

TEST REPORT

FCC ID: 2AG87NM-DB-3N

Product: Wi-Fi® Radio Transceiver

Model No.: NM-DB-3NU

Additional Model No.: DLM180NU, NO-DB-3NU, NE-DB-3NU, NM-DB-2NU,
NO-DB-2NU, NE-DB-2NU

Trade Mark: N/A

Report No.: TCT170310E027

Issued Date: Apr. 14, 2017

Issued for:

Doodle Labs (SG) Pte Ltd

150 Kampong Ampat, KA Centre, Suite #05-03, Singapore 368324

Issued By:

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This document may be altered or revised by Shenzhen Tongce Testing Lab. personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

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Appendix A: Photographs of Test Setup

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1. Test Certification

Product:	Wi-Fi® Radio Transceiver
Model No.:	NM-DB-3NU
Additional Model No.:	DLM180NU, NO-DB-3NU, NE-DB-3NU, NM-DB-2NU, NO-DB-2NU, NE-DB-2NU
Applicant:	Doodle Labs (SG) Pte Ltd
Address:	150 Kampong Ampat, KA Centre, Suite #05-03, Singapore 368324
Manufacturer:	Doodle Labs (SG) Pte Ltd
Address:	150 Kampong Ampat, KA Centre, Suite #05-03, Singapore 368324
Date of Test:	Mar. 13 – Apr. 13, 2017
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407:2014 KDB662911 D01 Multiple Transmitter Output v02r01 789033 D02 General UNII Test Procedures New Rules v01r03

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:



Beryl Zhao

Date:

Apr. 13, 2017

Reviewed By:



Joe Zhou

Date:

Apr. 14, 2017

Approved By:



Tomsin

Date:

Apr. 14, 2017

2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a) §2.1046	PASS(Note)
6dB Emission Bandwidth	§15.407(a) §2.1049	PASS(Note)
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a) §2.1049	PASS(Note)
Power Spectral Density	§15.407(a)	PASS(Note)
Restricted Bands around fundamental frequency	§15.407(a)	PASS
Radiated Emission	§15.407(a) §2.1053	PASS
Frequency Stability	§15.407(g) §2.1055	PASS(Note)

Note1:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

Note2: The data of Maximum Conducted Output Power, 6dB Emission Bandwidth, 26dB Emission Bandwidth&

99% Occupied Bandwidth, Power Spectral Density, Frequency Stability is referred to the original FCC ID: 2AG87NM-DB-3N.

3. EUT Description

Product Name:	Wi-Fi® Radio Transceiver
Product Type:	WLAN(3TX, 3RX)
Radio Type:	3x3 MIMO
Model :	NM-DB-3NU
Additional Model:	DLM180NU, NO-DB-3NU, NE-DB-3NU, NM-DB-2NU, NO-DB-2NU, NE-DB-2NU
Trade Mark:	N/A
Operation Frequency:	Band I: 5180MHz~5240MHz Band IV: 5745MHz~5825MHz
Channel Bandwidth:	802.11a :20MHz 802.11n :20MHz, 40MHz
Modulation Technology:	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type:	R-SMA antenna
Antenna Gain:	Band I: 5180MHz~5240MHz: 3dBi Band IV: 5745MHz~5825MHz: 3dBi
Power Supply:	DC 3.3V
Model difference :	All models above are identical in interior structure, electrical circuits and components, and just model names are different for the marketing requirement.

Band I (5150MHz~5250MHz) Power level setup in software

Mode	Channel	Frequency	Soft set
11a	CH36	5180	11
11a	CH44	5220	11
11a	CH48	5240	11
11n(HT20)	CH36	5180	11
11n(HT20)	CH44	5220	11
11n(HT20)	CH48	5240	11
11n(HT40)	CH38	5190	9
11n(HT40)	CH46	5230	9

Band IV (5725 - 5850 MHz) Power level setup in software

Mode	Channel	Frequency	Soft set
11a	CH149	5745	8
11a	CH157	5785	8
11a	CH165	5825	8
11n (HT20)	CH149	5745	8
11n (HT20)	CH157	5785	8
11n (HT20)	CH165	5825	8
11n (HT40)	CH151	5755	7.5
11n (HT40)	CH159	5795	7.5

Note: The Soft set value is the internal setting required to meet the requirements and does not necessarily mean the 'dBm' value

Operation Frequency each of channel

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
36	5180	38	5190
40	5200	46	5230
44	5220	151	5755
48	5240	159	5795
149	5745		
153	5765		
157	5785		
161	5805		
165	5825		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11a/n(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 (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

4. Genera Information

4.1. Test environment and mode

Operating Environment:

Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

Test Mode:

Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 100%)
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The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a	6Mbps
802.11n(HT20)	6.5 Mbps
802.11n(HT40)	13.5 Mbps

Final Test Mode:

Operation mode:	Keep the EUT in continuous transmitting with modulation
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4.2. 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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Intel NUC	D54250WYKH	G6YK4390029 U	DOC	Intel

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

5. Facilities and Accreditations

5.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 572331

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

- CNAS - Registration No.: CNAS L6165

Shenzhen TCT Testing Technology Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6165.

5.2. Location

Shenzhen Tongce Testing Lab

Address: 1F, Leinuo Watch Building, Fuyong Town, Baoan Dist, Shenzhen, China

Tel: 86-755-36638142

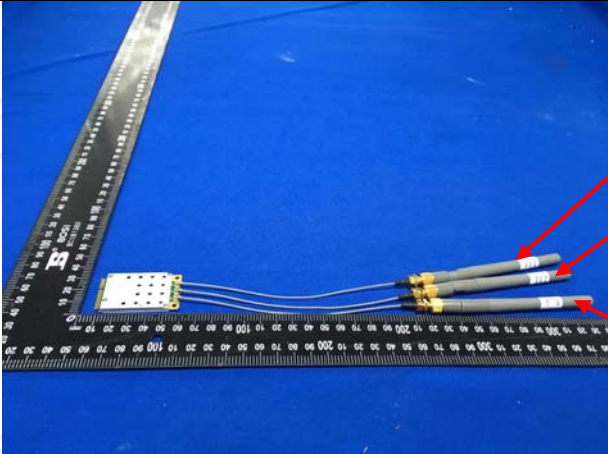
5.3. Measurement Uncertainty

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 %.

No.	Item	MU
1	Conducted Emission	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.12\text{dB}$
3	Spurious emissions, conducted	$\pm 0.11\text{dB}$
4	All emissions, radiated(<1G)	$\pm 3.92\text{dB}$
5	All emissions, radiated(>1G)	$\pm 4.28\text{dB}$
6	Temperature	$\pm 0.1^{\circ}\text{C}$
7	Humidity	$\pm 1.0\%$

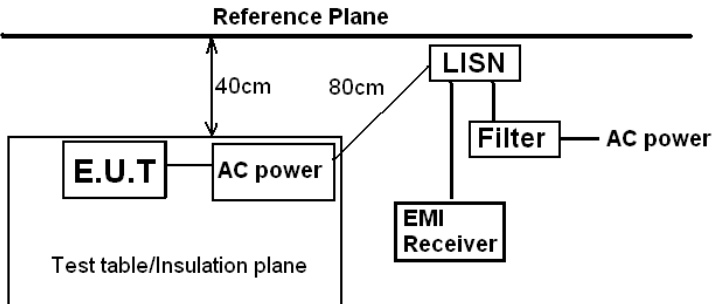
6. Test Results and Measurement Data

6.1. Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The EUT three antennas are R-SMA antennas which is only the antenna type used, and the best case gain of the antennas all are 3dBi.	
	

