Test Report

Product: PRONEXT DIGITAL CALENDAR

Trade Mark: N/A

Model Number: GD-DC01

FCC ID: 2A92J-GD-DC01

Prepared for

Guangzhou Golden Diamond Electric Appliance Co., Ltd

43 Lianglong South Street, Oversea Chinese Science and Technology Industrial Park, Huashan Town, Huadu District, Guangzhou

Prepared by

Shenzhen HongBiao Certification& Testing Co., Ltd

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TEST RESULT CERTIFICATION

Applicant's Name.....:	Guangzhou Golden Diamond Electric Appliance Co., Ltd
Address.....:	43 Lianglong South Street, Oversea Chinese Science and Technology Industrial Park, Huashan Town, Huadu District, Guangzhou
Manufacturer's Name.....:	Guangzhou Golden Diamond Electric Appliance Co., Ltd
Address.....:	43 Lianglong South Street, Oversea Chinese Science and Technology Industrial Park, Huashan Town, Huadu District, Guangzhou

Product description

Product name.....:	PRONEXT DIGITAL CALENDAR
Model Number.....:	GD-DC01
Standards.....:	FCC Part 15.407
Test procedure .....:	IEEE/ANSI C63.10-2020 KDB 789033 D02 General U-NII Test Procedures New Rules v01r01

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

Date of Test

Date (s) of performance of tests..... :	Feb. 20, 2025~ Mar. 04, 2025
Test Result ..... :	**Pass**

Testing Engineer : Zoe Su

(Zoe Su)

Technical Manager : Gary Lu

(Gary Lu)

Authorized Signatory : Leo Su

(Leo Su)

Revision History

Revised No.	Date of Issue	Description
01	Mar. 05, 2025	Original

1 General Description

1.1 Description of EUT

Product name:	PRONEXT DIGITAL CALENDAR
Model name:	GD-DC01
Series Model:	GD-DC02, GD-DC03, GD-DC04, GD-DC05, GD-DC06
Different of series model:	All models are the same circuit and module except appearance color and frame shell size.
Frequency range:	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:	Built in antenna
Antenna gain:	2.23dBi
Max. output power:	7.48dBm
Hardware version:	V1.0
Software version:	V1.0
Battery:	DC 7.6V, 4000mAh, 30.4Wh
Power supply:	DC 12V from adapter AC 120V/60Hz
Adapter information:	Model: YQ-1203000Z Input: 100-240V~50/60Hz 700mA Output: 12V⎓3000mA

1.2 Operation Channel List

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 Mode

For 802.11a/n(HT20)/ ac(VHT20)

U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)
149	Low	5745
157	Mid	5785
165	High	5825

For 802.11n (HT40)/ac (VHT40)

U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)
151	Low	5755
159	High	5795

For 802.11ac (VHT80)

80 MHz	
Channel Number	Frequency (MHz)
155	5775

1.4 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.5 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Laptop	NbDE-WFH9	/	HUAWEI

Note: The laptop is used to assist the RF test. In order to prevent the laptop from causing unnecessary impact on the test, the laptop will be removed from the test environment after the EUT successfully transmits at a fixed frequency using the laptop.

2 Summary of Test Result

No.	Standard Section	Test Item	Result	Remark
1	15.203/15.407	Antenna Requirement	Pass	
2	15.207	Power Line Conducted Emission	Pass	
3	15.407(b) 15.209	Radiation Spurious Emission	Pass	
4	15.407(a)	RF Output Power	Pass	
5	15.407(a)	Power Spectral Density	Pass	
6	15.407(a)	26dB Emission Bandwidth and Occupied bandwidth	Pass	
7	15.407(e)	6 dB bandwidth	Pass	
8	15.407(b)	Out Of Band Emission	Pass	
9	15.407(b)	Spurious RF Conducted Emissions	Pass	

3 Test Facilities and Accreditations

3.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

3.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15ºC~35ºC
Relative Humidity:	20%~75%
Air 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 %.
The data and results quoted in this document are true and accurate values, and uncertainties are not involved in the calculations.
In addition, components and mass production processes that are similar to testing equipment may introduce additional deviations, and the manufacturer is solely responsible for the continued compliance of the equipment.

Measurement Frequency Range	U, (dB)	Note
RF frequency	2x 10^{-5}	
RF power, conducted	± 0.57 dB	
Conducted emission(150kHz~30MHz)	± 2.5 dB	
Radiated emission(9kHz-30MHz)	± 2.5 dB	
Radiated emission(30MHz~1GHz)	± 4.2 dB	
Radiated emission (above 1GHz)	± 4.7 dB	
Occupied Bandwidth	±3%	
Temperature	±1 degree	

Humidity	± 5 %	

3.4 Test Software

Software name	Manufacturer	Model	Version
Conducted Emission test Software	Farad	EZ-EMC	EMC-CON 3A1.1+
Radiated Emission test Software	Farad	EZ-EMC	FA-03A2
RF Test System	MWRF	MTS 8310	2.0.0.0

4 List of Test Equipment

Radiation emission							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E001	Horn Antenna	Schwarzbeck	BBHA 9120D	02592	2024-05-18	2026-05-17
2	HB-E002	Biconical log-periodic composite antenna	Schwarzbeck	VULB 9168	01340	2024-05-18	2026-05-17
3	HB-E003	SHF-EHF Horn	Schwarzbeck	BBHA 91270	01193	2024-05-18	2026-05-17
4	HB-E005	Preamplifier	Noyetec	LAN-0118	NYCM1420102	2024-05-17	2025-05-16
5	HB-E006	Preamplifier	Noyetec	LAN-1840	NYCM1420103	2024-05-17	2025-05-16
6	HB-E007	EMI TEST RECEIVER	R&S	ESR7	102520	2024-05-17	2025-05-16
7	HB-E009	POSITINAL COTROLLER	Noyetec	N/A	N/A	/	/
8	HB-E013	RF switch	Noyetec	NY-RF4	NY0CM1420204	/	/
9	HB-E066	Illuminance Tester	TASI	TA8121	N/A	2024-05-21	2025-05-20
10	HB-E075	Active loop antenna	Schwarzbeck	FMZB 1519B	1519B-245	2024-05-18	2026-05-17
11	HB-E076	Preamplifier	Hewlett Packard	8447D	1937A02278	2024-05-17	2025-05-16
Conduction emission							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E014	4 Path V-LISN	Schwarzbeck	NNLK 8121	00770	2024-05-17	2025-05-16
2	HB-E015	Pulse Limiter	Schwarzbeck	VTSD 9561-F	00949	2024-05-17	2025-05-16
3	HB-E016	ZN23201	Noyetec	ZN23201	N/A	2024-05-21	2025-05-20
4	HB-E059	Attenuator	Xianghua	TS2-6-1	220215166	2024-05-17	2025-05-16
5	HB-E069	EMI TEST RECEIVER	R&S	ESCI	N/A	2024-05-17	2025-05-16

RF							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E041	MXG Anaiog Signal	Agilent	N5181A	MY47070421	2024-05-17	2025-05-16

		Generator					
2	HB-E042	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW500	132108	2024-05-17	2025-05-16
3	HB-E043	MXG Anaiog Signal Generator	Agilent	N5182A	US46240335	2024-05-17	2025-05-16
4	HB-E044	Signal& spectrum Analyzer	R&S	FSV3044	101264	2024-05-17	2025-05-16
5	HB-E045	RF Control Box	Noyetec	NY100-RFCB	N/A	/	/
6	HB-E058	Thermometer Clock Humidity Monitor	N/A	HTC-1	N/A	/	/

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

5 Test Item And 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 Test Result

The antenna is Built in antenna, which was permanently affixed to the device and un-replaced, complies with 15.203. In addition, the maximum antenna gain is 2.23dBi.

5.2 Power Line Conducted Emission

5.2.1 Limits

Limits – Class B		
Frequency (MHz)	Limit (dBμV)	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

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.

5.2.2 Test Procedures

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 equipment 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.

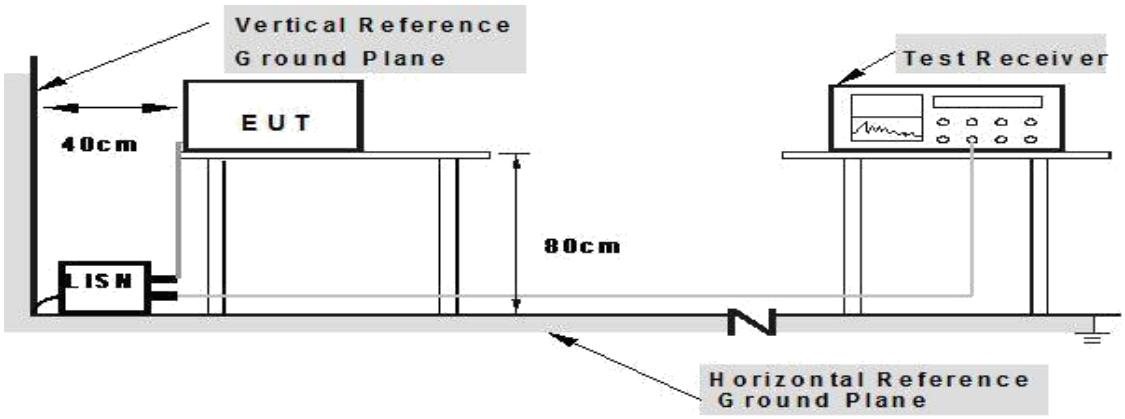
e) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

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

g) For the actual test configuration, please refer to the related Item – photographs of the test

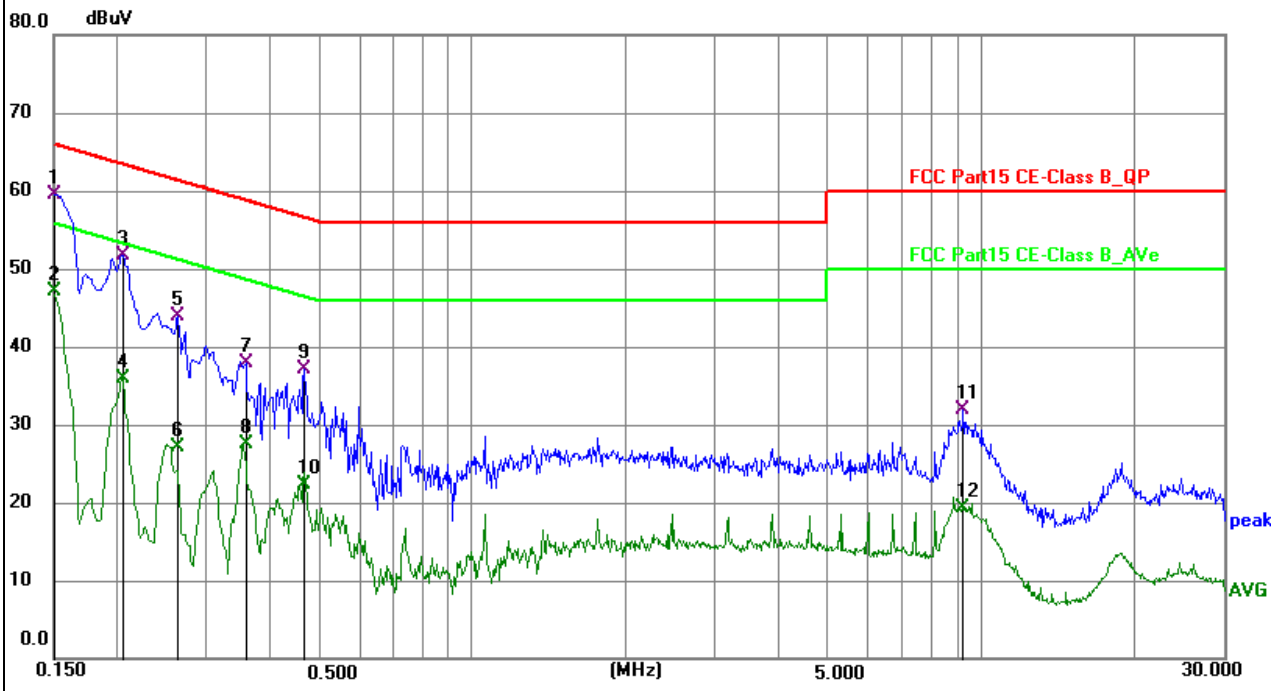
setup.

