

Test Report

Product: ST MAX

Trade Mark: SKYTRAK™

Model Number: SKYTRAK MAX

FCC ID: 2AH3O-SKYTRAKMAX

Prepared for

Rapsodo Pte Ltd

Blk 20 Ayer Rajah Crescent, #08-05, singapore 139964

Prepared by

Shenzhen HongBiao Certification& Testing Co., Ltd

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TEST RESULT CERTIFICATION

Applicant's Name..... : Rapsodo Pte Ltd
Address : Blk 20 Ayer Rajah Crescent, #08-05, singapore 139964
Manufacturer's Name : Beyonics Precision Malaysia Sdn Bhd (Plant 1)
Address : Plot 4,8&9 Kawasan Perindustrian Kota Tinggi, Batu 2 Jalan
Lombong, 81900 Kota Tinggi Johor.

Product description

Product name : ST MAX
Model Number : SKYTRAK MAX
Standards : FCC Part 15.407
Test procedure..... : IEEE/ANSI C63.10-2020
789033 D02 General UNII Test Procedures New Rules v02r01

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..... : July 30, 2025~ Aug. 15, 2025

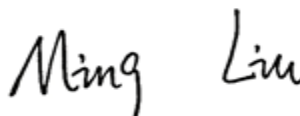
Test Result..... : **Pass**

Testing Engineer :



(Z o e S u)

Technical Manager :



(Ming L i u)

Authorized Signatory :



(L e o S u)

Revision History

[illegible]

1 General Description

1.1 Description of EUT

Product name:	ST MAX
Model name:	SKYTRAK MAX
Series Model:	N/A
Different of series model:	N/A
Frequency range:	U-NII-1: 5180 MHz to 5240 MHz, U-NII-2A: 5260 MHz to 5320 MHz, U-NII-2C: 5500 MHz to 5700 MHz,
Modulation type:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n;
Transfer rate:	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40): MCS0-MCS7;
Channel bandwidth:	802.11a: 20 MHz 802.11n: 20 MHz, 40 MHz
Antenna type:	ANT1: FPC Antenna ANT2: FPC Antenna
Antenna gain:	ANT1: 4dBi ANT2: 4dBi
Max. output power:	U-NII-1: 16.33dBm U-NII-2A: 15.58dBm U-NII-2C: 11.55dBm
Hardware version:	Rev J
Software version:	V1.0
Battery:	DC 3.7V, 10000mAh
Power supply:	Input: 5V=2.5A
Adapter information:	N/A

1.2 Test Mode

For 802.11a/n(HT20)

U-NII-1 (5150 - 5250 MHz)			U-NII-2A(5250 - 5350 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	52	Low	5260
40	Mid	5200	56	Mid	5280
48	High	5240	64	High	5320

For 802.11n (HT40)

U-NII-1 (5150 - 5250 MHz)			U-NII-2A(5250 - 5350 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	54	Low	5270
46	High	5230	62	High	5310

For 802.11a/n(HT20)

U-NII-2C (5470 - 5725 MHz)			U-NII-3(5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
100	Low	5500	--	--	--
116	Mid	5580	--	--	--
140	High	5700	--	--	--

For 802.11n (HT40)

U-NII-2C (5470 - 5725 MHz)			U-NII-3(5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
102	Low	5510	--	--	--
110	Mid	5550	--	--	--
134	High	5670	--	--	--

1.3 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	--	--
40	5200	46	5230	--	--
44	5220	--	--	--	--
48	5240	--	--	--	--

For U-NII-2A:

20 MHz		40 MHz		80 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
52	5260	54	5270	--	--
56	5280	62	5310	--	--
60	5300	--	--	--	--
64	5320	--	--	--	--
			--	--	--

For U-NII-2C:

20 MHz		40 MHz		80 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
100	5500	102	5510	--	--
104	5520	110	5550	--	--
108	5540	118	5590	--	--
112	5560	126	5630	--	--
116	5580	134	5670	--	--
120	5600	--	--		
124	5620	--	--	--	--
128	5640	--	--	--	--
132	5660	--	--	--	--
136	5680	--	--	--	--
140	5700	--	--	--	--
--	--	--	--	--	--

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 Power setting configuration parameters

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for

the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product. Transmitting duty cycle is no less 98%.

The software is TermAssist and SecureCRT tool Use together.

Test Items	Mode	Data Rate	TX/RX
Radiated Emissions	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
Duty Cycle	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
Band Edge	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
6dB Bandwidth	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
26dB Bandwidth and 99% Occupied Bandwidth	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
Conducted Output Power	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
Power Spectral Density	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCSO	TX
Frequency Stability	Un-modulation	/	TX

1.6 Power setting configuration parameters

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

Test software Version		teraterm-4.104	
Mode	802.11a	802.11n20	802.11n40
Parameters	127	110	110
RF cable			
Description	Connector	Length	Supplied by
Antenna Cable	SMA	10cm	Applicant

Note: Disclaimer: the loss of RF cable is too small and can be ignored. Fixed-frequency software: Tera Term.

1.7 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Notebook	BDR-WDH	A3RQPM242 0004454	Honor Terminal Co., Ltd.
Adapter	CD289	35810	Ugreen Group Limited

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	
10	15.407(g)	Frequency Stability	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:	15°C~35°C
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

3.3 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, 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	2×10^{-5}	
RF power, conducted	± 0.57 dB	
Conducted emission(150kHz~30MHz)	± 2.5 dB	
Radiated emission(30MHz~1GHz)	± 4.2 dB	
Radiated emission (above 1GHz)	± 4.7 dB	
Occupied Bandwidth	$\pm 3\%$	
Temperature	± 1 degree	
Humidity	$\pm 5 \%$	

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 9170	01193	2024-05-18	2026-05-17
4	HB-E005	Preamplifier	Noyetec	LAN-0118	NYCM1420102	2025-05-07	2026-05-06
5	HB-E006	Preamplifier	Noyetec	LAN-1840	NYCM1420103	2025-05-07	2026-05-06
6	HB-E007	EMI TEST RECEIVER	R&S	ESR7	102520	2025-05-07	2026-05-06
7	HB-E009	POSITINAL COTROLLE R	Noyetec	N/A	N/A	/	/
8	HB-E013	RF switch	Noyetec	NY-RF4	NY0CM1420204	/	/
9	HB-E066	Illuminance Tester	TASI	TA8121	N/A	2025-05-13	2026-05-12
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	2025-05-07	2026-05-06
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	2025-05-07	2026-05-06
2	HB-E015	Pulse Limiter	Schwarzbeck	VTSD 9561-F	00949	2025-05-07	2026-05-06
3	HB-E016	ZN23201	Noyetec	ZN23201	N/A	2025-05-10	2026-05-09
4	HB-E059	Attenuator	Xianghua	TS2-6-1	220215166	2025-05-10	2026-05-09
5	HB-E069	EMI TEST RECEIVER	R&S	ESCI	N/A	2025-05-07	2026-05-06
RF							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E041	MXG AnaioG Signal Generator	Agilent	N5181A	MY47070421	2025-05-07	2026-05-06

2	HB-E042	WIDEBAND RADIO COMMUNICA TION TESTER	R&S	CMW500	132108	2025-05-08	2026-05-07
3	HB-E043	MXG Anaio Signal Generator	Agilent	N5182A	US46240335	2025-05-08	2026-05-07
4	HB-E044	Signal& spectrum Analyzer	R&S	FSV3044	101264	2025-05-07	2026-05-06
5	HB-E045	RF Control Box	Noyetec	NY100-R FCB	N/A	2025-05-08	2026-05-07
6	HB-E058	Thermometer Clock Humidity Monitor	N/A	HTC-1S	N/A	2025-05-09	2026-05-08

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 ANT1&ANT2: FPC Antenna, which was permanently affixed to the device and un-replaced, complies with 15.203. In addition, the maximum antenna gain is ANT1&ANT2: 4dBi.

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.

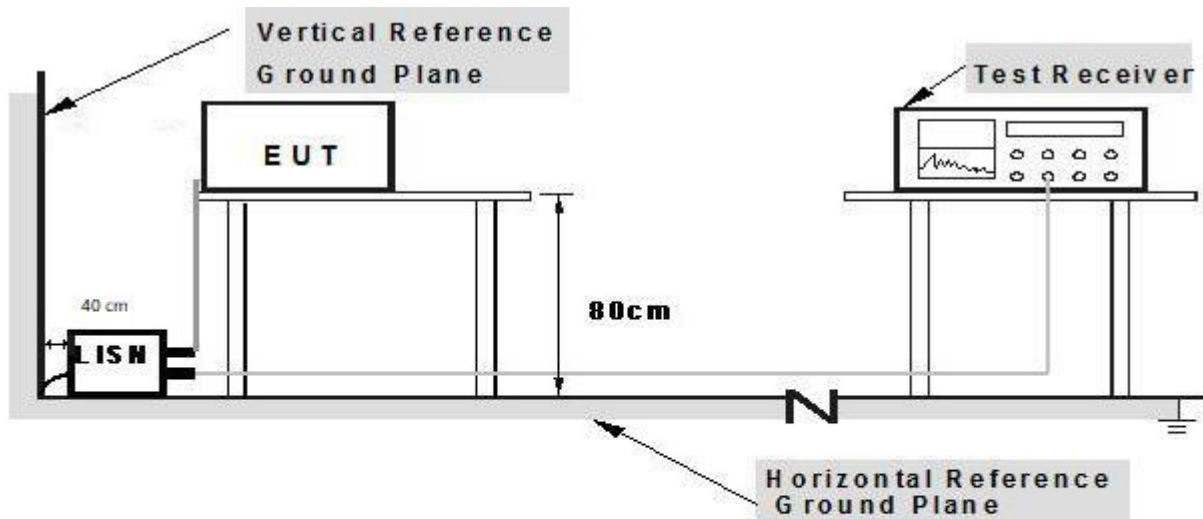
b) The following table is the setting of the receiver

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.

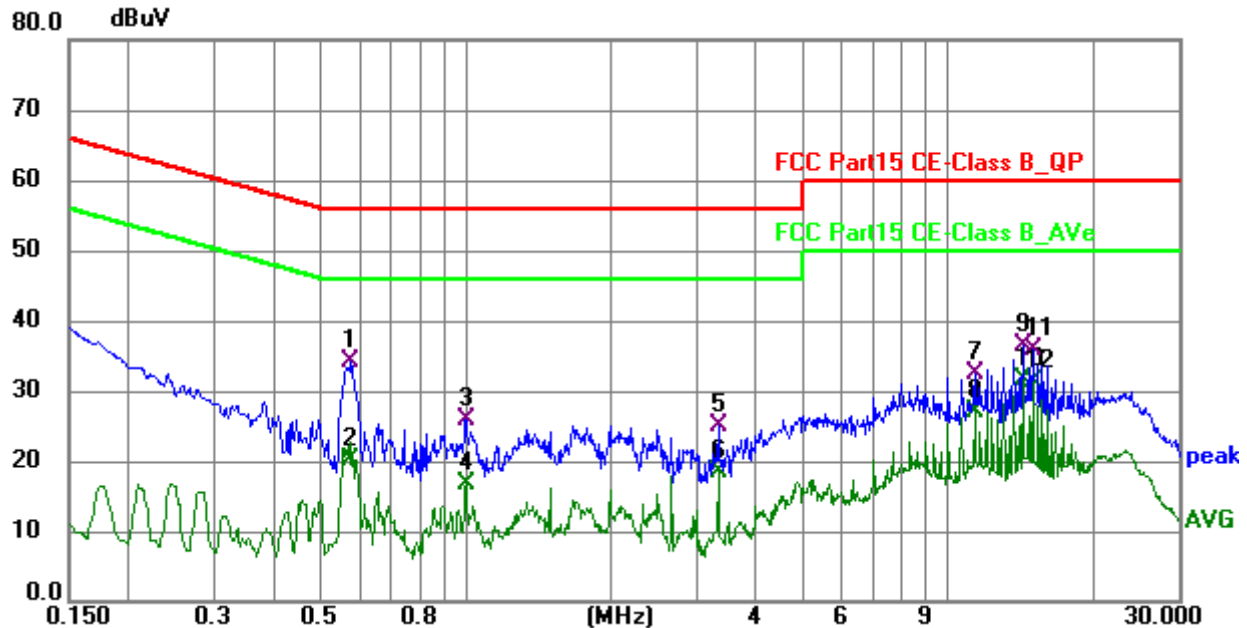
- g) For the actual test configuration, please refer to the related Item – photographs of the test setup.