6.2. Conducted Emission

6.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane  Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Tx Mode														
Test Procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.														
Test Result:	PASS														

6.2.2. Test Instruments

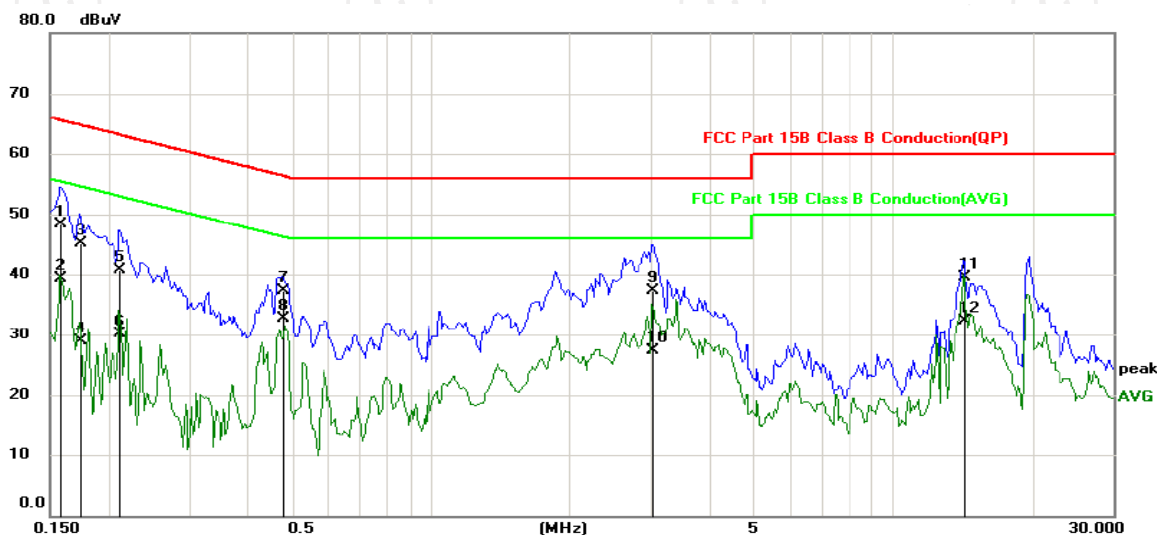
Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCS30	100139	Aug. 11, 2017
LISN	Schwarzbeck	NSLK 8126	8126453	Aug. 16, 2017
Coax cable	TCT	CE-05	N/A	Aug. 11, 2017
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

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

6.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site: Phase: **L1** Temperature: 26
Limit: FCC Part 15B Class B Conduction (QP) Power: AC 120V/60Hz Humidity: 60 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1578	36.77	11.49	48.26	65.58	-17.32	QP	
2		0.1578	27.85	11.49	39.34	55.58	-16.24	AVG	
3		0.1734	33.55	11.48	45.03	64.80	-19.77	QP	
4		0.1734	17.46	11.48	28.94	54.80	-25.86	AVG	
5		0.2125	29.32	11.46	40.78	63.11	-22.33	QP	
6		0.2125	18.71	11.46	30.17	53.11	-22.94	AVG	
7		0.4781	26.08	11.32	37.40	56.37	-18.97	QP	
8	*	0.4781	21.44	11.32	32.76	46.37	-13.61	AVG	
9		3.0195	26.01	11.34	37.35	56.00	-18.65	QP	
10		3.0195	16.00	11.34	27.34	46.00	-18.66	AVG	
11		14.2813	27.91	11.64	39.55	60.00	-20.45	QP	
12		14.2813	20.62	11.64	32.26	50.00	-17.74	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBuV) = Receiver reading

Corr. Factor (dB) = attenuator factor + Cable loss

Measurement (dBuV) = Reading level (dBuV) + Corr. Factor (dB)

Limit (dBuV) = Limit stated in standard

Margin (dB) = Measurement (dBuV) – Limits (dBuV)

Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site: Phase: **N** Temperature: 26
Limit: FCC Part 15B Class B Conduction (QP) Power: AC 120V/60Hz Humidity: 60 %

No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1		0.1578	37.43	11.49	48.92	65.58	-16.66	QP	
2		0.1578	28.52	11.49	40.01	55.58	-15.57	AVG	
3		0.4742	27.17	11.32	38.49	56.44	-17.95	QP	
4	*	0.4742	21.85	11.32	33.17	46.44	-13.27	AVG	
5		1.8570	22.78	11.63	34.41	56.00	-21.59	QP	
6		1.8570	13.01	11.63	24.64	46.00	-21.36	AVG	
7		2.9937	26.59	11.35	37.94	56.00	-18.06	QP	
8		2.9937	16.51	11.35	27.86	46.00	-18.14	AVG	
9		14.2852	28.72	11.64	40.36	60.00	-19.64	QP	
10		14.2852	20.78	11.64	32.42	50.00	-17.58	AVG	
11		19.6133	23.95	10.68	34.63	60.00	-25.37	QP	
12		19.6133	16.10	10.68	26.78	50.00	-23.22	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = attenuator factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

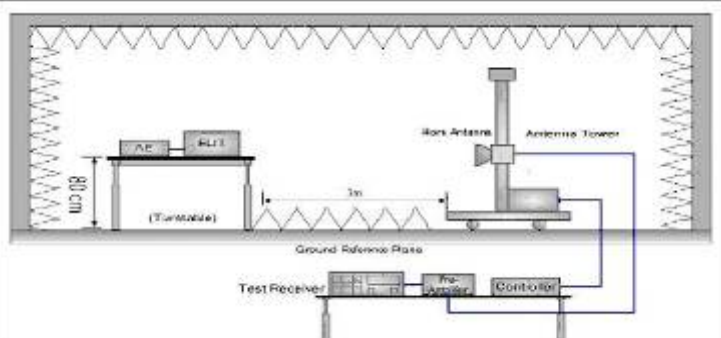
Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

6.3. Band edge

6.3.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407		
Test Method:	ANSI C63.10 2013		
Limit:	Bands	Limit (dBuV/m @3m)	Remark
	For band I&II&III	68.2	Peak Value
		54.0	Average Value
	For band IV	78.2	Peak Value
		54.0	Average Value
Remark: For band I&II&III, $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2 = 68.2 \text{ dB}\mu\text{V}/\text{m}$, for $\text{EIRP}(\text{dBm}) = -27\text{dBm}$ For band IV, $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2 = 78.2 \text{ dB}\mu\text{V}/\text{m}$, for $\text{EIRP}(\text{dBm}) = -17\text{dBm}$			
Test Setup:			
Test Mode:	Transmitting mode with modulation		
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.		

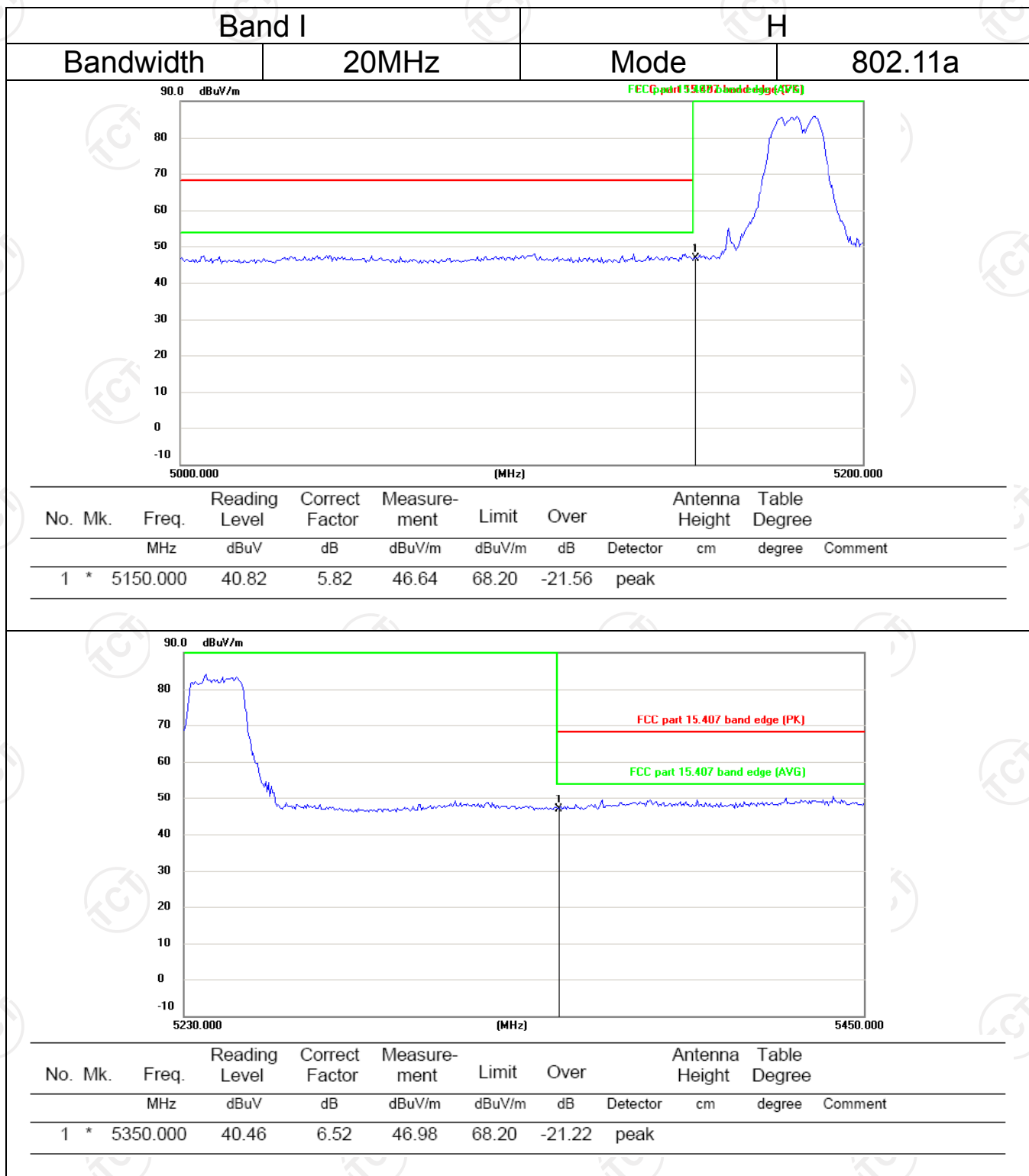
	6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasipeak or average method as specified and then reported in a data sheet.
Test Result:	PASS