5.2.3 Test Setup



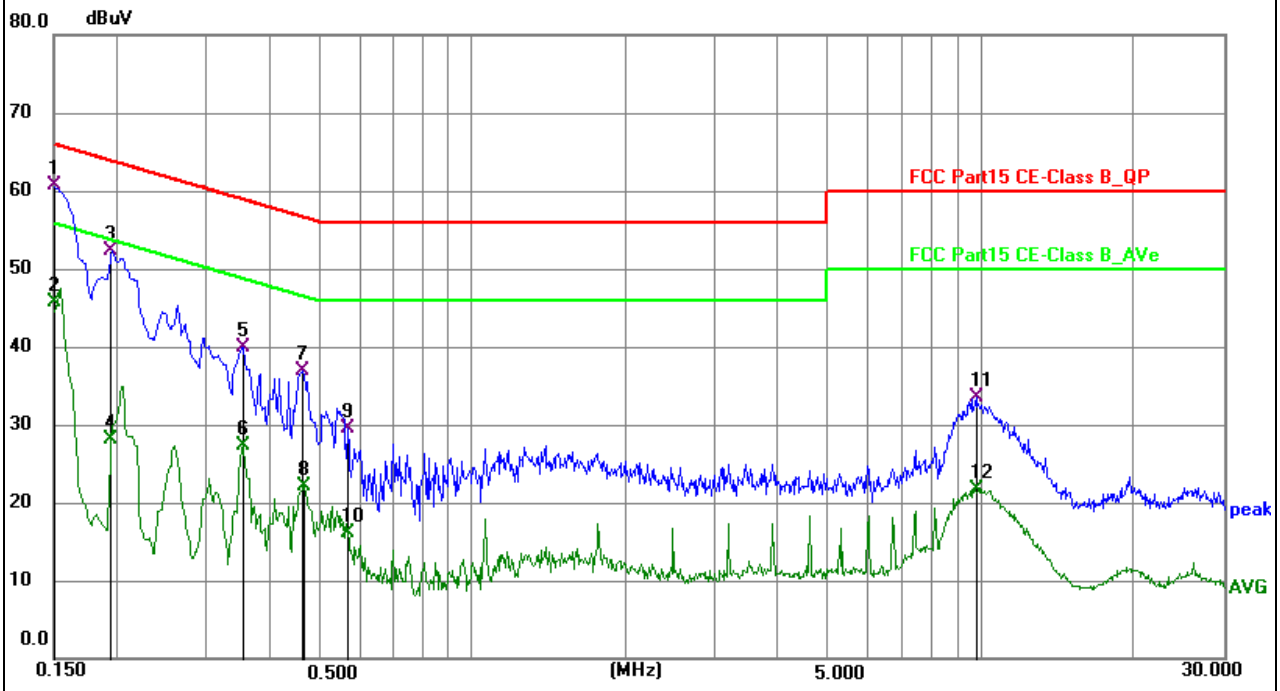
5.2.4 Test Result

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Test Mode:	Charging+TX	Phase:	L
Test Voltage:	DC 12V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1 *	0.150000	49.09	10.49	59.58	66.00	-6.42	QP
2	0.150000	36.67	10.49	47.16	56.00	-8.84	AVG
3	0.204000	41.25	10.47	51.72	63.45	-11.73	QP
4	0.204000	25.37	10.47	35.84	53.45	-17.61	AVG
5	0.262500	33.45	10.47	43.92	61.35	-17.43	QP
6	0.262500	16.67	10.47	27.14	51.35	-24.21	AVG
7	0.357000	27.42	10.48	37.90	58.80	-20.90	QP
8	0.357000	16.95	10.48	27.43	48.80	-21.37	AVG
9	0.465000	26.56	10.50	37.06	56.60	-19.54	QP
10	0.465000	11.86	10.50	22.36	46.60	-24.24	AVG
11	9.208400	21.40	10.57	31.97	60.00	-28.03	QP
12	9.208400	8.79	10.57	19.36	50.00	-30.64	AVG

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Test Mode:	Charging+TX	Phase:	N
Test Voltage:	DC 12V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1 *	0.150000	50.14	10.48	60.62	66.00	-5.38	QP
2	0.150000	35.28	10.48	45.76	56.00	-10.24	AVG
3	0.194900	41.68	10.53	52.21	63.83	-11.62	QP
4	0.194900	17.55	10.53	28.08	53.83	-25.75	AVG
5	0.352500	29.44	10.47	39.91	58.90	-18.99	QP
6	0.352500	16.88	10.47	27.35	48.90	-21.55	AVG
7	0.460500	26.53	10.41	36.94	56.68	-19.74	QP
8	0.465000	11.73	10.41	22.14	46.60	-24.46	AVG
9	0.568500	19.18	10.39	29.57	56.00	-26.43	QP
10	0.568500	5.64	10.39	16.03	46.00	-29.97	AVG
11	9.802500	22.91	10.57	33.48	60.00	-26.52	QP
12	9.802500	11.18	10.57	21.75	50.00	-28.25	AVG

5.3 Radiated Emission

5.3.1 Limits

1. For transmitters operating in the 5.15-5.25 GHz band:

All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

2. For transmitters operating in the 5.25-5.35 GHz band:

All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

3. For transmitters operating in the 5.47-5.725 GHz band:

All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

4. For transmitters operating in the 5.725-5.85 GHz band:

(i) 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.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

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

Frequency Range	RBW	VBW	Measurement
30MHz-1GHz	1MHz	3MHz	Peak
Above 1GHz	1MHz	10Hz[Note1]	Average
	1MHz	>1/T [Note2]	Average
Note1	When duty cycle is no less than 98%		

Note2	When duty cycle is less than 98%

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

5.3.2 Test Procedures

The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.

The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the floor on a support that is RF transparent for the frequencies of interest. Final measurements for the EUT require a measurement antenna height scan of 1 m to 4 m.

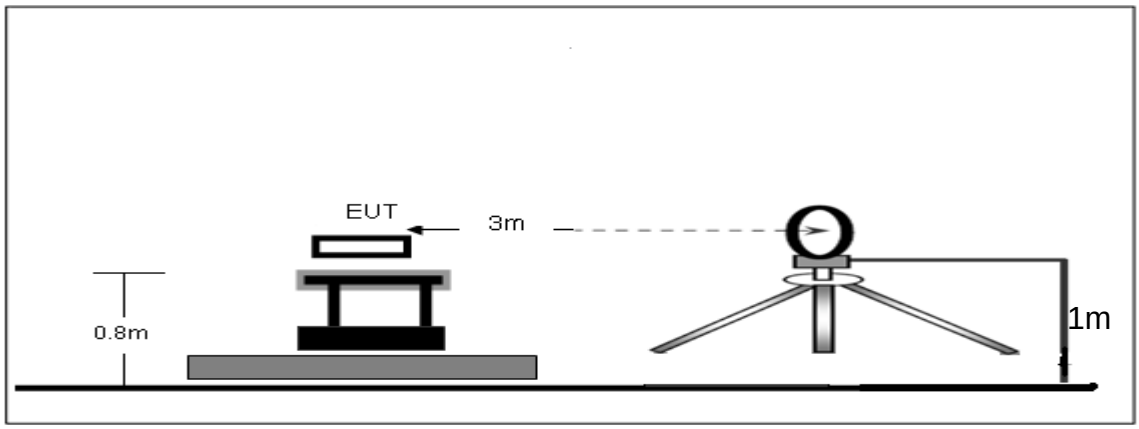
The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
For the actual test configuration, please refer to the related Item –EUT Test Photos.

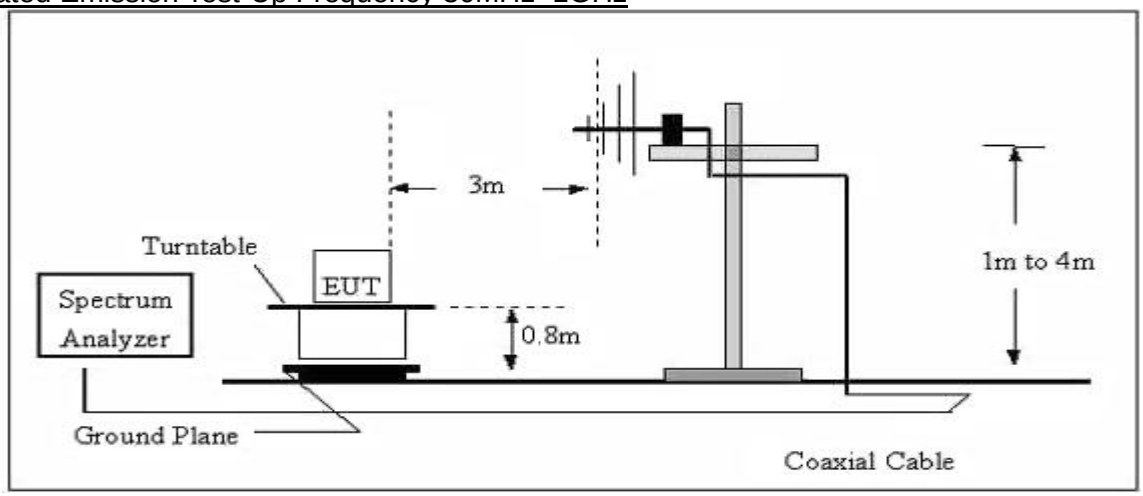
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

5.3.3 Test Setup

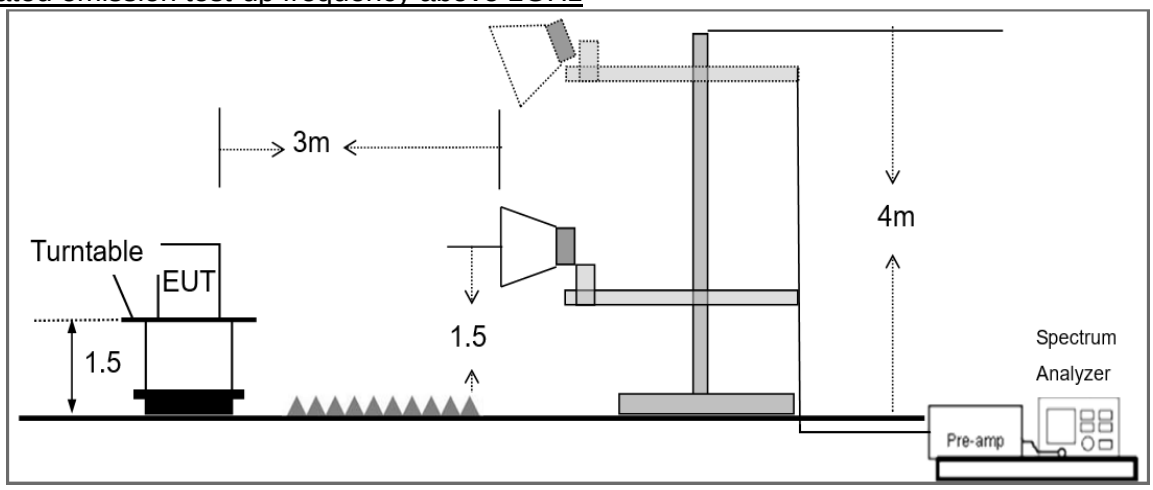
Radiated Emission Test-Up Frequency Below 30MHz



Radiated Emission Test-Up Frequency 30MHz~1GHz



Radiated emission test-up frequency above 1GHz



5.3.4 Test Result

Below 30MHz

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Pressure:	1010 hPa	Test Voltage:	DC 7.6V from battery
Test Mode:	TX	Polarization:	--

