TEST REPORT

Applicant:	Shenzhen Renwoda Technology Co,Ltd
Address of Applicant:	502, Building A7, Yintian Industrial Zone, Yongqi Business Building, Yintian Industrial Zone, Yantian Community, Xixiang Street, Bao'an District, Shenzhen
Manufacturer/Factory:	Shenzhen Renwoda Technology Co,Ltd
Address of Manufacturer/Factory:	502, Building A7, Yintian Industrial Zone, Yongqi Business Building, Yintian Industrial Zone, Yantian Community, Xixiang Street, Bao'an District, Shenzhen

Equipment Under Test (EUT)

Product Name:	Car Smart converter Carplay Box
Model No.:	RWDP1
Trade Mark:	WRWD
FCC ID:	2BBT7-RWDP1
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	June 20, 2023
Date of report issued:	June 21, 2023
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Luo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*June 21, 2023*	*Original*

Prepared By: ***Date:*** *June 21, 2023*

Project Engineer

Check By: ***Date:*** *June 21, 2023*

Reviewer

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4 Test Summary

Test Item	Section	Result
Antenna requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% OCB	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 15.205/15.209	Pass

Remark: Test according to ANSI C63.10:2013 and RSS-Gen

Pass: The EUT complies with the essential requirements in the standard.

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz-30MHz	3.1dB	(1)
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Car Smart converter Carplay Box
Model No.:	RWDP1
Test Model No.:	RWDP1
Test sample(s) ID:	GTSL2023060472-1
Sample(s) Status	Engineer sample
S/N:	N/A
Operation Frequency:	802.11b/802.11g/802.11n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
Channel numbers:	802.11b/802.11g /802.11n(HT20): 11 802.11n(HT40):7
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n(HT20) /802.11n(HT40): Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	IPEX antenna
Antenna gain:	2.24dBi
Power supply:	DC 5V

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

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:

Test channel	**Frequency (MHz)**	
	802.11b/802.11g/802.11n(HT20)	802.11n(HT40)
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode

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:

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

Mode	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)
Data rate	1Mbps	6Mbps	6.5Mbps	13Mbps

5.3 Description of Support Units

None

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

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

● **FCC —Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **IC —Registration No.: 9079A**

CAB identifier: CN0091

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

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special test software provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July 02, 2020	July 01, 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 21, 2023	April 20, 2024
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 20, 2023	March 19, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June 12, 2022	June 11, 2023
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 23, 2022	June 22, 2023
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	April 21, 2023	April 20, 2024
9	Coaxial Cable	GTS	N/A	GTS211	April 21, 2023	April 20, 2024
10	Coaxial cable	GTS	N/A	GTS210	April 21, 2023	April 20, 2024
11	Coaxial Cable	GTS	N/A	GTS212	April 21, 2023	April 20, 2024
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	April 21, 2023	April 20, 2024
13	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 23, 2022	June 22, 2023
14	Band filter	Amindeon	82346	GTS219	June 23, 2022	June 22, 2023
15	Power Meter	Anritsu	ML2495A	GTS540	June 23, 2022	June 22, 2023
16	Power Sensor	Anritsu	MA2411B	GTS541	June 23, 2022	June 22, 2023
17	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 21, 2023	April 20, 2024
18	Splitter	Agilent	11636B	GTS237	June 23, 2022	June 22, 2023
19	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 29, 2022	Nov. 28, 2023
20	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 21, 2023	April 20, 2024
21	Breitband hornantenna	SCHWARZBECK	BBHA 9170	GTS579	Oct. 16, 2022	Oct. 15, 2023
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 16, 2022	Oct. 15, 2023
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 16, 2022	Oct. 15, 2023
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June 23, 2022	June 22, 2023
25	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 21, 2023	April 20, 2024

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May 14, 2022	May 13, 2025
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 23, 2023	April 22, 2024
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 23, 2022	June 22, 2023
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	April 21, 2023	April 20, 2024
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	JINCHUANG	GSP-8A	GTS639	April 27, 2023	April 26, 2024
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	April 14, 2023	April 13, 2024
9	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 21, 2023	April 20, 2024
10	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 21, 2023	April 20, 2024

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 21, 2023	April 20, 2024
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 21, 2023	April 20, 2024
3	Spectrum Analyzer	Agilent	E4440A	GTS536	April 21, 2023	April 20, 2024
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 21, 2023	April 20, 2024
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 21, 2023	April 20, 2024
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 21, 2023	April 20, 2024
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 21, 2023	April 20, 2024
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 21, 2023	April 20, 2024