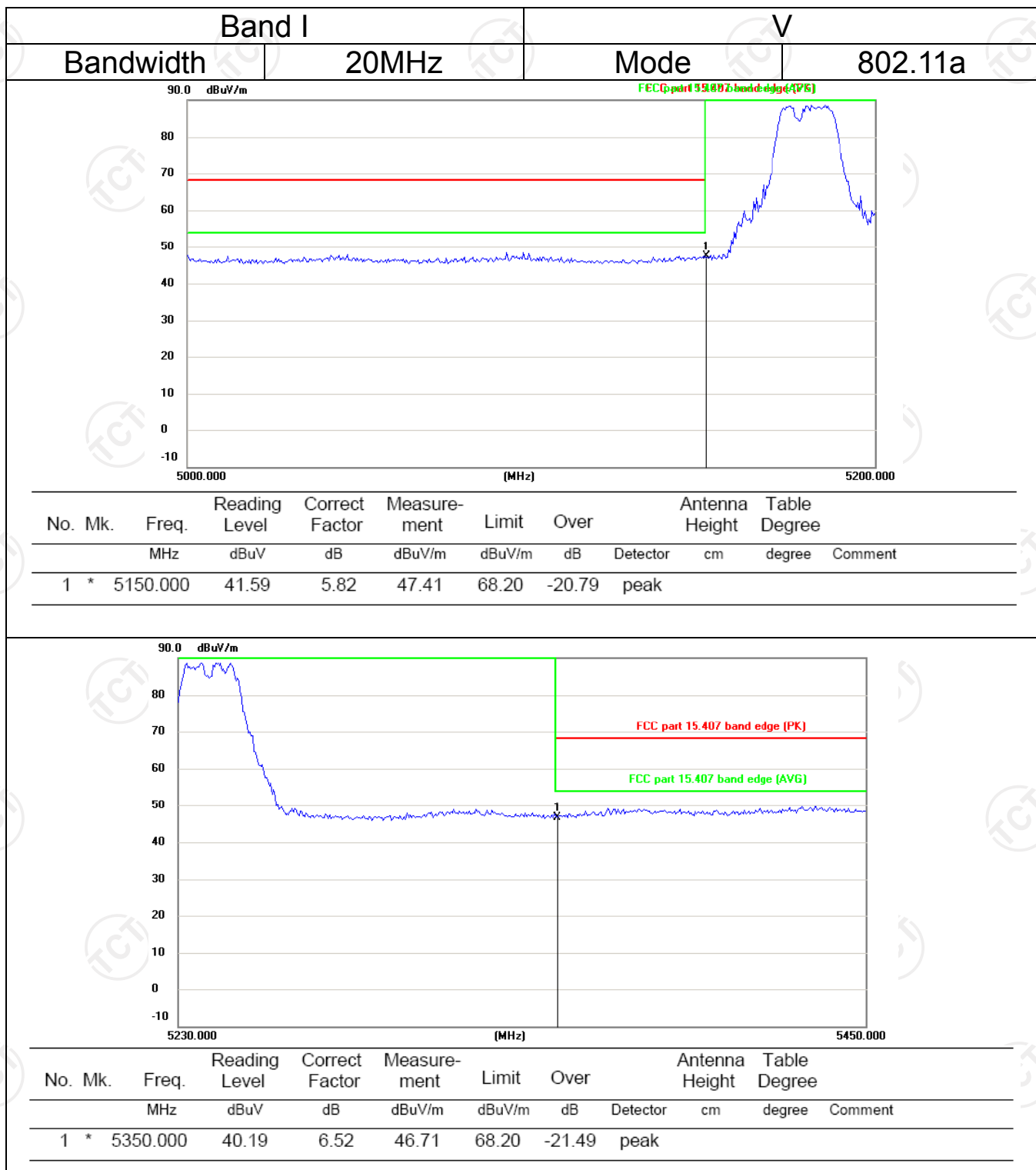
6.3.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
ESPI Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSEM	848597/001	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSP40	100056	Aug. 11, 2017
Spectrum Analyzer	R&S	FSQ	200061	Aug. 12, 2017
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Aug. 11, 2017
Pre-amplifier	HP	8447D	2727A05017	Aug. 11, 2017
Loop antenna	ZHINAN	ZN30900A	12024	Aug. 13, 2017
Broadband Antenna	Schwarzbeck	VULB9163	340	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9170	373	Aug. 13, 2017
Coax cable	TCT	RE-low-01	N/A	Aug. 11, 2017
Coax cable	TCT	RE-high-02	N/A	Aug. 11, 2017
Coax cable	TCT	RE-low-03	N/A	Aug. 11, 2017
Coax cable	TCT	RE-High-04	N/A	Aug. 11, 2017
Antenna Mast	CCS	CC-A-4M	N/A	Aug. 12, 2017
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A
Semi anechoic chamber	SAEMC	Chamber-#1	DQM0274	Aug. 12, 2017

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

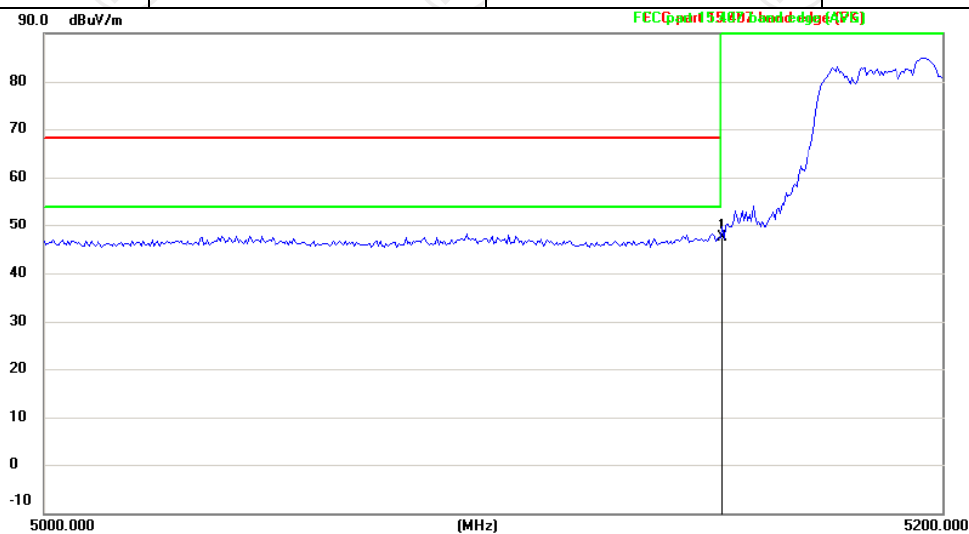
6.3.3. Test Data



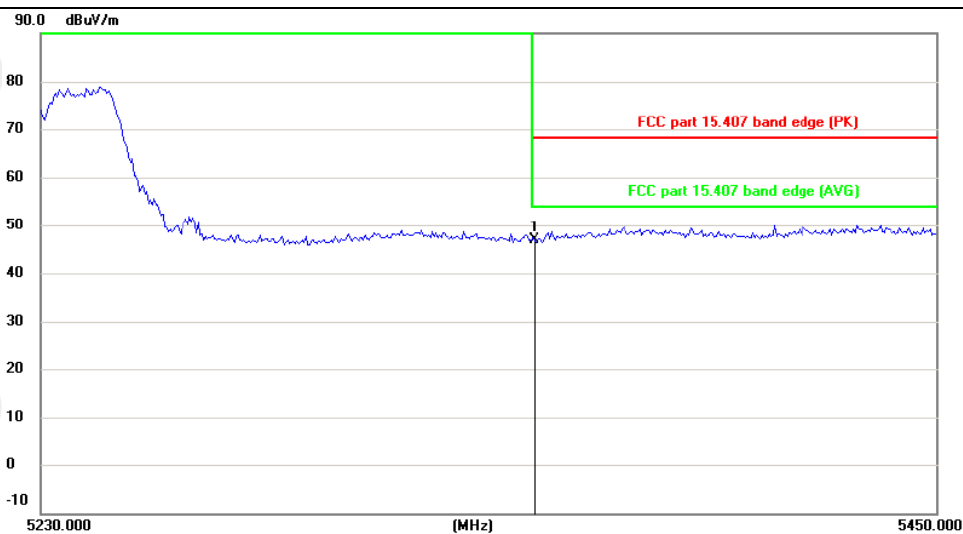


Note: All the 20MHz bandwidth modulation are tested, the 802.11a was the worst and record in the report.