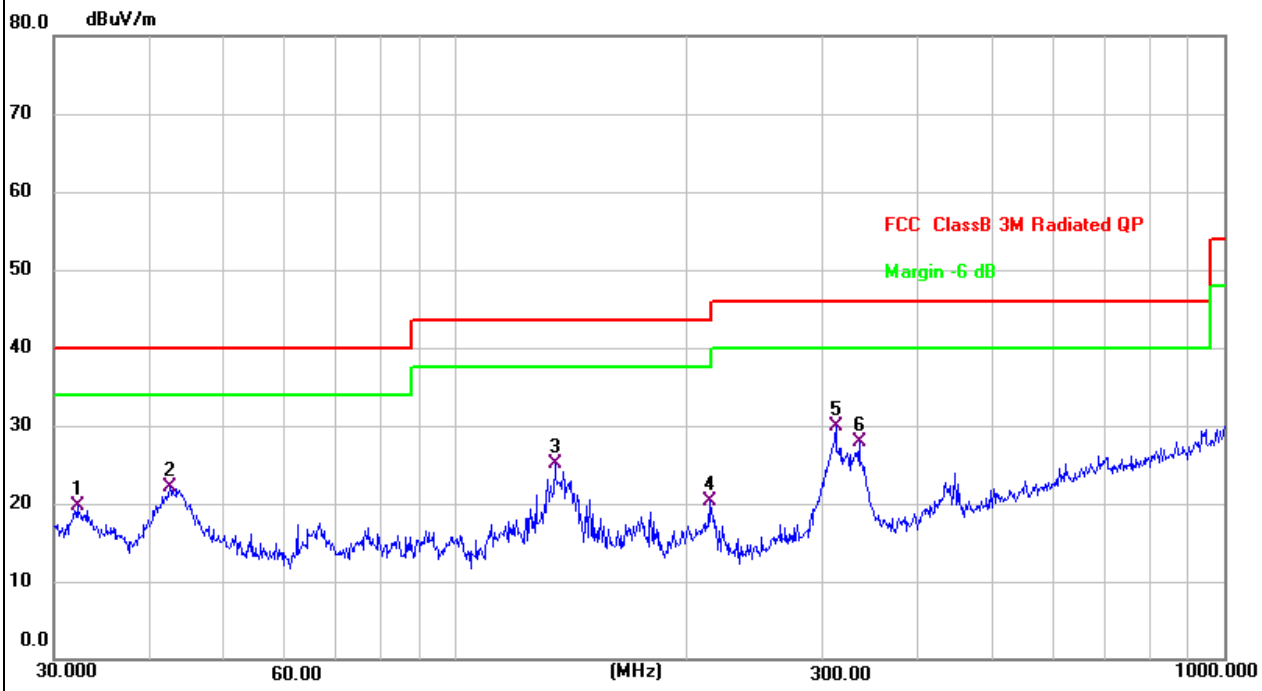
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	Pass
--	--	--	--	Pass

Note:

1. For 9kHz-30MHz, the amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
2. Distance extrapolation factor =40 log (specific distance/test distance)(dB);
3. Limit line = specific limits (dBuV) + distance extrapolation factor.

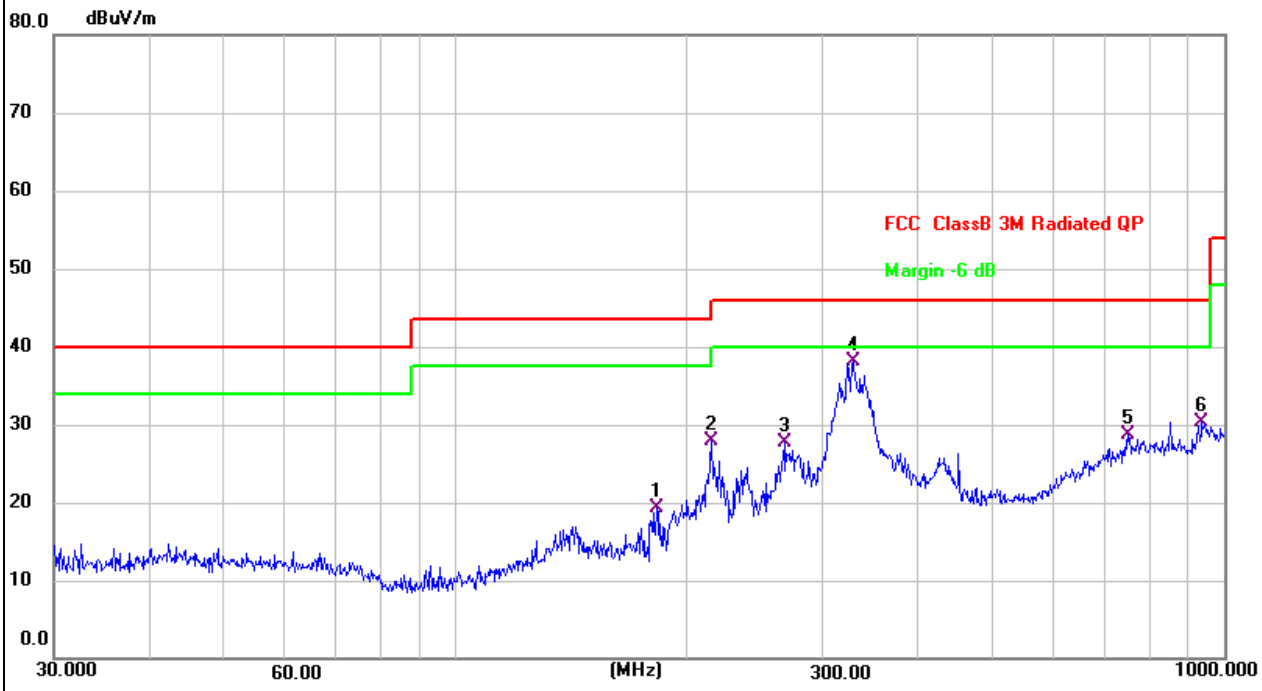
Frequency range (30MHz – 1GHz)

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Test Mode:	TX	Phase:	Vertical
Test Voltage:	DC 7.6V from battery		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.1795	34.73	-15.10	19.63	40.00	-20.37	QP
2	42.4508	36.26	-14.13	22.13	40.00	-17.87	QP
3	134.5592	39.52	-14.45	25.07	43.50	-18.43	QP
4	213.7634	37.12	-16.80	20.32	43.50	-23.18	QP
5 *	312.1794	42.14	-12.26	29.88	46.00	-16.12	QP
6	334.8589	39.42	-11.52	27.90	46.00	-18.10	QP

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Test Mode:	TX	Phase:	Horizontal
Test Voltage:	DC 7.6V from battery		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	182.5592	34.77	-15.48	19.29	43.50	-24.21	QP
2	215.2678	44.68	-16.75	27.93	43.50	-15.57	QP
3	267.5455	41.69	-14.00	27.69	46.00	-18.31	QP
4 *	329.0390	49.85	-11.74	38.11	46.00	-7.89	QP
5	750.1083	29.94	-1.32	28.62	46.00	-17.38	QP
6	935.5463	29.23	0.98	30.21	46.00	-15.79	QP

Frequency range (1GHz-40GHz)
For U-NII-3

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G									
Vertical	4679.136	58.39	5.94	35.40	44.00	55.73	74.00	-18.27	Pk
Vertical	4679.136	46.77	5.94	35.40	44.00	44.11	54.00	-9.89	AV
Vertical	11490.052	59.59	8.46	39.75	44.50	63.30	74.00	-10.70	Pk
Vertical	11490.052	45.58	8.46	39.75	44.50	49.29	54.00	-4.71	AV
Vertical	17235.261	58.36	10.12	38.80	44.10	63.18	74.00	-10.82	Pk
Horizontal	17235.261	40.99	10.12	38.80	42.70	47.21	54.00	-6.79	Pk
Horizontal	4679.135	58.62	5.94	35.18	44.00	55.74	74.00	-18.26	AV
Horizontal	4679.135	45.70	5.94	35.18	44.00	42.82	54.00	-11.18	Pk
Horizontal	11490.302	59.71	8.46	38.71	44.50	62.38	74.00	-11.62	AV
Horizontal	11490.302	44.73	8.46	38.71	44.50	47.40	54.00	-6.60	Pk
middle Channel (5785 MHz)-Above 1G									
Vertical	4592.208	58.18	6.48	36.35	44.05	56.96	74.00	-17.04	Pk
Vertical	4592.208	44.82	6.48	36.35	44.05	43.60	54.00	-10.40	AV
Vertical	11570.136	60.63	8.47	37.88	44.51	62.47	74.00	-11.53	Pk
Vertical	11570.136	44.98	8.47	37.88	44.51	46.82	54.00	-7.18	AV
Vertical	17355.249	58.90	10.12	38.8	44.10	63.72	74.00	-10.28	Pk
Horizontal	17355.249	41.19	10.12	38.8	42.70	47.41	54.00	-6.59	Pk
Horizontal	4592.138	60.36	6.48	36.37	44.05	59.16	74.00	-14.84	AV
Horizontal	4592.138	44.75	6.48	36.37	44.05	43.55	54.00	-10.45	Pk
Horizontal	11570.256	61.42	8.47	38.64	44.50	64.03	74.00	-9.97	AV
Horizontal	11570.256	46.67	8.47	38.64	44.50	49.28	54.00	-4.72	Pk
High Channel (5825 MHz)-Above 1G									
Vertical	5039.156	60.63	7.10	37.24	43.50	61.47	74.00	-12.53	Pk
Vertical	5039.156	46.34	7.10	37.24	43.50	47.18	54.00	-6.82	AV
Vertical	11650.131	56.97	8.46	37.68	44.50	58.61	74.00	-15.39	Pk
Vertical	11650.131	42.69	8.46	37.68	44.50	44.33	54.00	-9.67	AV
Vertical	17475.289	59.85	10.12	38.8	44.10	64.67	74.00	-9.33	Pk
Horizontal	17475.289	41.52	10.12	38.8	42.70	47.74	54.00	-6.26	Pk
Horizontal	5039.316	68.11	7.10	37.24	43.50	68.95	74.00	-5.05	AV
Horizontal	5039.316	42.51	7.10	37.24	43.50	43.35	54.00	-10.65	Pk
Horizontal	11650.203	58.40	8.46	38.57	44.50	60.93	74.00	-13.07	AV
Horizontal	11650.203	43.89	8.46	38.57	44.50	46.42	54.00	-7.58	Pk

Note:
All modes have been tested, and only the worst mode 802.11a mode is mentioned in the report.

5.3.5 Radiated Band Edge

For U-NII-3
For 802.11a mode: (CH149 5745MHz)

Polarization	Frequency	Read Lavel	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5725	67.11	8.69	29.4	42.59	62.61	74	-11.39	Pk
Horizontal	5850	63.30	9.37	30.41	43.25	59.83	74	-14.17	Pk
Vertical	5725	68.90	9.21	29.4	42.59	64.92	74	-9.08	Pk
Vertical	5850	61.06	9.12	30.41	43.25	57.34	74	-16.66	Pk
Horizontal	5725	45.71	8.69	29.4	42.59	41.21	54	-12.79	AV
Horizontal	5850	49.91	8.46	30.41	43.25	45.53	54	-8.47	AV
Vertical	5725	48.59	9.21	29.4	42.59	44.61	54	-9.39	AV
Vertical	5850	50.96	9.12	30.41	43.25	47.24	54	-6.76	AV

For 802.11n-(HT20) mode: (CH149 5745MHz)

Polarization	Frequency	Read Lavel	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5725	67.91	8.69	29.4	42.59	63.41	74	-10.59	Pk
Horizontal	5850	63.96	9.37	30.41	43.25	60.49	74	-13.51	Pk
Vertical	5725	70.19	9.21	29.4	42.59	66.21	74	-7.79	Pk
Vertical	5850	60.81	9.12	30.41	43.25	57.09	74	-16.91	Pk
Horizontal	5725	47.67	8.69	29.4	42.59	43.17	54	-10.83	AV
Horizontal	5850	50.36	8.46	30.41	43.25	45.98	54	-8.02	AV
Vertical	5725	48.92	9.21	29.4	42.59	44.94	54	-9.06	AV
Vertical	5850	51.86	9.12	30.41	43.25	48.14	54	-5.86	AV

For 802.11n-(HT40) mode: (CH151 5755MHz)

Polarization	Frequency	Read Lavel	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5725	67.70	8.69	29.4	42.59	63.20	74	-10.80	Pk
Horizontal	5850	62.63	9.37	30.41	43.25	59.16	74	-14.84	Pk
Vertical	5725	69.84	9.21	29.4	42.59	65.86	74	-8.14	Pk
Vertical	5850	59.75	9.12	30.41	43.25	56.03	74	-17.97	Pk
Horizontal	5725	45.82	8.69	29.4	42.59	41.32	54	-12.68	AV
Horizontal	5850	51.05	8.46	30.41	43.25	46.67	54	-7.33	AV
Vertical	5725	48.90	9.21	29.4	42.59	44.92	54	-9.08	AV
Vertical	5850	51.05	9.12	30.41	43.25	47.33	54	-6.67	AV

For 802.11n-(ac80) mode: (CH155 5775MHz)

Polarization	Frequency	Read Lavel	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5725	67.83	8.69	29.4	42.59	63.33	74	-10.67	Pk
Horizontal	5850	64.73	9.37	30.41	43.25	61.26	74	-12.74	Pk
Vertical	5725	67.73	9.21	29.4	42.59	63.75	74	-10.25	Pk
Vertical	5850	61.26	9.12	30.41	43.25	57.54	74	-16.46	Pk
Horizontal	5725	47.39	8.69	29.4	42.59	42.89	54	-11.11	AV
Horizontal	5850	47.04	8.46	30.41	43.25	42.66	54	-11.34	AV
Vertical	5725	45.84	9.21	29.4	42.59	41.86	54	-12.14	AV
Vertical	5850	48.72	9.12	30.41	43.25	45.00	54	-9.00	AV

5.4 Peak Output Power

5.4.1 Limit

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.