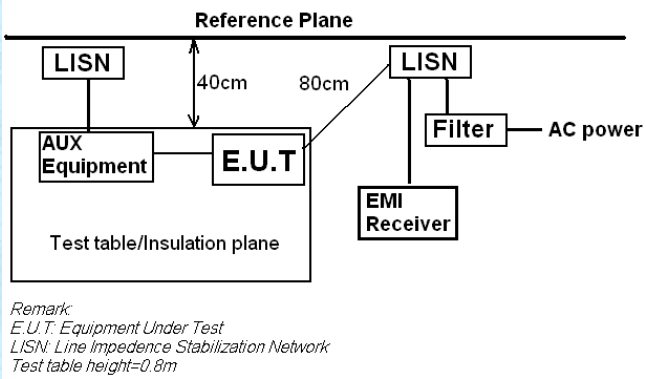
General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	April 23, 2023	April 22, 2024
2	Barometer	KUMAO	SF132	GTS647	July 26, 2022	July 25, 2023

7 Test results and Measurement Data

7.1 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. **15.247(c) (1)(i) requirement:** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna type is IPEX, reference to the appendix II for details.	

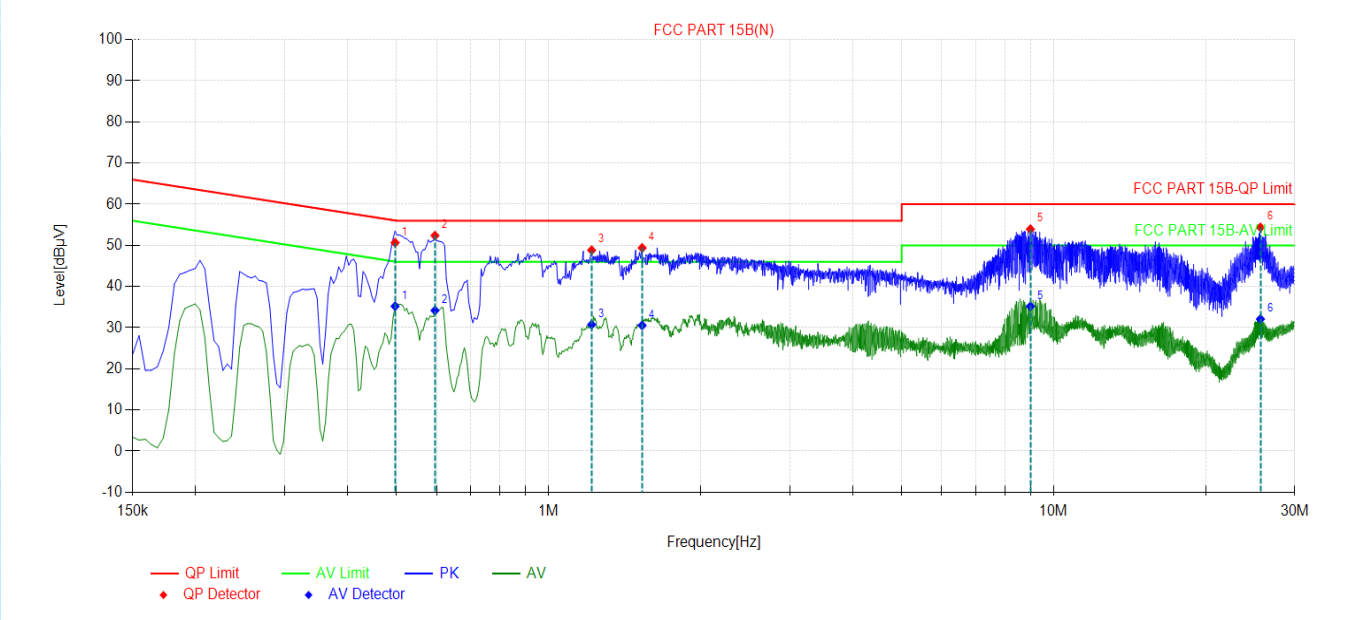
7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto
Limit:	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 * Decreases with the logarithm of the frequency.
Test setup:	
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 Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test environment:	Temp.: 25 °C / Humid.: 52% / Press.: 1012mbar
Test voltage:	AC 120V, 60Hz
Test results:	Pass