Band I			H		
Bandwidth		40MHz		Mode	
				802.11n(HT40)	

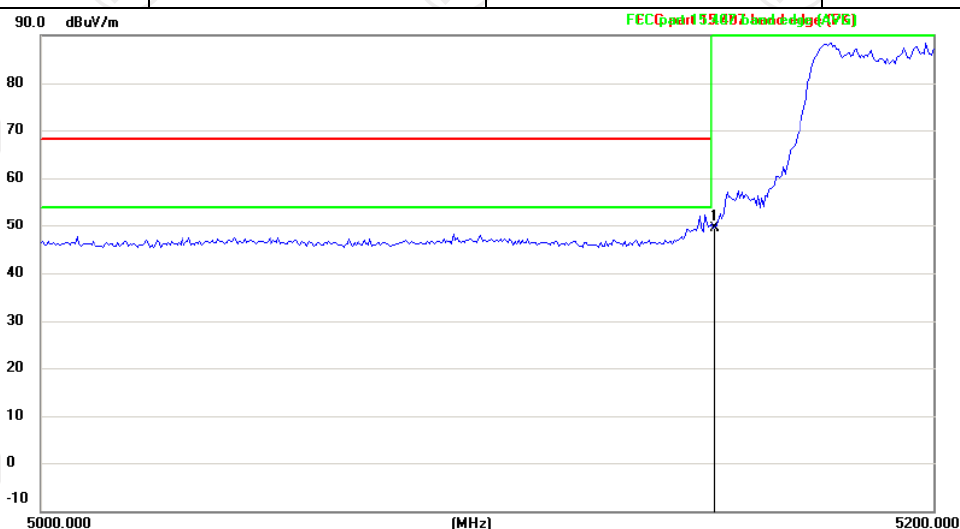


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5150.000	41.45	5.82	47.27	68.20	-20.93	peak		

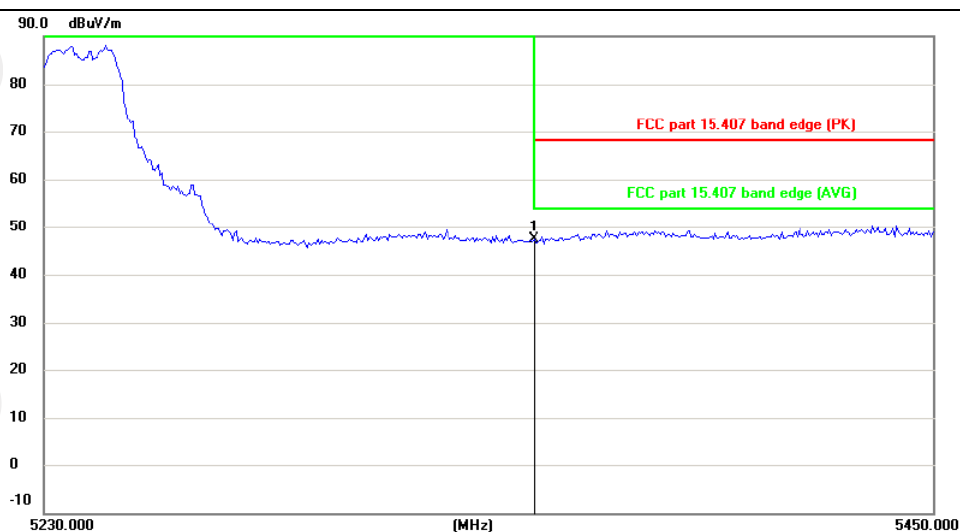


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5350.000	40.29	6.52	46.81	68.20	-21.39	peak		

Band I			V	
Bandwidth	40MHz		Mode	802.11n(HT40)



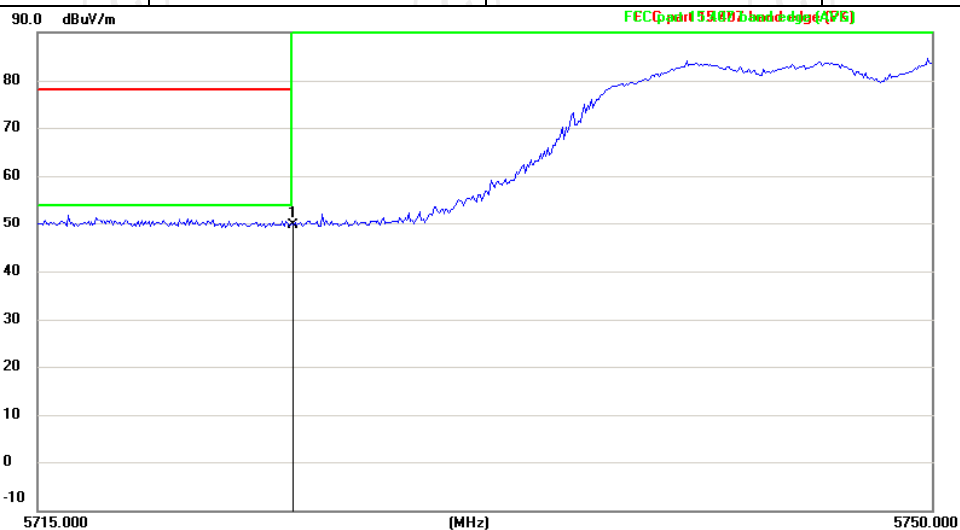
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5150.000	43.57	5.82	49.39	68.20	-18.81	peak		



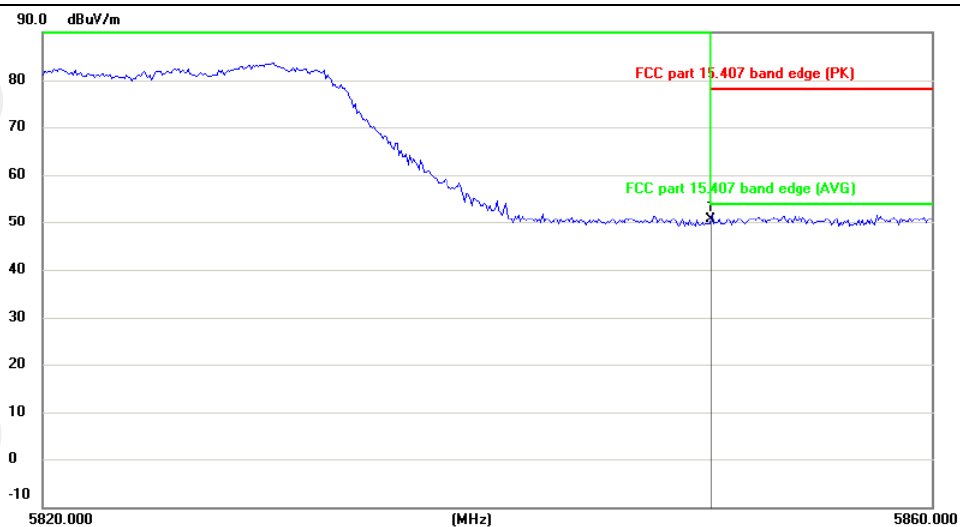
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5350.000	40.78	6.52	47.30	68.20	-20.90	peak		

Note: All the 40MHz bandwidth modulation are tested, the 802.11n (HT40) was the worst and record in the report.