5.2.3 Test Setup



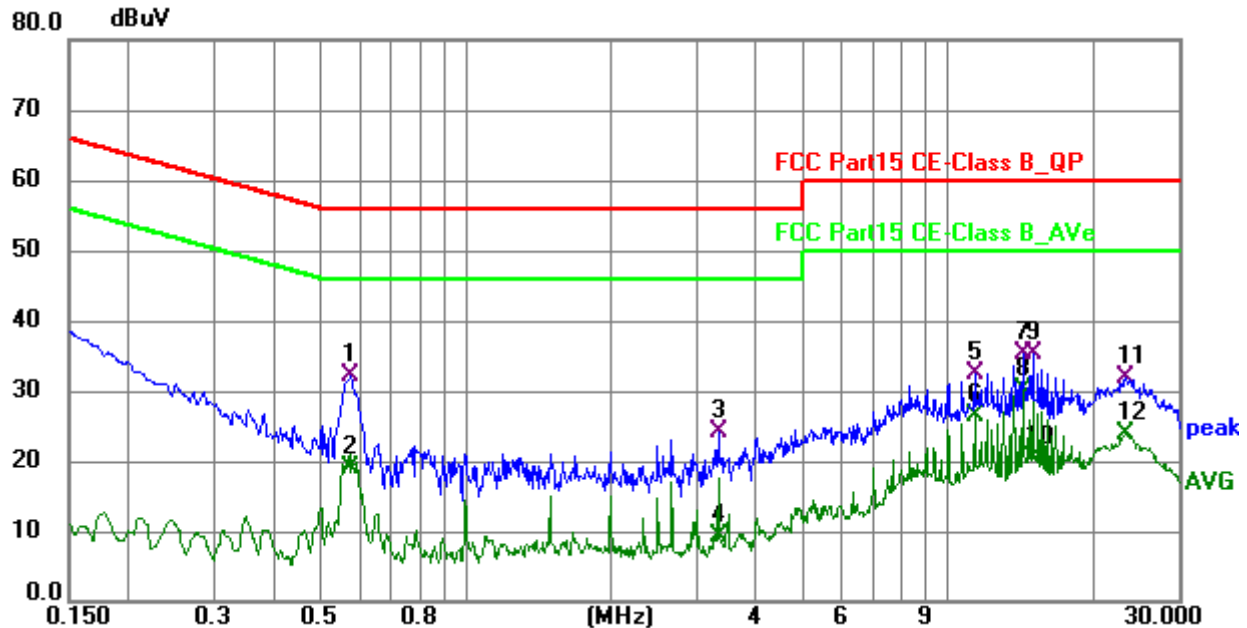
5.2.4 Test Result

EUT:	ST MAX	Model Name:	SKYTRAK MAX
Test Mode:	Charging+TX (802.11a, 5180, ANT1)	Phase:	L
Test Voltage:	DC 5V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.578	23.94	10.11	34.05	56.00	-21.95	QP
2	0.578	10.00	10.11	20.11	46.00	-25.89	AVG
3	1.000	15.67	10.13	25.80	56.00	-30.20	QP
4	1.000	6.59	10.13	16.72	46.00	-29.28	AVG
5	3.336	14.28	10.73	25.01	56.00	-30.99	QP
6	3.336	7.76	10.73	18.49	46.00	-27.51	AVG
7	11.337	18.76	13.70	32.46	60.00	-27.54	QP
8	11.337	13.31	13.70	27.01	50.00	-22.99	AVG
9	14.348	22.42	14.04	36.46	60.00	-23.54	QP
10 *	14.348	17.51	14.04	31.55	50.00	-18.45	AVG
11	15.018	21.78	14.11	35.89	60.00	-24.11	QP
12	15.018	17.09	14.11	31.20	50.00	-18.80	AVG

EUT:	ST MAX	Model Name:	SKYTRAK MAX
Test Mode:	Charging+TX (802.11a, 5180, ANT1)	Phase:	N
Test Voltage:	DC 5V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.578	21.90	10.12	32.02	56.00	-23.98	QP
2	0.578	8.90	10.12	19.02	46.00	-26.98	AVG
3	3.341	13.53	10.73	24.26	56.00	-31.74	QP
4	3.341	-1.58	10.73	9.15	46.00	-36.85	AVG
5	11.351	18.67	13.75	32.42	60.00	-27.58	QP
6	11.351	12.77	13.75	26.52	50.00	-23.48	AVG
7	14.357	21.17	14.06	35.23	60.00	-24.77	QP
8 *	14.357	16.12	14.06	30.18	50.00	-19.82	AVG
9	15.023	21.02	14.13	35.15	60.00	-24.85	QP
10	15.023	6.21	14.13	20.34	50.00	-29.66	AVG
11	23.392	16.63	15.12	31.75	60.00	-28.25	QP
12	23.392	8.66	15.12	23.78	50.00	-26.22	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.

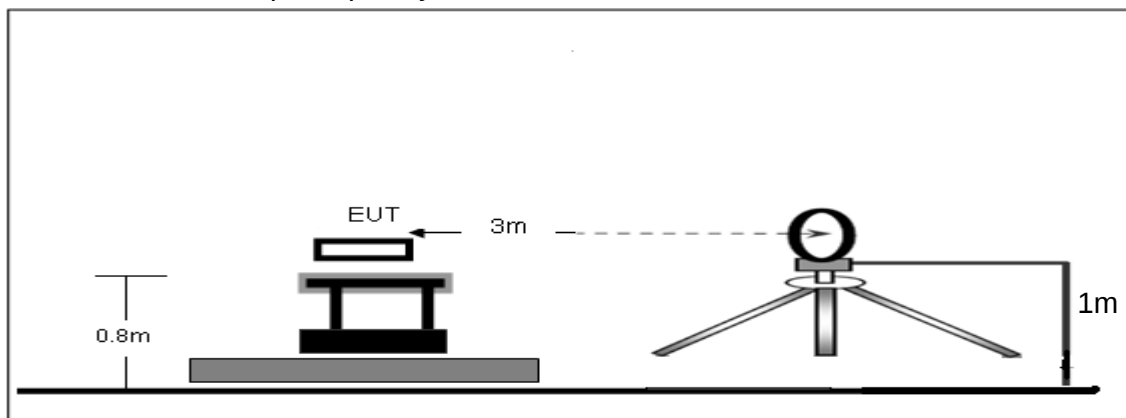
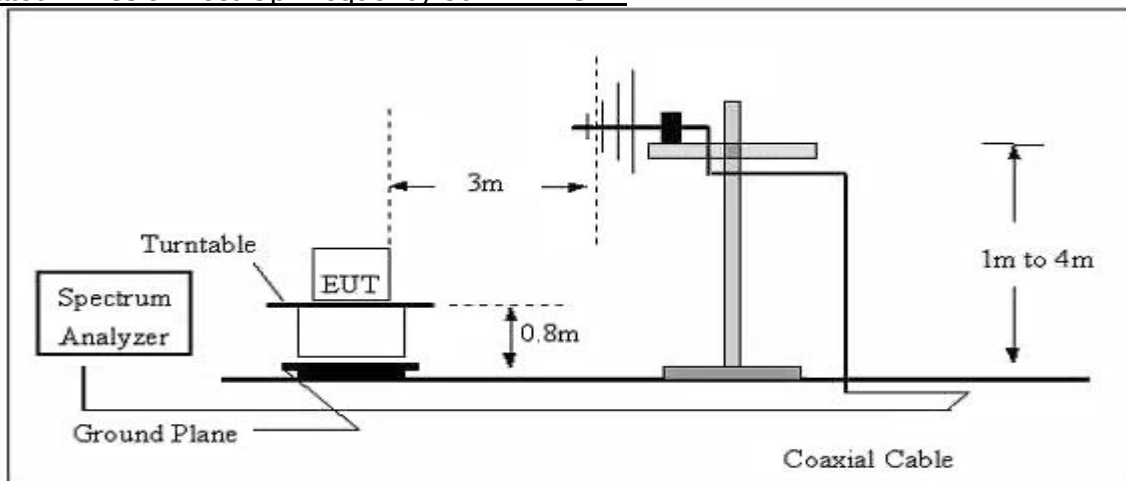
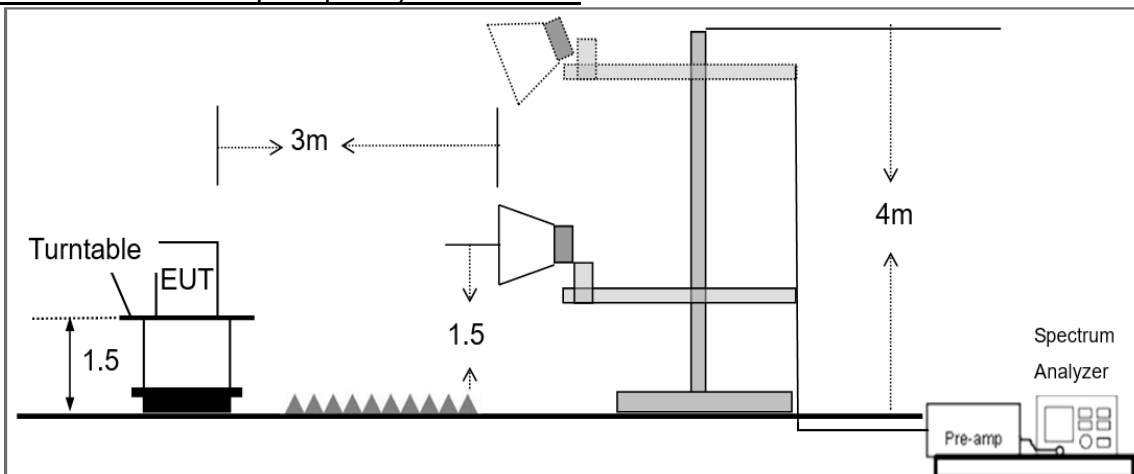
For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the floor on a support that is RF transparent for the frequencies of interest. Final measurements for the EUT require a measurement antenna height scan of 1 m to 4 m.

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 30MHzRadiated Emission Test-Up Frequency 30MHz~1GHzRadiated emission test-up frequency above 1GHz**5.3.4 Test Result**

Below 30MHz

EUT:	ST MAX	Model Name:	SKYTRAK MAX
Pressure:	1010 hPa	Test Voltage:	DC 3.7V from battery
Test Mode:	TX	Polarization:	--

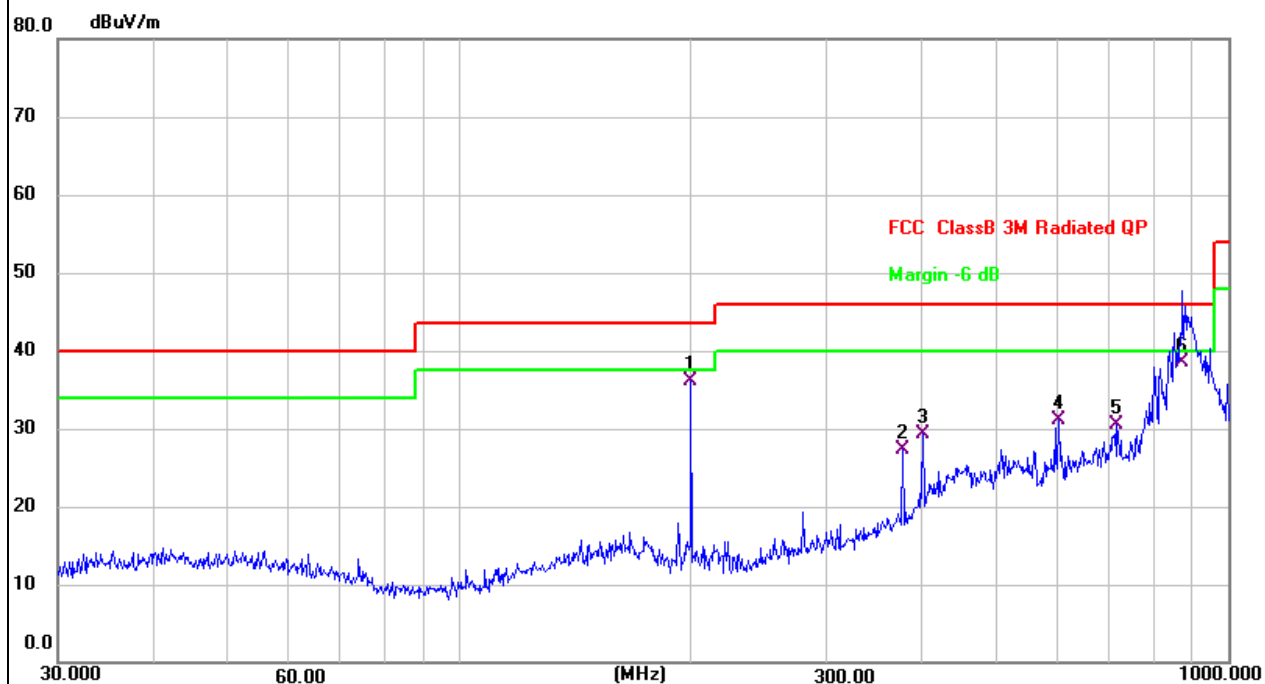
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	Pass
--	--	--	--	Pass

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 = $40 \log (\text{specific distance}/\text{test distance})$ (dB);
3. Limit line = specific limits (dBuV) + distance extrapolation factor.

