

Test Report

FCC ID: 2AHLZ-HI9AIR

Date of issue: July 25, 2018

Report Number:	MTi180724E138
Sample Description:	Tablet PC
Model(s):	Hi9 Air-CWI546
Applicant:	CHUWI TECHNOLOGY (ShenZhen) CO., LIMITED
Address:	2 Floor Building 3 LiJinCheng Industrial park the east of Gongye road LongHua Shenzhen China
Date of Test:	Apr. 25, 2018 to July 25, 2018

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

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Test Result Certification

Applicant's name: CHUWI TECHNOLOGY (ShenZhen) CO., LIMITED

Address: 2 Floor Building 3 LiJinCheng Industrial park the east of Gongye road
LongHua Shenzhen China

Manufacture's Name: Shenzhen Sunty Technology Co., Ltd.

Address: F7-8, Building 7, ZhongYunTai Industry Park, Songbai Road, Shiyan
Street, Bao'an District, Shenzhen, China.

Product name: Tablet PC

Trademark: CHUWI

Model name: Hi9 Air-CWI546

Standards: FCC Part 15.407

Test Procedure: ANSI C63.10-2013
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

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

Tested by: Leo Su
Leo Su July 25, 2018

Reviewed by: Blue Zheng
Blue Zheng July 25, 2018

Approved by: Smith Chen
Smith Chen July 25, 2018

1 General information

1.1 Description of EUT

Equipment:	Tablet PC
Trade name:	CHUWI
Model name:	Hi9 Air-CWI546
Difference in series models:	N/A
Frequency range:	Band I: 5150 MHz to 5250 MHz, Band IV: 5725 MHz to 5850 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/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:	Integrated antenna
Antenna gain:	Band I: 0.4dBi Band IV: 1.65dBi
Max. output power:	Band I: 11.90 dBm Band IV: 13.95 dBm
Hardware version:	X970-97WCB
Software version:	V1.0
Power supply:	DC 3.8V from Battery or DC 5V from adapter
Adapter information:	Model:GKYPG0200050 US2 Input: 100-240V 50/60Hz 0.5A Output: 5V 2A
Battery:	DC 3.8V 8000mAh

1.2 Operation channel list

For band I:

20 MHz		40 MHz		80 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	--	--
44	5220	--	--	--	--
48	5240	--	--	--	--

For band IV:

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

1.3 Test channel list

For 802.11a/n/ac (HT20)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	149	Low	5745
44	Mid	5220	157	Mid	5785
48	High	5240	165	High	5825

For 802.11n/ac (HT40)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	151	Low	5755
46	High	5230	159	High	5795

For 802.11ac (HT80)

Band I (5150 - 5250 MHz)		Band IV (5725 - 5850 MHz)	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
38	5190	151	5755

1.4 Ancillary equipment list

Equipment	Model	S/N	Manufacturer	Certificate type
/	/	/	/	/

1.5 Description of Support Units

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

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

Note:

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

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

2 Summary of the Test Results

Test procedures according to the technical standards:

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

3 Test Facilities and Accreditations

3.1 Test laboratory

Test Laboratory	Shenzhen Microtest Co., Ltd
Location	No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China
FCC Registration No.:	448573

3.2 Environmental conditions

Temperature:	20°C~30°C
Humidity	30%~70%
Atmospheric pressure	98kPa~101kPa

3.3 Measurement uncertainty

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

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power, conducted	$\pm 0.16\text{dB}$
3	Spurious emissions, conducted	$\pm 0.21\text{dB}$
4	All emissions, radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions, radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$

3.4 Test software

Software Name	Manufacturer	Model	Version
RF Test System	Farad	LZ-RF	Lz_Rf 3A3

4 Equipment list

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E001	Spectrum Analyzer	Agilent	E4407B	MY41441082	2017/09/18	2018/09/17
MTI-E002	CMU 200 universal radio communication tester	Rohde&schwarz	CMU 200	114587	2017/09/18	2018/09/17
MTI-E004	EMI Test Receiver	Rohde&schwarz	ESPI	1000314	2017/09/18	2018/09/17
MTI-E006	Broadband antenna	schwarabeck	VULB9163	872	2017/09/18	2018/09/17
MTI-E007	Horn antenna	schwarabeck	BBHA9120D	1201	2017/09/18	2018/09/17
MTI-E014	amplifier	America	8447D	3113A06150	2017/09/18	2018/09/17
MTI-E015	Conduction Immunity Signal Generator	Schloder	CDG6000	126A1343/2015	2017/09/18	2018/09/17
MTI-E016	Coupled decoupling network	Schloder	CDA M2/M3	A2210332/2015	2017/09/18	2018/09/17
MTI-E032	Comprehensive test instrument	Rohde&schwarz	CMW500	124192	2017/09/13	2018/09/12
MTI-E034	amplifier	Agilent	8449B	3008A02400	2017/08/22	2018/08/21
MTI-E040	Spectrum analyzer	Agilent	N9020A	MY49100060	2017/09/05	2018/09/04
MTI-E041	Signal generator	Agilent	N5182A	MY49060455	2017/09/23	2018/09/22
MTI-E042	Analog signal generator	Agilent	E4421B	GB40051240	2017/09/23	2018/09/22
MTI-E043	Power sensor	Dare Instruments	RPR3006W	16I00054SN016	2017/09/29	2018/09/28
MTI-E047	10dB attenuator	Mini-Circuits	UNAT-10+	15542	2017/09/24	2018/09/23
MTI-E049	spectrum analyzer	Rohde&schwarz	FSP-38	100019	2017/09/18	2018/09/17
MTI-E050	PSG Signal generator	Agilent	E8257D	MY46520873	2017/09/24	2018/09/23
MTI-E051	Active Loop Antenna 9kHz - 30MHz	Schwarzbeek	FMZB 1519 B	00044	2017/09/26	2018/09/25
MTI-E052	18-40GHz amplifier	Chengdu step Micro Technology	ZLNA-18-40G-21	1608001	2017/09/18	2018/09/17
MTI-E053	15-40G Antenna	Schwarzbeek	BBHA9170	BBHA9170582	2017/09/18	2018/09/17

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

5 Test Results

5.1 Antenna requirement

5.1.1 Standard requirement

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

5.1.2 EUT Antenna

The antenna is an integral antenna, which was permanently affixed to the device and un-replaced, complies with 15.203. In addition, the maximum antenna gain is 1.65dBi.

5.2 RF output power

5.2.1 Limit

For the 5.15-5.25 GHz band

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. 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

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. 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.

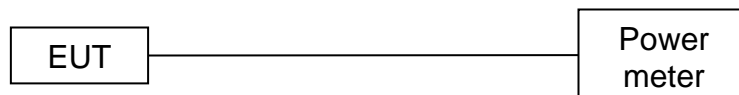
For the band 5.725-5.85 GHz

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.

5.2.2 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.

5.2.3 Test setup



5.2.4 Test results

For Band I

Modulation mode	Test Channel	Frequency(MHz)	Maximum Conducted Power(AV)		Limit(mW)
			(dBm)	(mW)	
11a	CH36	5180	9.91	9.79	250
11a	CH40	5200	10.23	10.54	250
11a	CH48	5240	11.82	15.21	250
11n (HT20)	CH36	5180	10.31	10.74	250
11n (HT20)	CH40	5200	10.48	11.17	250
11n (HT20)	CH48	5240	11.90	15.49	250
11n (HT40)	CH38	5190	9.45	8.81	250
11n (HT40)	CH46	5230	10.12	10.28	250

Modulation mode	Test Channel	Frequency(MHz)	Maximum Conducted Power(AV)		Limit(mW)
			(dBm)	(mW)	
11ac (HT20)	CH36	5180	9.94	9.86	250
11ac (HT20)	CH40	5200	10.82	12.08	250
11ac (HT20)	CH48	5240	11.53	14.22	250
11ac (HT40)	CH38	5190	9.28	8.47	250
11ac (HT40)	CH46	5230	9.80	9.55	250
11ac (HT80)	CH42	5210	6.93	4.93	250

For Band IV

Modulation mode	Test Channel	Frequency(MHz)	Maximum Conducted Power(AV)		Limit(mW)
			(dBm)	(mW)	
11a	CH149	5745	12.34	17.14	1000
11a	CH157	5785	12.82	19.14	1000
11a	CH165	5825	13.95	24.83	1000
11n (HT20)	CH149	5745	12.39	17.34	1000
11n (HT20)	CH157	5785	12.45	17.58	1000
11n (HT20)	CH165	5825	13.77	23.82	1000
11n (HT40)	CH151	5755	10.82	12.08	1000
11n (HT40)	CH159	5795	11.96	15.70	1000

Modulation mode	Test Channel	Frequency(MHz)	Maximum Conducted Power(AV)		Limit(mW)
			(dBm)	(mW)	
11ac (HT20)	CH149	5745	11.89	15.45	1000
11ac (HT20)	CH157	5785	13.04	20.14	1000
11ac (HT20)	CH165	5825	13.41	21.93	1000
11ac (HT40)	CH151	5755	11.21	13.21	1000
11ac (HT40)	CH159	5795	11.87	15.38	1000
11ac (HT80)	CH155	5775	8.68	7.38	1000

5.3 Power line conducted emission

5.3.1 Limits

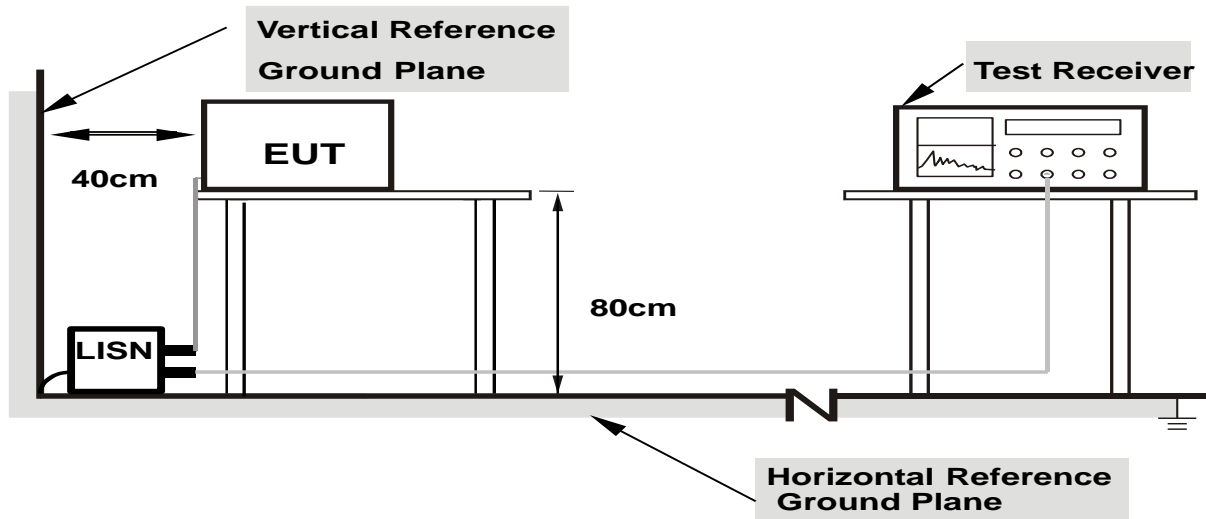
FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note

(1)The tighter limit applies at the band edges.

