBW of the signal.
- RBW = 1 MHz
- VBW ≥ 3 MHz
- Number of points in sweep ≥ 2*span/RBW.
- Sweep time = auto.
- Detector = RMS.
- Do not use sweep triggering. Allow the sweep to "free run".
- Trace average at least 100 traces in power averaging (RMS) mode
- Integrated bandwidth = EBW or 99 % OBW

Add 10log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times

Sample Calculation

- Conducted Output Power (Average) = Reading Value + ATT loss + Cable loss + Duty Cycle Factor

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7.4. POWER SPECTRAL DENSITY

LIMIT

Band	Device Type	47 CFR §15.407(a)(1)	RSS-247, Section 6.2.1.1
U-NII 1	Master Device	≤ 17 dBm/MHz	≤ 10 dBm/MHz e.i.r.p.
	Client Device	≤ 11 dBm/MHz	

Band	47 CFR §15.407(a)(2)	RSS-247, 6.2.2.1 / 6.2.3.1
U-NII 2a	≤ 11 dBm/MHz	≤ 11 dBm/MHz
U-NII 2c		

Band	47 CFR §15.407(a)(3)(i)	RSS-247, 6.2.4.1
U-NII 3	≤ 30 dBm/500 kHz	≤ 30 dBm/500 kHz

TEST SETUP

TEST PROCEDURE

Refer to the section F in KDB 789033 D02 v02r01.

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- RBW = 1 MHz (510 kHz for UNII 3)
- VBW ≥ 3 MHz
- Number of points in sweep ≥ 2*span/RBW.
- Sweep time = auto.
- Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- Do not use sweep triggering. Allow the sweep to “free run”.
- Trace average at least 100 traces in power averaging (RMS) mode
- Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
- If Method SA-2 was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.

Sample Calculation

Total PSD (Average) = Reading Value + ATT loss + Cable loss + Duty Cycle Factor

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7.5. UNDESIRABLE EMISSION

LIMIT

Frequency Band		47 CFR §15.407(b)(1)
U-NII 1	☒	In accordance with **47 CFR §15.407(b)(1) / RSS-247, 6.2.1.2** All emissions outside the 5.15-5.35 GHz band shall not exceed an −27 dBm/MHz e.i.r.p.
U-NII 2a	☒	In accordance with **47 CFR § 15.407(b)(2) / RSS-247, 6.2.2.2** All emissions outside the 5.15-5.35 GHz band shall not exceed an −27 dBm/MHz e.i.r.p.
U-NII 2c	☒	In accordance with **47 CFR § 15.407(b)(3) / RSS-247, 6.2.3.2** All emissions outside the 5.47-5.725 GHz band shall not exceed an −27 dBm/MHz e.i.r.p.
U-NII 3	☒	In accordance with **47 CFR § 15.407(b)(4) / RSS-247, 6.2.4.2** 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.

Note(s) :

For ISED, The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

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7.6. RADIATED EMISSIONS

RADIATION EMISSION LIMIT

FCC : 47 CFR § 15.209		
Frequency (MHz)	**Field Strength (uV/m)**	**Measurement Distance (m)**
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

RADIATION EMISSION LIMIT

ISED : RSS-GEN Section 8.9		
Frequency (MHz)	**Field Strength (uV/m)**	**Measurement Distance (m)**
0.009 – 0.490	6.37/F(kHz)	300
0.490 – 1.705	63.7/F(kHz)	30
1.705 – 30	0.08	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

RECEIVER RADIATED EMISSION LIMIT

ISED : RSS-GEN Section 7.3		
Frequency (MHz)	**Field Strength (uV/m)**	**Measurement Distance (m)**
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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RESTRICTED BANDS OF OPERATION

FCC : 47 CFR § 15.205(a)				
Frequency (MHz)	**Frequency (MHz)**	**Frequency (MHz)**	**Frequency (MHz)**	**Frequency (MHz)**
0.090 - 0.110	12.29 - 12.293	149.9 - 150.05	1660.0 - 1710.0	8025 - 8500
0.495 - 0.505	12.51975 - 12.52025	156.52475 - 156.52525	1718.8 - 1722.2	9000 - 9200
2.1735 - 2.1905	12.57675 - 12.57725	156.7 - 156.9	2200.0 - 2300.0	9300 - 9500
4.125 - 4.128	13.36 - 13.41	162.0125 - 167.17	2310.0 - 2390.0	10600 - 12700
4.17725 - 4.17775	16.42 - 16.423	167.72 - 173.2	2483.5 - 2500.0	13250 - 13400
4.20725 - 4.20775	16.69475 - 16.69525	240.0 - 285.0	2690.0 - 2900.0	14470 - 14500
6.215 - 6.218	16.80425 - 16.80475	322.0 - 335.4	3260.0 - 3267.0	15350 - 16200
6.26775 - 6.26825	25.5 - 25.67	399.9 - 410.0	3332.0 - 3339.0	17700 - 21400
6.31175 - 6.31225	37.5 - 38.25	608.0 - 614.0	3345.8 - 3358.0	22010 - 23120
8.291 - 8.294	73 - 74.6	960.0 - 1240.0	3600.0 - 4400.0	23600 - 24000
8.362 - 8.366	74.8 - 75.2	1300.0 - 1427.0	4500.0 - 5150.0	31200 - 31800
8.37625 - 8.38675	108 - 121.94	1435.0 - 1626.5	5350.0 - 5460.0	36430 - 36500
8.41425 - 8.41475	123 - 138	1645.5 - 1646.5	7250.0 - 7750.0	Above 38600

ISED : RSS-GEN Section 8.10				
Frequency (MHz)	**Frequency (MHz)**	**Frequency (MHz)**	**Frequency (MHz)**	**Frequency (MHz)**
0.090 - 0.110	8.37625 - 8.38675	108 – 138	1660 - 1710	8025 - 8500
0.495 - 0.505	8.41425 - 8.41475	149.9 - 150.05	1718.8 - 1722.2	9000 - 9200
2.1735 - 2.1905	12.29 - 12.293	156.52475 - 156.52525	2200 - 2300	9300 - 9500
3.020 - 3.026	12.51975 - 12.52025	156.7 - 156.9	2310 - 2390	10600 - 12700
4.125 - 4.128	12.57675 - 12.57725	162.0125 - 167.17	2483.5 - 2500	13250 - 13400
4.17725 - 4.17775	13.36 - 13.41	167.72 - 173.2	2655 - 2900	14470 - 14500
4.20725 - 4.20775	16.42 - 16.423	240 - 285	3260 - 3267	15350 - 16200
5.677 - 5.683	16.69475 - 16.69525	322 - 335.4	3332 - 3339	17700 - 21400
6.215 - 6.218	16.80425 - 16.80475	399.9 - 410	3345.8 - 3358	22010 - 23120
6.26775 - 6.26825	25.5 - 25.67	608 - 614	3500 - 4400	23600 - 24000
6.31175 - 6.31225	37.5 - 38.25	960 - 1427	4500 - 5150	31200 - 31800
8.291 - 8.294	73 - 74.6	1435 - 1626.5	5350 - 5460	36430 - 36500
8.362 - 8.366	74.8 - 75.2	1645.5 - 1646.5	7250 - 7750	Above 38600

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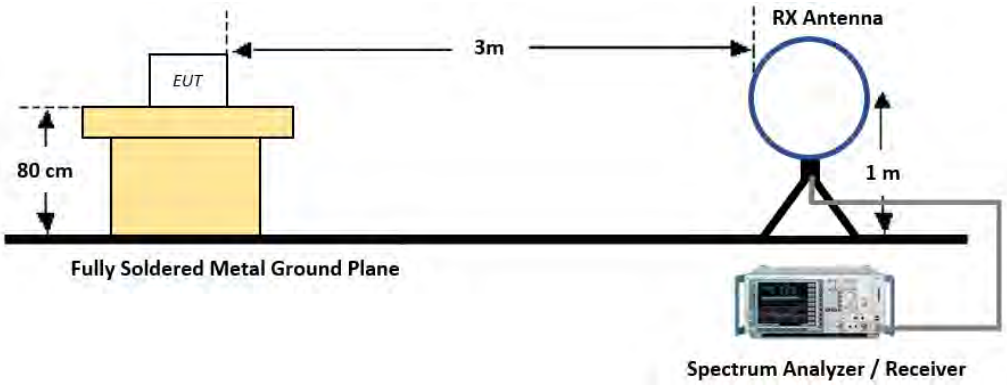
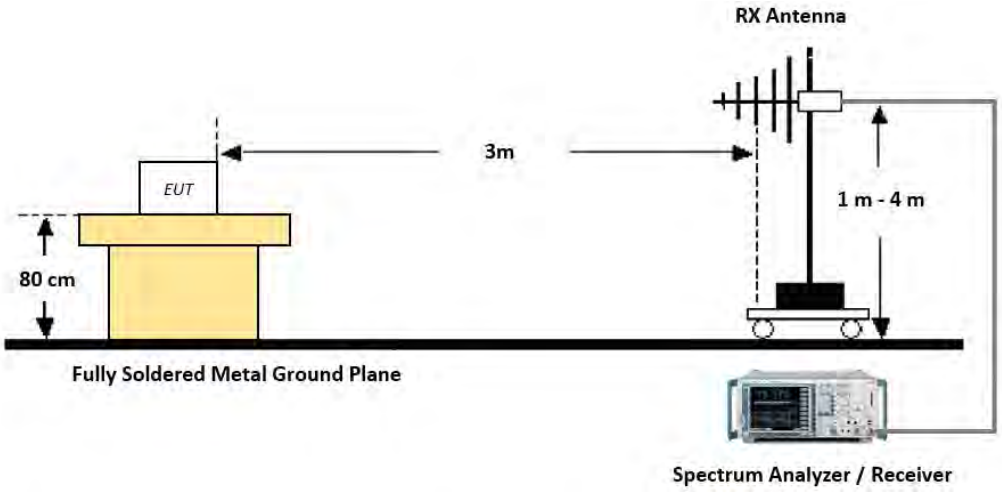
TEST SETUP

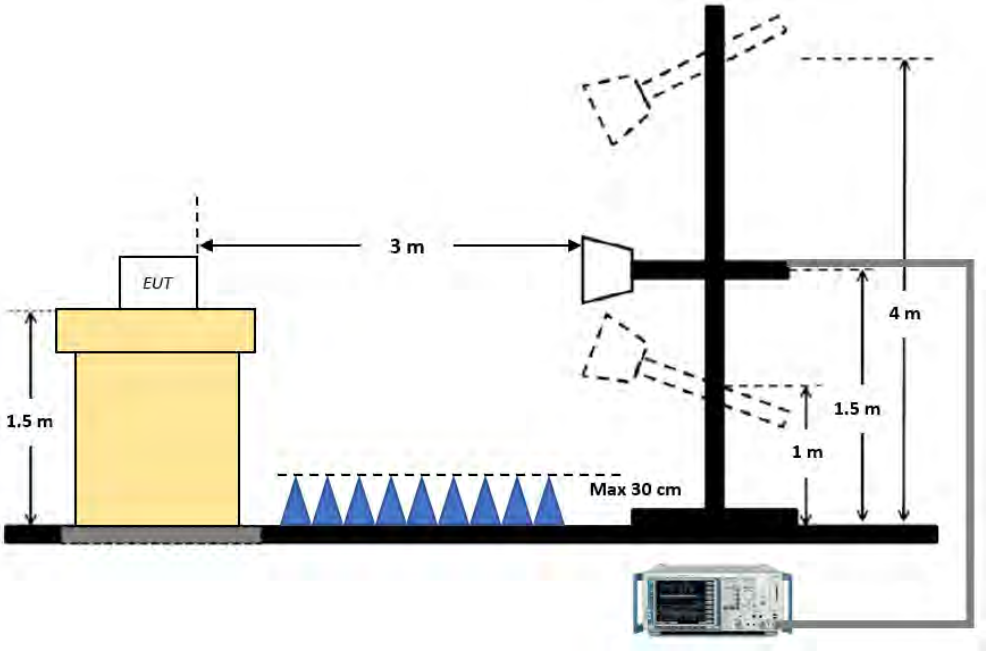
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



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TEST PROCEDURE OF RADIATED SPURIOUS EMISSION (BELOW 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3m from the EUT
3. The EUT is placed on a turntable, which is 0.8m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor (0.009 MHz – 0.490 MHz) = 40*log(3 m/300 m) = - 80 dB
   Measurement Distance: 3 m
7. Distance Correction Factor (0.490 MHz – 30 MHz) = 40*log(3 m/30 m) = - 40 dB
   Measurement Distance: 3 m
8. Spectrum Setting

   - Frequency Range = 9 kHz ~ 30 MHz
   - Detector = Peak
   - Trace = Max hold
   - RBW = 9 kHz
   - VBW ≥ 3*RBW

9. Total = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L)
10. There is a comparison data both open-field test site and alternative test site – semi-Anechoic chamber according to 414788 D01. And the results are properly calibrated.

TEST PROCEDURE OF RADIATED SPURIOUS EMISSION (30 MHz – 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. Spectrum Setting

   (1) Measurement Type (Peak):
   - Measured Frequency Range: 30 MHz – 1 GHz
   - Detector = Peak
   - Trace = Max hold
   - RBW = 100 kHz
   - VBW ≥ 3*RBW

   (2) Measurement Type(Quasi-peak):
   - Measured Frequency Range: 30 MHz – 1 GHz
   - Detector = Quasi-Peak
   - RBW = 120 kHz

6. Total = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L)

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TEST PROCEDURE OF RADIATED SPURIOUS EMISSION (ABOVE 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type(Peak, G.5 in KDB 789033 v02r01):
- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = Max hold
- Allow sweeps to continue until the trace stabilizes.
- Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

(2) Measurement Type(Average, G.6.d in KDB 789033 v02r01):
- RBW = 1 MHz
- VBW(Duty cycle ≥ 98 percent) = VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 percent) = VBW ≥ 1/T, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = Max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

9. Measurement value only up to 6 maximum emissions noted or would be lesser if no specific emissions from the EUT are recorded (i.e.: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor

10. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency (or 40 GHz whichever comes first)

11. Sample Calculation

(1) Total (Peak) = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G)
(2) Total (Average, Duty ≥ 98%) = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G)
(3) Total (Average, Duty < 98%) = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G) + Duty Cycle Factor

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TEST PROCEDURE OF RADIATED RESTRICTED BAND EDGE

1. Radiated test is performed with hopping off (if there is any)
2. The EUT is placed on a turntable, which is 1.5 m above ground plane.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type(Peak, G.5 in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = Max hold
- Allow sweeps to continue until the trace stabilizes.
- Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

(2) Measurement Type(Average, G.6.d in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW(Duty cycle ≥ 98 percent) = VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 percent) = VBW ≥ 1/T, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = Max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

9. Sample Calculation

(1) Total (Peak) = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L)
(2) Total (Average, Duty ≥ 98%) = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G)
(3) Total (Average, Duty < 98%) = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G) + Duty Cycle Factor

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7.7. AC POWER LINE CONDUCTED EMISSIONS

LIMIT

47 CFR § 15.207 / RSS-GEN Section 8.8

For an intentional radiator 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, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

*Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency.
voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

TEST SETUP

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

According to FCC KDB 174176 D01 Line Conducted FAQ v01r01 :

Devices Operating Above 30 MHz

For a device with a permanent or detachable antenna operating above 30 MHz, measurements must be performed with the antenna connected as specified in clause 6.2 of ANSI C63.10-2013.

Devices Operating Below 30 MHz

For a device with a permanent or detachable antenna operating at or below 30 MHz, the FCC will accept measurements performed with a suitable dummy load in lieu of the antenna under the following conditions:

(1) Perform the AC power-line conducted tests with the antenna connected to determine compliance with Section 15.207 limits outside the transmitter's fundamental emission band;

(2) Retest with a dummy load in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network which simulates the antenna in the fundamental frequency band. All measurements must be performed as specified in clause 6.2 of ANSI C63.10-2013.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor

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8. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit		Test Condition	Test Result
26dB Bandwidth	§15.407	N/A (For the output power limit)		Conducted	-
6 dB Bandwidth	§15.407(e)	≥ 500 kHz (For U-NII 3)			PASS
Maximum Conducted Output Power	§15.407(a)	U-NII 1	≤ 1 W		PASS
		U-NII 2	≤ 250 mW or 11+10log(B) dBm Whichever is less (B: Emission BW)		
		U-NII 3	≤ 1 W		
Power Spectral Density	§15.407(a)	U-NII 1	≤ 17 dBm/MHz		PASS
		U-NII 2	≤ 11 dBm/MHz		
		U-NII 3	≤ 30 dBm/500kHz		
AC Power line Conducted Emissions	§15.207 §15.407(b)(9)	cf. Section 7.7			PASS
Undesirable Emissions	§15.407(b)	cf. Section 7.5		Radiated	PASS
Radiated Spurious Emissions	§15.209 §15.407(b)(9)	cf. Section 7.6			PASS

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Test Description	ISED Part Section(s)	Test Limit		Test Condition	Test Result
Occupied Bandwidth	RSS-Gen, 6.7	N/A (For the power limt)		Conducted	-
6 dB Bandwidth	RSS-247, 6.2.4.1	≥ 500 kHz (For U-NII 3)			PASS
Maximum Conducted Output Power / Maximum e.i.r.p.	RSS-247, 6.2.1.1 RSS-247, 6.2.2.1 RSS-247, 6.2.3.1 RSS-247, 6.2.4.1	U-NII 1	≤ 200 mW e.i.r.p. or 10+10 log(B) dBm e.i.r.p. whichever is less (B: 99% OBW)		PASS
		U-NII 2	≤ 250 mW or 11+10 log(B) dBm Whichever is less (B: 99% OBW) and ≤ 1 W e.i,r,p, or 17+10 log(B) dBm e.i.r.p. whichever is less (B : 99% OBW)		
		U-NII 3	≤ 1 W		
Power Spectral Density	RSS-247, 6.2.1.1 RSS-247, 6.2.2.1 RSS-247, 6.2.3.1 RSS-247, 6.2.4.1	U-NII 1	≤ 10 dBm/MHz e.i.r.p.		PASS
		U-NII 2	≤ 11 dBm/MHz		
		U-NII 3	≤ 30 dBm/500kHz		
AC Power line Conducted Emissions	RSS-Gen, 8.8	cf. Section 7.7			PASS
Undesirable Emissions	RSS-247, 6.2.1.2 RSS-247, 6.2.2.2 RSS-247, 6.2.3.2 RSS-247, 6.2.4.2	cf. Section 7.5		Radiated	PASS
Radiated Spurious Emissions	RSS-Gen, 8.9	cf. Section 7.6			PASS
Receiver Spurious Emissions	RSS-Gen, 7.3	cf. Section 7.6			PASS

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WORST CASE CONFIGURATION

RADIATED TEST

1. EUT Axis

- All X, Y, and Z positions for horizontal / vertical antenna polarization were investigated to find the worst-case position.
- X position was selected for the final evaluation.

2. Operations with all the data rates available were investigated for each different channel BW mode. Lowest datarate MCS0 was selected as the worst case.

3. Radiated test was performed at the worst case 4 x TX mode
- Radiated band edge test was conducted only for 20 MHz bandwidth since 40 MHz mode was originally evaluated.
- Radiated spurious emission test was performed only for 20 MHz bandwidth since 40 MHz mode was originally evaluated.

CONDUCTED TEST

1. AC line conducted emission test was performed at the worst case transmission mode.

CHANNEL UNDER TEST

Band	Bandwidth (MHz)	Low Channel (MHz)	Mid Channel (MHz)	High Channel (MHz)
U-NII 1	20	5180	5220	5240
U-NII 2a	20	5260	5300	5320
U-NII 2c	20	5500	5580	5720
U-NII 3	20	5740	5800	5840

Note : 5720 MHz is spanning between U-NII 2c and U-NII 3

SUMMARY OF POWER LEVEL SETTING

The power level was preset to 10 per chain by the manufacturer
The channels in U-NII 1 band in Canada is set to 5 per chain.