Measurement data

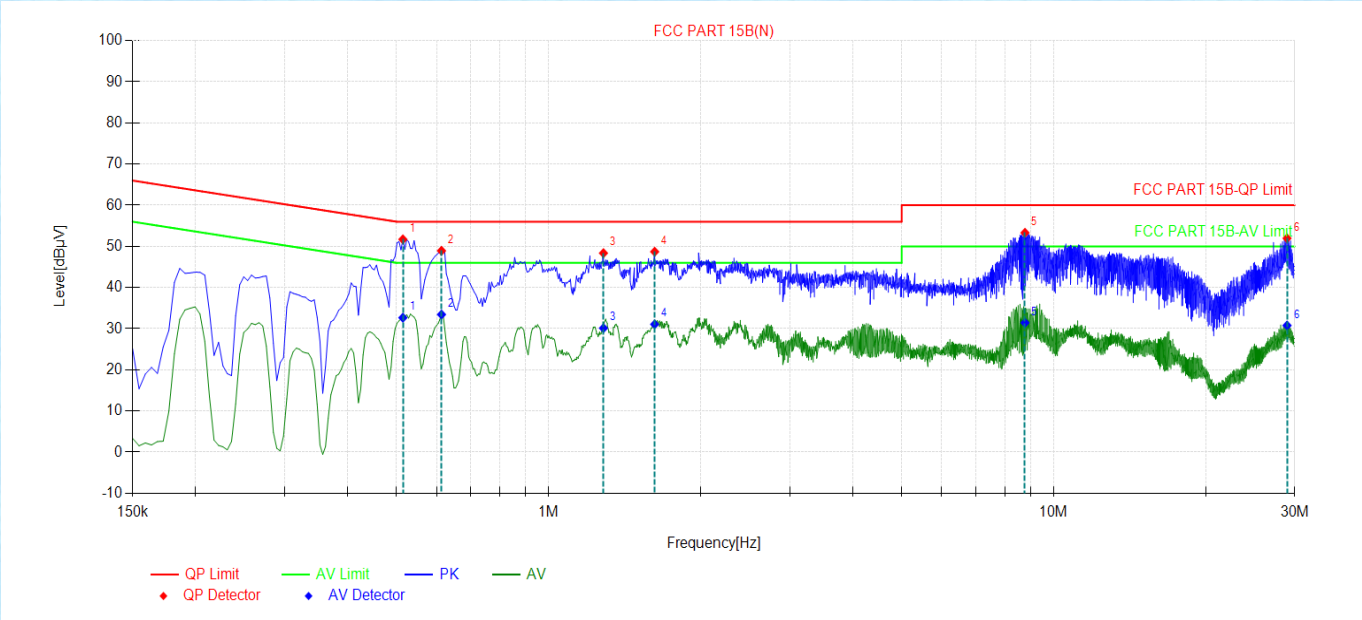
Pre-scan all test modes, found worst case at 802.11b 2462MHz, and so only show the test result of it

Line:



Final Data List									
NO.	Freq. [MHz]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict	Type
1	0.4965	50.66	56.06	5.40	35.20	46.06	10.86	PASS	N
2	0.5955	52.38	56.00	3.62	34.18	46.00	11.82	PASS	N
3	1.2165	48.83	56.00	7.17	30.74	46.00	15.26	PASS	N
4	1.5315	49.39	56.00	6.61	30.55	46.00	15.45	PASS	N
5	8.9925	53.94	60.00	6.06	35.19	50.00	14.81	PASS	N
6	25.6695	54.37	60.00	5.63	32.09	50.00	17.91	PASS	N

Neutral:

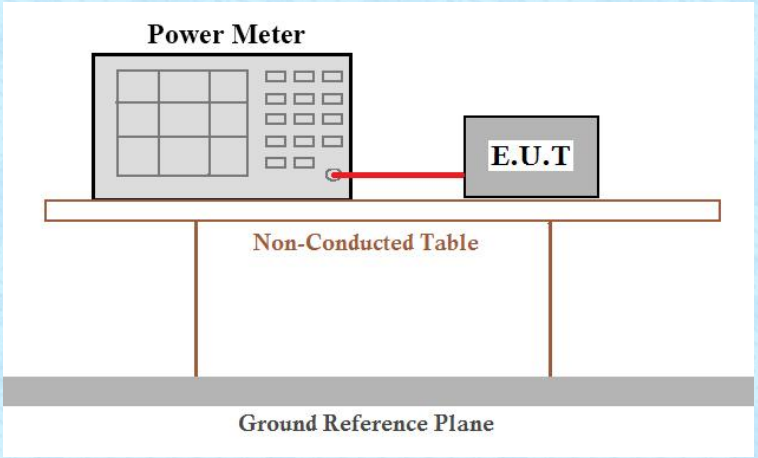


Final Data List									
NO.	Freq. [MHz]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict	Type
1	0.5145	51.71	56.00	4.29	32.67	46.00	13.33	PASS	N
2	0.6135	48.93	56.00	7.07	33.45	46.00	12.55	PASS	N
3	1.284	48.36	56.00	7.64	30.13	46.00	15.87	PASS	N
4	1.6215	48.71	56.00	7.29	31.07	46.00	14.93	PASS	N
5	8.772	53.31	60.00	6.69	31.43	50.00	18.57	PASS	N
6	28.977	51.96	60.00	8.04	30.78	50.00	19.22	PASS	N

Notes:

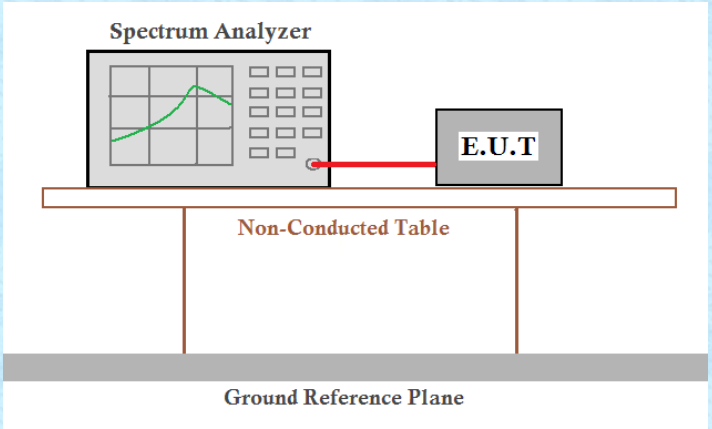
1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

7.3 Conducted Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

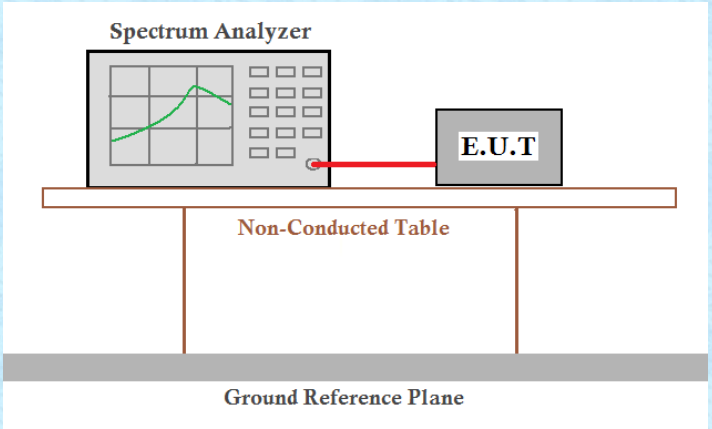
Measurement Data: The detailed test data see Appendix for WIFI 2.4G.

7.4 Channel Bandwidth

Test Requirement :	FCC Part15 C Section 15.247 (a)(2)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data: The detailed test data see Appendix for WIFI 2.4G.

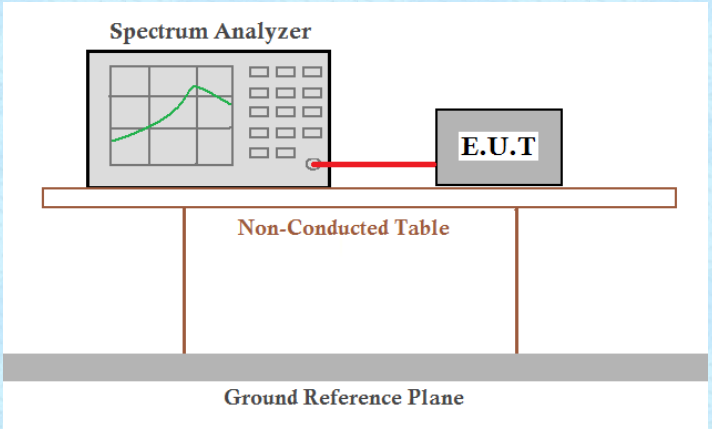
7.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data: The detailed test data see Appendix for WIFI 2.4G.

7.6 Spurious Emission in Non-restricted & restricted Bands

7.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data: The detailed test data see Appendix for WIFI 2.4G.

7.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 25GHz
Test site:	Measurement Distance: 3m

Receiver setup:

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

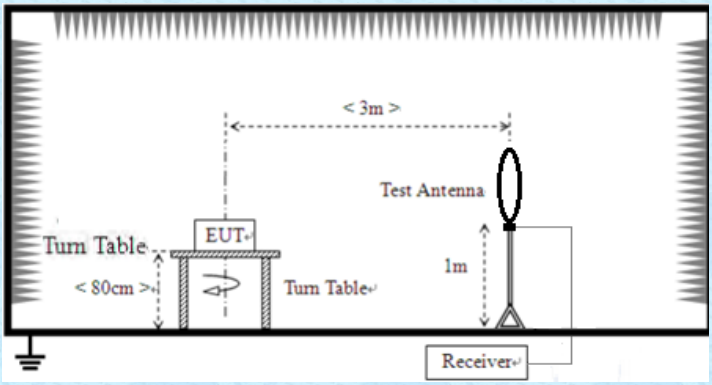
Note: For Duty cycle ≥ 98%, average detector set as above For Duty cycle < 98%, average detector set as below: VBW ≥ 1 / T