(2)The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

5.3.2 Test setup



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

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

5.3.3 Test procedure

a. EUT Operating Conditions

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

b. The following table is the setting of the receiver

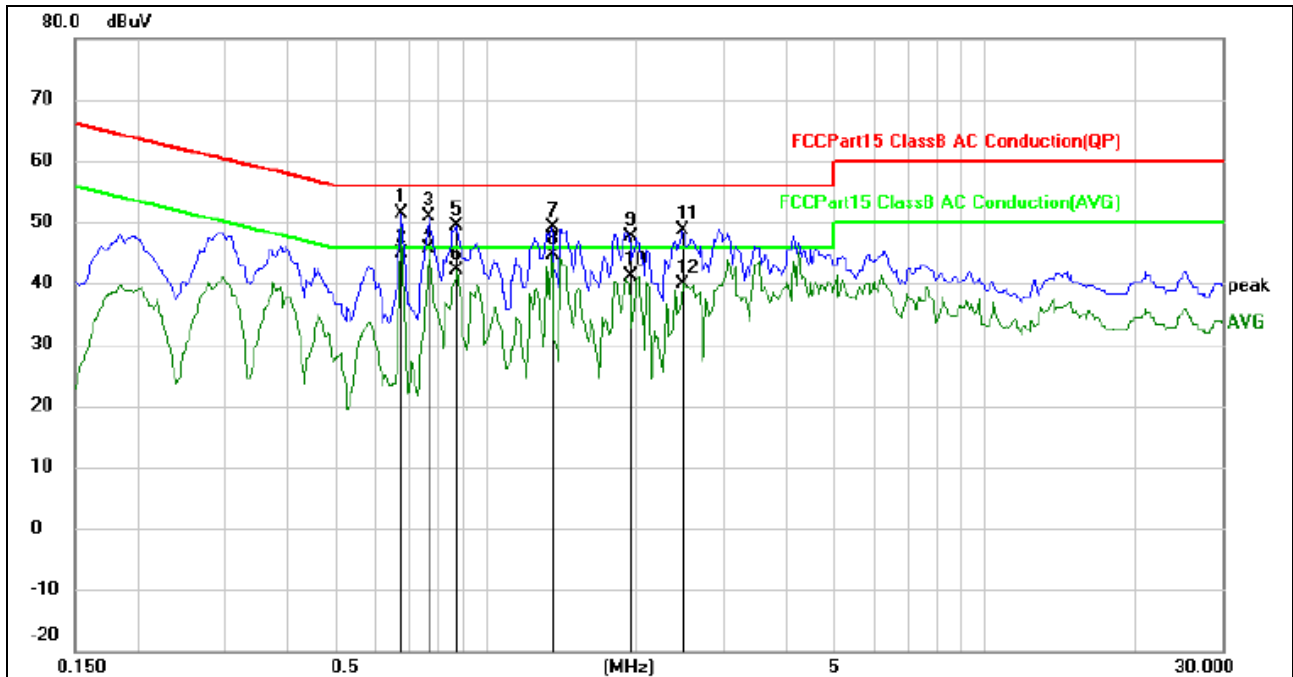
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

- c. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- d. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- e. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- f. LISN at least 80 cm from nearest part of EUT chassis.

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

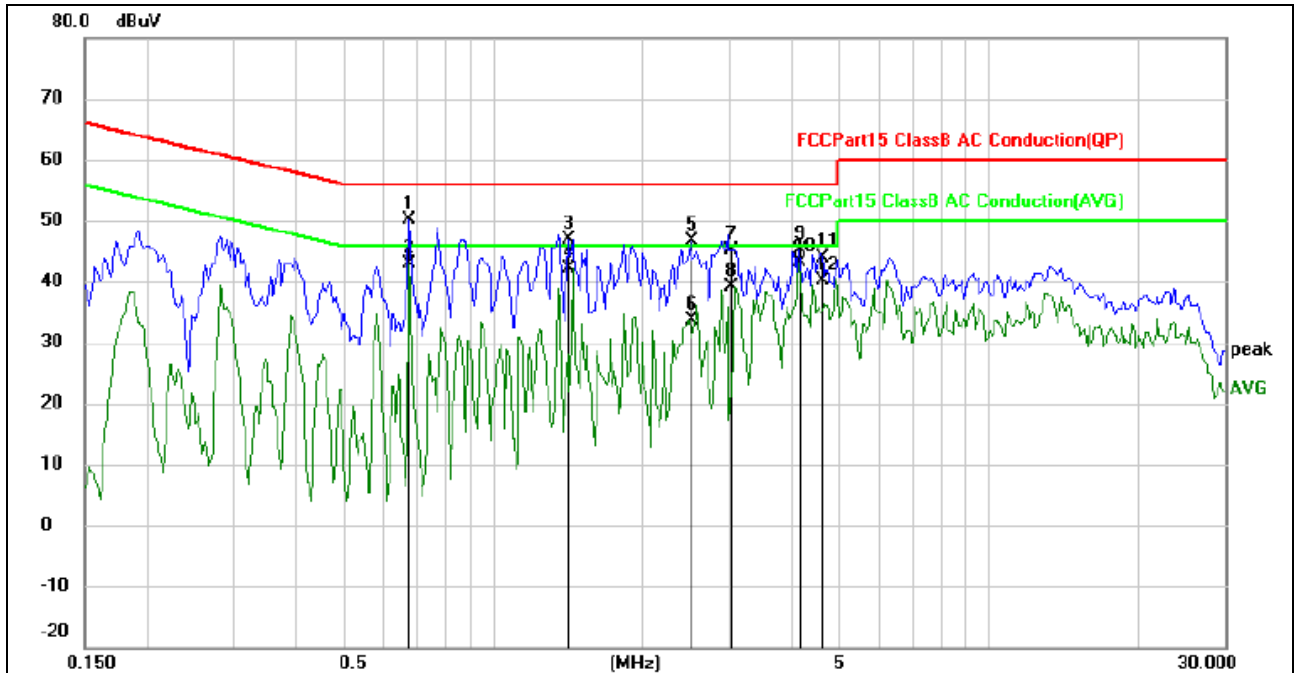
5.3.4 Test results

EUT :	Tablet PC	Model Name. :	Hi9 Air-CWI546
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V from adapter AC 120V/60Hz	Test Mode :	TX Mode



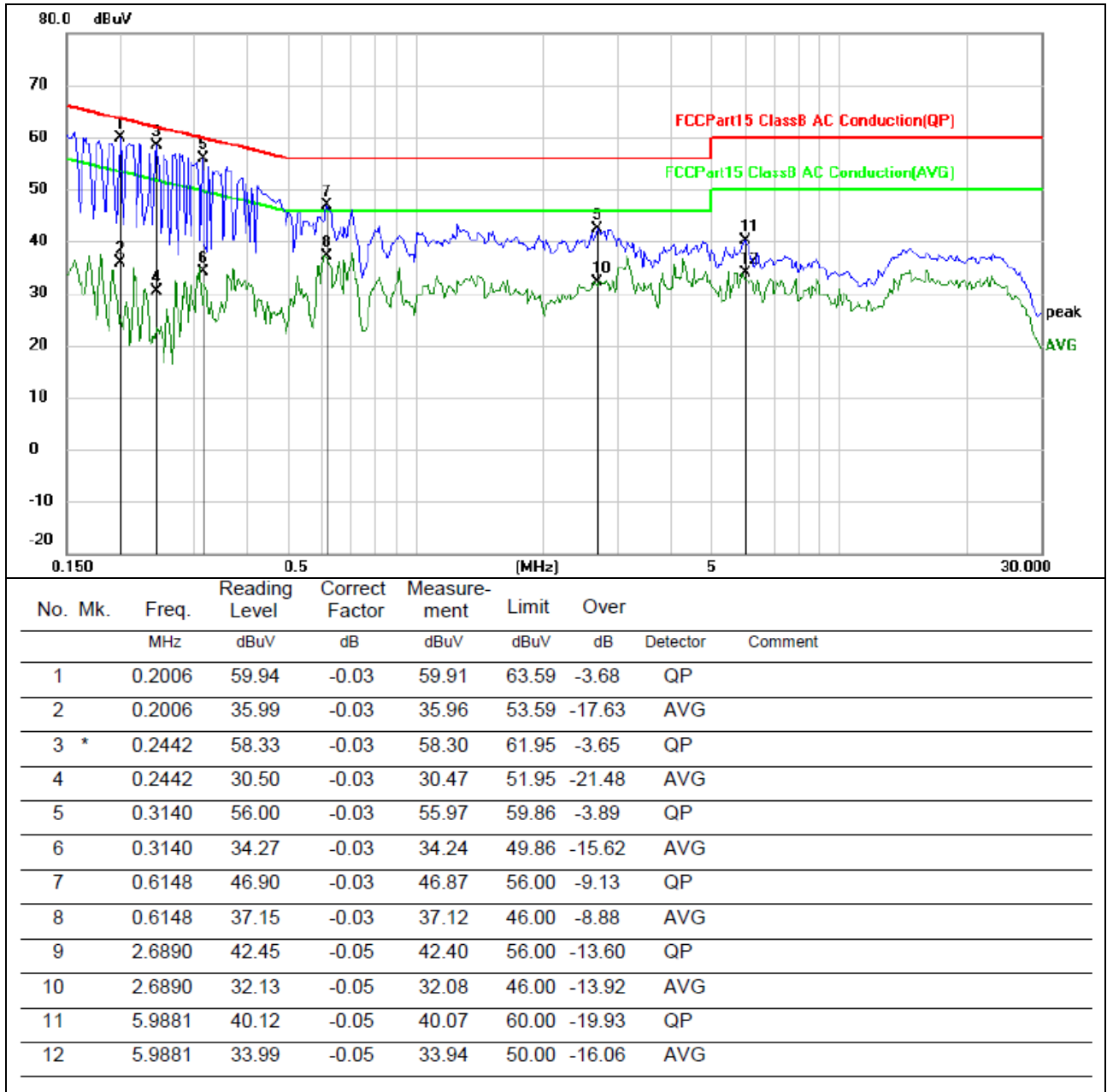
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.6773	51.49	-0.03	51.46	56.00	-4.54	QP	
2		0.6773	45.03	-0.03	45.00	46.00	-1.00	AVG	
3		0.7711	51.01	-0.03	50.98	56.00	-5.02	QP	
4	*	0.7711	45.69	-0.03	45.66	46.00	-0.34	AVG	
5		0.8727	49.32	-0.04	49.28	56.00	-6.72	QP	
6		0.8727	42.26	-0.04	42.22	46.00	-3.78	AVG	
7		1.3569	49.09	-0.04	49.05	56.00	-6.95	QP	
8		1.3569	44.75	-0.04	44.71	46.00	-1.29	AVG	
9		1.9391	47.79	-0.05	47.74	56.00	-8.26	QP	
10		1.9391	41.25	-0.05	41.20	46.00	-4.80	AVG	
11		2.4820	48.69	-0.05	48.64	56.00	-7.36	QP	
12		2.4820	40.02	-0.05	39.97	46.00	-6.03	AVG	