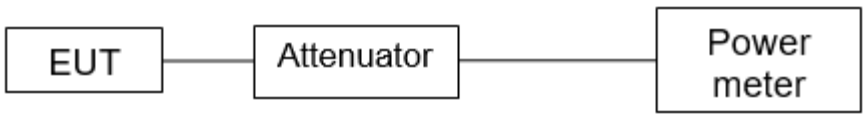
For the band 5.725-5.85 GHz

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.

5.4.2 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.

5.4.3 Test Setup



5.4.4 Test Results

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Test Mode:	TX	Test Voltage:	DC 7.6V from battery

For U-NII-3

Modulation mode	Test Channel	Frequency(MHz)	Peak Output Power		Limit(mW)
			(dBm)	(mW)	
11a	CH149	5745	7.42	5.52	1000
11a	CH157	5785	7.48	5.60	1000
11a	CH165	5825	6.97	4.98	1000
11n (HT20)	CH149	5745	7.28	5.35	1000
11n (HT20)	CH157	5785	7.22	5.27	1000
11n (HT20)	CH165	5825	7.14	5.18	1000
11n (HT40)	CH151	5755	6.83	4.82	1000
11n (HT40)	CH159	5795	7.24	5.30	1000

Modulation mode	Test Channel	Frequency(MHz)	Peak Output Power		Limit(mW)
			(dBm)	(mW)	
11ac (HT20)	CH149	5745	7.23	5.28	1000
11ac (HT20)	CH157	5785	7.3	5.37	1000
11ac (HT20)	CH165	5825	7.2	5.25	1000
11ac (HT40)	CH151	5755	6.78	4.76	1000
11ac (HT40)	CH159	5795	6.7	4.68	1000
11ac (HT80)	CH155	5775	6.93	4.93	1000

5.5 Power Spectral Density

5.5.1 Limit

For the band 5.15-5.25 GHz
For client devices in the 5.15-5.25 GHz band, 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, 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 5.25-5.35 GHz and 5.47-5.725 GHz
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, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

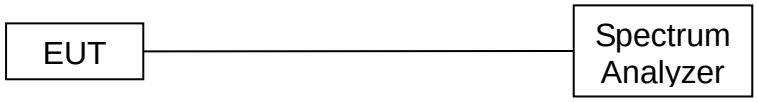
For the band 5.725-5.85 GHz
The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.5.2 Test Procedure

For U-NII-1
1. Set analyzer center frequency to NII channel center frequency.
2. Set the RBW ≥ 1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

For U-NII-3
1. Set analyzer center frequency to NII channel center frequency.
2. Set the RBW ≥ 500kHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

5.5.3 Test Setup

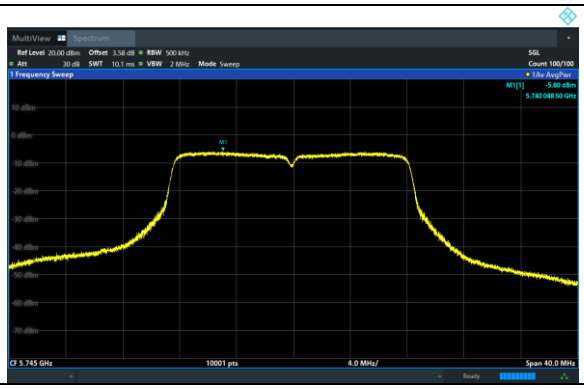
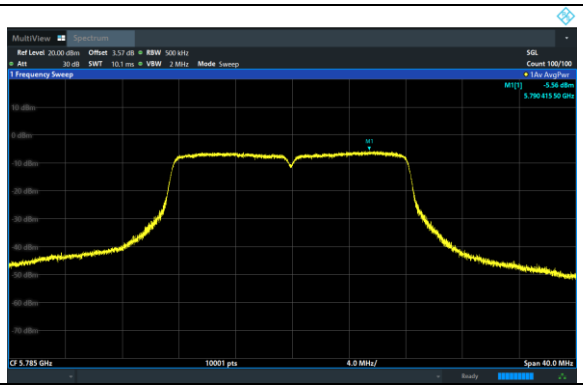
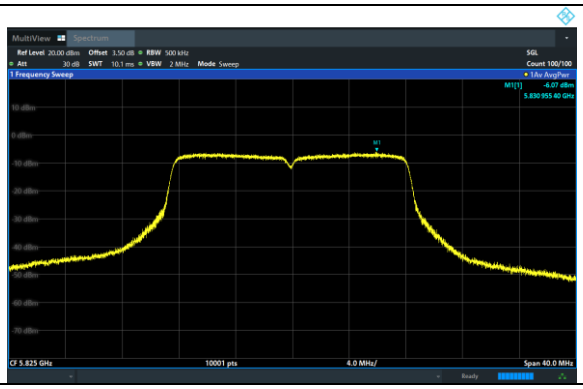
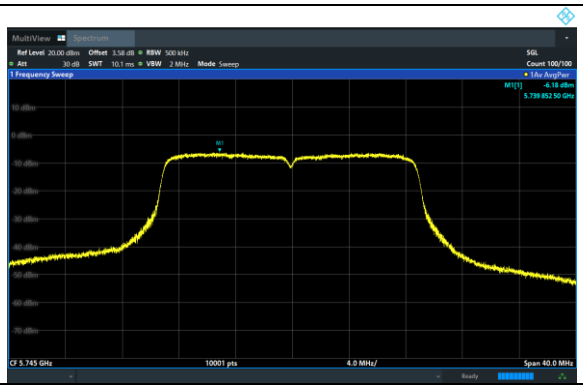
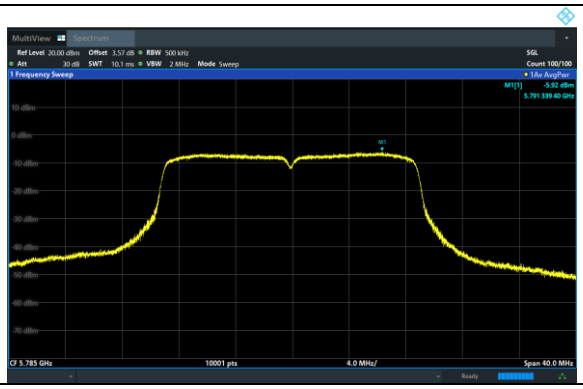
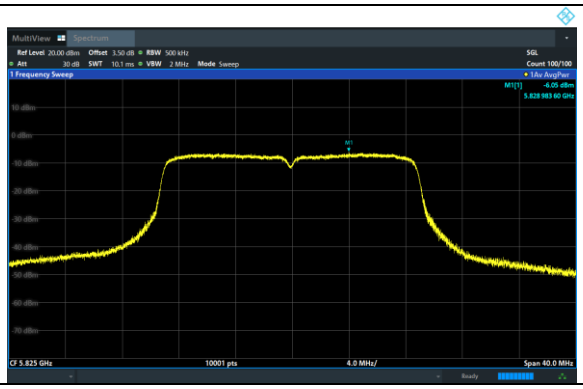


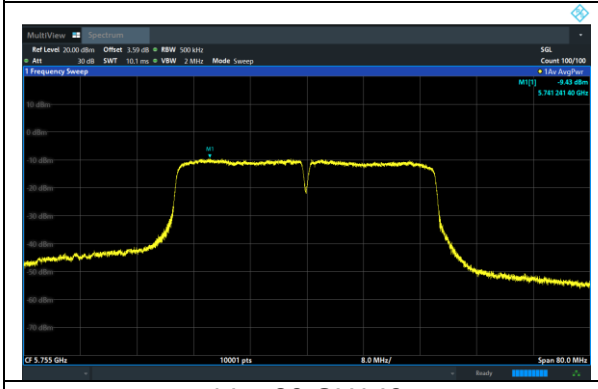
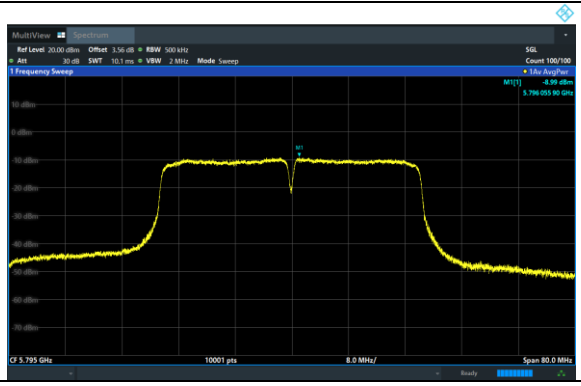
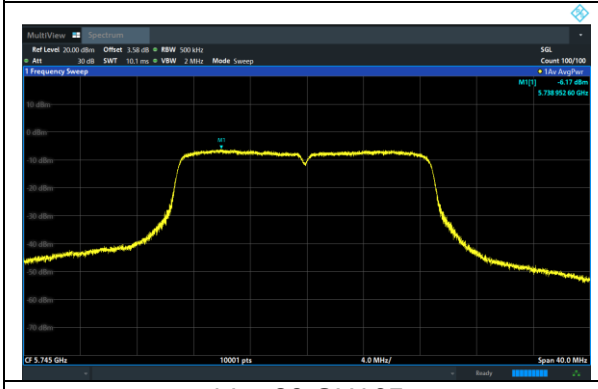
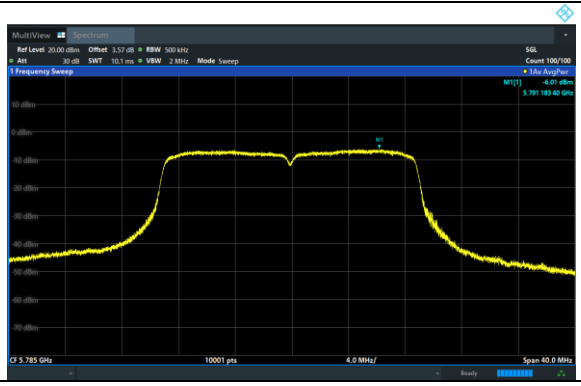
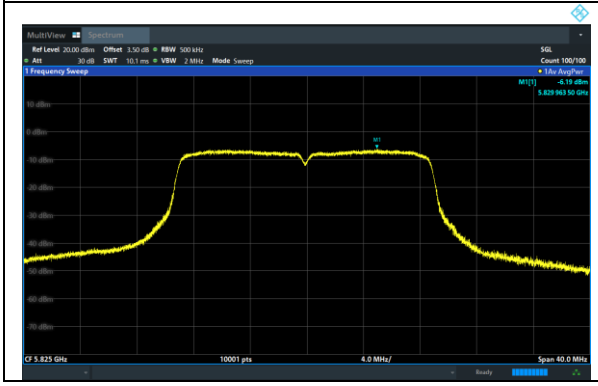
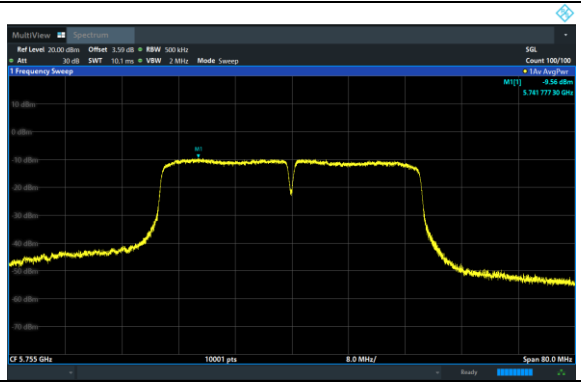
5.5.4 Test Results