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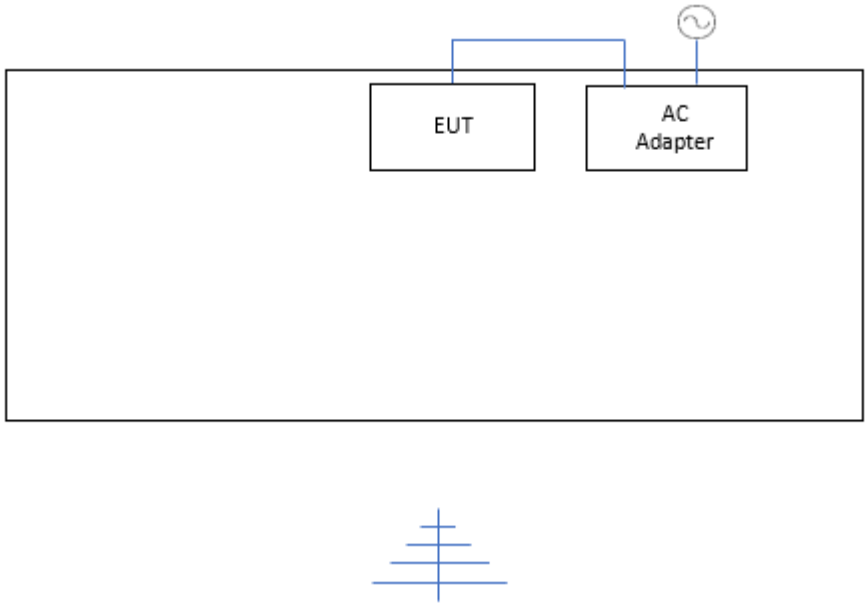
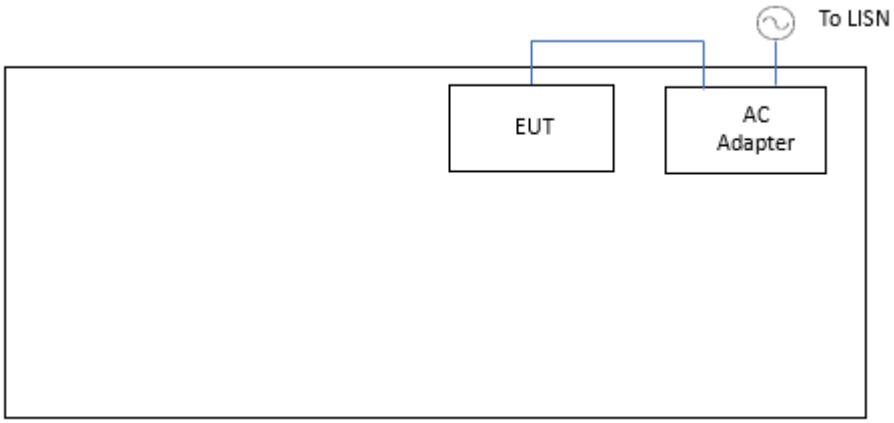
TEST CONFIGURATION

Radiated Emission

Conducted Emission


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LIST OF SUPPORT EQUIPMENT

Equipment Type	Model No.	Serial Number	Manufacturer	Qty	Note
AC Adapter	AFM30US12	2045-03645	XP Power	1	100-240 Vac, 1.1 A, 50/60Hz (Output : 12 Vdc, 2.5A)

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9. TEST RESULT

9.1 DUTY CYCLE

The duty cycle is 100%

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9.2 26 dB BANDWIDTH / 99% BANDWIDTH / 6 dB BANDWIDTH

FCC

U-NII 1 (20 MHz)	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)			
Frequency (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
5180	19.240	19.075	19.434	19.497	18.082	17.971	17.987	17.965
5220	19.456	19.097	19.234	19.240	17.995	18.029	17.811	17.932
5240	19.264	19.123	19.096	19.013	18.029	18.010	17.882	18.002

U-NII 2a (20 MHz)	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)			
Frequency (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
5260	19.161	19.271	19.301	19.564	17.987	18.054	17.877	17.964
5300	19.108	19.241	19.096	19.254	17.956	17.904	17.913	17.918
5320	19.053	19.509	19.299	19.846	17.954	18.071	17.954	17.959

U-NII 2c (20 MHz)	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)			
Frequency (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
5500	19.302	19.253	19.328	19.227	18.037	17.987	17.935	17.984
5580	19.250	18.919	19.292	19.239	18.037	18.005	18.025	17.940
5700	19.191	19.203	19.178	19.288	17.984	17.994	18.066	17.876

U-NII 3 (20 MHz)	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)			
Frequency (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
5740	19.344	19.154	19.202	19.178	18.032	17.976	17.890	17.918
5800	19.065	18.981	19.164	19.204	17.989	17.977	17.962	17.989
5840	19.456	19.144	19.553	19.179	18.016	18.018	17.966	17.905

ISED

U-NII 1 (20 MHz)	26 dB Bandwidth (MHz)				99% Bandwidth (MHz)			
Frequency (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
5180	19.460	19.230	19.330	19.560	18.024	17.960	17.973	17.940
5220	19.540	19.370	19.570	19.590	18.013	17.961	17.918	17.947
5240	19.310	19.430	19.500	19.510	18.072	18.018	17.996	17.956

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U-NII 3 (20 MHz)	6 dB Bandwidth (MHz)				Limit (MHz)
Frequency (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	
5740	17.78	17.68	17.51	17.92	≥ 0.5
5800	17.55	17.92	17.60	17.71	≥ 0.5
5840	17.95	18.02	17.78	17.85	≥ 0.5

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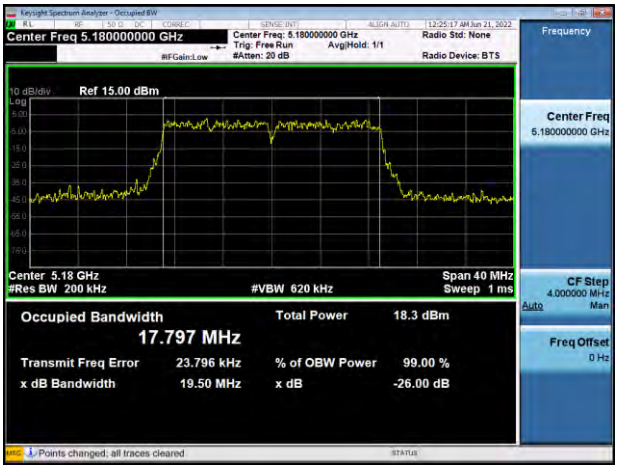
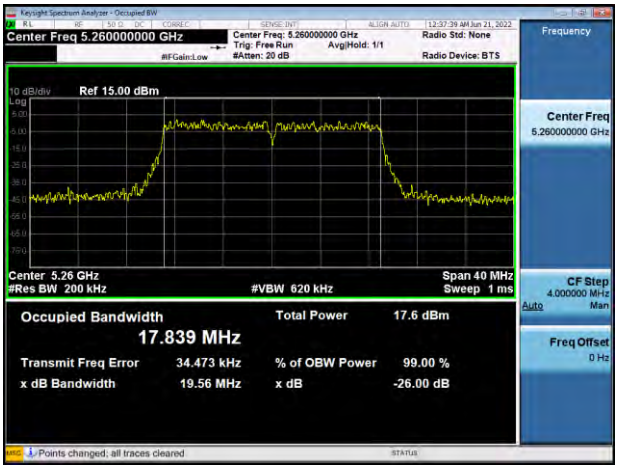
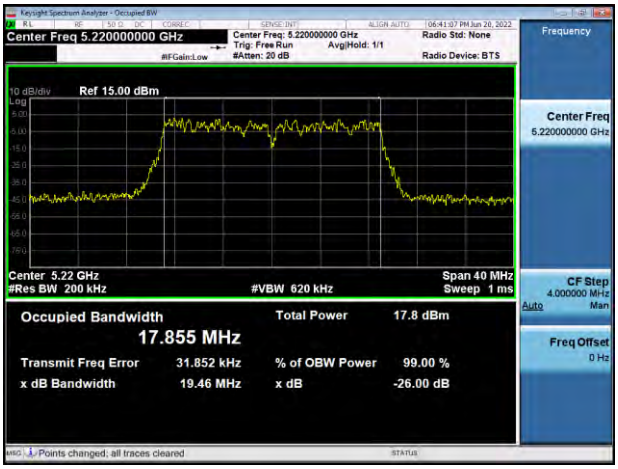
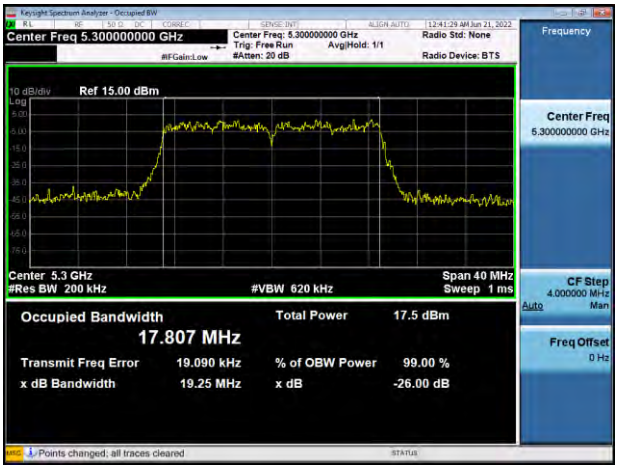
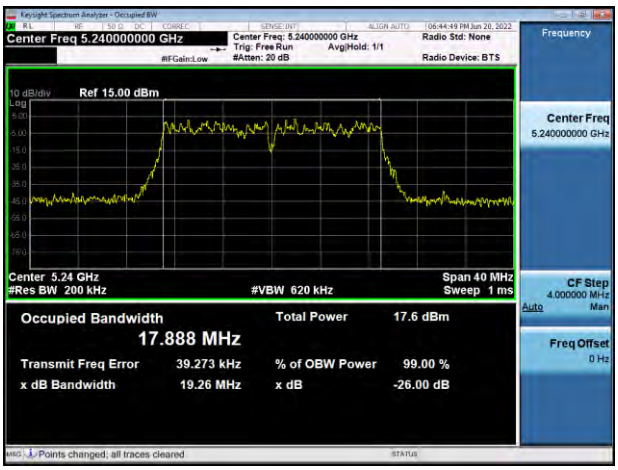
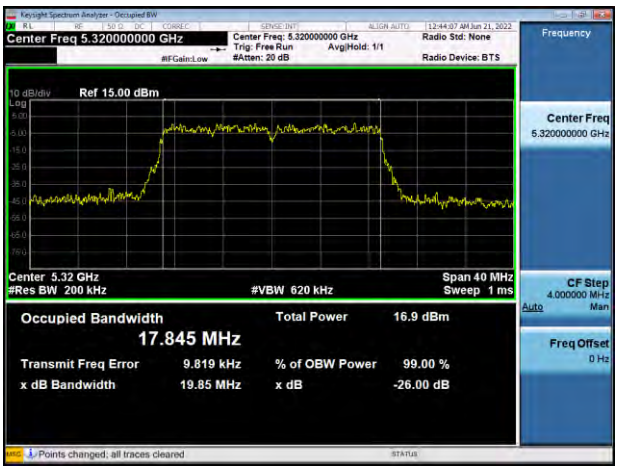
▣ TEST PLOTS

26 dB Bandwidth : U-NII 1	26 dB Bandwidth : U-NII 2a
5180 MHz	5260 MHz
	
5220 MHz	5300 MHz
	
5240 MHz	5320 MHz
	

Note(s) :
The worst plots are reported for each frequency.

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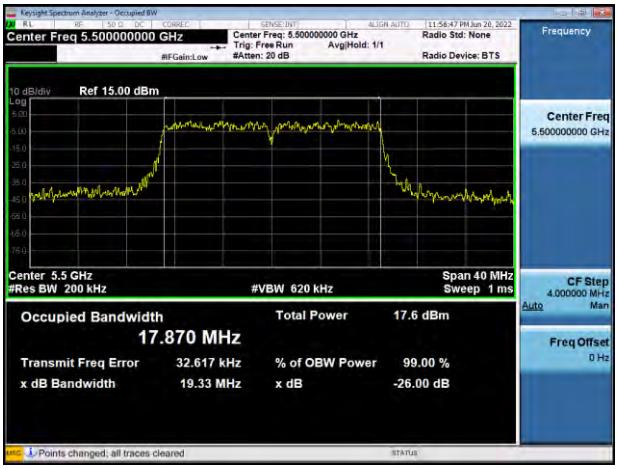
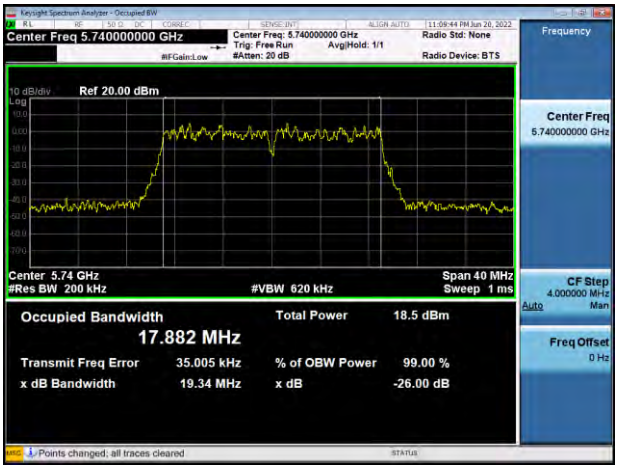
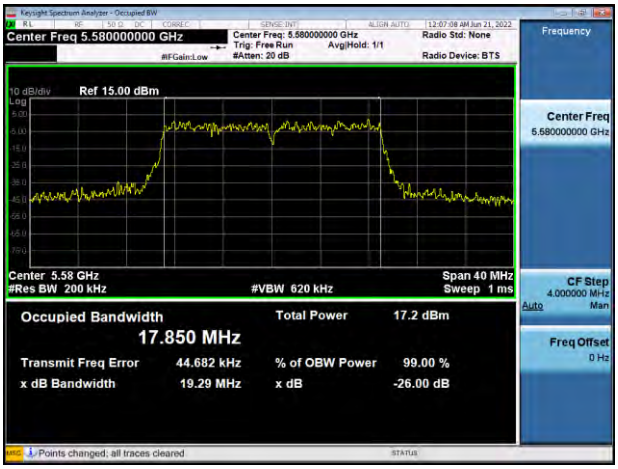
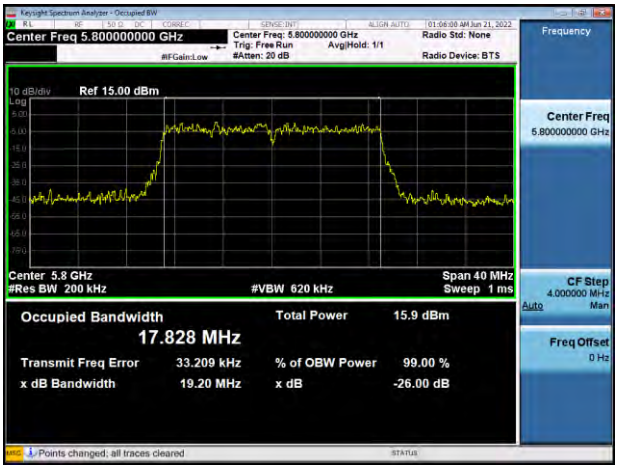
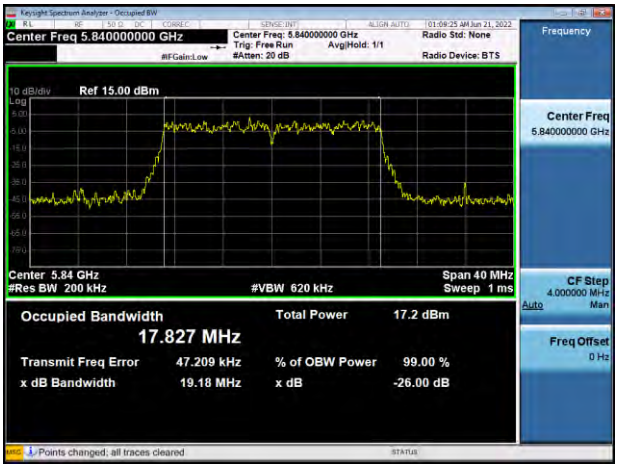
▣ TEST PLOTS

26 dB Bandwidth : U-NII 2c	26 dB Bandwidth : U-NII 3
5500 MHz	5740 MHz
	
5580 MHz	5800 MHz
	
5700 MHz	5840 MHz
	

Note(s) :
The worst plots are reported for each frequency.

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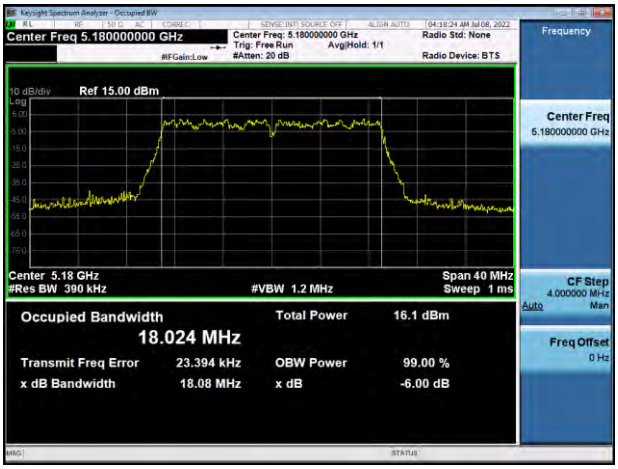
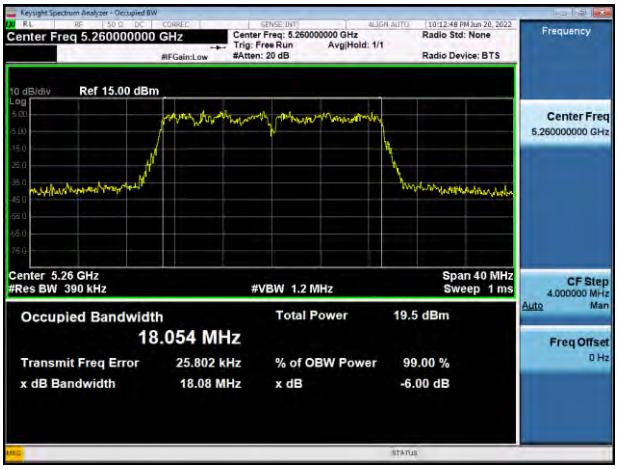
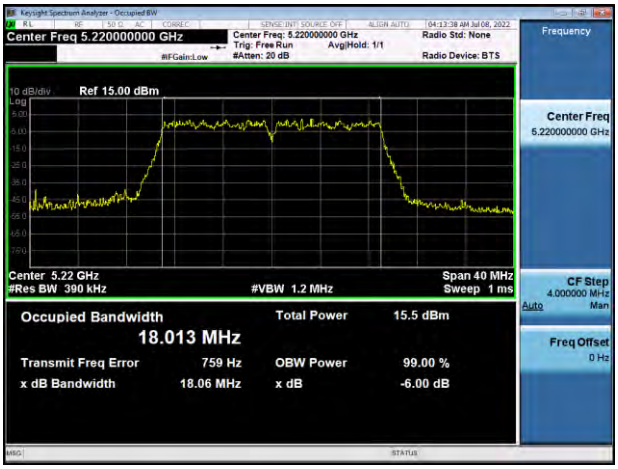
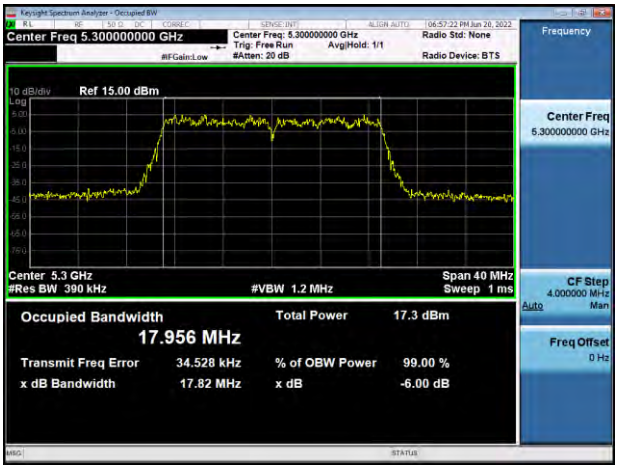
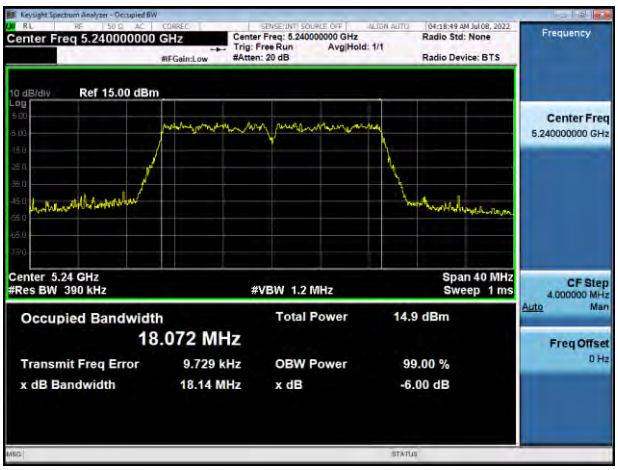
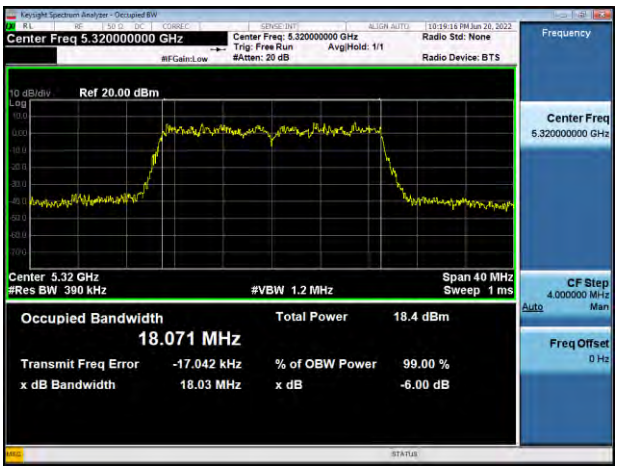
▣ TEST PLOTS