EUT :	Tablet PC	Model Name. :	Hi9 Air-CWI546
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V from adapter AC 120V/60Hz	Test Mode :	Normal link

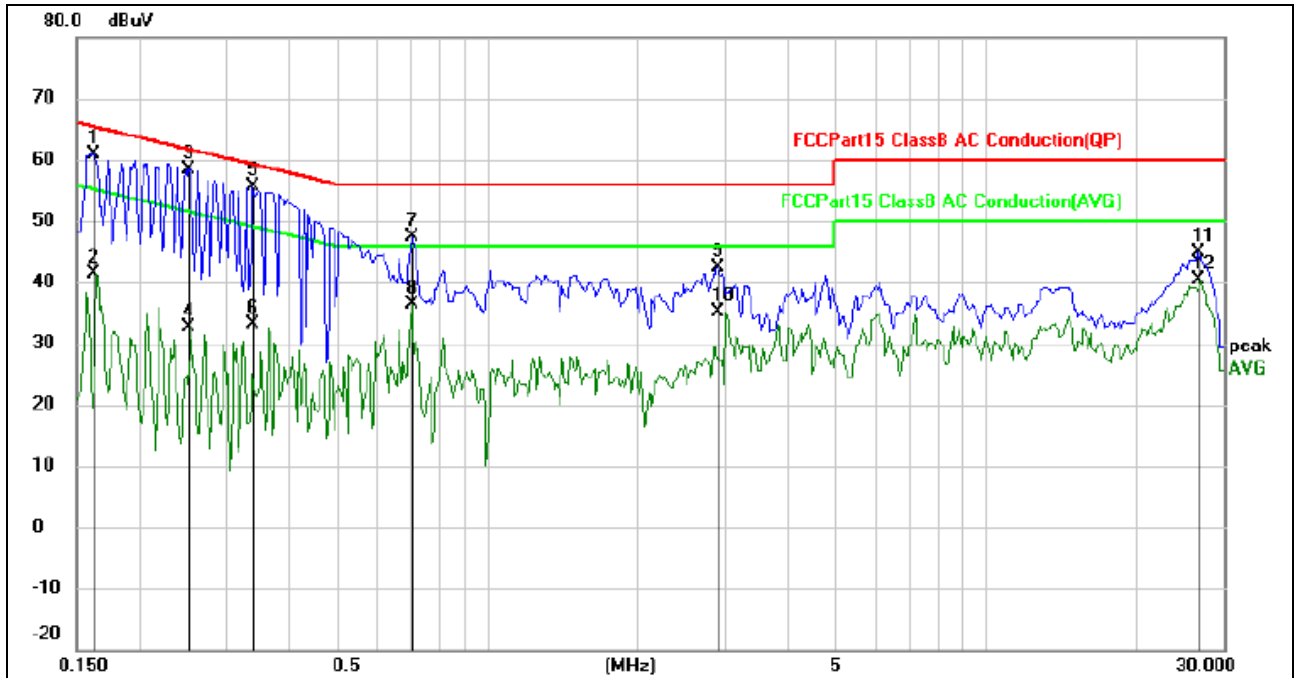


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.6773	50.27	-0.03	50.24	56.00	-5.76	QP	
2		0.6773	42.92	-0.03	42.89	46.00	-3.11	AVG	
3		1.4234	46.96	-0.04	46.92	56.00	-9.08	QP	
4		1.4234	42.20	-0.04	42.16	46.00	-3.84	AVG	
5		2.5016	46.59	-0.05	46.54	56.00	-9.46	QP	
6		2.5016	33.72	-0.05	33.67	46.00	-12.33	AVG	
7		3.0253	45.26	-0.04	45.22	56.00	-10.78	QP	
8		3.0253	39.20	-0.04	39.16	46.00	-6.84	AVG	
9		4.1367	45.08	-0.05	45.03	56.00	-10.97	QP	
10	*	4.1367	43.07	-0.05	43.02	46.00	-2.98	AVG	
11		4.6223	44.04	-0.06	43.98	56.00	-12.02	QP	
12		4.6223	40.14	-0.06	40.08	46.00	-5.92	AVG	

EUT :	Tablet PC	Model Name. :	Hi9 Air-CWI546
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V from adapter AC 240V/60Hz	Test Mode :	Normal link



EUT :	Tablet PC	Model Name. :	Hi9 Air-CWI546
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V from adapter AC 240V/60Hz	Test Mode :	Normal link



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1617	60.90	-0.03	60.87	65.38	-4.51	QP	
2		0.1617	41.38	-0.03	41.35	55.38	-14.03	AVG	
3	*	0.2519	58.34	-0.03	58.31	61.69	-3.38	QP	
4		0.2519	32.71	-0.03	32.68	51.69	-19.01	AVG	
5		0.3375	55.65	-0.03	55.62	59.26	-3.64	QP	
6		0.3375	33.10	-0.03	33.07	49.26	-16.19	AVG	
7		0.7046	47.33	-0.03	47.30	56.00	-8.70	QP	
8		0.7046	36.31	-0.03	36.28	46.00	-9.72	AVG	
9		2.8921	42.35	-0.04	42.31	56.00	-13.69	QP	
10		2.8921	35.07	-0.04	35.03	46.00	-10.97	AVG	
11		26.5742	45.19	-0.34	44.85	60.00	-15.15	QP	
12		26.5742	40.74	-0.34	40.40	50.00	-9.60	AVG	

5.4 26dB Emission Bandwidth and Occupied bandwidth

5.4.1 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

5.4.2 Test procedure

26d Emission bandwidth

Set RBW = approximately 1% of the emission bandwidth.

Set VBW $\geq 3 \times$ 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 $\geq 3 \times$ RBW, Detector = Peak.

Trace mode = Max hold.

Use the 99% power bandwidth function of the instrument.

5.4.3 Test setup



5.4.4 Test results

For Band I

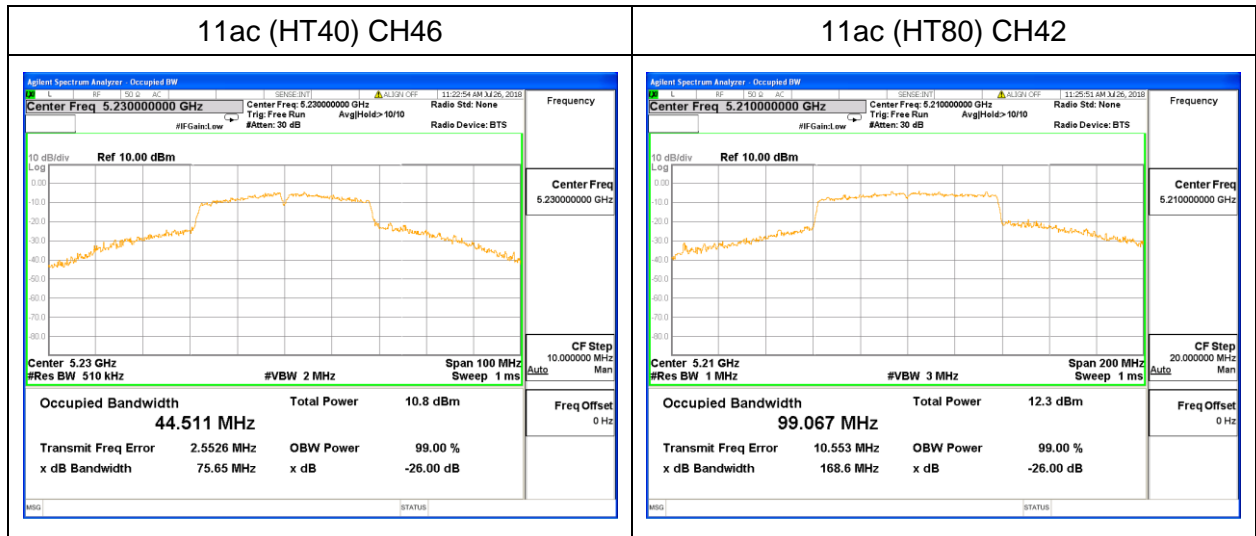
Channel	Test Channel	Frequency(MHz)	26dB bandwidth(MHz)	99% bandwidth	Limit(kHz)	Result
11a	CH36	5180	38.66	22.841	/	Pass
11a	CH40	5200	38.04	22.719	/	Pass
11a	CH48	5240	39.50	23.191	/	Pass
11n (HT20)	CH36	5180	39.30	21.839	/	Pass
11n (HT20)	CH40	5200	38.71	23.200	/	Pass
11n (HT20)	CH48	5240	37.84	22.492	/	Pass
11n (HT40)	CH38	5190	71.98	42.660	/	Pass
11n (HT40)	CH46	5230	72.68	44.355	/	Pass