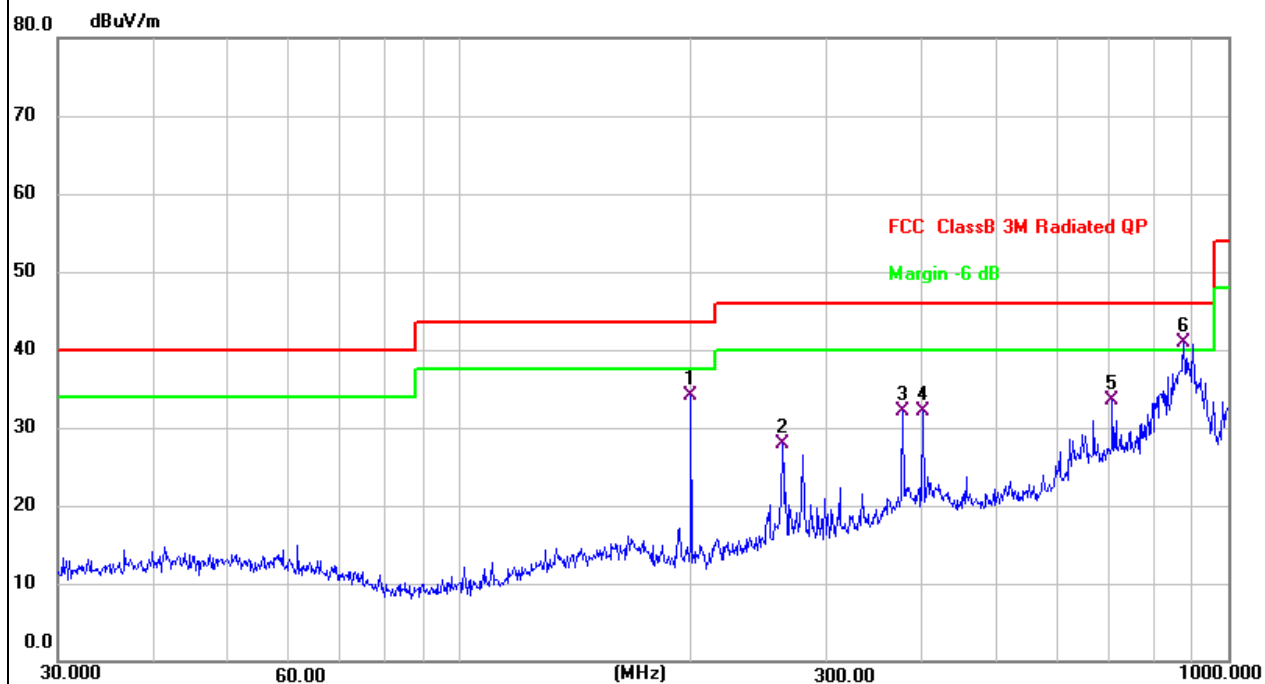
Frequency range (30MHz – 1GHz)

EUT:	ST MAX	Model Name:	SKYTRAK MAX
Test Mode:	Charging+TX (802.11a, 5180, ANT1)	Phase:	Vertical
Test Voltage:	DC 3.7V for battery		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	199.9856	52.69	-16.58	36.11	43.50	-7.39	QP
2	377.2591	37.54	-10.20	27.34	46.00	-18.66	QP
3	400.4319	38.74	-9.37	29.37	46.00	-16.63	QP
4	601.4265	35.49	-4.32	31.17	46.00	-14.83	QP
5	716.6820	31.88	-1.29	30.59	46.00	-15.41	QP
6	872.1832	37.44	1.16	38.60	46.00	-7.40	QP

EUT:	ST MAX	Model Name:	SKYTRAK MAX
Test Mode:	Charging+TX (802.11a, 5180, ANT1)	Phase:	Horizontal
Test Voltage:	DC 3.7V for battery		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	199.9856	50.77	-16.58	34.19	43.50	-9.31	QP
2	262.8955	41.88	-14.01	27.87	46.00	-18.13	QP
3	377.2591	42.22	-10.20	32.02	46.00	-13.98	QP
4	400.4319	41.46	-9.37	32.09	46.00	-13.91	QP
5	706.6999	35.03	-1.47	33.56	46.00	-12.44	QP
6 *	875.2470	39.67	1.23	40.90	46.00	-5.10	QP

Frequency range (1GHz-40GHz)

For U-NII-1

ANT1:

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
Vertical	10371.138	63.32	8.46	39.75	44.50	67.03	74.00	-6.97	Pk
Vertical	10370.456	44.29	8.46	39.75	44.50	48.00	54.00	-6.00	AV
Vertical	15541.844	55.98	10.12	38.80	44.10	60.80	74.00	-13.20	Pk
Vertical	15541.783	43.39	10.12	38.80	42.70	49.61	54.00	-4.39	AV
Horizontal	10371.245	60.42	8.46	38.71	44.50	63.09	74.00	-10.91	Pk
Horizontal	10732.227	44.49	8.46	38.71	44.50	47.16	54.00	-6.84	AV
Horizontal	15541.897	57.69	10.12	38.38	44.10	62.09	74.00	-11.91	Pk
Horizontal	15540.539	43.77	10.12	38.38	44.10	48.17	54.00	-5.83	AV
middle Channel (5200 MHz)-Above 1G									
Vertical	10401.422	62.18	8.47	37.88	44.51	64.02	74.00	-9.98	Pk
Vertical	10401.622	45.16	8.47	37.88	44.51	47.00	54.00	-7.00	AV
Vertical	15600.250	57.63	10.12	38.8	44.10	62.45	74.00	-11.55	Pk
Vertical	15601.093	42.74	10.12	38.8	42.70	48.96	54.00	-5.04	AV
Horizontal	10402.102	61.81	8.47	38.64	44.50	64.42	74.00	-9.58	Pk
Horizontal	10400.277	47.10	8.47	38.64	44.50	49.71	54.00	-4.29	AV
Horizontal	15600.649	58.73	10.12	38.38	44.10	63.13	74.00	-10.87	Pk
Horizontal	15600.648	43.31	10.12	38.38	44.10	47.71	54.00	-6.29	AV
High Channel (5240 MHz)-Above 1G									
Vertical	10481.560	62.33	8.46	37.68	44.50	63.97	74.00	-10.03	Pk
Vertical	10482.034	45.35	8.46	37.68	44.50	46.99	54.00	-7.01	AV
Vertical	15722.020	57.73	10.12	38.8	44.10	62.55	74.00	-11.45	Pk
Vertical	15720.676	42.78	10.12	38.8	42.70	49.00	54.00	-5.00	AV
Horizontal	10483.240	59.72	8.46	38.57	44.50	62.25	74.00	-11.75	Pk
Horizontal	10481.958	43.14	8.46	38.57	44.50	45.67	54.00	-8.33	AV
Horizontal	15721.756	57.78	10.12	38.38	44.10	62.18	74.00	-11.82	Pk
Horizontal	15721.461	42.24	10.12	38.38	44.10	46.64	54.00	-7.36	AV

ANT2:

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
Vertical	10370.695	63.13	8.46	39.75	44.50	66.84	74.00	-7.16	Pk
Vertical	10370.188	43.41	8.46	39.75	44.50	47.12	54.00	-6.88	AV
Vertical	15541.018	56.20	10.12	38.80	44.10	61.02	74.00	-12.98	Pk
Vertical	15540.158	43.30	10.12	38.80	42.70	49.52	54.00	-4.48	AV
Horizontal	10372.200	61.71	8.46	38.71	44.50	64.38	74.00	-9.62	Pk
Horizontal	10731.658	44.64	8.46	38.71	44.50	47.31	54.00	-6.69	AV
Horizontal	15540.996	58.25	10.12	38.38	44.10	62.65	74.00	-11.35	Pk
Horizontal	15541.940	43.52	10.12	38.38	44.10	47.92	54.00	-6.08	AV
middle Channel (5200 MHz)-Above 1G									
Vertical	10402.555	60.80	8.47	37.88	44.51	62.64	74.00	-11.36	Pk
Vertical	10401.510	46.74	8.47	37.88	44.51	48.58	54.00	-5.42	AV
Vertical	15601.826	56.22	10.12	38.8	44.10	61.04	74.00	-12.96	Pk
Vertical	15601.047	41.97	10.12	38.8	42.70	48.19	54.00	-5.81	AV
Horizontal	10401.384	60.86	8.47	38.64	44.50	63.47	74.00	-10.53	Pk
Horizontal	10400.984	46.70	8.47	38.64	44.50	49.31	54.00	-4.69	AV
Horizontal	15601.956	57.54	10.12	38.38	44.10	61.94	74.00	-12.06	Pk
Horizontal	15600.539	41.91	10.12	38.38	44.10	46.31	54.00	-7.69	AV
High Channel (5240 MHz)-Above 1G									
Vertical	10481.110	60.48	8.46	37.68	44.50	62.12	74.00	-11.88	Pk
Vertical	10481.657	46.28	8.46	37.68	44.50	47.92	54.00	-6.08	AV
Vertical	15721.252	58.17	10.12	38.8	44.10	62.99	74.00	-11.01	Pk
Vertical	15721.014	43.95	10.12	38.8	42.70	50.17	54.00	-3.83	AV
Horizontal	10481.535	57.93	8.46	38.57	44.50	60.46	74.00	-13.54	Pk
Horizontal	10482.560	43.29	8.46	38.57	44.50	45.82	54.00	-8.18	AV
Horizontal	15721.346	56.36	10.12	38.38	44.10	60.76	74.00	-13.24	Pk
Horizontal	15722.089	41.34	10.12	38.38	44.10	45.74	54.00	-8.26	AV

For U-NII-2A

ANT1:

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5260 MHz)-Above 1G									
Vertical	10521.148	62.78	8.46	39.75	44.50	66.49	74.00	-7.51	Pk
Vertical	10520.557	44.73	8.46	39.75	44.50	48.44	54.00	-5.56	AV
Vertical	15780.780	55.99	10.12	38.80	44.10	60.81	74.00	-13.19	Pk
Vertical	15781.394	43.13	10.12	38.80	42.70	49.35	54.00	-4.65	AV
Horizontal	10522.171	60.71	8.46	38.71	44.50	63.38	74.00	-10.62	Pk
Horizontal	10521.154	44.81	8.46	38.71	44.50	47.48	54.00	-6.52	AV
Horizontal	15780.759	57.77	10.12	38.38	44.10	62.17	74.00	-11.83	Pk
Horizontal	15781.742	43.75	10.12	38.38	44.10	48.15	54.00	-5.85	AV
middle Channel (5280 MHz)-Above 1G									
Vertical	10561.600	61.36	8.47	37.88	44.51	63.20	74.00	-10.80	Pk
Vertical	10561.616	46.51	8.47	37.88	44.51	48.35	54.00	-5.65	AV
Vertical	15841.049	56.76	10.12	38.8	44.10	61.58	74.00	-12.42	Pk
Vertical	15842.273	41.66	10.12	38.8	42.70	47.88	54.00	-6.12	AV
Horizontal	10562.330	62.27	8.47	38.64	44.50	64.88	74.00	-9.12	Pk
Horizontal	10560.332	47.06	8.47	38.64	44.50	49.67	54.00	-4.33	AV
Horizontal	15841.387	59.05	10.12	38.38	44.10	63.45	74.00	-10.55	Pk
Horizontal	15841.654	43.48	10.12	38.38	44.10	47.88	54.00	-6.12	AV
High Channel (5320 MHz)-Above 1G									
Vertical	10641.608	61.22	8.46	37.68	44.50	62.86	74.00	-11.14	Pk
Vertical	10640.884	47.28	8.46	37.68	44.50	48.92	54.00	-5.08	AV
Vertical	15960.561	57.37	10.12	38.8	44.10	62.19	74.00	-11.81	Pk
Vertical	15961.078	43.12	10.12	38.8	42.70	49.34	54.00	-4.66	AV
Horizontal	10641.906	59.15	8.46	38.57	44.50	61.68	74.00	-12.32	Pk
Horizontal	10642.906	42.47	8.46	38.57	44.50	45.00	54.00	-9.00	AV
Horizontal	15960.860	58.37	10.12	38.38	44.10	62.77	74.00	-11.23	Pk
Horizontal	15960.378	41.57	10.12	38.38	44.10	45.97	54.00	-8.03	AV