99% Bandwidth : U-NII 1	99% Bandwidth : U-NII 2a
5180 MHz	5260 MHz
	
5220 MHz	5300 MHz
	
5240 MHz	5320 MHz
	

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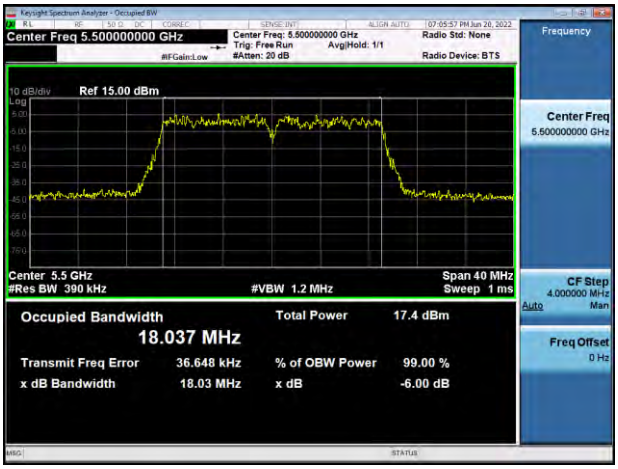
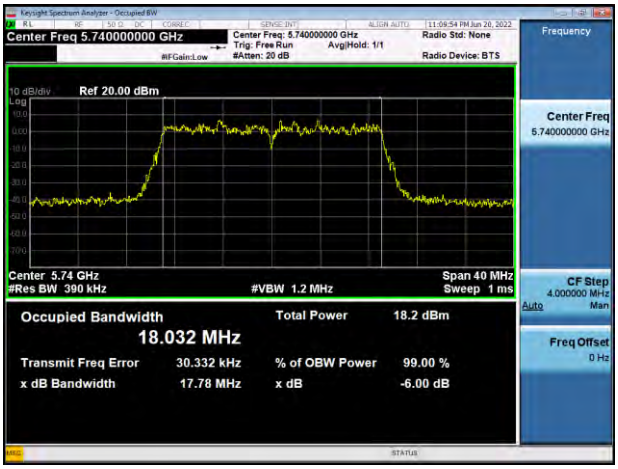
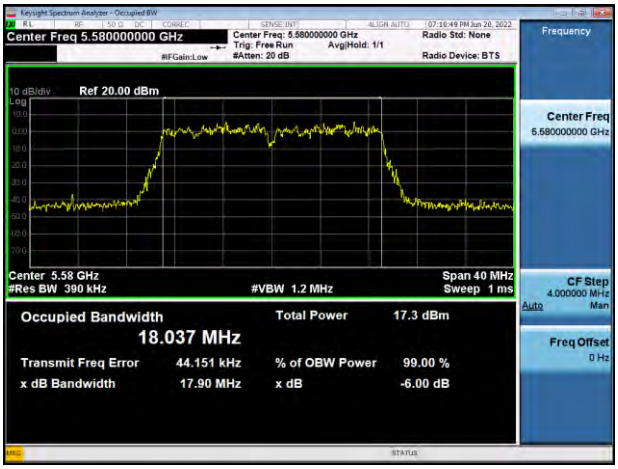
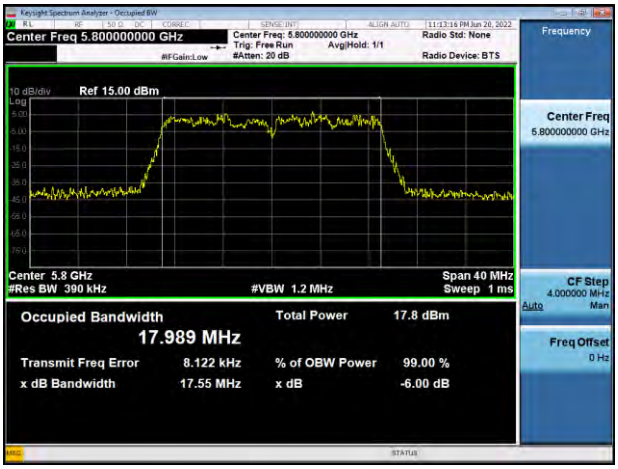
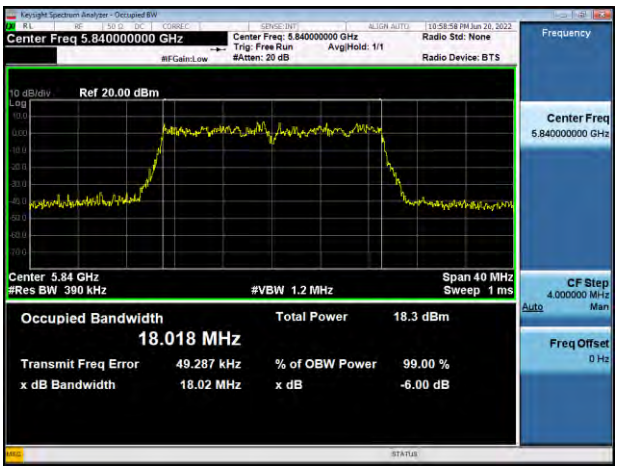
▣ TEST PLOTS

99% Bandwidth : U-NII 2c	99% Bandwidth : U-NII 3
5500 MHz	5740 MHz
	
5580 MHz	5800 MHz
	
5700 MHz	5840 MHz
	

Note(s) :
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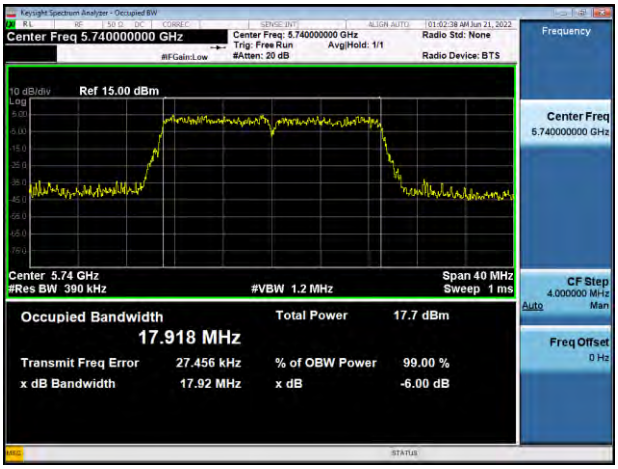
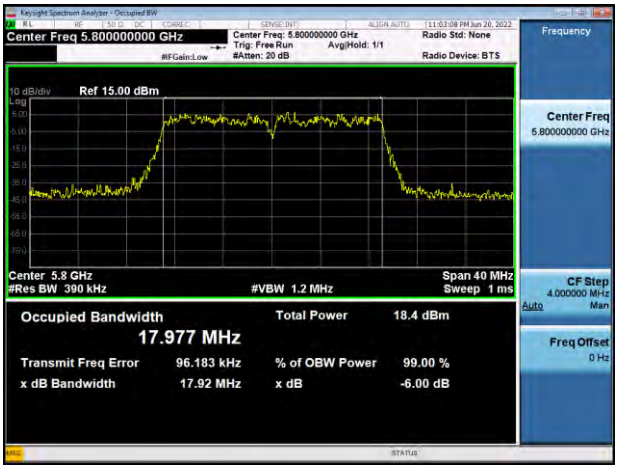
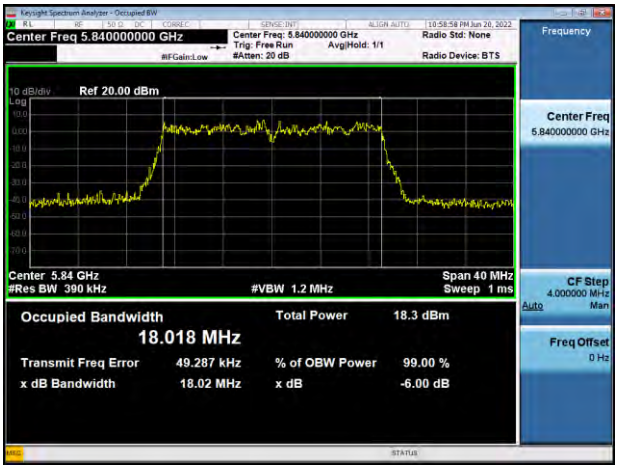
▣ TEST PLOTS

6 dB Bandwidth : U-NII 3	
5740 MHz	**5800 MHz**
	
5840 MHz	
	

Note(s) :
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9.3 OUTPUT POWER

FCC

U-NII 1 (20 MHz)	Test Result					Limit (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5180	11.28	11.36	10.86	11.51	17.28	23.98
5220	10.55	11.61	11.16	10.85	17.08	23.98
5240	10.26	11.61	11.20	10.73	17.00	23.98

U-NII 2a (20 MHz)	Test Result					Limit [1] (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5260	10.09	11.92	10.96	10.79	17.01	23.82
5300	9.98	11.43	11.11	10.61	16.84	23.81
5320	10.09	11.11	11.12	10.42	16.73	23.80

U-NII 2c (20 MHz)	Test Result					Limit [1] (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5500	9.76	11.35	10.91	9.41	16.45	23.84
5580	10.32	11.12	10.59	11.43	16.91	23.77
5700	11.86	11.78	11.42	11.46	17.65	23.83

U-NII 3 (20 MHz)	Test Result					Limit (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5740	11.08	11.80	11.53	10.49	17.28	30
5800	10.53	10.88	11.29	9.22	16.57	30
5840	10.89	11.02	11.24	10.48	16.94	30

Straddle Channel (20 MHz)		Test Result					Limit [1] (dBm)
Frequency (MHz)	Band	Measured Power (dBm)				Total Power (dBm)	
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5720	U-NII 2c	10.04	10.10	10.13	10.05	16.10	22.66
5720	U-NII 3	4.26	4.73	4.33	3.83	10.32	30

Note(s) :

1. Conducted output power limit (U-NII 2) : MIN [10 log(250 mW), 11 + 10 log(EBW)]
2. The output power results in the table include the spectrum offset, which is a combination loss of the attenuator and the cable used for testing.

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ISED

U-NII 1 (20 MHz)	Test Result					Limit [1] (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5180	6.79	6.99	7.00	6.81	12.92	20.54
5220	6.27	6.90	6.50	6.13	12.48	20.53
5240	5.84	6.88	6.42	6.06	12.34	20.54

U-NII 2a (20 MHz)	Test Result					Limit [2] (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5260	10.09	11.92	10.96	10.79	17.01	23.52
5300	9.98	11.43	11.11	10.61	16.84	23.53
5320	10.09	11.11	11.12	10.42	16.73	23.54

U-NII 2c (20 MHz)	Test Result					Limit [2] (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5500	9.76	11.35	10.91	9.41	16.45	23.54
5580	10.32	11.12	10.59	11.43	16.91	23.54
5700	11.86	11.78	11.42	11.46	17.65	23.52

U-NII 3 (20 MHz)	Test Result					Limit (dBm)
Frequency (MHz)	Measured Power (dBm)				Total Power (dBm)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5740	11.08	11.80	11.53	10.49	17.28	30
5800	10.53	10.88	11.29	9.22	16.57	30
5840	10.89	11.02	11.24	10.48	16.94	30

Straddle Channel (20 MHz)		Test Result					Limit [2] (dBm)
Frequency (MHz)	Band	Measured Power (dBm)				Total Power (dBm)	
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5720	U-NII 2c	10.04	10.10	10.13	10.05	16.10	22.66
5720	U-NII 3	4.26	4.73	4.33	3.83	10.32	30

Note(s) :

1. Conducted output power limit (U-NII 1) : MIN [10 log(200 mW), 10 + 10 log(OBW)] – 2.0 dBi
2. Conducted output power limit (U-NII 2) : MIN [10 log(250 mW), 11 + 10 log(OBW)]
3. The output power results in the table include the spectrum offset, which is a combination loss of the attenuator and the cable used for testing.

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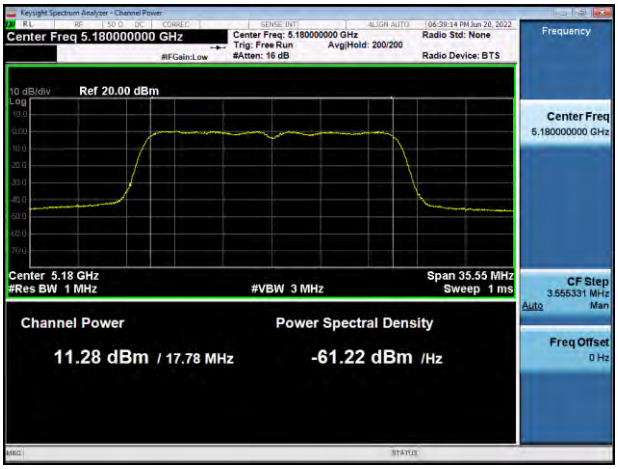
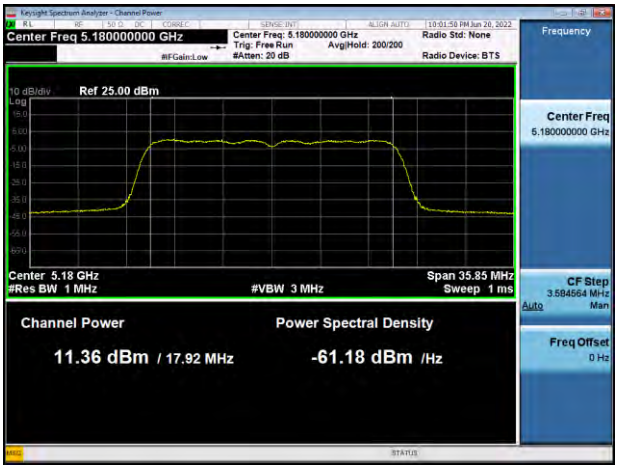
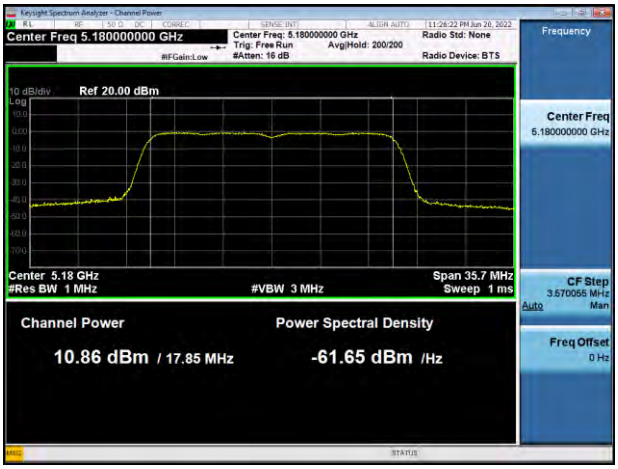
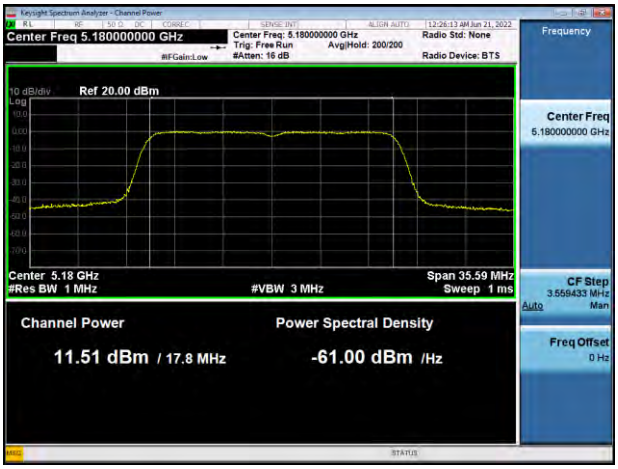
▣ TEST PLOTS

Output Power : U-NII 1 (FCC)	
5180 MHz : Chain 0	**5180 MHz : Chain 1**
	
5180 MHz : Chain 2	**5180 MHz : Chain 3**
	

Note(s) :
The worst plots are reported for each band.

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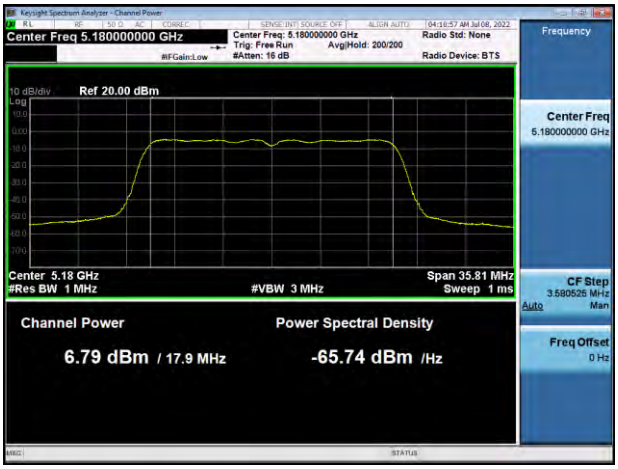
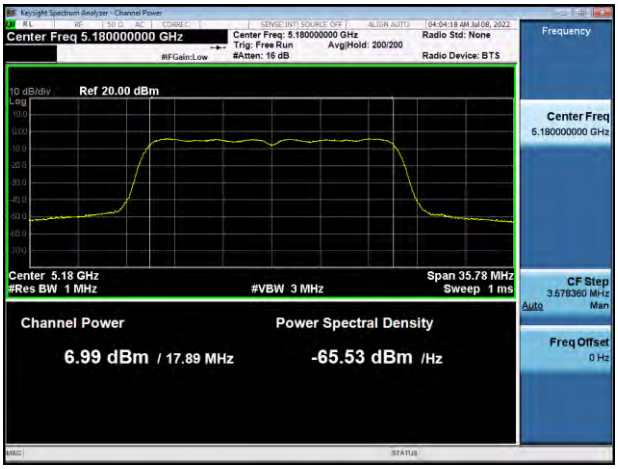
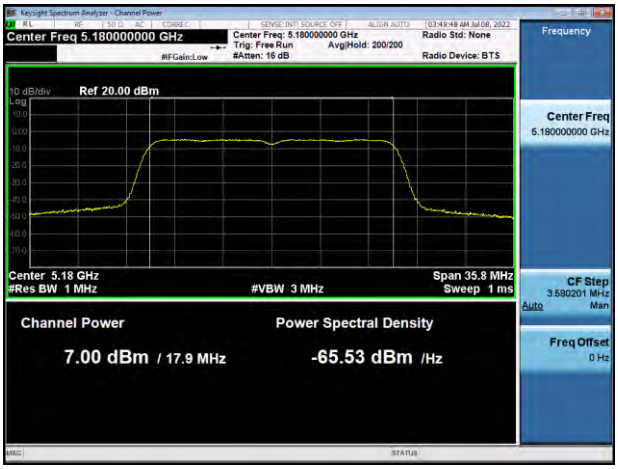
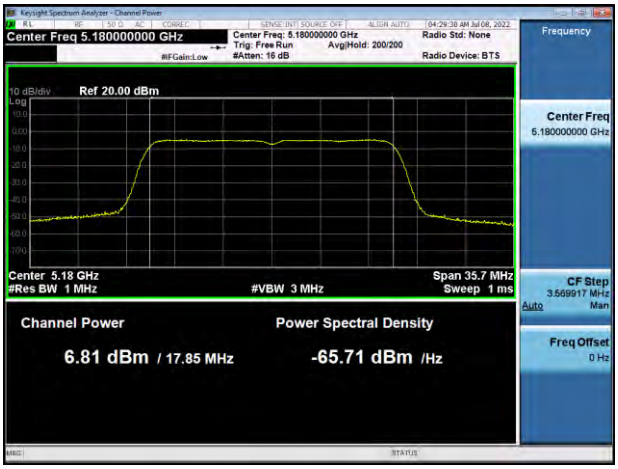
▣ TEST PLOTS

