Test Report

Report No.:	MTi220309003-05E2
Date of issue:	2022-09-20
Applicant:	ThinPAD Technology (ShenZhen) Co., Ltd.
Product name:	Gaming tablet
Model(s):	MGS101-07
FCC ID:	2ADZ7MGS101076256

Shenzhen Microtest Co., Ltd.
http://www.mtitest.com

Instructions

1. The report shall not be partially reproduced without the written consent of the laboratory；
2. The test results of this report are only responsible for the samples submitted；
3. This report is invalid without the seal and signature of the laboratory；
4. This report is invalid if transferred, altered or tampered with in any form without authorization；
5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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TEST RESULT CERTIFICATION

Applicant's name	ThinPAD Technology (ShenZhen) Co., Ltd.
Address	Room, 10th floor, Building A, No.9 Furong Road, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Manufacturer's Name	ThinPAD Technology (ShenZhen) Co., Ltd.
Address	Room, 10th floor, Building A, No.9 Furong Road, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Product description	
Product name	Gaming tablet
Trademark	TPtech
Model Name	MGS101-07
Serial Model	N/A
Standards	FCC Part 15.407
Test procedure	ANSI C63.10-2013 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Date of Test	
Date (s) of performance of tests............. :	2022-06-30 ~ 2022-09-08
Test Result .... :	Pass

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Testing Engineer : Cindy Qin

(Cindy Qin)

Technical Manager : Leon Chen

(Leon Chen)

Authorized Signatory : Tom Xue

(Tom Xue)

1 General information

1.1 Description of EUT

Equipment:	Gaming tablet
Model name:	MGS101-07
Serial model:	N/A
Model difference:	N/A
Frequency range:	U-NII-1: 5180 MHz to 5240 MHz, U-NII-3: 5745 MHz to 5825 MHz
Modulation type:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Transfer rate:	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40): MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40):NSS1, MCS0-MCS9 802.11ac(VHT80) :NSS1,MCS0-MCS9
Channel bandwidth:	802.11a: 20 MHz 802.11n: 20 MHz, 40 MHz 802.11ac: 20 MHz, 40 MHz, 80MHz
Antenna type:	FPC Antenna
Antenna gain:	U-NII-1: 0.57dBi U-NII-3: -2.17dBi
Max. output power:	U-NII-1: 17.546dBm U-NII-3: 17.518dBm
Hardware version:	V1.1
Software version:	Android 8.1.0 V1.0
Power supply:	Input: DC 12V/2A Battery: DC 3.7V 16000mAh
Adapter information:	N/A
Battery:	DC 3.7V 16000mAh
Serial number:	MTi220309003-05-S0001

1.2 Operation channel list

For U-NII-1:

20 MHz		40 MHz		80 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	38	5190	42	5120
40	5200	46	5230	--	--
44	5220	--	--	--	--
48	5240	--	--	--	--

For U-NII-3:

20 MHz		40 MHz		80 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795	--	--
157	5785	--	--	--	--
161	5805	--	--	--	--
165	5825	--	--	--	--

1.3 Test channel list

U-NII-1 (5150 - 5250 MHz)			U-NII-3(5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	149	Low	5745
44	Mid	5220	157	Mid	5785
48	High	5240	165	High	5825

80 MHz	
Channel Number	Frequency (MHz)
42	5210

For 802.11n/ac (HT40)

U-NII-1 (5150 - 5250 MHz)			U-NII-3(5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	151	Low	5755
46	High	5230	159	High	5795

80 MHz	
Channel Number	Frequency (MHz)
155	5775

1.4 Ancillary equipment list

Equipment	Model	S/N	Manufacturer
Adapter	ADA12400ZA00	/	Enertronix, Inc

1.5 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
/	/	/	/	/	/
/	/	/	/	/	/

Note:

(1)The support equipment was authorized by Declaration of Confirmation.

(2)For detachable type I/O cable should be specified the length in cm in『Length』column.

2 Summary of the Test Results

Test procedures according to the technical standards:

No.	Standard Section	Test Item	Result	Remark
1	15.203/15.407	Antenna Requirement	Pass	
2	15.407(a)	RF Output Power	Pass	
3	15.207	Power Line Conducted Emission	Pass	
4	15.407(a)	26dB Emission Bandwidth and Occupied bandwidth	Pass	
5	15.407(e)	6 dB bandwidth	Pass	
6	15.407(a)	Power Spectral Density	Pass	
7	15.407(b) 15.209	Radiation Spurious Emission	Pass	

3 Test Facilities and Accreditations

3.1 Test laboratory

Test Laboratory	Shenzhen Microtest Co., Ltd
Location	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China.
FCC Registration No.:	448573

3.2 Environmental conditions

Temperature:	15ºC~35ºC
Humidity	20%~75%
Atmospheric pressure	98kPa~101kPa

3.3 Measurement uncertainty

The reported uncertainty of measurement y ± U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power, conducted	±0.16dB
3	Occupied Bandwidth	±3 %
4	Frequency Error	$2\times10^{-8}\pm0.1$
5	Spurious emissions, conducted	±0.21dB
6	All emissions, radiated(<1G)	±4.68dB
5	All emissions, radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

3.4 Test software

Software Name	Manufacturer	Model	Version
Bluetooth and WiFi Test System	Shenzhen JS tonscend co., ltd	JS1120-3	2.5.77.0418

4 Equipment list

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E043	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2022/05/05	2023/05/04
MTI-E044	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2021/05/30	2023/05/29
MTI-E047	Amplifier	Hewlett-Packard	8447F	3113A06150	2022/05/05	2023/05/04
MTI-E089	ESG Vector Signal Generator	Agilent	N5182A	MY49060455	2022/05/05	2023/05/04
MTI-E058	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2022/05/05	2023/05/04
MTI-E062	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2022/05/05	2023/05/04
MTI-E066	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2022/05/05	2023/05/04
MTi-E067	RF Control Unit	Tonscend	JS0806-1	19D8060152	2022/05/05	2023/05/04
MTI-E078	Synthesized Sweeper	Agilent	83752A	3610A01957	2022/05/05	2023/05/04
MTI-E079	DC Power Supply	Agilent	E3632A	MY40027695	2022/05/05	2023/05/04
MTI-E045	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120 D	9120D-2278	2021/05/30	2023/05/29
MTI-E021	EMI Test Receiver	Rohde&schwarz	ESCS30	100210	2022/05/05	2023/05/04
MTI-E022	Pulse Limiter	Schwarzbeck	VSTD 9561-F	00679	2022/05/05	2023/05/04
MTI-E023	Artificial mains network	Schwarzbeck	NSLK 8127	NSLK 8127 #841	2022/05/05	2023/05/04
MTI-E046	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00044	2021/05/30	2023/05/29
MTI-E048	Amplifier	Agilent	8449B	3008A02400	2022/05/05	2023/05/04
MTI-E072	Thermometer Clock Humidity Monitor	-	HTC-1	/	2022/05/05	2023/05/04

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

5 Test Results

5.1 Antenna requirement

5.1.1 Standard requirement

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

5.1.2 EUT Antenna

The antenna is FPC antenna, which was permanently affixed to the device and un-replaced, complies with 15.203. In addition, the maximum antenna gain is U-NII-1: 0.57dBi, U-NII-3: -2.17dBi.

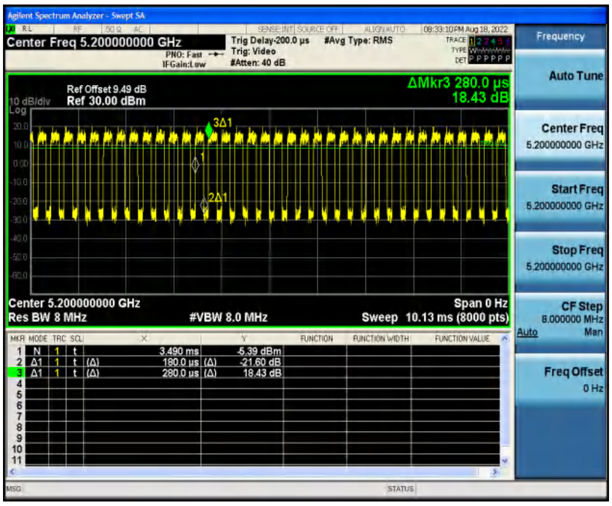
5.2 Duty cycle

5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 8MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

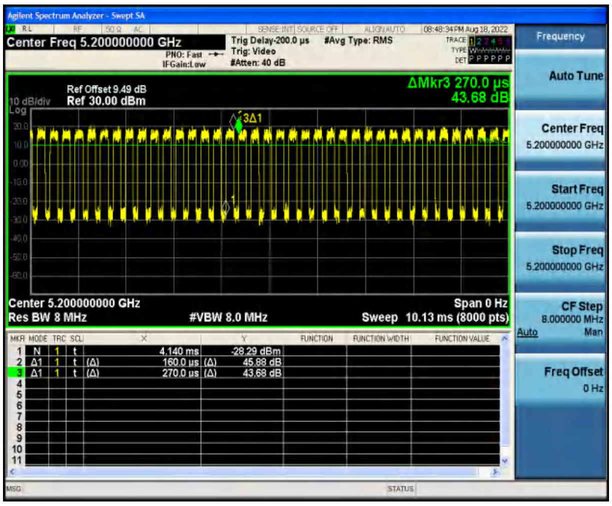
Test Mode	Transmission Duration (ms)	Transmission Period (ms)	Duty Cycle (%)	Duty cycle factor (dB)
11a	0.18	0.28	64.29	1.919
11n (HT20)	0.16	0.27	59.26	2.272
11n (HT40)	0.20	0.41	48.78	3.118
11ac (HT20)	0.14	0.25	56.00	2.518
11ac (HT40)	0.18	0.38	47.37	3.245
11ac (HT80)	0.13	0.33	39.39	4.046

Remark:
1) Duty cycle = On time/period
2) Duty cycle factor =10*log(1/ Duty cycle)

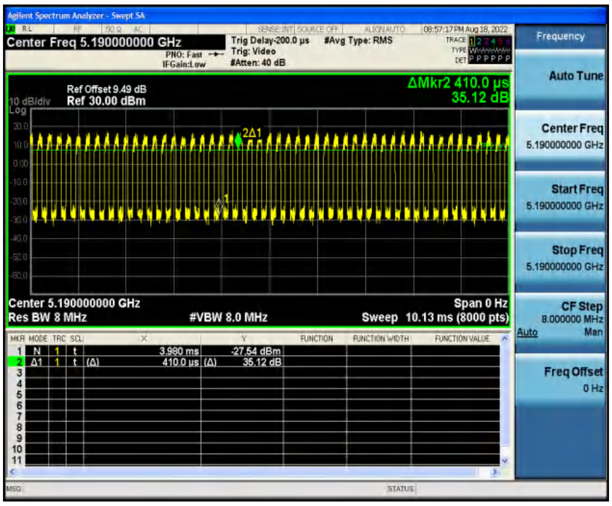
11a



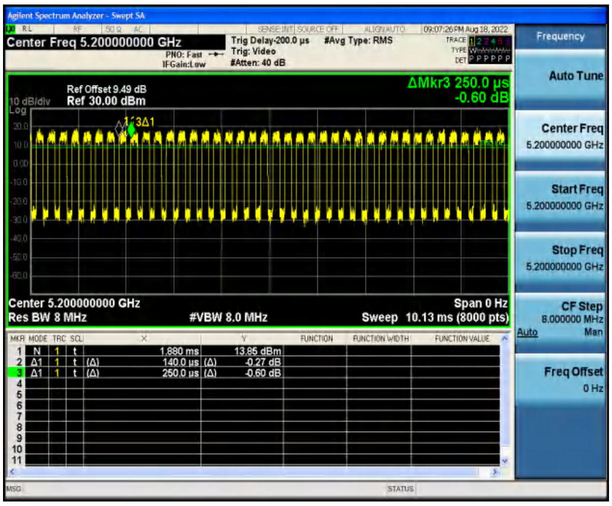
11n (HT20)



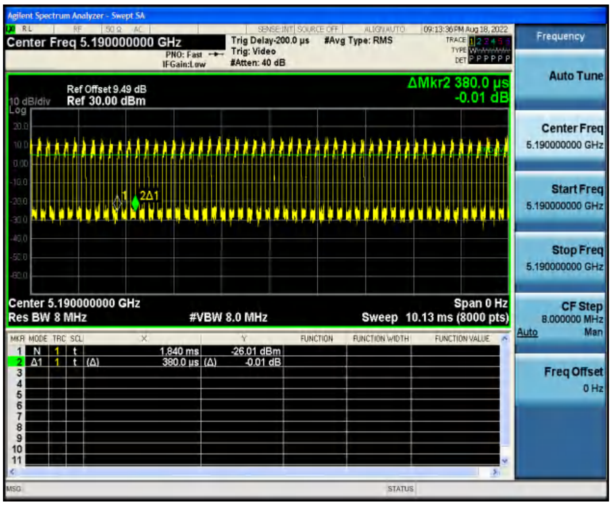
11n (HT40)



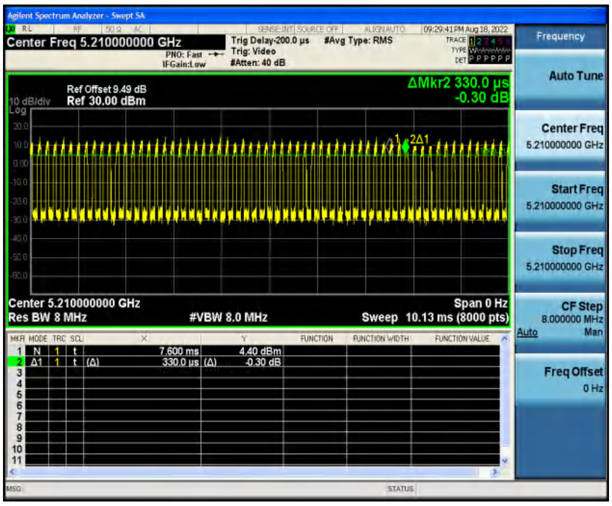
11ac (HT20)



11ac (HT40)



11ac (HT80)



5.3 RF output power

5.3.1 Limit

For the 5.15-5.25 GHz band

For 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 provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz band

For the 5.25-5.35 GHz and 5.47-5.725 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. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

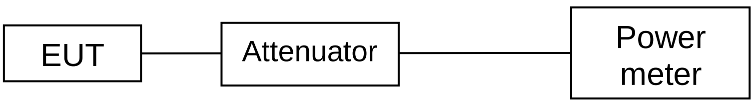
For the band 5.725-5.85 GHz

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 maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.3.2 Test procedure

The maximum peak conducted output power may be measured using a broadband Average RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the emission bandwidth and utilize a fast-responding diode detector.