ANT2:

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5260 MHz)-Above 1G									
Vertical	10521.394	62.89	8.46	39.75	44.50	66.60	74.00	-7.40	Pk
Vertical	10522.237	43.40	8.46	39.75	44.50	47.11	54.00	-6.89	AV
Vertical	15781.370	56.41	10.12	38.80	44.10	61.23	74.00	-12.77	Pk
Vertical	15780.918	43.14	10.12	38.80	42.70	49.36	54.00	-4.64	AV
Horizontal	10521.761	60.51	8.46	38.71	44.50	63.18	74.00	-10.82	Pk
Horizontal	10521.601	45.99	8.46	38.71	44.50	48.66	54.00	-5.34	AV
Horizontal	15781.340	57.70	10.12	38.38	44.10	62.10	74.00	-11.90	Pk
Horizontal	15780.612	42.90	10.12	38.38	44.10	47.30	54.00	-6.70	AV
middle Channel (5280 MHz)-Above 1G									
Vertical	10562.166	60.40	8.47	37.88	44.51	62.24	74.00	-11.76	Pk
Vertical	10562.635	45.45	8.47	37.88	44.51	47.29	54.00	-6.71	AV
Vertical	15840.198	56.36	10.12	38.8	44.10	61.18	74.00	-12.82	Pk
Vertical	15841.851	41.78	10.12	38.8	42.70	48.00	54.00	-6.00	AV
Horizontal	10560.733	60.87	8.47	38.64	44.50	63.48	74.00	-10.52	Pk
Horizontal	10560.701	46.20	8.47	38.64	44.50	48.81	54.00	-5.19	AV
Horizontal	15841.770	58.14	10.12	38.38	44.10	62.54	74.00	-11.46	Pk
Horizontal	15840.413	43.39	10.12	38.38	44.10	47.79	54.00	-6.21	AV
High Channel (5320 MHz)-Above 1G									
Vertical	10640.988	61.31	8.46	37.68	44.50	62.95	74.00	-11.05	Pk
Vertical	10640.590	45.60	8.46	37.68	44.50	47.24	54.00	-6.76	AV
Vertical	15962.017	58.51	10.12	38.8	44.10	63.33	74.00	-10.67	Pk
Vertical	15962.233	42.93	10.12	38.8	42.70	49.15	54.00	-4.85	AV
Horizontal	10642.915	59.88	8.46	38.57	44.50	62.41	74.00	-11.59	Pk
Horizontal	10641.724	42.97	8.46	38.57	44.50	45.50	54.00	-8.50	AV
Horizontal	15961.139	56.89	10.12	38.38	44.10	61.29	74.00	-12.71	Pk
Horizontal	15960.403	41.65	10.12	38.38	44.10	46.05	54.00	-7.95	AV

For U-NII-2C

ANT1:

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5500 MHz)-Above 1G									
Vertical	11000.641	62.31	8.46	39.75	44.50	66.02	74.00	-7.98	Pk
Vertical	11001.361	44.20	8.46	39.75	44.50	47.91	54.00	-6.09	AV
Vertical	16501.763	56.81	10.12	38.80	44.10	61.63	74.00	-12.37	Pk
Vertical	16500.379	42.95	10.12	38.80	42.70	49.17	54.00	-4.83	AV
Horizontal	11001.343	62.06	8.46	38.71	44.50	64.73	74.00	-9.27	Pk
Horizontal	11000.868	45.59	8.46	38.71	44.50	48.26	54.00	-5.74	AV
Horizontal	16500.133	57.49	10.12	38.38	44.10	61.89	74.00	-12.11	Pk
Horizontal	16500.226	42.31	10.12	38.38	44.10	46.71	54.00	-7.29	AV
middle Channel (5580 MHz)-Above 1G									
Vertical	11160.168	61.76	8.46	38.71	44.50	64.43	74.00	-9.57	Pk
Vertical	11161.597	45.16	8.46	38.71	44.50	47.83	54.00	-6.17	AV
Vertical	16742.021	56.42	10.12	38.38	44.10	60.82	74.00	-13.18	Pk
Vertical	16742.153	43.19	10.12	38.38	44.10	47.59	54.00	-6.41	AV
Horizontal	11160.254	60.93	8.47	38.64	44.50	63.54	74.00	-10.46	Pk
Horizontal	11161.506	46.31	8.47	38.64	44.50	48.92	54.00	-5.08	AV
Horizontal	16741.769	58.39	10.12	38.38	44.10	62.79	74.00	-11.21	Pk
Horizontal	16741.553	42.32	10.12	38.38	44.10	46.72	54.00	-7.28	AV
High Channel (5700 MHz)-Above 1G									
Vertical	11402.261	62.08	8.46	37.68	44.50	63.72	74.00	-10.28	Pk
Vertical	11400.336	45.71	8.46	37.68	44.50	47.35	54.00	-6.65	AV
Vertical	17102.195	57.86	10.12	38.8	44.10	62.68	74.00	-11.32	Pk
Vertical	17101.298	43.68	10.12	38.8	42.70	49.90	54.00	-4.10	AV
Horizontal	11401.481	58.63	8.46	38.57	44.50	61.16	74.00	-12.84	Pk
Horizontal	11401.629	42.37	8.46	38.57	44.50	44.90	54.00	-9.10	AV
Horizontal	17102.075	57.50	10.12	38.38	44.10	61.90	74.00	-12.10	Pk
Horizontal	17100.454	42.29	10.12	38.38	44.10	46.69	54.00	-7.31	AV

ANT2:

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5500 MHz)-Above 1G									
Vertical	11001.177	61.97	8.46	39.75	44.50	65.68	74.00	-8.32	Pk
Vertical	11000.933	44.77	8.46	39.75	44.50	48.48	54.00	-5.52	AV
Vertical	16500.437	57.11	10.12	38.80	44.10	61.93	74.00	-12.07	Pk
Vertical	16500.603	42.98	10.12	38.80	42.70	49.20	54.00	-4.80	AV
Horizontal	11001.371	60.37	8.46	38.71	44.50	63.04	74.00	-10.96	Pk
Horizontal	11000.532	45.76	8.46	38.71	44.50	48.43	54.00	-5.57	AV
Horizontal	16501.616	56.95	10.12	38.38	44.10	61.35	74.00	-12.65	Pk
Horizontal	16501.792	42.77	10.12	38.38	44.10	47.17	54.00	-6.83	AV
middle Channel (5580 MHz)-Above 1G									
Vertical	11161.124	61.46	8.46	38.71	44.50	64.13	74.00	-9.87	Pk
Vertical	11161.331	45.93	8.46	38.71	44.50	48.60	54.00	-5.40	AV
Vertical	16740.604	57.83	10.12	38.38	44.10	62.23	74.00	-11.77	Pk
Vertical	16740.607	44.03	10.12	38.38	44.10	48.43	54.00	-5.57	AV
Horizontal	11160.988	61.20	8.47	38.64	44.50	63.81	74.00	-10.19	Pk
Horizontal	11162.133	46.81	8.47	38.64	44.50	49.42	54.00	-4.58	AV
Horizontal	16741.649	57.78	10.12	38.38	44.10	62.18	74.00	-11.82	Pk
Horizontal	16742.027	43.35	10.12	38.38	44.10	47.75	54.00	-6.25	AV
High Channel (5700 MHz)-Above 1G									
Vertical	11400.388	61.28	8.46	37.68	44.50	62.92	74.00	-11.08	Pk
Vertical	11401.699	46.45	8.46	37.68	44.50	48.09	54.00	-5.91	AV
Vertical	17101.588	58.93	10.12	38.8	44.10	63.75	74.00	-10.25	Pk
Vertical	17101.212	42.27	10.12	38.8	42.70	48.49	54.00	-5.51	AV
Horizontal	11401.455	58.09	8.46	38.57	44.50	60.62	74.00	-13.38	Pk
Horizontal	11403.126	44.24	8.46	38.57	44.50	46.77	54.00	-7.23	AV
Horizontal	17101.602	58.08	10.12	38.38	44.10	62.48	74.00	-11.52	Pk
Horizontal	17101.850	42.62	10.12	38.38	44.10	47.02	54.00	-6.98	AV

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-1&U-NII-2A

For 802.11a mode: (CH36 5180MHz&CH64 5350MHz-ANT1)

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	66.86	8.69	29.4	42.59	62.36	74	-11.64	Pk
Horizontal	5350	63.28	9.37	30.41	43.25	59.81	74	-14.19	Pk
Vertical	5150	69.24	9.21	29.4	42.59	65.26	74	-8.74	Pk
Vertical	5350	60.08	9.12	30.41	43.25	56.36	74	-17.64	Pk
Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	46.70	8.69	29.4	42.59	42.20	54	-11.80	AV
Horizontal	5350	51.20	8.46	30.41	43.25	46.82	54	-7.18	AV
Vertical	5150	48.75	9.21	29.4	42.59	44.77	54	-9.23	AV
Vertical	5350	50.39	9.12	30.41	43.25	46.67	54	-7.33	AV

For 802.11a mode: (CH36 5180MHz&CH64 5350MHz-ANT2)

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	67.08	8.69	29.4	42.59	62.58	74	-11.42	Pk
Horizontal	5350	63.79	9.37	30.41	43.25	60.32	74	-13.68	Pk
Vertical	5150	69.13	9.21	29.4	42.59	65.15	74	-8.85	Pk
Vertical	5350	60.28	9.12	30.41	43.25	56.56	74	-17.44	Pk
Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	45.69	8.69	29.4	42.59	41.19	54	-12.81	AV
Horizontal	5350	51.14	8.46	30.41	43.25	46.76	54	-7.24	AV
Vertical	5150	49.45	9.21	29.4	42.59	45.47	54	-8.53	AV
Vertical	5350	50.90	9.12	30.41	43.25	47.18	54	-6.82	AV

For 802.11n-(HT20) mode: (CH36 5180MHz&CH64 5350MHz)

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	65.37	8.69	29.4	42.59	60.87	74	-13.13	Pk
Horizontal	5350	66.76	9.37	30.41	43.25	63.29	74	-10.71	Pk
Vertical	5150	66.57	9.21	29.4	42.59	62.59	74	-11.41	Pk
Vertical	5350	67.33	9.12	30.41	43.25	63.61	74	-10.39	Pk

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	46.19	8.69	29.4	42.59	41.69	54	-12.31	AV
Horizontal	5350	46.57	8.46	30.41	43.25	42.19	54	-11.81	AV
Vertical	5150	50.09	9.21	29.4	42.59	46.11	54	-7.89	AV
Vertical	5350	49.53	9.12	30.41	43.25	45.81	54	-8.19	AV

For 802.11n-(HT40) mode: (CH38 5190MHz&CH62 5310MHz)

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	66.87	8.69	29.4	42.59	62.37	74	-11.63	Pk
Horizontal	5350	62.70	9.37	30.41	43.25	59.23	74	-14.77	Pk
Vertical	5150	62.94	9.21	29.4	42.59	58.96	74	-15.04	Pk
Vertical	5350	60.00	9.12	30.41	43.25	56.28	74	-17.72	Pk

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5150	45.72	8.69	29.4	42.59	41.22	54	-12.78	AV
Horizontal	5350	48.06	8.46	30.41	43.25	43.68	54	-10.32	AV
Vertical	5150	50.57	9.21	29.4	42.59	46.59	54	-7.41	AV
Vertical	5350	49.71	9.12	30.41	43.25	45.99	54	-8.01	AV

For U-NII-2C

For 802.11a mode: (CH100 5500MHz&CH140 5700MHz-ANT1)