Limit:

Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	PK/QP/AV	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	30m
1.705MHz-30MHz	30	QP	30m
30MHz-88MHz	100	QP	3m
88MHz-216MHz	150	QP	
216MHz-960MHz	200	QP	
960MHz-1GHz	500	QP	
Above 1GHz	500	Average	
	5000	Peak	

Test setup:

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz

<table>
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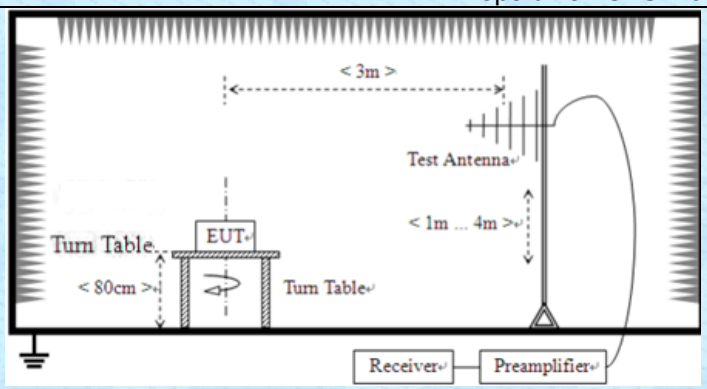
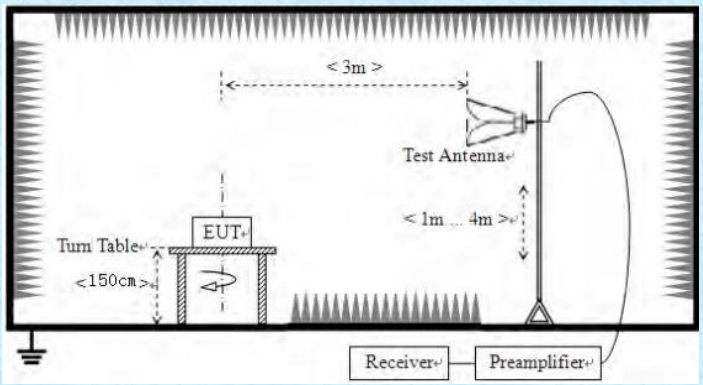


For radiated emissions above 1GHz



</td></tr>
<tr><td>Test Procedure:</td><td>
1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) 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, quasi-peak or average method as specified and then reported in a data sheet.
</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6.0 for details</td></tr>
</table>

Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remarks:

1. *Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.*

Measurement data:

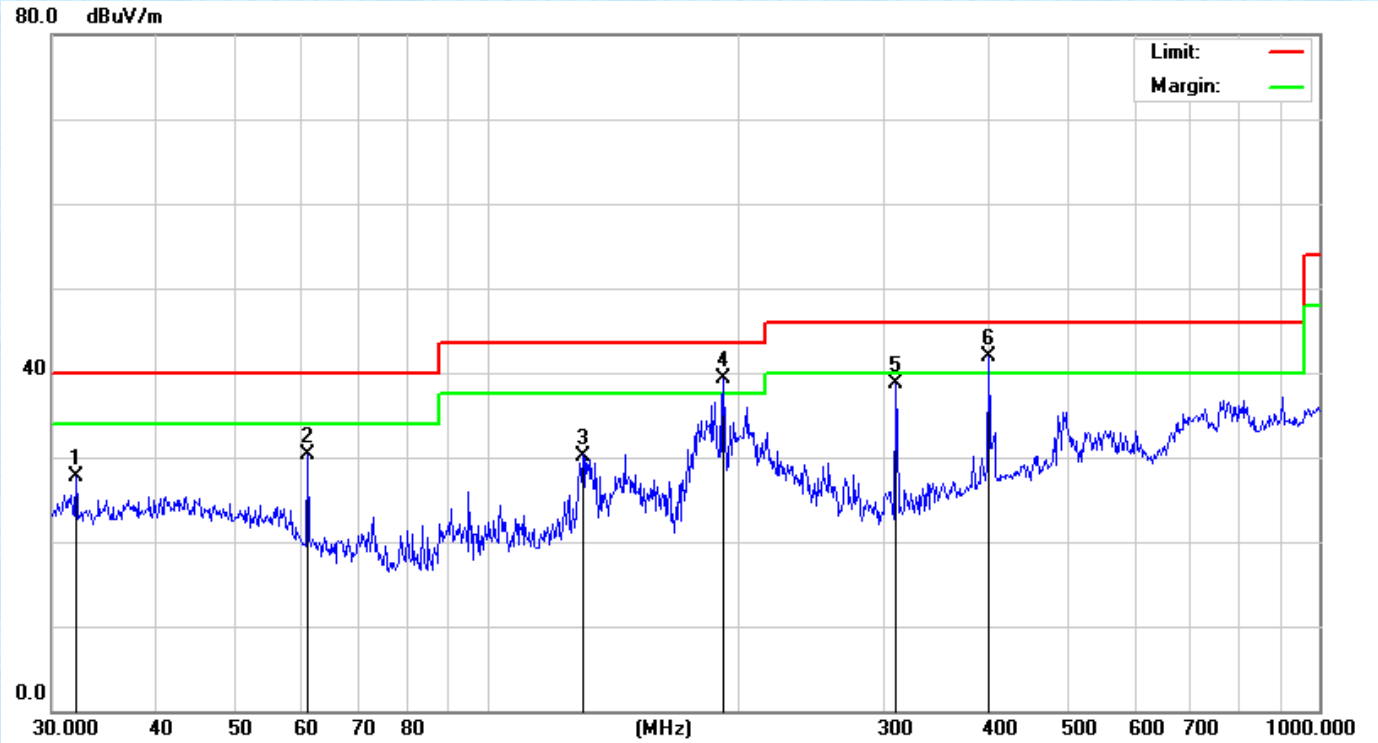
■ **9kHz~30MHz**

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

■ **Below 1GHz**

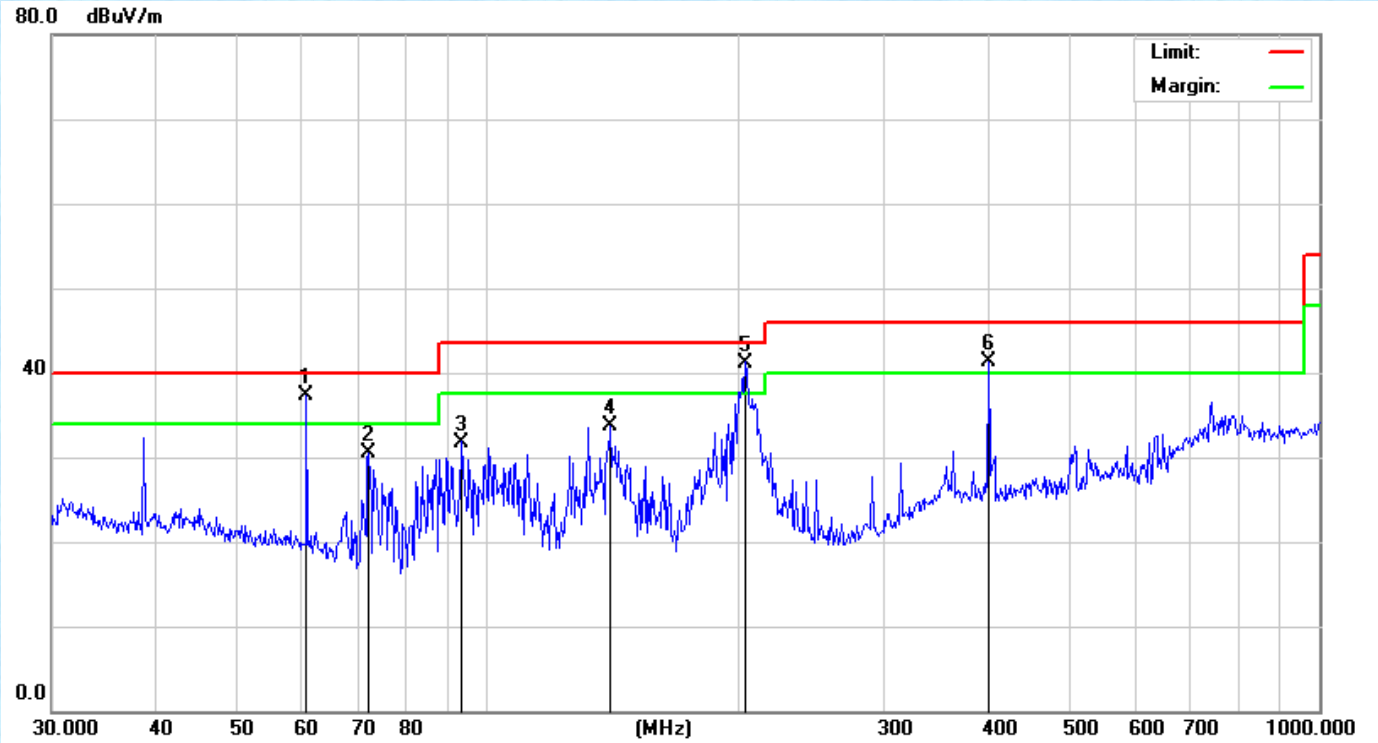
Pre-scan all test modes, found worst case at IEEE 802.11b (High Channel), recorded the worst case results in this report (IEEE 802.11b (High Channel)).