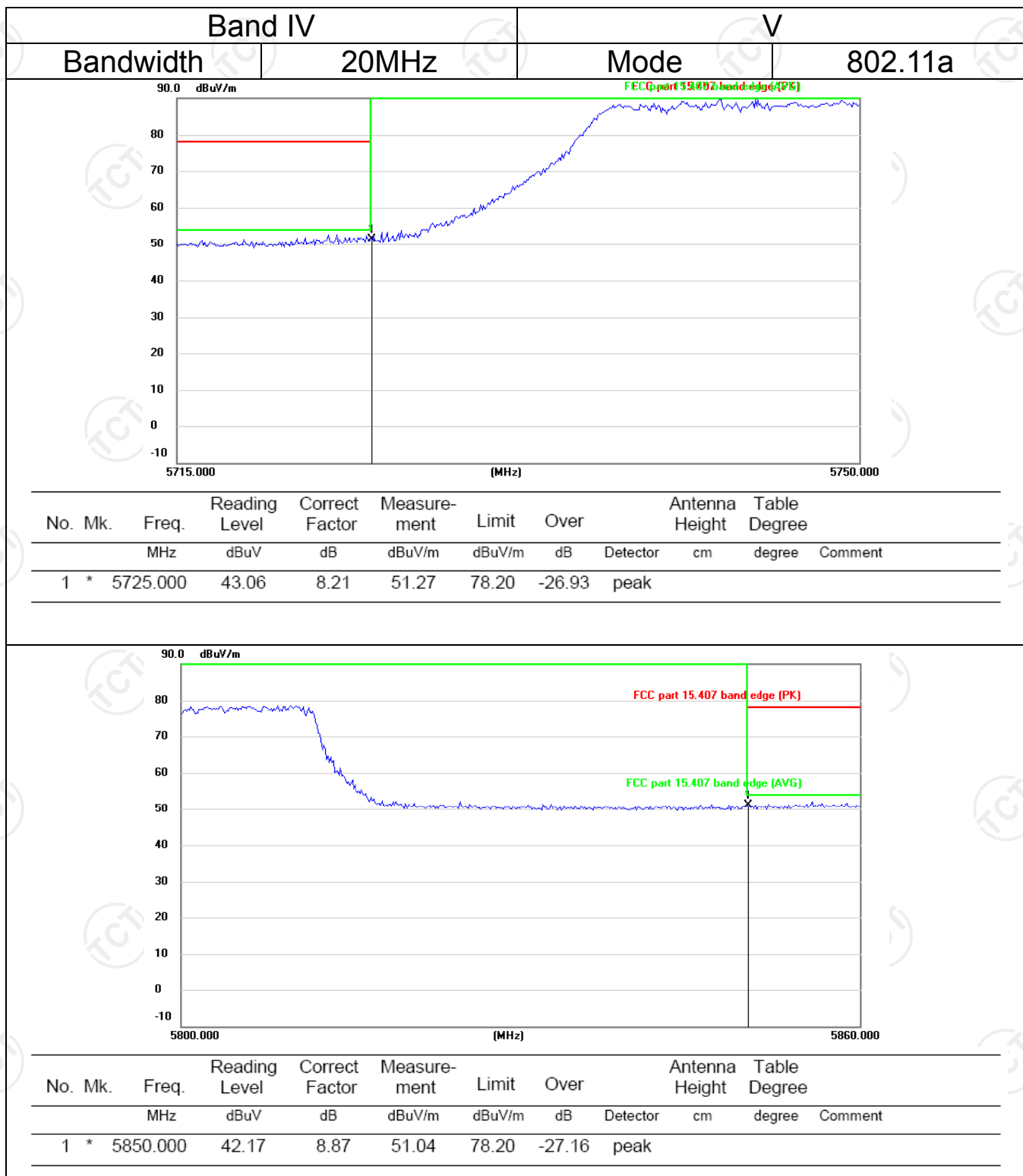
Band IV				H			
Bandwidth		20MHz		Mode		802.11a	



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5725.000	41.44	8.21	49.65	78.20	-28.55	peak		

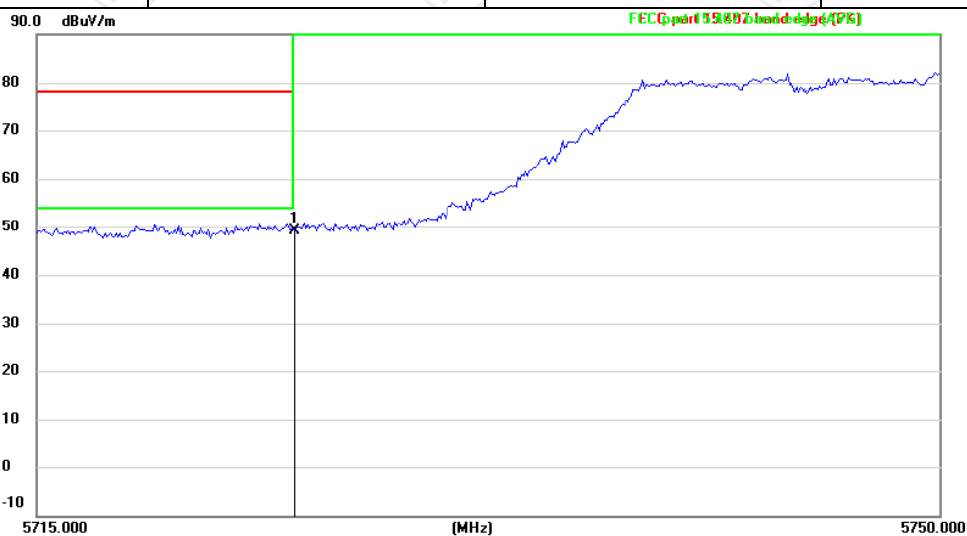


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5850.000	41.65	8.87	50.52	78.20	-27.68	peak		

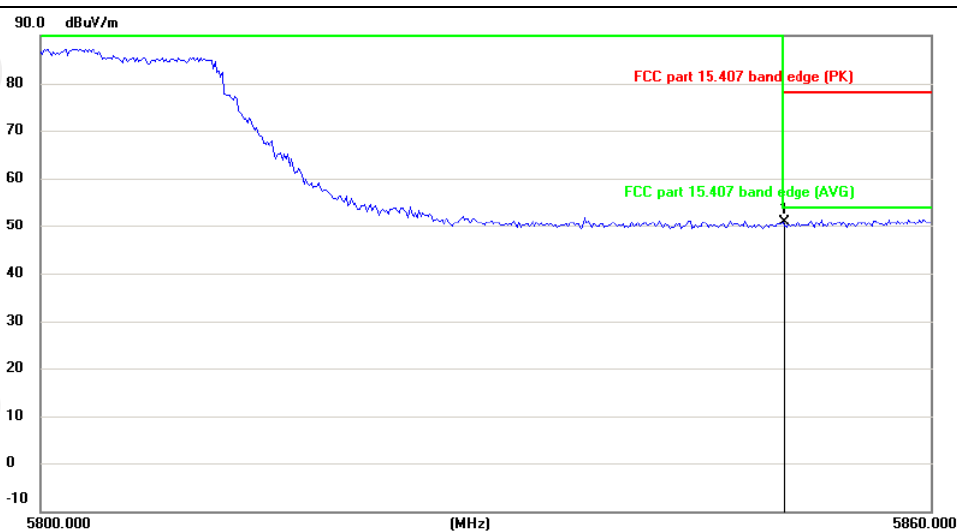


Note: All the 20MHz bandwidth modulation are tested, the 802.11a was the worst and record in the report.