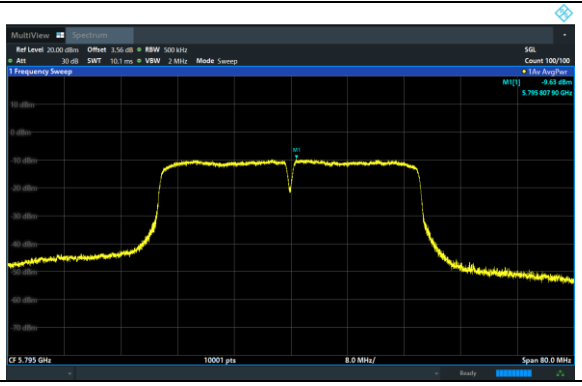
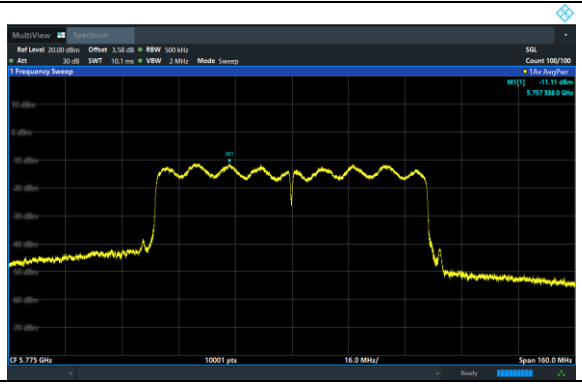
For U-NII-3

Mode	Channel	Frequency (MHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
11a	CH149	5745	-5.80	30	Pass
11a	CH157	5785	-5.56	30	Pass
11a	CH165	5825	-6.07	30	Pass
11n20	CH149	5745	-6.18	30	Pass
11n20	CH157	5785	-5.92	30	Pass
11n20	CH165	5825	-6.05	30	Pass
11n40	CH151	5755	-9.43	30	Pass
11n40	CH159	5795	-8.99	30	Pass
11ac20	CH149	5745	-6.17	30	Pass
11ac20	CH157	5785	-6.01	30	Pass
11ac20	CH165	5825	-6.19	30	Pass
11ac40	CH151	5755	-9.56	30	Pass
11ac40	CH159	5795	-9.63	30	Pass
11ac80	CH155	5775	-11.11	30	Pass

Test plots
For U-NII-3

11a CH149	11a CH157
	
11a CH165	11n20 CH149
	
11n20 CH157	11n20 CH165
	

11n40 CH151	11n40 CH159
	
11ac20 CH149	**11ac20 CH157**
	
11ac20 CH165	**11ac40 CH151**
	

11ac40 CH159	11ac80 CH155
	

5.6 26dB Emission Bandwidth and Occupied 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

26dB 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

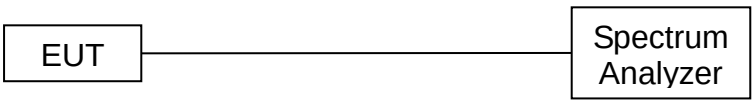
Set RBW = 1% to 5% of the OBW.

Set VBW ≥ 3*RBW, Detector = Peak.

Trace mode = Max hold.

Use the 99% power bandwidth function of the instrument.

5.6.3 Test Setup



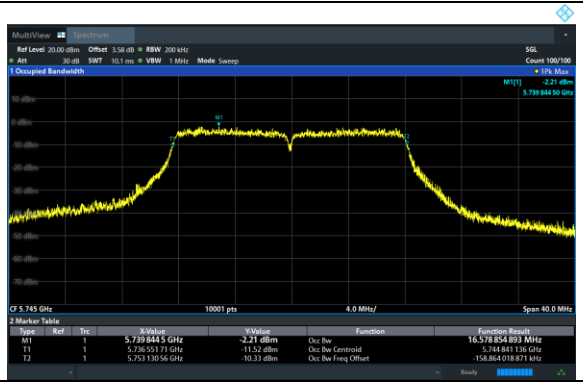
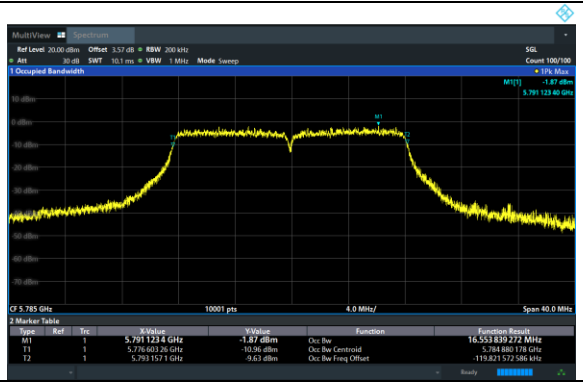
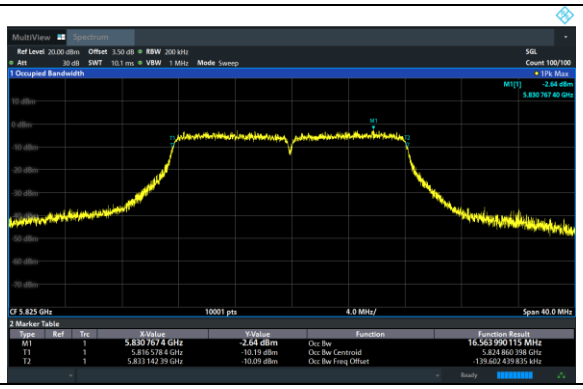
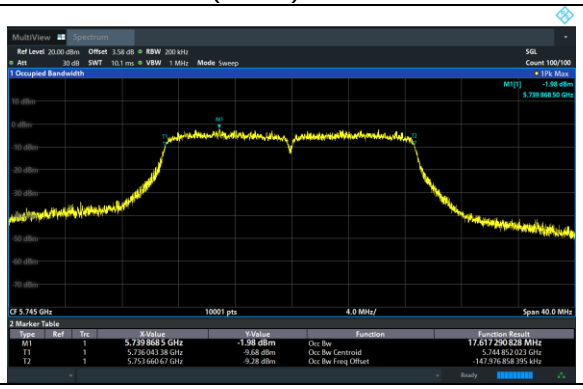
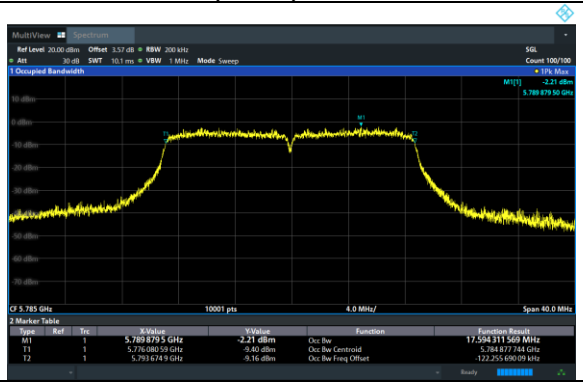
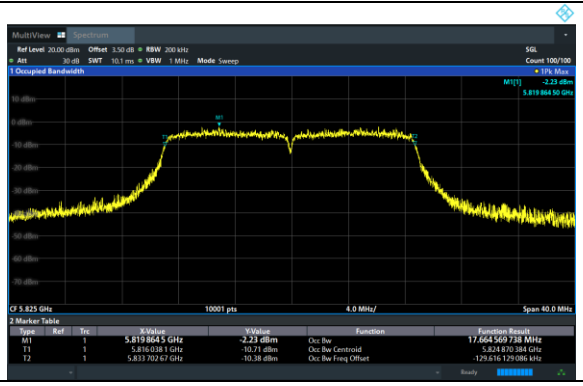
5.6.4 Test Results

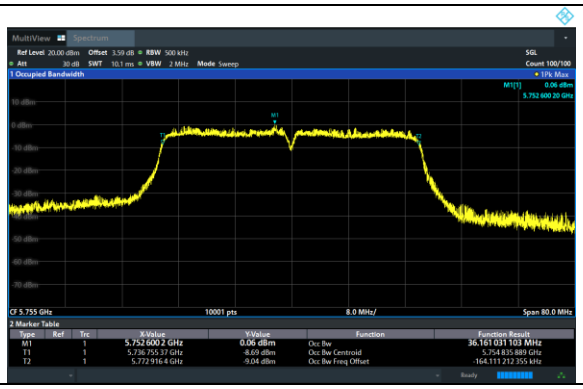
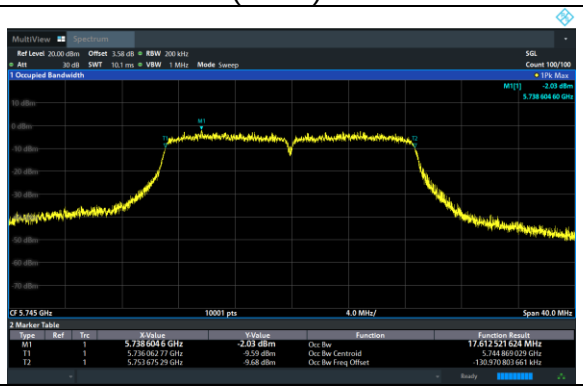
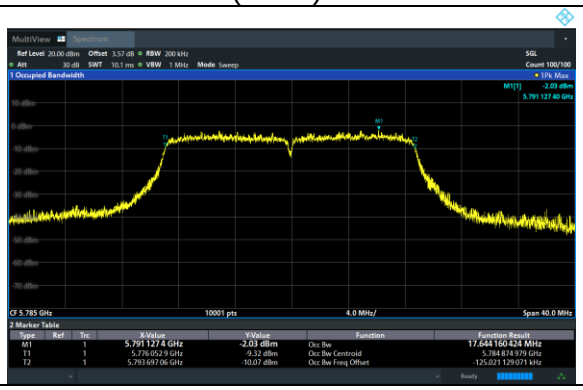
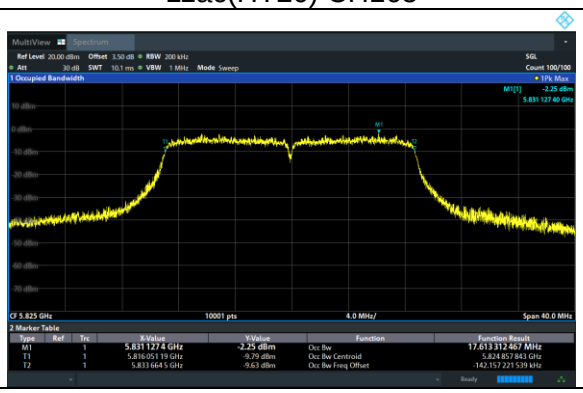
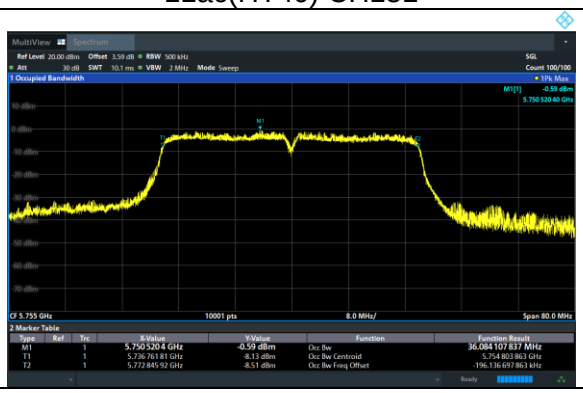
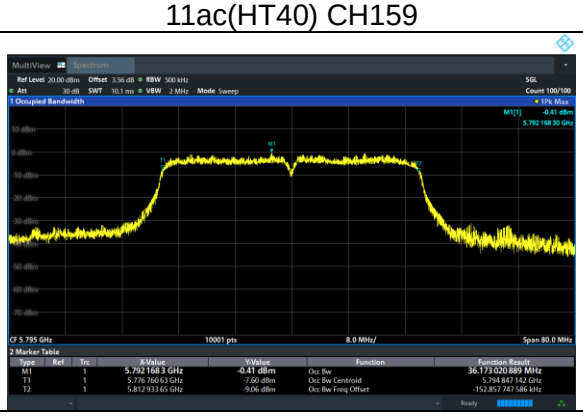
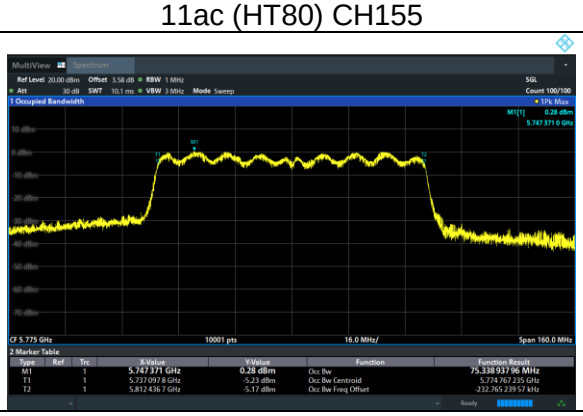
For U-NII-3