Output Power : U-NII 1 (ISED)	
5180 MHz : Chain 0	**5180 MHz : Chain 1**
	
5180 MHz : Chain 2	**5180 MHz : Chain 3**
	

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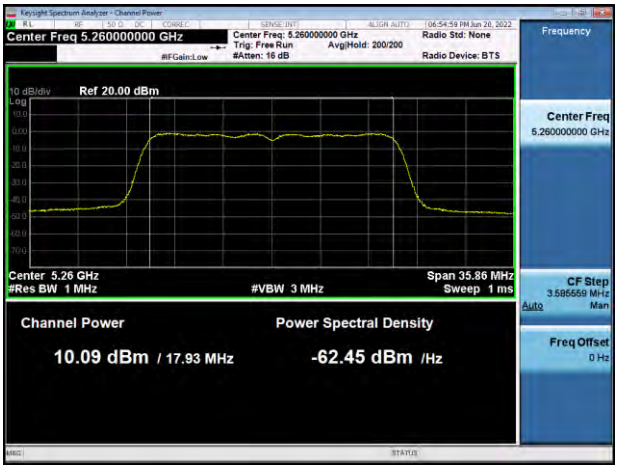
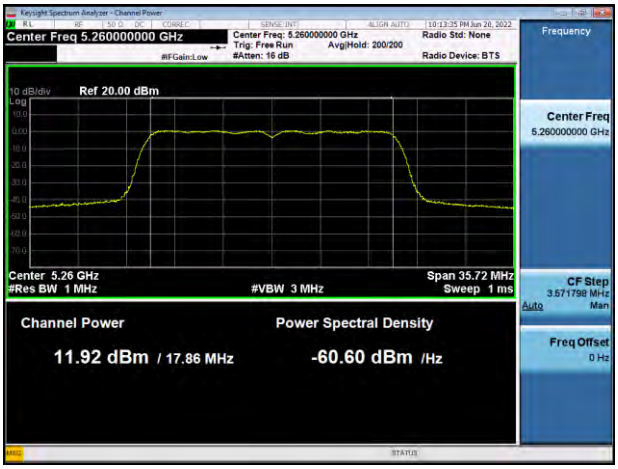
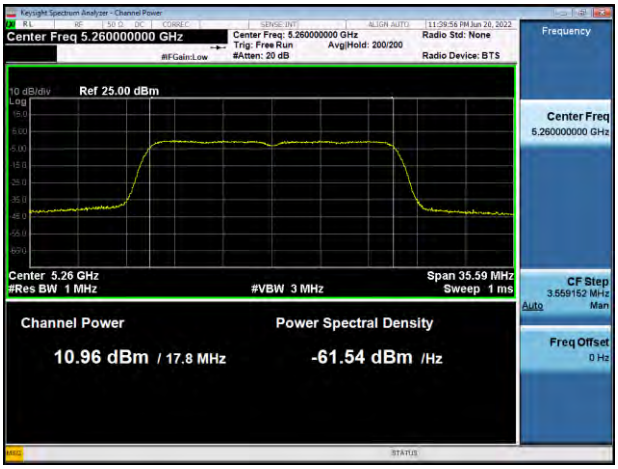
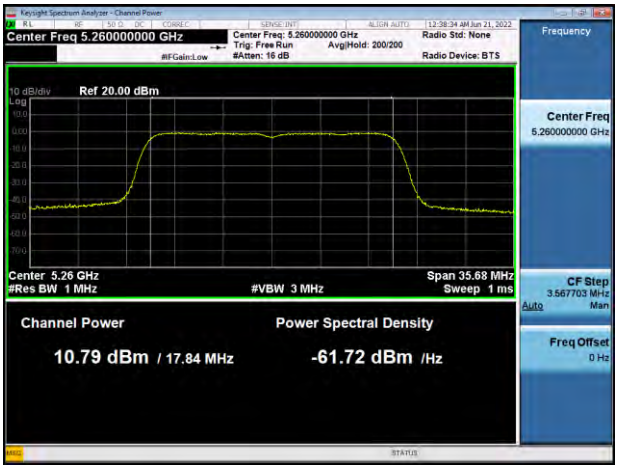
▣ TEST PLOTS

Output Power : U-NII 2a	
5260 MHz : Chain 0	**5260 MHz : Chain 1**
	
5260 MHz : Chain 2	**5260 MHz : Chain 3**
	

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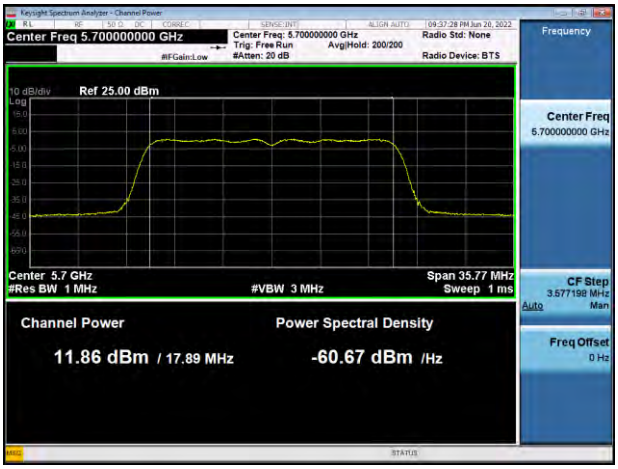
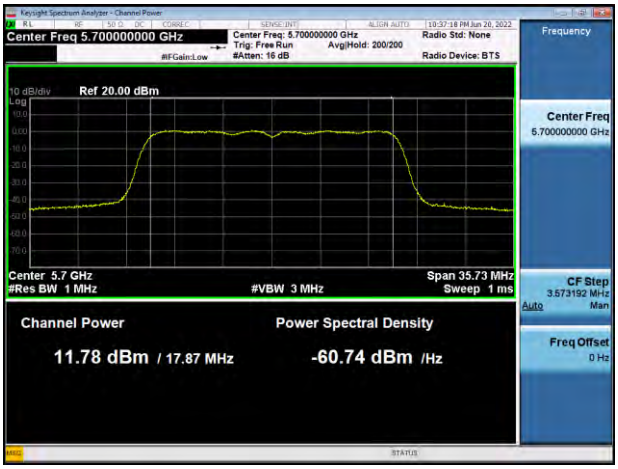
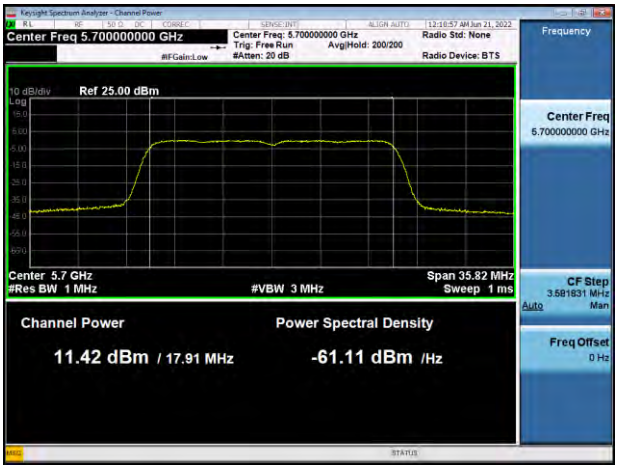
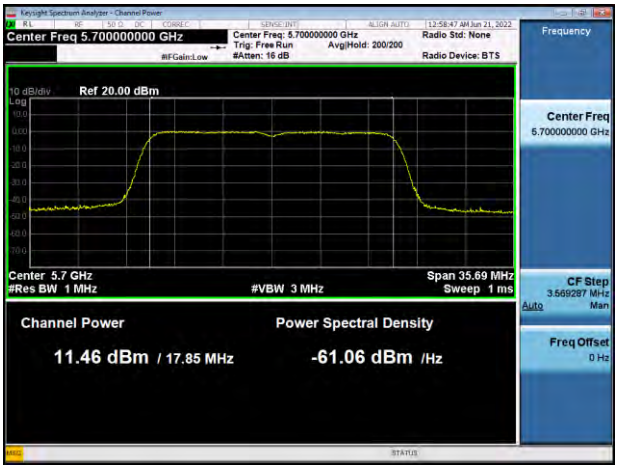
▣ TEST PLOTS

Output Power : U-NII 2c	
5700 MHz : Chain 0	**5700 MHz : Chain 1**
	
5700 MHz : Chain 2	**5700 MHz : Chain 3**
	

Note(s) :
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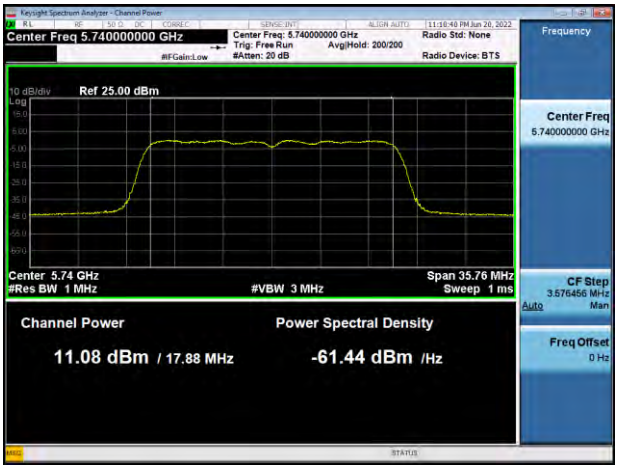
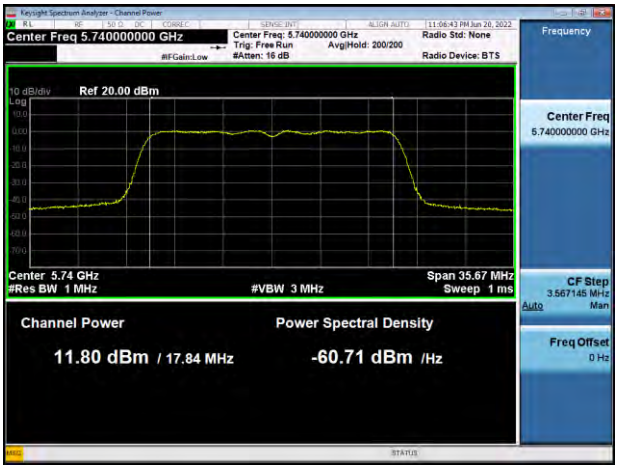
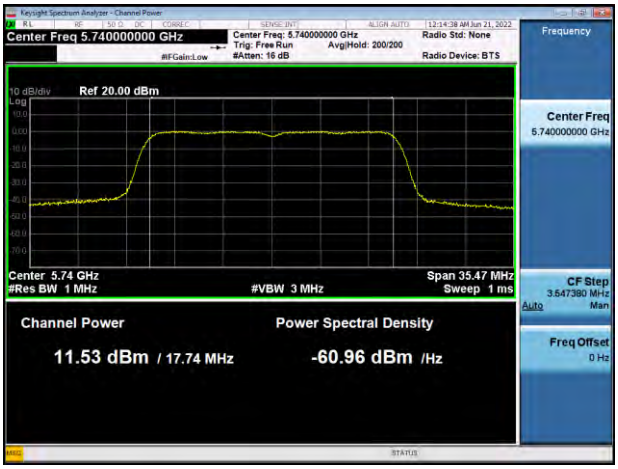
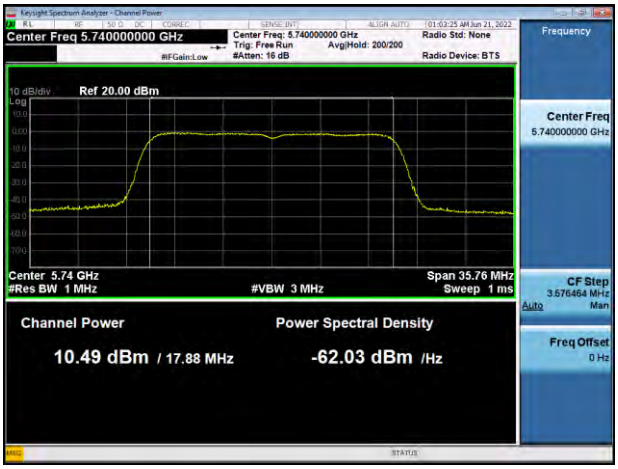
▣ TEST PLOTS

Output Power : U-NII 3	
5740 MHz : Chain 0	**5740 MHz : Chain 1**
	
5740 MHz : Chain 2	**5740 MHz : Chain 3**
	

Note(s) :
The worst plots are reported for each band.

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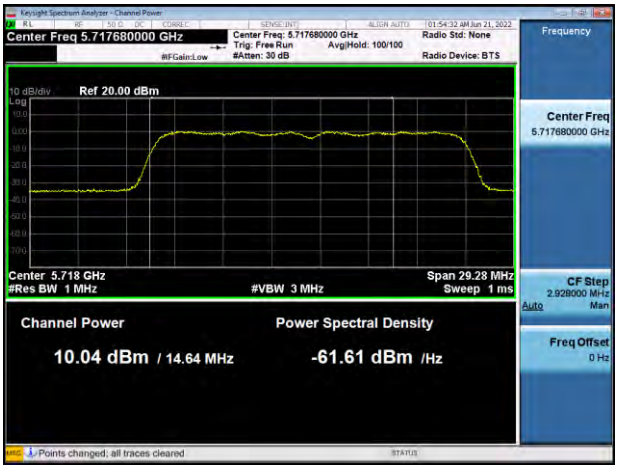
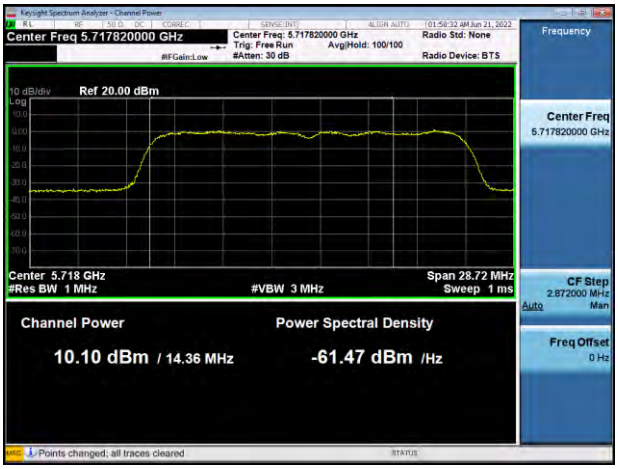
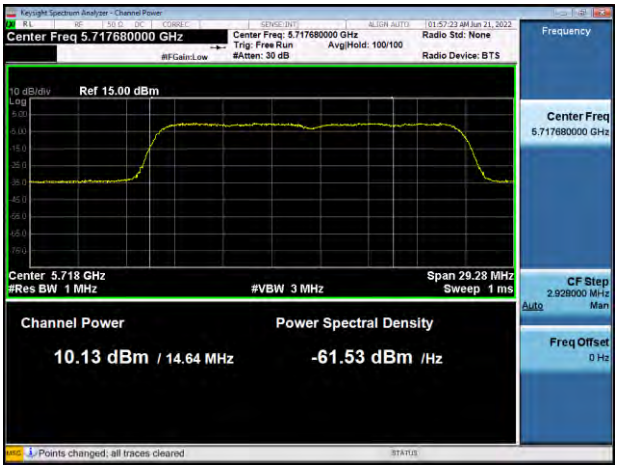
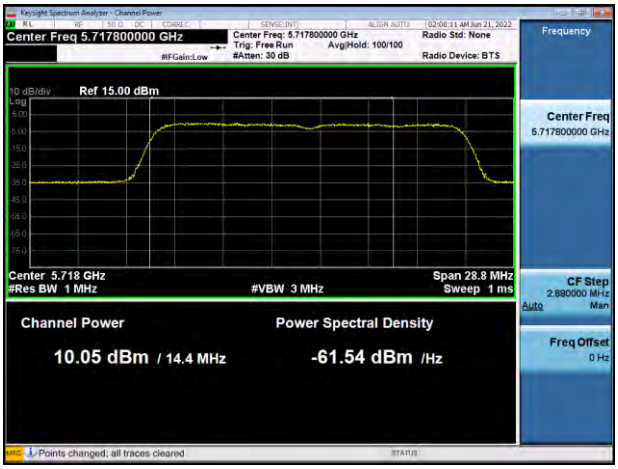
▣ TEST PLOTS

Output Power (Straddle Channel) : U-NII 2c	
5720 MHz : Chain 0	**5720 MHz : Chain 1**
	
5720 MHz : Chain 2	**5720 MHz : Chain 3**
	

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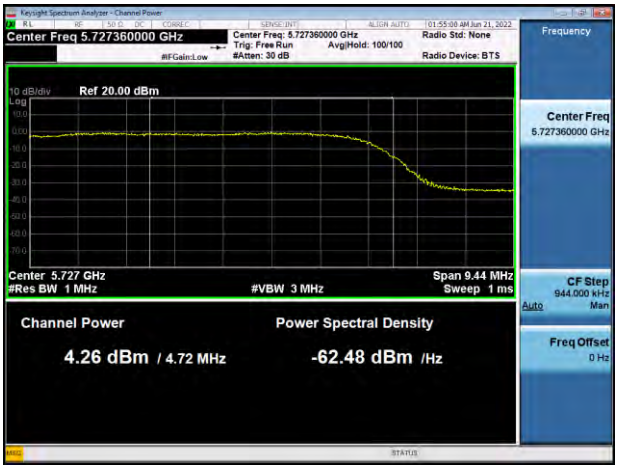
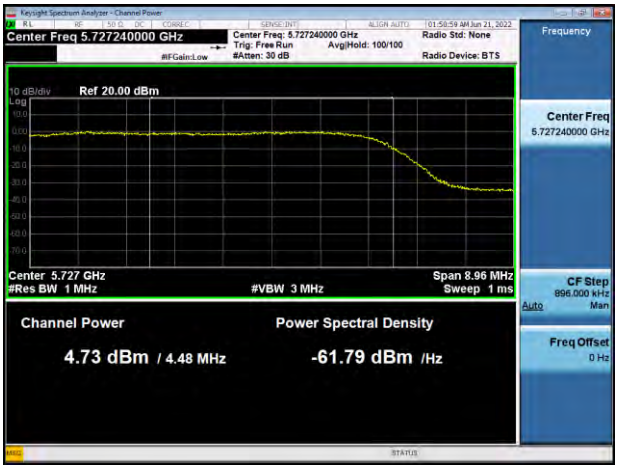
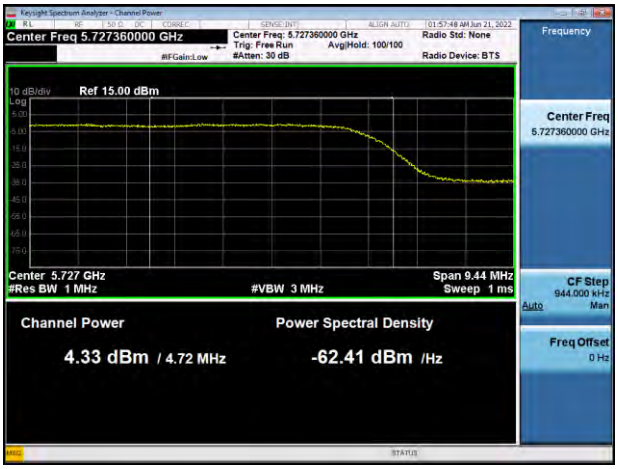
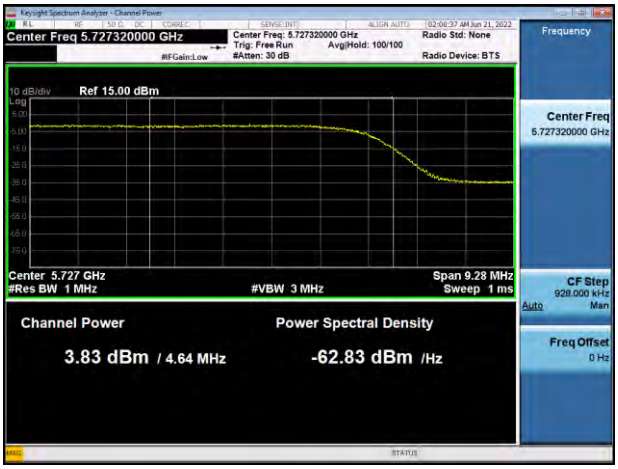
▣ TEST PLOTS

Output Power (Straddle Channel) : U-NII 3	
5720 MHz : Chain 0	**5720 MHz : Chain 1**
	
5720 MHz : Chain 2	**5720 MHz : Chain 3**
	

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9.4 POWER SPECTRAL DENSITY

FCC

U-NII 1 (20 MHz)	Test Result					Limit [1] (dBm/MHz)
Frequency (MHz)	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5180	0.23	0.27	-0.73	-0.10	5.95	8.98
5220	-0.86	0.40	-0.42	-0.88	5.61	8.98
5240	-1.15	0.54	-0.35	-0.73	5.65	8.98

U-NII 2a (20 MHz)	Test Result					Limit [1] (dBm/MHz)
Frequency (MHz)	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5260	10.09	11.92	10.96	10.79	5.73	8.98
5300	9.98	11.43	11.11	10.61	5.69	8.98
5320	10.09	11.11	11.12	10.42	5.66	8.98

U-NII 2c (20 MHz)	Test Result					Limit [1] (dBm/MHz)
Frequency (MHz)	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5500	9.76	11.35	10.91	9.41	5.00	8.98
5580	10.32	11.12	10.59	11.43	5.82	8.98
5700	11.86	11.78	11.42	11.46	6.29	8.98

U-NII 3 (20 MHz)	Test Result					Limit [2] (dBm/500kHz)
Frequency (MHz)	Measured PSD (dBm/500kHz)				Total PSD (dBm/500kHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5740	11.08	11.80	11.53	10.49	3.27	27.98
5800	10.53	10.88	11.29	9.22	2.63	27.98
5840	10.89	11.02	11.24	10.48	3.21	27.98

Straddle Channel (20 MHz)		Test Result					Limit (dBm/MHz) (dBm/500kHz)
Frequency (MHz)	Band	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5720	U-NII 2c	0.22	0.24	-0.08	0.11	6.14	8.98 [1]
5720	U-NII 3	-3.14	-2.63	-3.49	-3.75	2.79	27.98 [2]

Note(s) :

1. Conducted PSD limit (U-NII 1/2) : 11 dBm/MHz – (8.02 – 6.0) dBi = 8.98 dBm/MHz
2. Conducted PSD limit (U-NII 3) : 30 dBm/500kHz – (8.02 – 6.0) dBi = 27.98 dBm/500kHz
3. The PSD results in the table include the spectrum offset, which is a combination loss of the attenuator and the cable used for testing.