5.3.3 Test setup



5.3.4 Test results

For U-NII-1

Modulation mode	Channel/ Frequency (MHz)	Average Conducted Power (dBm)			Limit (dBm)
		Meas power	Duty Cycle Factor	Corr'd power	
11a	CH36 (5180)	14.62	1.919	16.539	24
11a	CH40 (5200)	14.27	1.919	16.189	24
11a	CH48 (5240)	14.32	1.919	16.239	24
11n (HT20)	CH36 (5180)	13.26	2.272	15.532	24
11n (HT20)	CH40 (5200)	13.38	2.272	15.652	24
11n (HT20)	CH48 (5240)	13.31	2.272	15.582	24
11n (HT40)	CH38 (5190)	13.06	3.118	16.178	24
11n (HT40)	CH46 (5230)	14.14	3.118	17.258	24

Modulation mode	Channel/ Frequency (MHz)	Average Conducted Power (dBm)			Limit (dBm)
		Meas power	Duty Cycle Factor	Corr'd power	
11ac (HT20)	CH36 (5180)	13.02	2.518	15.538	24
11ac (HT20)	CH40 (5200)	13.06	2.518	15.578	24
11ac (HT20)	CH48 (5240)	13.58	2.518	16.098	24
11ac (HT40)	CH38 (5190)	13.34	3.245	16.585	24
11ac (HT40)	CH46 (5230)	13.56	3.245	16.805	24
11ac (HT80)	CH42 (5210)	13.5	4.046	17.546	24

Remak:

1. Corr'd power = Meas power + Duty Cycle Factor

For U-NII-3

Modulation mode	Channel/ Frequency (MHz)	Average Conducted Power (dBm)			Limit (dBm)
		Meas power	Duty Cycle Factor	Corr'd power	
11a	CH149 (5745)	10.58	1.919	12.499	30
11a	CH157 (5785)	11.97	1.919	13.889	30
11a	CH165 (5825)	13.54	1.919	15.459	30
11n (HT20)	CH149 (5745)	10.02	2.272	12.292	30
11n (HT20)	CH157 (5785)	11.2	2.272	13.472	30
11n (HT20)	CH165 (5825)	12.19	2.272	14.462	30
11n (HT40)	CH151 (5755)	10.51	3.118	13.628	30
11n (HT40)	CH159 (5795)	14.4	3.118	17.518	30

Modulation mode	Channel/ Frequency (MHz)	Average Conducted Power (dBm)			Limit (dBm)
		Meas power	Duty Cycle Factor	Corr'd power	
11ac (HT20)	CH149 (5745)	11.66	2.518	14.178	30
11ac (HT20)	CH157 (5785)	12.22	2.518	14.738	30
11ac (HT20)	CH165 (5825)	13.3	2.518	15.818	30
11ac (HT40)	CH151 (5755)	10.58	3.245	13.825	30
11ac (HT40)	CH159 (5795)	10.9	3.245	14.145	30
11ac (HT80)	CH155 (5775)	11.16	4.046	15.206	30

Remak:
1. Corr'd power = Meas power + Duty Cycle Factor

5.4 Power line conducted emission

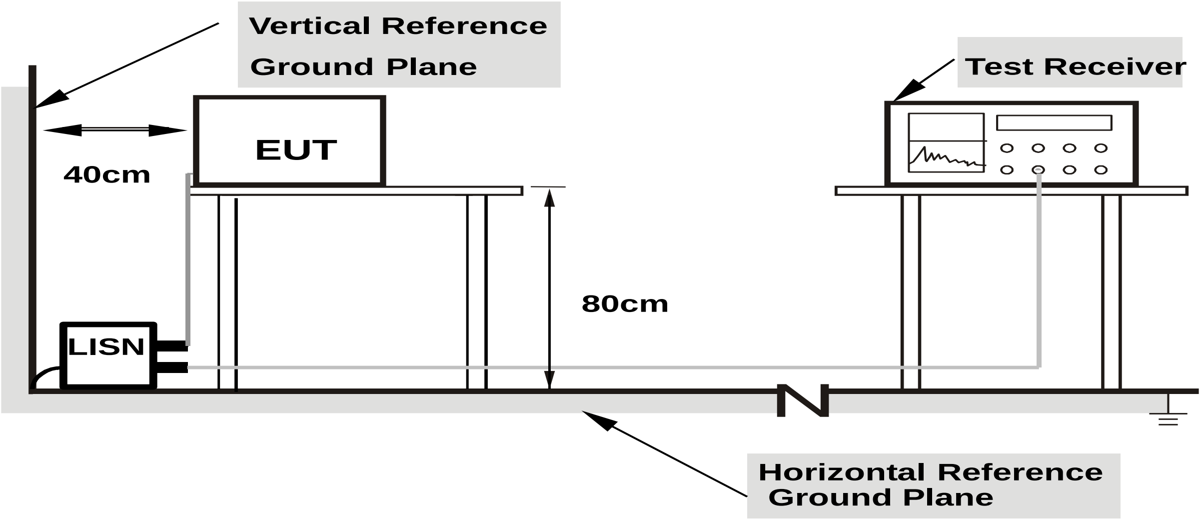
5.4.1 Limits

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note

1. The tighter limit applies at the band edges.
2. The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

5.4.2 Test setup



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

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

5.4.3 Test procedure

a. EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

b. The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

c. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

d. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

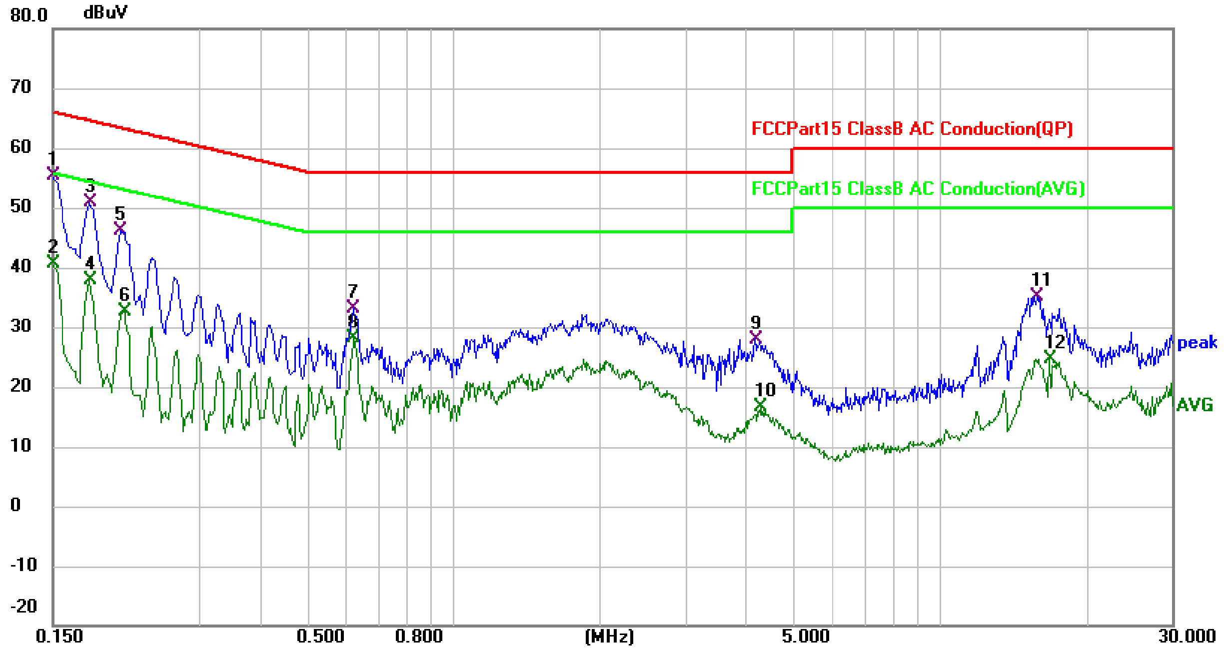
e. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

f. LISN at least 80 cm from nearest part of EUT chassis.

For the actual test configuration, please refer to the related Item –EUT Test Photos.

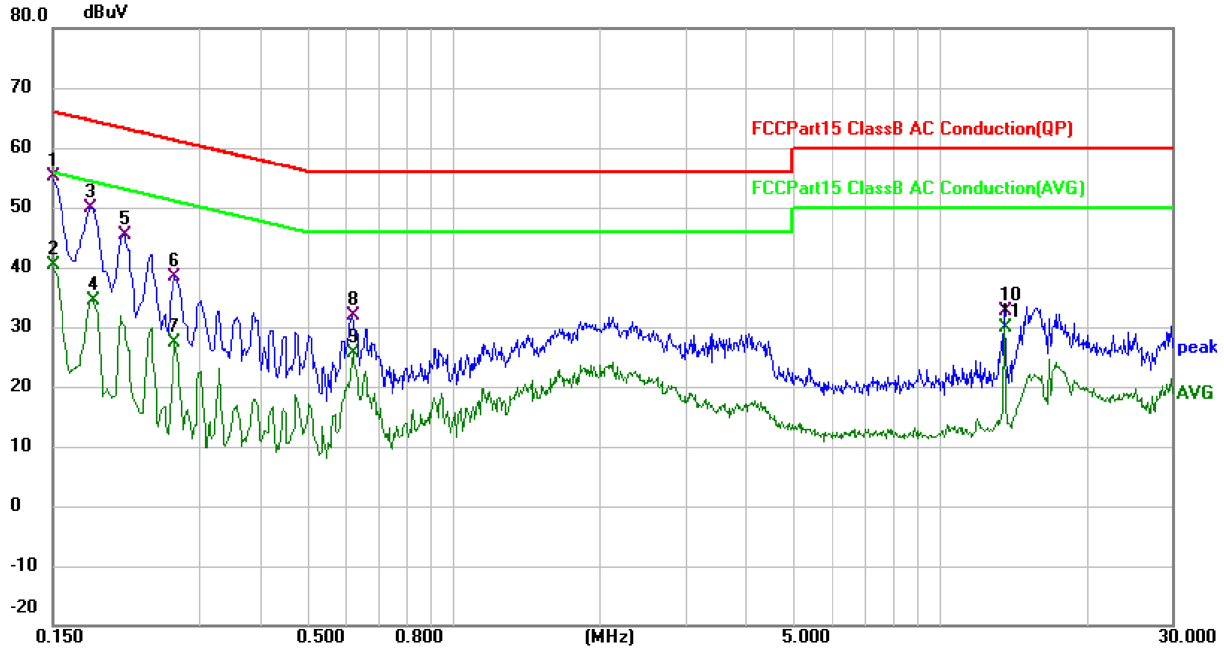
5.4.4 Test results

EUT:	Gaming tablet	Model Name:	MGS101-07
Pressure:	1010hPa	Phase:	L
Test Voltage:	DC 5V from adapter AC 120V/60Hz	Test Mode:	Charging+TX



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1500	44.35	10.99	55.34	66.00	-10.66	QP
2		0.1500	29.71	10.99	40.70	56.00	-15.30	AVG
3		0.1780	39.93	10.98	50.91	64.58	-13.67	QP
4		0.1780	26.85	10.98	37.83	54.58	-16.75	AVG
5		0.2060	35.17	10.97	46.14	63.37	-17.23	QP
6		0.2100	21.75	10.97	32.72	53.21	-20.49	AVG
7		0.6220	21.97	11.07	33.04	56.00	-22.96	QP
8		0.6260	16.98	11.08	28.06	46.00	-17.94	AVG
9		4.1620	16.56	11.44	28.00	56.00	-28.00	QP
10		4.3100	5.17	11.44	16.61	46.00	-29.39	AVG
11		15.8500	23.46	11.74	35.20	60.00	-24.80	QP
12		16.7780	12.83	11.77	24.60	50.00	-25.40	AVG

EUT:	Gaming tablet	Model Name:	MGS101-07
Pressure:	1010hPa	Phase:	N
Test Voltage:	DC 5V from adapter AC 120V/60Hz	Test Mode:	Charging+TX



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1500	44.02	10.99	55.01	66.00	-10.99	QP
2		0.1500	29.45	10.99	40.44	56.00	-15.56	AVG
3		0.1780	38.94	10.94	49.88	64.58	-14.70	QP
4		0.1819	23.42	10.94	34.36	54.40	-20.04	AVG
5		0.2100	34.56	10.91	45.47	63.21	-17.74	QP
6		0.2660	27.54	10.90	38.44	61.24	-22.80	QP
7		0.2660	16.49	10.90	27.39	51.24	-23.85	AVG
8		0.6180	20.98	11.00	31.98	56.00	-24.02	QP
9		0.6220	14.67	11.00	25.67	46.00	-20.33	AVG
10		13.5580	21.05	11.66	32.71	60.00	-27.29	QP
11		13.5580	18.16	11.66	29.82	50.00	-20.18	AVG

Note:

1. All the mode has been tested for this test, just incarnate report the worst mode 11a CH36 data.
2. Emission Level =Reading Level + Factor, Margin= Emission Level- Limit, Factor = LISN modulus + Cable Loss.

5.5 26dB Emission Bandwidth and Occupied bandwidth

5.5.1 Limit

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier

5.5.2 Test procedure

26d Emission bandwidth

Set RBW = approximately 1% of the emission bandwidth.

Set VBW ≥ 3*RBW

Detector = Peak.

Trace mode = Max hold.

Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth

Set Span = 1.5 times to 5.0 times the OBW

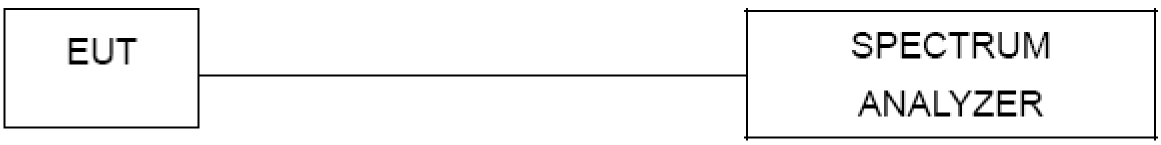
Set RBW = 1% to 5% of the OBW.

Set VBW ≥ 3*RBW, Detector = Peak.

Trace mode = Max hold.

Use the 99% power bandwidth function of the instrument.

5.5.3 Test setup



5.5.4 Test results

For U-NII-1

Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% bandwidth	Limit (kHz)	Result
11a	CH36	5180	29.85	17.395	/	Pass
11a	CH40	5200	19.48	16.352	/	Pass
11a	CH48	5240	19.57	16.374	/	Pass
11n (HT20)	CH36	5180	20.51	17.660	/	Pass
11n (HT20)	CH40	5200	20.77	17.677	/	Pass
11n (HT20)	CH48	5240	20.90	17.656	/	Pass
11n (HT40)	CH38	5190	38.64	36.072	/	Pass
11n (HT40)	CH46	5230	39.08	36.171	/	Pass

Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% bandwidth	Limit (kHz)	Result
11ac (HT20)	CH36	5180	20.98	17.640	/	Pass
11ac (HT20)	CH40	5200	20.96	17.666	/	Pass
11ac (HT20)	CH48	5240	20.93	17.681	/	Pass
11ac (HT40)	CH38	5190	39.44	36.279	/	Pass
11ac (HT40)	CH46	5230	39.66	36.255	/	Pass
11ac (HT80)	CH42	5210	80.48	75.320	/	Pass

Test plots:

For U-NII-1

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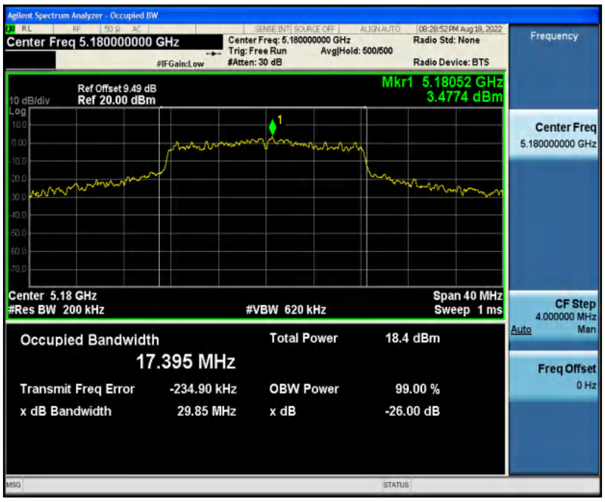
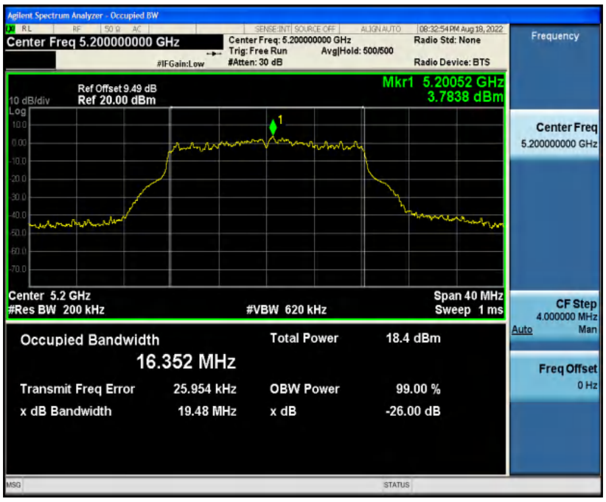
<tr><td>
</td><td>
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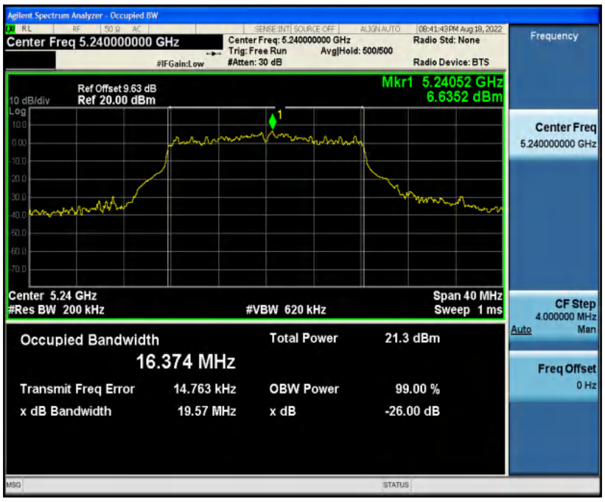
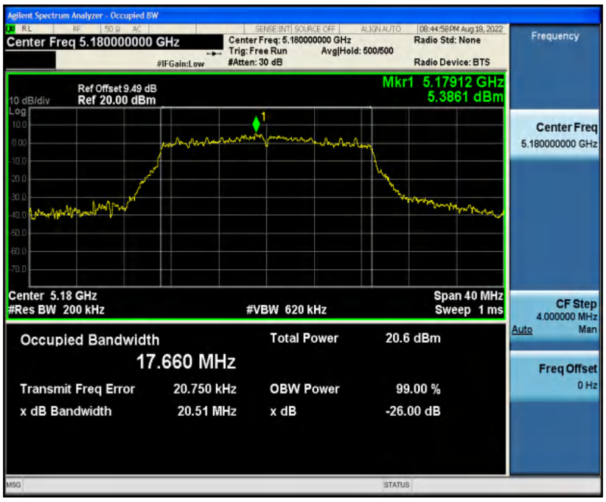
<tr><td>11a CH48</td><td>11n (HT20) CH36</td></tr>
<tr><td>
</td><td>
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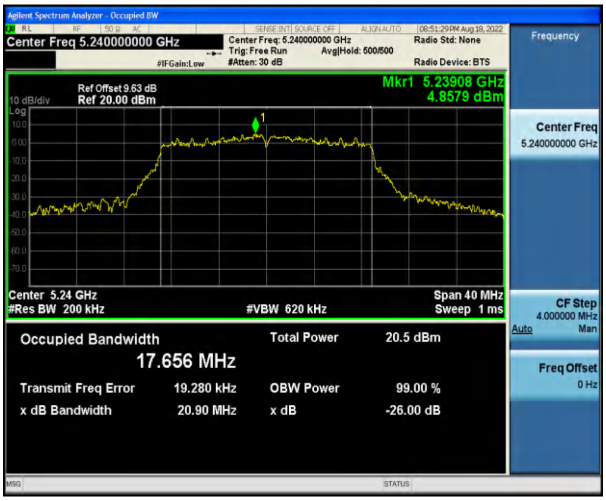
</td><td>
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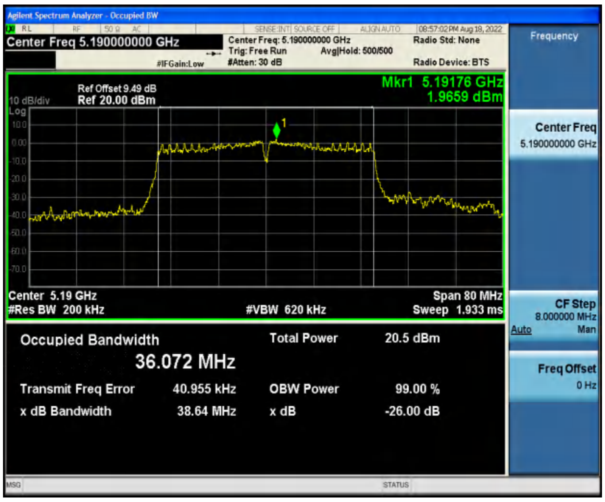
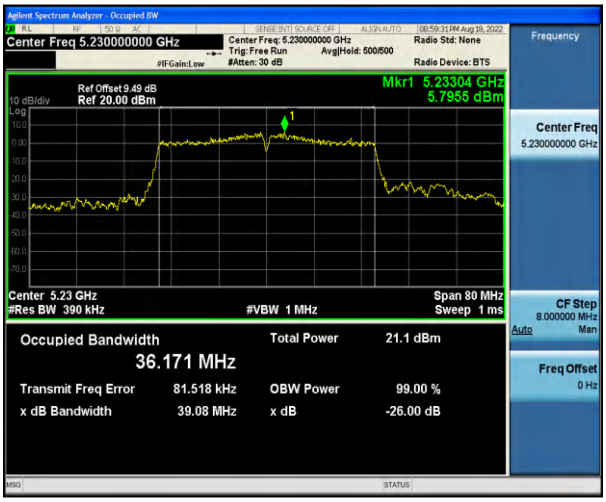
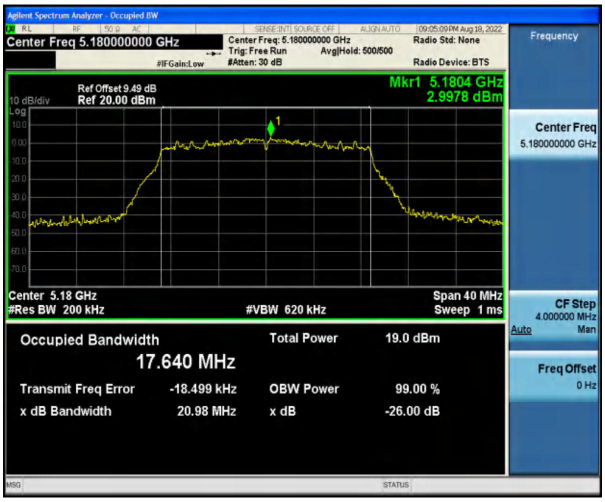
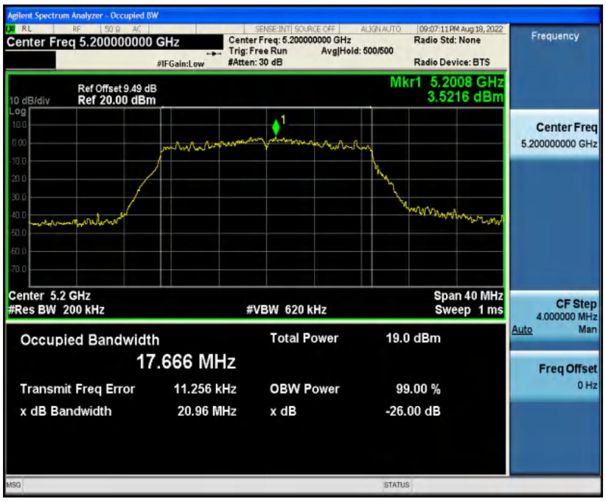
11n (HT40) CH38	11n (HT40) CH46



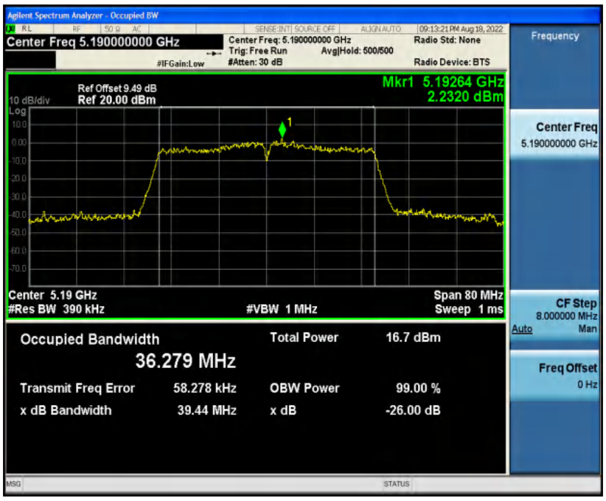


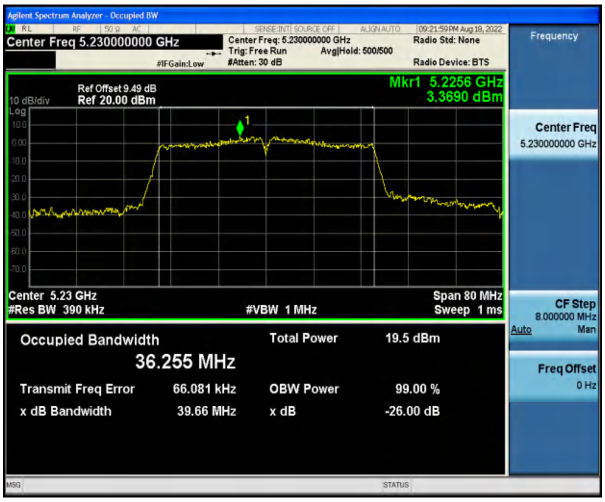
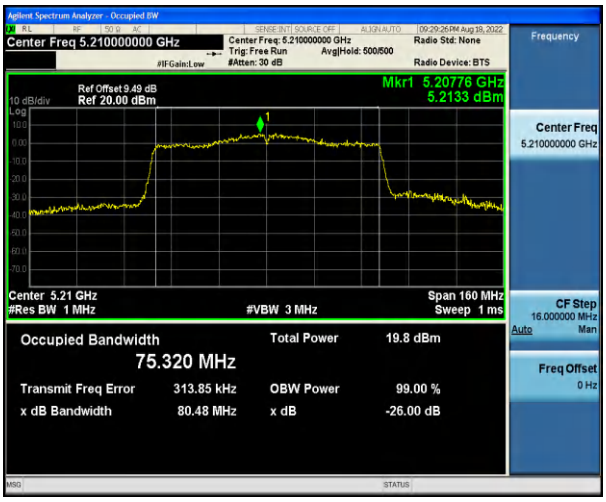
11ac (HT20) CH36	11ac (HT20) CH40





11ac (HT20) CH48	11ac (HT40) CH38



11ac (HT40) CH46	11ac (HT80) CH42
	

5.6 6dB Bandwidth

5.6.1 Limit

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier

5.6.2 Test procedure

1. Set RBW= 100 kHz.

2. Set the video bandwidth (VBW) ≥ 3 x RBW.

3. Detector = Peak.

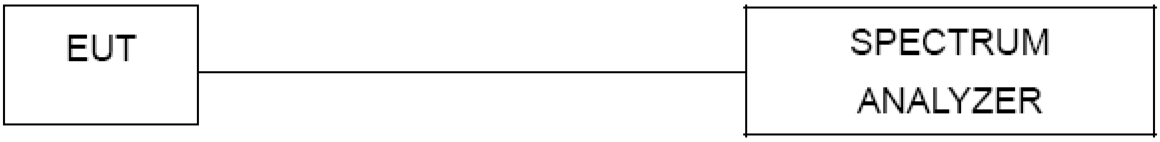
4. Trace mode = max hold.

5. Sweep = auto couple.

6. Allow the trace to stabilize.

7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

5.6.3 Test setup



5.6.4 Test results

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: (86-755)88850135 Fax: (86-755) 88850136 Web: www.mtitest.com E-mail: mti@51mti.com

For U-NII-3

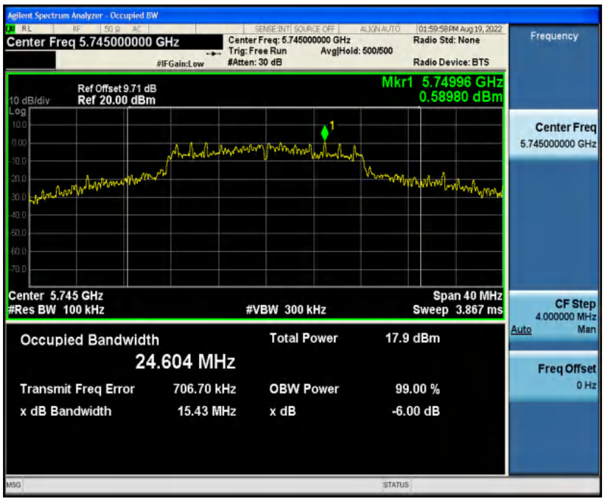
Channel	Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
11a	CH149	5745	15.43	500	Pass
11a	CH157	5785	15.44	500	Pass
11a	CH165	5825	15.56	500	Pass
11n (HT20)	CH149	5745	16.39	500	Pass
11n (HT20)	CH157	5785	16.59	500	Pass
11n (HT20)	CH165	5825	15.42	500	Pass
11n (HT40)	CH151	5755	36.06	500	Pass
11n (HT40)	CH159	5795	36.06	500	Pass

Channel	Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
11ac (HT20)	CH149	5745	17.48	500	Pass
11ac (HT20)	CH157	5785	16.91	500	Pass
11ac (HT20)	CH165	5825	16.63	500	Pass
11ac (HT40)	CH151	5755	36.01	500	Pass
11ac (HT40)	CH159	5795	36.06	500	Pass
11ac (HT80)	CH155	5775	75.80	500	Pass

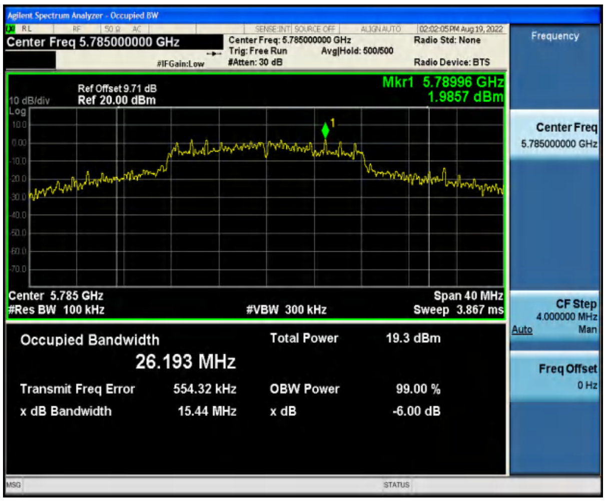
Test plots:

For U-NII-3

11a CH149

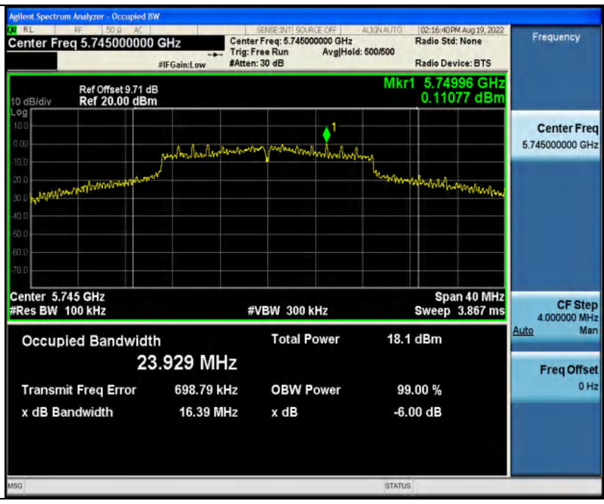


11a CH157



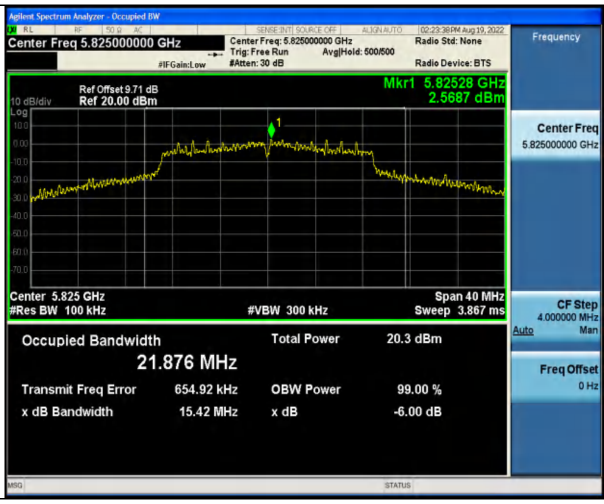
11a CH165

11n(HT20) CH149



11n(HT20) CH157

11n(HT20) CH165



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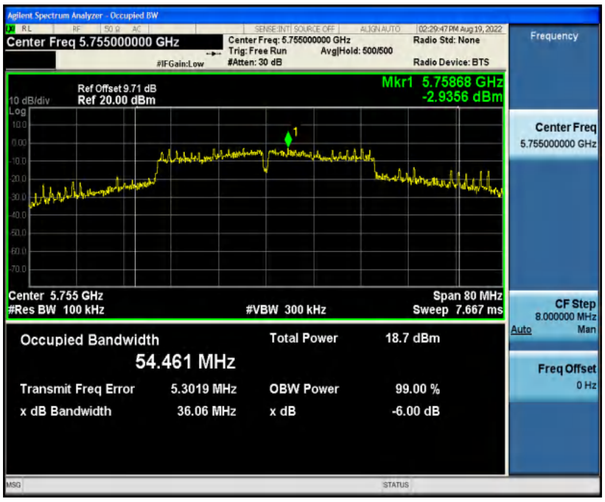
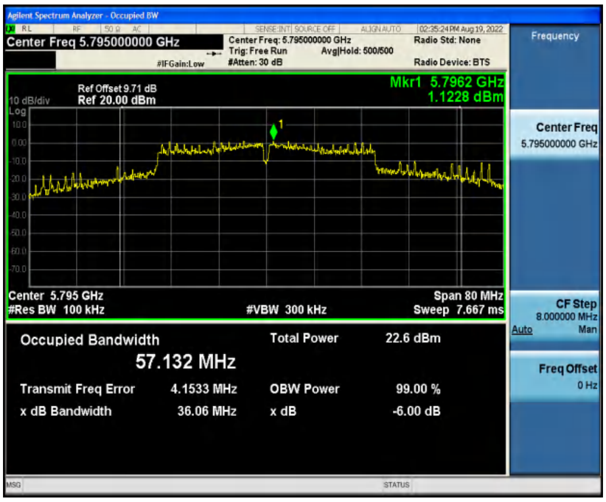
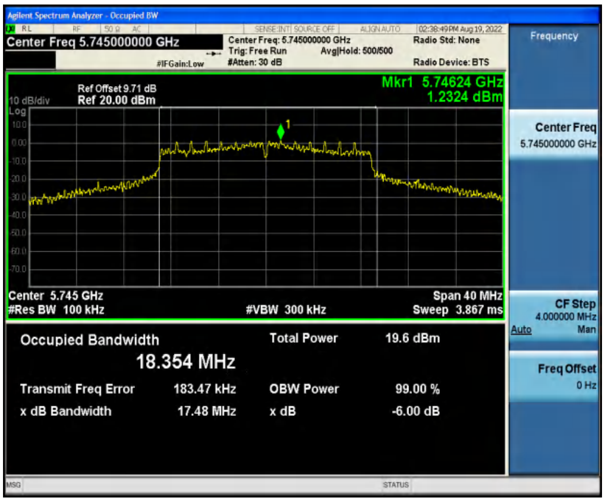
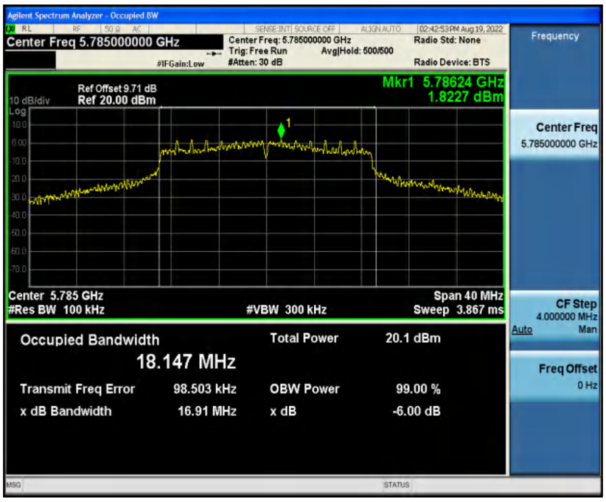
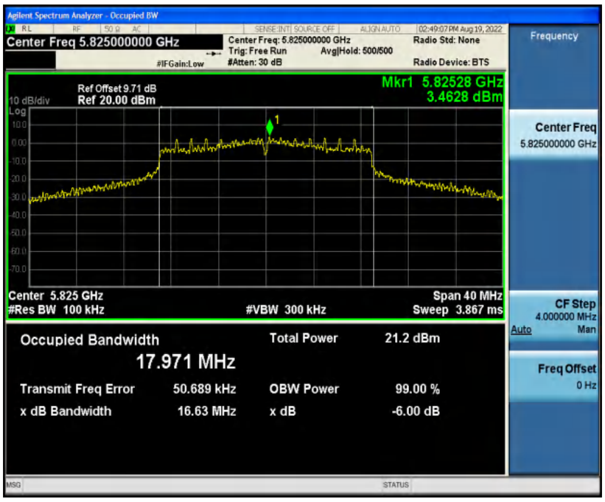
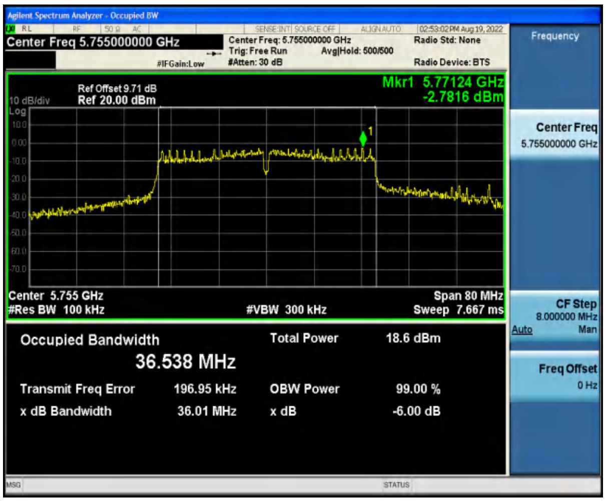
<tr><td>
</td><td>
</td></tr>
<tr><td>11ac (HT20) CH149</td><td>11ac (HT20) CH157</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td>11ac (HT20) CH165</td><td>11ac (HT40) CH151</td></tr>
<tr><td>
</td><td>
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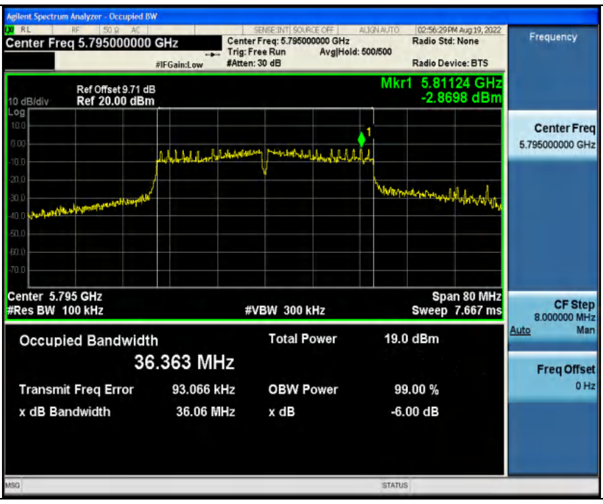
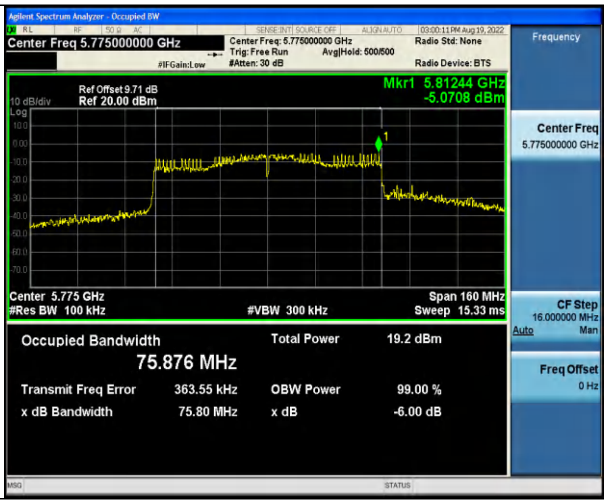
11ac (HT40) CH159	11ac (HT80) CH155
	

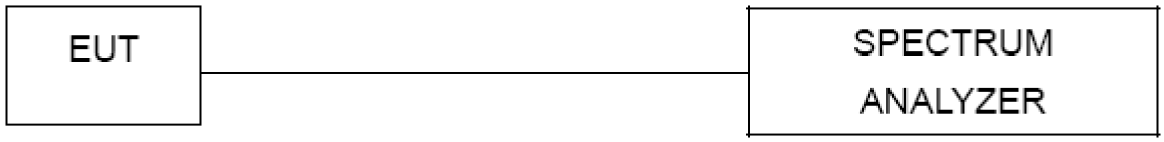
5.7 Conducted spurious emission

5.7.1 Limits

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

Frequency Band (MHz)	Limit
5150 - 5250	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5250 - 5350	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5470 - 5725	Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm
5725 - 5850	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.

5.7.2 Test setup

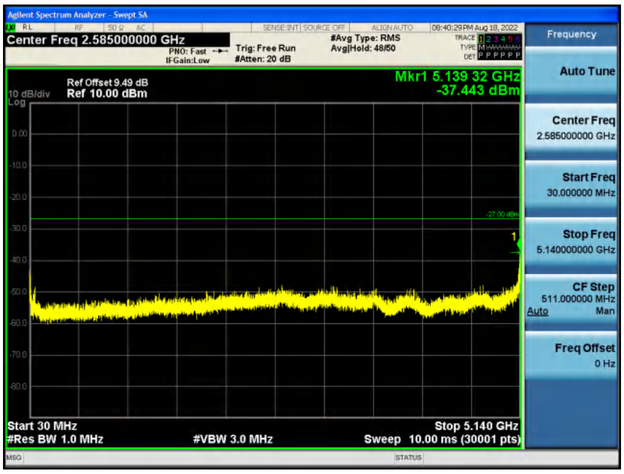
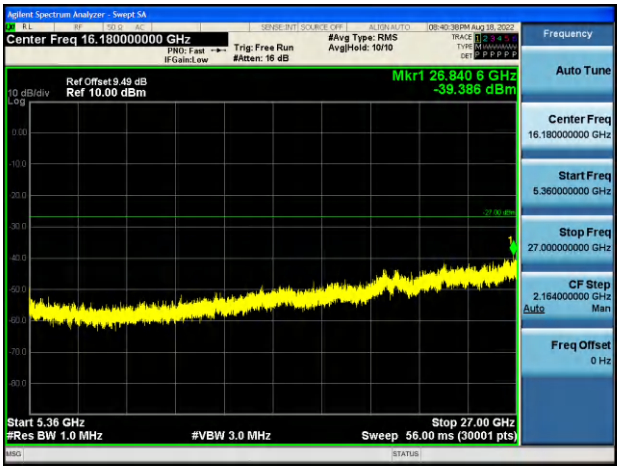
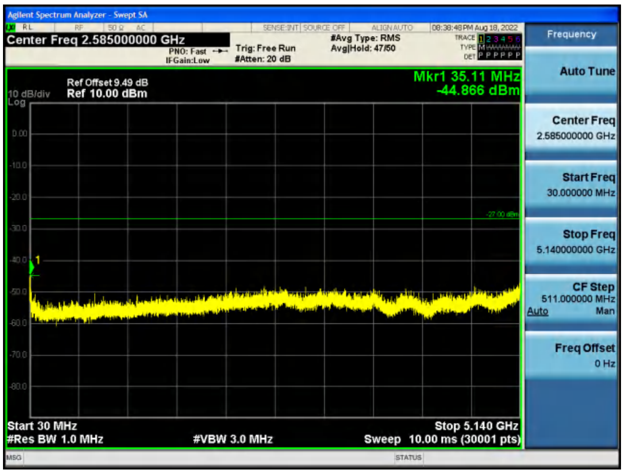
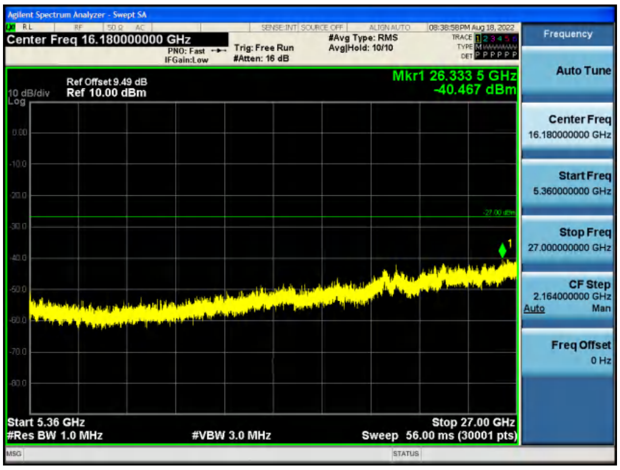
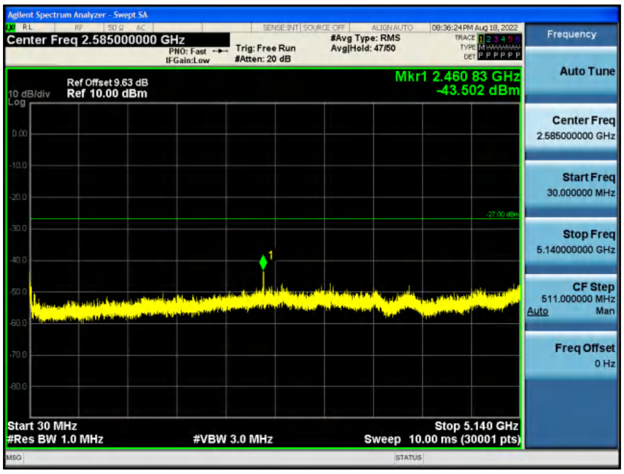
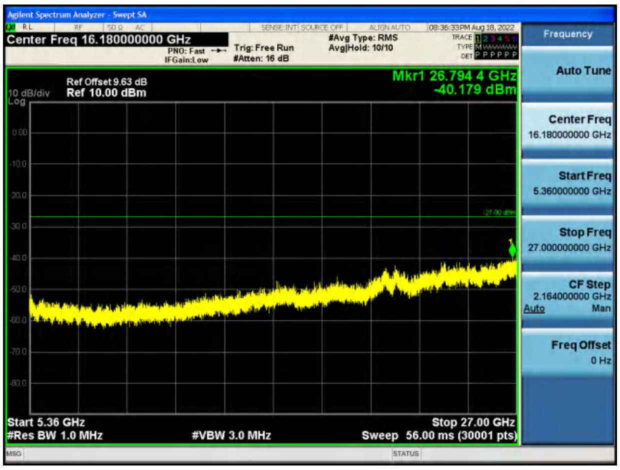