Channel	Test Channel	Frequency (MHz)	99% bandwidth	Limit (kHz)	Result
11a	CH149	5745	16.579	/	Pass
11a	CH157	5785	16.554	/	Pass
11a	CH165	5825	16.564	/	Pass
11n (HT20)	CH149	5745	17.617	/	Pass
11n (HT20)	CH157	5785	17.594	/	Pass
11n (HT20)	CH165	5825	17.665	/	Pass
11n (HT40)	CH151	5755	36.161	/	Pass
11n (HT40)	CH159	5795	36.149	/	Pass

Channel	Test Channel	Frequency (MHz)	99% bandwidth	Limit (kHz)	Result
11ac (HT20)	CH149	5745	17.613	/	Pass
11ac (HT20)	CH157	5785	17.644	/	Pass
11ac (HT20)	CH165	5825	17.613	/	Pass
11ac (HT40)	CH151	5755	36.084	/	Pass
11ac (HT40)	CH159	5795	36.173	/	Pass
11ac (HT80)	CH155	5775	75.339	/	Pass

For U-NII-3

11a CH149	11a CH157
	
11a CH165	**11n(HT20) CH149**
	
11n(HT20) CH157	**11n(HT20) CH165**
	

11n (HT40) CH151	11n (HT40) CH159
	
11ac (HT20) CH149	**11ac (HT20) CH157**
	
11ac(HT20) CH165	**11ac(HT40) CH151**
	
11ac(HT40) CH159	**11ac (HT80) CH155**
	

5.7 6 dB Bandwidth

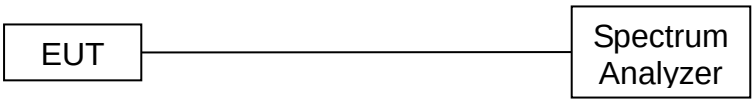
5.7.1 Limit

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

5.7.2 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.

5.7.3 Test Setup



5.7.4 Test Results

EUT:	PRONEXT DIGITAL CALENDAR	Model Name:	GD-DC01
Test Mode:	Charging+TX	Test Voltage:	DC 7.6V from battery

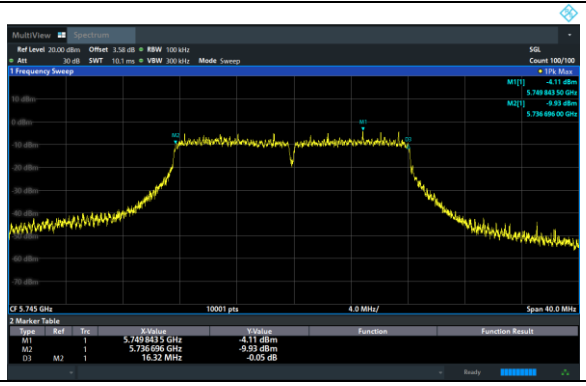
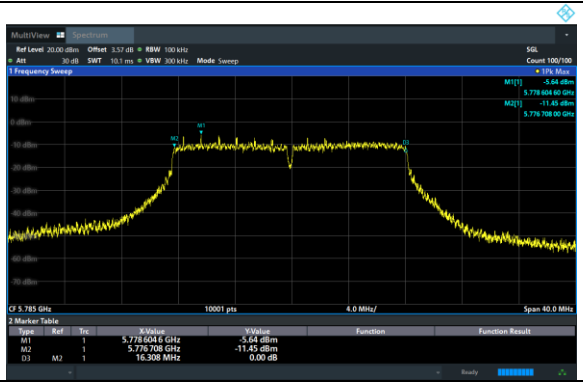
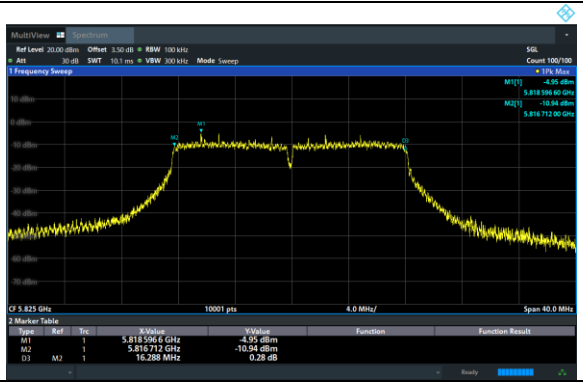
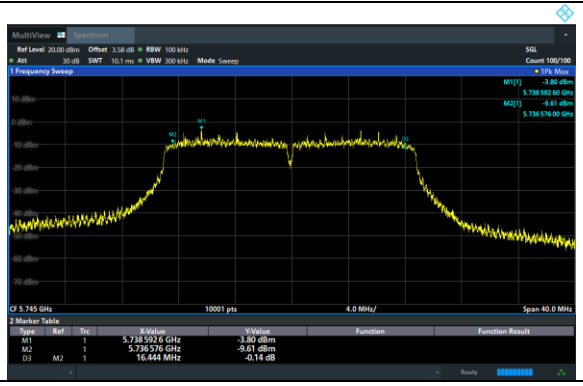
For U-NII-3

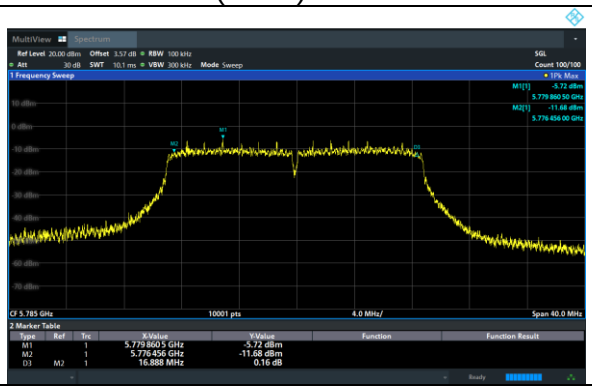
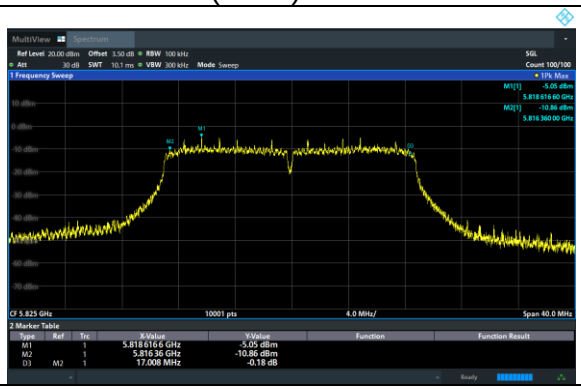
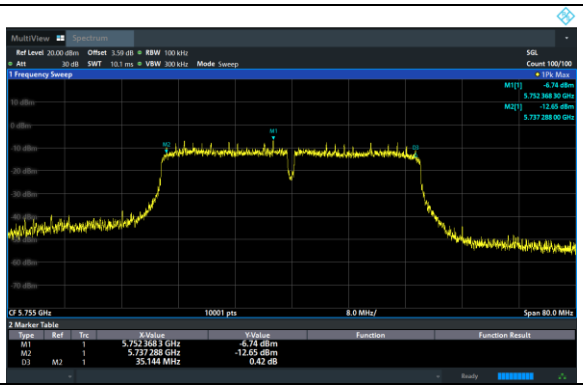
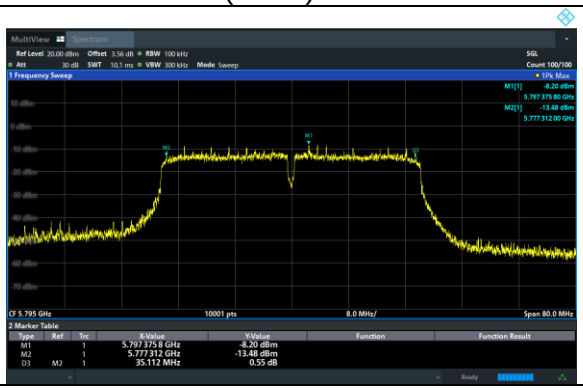
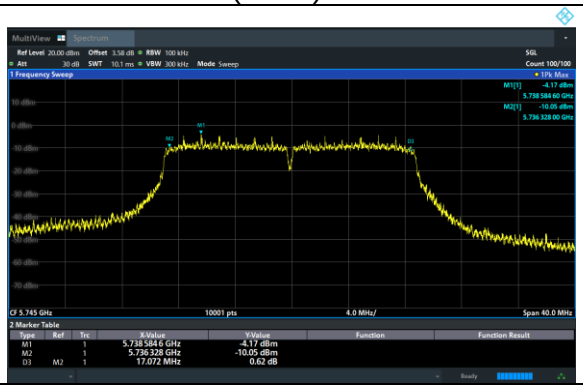
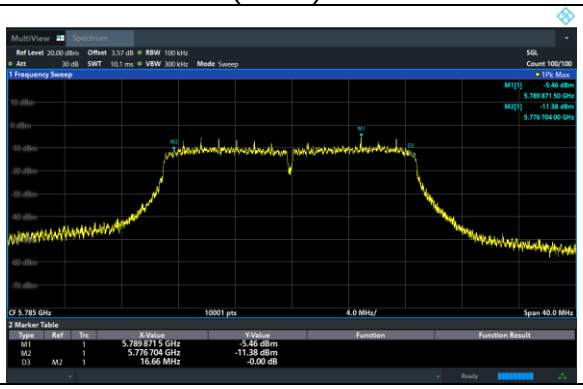
Channel	Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
11a	CH149	5745	16.32	500	Pass
11a	CH157	5785	16.308	500	Pass
11a	CH165	5825	16.288	500	Pass
11n (HT20)	CH149	5745	16.444	500	Pass
11n (HT20)	CH157	5785	16.888	500	Pass
11n (HT20)	CH165	5825	17.008	500	Pass
11n (HT40)	CH151	5755	35.144	500	Pass
11n (HT40)	CH159	5795	35.112	500	Pass