Channel	Test Channel	Frequency(MHz)	26dB bandwidth(MHz)	99% bandwidth	Limit(kHz)	Result
11ac (HT20)	CH36	5180	39.16	23.579	/	Pass
11ac (HT20)	CH40	5200	38.78	23.628	/	Pass
11ac (HT20)	CH48	5240	38.27	22.727	/	Pass
11ac (HT40)	CH38	5190	73.62	45.520	/	Pass
11ac (HT40)	CH46	5230	75.65	45.511	/	Pass
11ac (HT80)	CH42	5210	168.6	99.067	/	Pass

Test plots:
For Band I







5.5 6dB Bandwidth

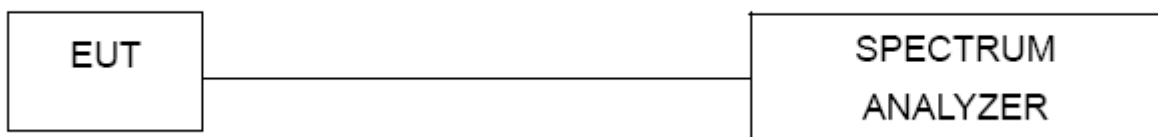
5.5.1 Limit

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

5.5.2 Test procedure

1. Set RBW= 100 kHz.
2. Set the Video bandwidth (VBW) $\geq 3 \times$ 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.

5.5.3 Test setup



5.5.4 Test results

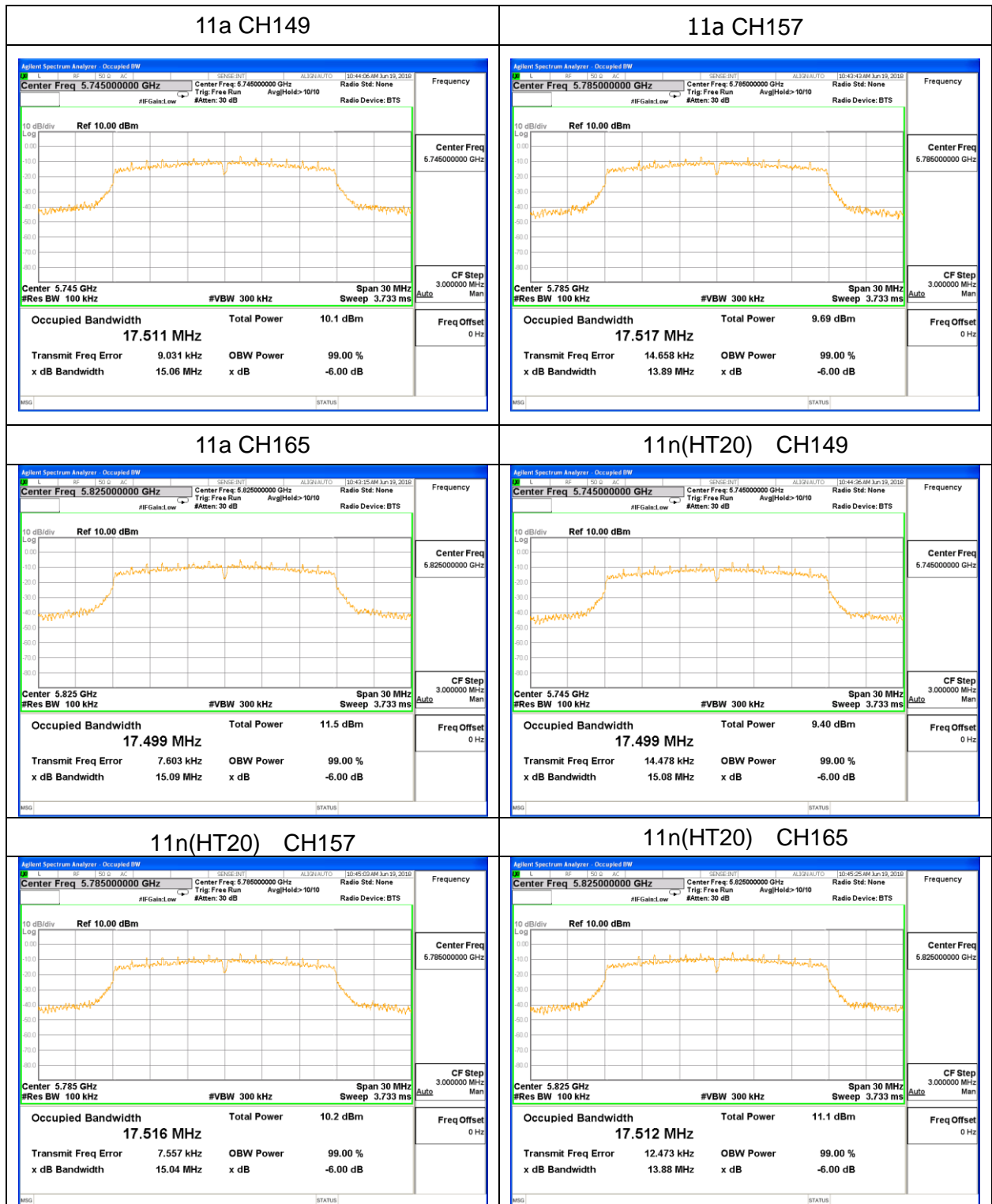
For Band IV

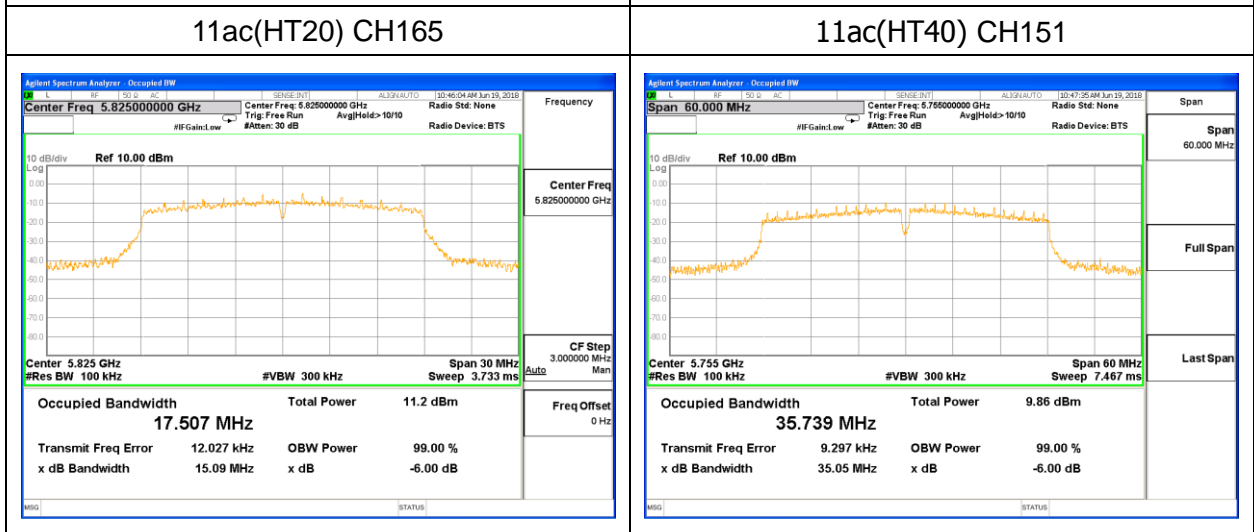
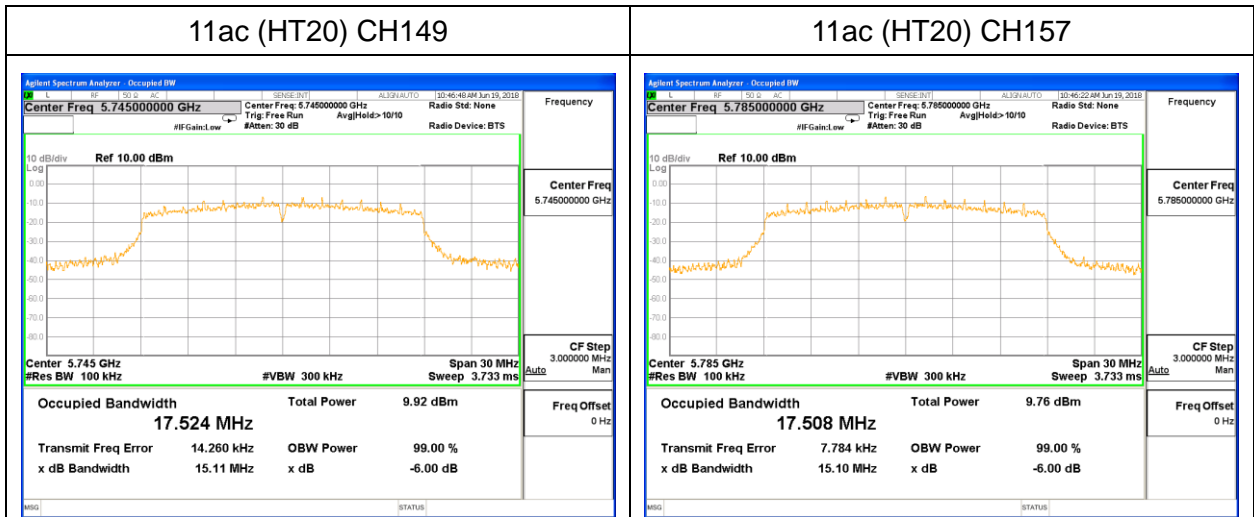
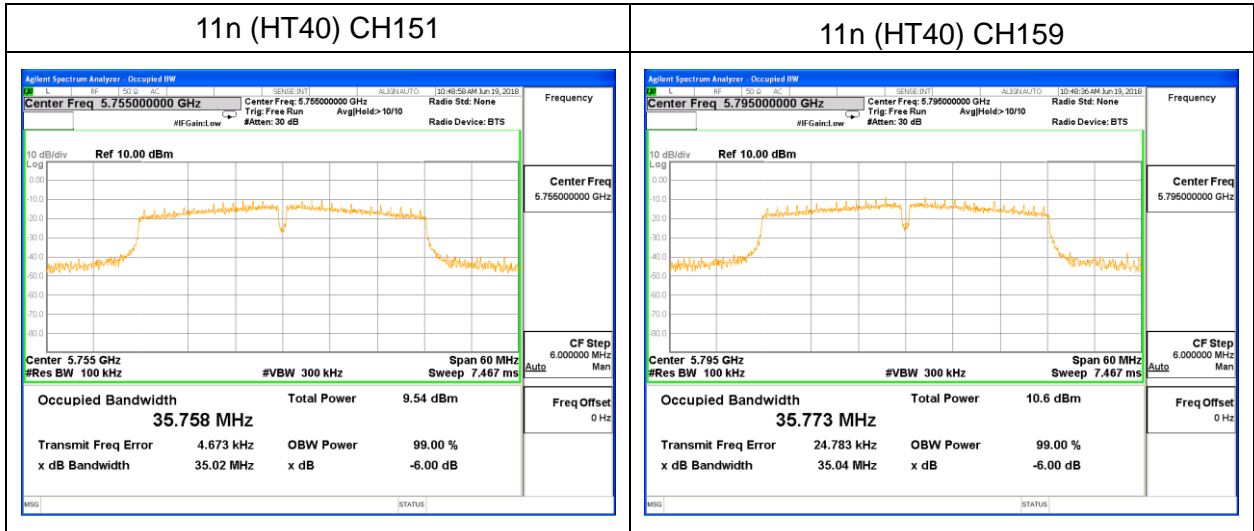
Channel	Test Channel	Frequency(MHz)	6dB bandwidth(MHz)	Limit(kHz)	Result
11a	CH149	5745	15.06	500	Pass
11a	CH157	5785	13.89	500	Pass
11a	CH165	5825	15.09	500	Pass
11n (HT20)	CH149	5745	15.08	500	Pass
11n (HT20)	CH157	5785	15.04	500	Pass
11n (HT20)	CH165	5825	13.88	500	Pass
11n (HT40)	CH151	5755	35.02	500	Pass
11n (HT40)	CH159	5795	35.04	500	Pass