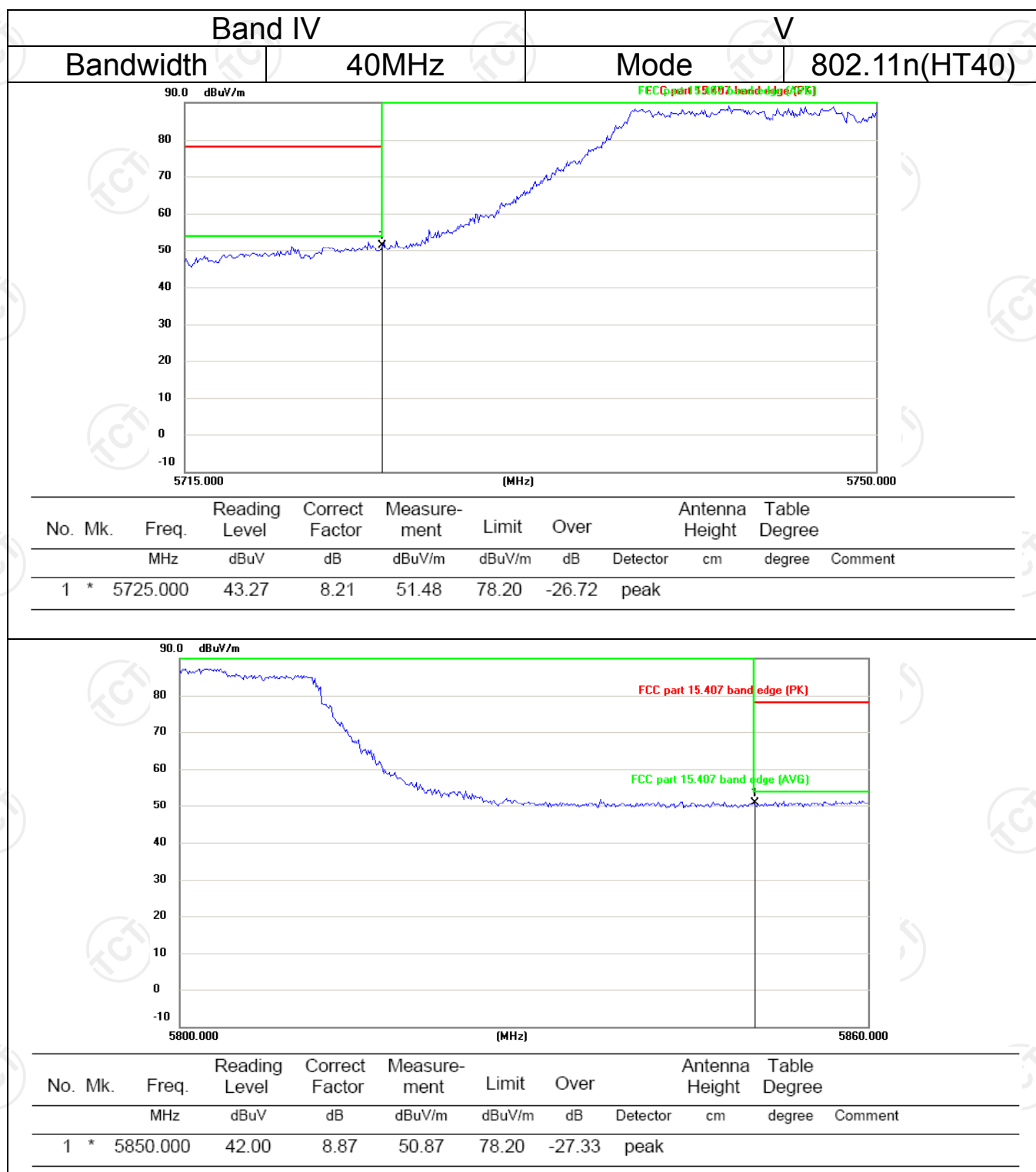
Band IV			H		
Bandwidth		40MHz		Mode	
				802.11n(HT40)	



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5725.000	40.93	8.21	49.14	78.20	-29.06	peak		Comment



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5850.000	42.00	8.87	50.87	78.20	-27.33	peak		Comment



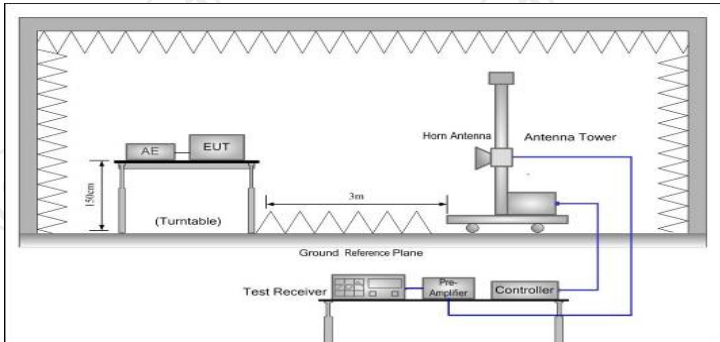
Note1: All the 40MHz bandwidth modulation are tested, the 802.11n (HT40) was the worst and record in the report.

Note 2: The data of Band IV Band-edge for RF Conducted Emissions is referred to TCT0221E006.

6.4. Spurious Emission

6.4.1. Restrict Bands Measurement

6.4.1.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205																		
Test Method:	KDB 789033 D02 v01r03																		
Frequency Range:	Band I & II: 4.5 GHz to 5.15 GHz and 5.35GHz to 5.46GHz Band III &IV: 5.35 GHz to 5.46 GHz																		
Measurement Distance:	3 m																		
Antenna Polarization:	Horizontal & Vertical																		
Operation mode:	Transmitting mode with modulation																		
Receiver Setup:	<table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr><tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr></table>					Frequency	Detector	RBW	VBW	Remark	Above 1GHz	Peak	1MHz	3MHz	Peak Value	RMS	1MHz	3MHz	Average Value
Frequency	Detector	RBW	VBW	Remark															
Above 1GHz	Peak	1MHz	3MHz	Peak Value															
	RMS	1MHz	3MHz	Average Value															
Limit:	<table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td rowspan="2">Above 1GHz</td><td>74</td><td>Peak Value</td></tr><tr><td>54</td><td>Average Value</td></tr></table>					Frequency	Limit (dBuV/m @3m)	Remark	Above 1GHz	74	Peak Value	54	Average Value						
Frequency	Limit (dBuV/m @3m)	Remark																	
Above 1GHz	74	Peak Value																	
	54	Average Value																	
Test setup:	Above 1GHz 																		
Test Procedure:	1. The testing follows FCC KDB Publication No. 789033 D02 General UNII Test Procedures New Rules v01r03. Section G) Unwanted emissions measurement. 2. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of																		

	significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 5. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=100 kHz for $f < 1 \text{ GHz}$; $\text{VBW} \geq \text{RBW}$; Sweep = auto; Detector function = peak; Trace = max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for $f > 1 \text{ GHz}$ for peak measurement. For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. $\text{VBW} \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation. (4) A 5.8GHz high -PASS filter is used during radiated emissions above 1GHz measurement.
Test results:	PASS

6.8.1.1 Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
ESPI Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSEM	848597/001	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSP40	100056	Aug. 11, 2017
Spectrum Analyzer	R&S	FSQ	200061	Aug. 12, 2017
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Aug. 11, 2017
Pre-amplifier	HP	8447D	2727A05017	Aug. 11, 2017
Loop antenna	ZHINAN	ZN30900A	12024	Aug. 13, 2017
Broadband Antenna	Schwarzbeck	VULB9163	340	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9170	373	Aug. 13, 2017
Coax cable	TCT	RE-low-01	N/A	Aug. 11, 2017
Coax cable	TCT	RE-high-02	N/A	Aug. 11, 2017
Coax cable	TCT	RE-low-03	N/A	Aug. 11, 2017
Coax cable	TCT	RE-High-04	N/A	Aug. 11, 2017
Antenna Mast	CCS	CC-A-4M	N/A	Aug. 12, 2017
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A
Semi anechoic chamber	SAEMC	Chamber-#1	DQM0274	Aug. 12, 2017

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

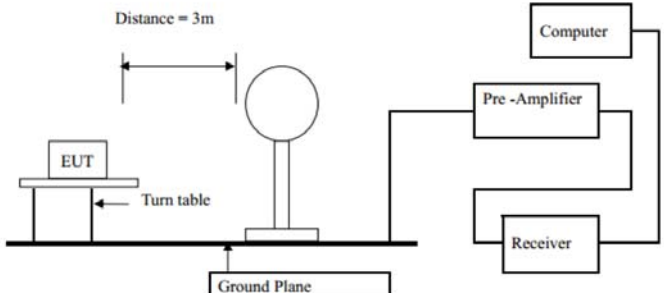
6.8.1.2 Test Data

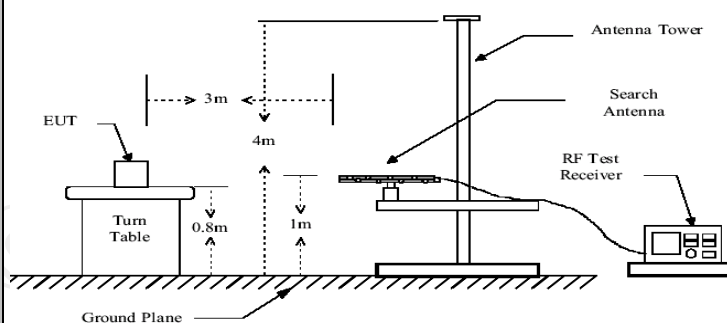
Restrict band around fundamental

11a CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
5137.57	H	49.09	---	0.53	49.62	---	74	54	-4.38
5187.19	H	49.16	---	0.59	49.75	---	74	54	-4.25
5186.28	H	48.92	---	0.57	49.49	---	74	54	-4.51
5137.09	V	50.18	---	0.53	50.71	---	74	54	-3.29
5187.19	V	50.58	---	0.59	51.17	---	74	54	-2.83
5186.28	V	49.90	---	0.57	50.47	---	74	54	-3.53
11n (HT20) CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (DbμV)	AV reading (dBμV)	Correction Factor (Db/m)	Emission Level		Peak limit (DbμV/m)	AV limit (DbμV/m)	Margin (Db)
					Peak (DbμV/m)	AV (DbμV/m)			
5142.20	H	49.54	---	0.55	50.09	---	74	54	-3.91
5150.00	H	51.09	---	0.66	51.75	---	74	54	-2.25
5183.20	H	48.77	---	0.86	49.63	---	74	54	-4.37
5150.00	H	48.13	---	0.66	48.79	---	74	54	-5.21
5187.19	H	47.87	---	0.85	48.72	---	74	54	-5.28
5142.65	V	49.09	---	0.55	49.64	---	74	54	-4.36
5150.03	V	49.89	---	0.66	50.55	---	74	54	-3.45
5183.29	V	49.37	---	0.58	49.95	---	74	54	-4.05
5150.00	V	48.92	---	0.66	49.58	---	74	54	-4.42
5187.28	V	49.21	---	0.57	49.78	---	74	54	-4.22
11n(HT40) CH38: 5190MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
5135.98	H	49.08	---	0.57	49.65	---	74	54	-4.35
5207.33	H	49.02	---	0.86	49.88	---	74	54	-4.12
5135.98	V	49.89	---	0.57	50.46	---	74	54	-3.54
5207.33	V	49.16	---	0.85	50.01	---	74	54	-3.99