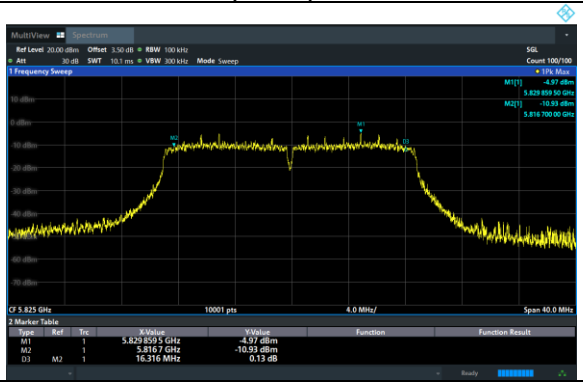
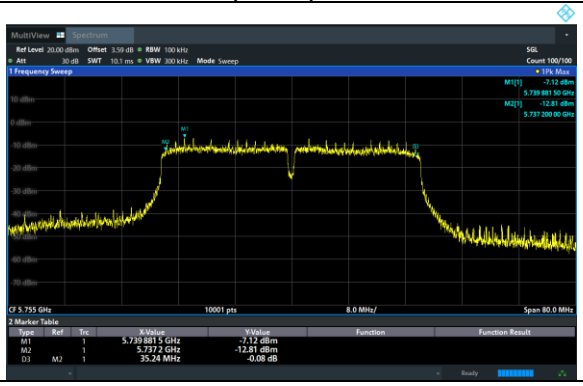
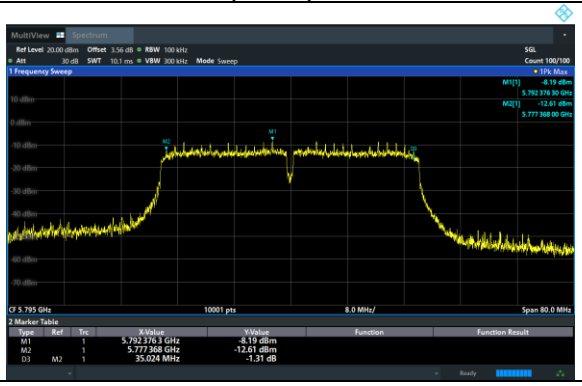
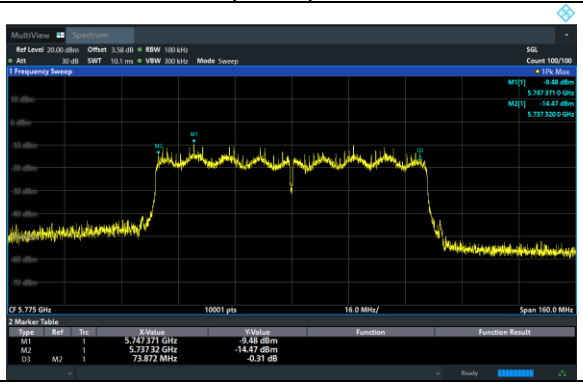
Channel	Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
11ac (HT20)	CH149	5745	17.072	500	Pass
11ac (HT20)	CH157	5785	16.66	500	Pass
11ac (HT20)	CH165	5825	16.316	500	Pass
11ac (HT40)	CH151	5755	35.24	500	Pass
11ac (HT40)	CH159	5795	35.024	500	Pass
11ac (HT80)	CH155	5775	73.872	500	Pass

Test plots:

For U-NII-3

11a CH149	11a CH157
	
11a CH165	**11n(HT20) CH149**
	

11n(HT20) CH157	11n(HT20) CH165
	
11n (HT40) CH151	**11n (HT40) CH159**
	
11ac (HT20) CH149	**11ac (HT20) CH157**
	

11ac(HT20) CH165	11ac(HT40) CH151
	
11ac(HT40) CH159	**11ac(HT80) CH155**
	

5.8 Out Of Band Emission

5.8.1 Limit

According to FCC §15.407(b).

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:

(1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

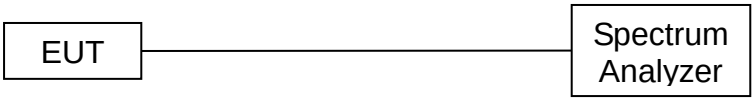
(4) For transmitters operating solely in the 5.725–5.850 GHz band:

(i) 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.

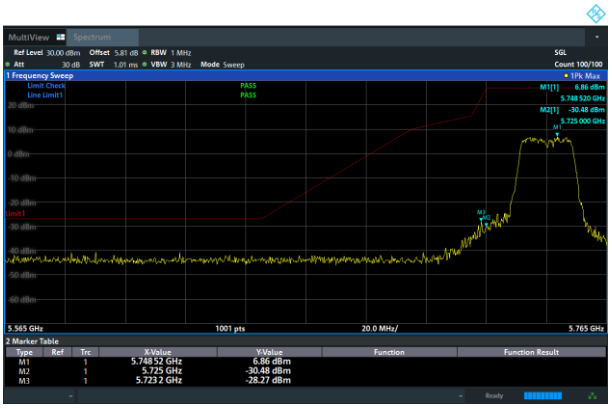
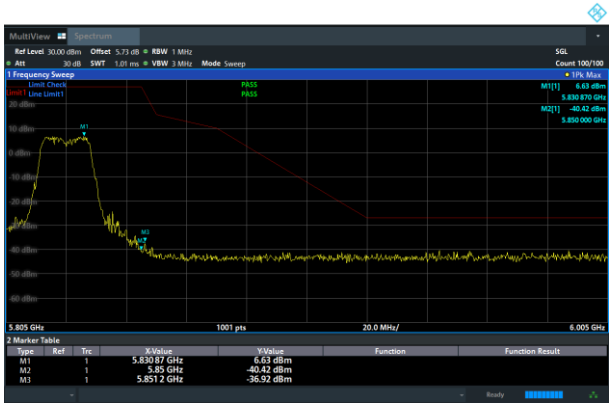
5.8.2 Test Procedure

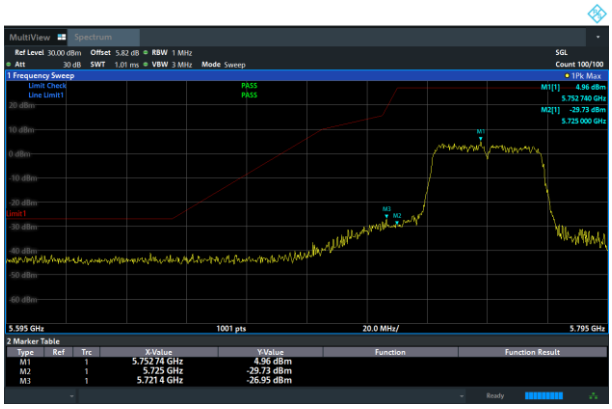
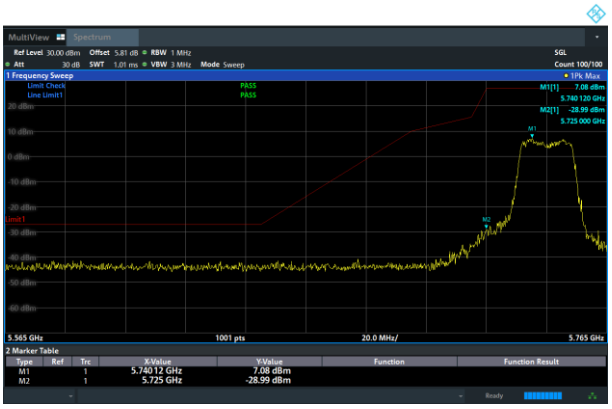
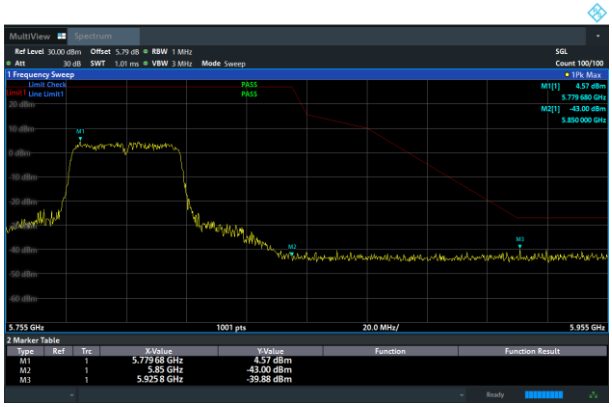
a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then 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 of spectrum analyzer to 1 MHz with a convenient frequency span.
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.

5.8.3 Test Setup



5.8.4 Test Results

5725-5850 MHz	
(802.11a) Band Edge, Left Side	(802.11n20) Band Edge, Left Side
	
(802.11a) Band Edge, Right Side	(802.11n20) Band Edge, Right Side
	

5725-5850 MHz	
(802.11n40) Band Edge, Left Side	(802.11ac20) Band Edge, Left Side
	
(802.11n40) Band Edge, Right Side	(802.11ac20) Band Edge, Right Side
	

5725-5850 MHz	
(802.11ac40) Band Edge, Left Side	(802.11ac80) Band Edge, Left Side
	
(802.11ac40) Band Edge, Right Side	/
	/

5.9 Spurious RF Conducted Emissions

5.9.1 Limit

According to FCC §15.407(b).

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:

(1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

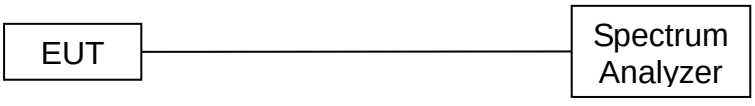
(4) For transmitters operating solely in the 5.725–5.850 GHz band:

(i) 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.

5.9.2 Test Procedure

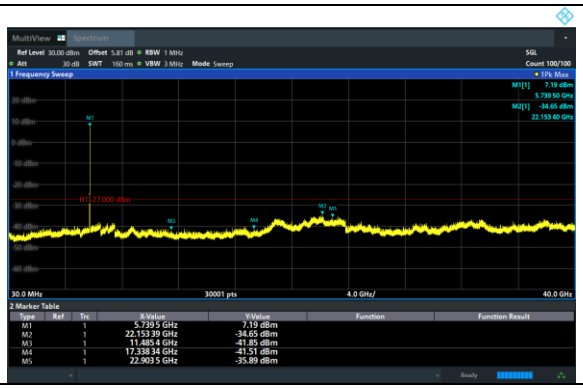
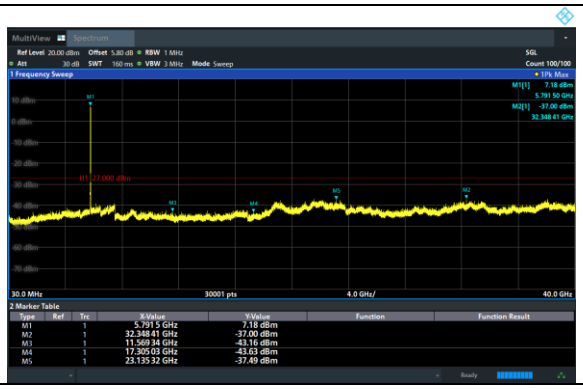
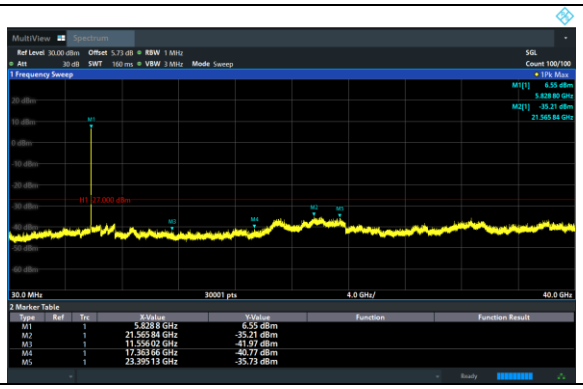
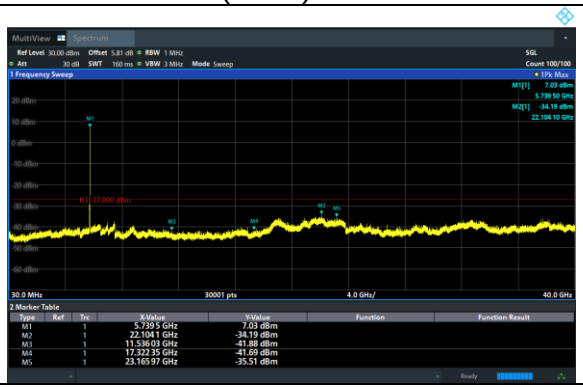
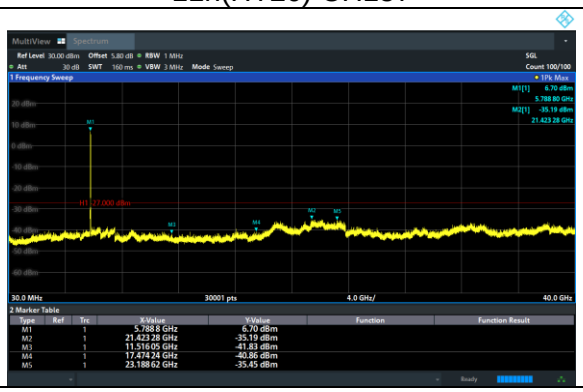
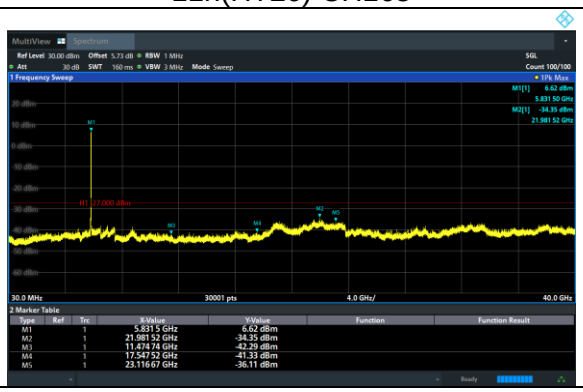
The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2020 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300kHz to measure the peak field strength, and measure frequency range from 9kHz to 26.5GHz.