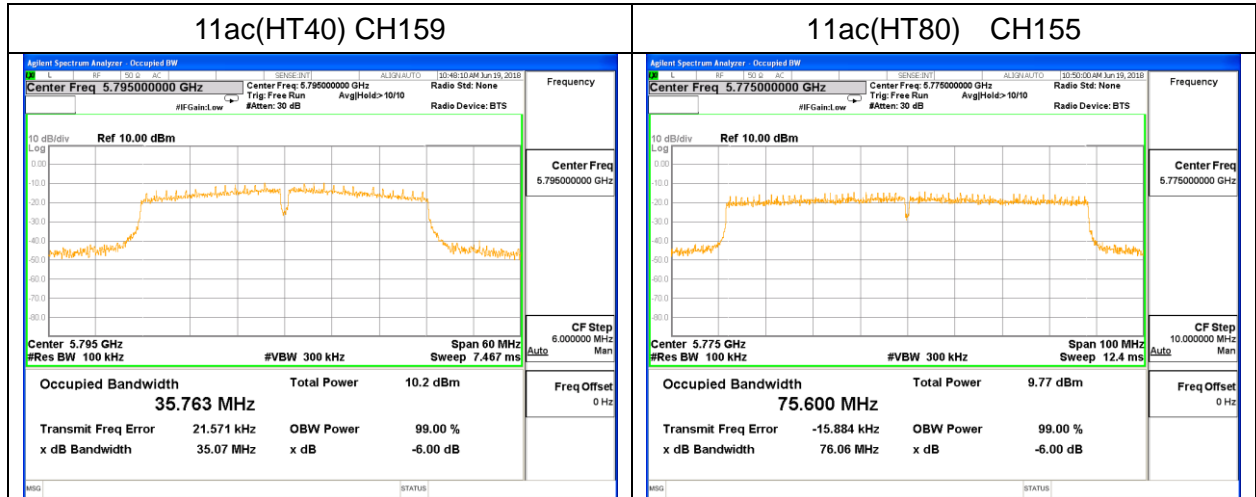
Channel	Test Channel	Frequency(MHz)	6dB bandwidth(MHz)	Limit(kHz)	Result
11ac (HT20)	CH149	5745	15.11	500	Pass
11ac (HT20)	CH157	5785	15.10	500	Pass
11ac (HT20)	CH165	5825	15.09	500	Pass
11ac (HT40)	CH151	5755	35.05	500	Pass
11ac (HT40)	CH159	5795	35.07	500	Pass
11ac (HT80)	CH155	5775	76.06	500	Pass

Test plots:

For Band IV







5.6 Radiated spurious emission

Radiated Emission Limits

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

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

5.6.1 Test procedure

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.

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.

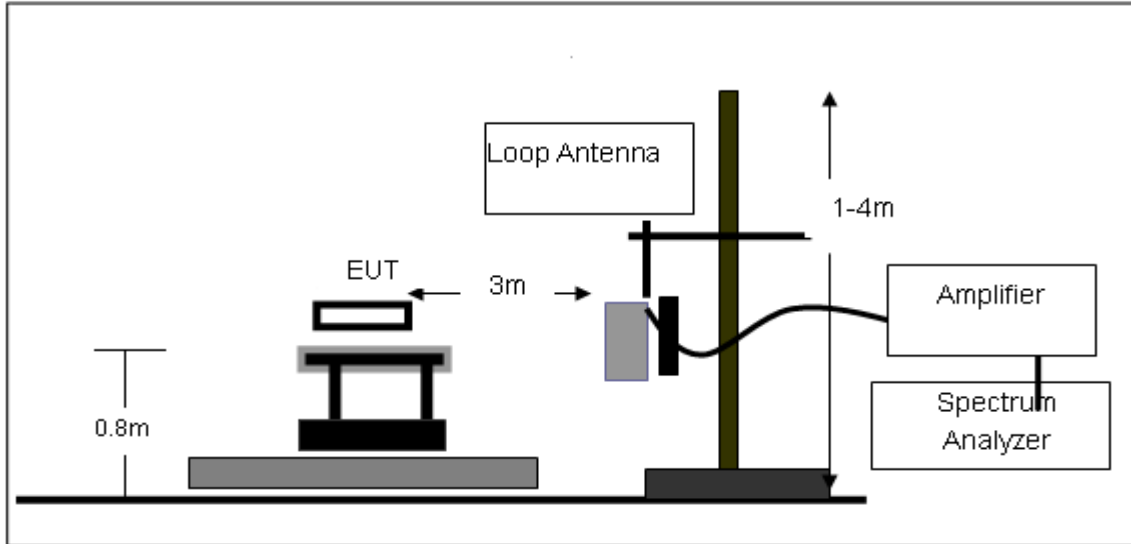
If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT

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.

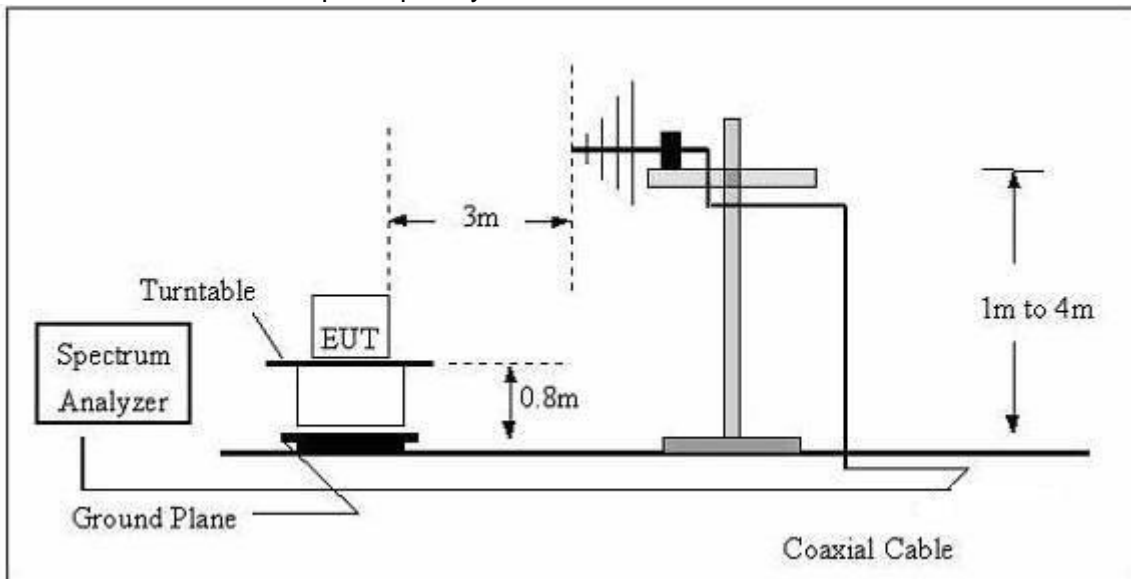
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