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ISED

U-NII 1 (20 MHz)	Test Result					Limit [1] (dBm/MHz)
Frequency (MHz)	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5180	-4.48	-4.16	-4.63	-4.81	1.51	1.98
5220	-4.91	-4.33	-5.14	-5.39	1.10	1.98
5240	-5.29	-4.29	-5.07	-5.31	1.05	1.98

U-NII 2a (20 MHz)	Test Result					Limit [2] (dBm/MHz)
Frequency (MHz)	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5260	-1.00	0.61	-0.43	-0.50	5.73	8.98
5300	-0.80	0.23	-0.02	-0.85	5.69	8.98
5320	-0.81	0.27	-0.14	-0.87	5.66	8.98

U-NII 2c (20 MHz)	Test Result					Limit [2] (dBm/MHz)
Frequency (MHz)	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5500	-1.71	-0.05	-0.50	-2.16	5.00	8.98
5580	-0.48	0.18	-0.79	0.20	5.82	8.98
5700	0.68	0.39	-0.03	-0.01	6.29	8.98

U-NII 3 (20 MHz)	Test Result					Limit [3] (dBm/500kHz)
Frequency (MHz)	Measured PSD (dBm/500kHz)				Total PSD (dBm/500kHz)	
	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5740	-2.40	-2.10	-2.95	-3.70	3.27	27.98
5800	-3.23	-2.68	-2.97	-5.03	2.63	27.98
5840	-2.54	-2.57	-2.80	-3.40	3.21	27.98

Straddle Channel (20 MHz)		Test Result					Limit (dBm/MHz) (dBm/500kHz)
Frequency (MHz)	Band	Measured PSD (dBm/MHz)				Total PSD (dBm/MHz)	
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 0+1+2+3	
5720	U-NII 2c	0.22	0.24	-0.08	0.11	6.14	8.98 [2]
5720	U-NII 3	-3.14	-2.63	-3.49	-3.75	2.79	27.98 [3]

Note(s) :

1. Conducted PSD limit (U-NII 1) : 10 dBm/MHz – 8.02 dBi = 1.98 dBm/MHz
2. Conducted PSD limit (U-NII 2) : 11 dBm/MHz – (8.02 – 6.0) dBi = 8.98 dBm/MHz
3. Conducted PSD limit (U-NII 3) : 30 dBm/500kHz – (8.02 – 6.0) dBi = 27.98 dBm/500kHz
4. The PSD results in the table include the spectrum offset, which is a combination loss of the attenuator and the cable used for testing.

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▣ TEST PLOTS

PSD : U-NII 1 (FCC)	
5180 MHz : Chain 0	**5180 MHz : Chain 1**
	
5180 MHz : Chain 2	**5180 MHz : Chain 3**
	

Note(s) :
The worst plots are reported for each band.

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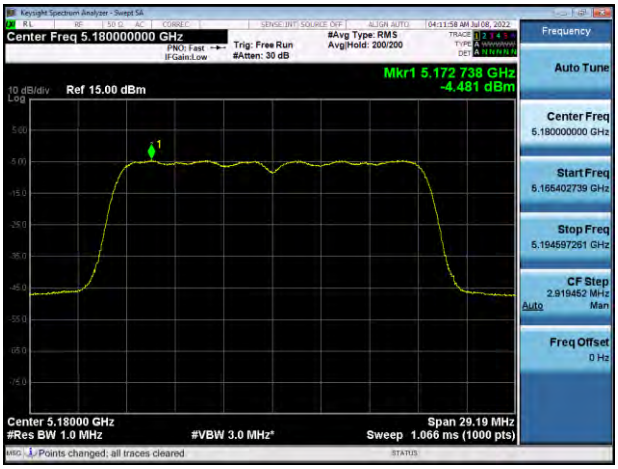
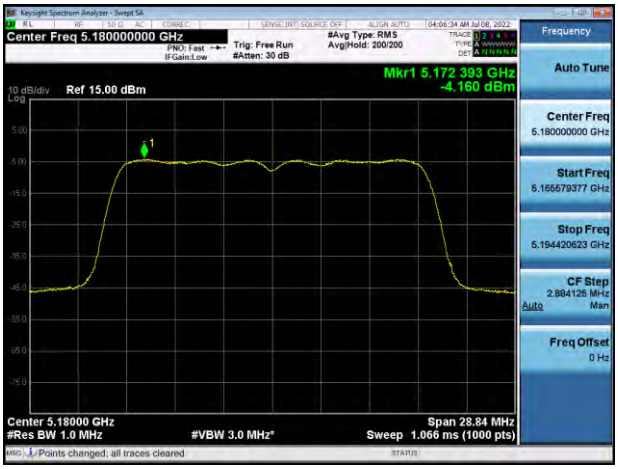
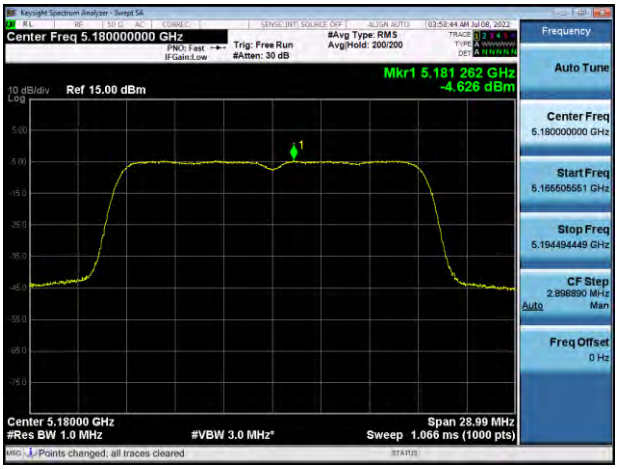
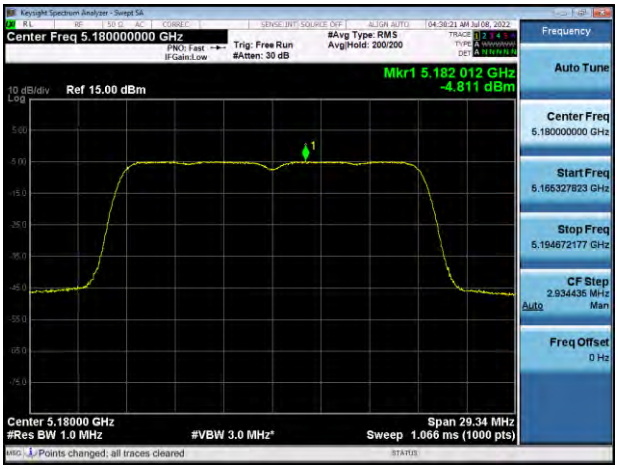
▣ TEST PLOTS

PSD : U-NII 1 (ISED)	
5180 MHz : Chain 0	5180 MHz : Chain 1
	
5180 MHz : Chain 2	5180 MHz : Chain 3
	

Note(s) :
The worst plots are reported for each band.

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▣ TEST PLOTS

PSD : U-NII 2a	
5260 MHz : Chain 0	**5260 MHz : Chain 1**
	
5260 MHz : Chain 2	**5260 MHz : Chain 3**
	

Note(s) :
The worst plots are reported for each band.

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▣ TEST PLOTS

PSD : U-NII 2c	
5700 MHz : Chain 0	**5700 MHz : Chain 1**
	
5700 MHz : Chain 2	**5700 MHz : Chain 3**
	

Note(s) :
The worst plots are reported for each band.

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▣ TEST PLOTS

PSD : U-NII 3	
5740 MHz : Chain 0	**5740 MHz : Chain 1**
	
5740 MHz : Chain 2	**5740 MHz : Chain 3**
	

Note(s) :
The worst plots are reported for each band.

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▣ TEST PLOTS

PSD : Straddle Channel – U-NII 2c	
5720 MHz : Chain 0	**5720 MHz : Chain 1**
	
5720 MHz : Chain 2	**5720 MHz : Chain 3**
	

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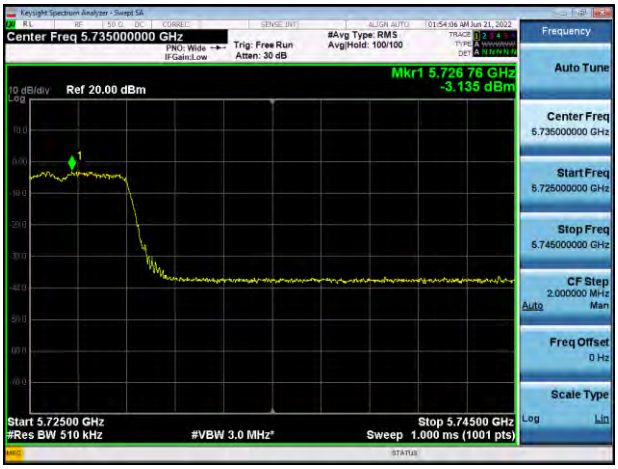
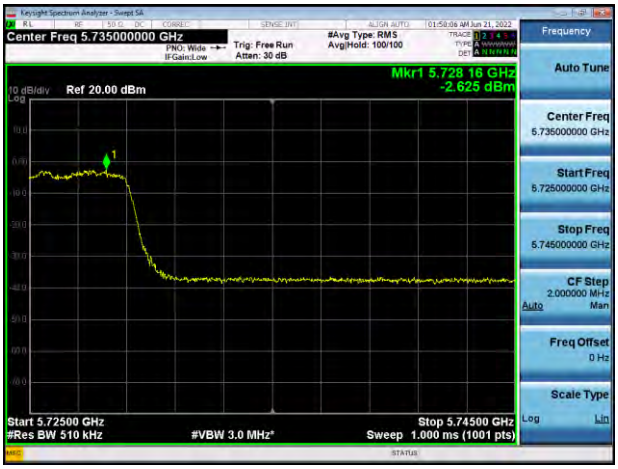
▣ TEST PLOTS

PSD : Straddle Channel – U-NII 3	
5720 MHz : Chain 0	**5720 MHz : Chain 1**
	
5720 MHz : Chain 2	**5720 MHz : Chain 3**
	

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9.5 UNDESIRABLE EMISSIONS

Test Mode 20 MHz BW : TX mode
Operating Frequency 5180 MHz

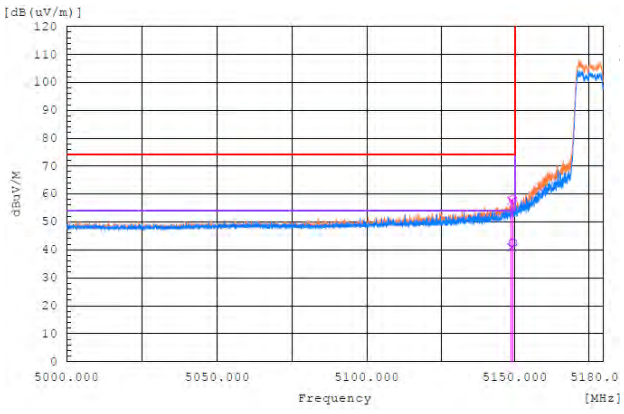
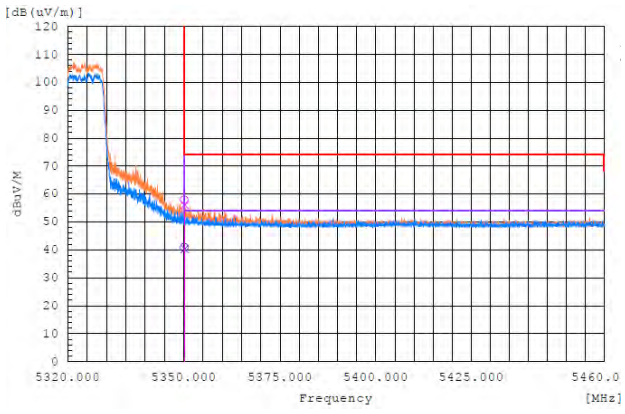
Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
5148.827	V	34.9	51.7	6.0	-	40.9	57.7	54	74	13.1	16.3
5149.354	H	36.5	52.1	6.0	-	42.5	58.1	54	74	11.5	15.9

Test Mode 20 MHz BW : TX mode
Operating Frequency 5320 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
5350.122	H	34.4	51.4	6.5	-	40.9	57.9	54	74	13.1	16.1
5350.240	V	33.9	49.6	6.5	-	40.4	56.1	54	74	13.6	17.9

Note(s) :
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB) : Duty cycle is not applied since it is more than 99%

▣ TEST PLOTS

Radiated Band Edges (5180 MHz)	Radiated Band Edges (5320 MHz)
	

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Test Mode 20 MHz BW : TX mode
Operating Frequency 5500 MHz

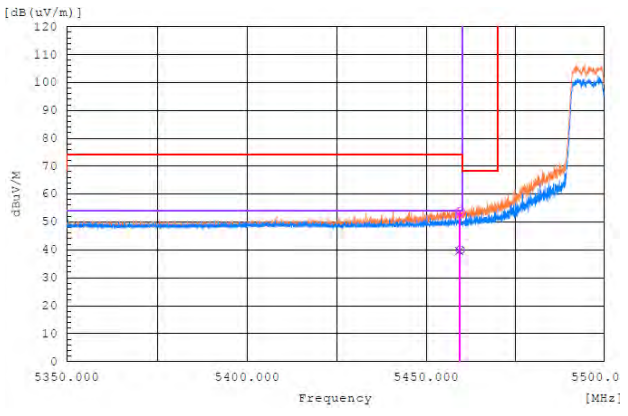
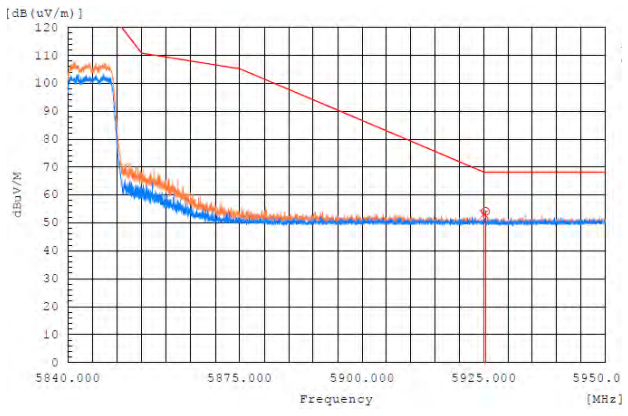
Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
5459.213	V	32.8	46.3	6.8	-	39.6	53.1	54	74	14.4	20.9
5459.558	H	33.2	47.1	6.8	-	40.0	53.9	54	74	14.0	20.1

Test Mode 20 MHz BW : TX mode
Operating Frequency 5840 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		PK	Corr.[1)]	PK	PK	PK
5925.098	V	45.9	7.3	53.2	68.2	15.0
5925.390	H	46.8	7.3	54.1	68.2	14.1

Note(s) :
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB) : Duty cycle is not applied since it is more than 99%

▣ TEST PLOTS

Radiated Band Edges (5500 MHz)	Radiated Band Edges (5840 MHz)
	

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9.6 RADIATED SPURIOUS EMISSIONS

Frequency Range : Below 1 GHz

Test Mode 20 MHz BW : TX mode

Operating Frequency 5240 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
34.621	V	23.1	-3.2	19.9	40	20.1	QP
153.530	V	37.1	-6.8	30.3	43.5	13.2	QP
613.983	V	30.8	-0.3	30.5	46	15.5	QP
616.145	H	30.6	-0.3	30.3	46	15.7	QP
724.861	V	28.7	1.8	30.5	46	15.5	QP
814.964	H	27.8	3.4	31.2	46	14.8	QP

Test Mode 20 MHz BW : TX mode

Operating Frequency 5300 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
154.059	V	35.8	-6.8	29.0	43.5	14.5	QP
615.285	V	29.5	-0.3	29.2	46	16.8	QP
687.226	V	28.2	1.1	29.3	46	16.7	QP
706.788	H	30.7	1.4	32.1	46	13.9	QP
816.509	H	28.2	3.4	31.6	46	14.4	QP

Test Mode 20 MHz BW : TX mode

Operating Frequency 5500 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
36.079	V	25.5	-4.2	21.3	40	18.7	QP
154.436	V	36.4	-6.8	29.6	43.5	13.9	QP
612.676	V	29.5	-0.4	29.1	46	16.9	QP
705.369	H	30.0	1.4	31.4	46	14.6	QP
723.395	V	27.8	1.8	29.6	46	16.4	QP
813.199	H	27.7	3.4	31.1	46	14.9	QP

Note(s) :

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain

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Frequency Range : Below 1 GHz *(Continued)*

Test Mode 20 MHz BW : TX mode

Operating Frequency 5740 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
37.646	V	27.5	-5.4	22.1	40	17.9	QP
154.451	V	36.1	-6.8	29.3	43.5	14.2	QP
613.648	V	28.7	-0.4	28.3	46	17.7	QP
702.303	H	30.9	1.3	32.2	46	13.8	QP
703.666	V	28.3	1.3	29.6	46	16.4	QP
812.441	H	27.8	3.4	31.2	46	14.8	QP

Note(s) :

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain

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Frequency Range : Above 1 GHz

Test Mode 20 MHz BW : TX mode
Operating Frequency 5180 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Test Mode 20 MHz BW : TX mode
Operating Frequency 5220 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Test Mode 20 MHz BW : TX mode
Operating Frequency 5240 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Note(s) :
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain

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Frequency Range : Above 1 GHz *(Continued)*

Test Mode 20 MHz BW : TX mode
Operating Frequency 5260 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Test Mode 20 MHz BW : TX mode
Operating Frequency 5300 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Frequency Range : Above 1 GHz

Test Mode 20 MHz BW : TX mode
Operating Frequency 5320 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Note(s) :
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain

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Frequency Range : Above 1 GHz *(Continued)*

Test Mode 20 MHz BW : TX mode
Operating Frequency 5500 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Test Mode 20 MHz BW : TX mode
Operating Frequency 5580 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Frequency Range : Above 1 GHz

Test Mode 20 MHz BW : TX mode
Operating Frequency 5700 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
11399.214	H	33.6	44.6	4.1	-	37.7	48.7	54	74	16.3	25.3
11399.974	V	36.3	46.2	4.1	-	40.4	50.3	54	74	13.6	23.7

Note(s) :
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB).
3. No duty cycle factor was applied since the EUT was set to transmit with the duty cycle more than 99%

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Frequency Range : Above 1 GHz *(Continued)*

Test Mode 20 MHz BW : TX mode
Operating Frequency 5740 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Test Mode 20 MHz BW : TX mode
Operating Frequency 5800 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Frequency Range : Above 1 GHz

Test Mode 20 MHz BW : TX mode
Operating Frequency 5840 MHz

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr.[1)]	Duty	AV	PK	AV	PK	AV	PK
No peak found											