5.7.3 Test procedure

Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize

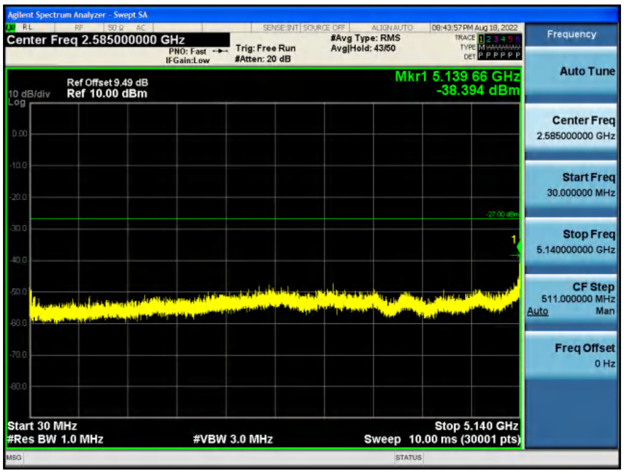
5.7.4 Test results

For U-NII-1

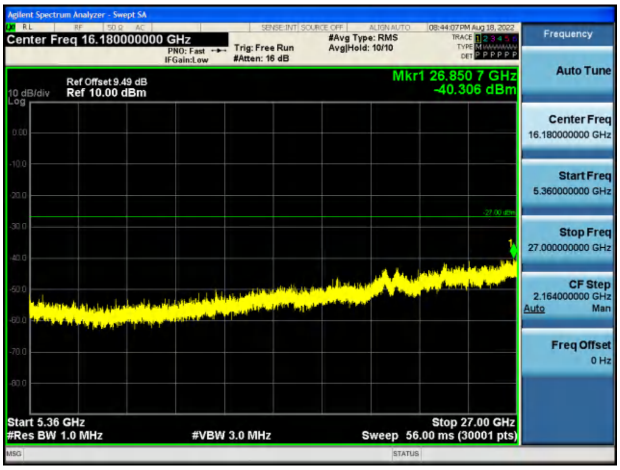
11a	
Low channel	Low channel
	
Middle channel	Middle channel
	
High channel	High channel
	

11n20

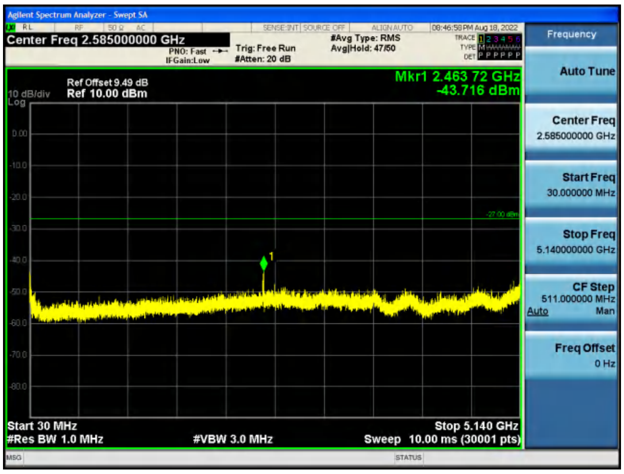
Low channel



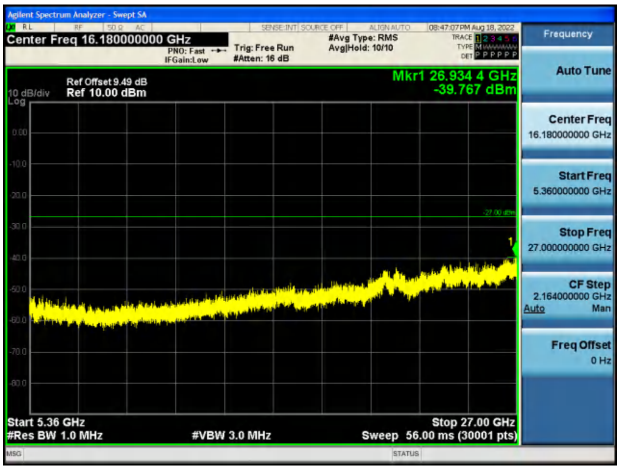
Low channel



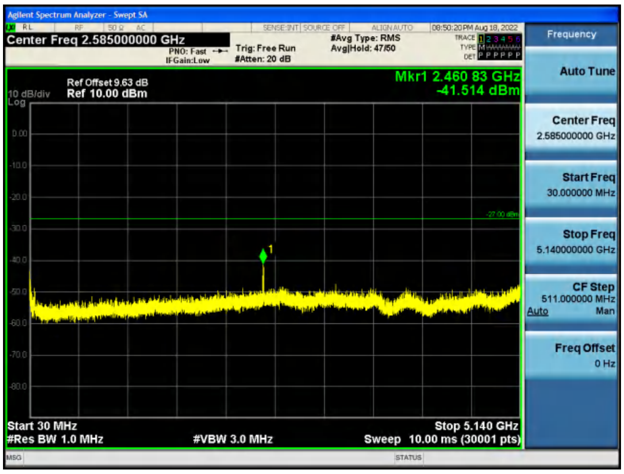
Middle channel



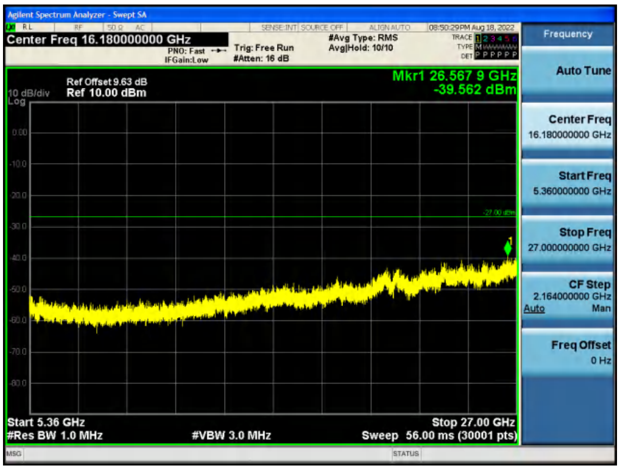
Middle channel



High channel

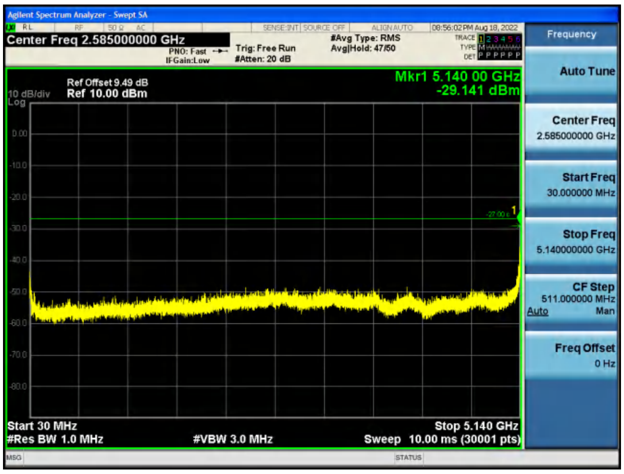


High channel

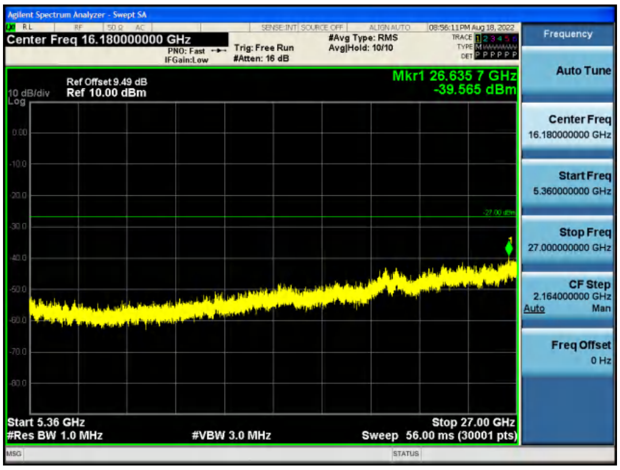


11n40

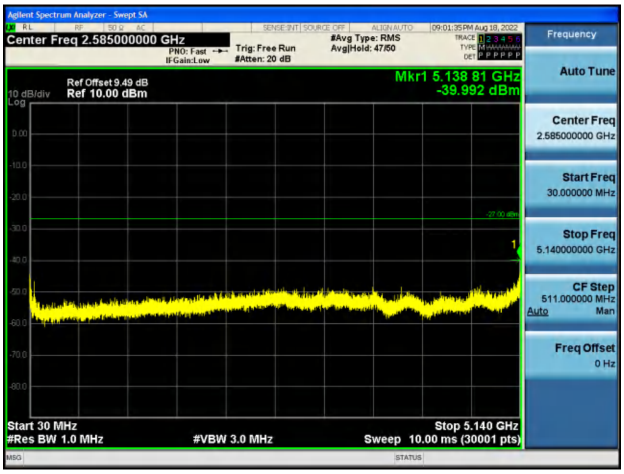
Low channel



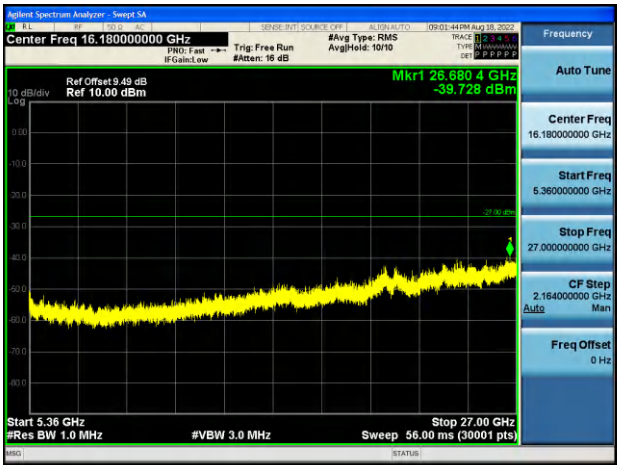
Low channel



High channel



High channel



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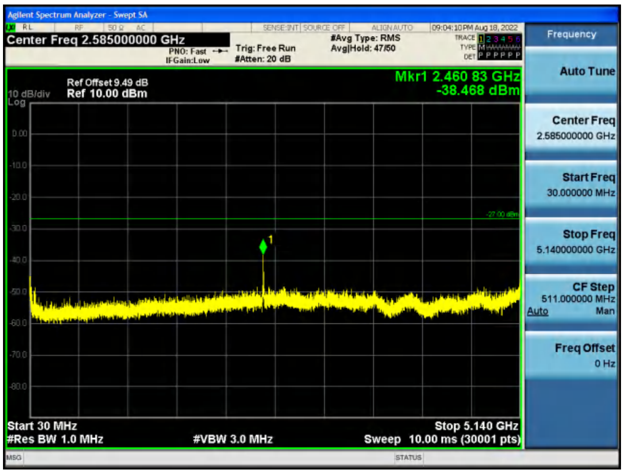
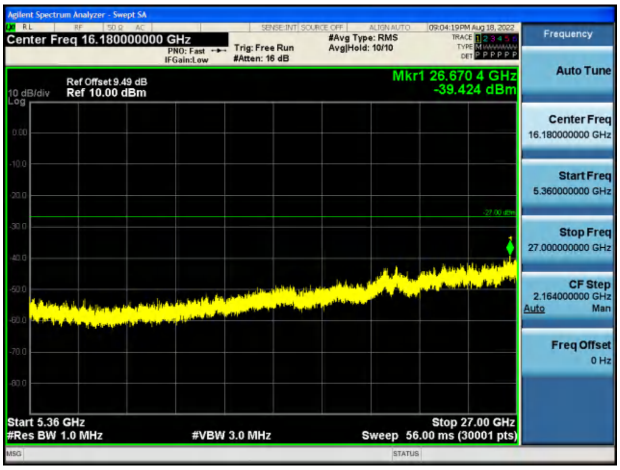
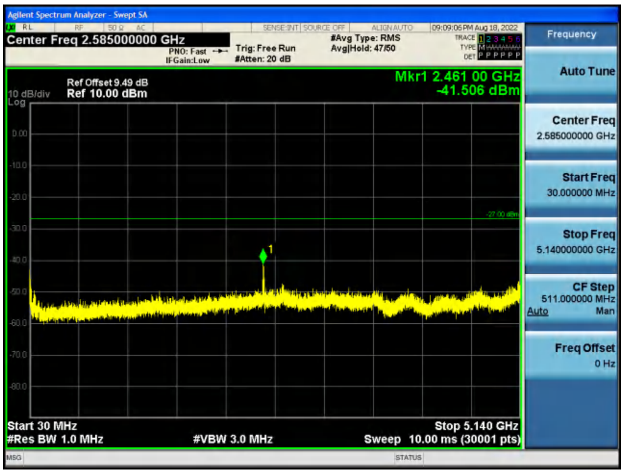
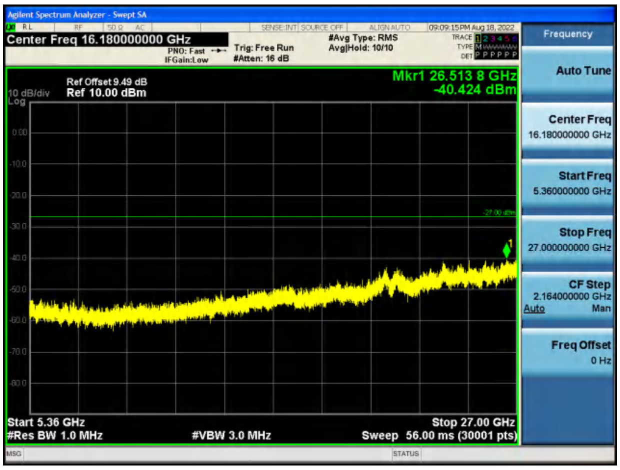
<tr><td>
</td><td>
</td></tr>
<tr><td>Middle channel</td><td>Middle channel</td></tr>
<tr><td>
</td><td>
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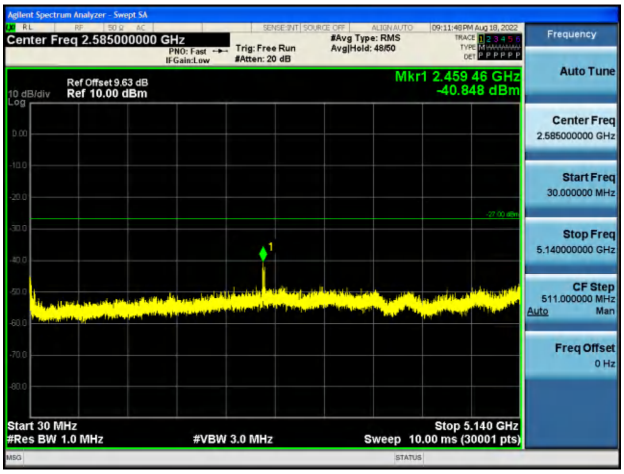
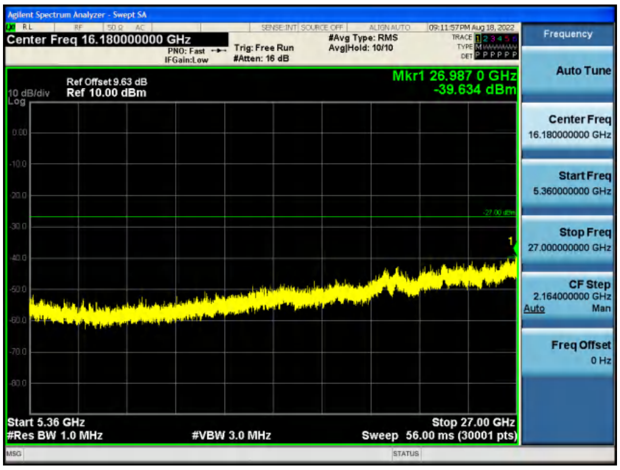
<tr><td>High channel</td><td>High channel</td></tr>
<tr><td>
</td><td>
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<table>
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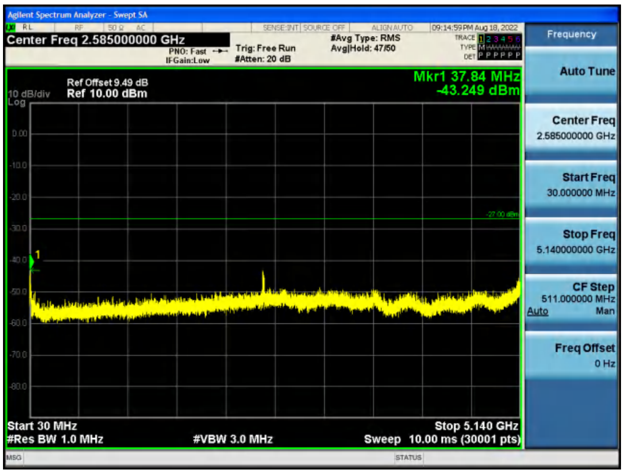
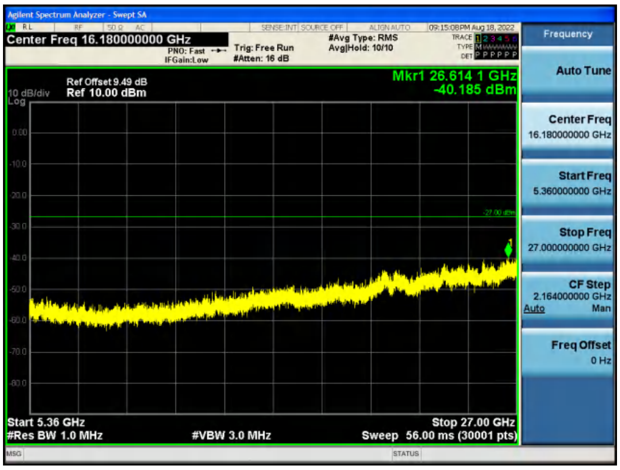
<tr><td>
</td><td>
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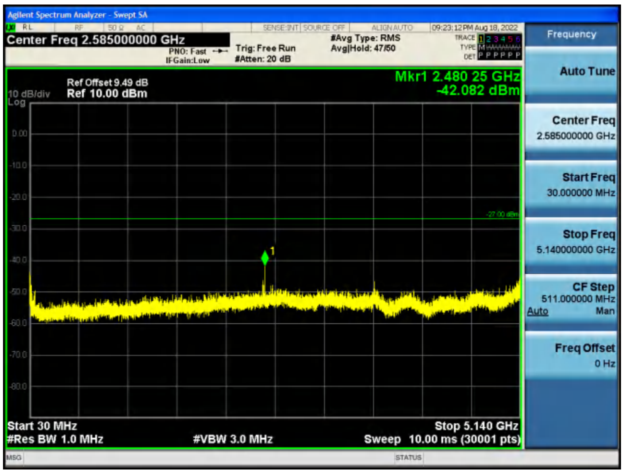
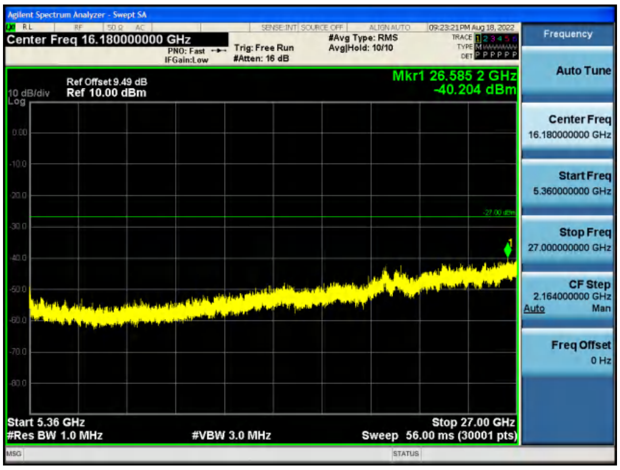
<tr><td>High channel</td><td>High channel</td></tr>
<tr><td>
</td><td>
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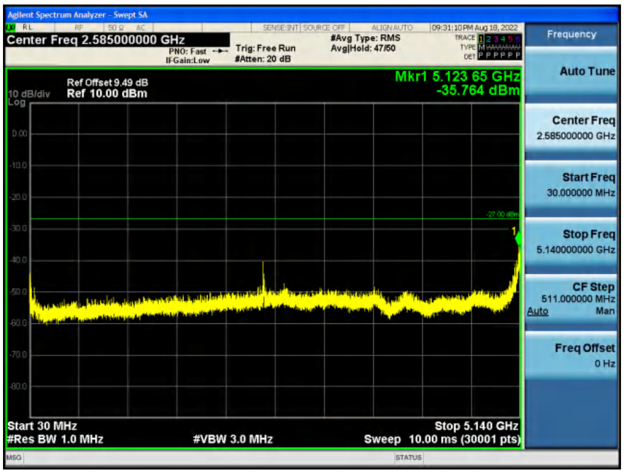
<tr><td>
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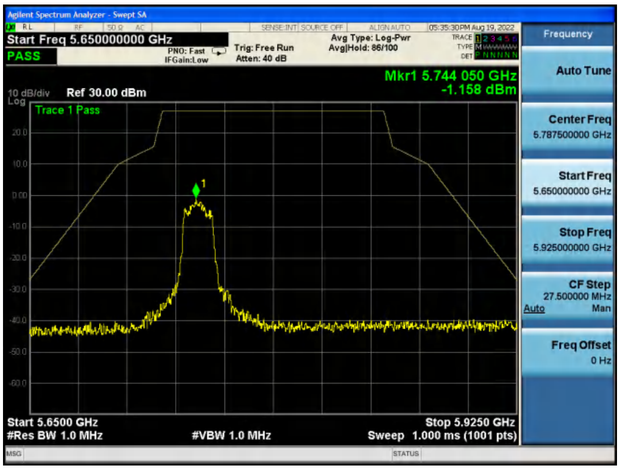
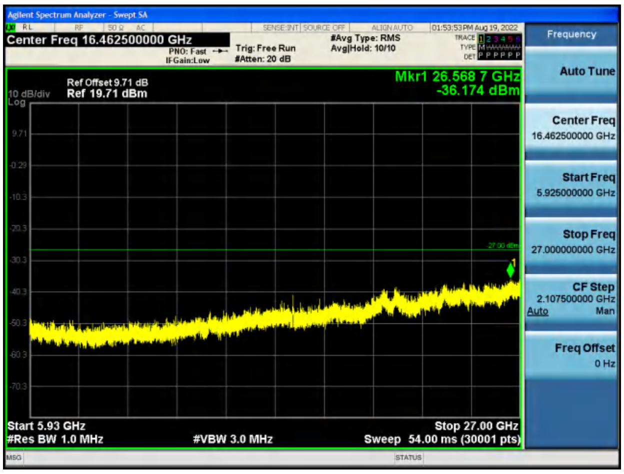
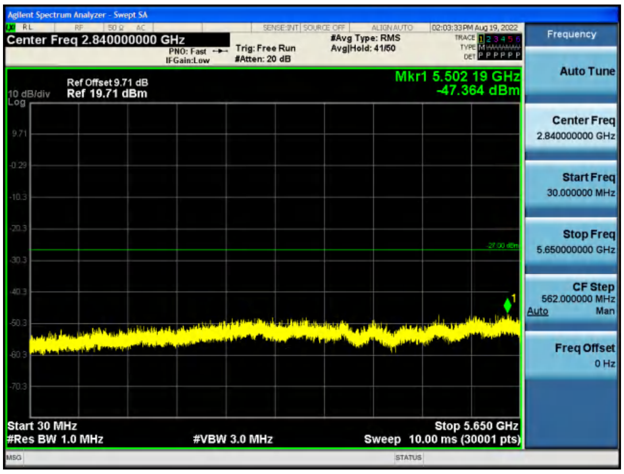
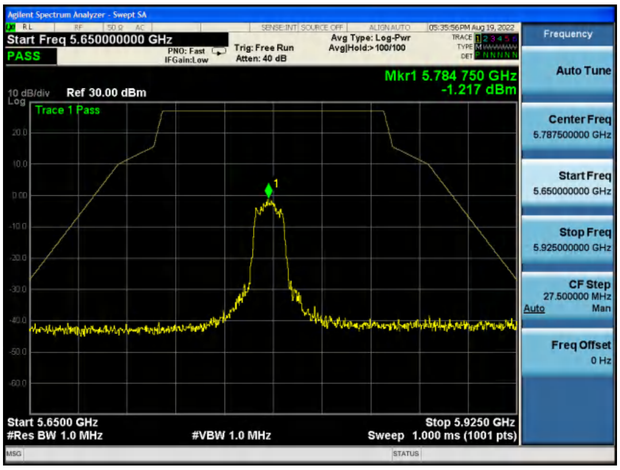
For U-NII-3