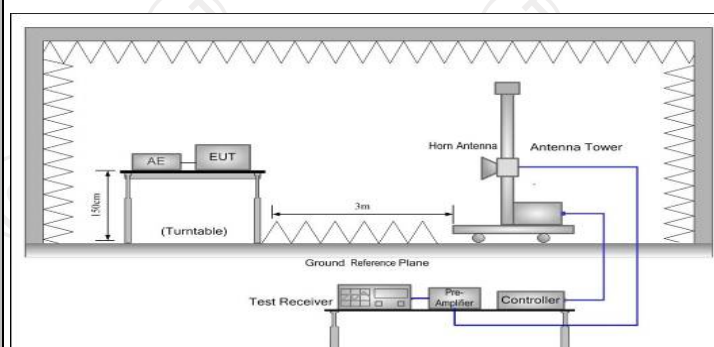
6.4.2. Unwanted Emissions out of the Restricted Bands

6.4.2.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v01r03				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,				
	Frequency		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		30		30
	30-88		100		3
	88-216		150		3
	216-960		200		3
	Above 960		500		3
	Frequency		Limit (dBuV/m @3m)		Detector
Above 1G		74.0		Peak	
		54.0		Average	
Test setup:	For radiated emissions below 30MHz				
					
	30MHz to 1GHz				



Above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

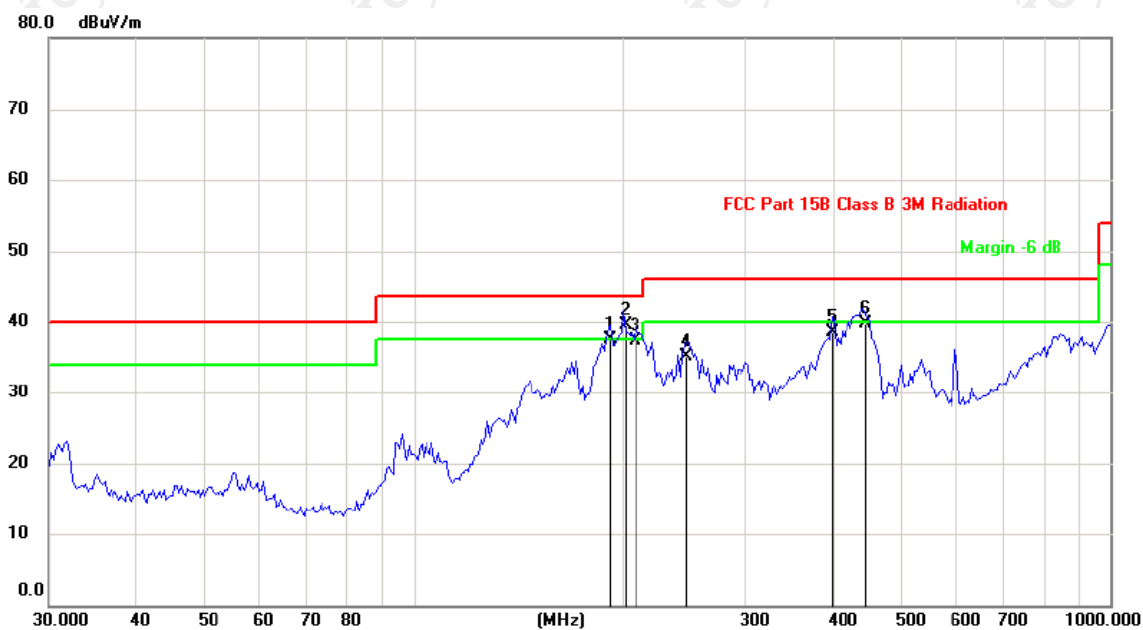
Test results:

PASS

6.4.3. Test Data

Please refer to following diagram for individual
Below 1GHz

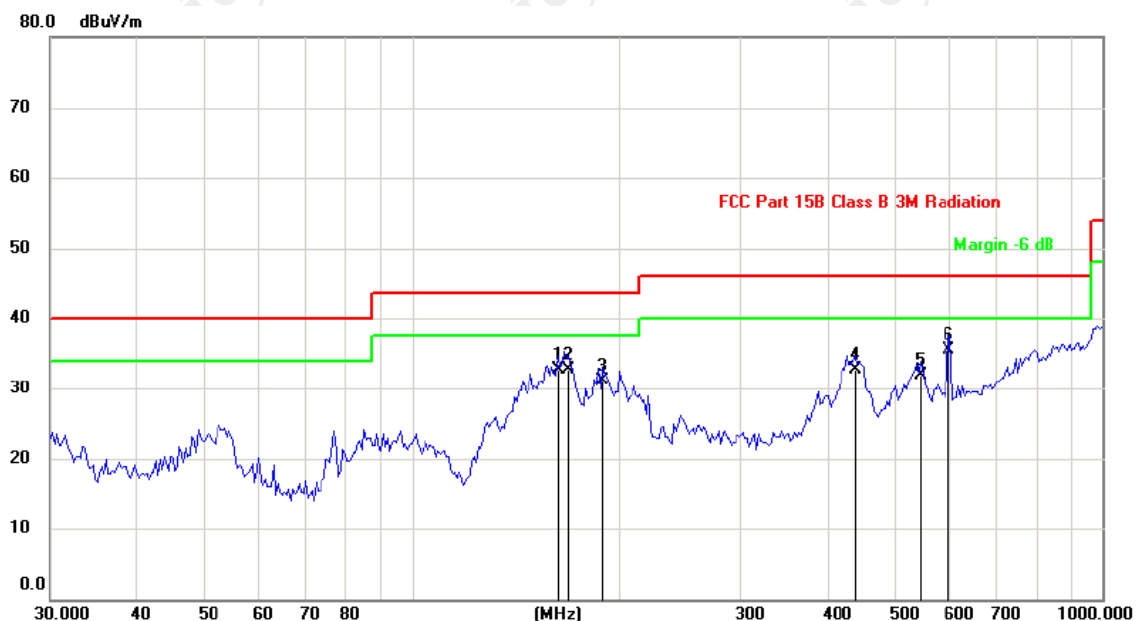
Horizontal:



Site: Limit: FCC Part 15B Class B 3M Radiation
Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 25
Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	!	191.7840	49.80	-12.24	37.56	43.50	-5.94	QP		
2	*	200.0432	51.10	-11.67	39.43	43.50	-4.07	QP		
3		208.6579	48.70	-11.38	37.32	43.50	-6.18	QP		
4		246.9901	45.10	-10.06	35.04	46.00	-10.96	QP		
5		398.2961	44.80	-6.23	38.57	46.00	-7.43	QP		
6		442.5722	44.60	-4.82	39.78	46.00	-6.22	QP		

Vertical:



Site: Polarization: **Vertical** Temperature: 25
Limit: FCC Part 15B Class B 3M Radiation Power: AC 120V/60Hz Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		163.1622	46.90	-14.23	32.67	43.50	-10.83	QP		
2		168.9970	46.50	-13.83	32.67	43.50	-10.83	QP		
3		189.1075	43.50	-12.43	31.07	43.50	-12.43	QP		
4		439.4730	37.70	-4.92	32.78	46.00	-13.22	QP		
5		546.4366	34.40	-2.48	31.92	46.00	-14.08	QP		
6	*	598.7066	37.50	-1.95	35.55	46.00	-10.45	QP		

Note: 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n), and the worst case Mode (Lowest channel and 802.11a) was submitted only.