Note(s) :
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain

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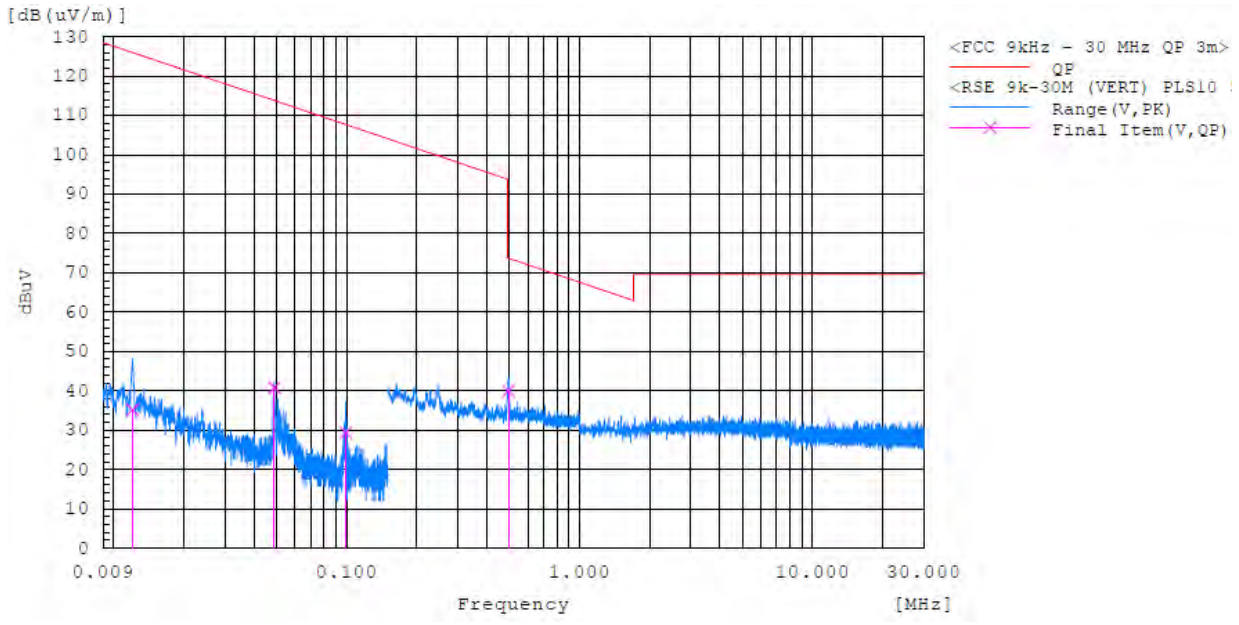
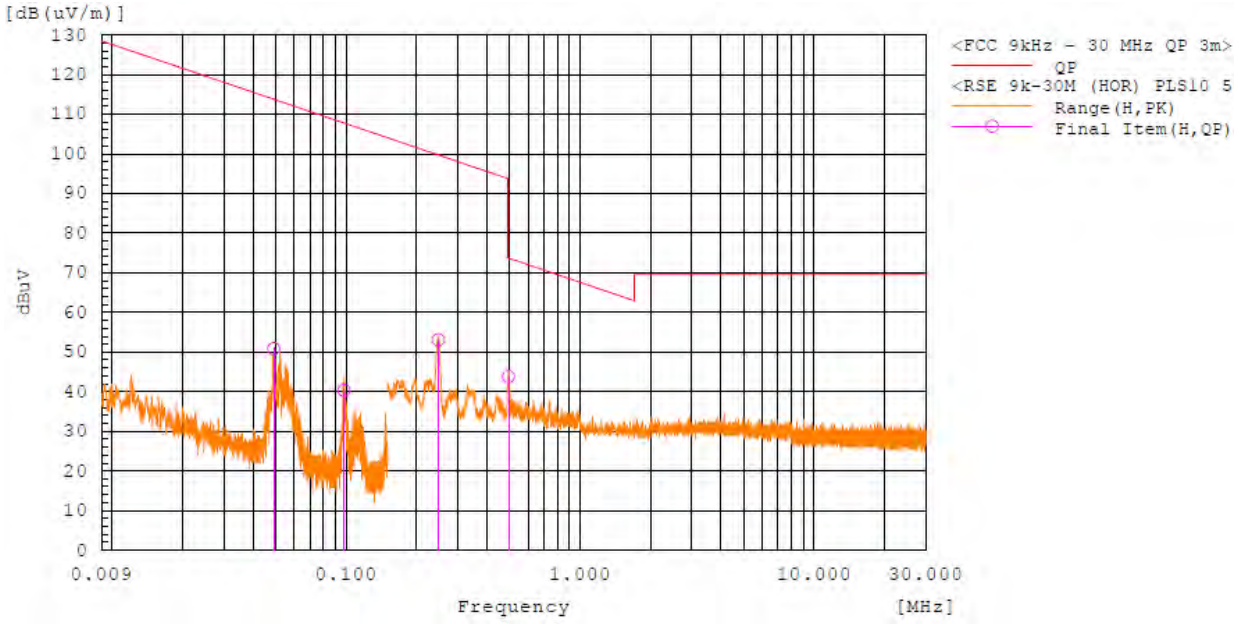
▣ TEST PLOTS

Radiated Spurious Emission 9 kHz – 30 MHz (Antenna Position 90°)



Radiated Spurious Emission 9 kHz – 30 MHz (Antenna Position 180°)



Note(s) :
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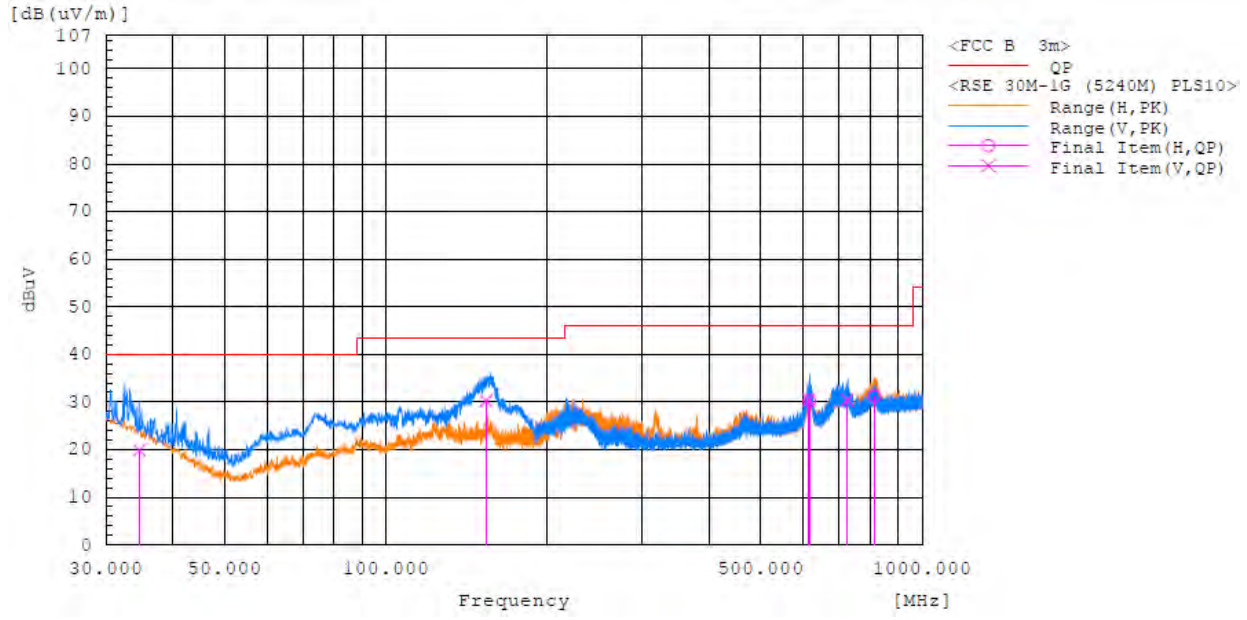
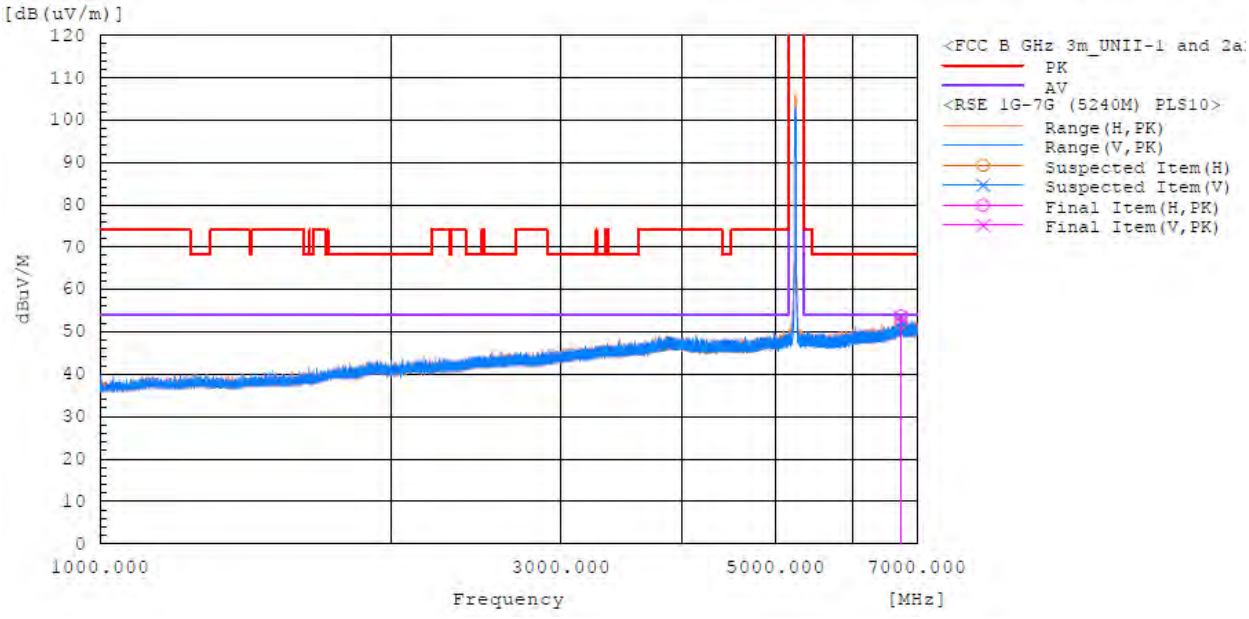
▣ TEST PLOTS

Radiated Spurious Emission 30 MHz – 1 GHz : 5240 MHz



Radiated Spurious Emission 1 GHz - 7 GHz : 5240 MHz



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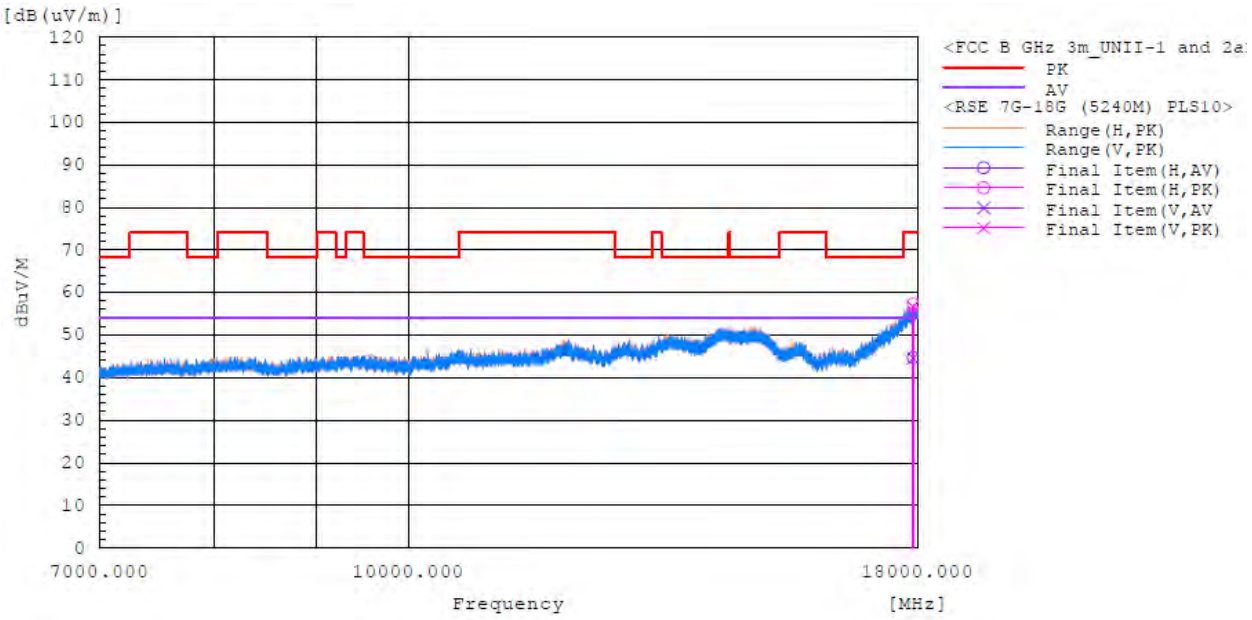
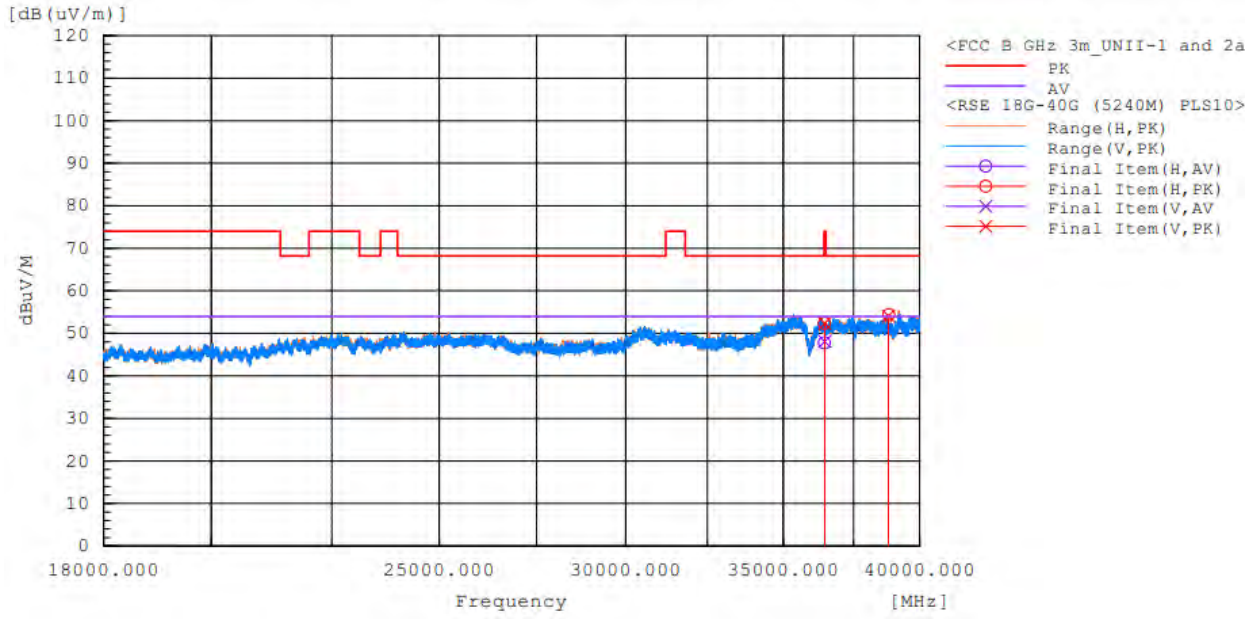
▣ TEST PLOTS

Radiated Spurious Emission 7 GHz - 18 GHz : 5240 MHz



Radiated Spurious Emission 18 GHz - 40 GHz : 5240 MHz



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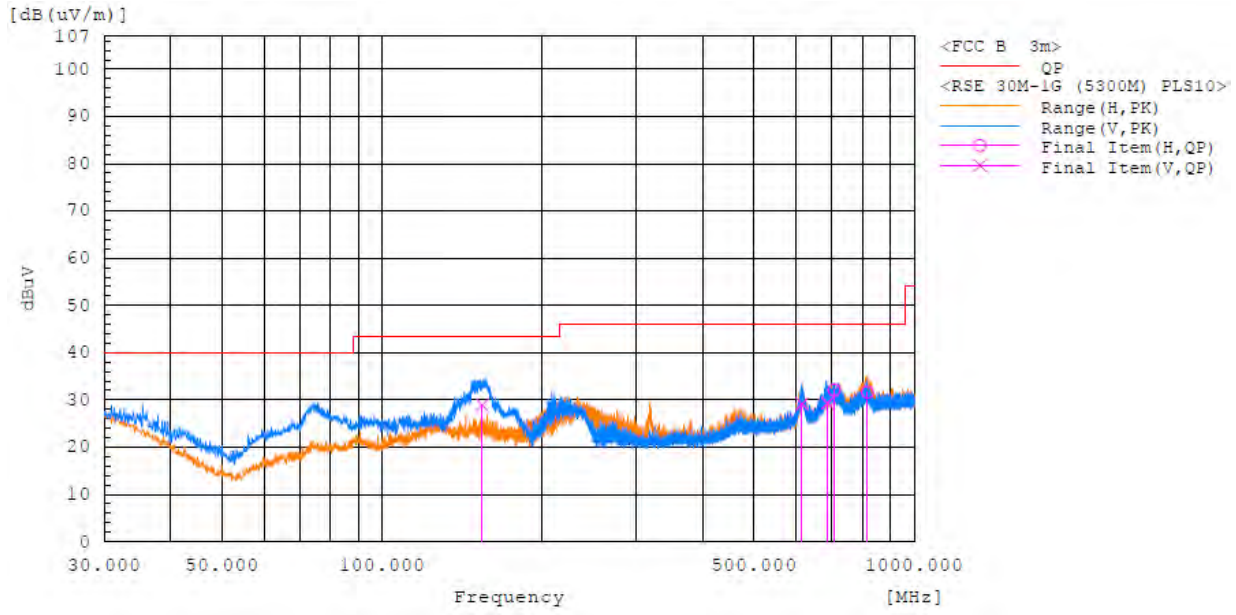
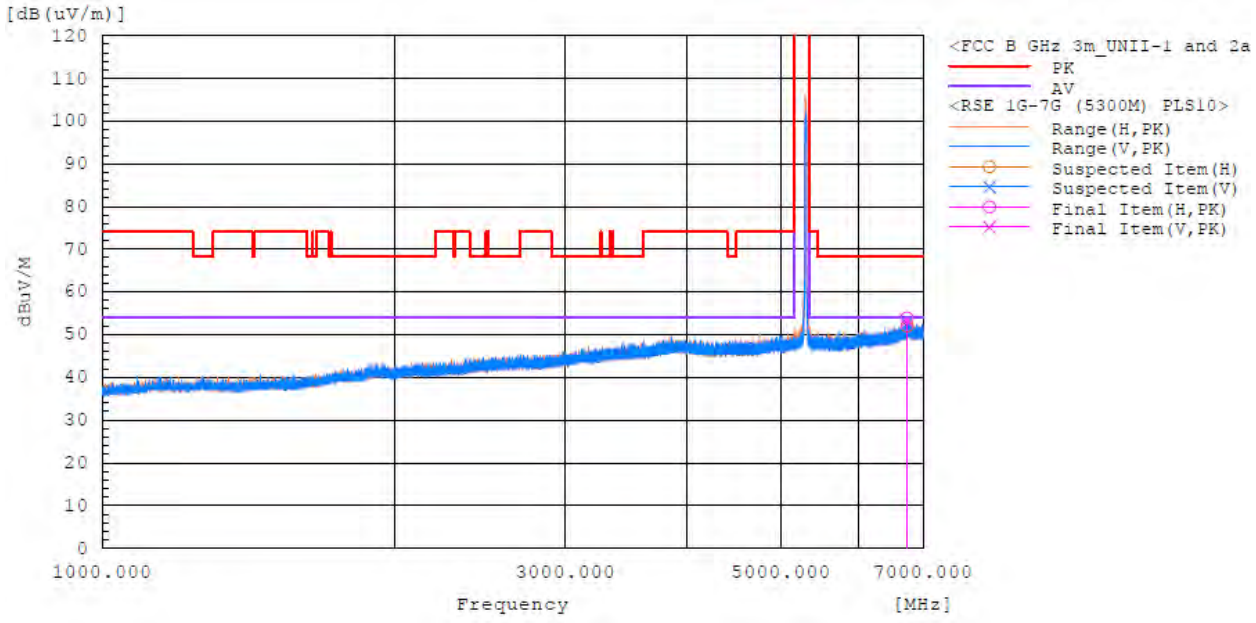
▣ TEST PLOTS