Horizontal:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		32.0667	31.63	-3.93	27.70	40.00	-12.30	QP
2		60.9176	37.63	-7.25	30.38	40.00	-9.62	QP
3		130.3788	38.11	-7.91	30.20	43.50	-13.30	QP
4	!	192.4185	46.96	-7.66	39.30	43.50	-4.20	QP
5		309.9977	43.10	-4.40	38.70	46.00	-7.30	QP
6	*	400.4318	41.65	0.35	42.00	46.00	-4.00	QP

Vertical:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	!	60.7043	44.95	-7.69	37.26	40.00	-2.74	QP
2		72.0841	41.00	-10.44	30.56	40.00	-9.44	QP
3		93.1132	41.91	-10.11	31.80	43.50	-11.70	QP
4		140.8351	41.30	-7.60	33.70	43.50	-9.80	QP
5	*	204.2376	46.93	-5.73	41.20	43.50	-2.30	QP
6	!	400.4318	42.30	-0.90	41.40	46.00	-4.60	QP

Unwanted Emissions in non-restricted Frequency Bands

■ **Above 1GHz**

Test mode:	802.11b	Test channel:	Lowest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.000	48.29	5.08	53.37	74.00	-20.63	PEAK
4824.000	37.83	5.08	42.91	54.00	-11.09	AVG
7326.000	42.16	7.55	49.71	74.00	-24.29	PEAK
7326.000	32.35	7.55	39.90	54.00	-14.10	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.000	47.39	5.08	52.47	74.00	-21.53	PEAK
4824.000	39.59	5.08	44.67	54.00	-9.33	AVG
7236.000	42.52	7.55	50.07	74.00	-23.93	PEAK
7236.000	32.20	7.55	39.75	54.00	-14.25	AVG

Test mode:	802.11b	Test channel:	Middle

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	48.47	5.13	53.60	74.00	-20.40	PEAK
4874.000	38.83	5.13	43.96	54.00	-10.04	AVG
7311.000	42.42	7.49	49.91	74.00	-24.09	PEAK
7311.000	32.89	7.49	40.38	54.00	-13.62	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	47.32	5.13	52.45	74.00	-21.55	PEAK
4874.000	37.99	5.13	43.12	54.00	-10.88	AVG
7311.000	42.86	7.49	50.35	74.00	-23.65	PEAK
7311.000	31.81	7.49	39.30	54.00	-14.70	AVG

Test mode:	802.11b	Test channel:	Highest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.000	48.70	5.18	53.88	74.00	-20.12	PEAK
4924.000	39.28	5.18	44.46	54.00	-9.54	AVG
7386.000	41.83	7.82	49.65	74.00	-24.35	PEAK
7386.000	32.38	7.82	40.20	54.00	-13.80	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.000	47.75	5.18	52.93	74.00	-21.07	PEAK
4924.000	38.41	5.18	43.59	54.00	-10.41	AVG
7386.000	42.76	7.82	50.58	74.00	-23.42	PEAK
7386.000	32.77	7.82	40.59	54.00	-13.41	AVG

Test mode:	802.11g	Test channel:	lowest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.000	47.52	5.08	52.60	74.00	-21.40	PEAK
4824.000	37.07	5.08	42.15	54.00	-11.85	AVG
7326.000	40.44	7.55	47.99	74.00	-26.01	PEAK
7326.000	30.99	7.55	38.54	54.00	-15.46	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.000	46.40	5.08	51.48	74.00	-22.52	PEAK
4824.000	37.90	5.08	42.98	54.00	-11.02	AVG
7236.000	40.68	7.55	48.23	74.00	-25.77	PEAK
7236.000	29.16	7.55	36.71	54.00	-17.29	AVG

Test mode:	802.11g	Test channel:	Middle

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	47.93	5.13	53.06	74.00	-20.94	PEAK
4874.000	36.80	5.13	41.93	54.00	-12.07	AVG
7311.000	39.36	7.49	46.85	74.00	-27.15	PEAK
7311.000	29.36	7.49	36.85	54.00	-17.15	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	46.32	5.13	51.45	74.00	-22.55	PEAK
4874.000	36.59	5.13	41.72	54.00	-12.28	AVG
7311.000	39.30	7.49	46.79	74.00	-27.21	PEAK
7311.000	30.26	7.49	37.75	54.00	-16.25	AVG

Test mode:	802.11g	Test channel:	Highest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (Db)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (Db)	Detector Type
4924.000	47.63	5.18	52.81	74.00	-21.19	PEAK
4924.000	37.04	5.18	42.22	54.00	-11.78	AVG
7386.000	39.95	7.82	47.77	74.00	-26.23	PEAK
7386.000	30.00	7.82	37.82	54.00	-16.18	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.000	46.06	5.18	51.24	74.00	-22.76	PEAK
4924.000	37.12	5.18	42.30	54.00	-11.70	AVG
7386.000	39.72	7.82	47.54	74.00	-26.46	PEAK
7386.000	30.32	7.82	38.14	54.00	-15.86	AVG