Modulation Type: Band I

11a CH36: 5180MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	50.26	---	0.75	51.01	---	74	54	-2.99
15540	H	40.91	---	9.87	50.78	---	74	54	-3.22
---	H	---	---	---	---	---	---	---	---
10360	V	49.38	---	0.75	50.13	---	74	54	-3.87
15540	V	41.04	---	9.87	50.91	---	74	54	-3.09
---	V	---	---	---	---	---	---	---	---

11a CH44: 5220MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10440	H	49.39	---	0.97	50.36	---	74	54	-3.64
15660	H	41.04	---	9.83	50.87	---	74	54	-3.13
---	H	---	---	---	---	---	---	---	---
10440	V	49.15	---	0.97	50.12	---	74	54	-3.88
15660	V	40.61	---	9.83	50.44	---	74	54	-3.56
---	V	---	---	---	---	---	---	---	---

11a CH48: 5240MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	49.35	---	1.18	50.53	---	74	54	-3.47
15720	H	39.7	---	10.07	49.77	---	74	54	-4.23
---	H	---	---	---	---	---	---	---	---
10480	V	49.88	---	1.18	51.06	---	74	54	-2.94
15720	V	40.47	---	10.07	50.54	---	74	54	-3.46
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH36: 5180MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	49.26	---	1.18	50.44	---	74	54	-3.56
15540	H	39.68	---	10.07	49.75	---	74	54	-4.25
---	H	---	---	---	---	---	---	---	---
10360	V	49.66	---	1.18	50.84	---	74	54	-3.16
15540	V	40.21	---	10.07	50.28	---	74	54	-3.72
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH44: 5220MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10440	H	48.14	---	0.97	49.11	---	74	54	-4.89
15660	H	40.30	---	9.83	50.13	---	74	54	-3.87
---	H	---	---	---	---	---	---	---	---
10440	V	47.31	---	0.97	48.28	---	74	54	-5.72
15660	V	40.65	---	9.83	50.48	---	74	54	-3.52
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH48: 5240MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	47.49	---	1.18	48.67	---	74	54	-5.33
15720	H	39.77	---	10.07	49.84	---	74	54	-4.16
---	H	---	---	---	---	---	---	---	---
10480	V	46.67	---	1.18	47.85	---	74	54	-6.15
15720	V	39.99	---	10.07	50.06	---	74	54	-3.94
---	V	---	---	---	---	---	---	---	---
11n(HT40) CH38: 5190MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10380	H	48.29	---	0.75	49.04	---	74	54	-4.96
15570	H	40.27	---	9.87	50.14	---	74	54	-3.86
---	H	---	---	---	---	---	---	---	---
10380	V	47.28	---	0.75	48.03	---	74	54	-5.97
15570	V	40.25	---	9.87	50.12	---	74	54	-3.88
---	V	---	---	---	---	---	---	---	---
11n(HT40) CH46: 5230MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10460	H	47.03	---	0.97	48.00	---	74	54	-6.00
15690	H	40.08	---	9.83	49.91	---	74	54	-4.09
---	H	---	---	---	---	---	---	---	---
10460	V	47.17	---	0.97	48.14	---	74	54	-5.86
15690	V	39.60	---	9.83	49.43	---	74	54	-4.57
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "---" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band IV

11a CH149: 5745MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11490	H	45.81	---	0.66	46.47	---	74	54	-7.53
17235	H	38.38	---	9.5	47.88	---	74	54	-6.12
---	H	---	---	---	---	---	---	---	---
11490	V	44.67	---	0.66	45.33	---	74	54	-8.67
17235	V	35.95	---	9.5	45.45	---	74	54	-8.55
---	V	---	---	---	---	---	---	---	---

11a CH157: 5785MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	43.30	---	0.99	44.29	---	74	54	-9.71
17355	H	34.89	---	9.85	44.74	---	74	54	-9.26
---	H	---	---	---	---	---	---	---	---
11570	V	43.54	---	0.99	44.53	---	74	54	-9.47
17355	V	13.35	---	9.85	23.2	---	74	54	-30.80
---	V	---	---	---	---	---	---	---	---

11a CH165: 5825MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	43.09	---	1.33	44.42	---	74	54	-9.58
17475	H	36.55	---	10.22	46.77	---	74	54	-7.23
---	H	---	---	---	---	---	---	---	---
11650	V	43.26	---	1.33	44.59	---	74	54	-9.41
17475	V	36.70	---	10.22	46.92	---	74	54	-7.08
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH149: 5745MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11490	H	43.65	---	0.66	44.31	---	74	54	-9.69
17235	H	36.14	---	9.5	45.64	---	74	54	-8.36
---	H	---	---	---	---	---	---	---	---
11490	V	44.56	---	0.66	45.22	---	74	54	-8.78
17235	V	35.99	---	9.5	45.49	---	74	54	-8.51
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	44.42	---	0.66	45.08	---	74	54	-8.92
17355	H	36.67	---	9.5	46.17	---	74	54	-7.83
---	H	---	---	---	---	---	---	---	---
11570	V	50.61	---	0.66	51.27	---	74	54	-2.73
17355	V	36.45	---	9.5	45.95	---	74	54	-8.05
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH165: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	44.51	---	0.99	45.50	---	74	54	-8.50
17475	H	33.92	---	9.85	43.77	---	74	54	-10.23
---	H	---	---	---	---	---	---	---	---
11650	V	43.86	---	0.99	44.85	---	74	54	-9.15
17475	V	36.37	---	9.85	46.22	---	74	54	-7.78
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH151: 5755MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11510	H	43.34	---	1.33	44.67	---	74	54	-9.33
17265	H	35.47	---	10.22	45.69	---	74	54	-8.31
---	H	---	---	---	---	---	---	---	---
11510	V	42.61	---	1.33	43.94	---	74	54	-10.06
17265	V	34.92	---	10.22	45.14	---	74	54	-8.86
---	V	---	---	---	---	---	---	---	---

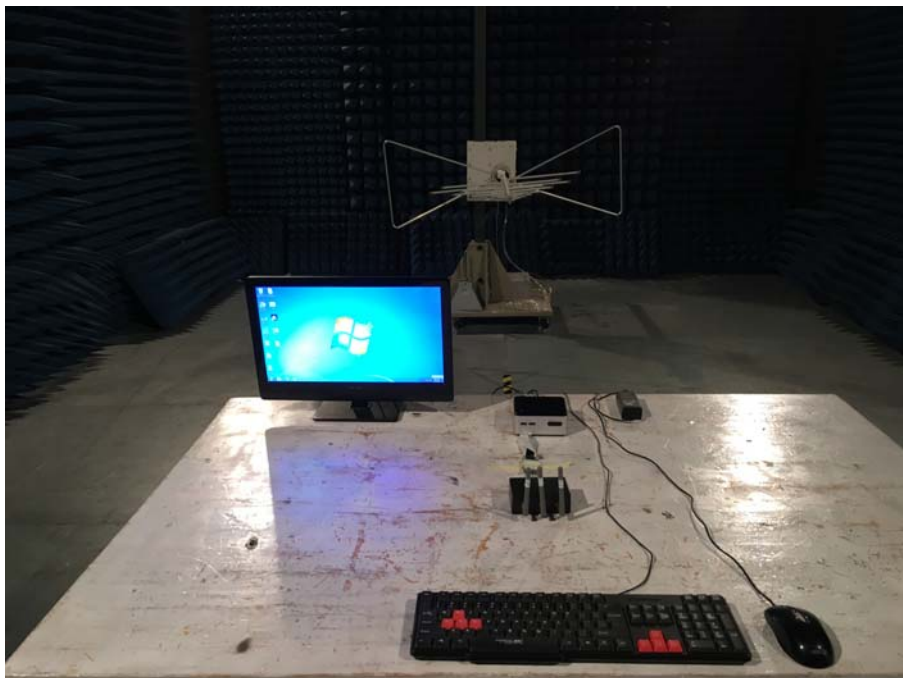
11n(HT40) CH159: 5795MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11590	H	43.93	---	0.66	44.59	---	74	54	-9.41
17385	H	34.48	---	9.5	43.98	---	74	54	-10.02
---	H	---	---	---	---	---	---	---	---
11590	V	43.25	---	0.66	43.91	---	74	54	-10.09
17385	V	35.80	---	9.5	45.30	---	74	54	-8.70
---	V	---	---	---	---	---	---	---	---

Note:

- Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
- Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
- The emission levels of other frequencies are very lower than the limit and not show in test report.
- Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
- Data of measurement shown "—" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

7. Appendix A: Photographs of Test Setup

Product: Wi-Fi® Radio Transceiver
Model: NM-DB-3NU
Radiated Emission



Conducted Emission



8. Photographs of EUT

Refer to the test report No. TCT170310E003

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