Polarization	Frequency	Read Level	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	5470	67.06	8.69	29.4	42.59	62.56	74	-11.44	Pk
Horizontal	5725	68.55	9.37	30.41	43.25	65.08	74	-8.92	Pk
Vertical	5470	60.32	9.21	29.4	42.59	56.34	74	-17.66	Pk
Vertical	5725	60.72	9.12	30.41	43.25	57.00	74	-17.00	Pk
Polarization	Frequency	Read Level	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	5470	47.55	8.69	29.4	42.59	43.05	54	-10.95	AV
Horizontal	5725	48.63	8.46	30.41	43.25	44.25	54	-9.75	AV
Vertical	5470	46.00	9.21	29.4	42.59	42.02	54	-11.98	AV
Vertical	5725	49.63	9.12	30.41	43.25	45.91	54	-8.09	AV

For 802.11a mode: (CH100 5500MHz&CH140 5700MHz-ANT2)

Polarization	Frequency	Read Level	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	5470	67.88	8.69	29.4	42.59	63.38	74	-10.62	Pk
Horizontal	5725	66.85	9.37	30.41	43.25	63.38	74	-10.62	Pk
Vertical	5470	61.99	9.21	29.4	42.59	58.01	74	-15.99	Pk
Vertical	5725	60.12	9.12	30.41	43.25	56.40	74	-17.60	Pk
Polarization	Frequency	Read Level	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	5470	46.65	8.69	29.4	42.59	42.15	54	-11.85	AV
Horizontal	5725	48.36	8.46	30.41	43.25	43.98	54	-10.02	AV
Vertical	5470	45.27	9.21	29.4	42.59	41.29	54	-12.71	AV
Vertical	5725	48.86	9.12	30.41	43.25	45.14	54	-8.86	AV

For 802.11n-(HT20) mode: (CH100 5500MHz&CH140 5700MHz)

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5470	69.00	8.69	29.4	42.59	64.50	74	-9.50	Pk
Horizontal	5725	65.48	9.37	30.41	43.25	62.01	74	-11.99	Pk
Vertical	5470	61.17	9.21	29.4	42.59	57.19	74	-16.81	Pk
Vertical	5725	61.11	9.12	30.41	43.25	57.39	74	-16.61	Pk

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5470	46.37	8.69	29.4	42.59	41.87	54	-12.13	AV
Horizontal	5725	48.97	8.46	30.41	43.25	44.59	54	-9.41	AV
Vertical	5470	45.26	9.21	29.4	42.59	41.28	54	-12.72	AV
Vertical	5725	49.19	9.12	30.41	43.25	45.47	54	-8.53	AV

For 802.11n-(HT40) mode: (CH102 5510MHz&CH134 5670MHz)

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5470	68.55	8.69	29.4	42.59	64.05	74	-9.95	Pk
Horizontal	5725	66.97	9.37	30.41	43.25	63.50	74	-10.50	Pk
Vertical	5470	61.26	9.21	29.4	42.59	57.28	74	-16.72	Pk
Vertical	5725	60.60	9.12	30.41	43.25	56.88	74	-17.12	Pk

Polarization	Frequency	Read Level	Cable loss	Antenna Factor	Preamplifier Factor	Emission Level	Limits	Over Limit	Detector Type
/	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	5470	47.17	8.69	29.4	42.59	42.67	54	-11.33	AV
Horizontal	5725	47.75	8.46	30.41	43.25	43.37	54	-10.63	AV
Vertical	5470	45.26	9.21	29.4	42.59	41.28	54	-12.72	AV
Vertical	5725	49.85	9.12	30.41	43.25	46.13	54	-7.87	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 $11 \text{ dBm} + 10 \log B$, 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.

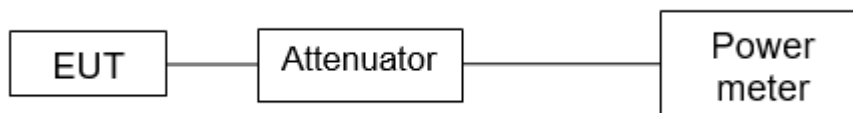
For the band 5.725-5.85 GHz

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:	ST MAX	Model Name:	SKYTRAK MAX
Test Mode:	TX Mode	Test Voltage:	DC 3.7V from battery

For U-NII-1

Modulation mode	Test Channel	Frequency (MHz)	Output Power (ANT 1)		Output Power (ANT 2)		Total Power (ANT1 + ANT 2)		Limit (dBm)	
			dBm	mW	dBm	mW	dBm	mW	dBm	mW
11a	CH36	5180	15.86	38.55	15.13	32.58	/	/	23.98	250
11a	CH40	5200	15.35	34.28	15.39	34.59	/	/		
11a	CH48	5240	14.52	28.31	15.72	37.33	/	/		
11n (HT20)	CH36	5180	12.2	16.60	11.83	15.24	15.03	31.84	22.97	198
11n (HT20)	CH40	5200	13.33	21.53	12.98	19.86	16.17	41.40		
11n (HT20)	CH48	5240	13.15	20.65	13.48	22.28	16.33	42.95		
11n (HT40)	CH38	5190	7.63	5.79	7.16	5.20	10.41	10.99		
11n (HT40)	CH46	5230	6.72	4.70	7.37	5.46	10.07	10.16		

For U-NII-2A

Modulation mode	Test Channel	Frequency (MHz)	Output Power (ANT 1)		Output Power (ANT 2)		Total Power (ANT1 + ANT 2)		Limit (dBm)	
			dBm	mW	dBm	mW	dBm	mW	dBm	mW
11a	CH52	5260	14.48	28.05	15.06	32.06	/	/	23.98	250
11a	CH56	5280	13.66	23.23	15.55	35.89	/	/		
11a	CH64	5320	13.39	21.83	14.52	28.31	/	/		
11n (HT20)	CH52	5260	11.85	15.31	12.27	16.87	15.08	32.21	22.97	198
11n (HT20)	CH56	5280	12.33	17.10	12.79	19.01	15.58	36.14		
11n (HT20)	CH64	5320	11.02	12.65	12.19	16.56	14.65	29.17		
11n (HT40)	CH54	5270	10.03	10.07	9.19	8.30	12.64	18.37		
11n (HT40)	CH62	5310	8.54	7.14	9.2	8.32	11.89	15.45		

For U-NII-2C

Modulation mode	Test Channel	Frequency (MHz)	Output Power (ANT 1)		Output Power (ANT 2)		Total Power (ANT1 + ANT 2)		Limit (dBm)	
			dBm	mW	dBm	mW	dBm	mW	dBm	mW
11a	CH100	5500	11.04	12.71	10.51	11.25	/	/	23.98	250
11a	CH116	5580	11.55	14.29	11.21	13.21	/	/		
11a	CH140	5700	8.85	7.67	8.56	7.18	/	/		
11n (HT20)	CH100	5500	8.46	7.01	7.9	6.17	11.2	13.18	22.97	198
11n (HT20)	CH116	5580	8.31	6.78	7.86	6.11	11.1	12.88		
11n (HT20)	CH140	5700	5.25	3.35	5.32	3.40	8.3	6.76		
11n (HT40)	CH102	5510	7.4	5.50	7.08	5.11	10.25	10.59		
11n (HT40)	CH110	5550	8.06	6.40	7.39	5.48	10.75	11.89		
11n (HT40)	CH134	5670	6.37	4.34	6.86	4.85	9.63	9.18		

Note:

The limit should be calculated as below: Limit = 23.98 - (Directional gain - 6)=22.97dbm

Directional gain = G ANT + 10 log(N ANT) dBi =4+10log(2)=7.01dBi

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

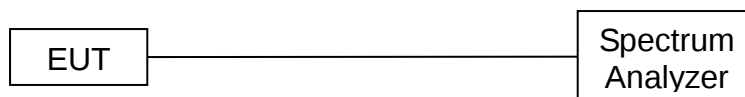
For U-NII-1

1. Set analyzer center frequency to NII channel center frequency.
2. Set the RBW $\geq$ 1MHz.
3. Set the VBW $\geq$ 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 $\geq$ 510kHz.
3. Set the VBW $\geq$ 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-1

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5180	Ant1	5.21	0.3	5.51	11	Pass
a	5200	Ant1	4.88	0.46	5.34	11	Pass
a	5240	Ant1	3.83	0.36	4.19	11	Pass
a	5180	Ant2	4.48	0.2	4.68	11	Pass
a	5200	Ant2	5.04	0.3	5.34	11	Pass
a	5240	Ant2	5.01	0.41	5.42	11	Pass
n20	5180	Ant1	1.16	0.49	1.65	11	Pass
n20	5180	Ant2	0.88	0.49	1.37	11	Pass
n20	5180	Sum	4.03	0.49	4.52	9.99	Pass
n20	5200	Ant1	2.62	0.44	3.06	11	Pass
n20	5200	Ant2	1.96	0.44	2.4	11	Pass
n20	5200	Sum	5.31	0.44	5.75	9.99	Pass
n20	5240	Ant1	2.18	0.21	2.39	11	Pass
n20	5240	Ant2	2.67	0.21	2.88	11	Pass
n20	5240	Sum	5.44	0.21	5.65	9.99	Pass
n40	5190	Ant1	-5.96	0.71	-5.25	11	Pass
n40	5190	Ant2	-6.43	0.71	-5.72	11	Pass
n40	5190	Sum	-3.18	0.71	-2.47	9.99	Pass
n40	5230	Ant1	-6.9	0.57	-6.33	11	Pass
n40	5230	Ant2	-5.96	0.57	-5.39	11	Pass
n40	5230	Sum	-3.39	0.57	-2.82	9.99	Pass

For U-NII-2A

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5260	Ant1	4.25	0.44	4.69	11	Pass
a	5280	Ant1	2.92	0.27	3.19	11	Pass
a	5320	Ant1	2.72	0.3	3.02	11	Pass
a	5260	Ant2	4.54	0.3	4.84	11	Pass
a	5280	Ant2	4.91	0.37	5.28	11	Pass
a	5320	Ant2	4.23	0.27	4.5	11	Pass
n20	5260	Ant1	1.08	0.45	1.53	11	Pass
n20	5260	Ant2	1.17	0.45	1.62	11	Pass
n20	5260	Sum	4.14	0.45	4.59	9.99	Pass
n20	5280	Ant1	1.53	0.42	1.95	11	Pass
n20	5280	Ant2	1.79	0.42	2.21	11	Pass
n20	5280	Sum	4.67	0.42	5.09	9.99	Pass
n20	5320	Ant1	0.17	0.23	0.4	11	Pass
n20	5320	Ant2	1.17	0.23	1.4	11	Pass
n20	5320	Sum	3.71	0.23	3.94	9.99	Pass
n40	5270	Ant1	-3.28	0.95	-2.33	11	Pass
n40	5270	Ant2	-4.32	0.95	-3.37	11	Pass
n40	5270	Sum	-0.76	0.95	0.19	9.99	Pass

n40	5310	Ant1	-5.06	0.95	-4.11	11	Pass
n40	5310	Ant2	-3.94	0.95	-2.99	11	Pass
n40	5310	Sum	-1.45	0.95	-0.5	9.99	Pass