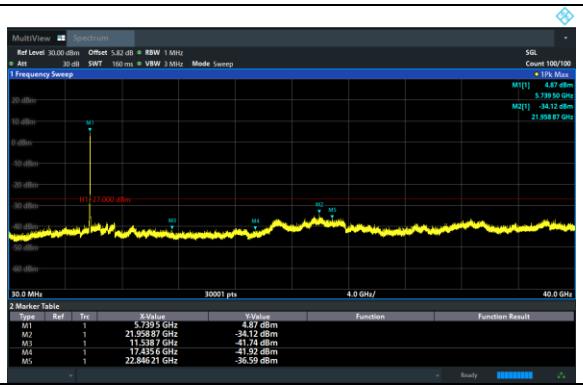
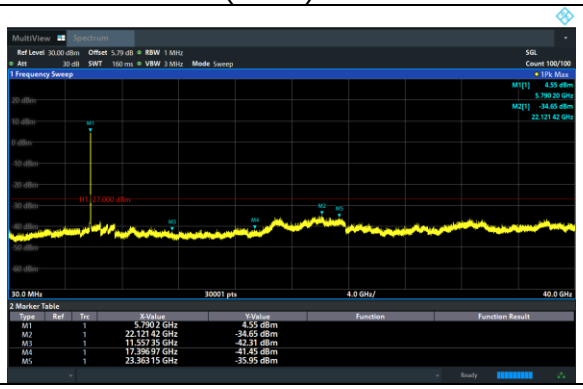
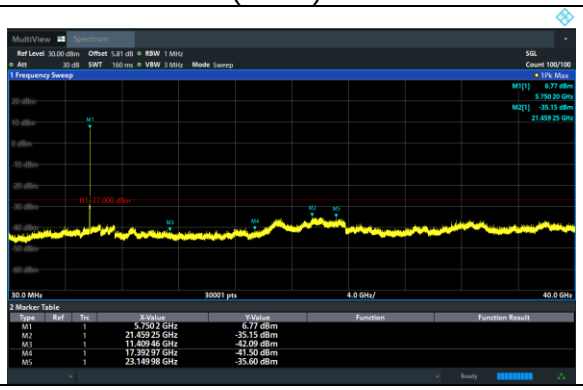
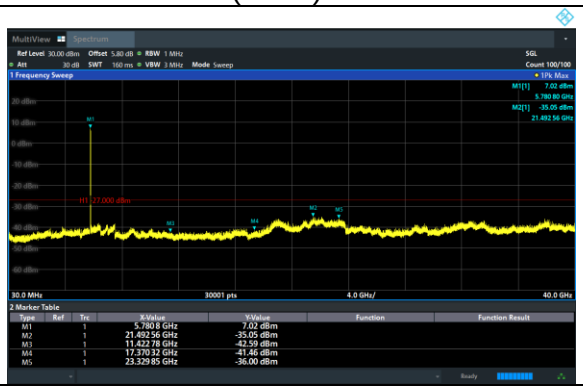
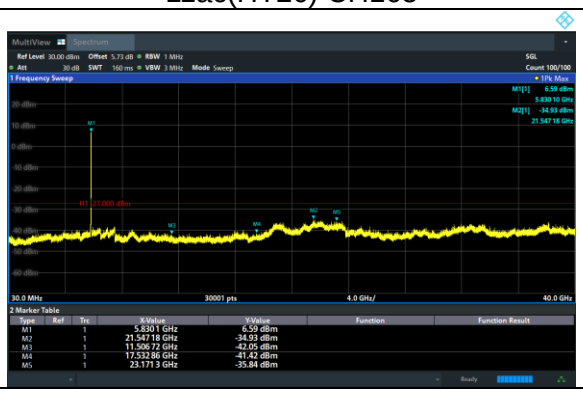
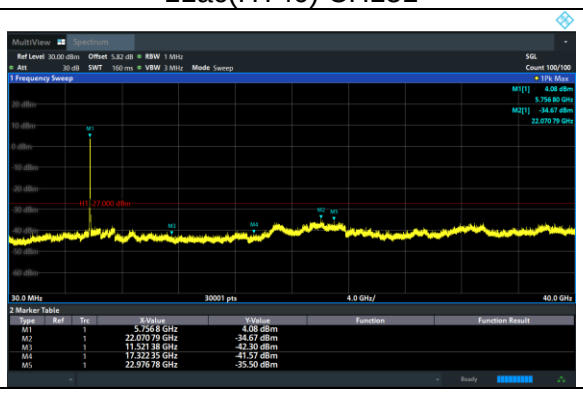
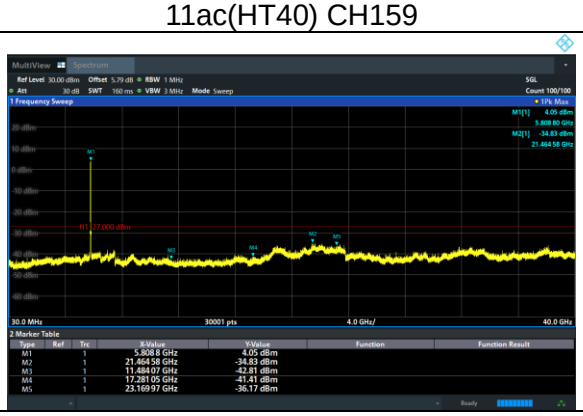
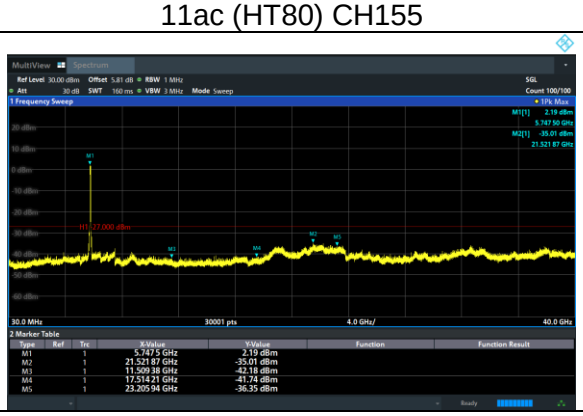
5.9.3 Test Setup



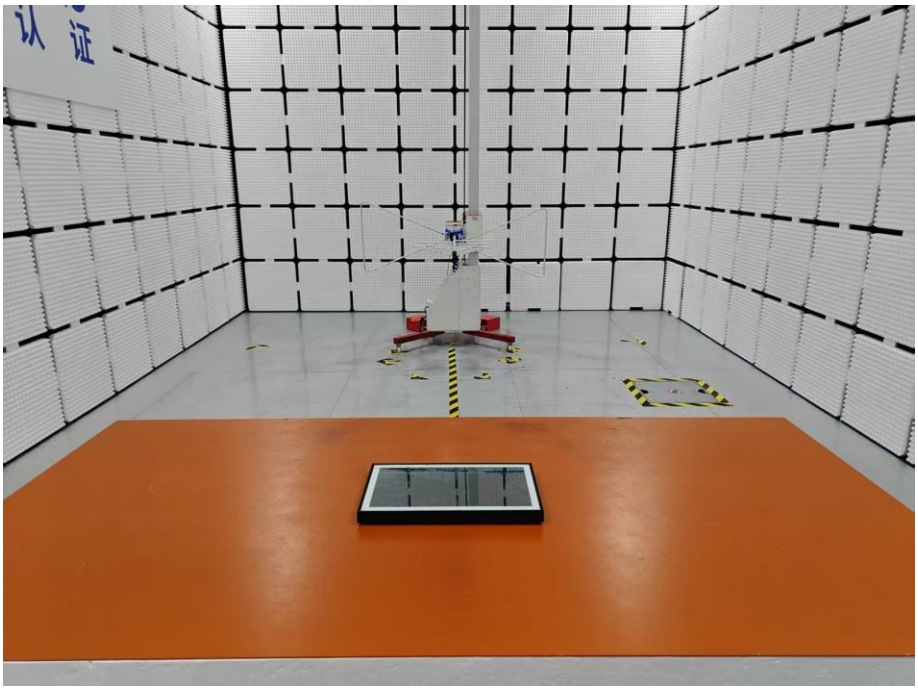
5.9.4 Test Results

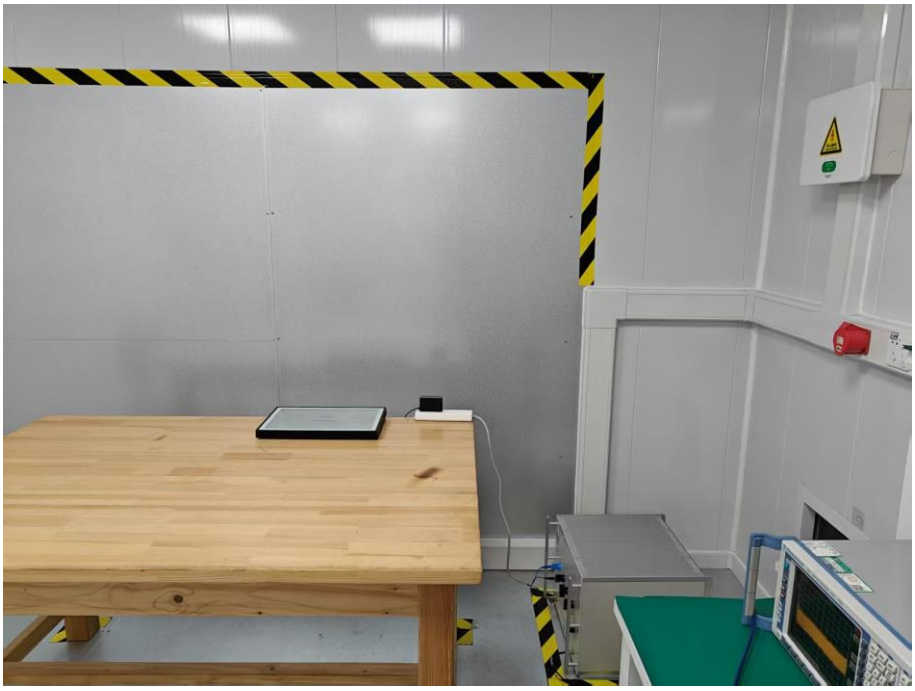
Note: The measurement frequency range is from 9kHz to the 10th harmonic of the fundamental frequency; The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.

U-NII-3	
11a CH149	11a CH157
	
11a CH165	11n(HT20) CH149
	
11n(HT20) CH157	11n(HT20) CH165
	

11n (HT40) CH151	11n (HT40) CH159
	
11ac (HT20) CH149	**11ac (HT20) CH157**
	
11ac(HT20) CH165	**11ac(HT40) CH151**
	
11ac(HT40) CH159	**11ac (HT80) CH155**
	

6 Photographs of the Test Setup

Radiated Emission Below 1GHz

Radiated Emission Above 1GHz


Conducted Emission


7 Photographs of the EUT

Please refer to report HB20250220011E-01 for product photos.

******** END OF REPORT ********