Radiated Spurious Emission 30 MHz – 1 GHz : 5300 MHz



Radiated Spurious Emission 1 GHz - 7 GHz : 5300 MHz



Note(s) :
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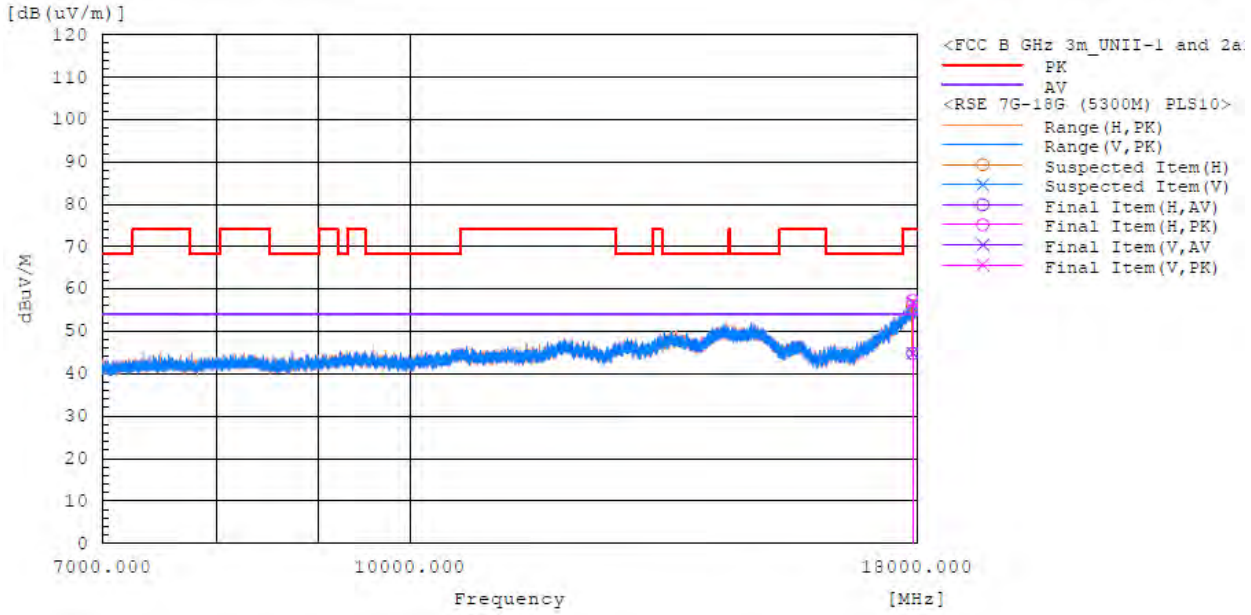
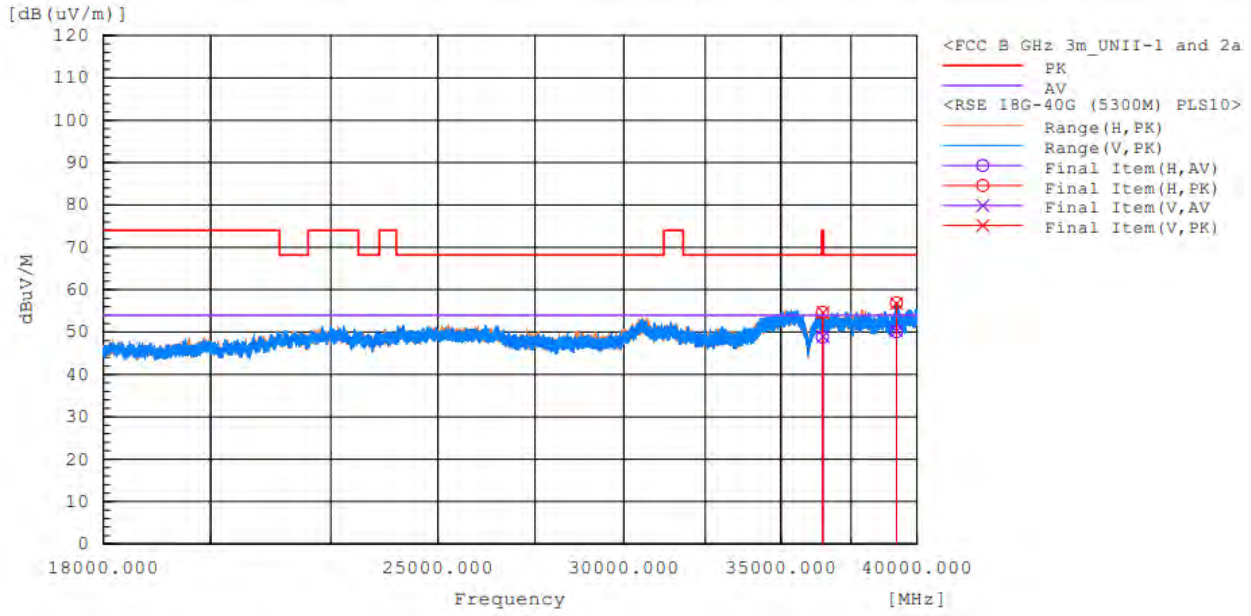
Radiated Spurious Emission 7 GHz - 18 GHz : 5300 MHz



Radiated Spurious Emission 18 GHz - 40 GHz : 5300 MHz



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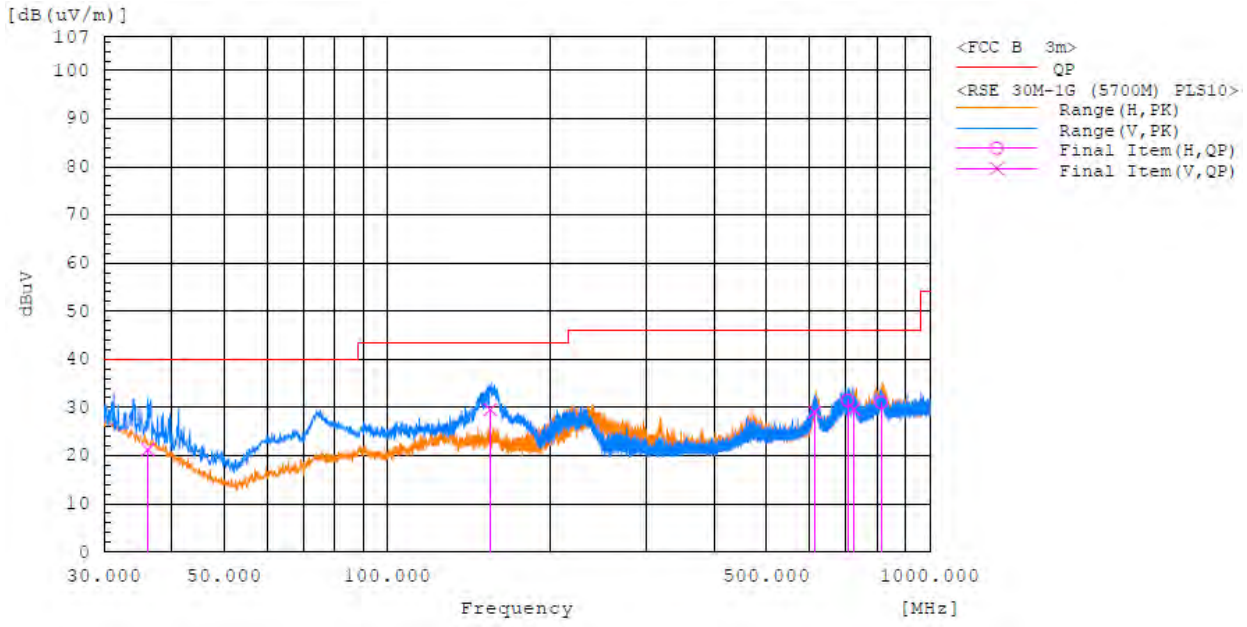
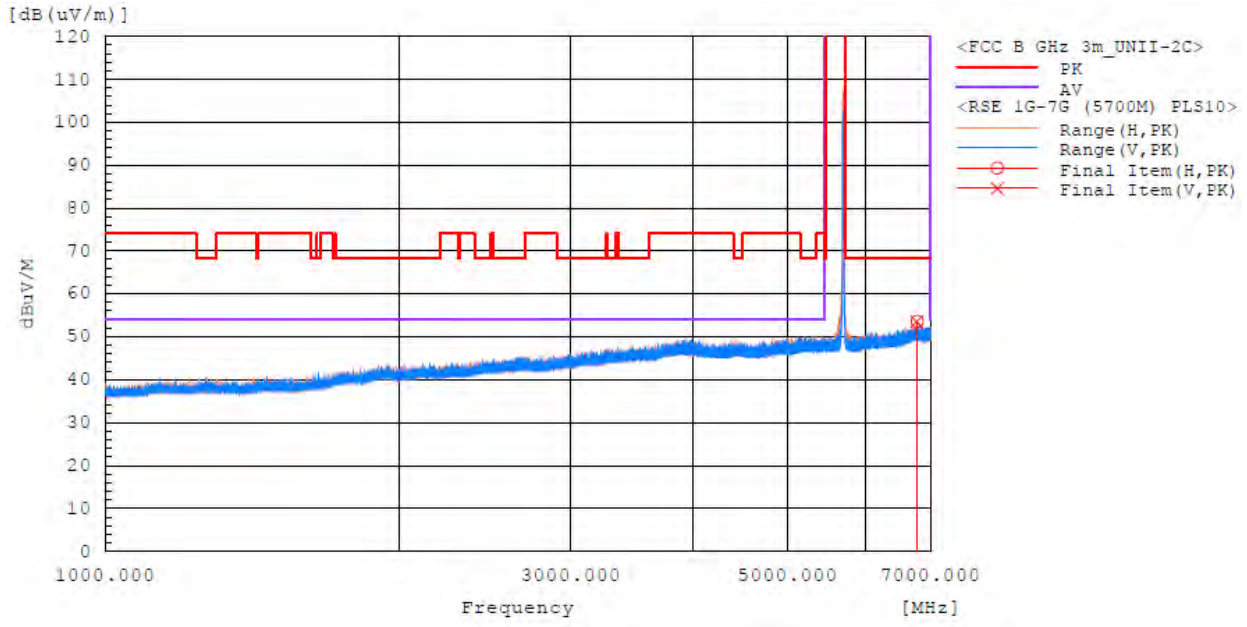
▣ TEST PLOTS

Radiated Spurious Emission 30 MHz – 1 GHz : 5500 MHz



Radiated Spurious Emission 1 GHz - 7 GHz : 5700 MHz



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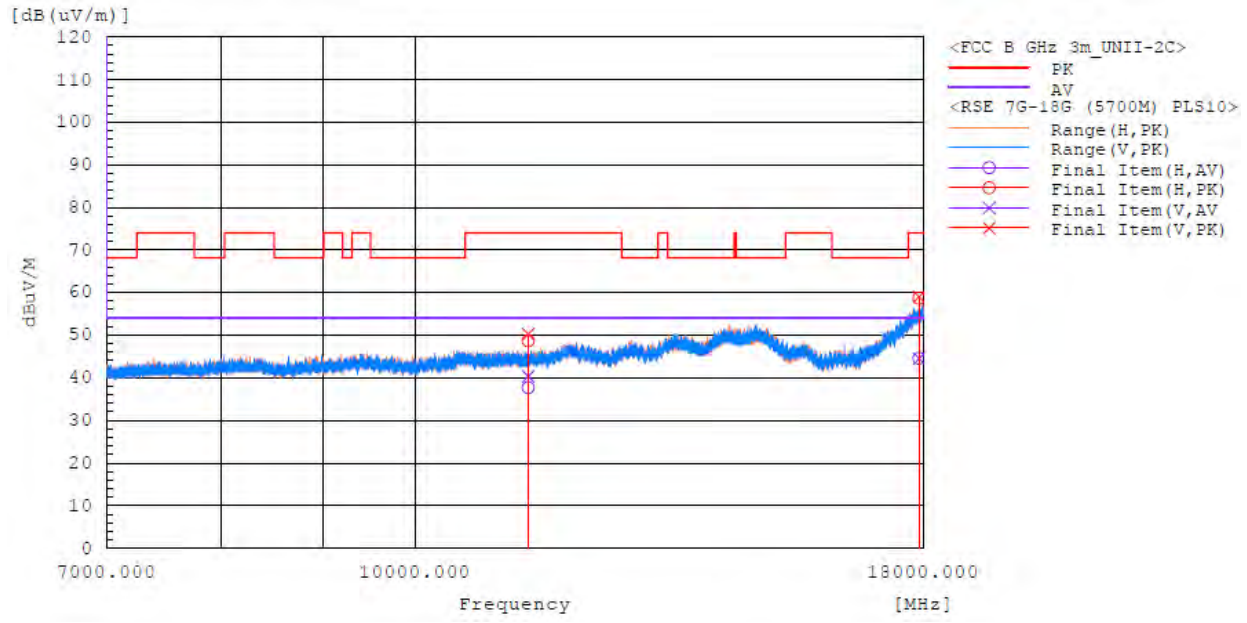
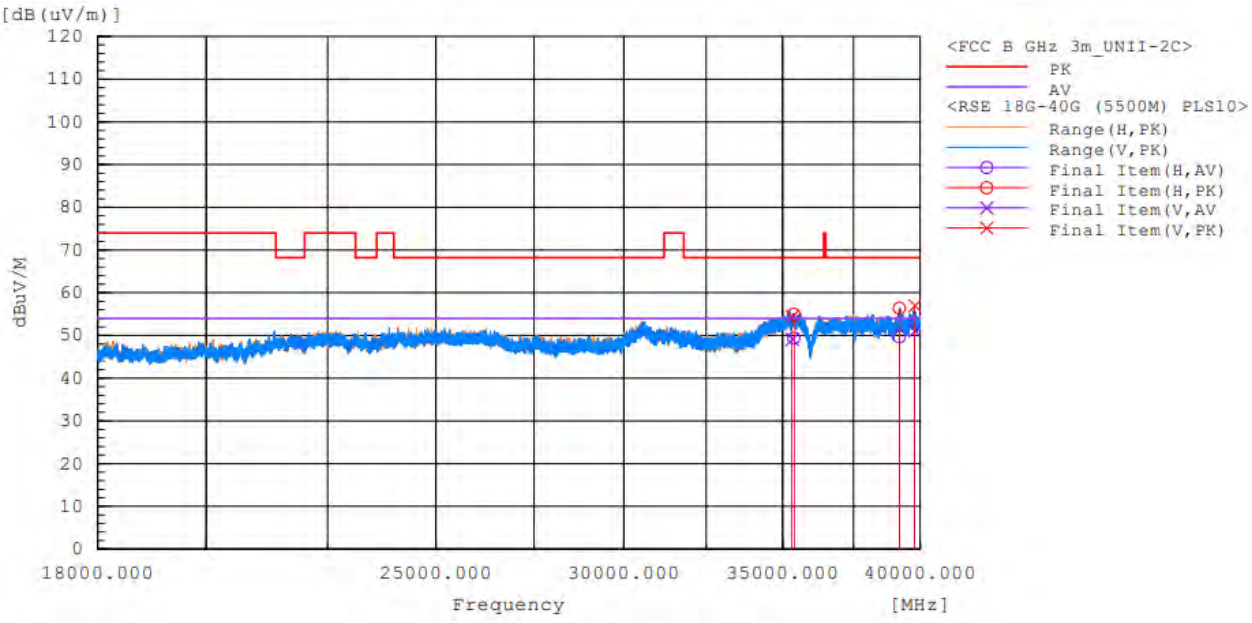
▣ TEST PLOTS

Radiated Spurious Emission 7 GHz - 18 GHz : 5700 MHz



Radiated Spurious Emission 18 GHz - 40 GHz : 5500 MHz



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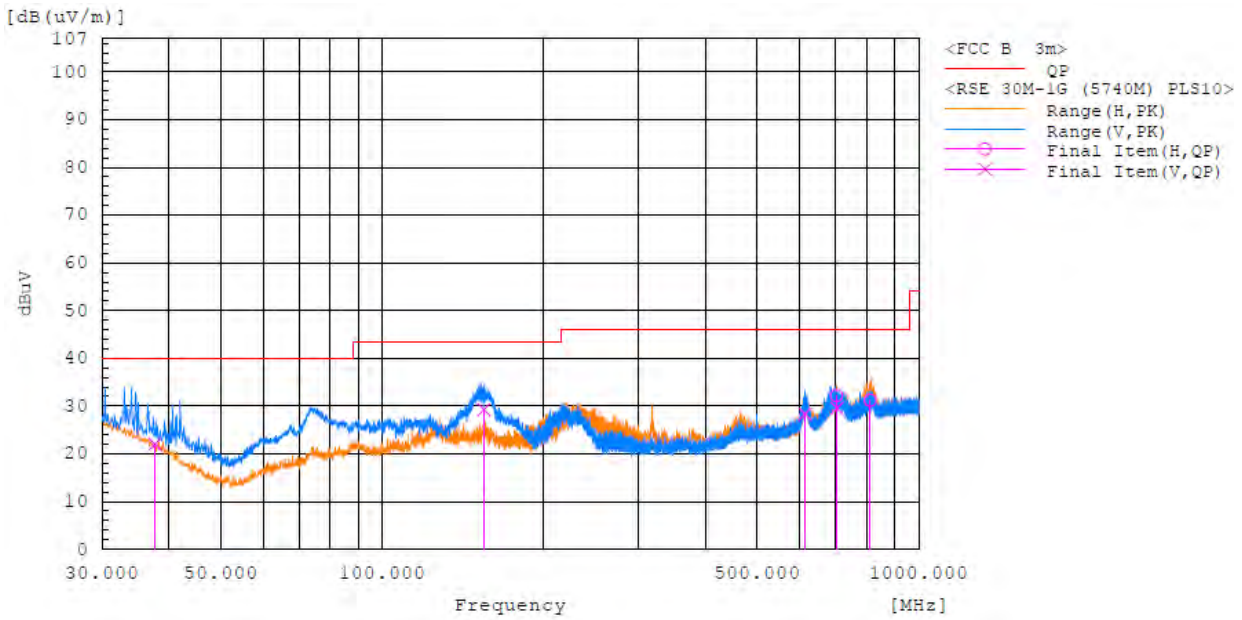
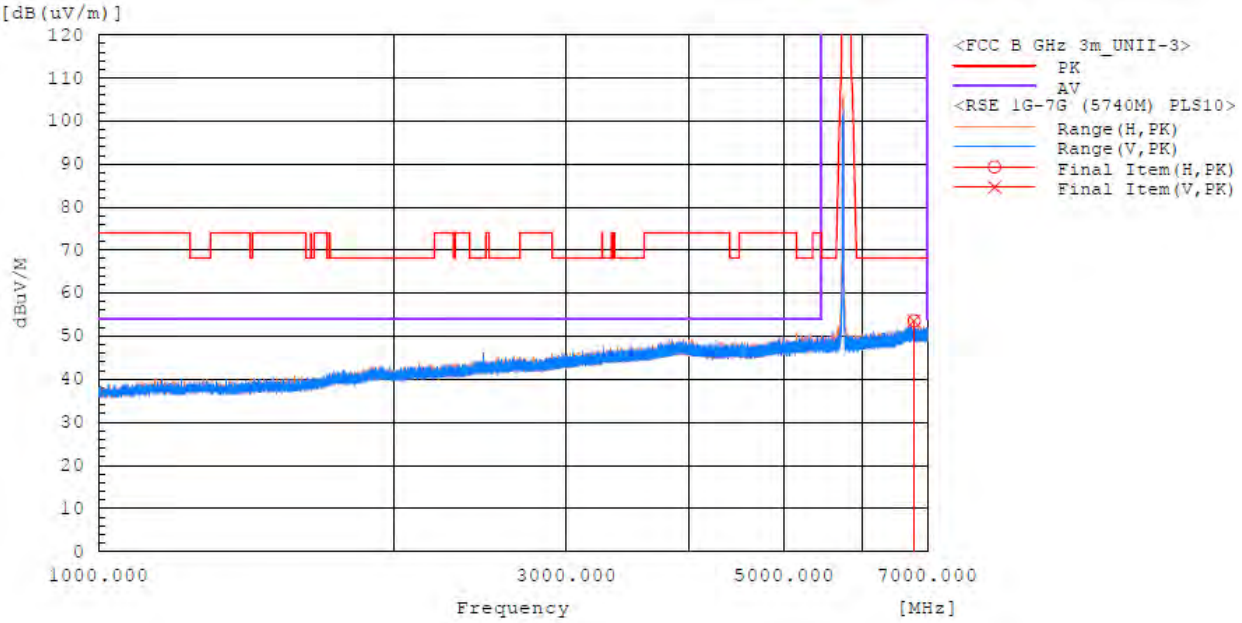
▣ TEST PLOTS