For U-NII-2C

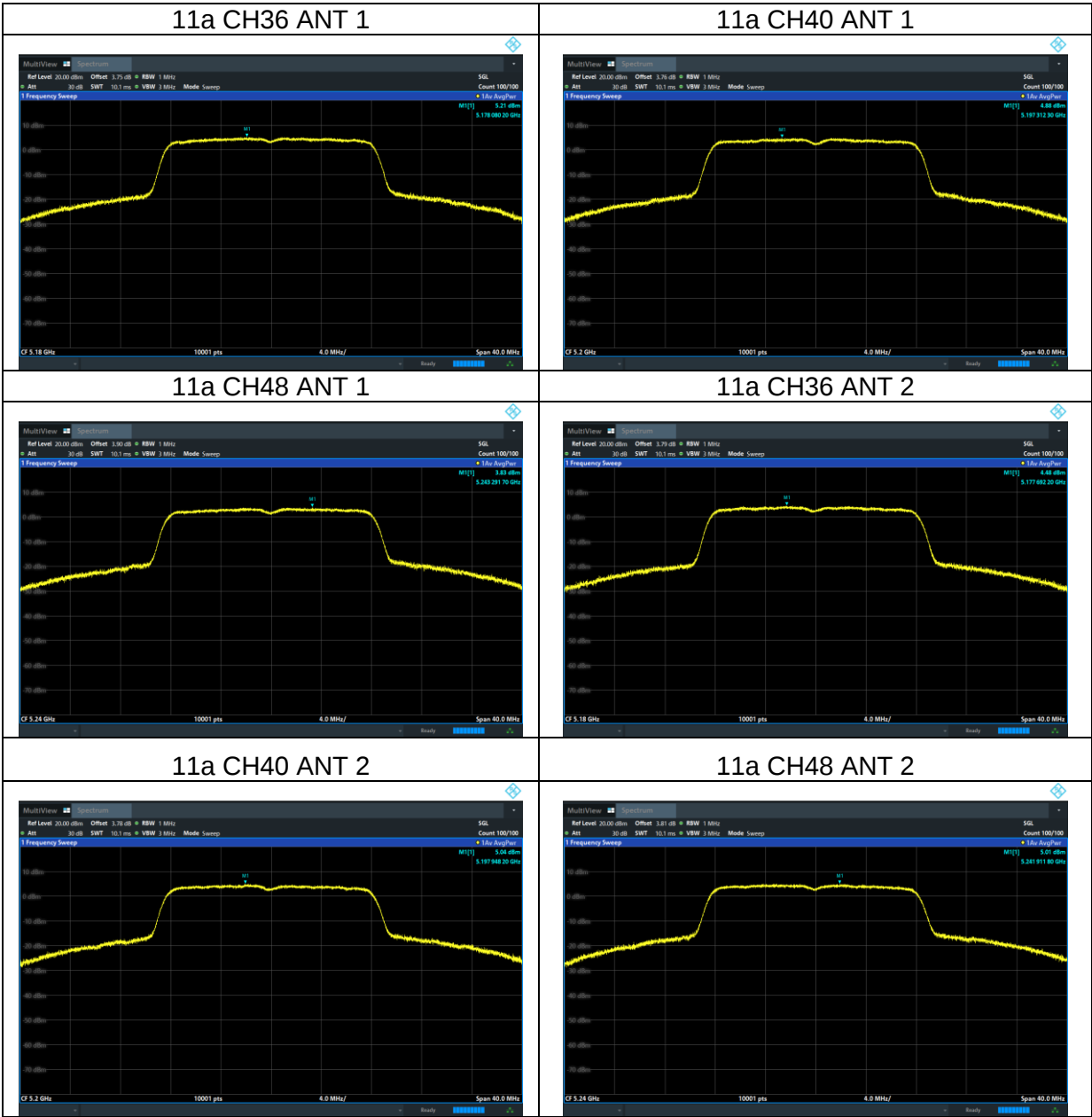
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5500	Ant1	0.26	0.32	0.58	11	Pass
a	5580	Ant1	0.83	0.42	1.25	11	Pass
a	5700	Ant1	-1.91	0.2	-1.71	11	Pass
a	5500	Ant2	-0.2	0.25	0.05	11	Pass
a	5580	Ant2	0.63	0.3	0.93	11	Pass
a	5700	Ant2	-2.08	0.46	-1.62	11	Pass
n20	5500	Ant1	-2.55	0.42	-2.13	11	Pass
n20	5500	Ant2	-2.99	0.42	-2.57	11	Pass
n20	5500	Sum	0.25	0.42	0.67	9.99	Pass
n20	5580	Ant1	-2.69	0.33	-2.36	11	Pass
n20	5580	Ant2	-2.86	0.33	-2.53	11	Pass
n20	5580	Sum	0.24	0.33	0.57	9.99	Pass
n20	5700	Ant1	-5.7	0.25	-5.45	11	Pass
n20	5700	Ant2	-5.67	0.25	-5.42	11	Pass
n20	5700	Sum	-2.67	0.25	-2.42	9.99	Pass
n40	5510	Ant1	-5.85	0.42	-5.43	11	Pass
n40	5510	Ant2	-6.56	0.42	-6.14	11	Pass
n40	5510	Sum	-3.18	0.42	-2.76	9.99	Pass
n40	5550	Ant1	-5.36	0.78	-4.58	11	Pass
n40	5550	Ant2	-6.23	0.78	-5.45	11	Pass
n40	5550	Sum	-2.76	0.78	-1.98	9.99	Pass
n40	5670	Ant1	-6.93	0.45	-6.48	11	Pass
n40	5670	Ant2	-6.82	0.45	-6.37	11	Pass
n40	5670	Sum	-3.86	0.45	-3.41	9.99	Pass

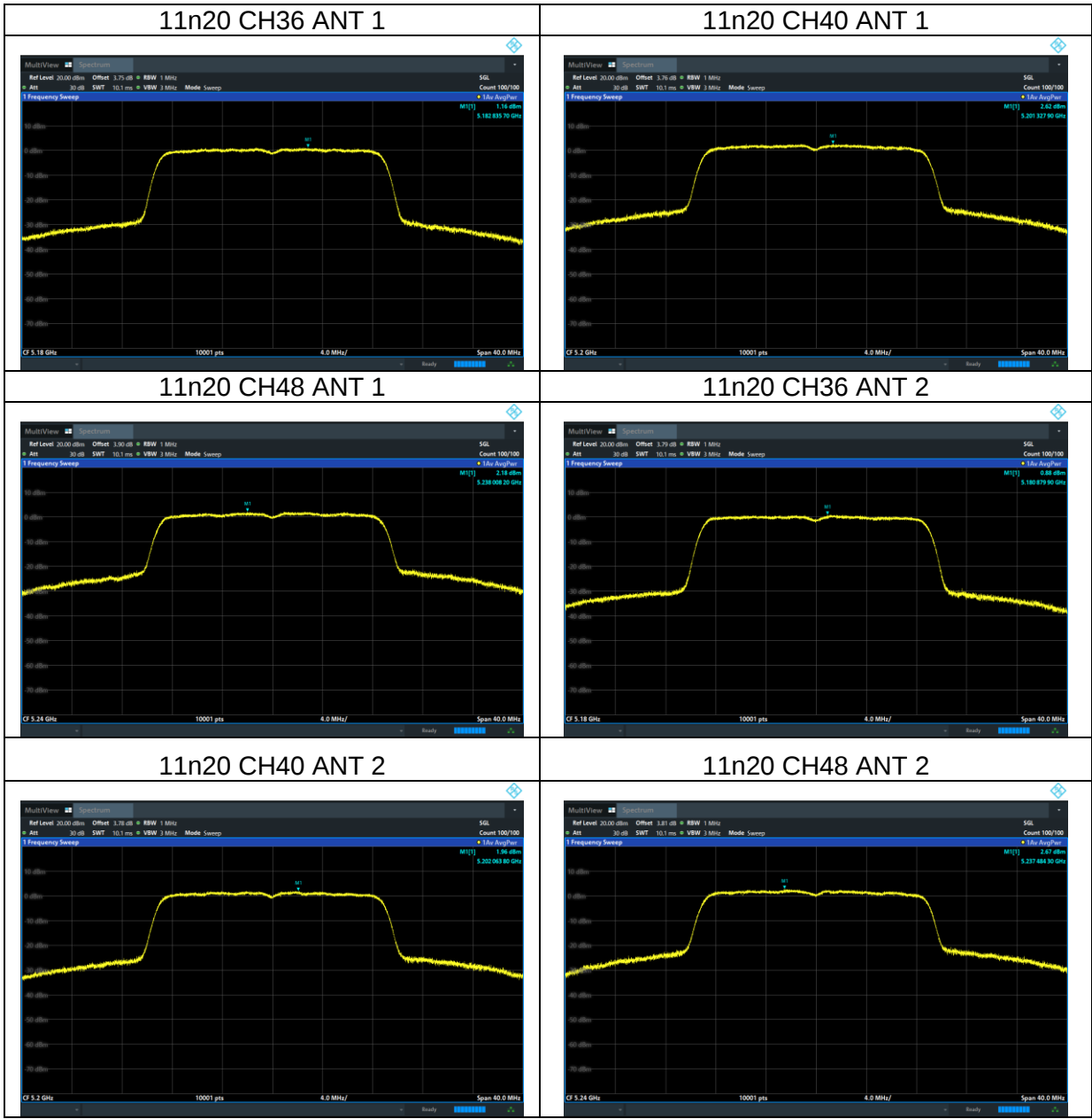
The limit should be calculated as below: Limit = 11 - (Directional gain - 6)=9.99dbm

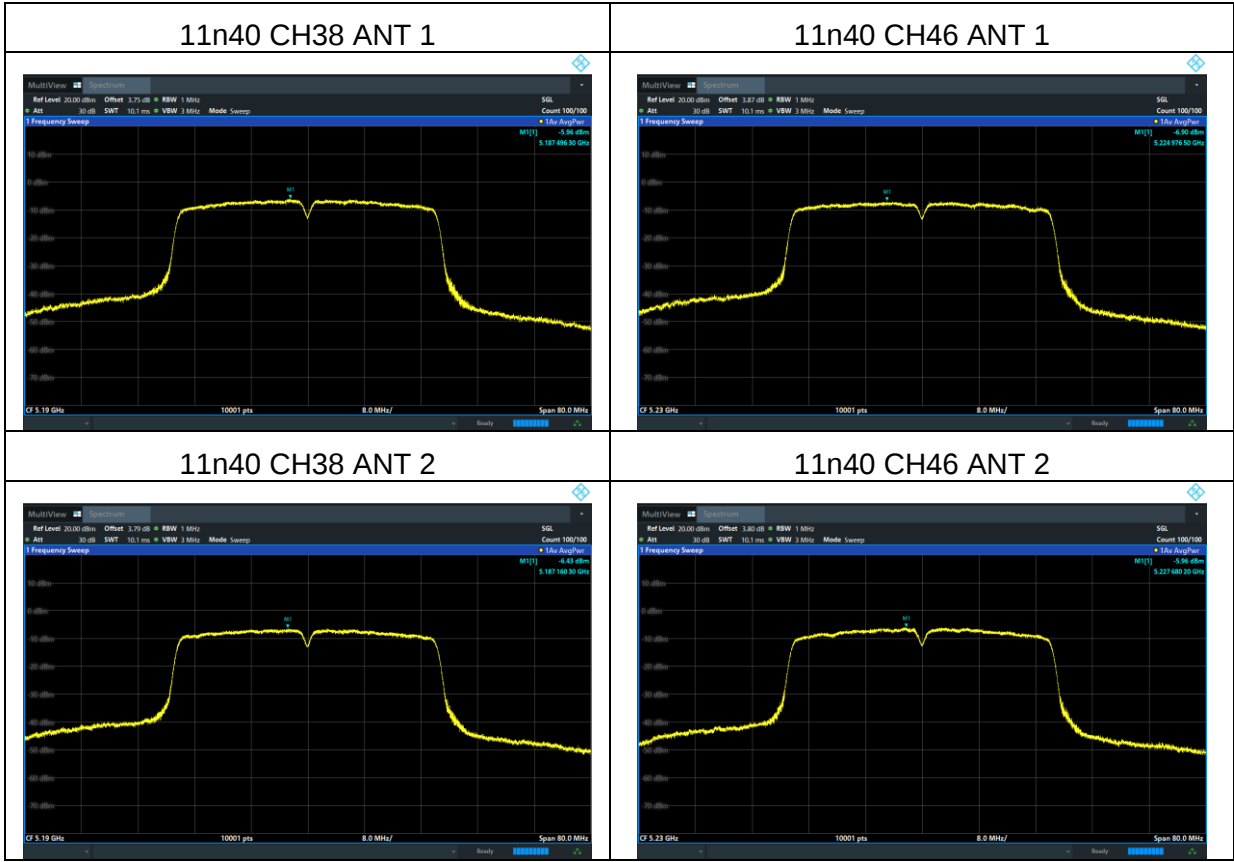
Directional gain = G ANT + 10 log(N ANT) dBi =4+10log(2)=7.01dBi