5.6.2 Test setup

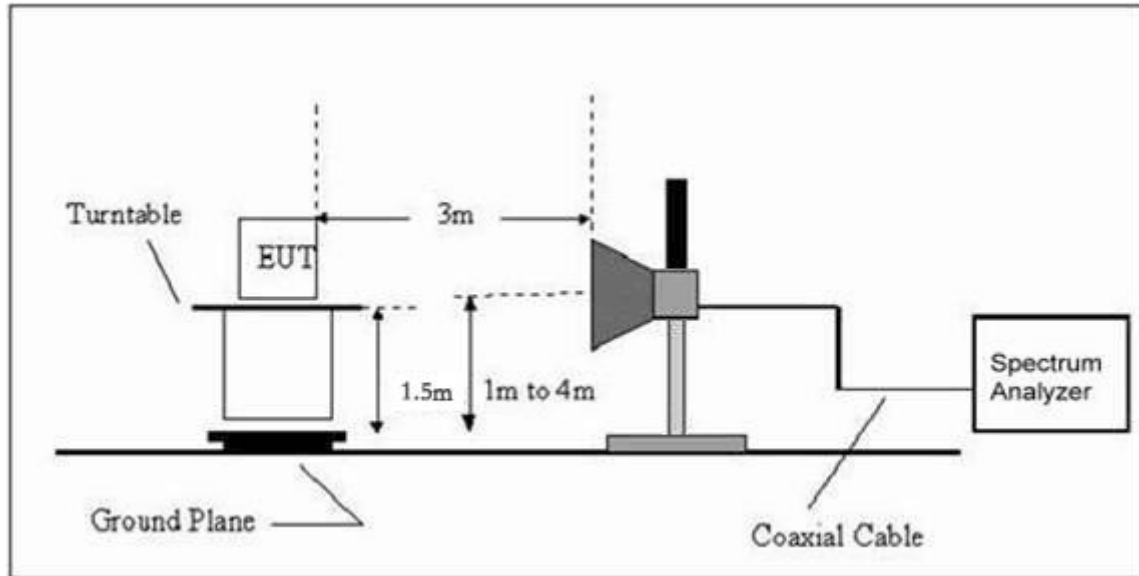
(A) Radiated Emission test-up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



5.6.3 Test results

EUT:	Tablet PC	Model Name:	Hi9 Air-CWI546
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage:	DC 5V from adapter AC 120V/60Hz
Test Mode:	TX	Polarization :	--

Below 30MHz

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

Note 1: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Note 2: Distance extrapolation factor = $40 \log(\text{specific distance}/\text{test distance})$ (dB); Limit line = specific limits (dBuV) + distance extrapolation factor.

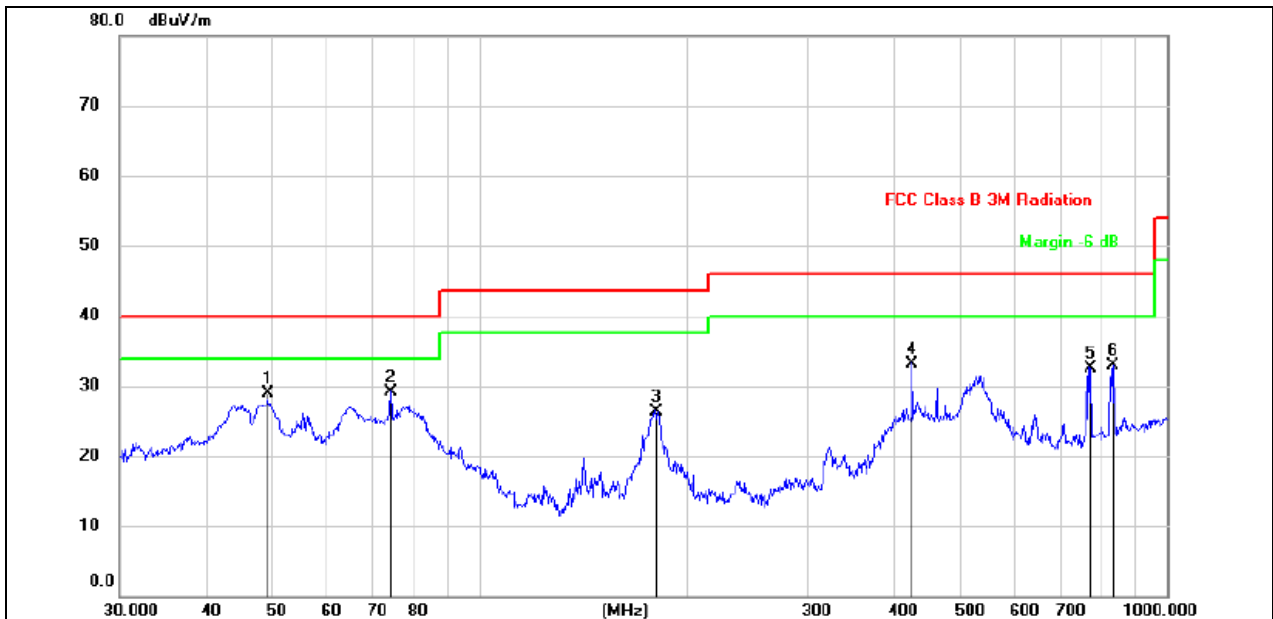
Between 30MHz – 1GHz

Note1 : Emission Level = Meter Reading + Factor, Margin= Emission Level- Limit, Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Note2 : The peak value is less than the AV value, AV value is not required Factor added by measurement software automatically.

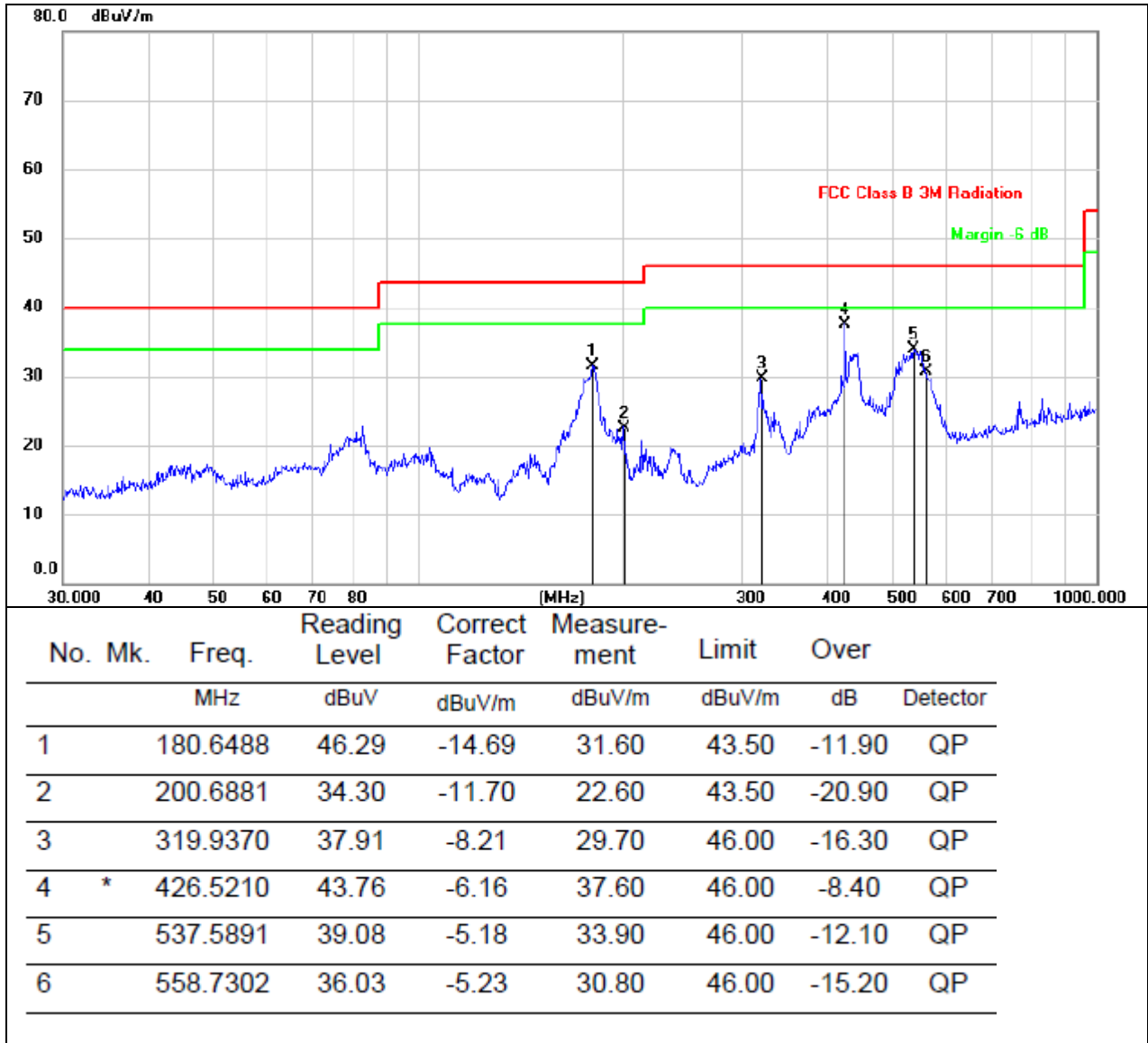
Note3: All modulations are tested and the report only reflects the worst case.

EUT :	Tablet PC	Model Name :	Hi9 Air-CWI546
Temperature :	20 °C	Relative Humidity :	48%
Pressure:	1010 hPa	Phase :	V
Test Voltage :	DC 5V from adapter AC 120V/60Hz	Mode:	TX(5.8G)-802.11a(5825MHz)



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		49.3594	38.66	-9.66	29.00	40.00	-11.00	QP
2	*	74.3955	42.81	-13.61	29.20	40.00	-10.80	QP
3		180.0165	38.19	-11.79	26.40	43.50	-17.10	QP
4		426.5210	39.36	-6.16	33.20	46.00	-12.80	QP
5		771.4486	35.80	-3.20	32.60	46.00	-13.40	QP
6		836.2443	35.15	-2.25	32.90	46.00	-13.10	QP

EUT :	Tablet PC	Model Name :	Hi9 Air-CWI546
Temperature :	20 °C	Relative Humidity :	48%
Pressure:	1010 hPa	Phase :	H
Test Voltage :	DC 5V from adapter AC 120V/60Hz	Mode:	TX(5.8G)-802.11a(5825MHz)



1G-40GHz

Note1 : Emission Level = Meter Reading + Factor, Margin= Emission Level- Limit, Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Note2 : The peak value is less than the AV value, AV value is not required Factor added by measurement software automatically.