Test mode:	802.11n(HT20)	Test channel:	Lowest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.000	47.04	5.08	52.12	74.00	-21.88	PEAK
4824.000	37.50	5.08	42.58	54.00	-11.42	AVG
7326.000	40.87	7.55	48.42	74.00	-25.58	PEAK
7326.000	29.20	7.55	36.75	54.00	-17.25	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.000	46.58	5.08	51.66	74.00	-22.34	PEAK
4824.000	37.36	5.08	42.44	54.00	-11.56	AVG
7236.000	41.00	7.55	48.55	74.00	-25.45	PEAK
7236.000	29.20	7.55	36.75	54.00	-17.25	AVG

Test mode:	802.11n(HT20)	Test channel:	Middle

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	47.04	5.13	52.17	74.00	-21.83	PEAK
4874.000	37.10	5.13	42.23	54.00	-11.77	AVG
7311.000	39.75	7.49	47.24	74.00	-26.76	PEAK
7311.000	30.25	7.49	37.74	54.00	-16.26	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	46.08	5.13	51.21	74.00	-22.79	PEAK
4874.000	37.45	5.13	42.58	54.00	-11.42	AVG
7311.000	39.47	7.49	46.96	74.00	-27.04	PEAK
7311.000	29.91	7.49	37.40	54.00	-16.60	AVG

Test mode:	802.11n(HT20)	Test channel:	Highest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.000	47.03	5.18	52.21	74.00	-21.79	PEAK
4924.000	36.30	5.18	41.48	54.00	-12.52	AVG
7386.000	40.29	7.82	48.11	74.00	-25.89	PEAK
7386.000	29.11	7.82	36.93	54.00	-17.07	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.000	46.00	5.18	51.18	74.00	-22.82	PEAK
4924.000	37.18	5.18	42.36	54.00	-11.64	AVG
7386.000	39.79	7.82	47.61	74.00	-26.39	PEAK
7386.000	30.36	7.82	38.18	54.00	-15.82	AVG

Test mode:	802.11n(HT40)	Test channel:	Lowest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844.000	47.28	5.11	52.39	74.00	-21.61	PEAK
4844.000	37.41	5.11	42.52	54.00	-11.48	AVG
7266.000	39.99	7.29	47.28	74.00	-26.72	PEAK
7266.000	29.97	7.29	37.26	54.00	-16.74	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844.000	46.33	5.11	51.44	74.00	-22.56	PEAK
4844.000	37.93	5.11	43.04	54.00	-10.96	AVG
7266.000	39.94	7.29	47.23	74.00	-26.77	PEAK
7266.000	29.40	7.29	36.69	54.00	-17.31	AVG

Test mode:	802.11n(HT40)	Test channel:	Middle

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	47.65	5.13	52.78	74.00	-21.22	PEAK
4874.000	36.57	5.13	41.70	54.00	-12.30	AVG
7311.000	39.66	7.49	47.15	74.00	-26.85	PEAK
7311.000	30.05	7.49	37.54	54.00	-16.46	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.000	46.98	5.13	52.11	74.00	-21.89	PEAK
4874.000	37.71	5.13	42.84	54.00	-11.16	AVG
7311.000	39.61	7.49	47.10	74.00	-26.90	PEAK
7311.000	29.08	7.49	36.57	54.00	-17.43	AVG

Test mode:	802.11n(HT40)	Test channel:	Highest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4904.000	47.27	5.16	52.43	74.00	-21.57	peak
4904.000	37.41	5.16	42.57	54.00	-11.43	AVG
7356.000	40.75	7.69	48.44	74.00	-25.56	peak
7356.000	30.13	7.69	37.82	54.00	-16.18	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4904.000	46.11	5.16	51.27	74.00	-22.73	peak
4904.000	36.81	5.16	41.97	54.00	-12.03	AVG
7356.000	39.58	7.69	47.27	74.00	-26.73	peak
7356.000	29.19	7.69	36.88	54.00	-17.12	AVG

Notes:

1). Measuring frequencies from 9 KHz - 10th harmonic or 26.5GHz (which is less), No emission found between lowest internal used/generated frequency to 30MHz.
2). Radiated emissions *measured in frequency range from 9 KHz~10th harmonic or 26.5GHz (which is less) were made with an instrument using Peak detector mode.*
3). Margin=Reading level + Factor – Limit

8 Test Setup Photo

Reference to the **Appendix I** for details.

9 EUT Constructional Details

Reference to the **Appendix II** for details.

------End------