Test plots

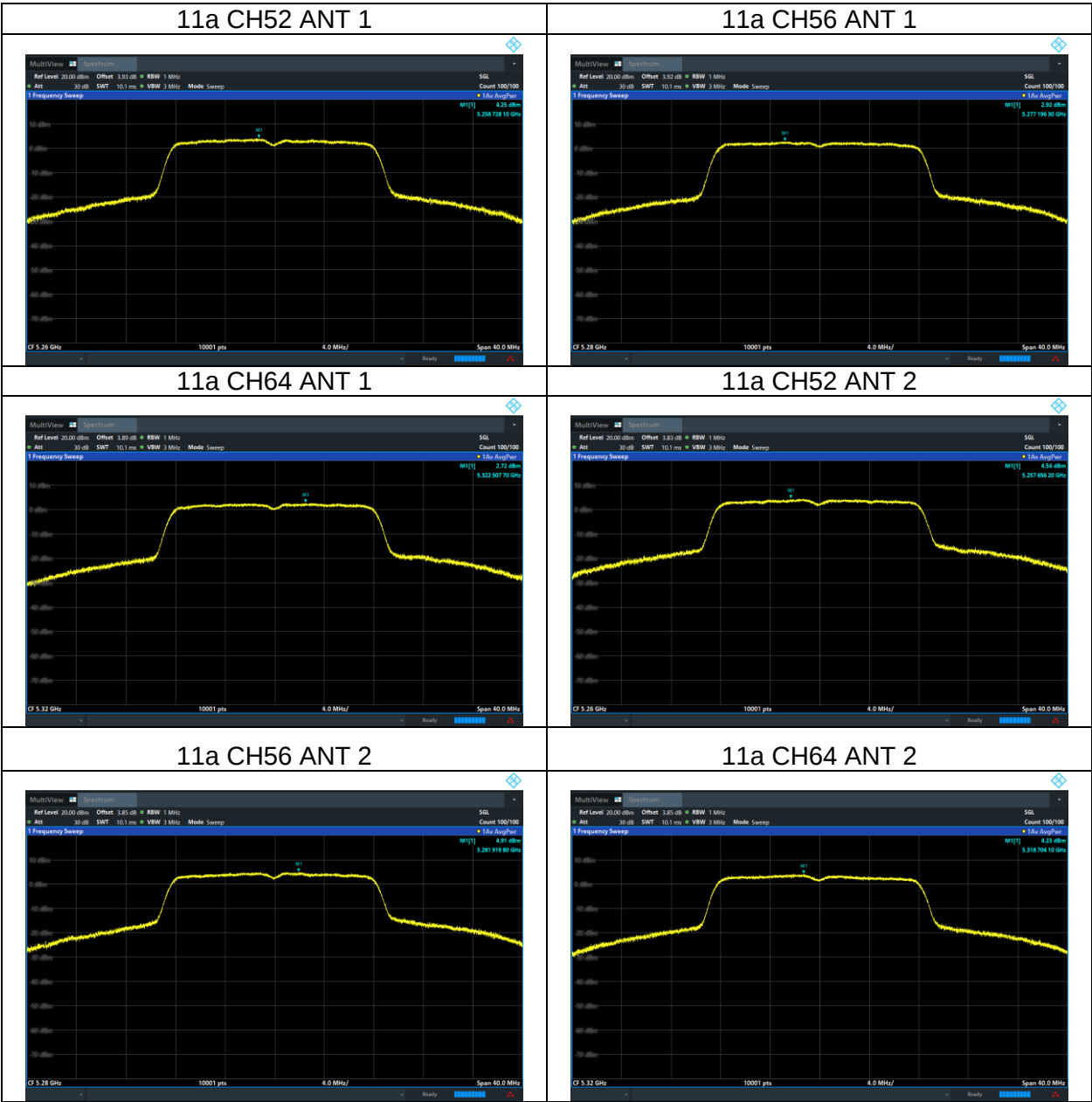
For U-NII-1

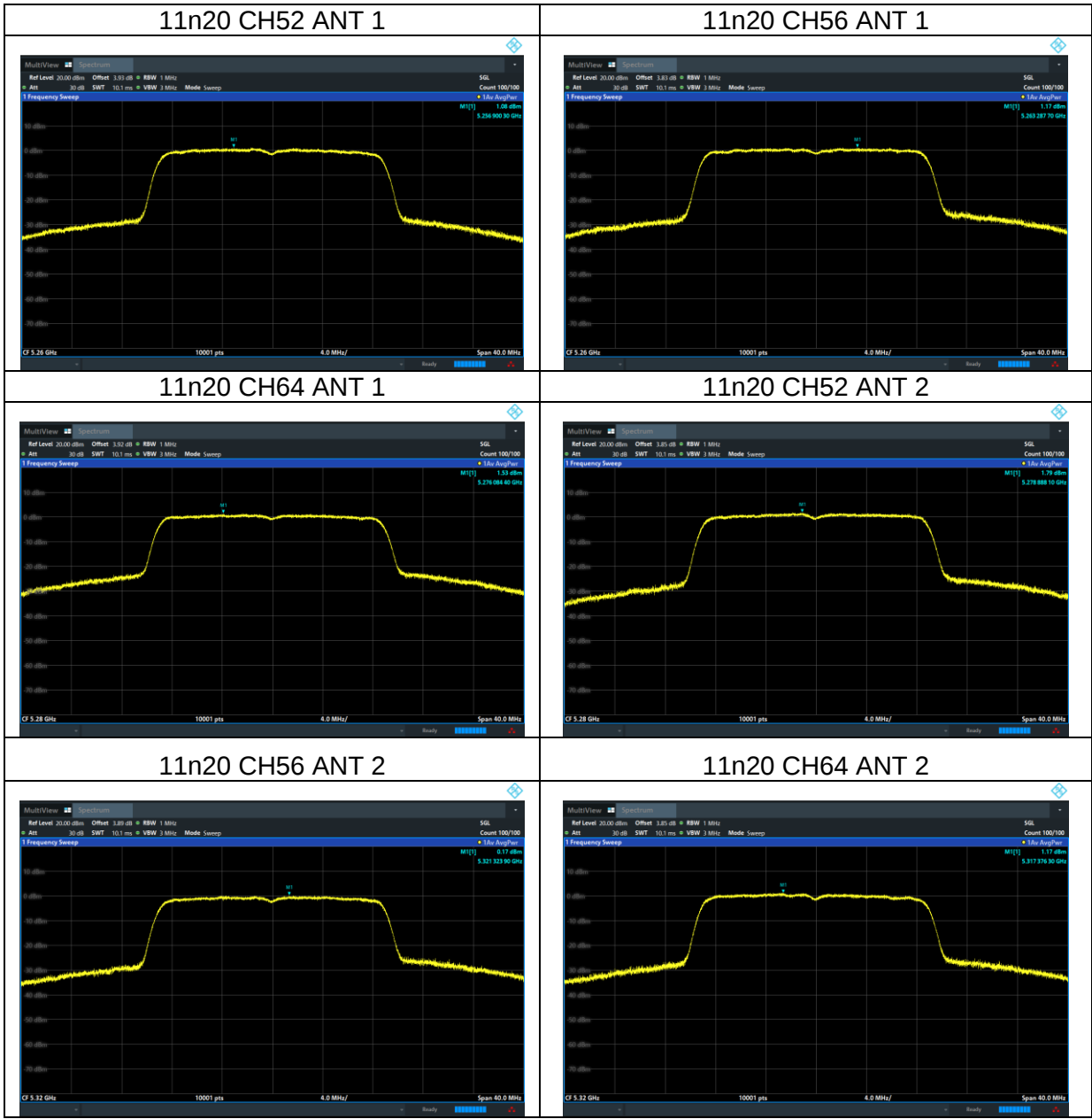


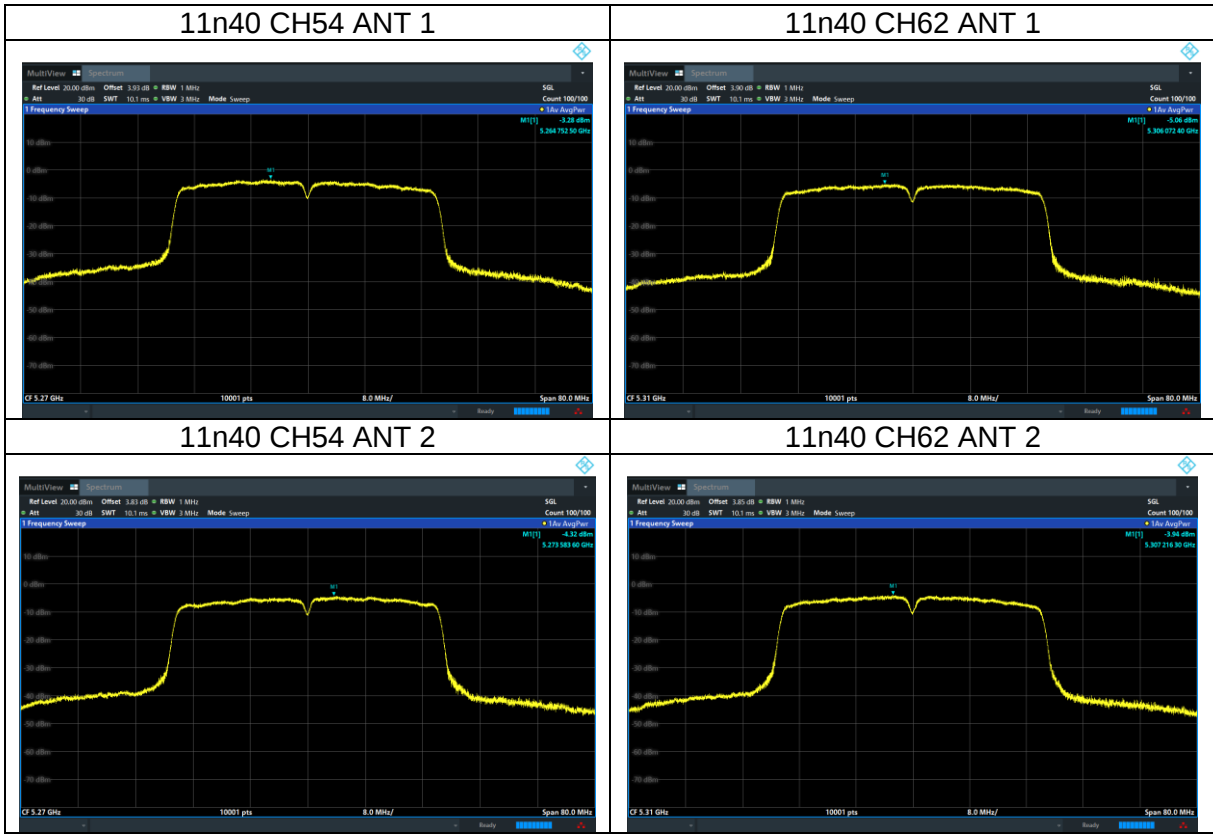




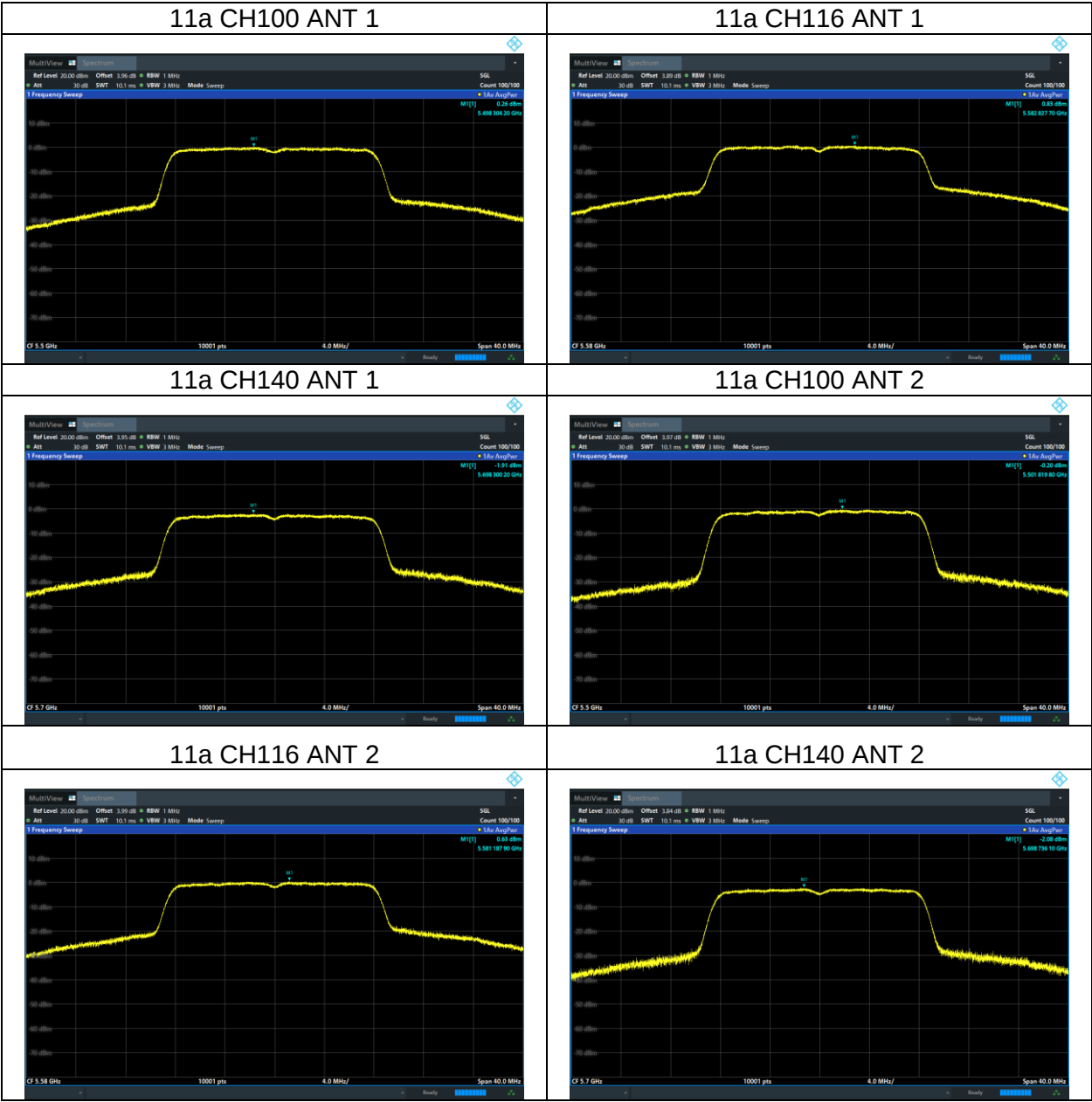
Test plots
For U-NII-2A

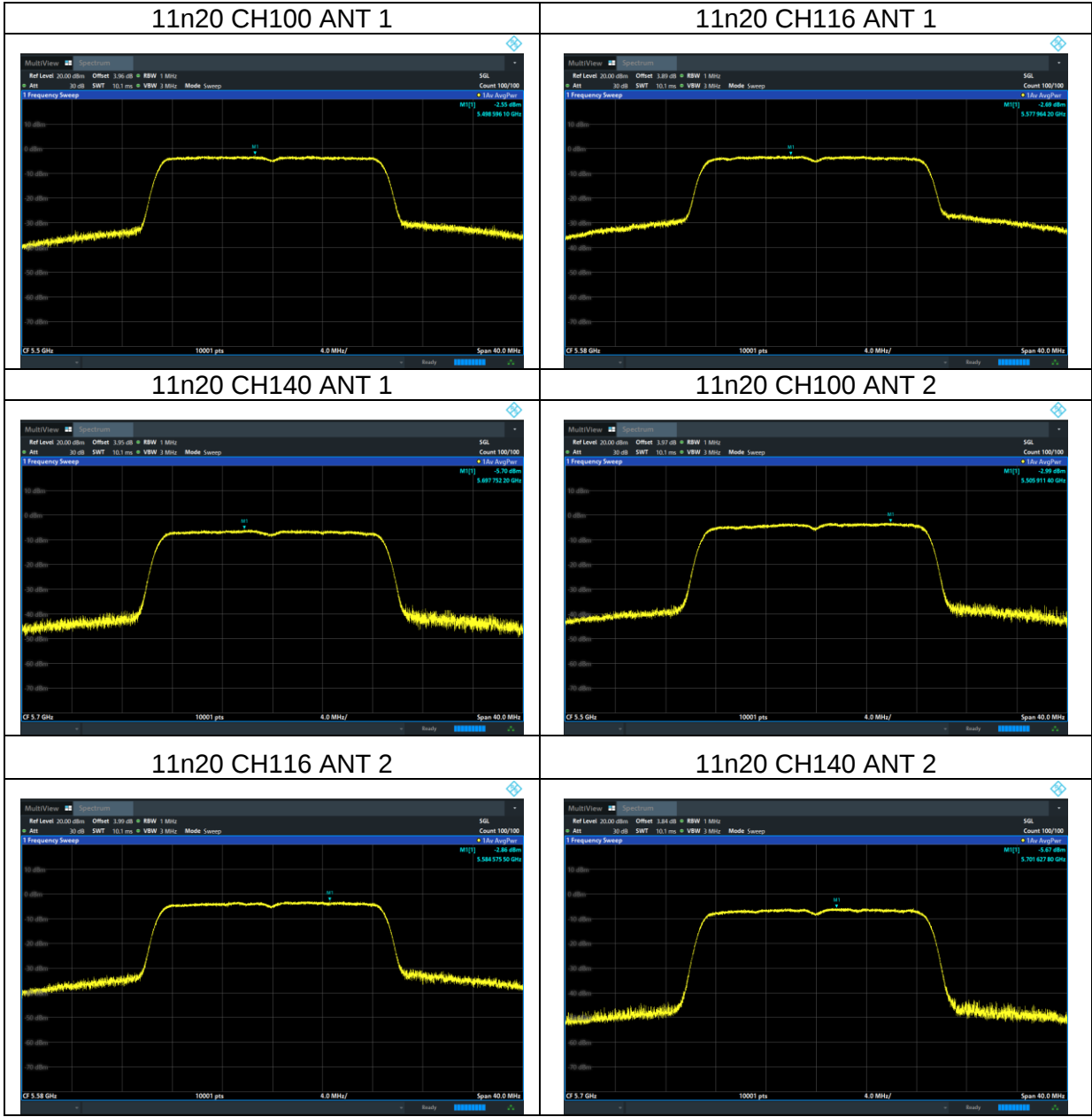


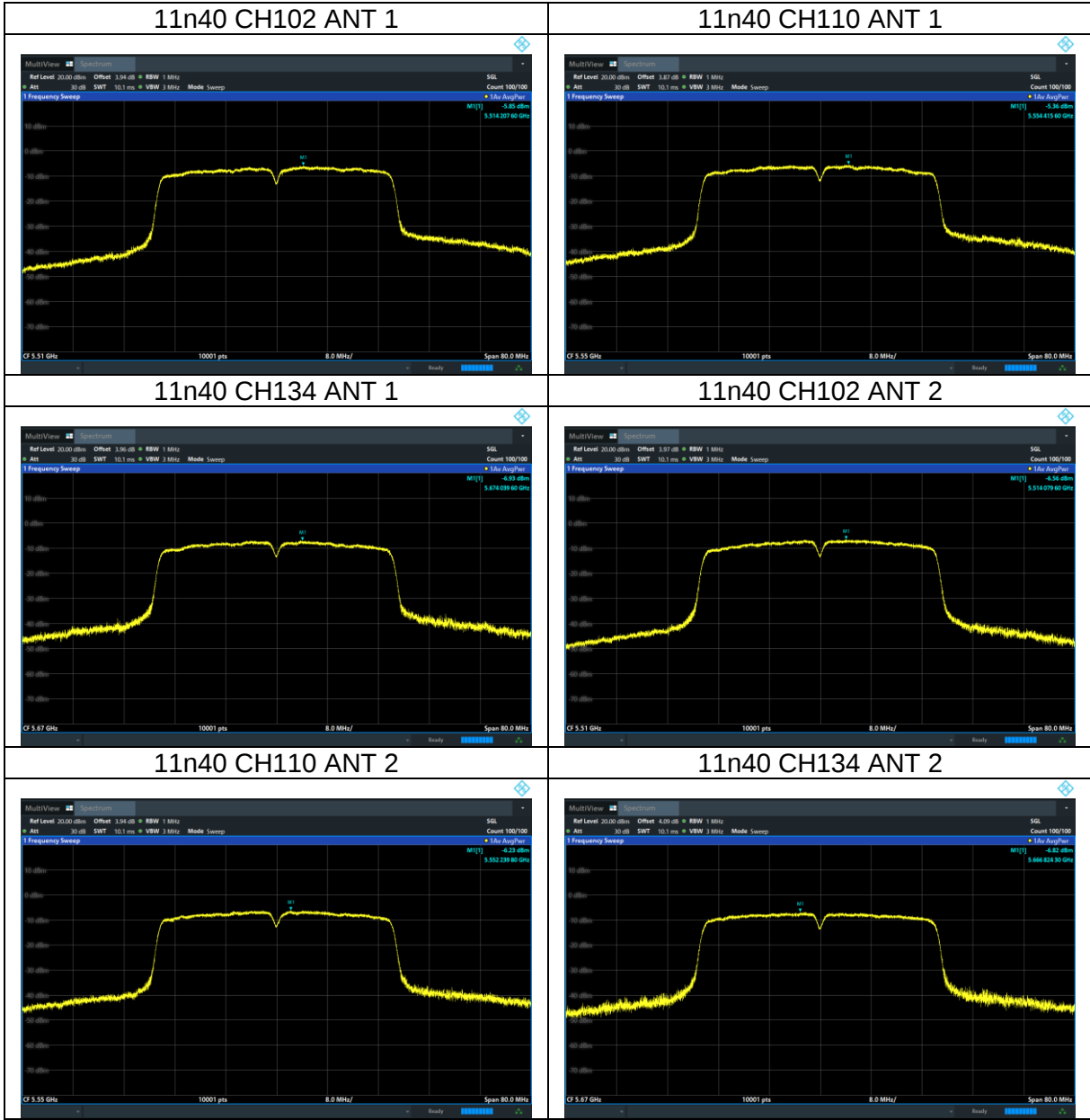




Test plots
For U-NII-2C







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 $\geq 3 \times \text{RBW}$

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

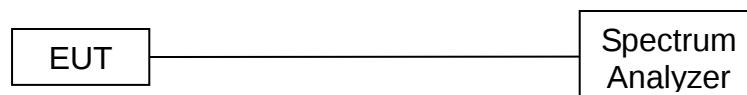
Set RBW = 1% to 5% of the OBW.

Set VBW $\geq 3 \times \text{RBW}$, 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-1

ANT 1:

Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	Limit (kHz)	99% bandwidth	Limit (kHz)	Result
11a	CH36	5180	36.568	/	16.914	/	Pass
11a	CH40	5200	38.504	/	16.854	/	Pass
11a	CH48	5240	39.972	/	17.414	/	Pass
11n (HT20)	CH36	5180	34.864	/	17.588	/	Pass
11n (HT20)	CH40	5200	34.808	/	17.71	/	Pass
11n (HT20)	CH48	5240	39.88	/	18.095	/	Pass
11n (HT40)	CH38	5190	41.888	/	36.141	/	Pass
11n (HT40)	CH46	5230	41.728	/	36.193	/	Pass

ANT 2:

Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	Limit (kHz)	99% bandwidth	Limit (kHz)	Result