Note3 : The spurious emission of 25GHz – 40GHz band which the margin is lower more than 20dB, So that it is not reported in this test report.

Note4: All modulations are tested and the report only reflects the worst case.

For Band I

TX(5.2G) - 802.11a _5150~5250MHz

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 (5180 MHz)-Above 1G									
Vertical	4434.205	55.54	5.94	35.40	44.00	52.88	74.00	-21.12	Pk
Vertical	4434.205	43.93	5.94	35.40	44.00	41.27	54.00	-12.73	AV
Vertical	10370.169	61.83	8.46	39.75	44.50	65.54	74.00	-8.46	Pk
Vertical	10370.169	43.06	8.46	39.75	44.50	46.77	54.00	-7.23	AV
Vertical	15540.124	56.69	10.12	38.80	44.10	61.51	74.00	-12.49	Pk
Vertical	15540.124	42.61	10.12	38.80	42.70	48.83	54.00	-5.17	AV
Horizontal	4434.249	59.13	5.94	35.18	44.00	56.25	74.00	-17.75	Pk
Horizontal	4434.249	43.47	5.94	35.18	44.00	40.59	54.00	-13.41	AV
Horizontal	10370.126	62.14	8.46	38.71	44.50	64.81	74.00	-9.19	Pk
Horizontal	10730.126	44.97	8.46	38.71	44.50	47.64	54.00	-6.36	AV
Horizontal	15540.103	58.29	10.12	38.38	44.10	62.69	74.00	-11.31	Pk
Horizontal	15540.103	43.11	10.12	38.38	44.10	47.51	54.00	-6.49	AV
middle Channel (5200 MHz)-Above 1G									
Vertical	4592.154	58.40	6.48	36.35	44.05	57.18	74.00	-16.82	Pk
Vertical	4592.154	41.62	6.48	36.35	44.05	40.40	54.00	-13.60	AV
Vertical	10401.223	60.49	8.47	37.88	44.51	62.33	74.00	-11.67	Pk
Vertical	10401.223	46.99	8.47	37.88	44.51	48.83	54.00	-5.17	AV
Vertical	15600.182	57.26	10.12	38.8	44.10	62.08	74.00	-11.92	Pk
Vertical	15600.182	41.10	10.12	38.8	42.70	47.32	54.00	-6.68	AV
Horizontal	4592.315	59.75	6.48	36.37	44.05	58.55	74.00	-15.45	Pk
Horizontal	4592.315	42.71	6.48	36.37	44.05	41.51	54.00	-12.49	AV
Horizontal	10400.206	62.26	8.47	38.64	44.50	64.87	74.00	-9.13	Pk
Horizontal	10400.206	46.76	8.47	38.64	44.50	49.37	54.00	-4.63	AV
Horizontal	15600.179	58.80	10.12	38.38	44.10	63.20	74.00	-10.80	Pk
Horizontal	15600.179	43.18	10.12	38.38	44.10	47.58	54.00	-6.42	AV
High Channel (5240 MHz)-Above 1G									
Vertical	4739.216	60.30	7.10	37.24	43.50	61.14	74.00	-12.86	Pk
Vertical	4739.216	45.86	7.10	37.24	43.50	46.70	54.00	-7.30	AV

Vertical	10480.274	61.81	8.46	37.68	44.50	63.45	74.00	-10.55	Pk
Vertical	10480.274	46.63	8.46	37.68	44.50	48.27	54.00	-5.73	AV
Vertical	15720.189	58.89	10.12	38.8	44.10	63.71	74.00	-10.29	Pk
Vertical	15720.189	42.59	10.12	38.8	42.70	48.81	54.00	-5.19	AV
Horizontal	4739.116	60.17	7.10	37.24	43.50	61.01	74.00	-12.99	Pk
Horizontal	4739.116	43.79	7.10	37.24	43.50	44.63	54.00	-9.37	AV
Horizontal	10481.402	58.60	8.46	38.57	44.50	61.13	74.00	-12.87	Pk
Horizontal	10481.402	42.65	8.46	38.57	44.50	45.18	54.00	-8.82	AV
Horizontal	15720.263	56.44	10.12	38.38	44.10	60.84	74.00	-13.16	Pk
Horizontal	15720.263	42.85	10.12	38.38	44.10	47.25	54.00	-6.75	AV

For Band IV

TX (5.8G) -- 802.11a _5725~5850MHz

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	59.58	5.94	35.40	44.00	56.92	74.00	-17.08	Pk
Vertical	4679.136	45.88	5.94	35.40	44.00	43.22	54.00	-10.78	AV
Vertical	11490.052	59.40	8.46	39.75	44.50	63.11	74.00	-10.89	Pk
Vertical	11490.052	46.16	8.46	39.75	44.50	49.87	54.00	-4.13	AV
Vertical	17235.261	58.34	10.12	38.80	44.10	63.16	74.00	-10.84	Pk
Vertical	17235.261	42.23	10.12	38.80	42.70	48.45	54.00	-5.55	AV
Horizontal	4679.135	59.40	5.94	35.18	44.00	56.52	74.00	-17.48	Pk
Horizontal	4679.135	44.38	5.94	35.18	44.00	41.50	54.00	-12.50	AV
Horizontal	11490.302	59.22	8.46	38.71	44.50	61.89	74.00	-12.11	Pk
Horizontal	11490.302	44.47	8.46	38.71	44.50	47.14	54.00	-6.86	AV
Horizontal	17235.246	60.10	10.12	38.38	44.10	64.50	74.00	-9.50	Pk
Horizontal	17235.246	43.62	10.12	38.38	44.10	48.02	54.00	-5.98	AV
middle Channel (5785 MHz)-Above 1G									
Vertical	4592.208	59.76	6.48	36.35	44.05	58.54	74.00	-15.46	Pk
Vertical	4592.208	44.41	6.48	36.35	44.05	43.19	54.00	-10.81	AV
Vertical	11570.136	61.86	8.47	37.88	44.51	63.70	74.00	-10.30	Pk
Vertical	11570.136	44.66	8.47	37.88	44.51	46.50	54.00	-7.50	AV
Vertical	17355.249	58.09	10.12	38.8	44.10	62.91	74.00	-11.09	Pk
Vertical	17355.249	40.75	10.12	38.8	42.70	46.97	54.00	-7.03	AV
Horizontal	4592.138	60.11	6.48	36.37	44.05	58.91	74.00	-15.09	Pk
Horizontal	4592.138	43.84	6.48	36.37	44.05	42.64	54.00	-11.36	AV
Horizontal	11570.256	60.19	8.47	38.64	44.50	62.80	74.00	-11.20	Pk
Horizontal	11570.256	46.61	8.47	38.64	44.50	49.22	54.00	-4.78	AV
Horizontal	17355.127	61.22	10.12	38.38	44.10	65.62	74.00	-8.38	Pk
Horizontal	17355.127	45.49	10.12	38.38	44.10	49.89	54.00	-4.11	AV
High Channel (5825 MHz)-Above 1G									
Vertical	5039.156	61.55	7.10	37.24	43.50	62.39	74.00	-11.61	Pk
Vertical	5039.156	46.64	7.10	37.24	43.50	47.48	54.00	-6.52	AV
Vertical	11650.131	56.78	8.46	37.68	44.50	58.42	74.00	-15.58	Pk
Vertical	11650.131	43.98	8.46	37.68	44.50	45.62	54.00	-8.38	AV
Vertical	17475.289	60.10	10.12	38.8	44.10	64.92	74.00	-9.08	Pk
Vertical	17475.289	40.49	10.12	38.8	42.70	46.71	54.00	-7.29	AV
Horizontal	5039.316	66.92	7.10	37.24	43.50	67.76	74.00	-6.24	Pk

Horizontal	5039.316	43.58	7.10	37.24	43.50	44.42	54.00	-9.58	AV
Horizontal	11650.203	56.61	8.46	38.57	44.50	59.14	74.00	-14.86	Pk
Horizontal	11650.203	44.18	8.46	38.57	44.50	46.71	54.00	-7.29	AV
Horizontal	17475.152	60.19	10.12	38.38	44.10	64.59	74.00	-9.41	Pk
Horizontal	17475.152	45.24	10.12	38.38	44.10	49.64	54.00	-4.36	AV

5.7 Out of Band Emissions

5.7.1 Limits

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

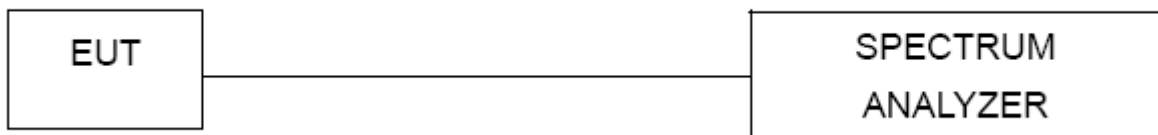
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

5.7.2 Test procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. 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.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. 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.
5. Repeat above procedures until all measured frequencies were complete.