11a	
Low channel	Low channel
	
	/
Middle channel	Middle channel
	

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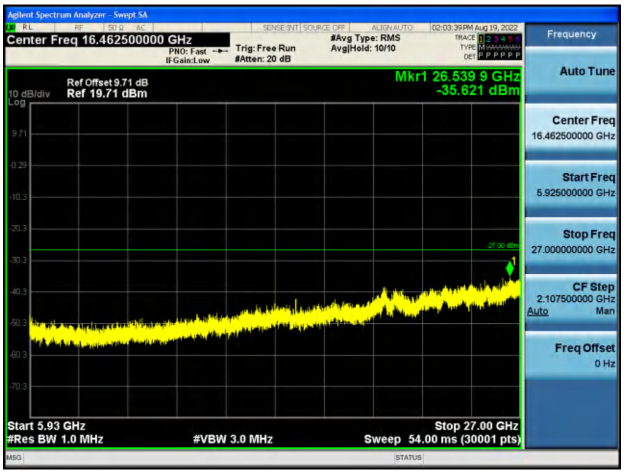
<tr><td>
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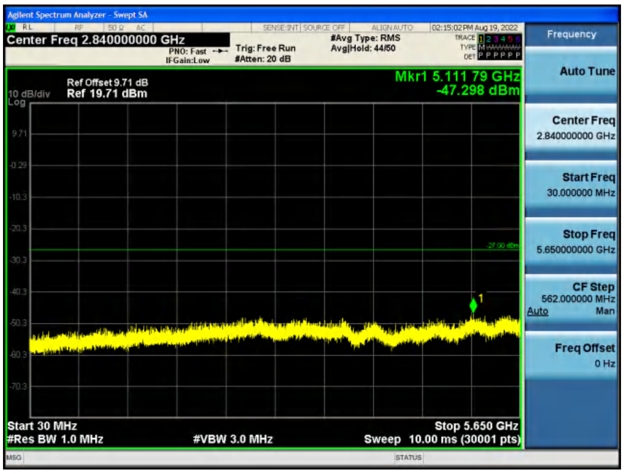
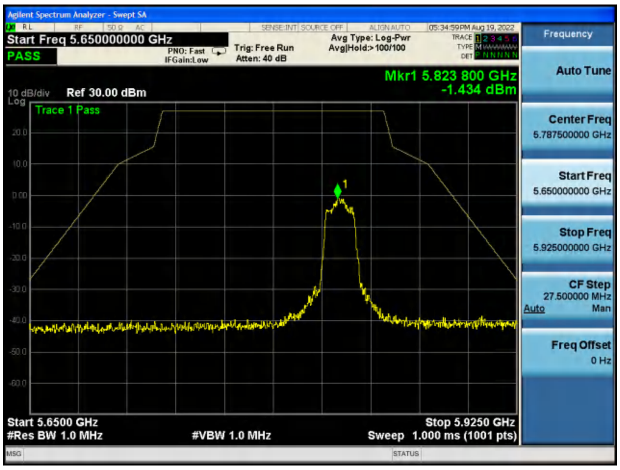
<tr><td>
</td><td>
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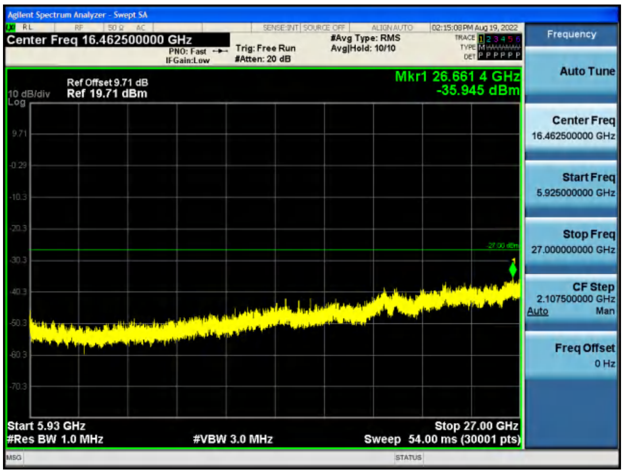
<tr><td>
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	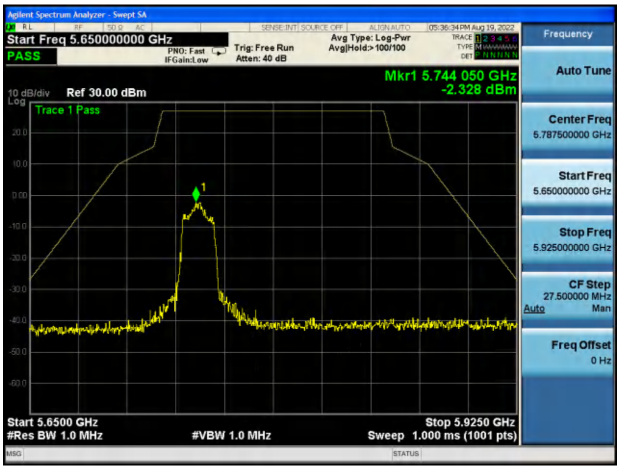
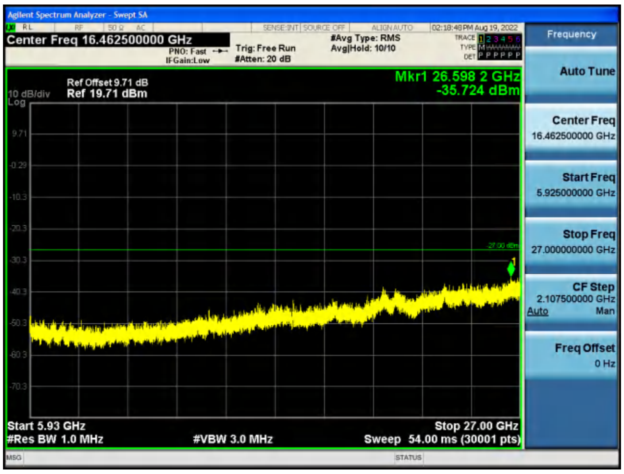	/
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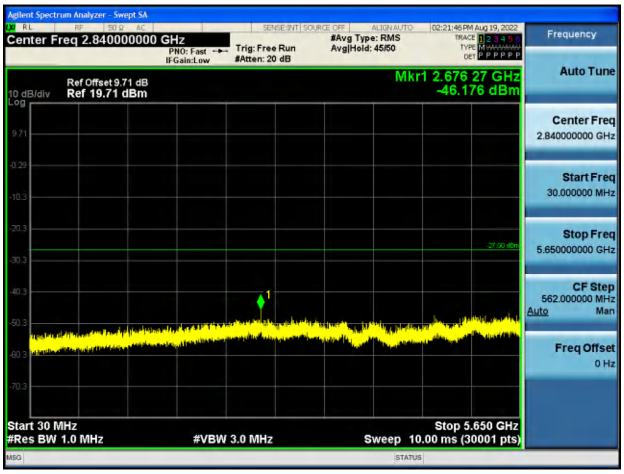	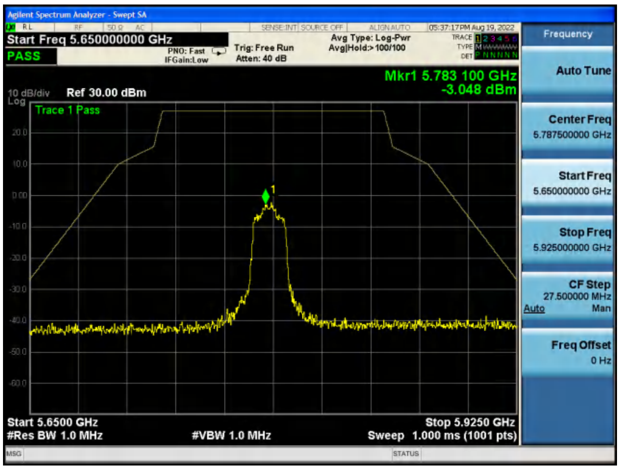