11a	CH36	5180	37.632	/	16.821	/	Pass
11a	CH40	5200	39.044	/	19.194	/	Pass
11a	CH48	5240	39.832	/	20.484	/	Pass
11n (HT20)	CH36	5180	34.676	/	17.585	/	Pass
11n (HT20)	CH40	5200	34.592	/	17.713	/	Pass
11n (HT20)	CH48	5240	39.044	/	17.999	/	Pass
11n (HT40)	CH38	5190	42.096	/	36.207	/	Pass
11n (HT40)	CH46	5230	41.384	/	36.084	/	Pass

U-NII-2A

ANT 1:

Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	Limit (kHz)	99% bandwidth	Limit (kHz)	Result
11a	CH52	5260	38.528	/	17.155	/	Pass
11a	CH56	5280	39.54	/	18.104	/	Pass
11a	CH64	5320	38.964	/	19.39	/	Pass
11n (HT20)	CH52	5260	32.152	/	17.614	/	Pass
11n (HT20)	CH56	5280	39.356	/	18.17	/	Pass
11n (HT20)	CH64	5320	35.976	/	17.798	/	Pass
11n (HT40)	CH54	5270	42.912	/	36.266	/	Pass
11n (HT40)	CH62	5310	41.896	/	36.208	/	Pass

ANT 2:

Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	Limit (kHz)	99% bandwidth	Limit (kHz)	Result
11a	CH52	5260	39.992	/	23.052	/	Pass
11a	CH56	5280	39.188	/	22.46	/	Pass
11a	CH64	5320	39.44	/	19.861	/	Pass
11n (HT20)	CH52	5260	35.772	/	17.714	/	Pass
11n (HT20)	CH56	5280	35.32	/	17.735	/	Pass
11n (HT20)	CH64	5320	36.972	/	17.724	/	Pass
11n (HT40)	CH54	5270	53.344	/	36.355	/	Pass
11n (HT40)	CH62	5310	42.256	/	36.123	/	Pass