5.7.3 Test setup

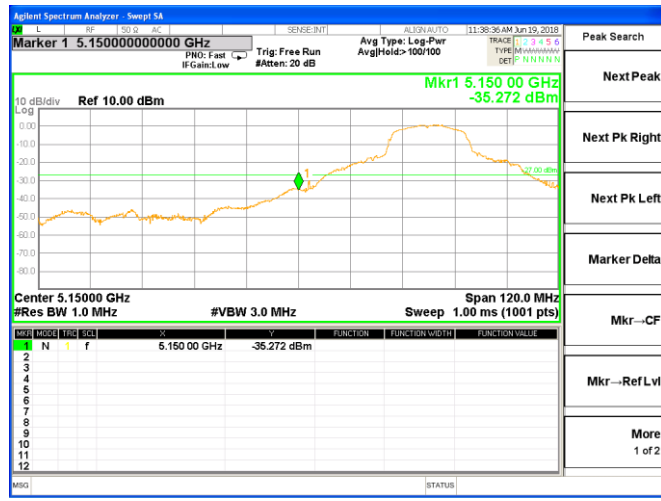


5.7.4 Test results

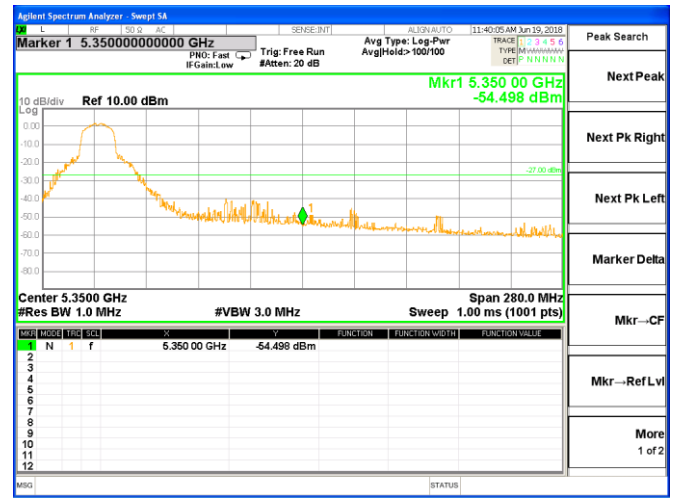
For band I

11a

Bandedge-Left

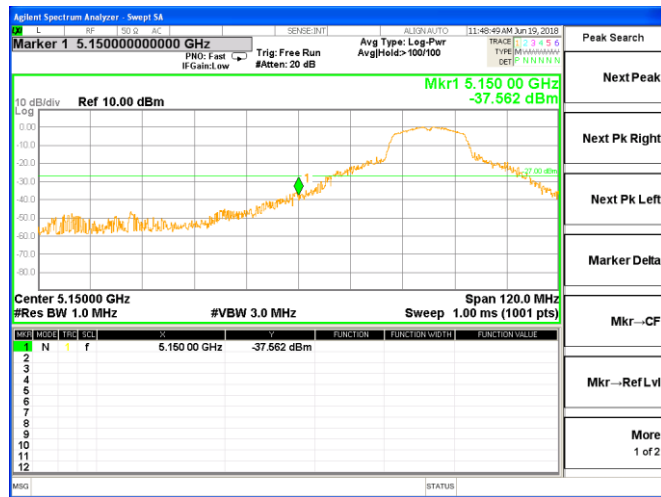


Bandedge-Right

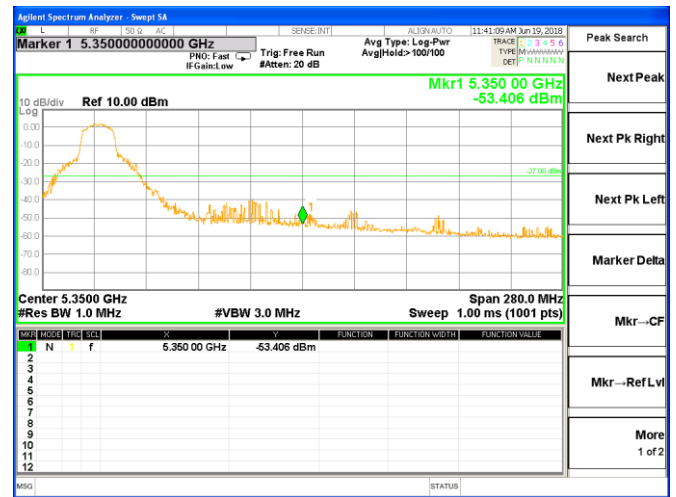


11n20

Bandedge-Left

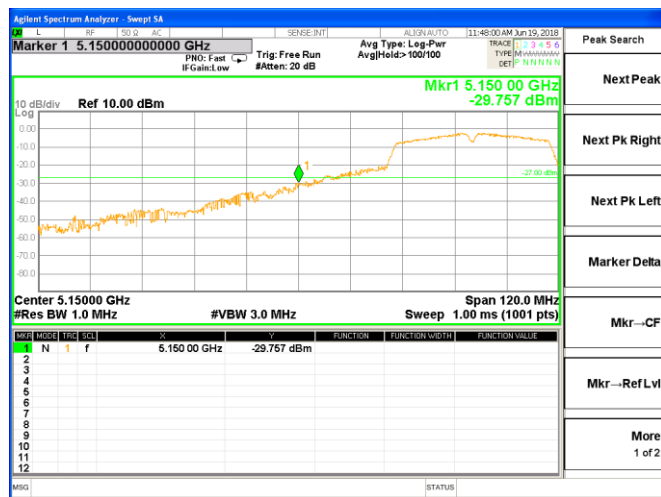


Bandedge-Right

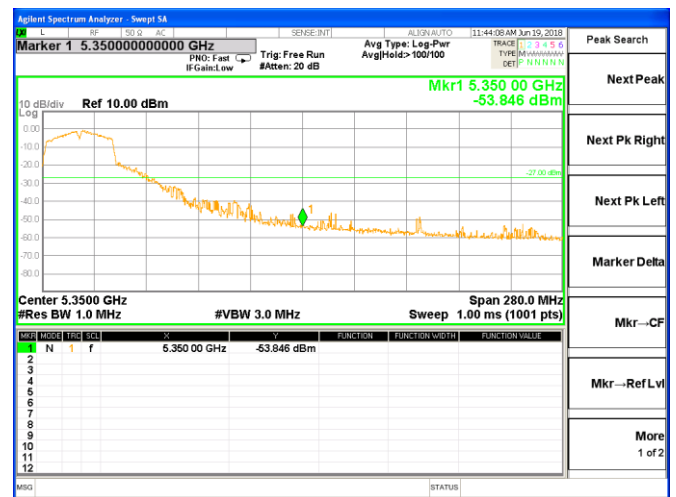


11n40

Bandedge-Left



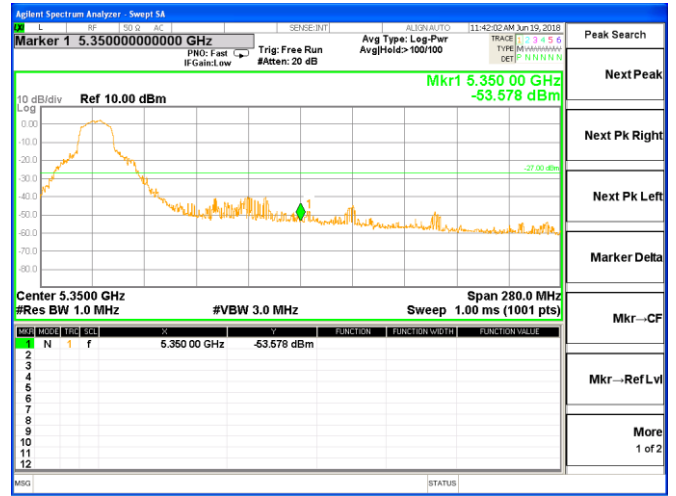
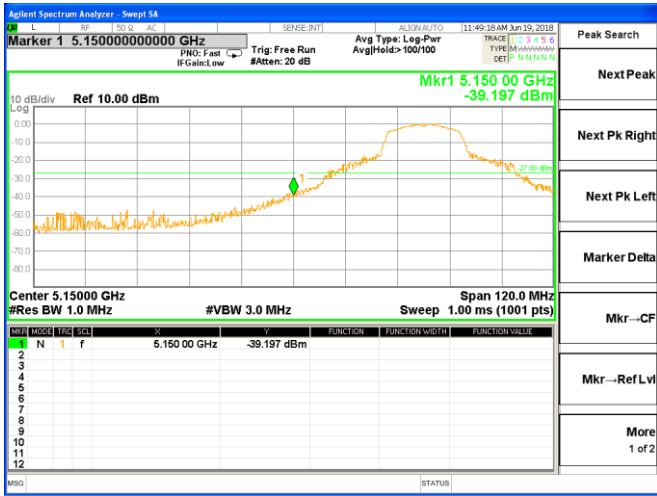
Bandedge-Right



11ac20

Bandedge-Left

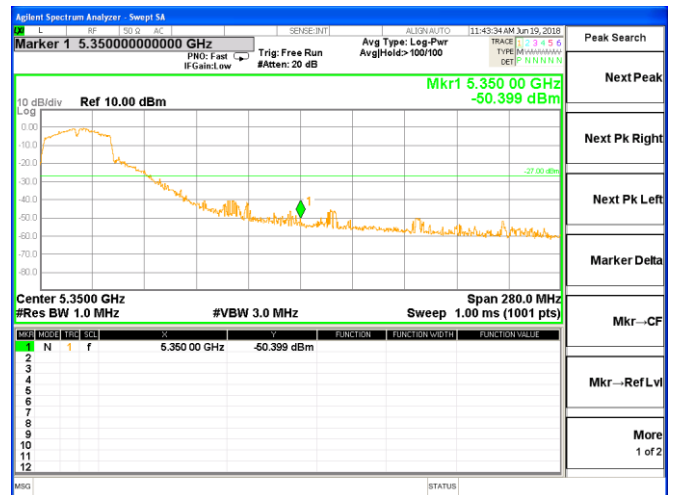
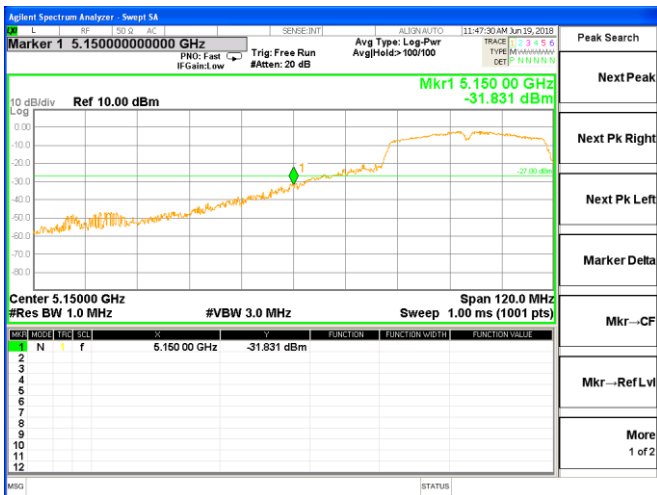
Bandedge-Right



11ac40

Bandedge-Left

Bandedge-Right



11ac80

Bandedge-Left

Bandedge-Right