Radiated Spurious Emission 30 MHz – 1 GHz : 5740 MHz



Radiated Spurious Emission 1 GHz - 7 GHz : 5740 MHz



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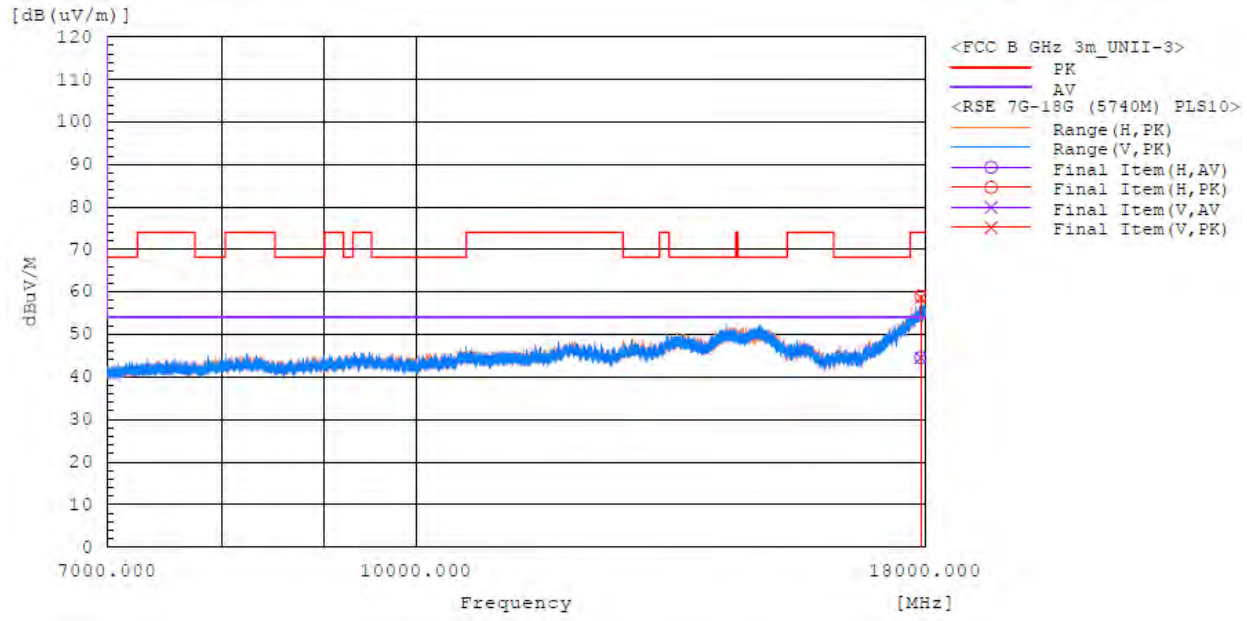
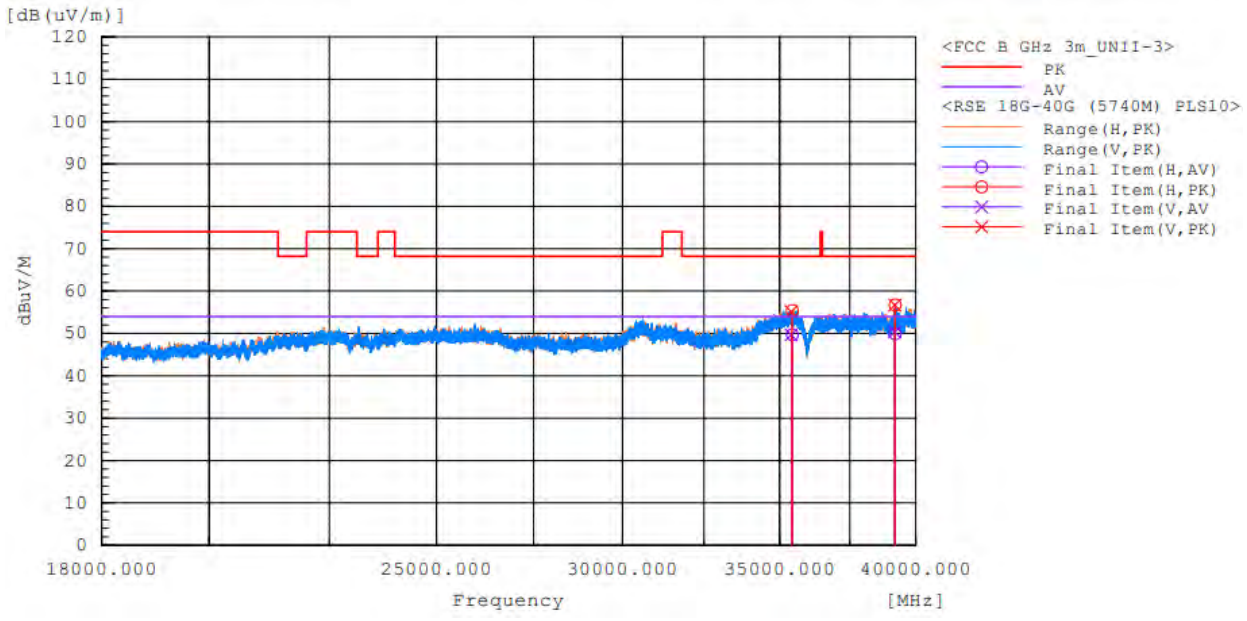
▣ TEST PLOTS

Radiated Spurious Emission 7 GHz - 18 GHz : 5740 MHz



Radiated Spurious Emission 18 GHz - 40 GHz : 5740 MHz



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9.7 RECEIVER SPURIOUS EMISSIONS

Frequency Range : Below 1 GHz

Test Mode RX mode

Operating Frequency 5180 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
36.134	V	26.8	-4.3	22.5	40	17.5	QP
156.293	V	36.1	-6.9	29.2	43.5	14.3	QP
694.306	V	29.7	1.2	30.9	46	15.1	QP
701.276	H	32.0	1.2	33.2	46	12.8	QP

Frequency Range : Above 1 GHz

Test Mode RX mode

Operating Frequency 5180 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
No peak found							RMS

Note:

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier

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Frequency Range : Below 1 GHz

Test Mode RX mode

Operating Frequency 5500 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
36.194	V	25.1	-4.3	20.8	40	19.2	QP
156.345	V	36.3	-6.9	29.4	43.5	14.1	QP
700.353	V	29.9	1.2	31.1	46	14.9	QP
696.164	H	31.4	1.2	32.6	46	13.4	QP

Frequency Range : Above 1 GHz

Test Mode RX mode

Operating Frequency 5500 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. [1] (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
No peak found							RMS

Note:

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier

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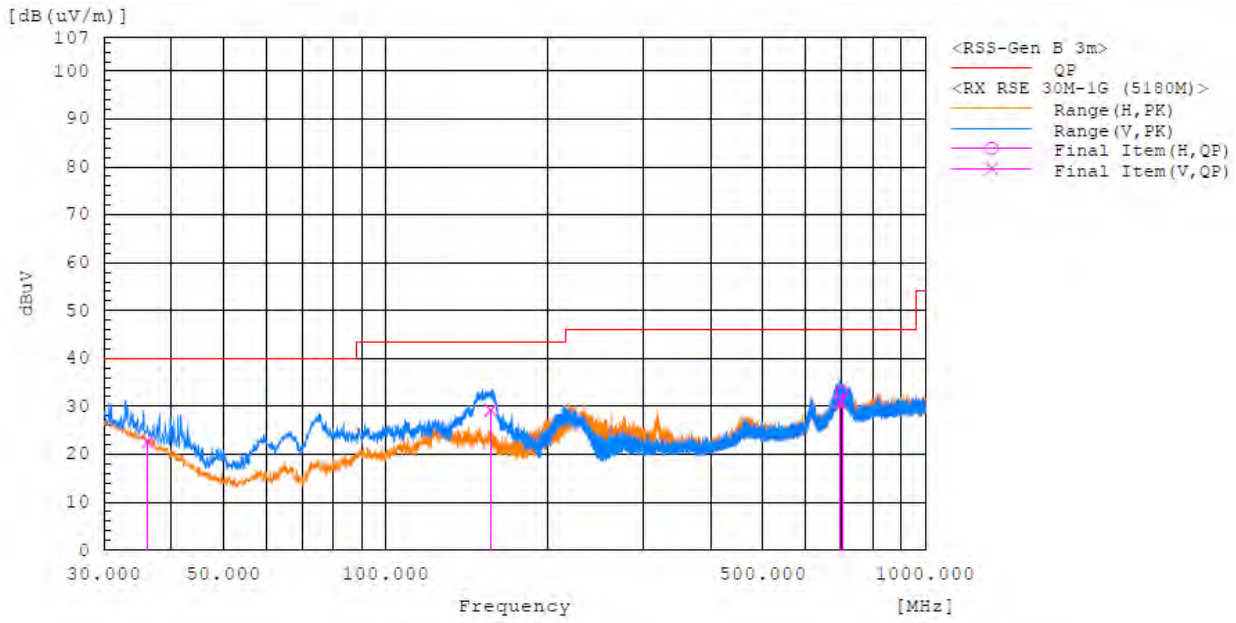
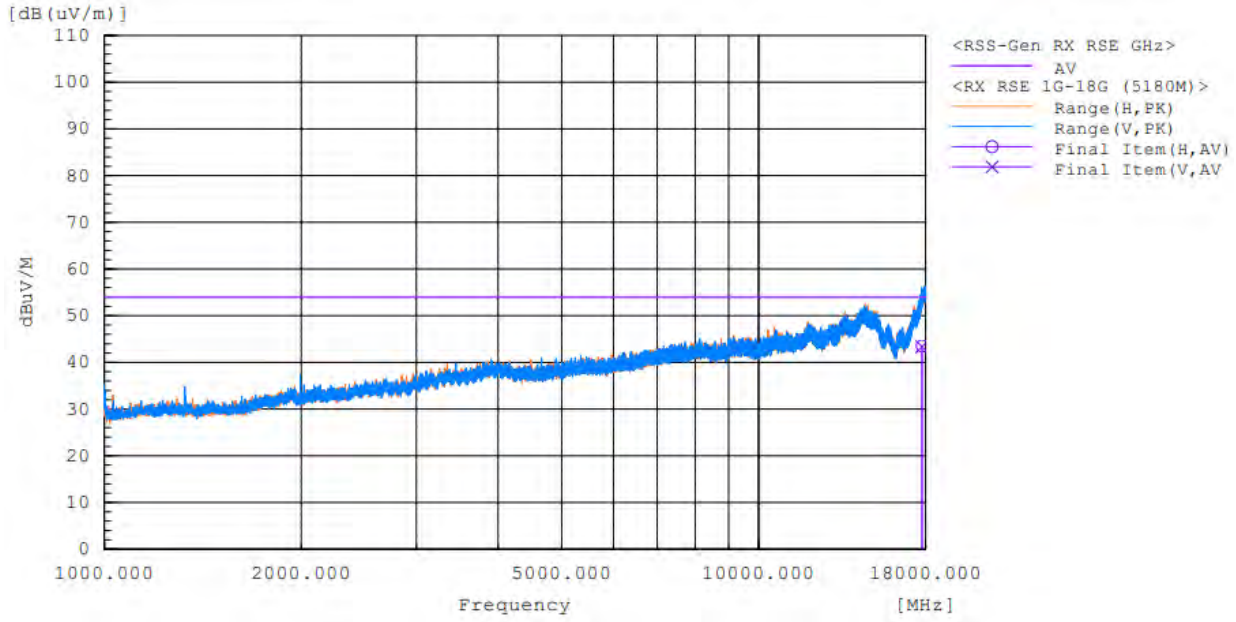
▣ TEST PLOTS

Radiated Receiver Spurious Emission 30 MHz - 1 GHz : 5180 MHz



Radiated Receiver Spurious Emission 1 GHz - 18 GHz : 5180 MHz



Note:
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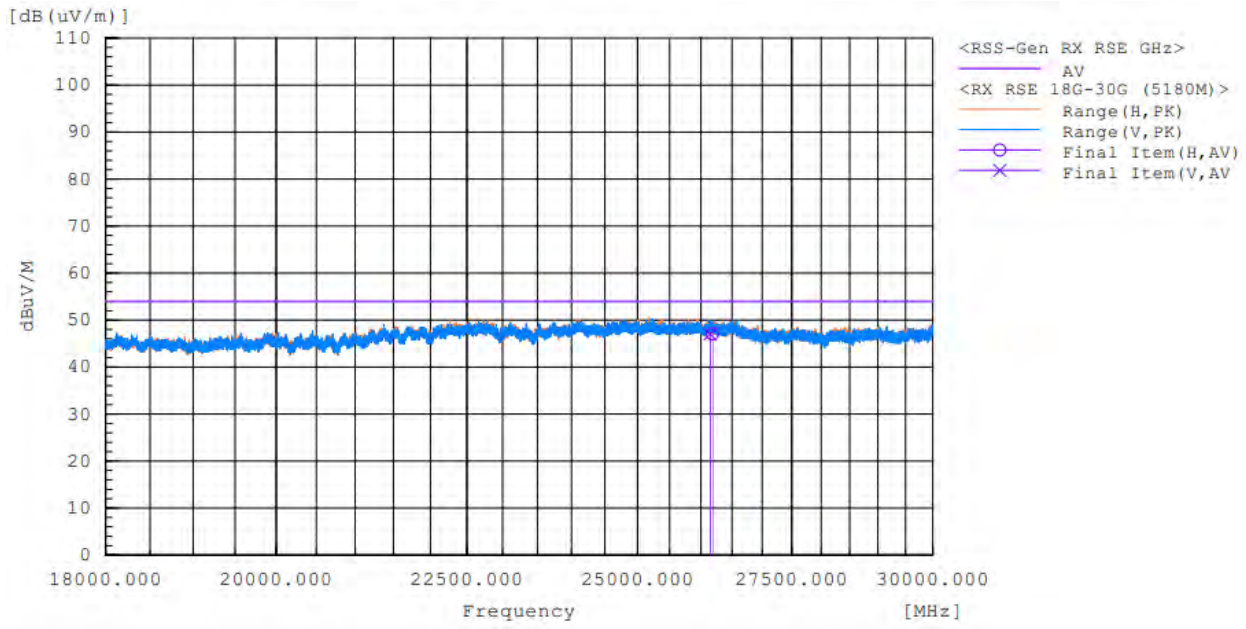
▣ TEST PLOTS

Radiated Receiver Spurious Emission 18 GHz - 30 GHz : 5180 MHz



Note:
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9.8 POWERLINE CONDUCTED EMISSIONS

Frequency (MHz)	Line	Reading (dBµV)		Corr. [1] (dB)	Level (dBµV)		Limit (dBµV)		Margin (dB)	
		QP	CAV		QP	CAV	QP	CAV	QP	CAV
0.150	L1	39.9	28.7	9.7	49.6	38.4	66	56	16.4	17.6
0.164	L1	38.6	23.0	9.7	48.3	32.7	65.2	55.2	16.9	22.5
0.197	L1	36.3	25.6	9.7	46.0	35.3	63.7	53.7	17.7	18.4
0.343	L1	28.0	23.9	9.7	37.7	33.6	59.1	49.1	21.4	15.5
0.442	L1	25.3	22.0	9.6	34.9	31.6	57	47	22.1	15.4
7.918	L1	29.9	23.1	10.0	39.9	33.1	60	50	20.1	16.9

Frequency (MHz)	Line	Reading (dBµV)		Corr. [1] (dB)	Level (dBµV)		Limit (dBµV)		Margin (dB)	
		QP	CAV		QP	CAV	QP	CAV	QP	CAV
0.150	N	40.0	28.7	9.7	49.7	38.4	66	56	16.3	17.6
0.175	N	37.0	21.8	9.7	46.7	31.5	64.7	54.7	18.0	23.2
0.333	N	26.4	15.1	9.7	36.1	24.8	59.4	49.4	23.3	24.6
0.442	N	26.6	23.6	9.6	36.2	33.2	57	47	20.8	13.8
7.920	N	29.4	22.7	10.0	39.4	32.7	60	50	20.6	17.3
24.746	N	21.2	19.3	10.4	31.6	29.7	60	50	28.4	20.3

Note(s) :
1. Quasi-peak(Final Result) = Reading Value + Correction Factor

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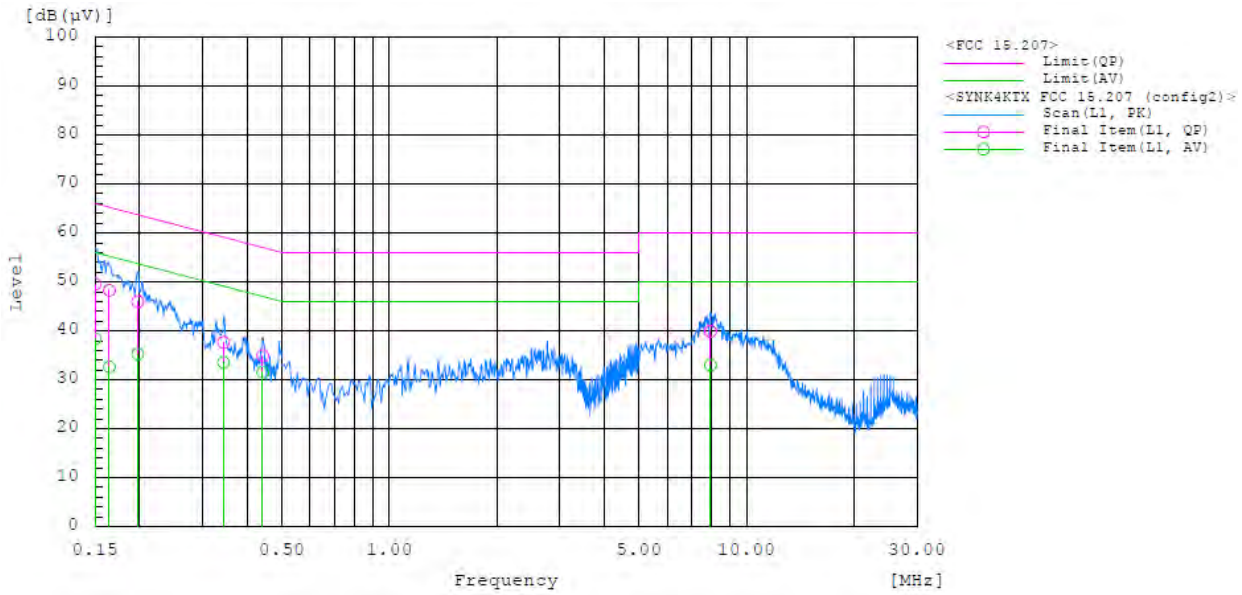
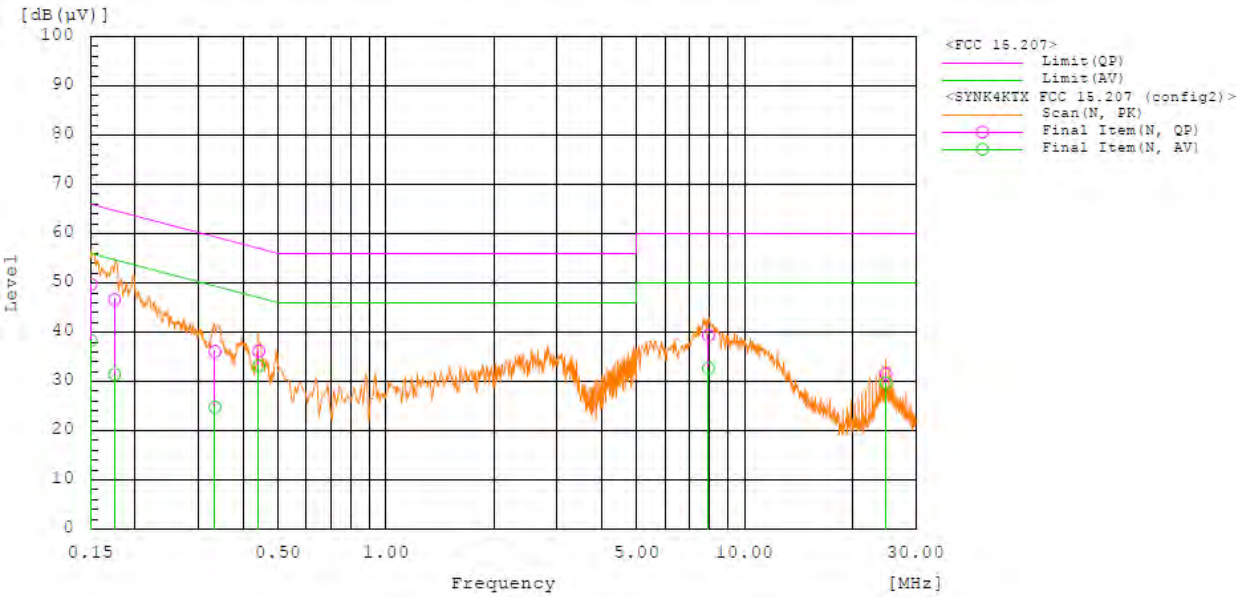
▣ TEST PLOTS

AC Line Conducted Emission (L1)


AC Line Conducted Emission (N)


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10. LIST OF TEST EQUIPMENT

No.	Instrument	Model No.	Calibration Due (mm/dd/yy)	Manufacture	Serial No.
☒	Signal Analyzer (20 Hz ~ 40.0 GHz)	ESU40	12/03/2022	Rohde & Schwarz	100529
☒	Signal Analyzer (1 Hz - 44 GHz)	ESW44	10/25/2022	Rohde & Schwarz	102015
☒	Signal Analyzer (10 Hz ~ 26.5 GHz)	N9020A	11/04/2022	Keysight	MY52091291
☐	Attenuator (20 dB, DC ~ 26.5 GHz)	CFADC262002	01/13/2023	CERNEX	-
☒	Attenuator (10 dB, DC ~ 26.5 GHz)	CFADC261002	01/13/2023	CERNEX	-
☒	Loop Antenna (0.009 ~ 30 MHz)	AL-130R	04/16/2023	Com-Power	121082
☒	BI-LOG Antenna (30 MHz ~ 6 GHz)	JB6	10/26/2022	Sunol	A071116
☒	LNA (30 MHz ~ 1GHz)	8447D	07/26/2022	HP	2443A03587
☒	Horn Antenna (1 GHz ~ 18 GHz)	DRH-118	10/21/2022	Sunol	A070516
☒	LNA (1 GHz ~ 18 GHz)	PAM-118A	07/06/2022	Com-Power	18040074
☒	Horn Antenna (18 GHz ~ 40 GHz)	DRH-1840	02/16/2023	Sunol	17121
☒	LNA (18 GHz ~ 40 GHz)	CBL184050-45-01	02/10/2023	CERNEX	43964
☐	Power Divider-2way (DC ~ 26.5 GHz)	11636B	12/02/2022	HP	50820
☒	High Pass Filter	WHKX8-6090-7000-18000-40SS	01/13/2023	Wainwright	23
☒	EMI Test Receiver	ESR3	12/03/2022	Rohde & Schwarz	102363
☒	LISN	ENV216	01/19/2023	Rohde & Schwarz	101349

Note(s) :

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

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APPENDIX A. TEST SETUP PHOTOS

The setup photos are provided as a separate document.

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APPENDIX B. PHOTOGRAPHS OF EUT

B.1. EXTERNAL PHOTOS

The external photos are provided as a separate document.

B.2. INTERNAL PHOTOS

The internal photos are provided as a separate document.

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END OF TEST REPORT

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