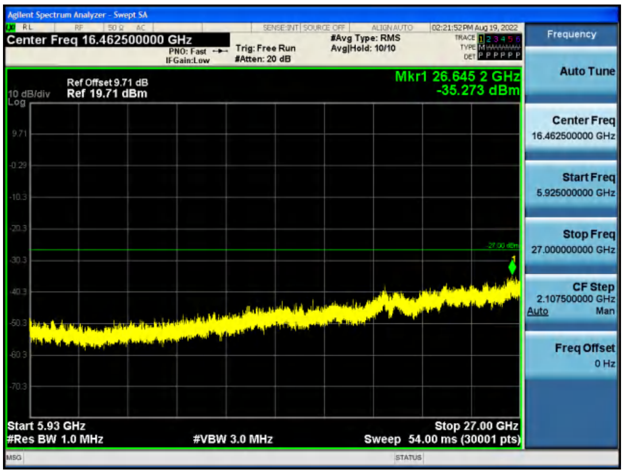	/
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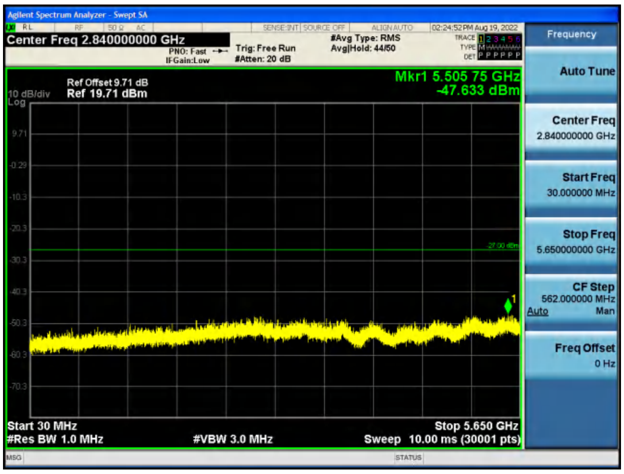	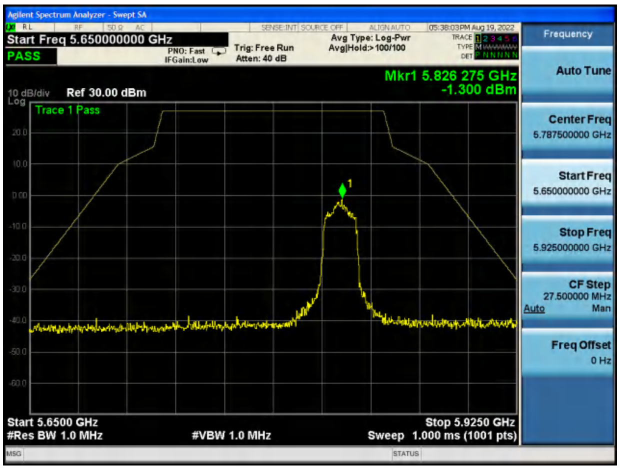
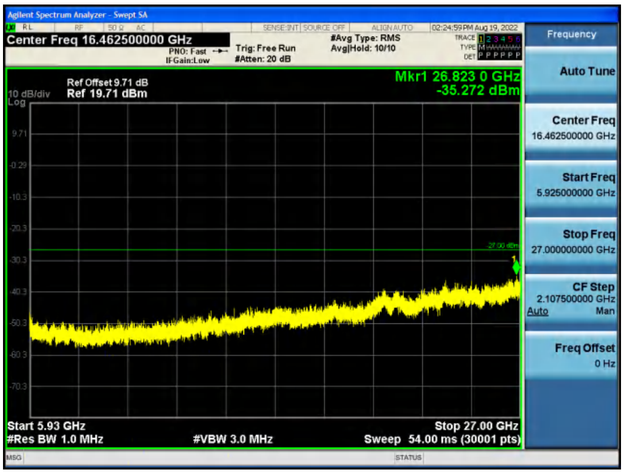	/

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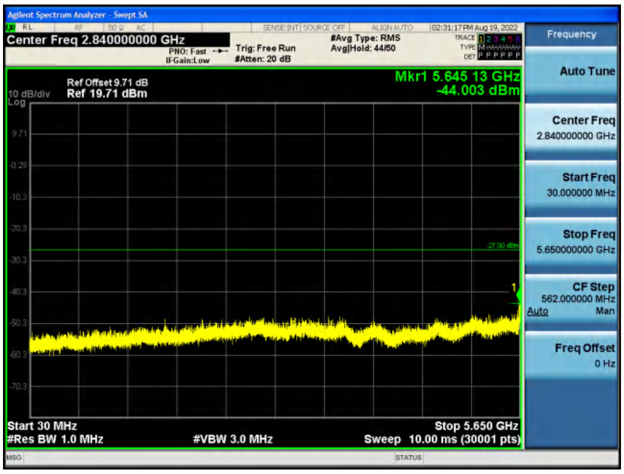
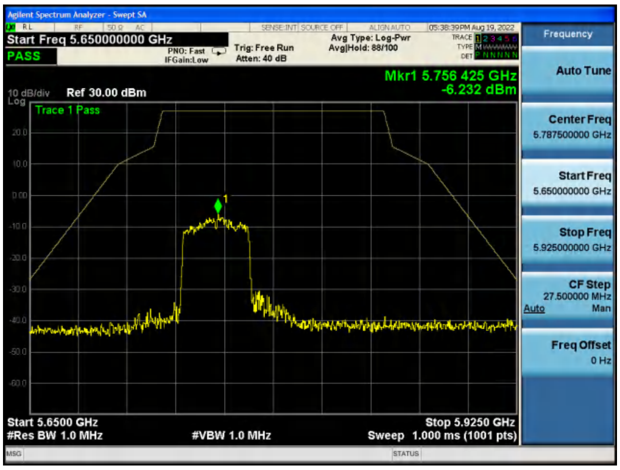
<tr><td>
</td><td>
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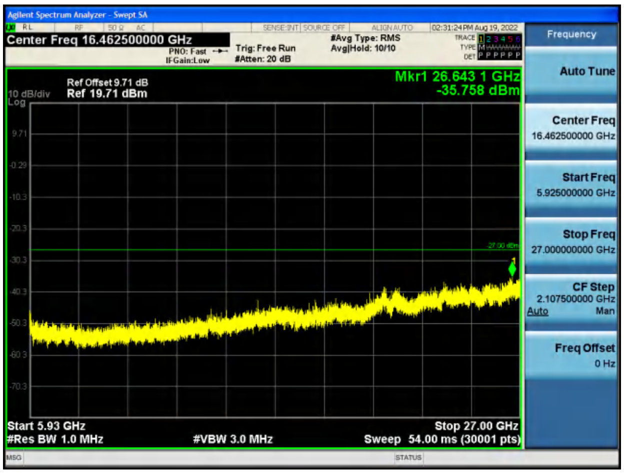
<tr><td>
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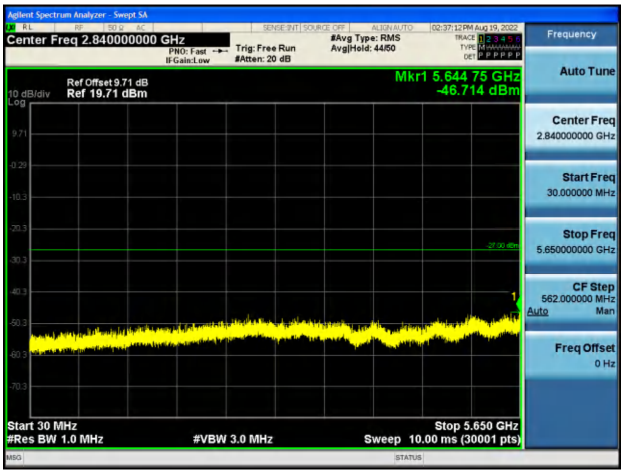
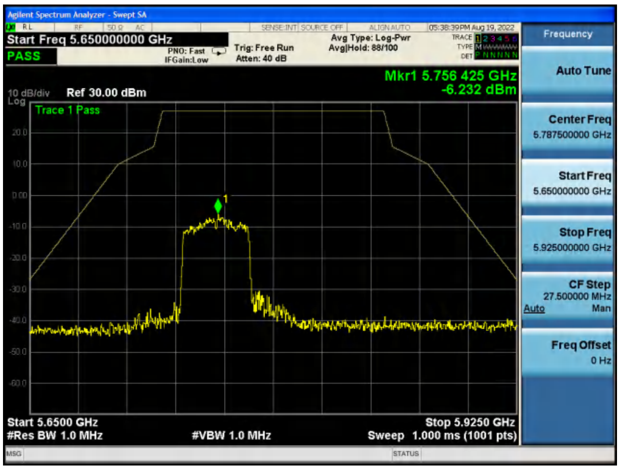
<tr><td>
</td><td>
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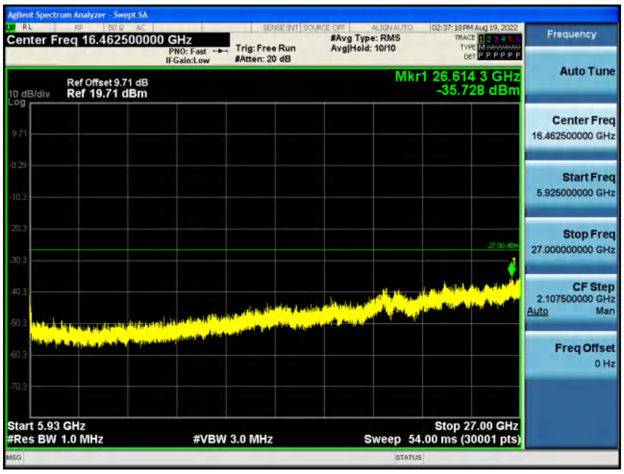
<tr><td>
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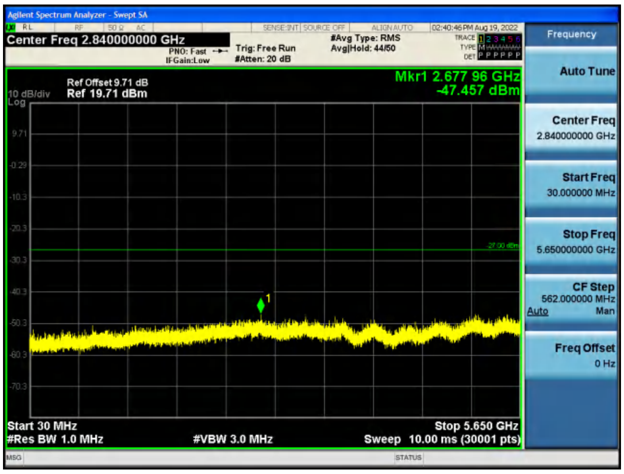
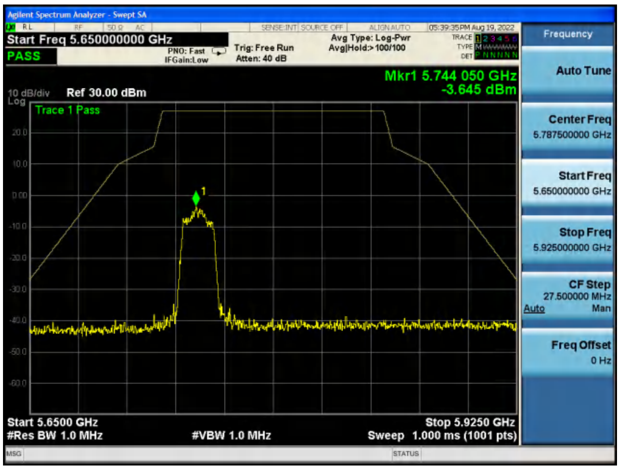
<tr><td>
</td><td>
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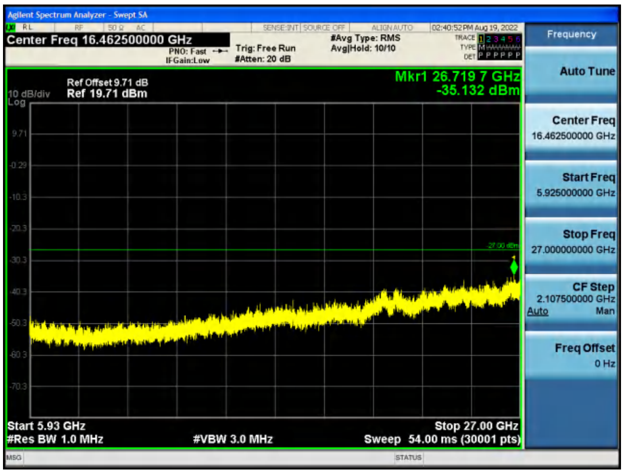
<tr><td>
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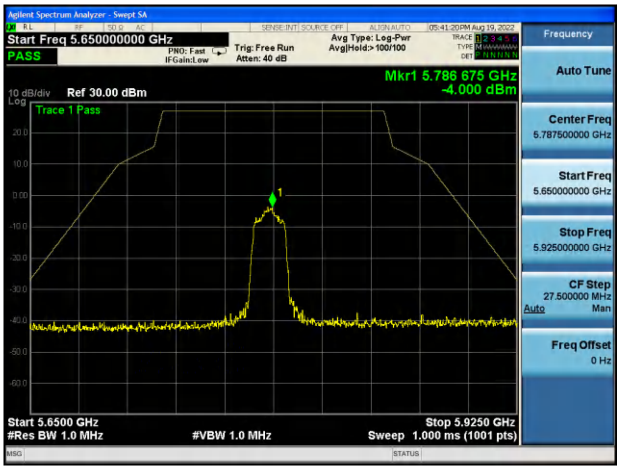
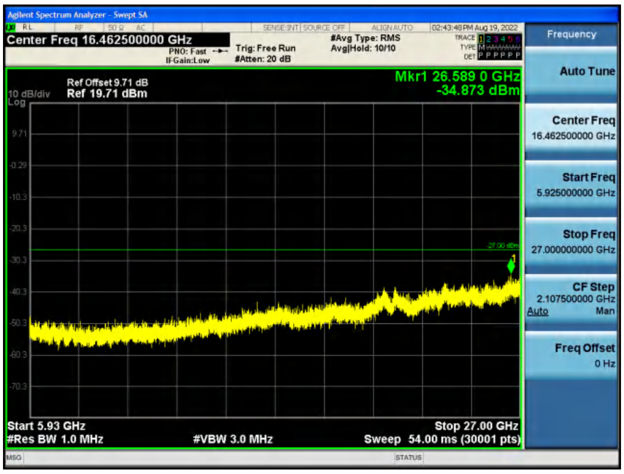
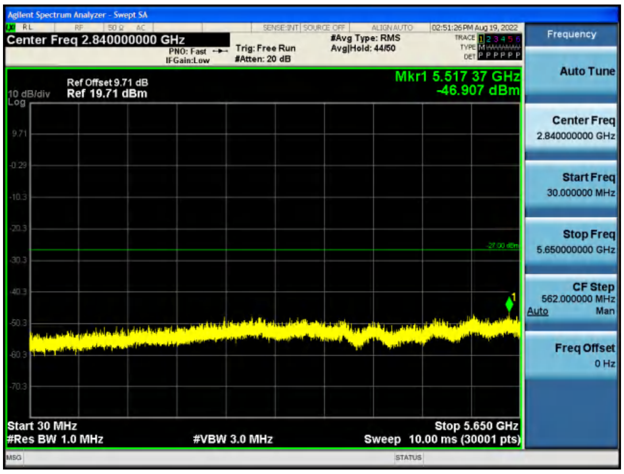
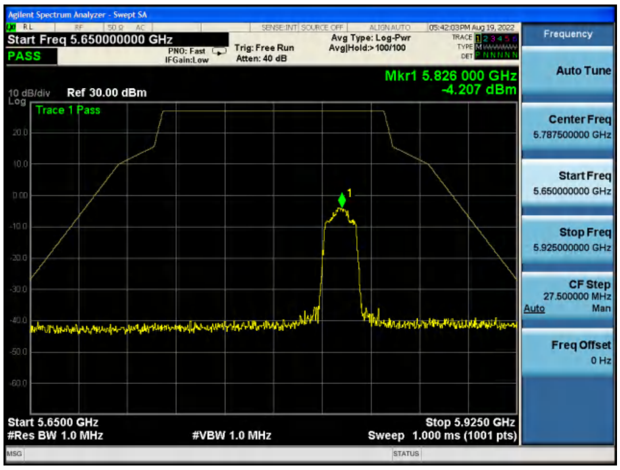
	
	/
High channel	High channel
	

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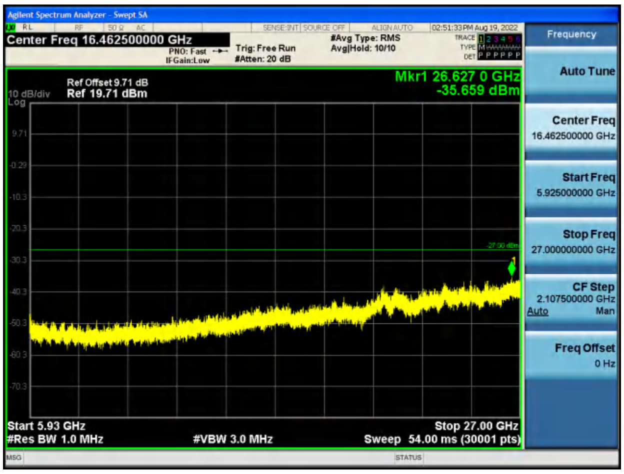
<tr><td>
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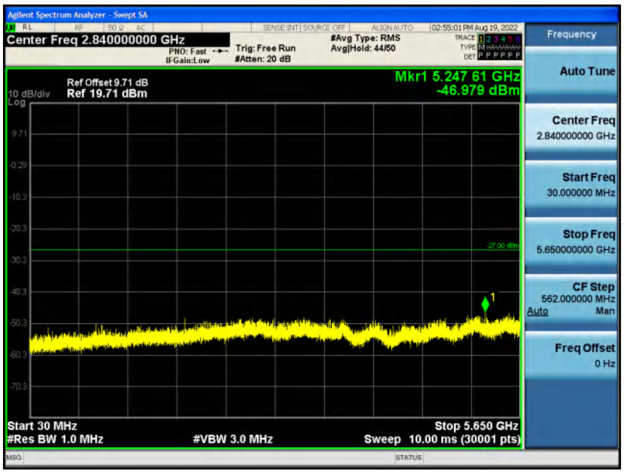
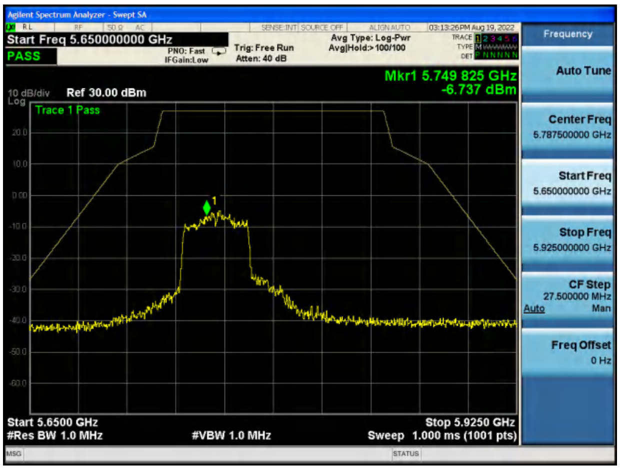
<tr><td>
</td><td>
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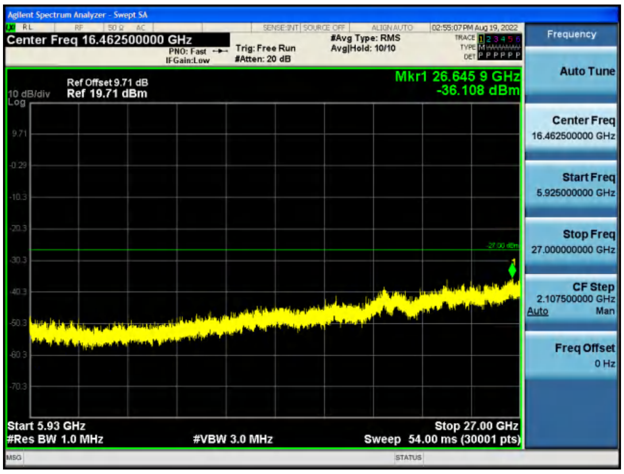
<tr><td>
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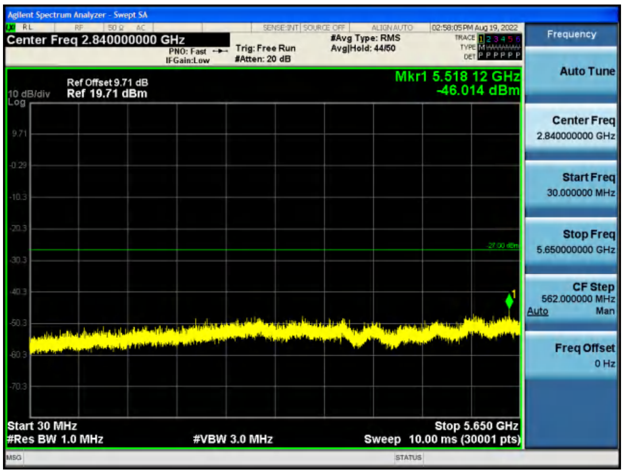
<tr><td>
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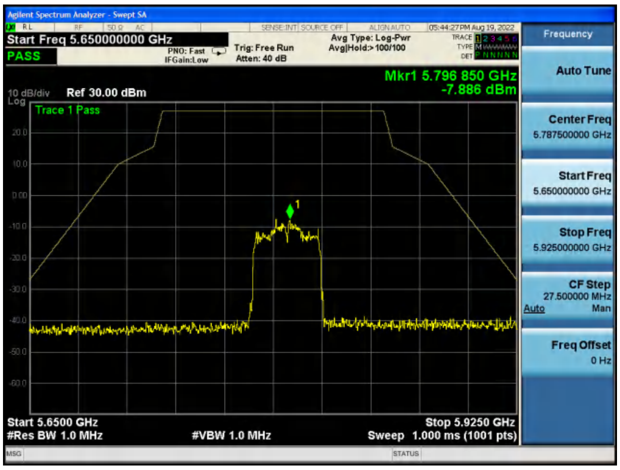
<td>
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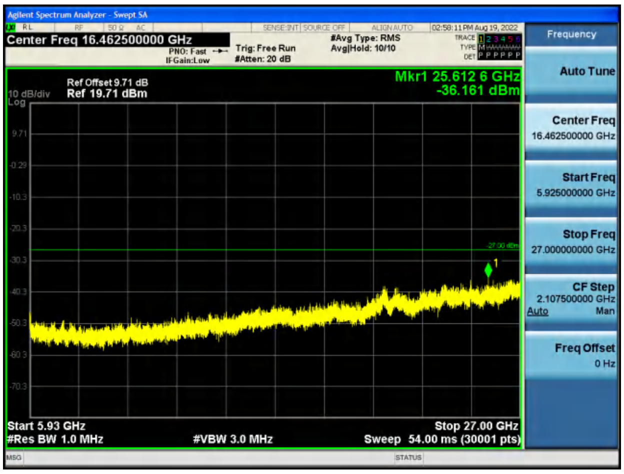
<tr><td>
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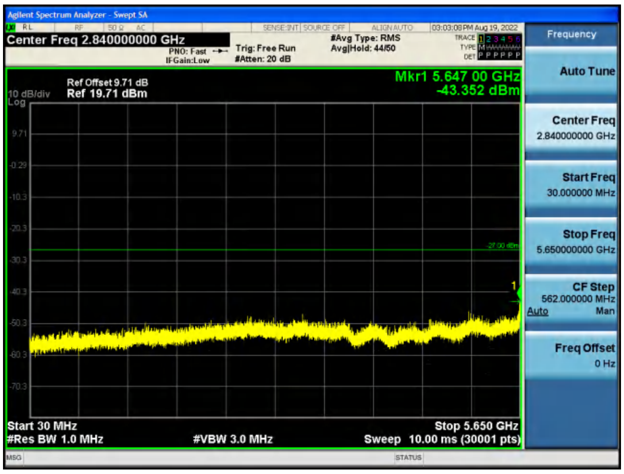
<tr><td>
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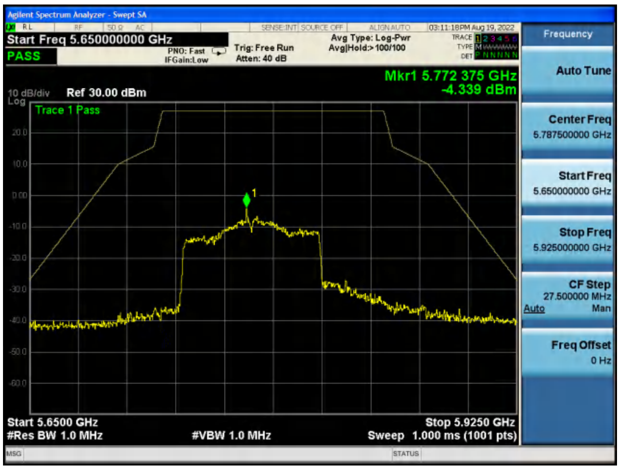
<td>
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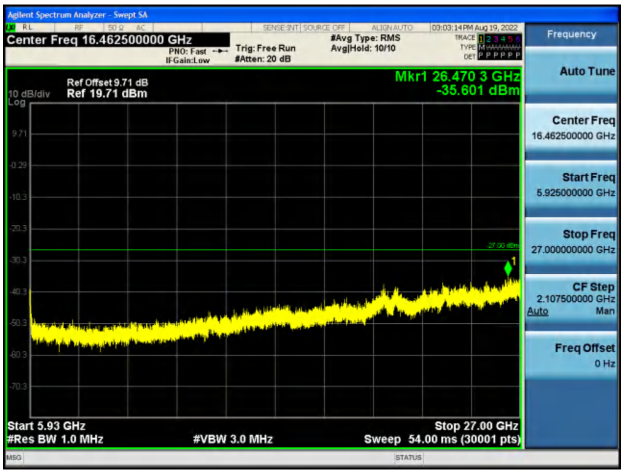
	/

Note: The test result of 27G-40GHz is far below the limit, so it is no need to report.

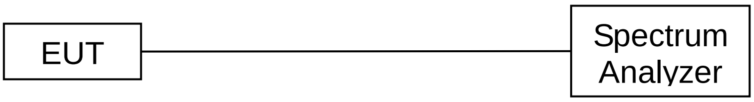
5.8 Conducted Band edge emission

5.8.1 Limits

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

Frequency Band (MHz)	Limit
5150 - 5250	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5250 - 5350	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5470 - 5725	Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm
5725 - 5850	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.

5.8.2 Test setup



5.8.3 Test procedure

a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.

c) Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.

d) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

e) Repeat above procedures until all measured frequencies were complete.

5.8.4 Test results

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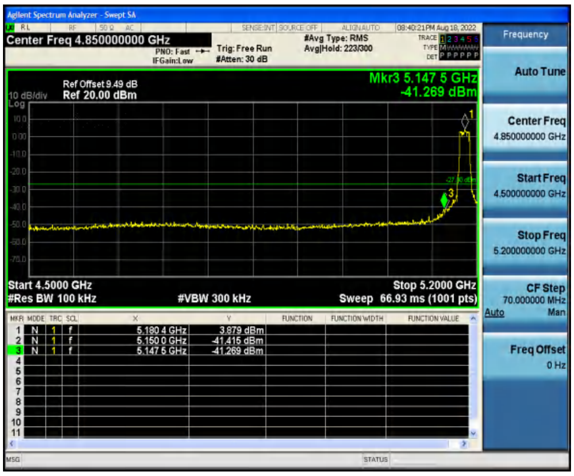
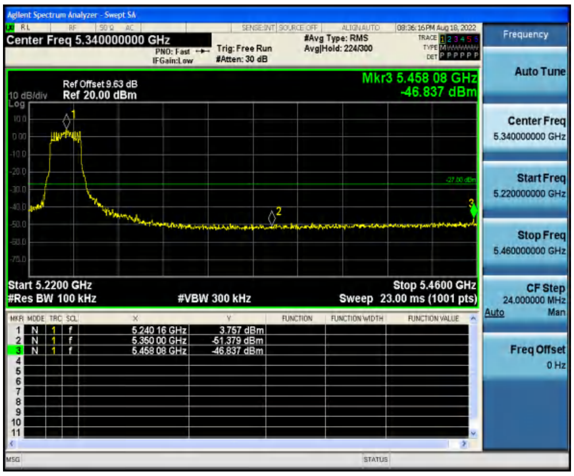
Band edge-Left	Band edge-Right
	
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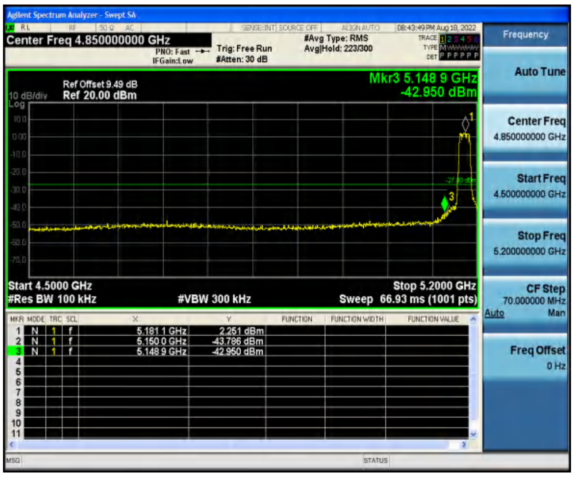	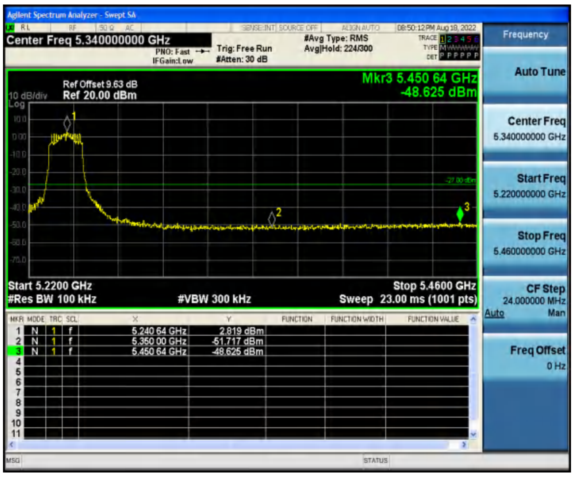
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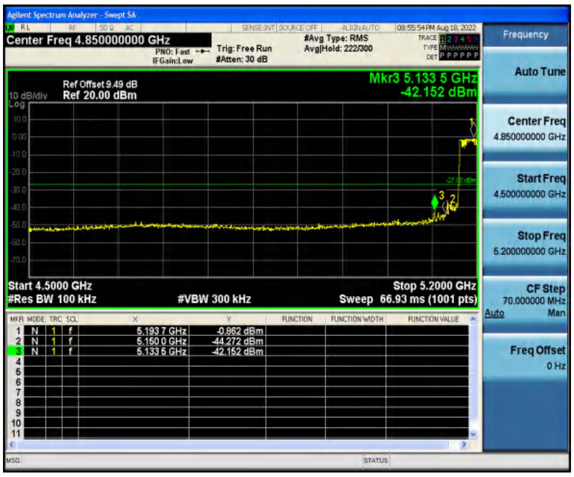	

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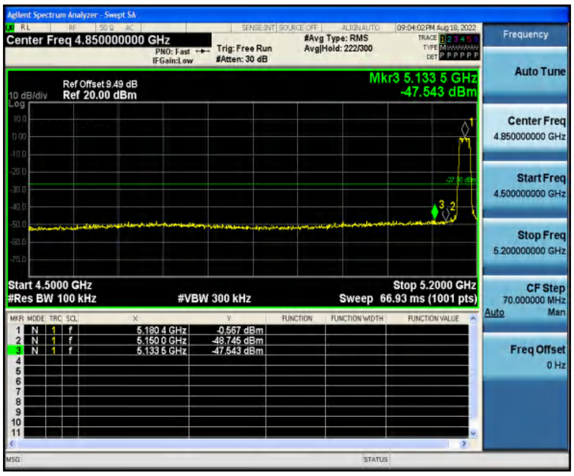	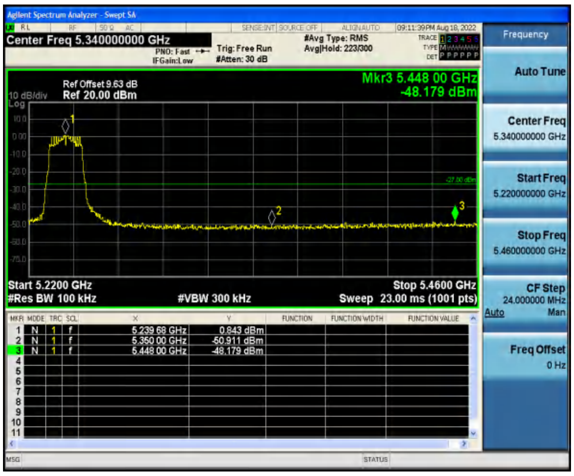

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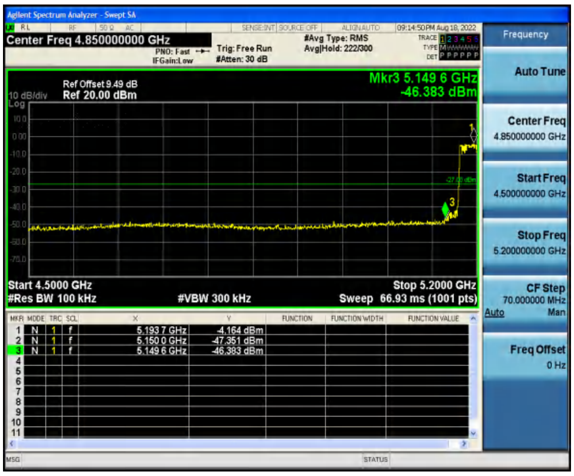	

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Band edge-Left	Band edge-Right