



TEST REPORT

Report Reference No:	CHTEW18120550	Report verification:	
Project No:	SHT1812022601EW		
FCC ID:	ZSW-30-077		Reportivo: CHTEW18120550
Applicant's name:	b mobile HK Limited		
Address	Flat 18; 14/F Block 1; Golden Street; Kwai Chung; New Terr		-26 Kwai Tak
Manufacturer	b mobile HK Limited		
Address:	Flat 18; 14/F Block 1; Golden I Street; Kwai Chung; New Terr		-26 Kwai Tak
Test item description	Mobile Phone		
Trade Mark	Bmobile		
Model/Type reference:	AX715		
Listed Model(s)	-		
Standard:	FCC CFR Title 47 Part 15 Sul	bpart C Section 15.	247
Date of receipt of test sample:	Dec 12, 2018		
Date of testing	Dec 13, 2018- Dec 27, 2018		
Date of issue	Dec 28, 2018		
Result	PASS		
Compiled by			
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Testing Laboratory Name: :	Shenzhen Huatongwei Interr	national Inspection	Co., Ltd.
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to its placement and context.

The test report merely correspond to the test sample.

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1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

<u>FCC Rules Part 15.247</u>: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

ANSI C63.10:2013: American National Standard forTesting Unlicensed Wireless Devices

<u>KDB 558074 D01 15.247 Meas Guidance v05:</u> Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under Section 15.247 of The FCC Rules

1.2. Report version

Revision No.	Date of issue	Description
N/A	2018-12-28	Original

2. TEST DESCRIPTION

Test Item	FCC Rule	Result	Test Engineer
Antenna requirement	15.203/15.247(c)	PASS	Xiaokang Tan
Line Conducted Emissions (AC Main)	15.207	PASS	Tony Duan
Conducted Peak Output Power	15.247(b)(3)	PASS	Xiaokang Tan
Power Spectral Density	15.247(e)	PASS	Xiaokang Tan
6dB Bandwidth	15.247(a)(2)	PASS	Xiaokang Tan
Restricted band	15.247(d)/15.205	PASS	Shower Dai
Spurious Emissions	15.247(d)/15.209	PASS	Shower Dai

Note: The measurement uncertainty is not included in the test result.

Shenzhen Huatongwei International Inspection Co., Ltd.

3. <u>SUMMARY</u>

3.1. Client Information

Applicant:	b mobile HK Limited
Address:	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong.
Manufacturer:	b mobile HK Limited
Address:	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong.

3.2. Product Description

Name of EUT:	Mobile Phone
Trade Mark:	Bmobile
Model No.:	AX715
Listed Model(s):	-
IMEI:	Conducted: 362523432570946 Radiated: 362523432572421
Power supply:	DC 3.7V
Adapter information:	Input:100-240Va.c. 50/60Hz 0.15A Output:5.0Vd.c. 500mA
Hardware version:	sc2728 V00
Software version:	Bmobile_AX715_OM_LTM_V001
WIFI	
Supported type:	802.11b/802.11g/802.11n(HT20)
Modulation:	DSSS for 802.11b OFDM for 802.11g/802.11n(HT20)
Operation frequency:	2412MHz~2462MHz
Channel number:	11
Channel separation:	5MHz
Antenna type:	PIFA Antenna
Antenna gain:	0 dBi

3.3. Operation state

Test frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channel which were tested. the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

802.11b/g/n(HT20)			
Channel	Frequency (MHz)		
01	2412		
02	2417		
06	2437		
10	2457		
11	2462		

Test mode

For RF test items

The engineering test program was provided and enabled to make EUT continuous transmit (duty cycle>98%).

For AC power line conducted emissions:

The EUT was set to connect with the WLAN AP under large package sizes transmission.

For Radiated suprious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit(duty cycle>98%). The EUT in each of three orthogonal axis emissions had been tested ,but only the worst case (X axis) data Recorded in the report.

3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

supplied by the manufacturer

0	 supplied by the lab 	

0 /	Manufacturer:	/	
	Model No.:	/	
	Manufacturer:	/	
0	7	Model No.:	/

3.5. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

4.2. Test Facility

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. 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 our files.

IC-Registration No.:5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.: 5377B-1.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Environmental conditions

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

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

4.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors in calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd. quality system according to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Here after the best measurement capability for Shenzhen Huatongwei International Inspection Co., Ltd. is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.63 dB	(1)
Conducted spurious emissions 9kHz~40GHz	0.63 dB	(1)
Conducted Disturbance 150kHz~30MHz	3.35 dB	(1)
Radiated Emissions below 1GHz	4.28 dB	(1)
Radiated Emissions above 1GHz	5.16 dB	(1)
Occupied Bandwidth	69 Hz	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

4.5. Equipments Used during the Test

Condu	Conducted Emissions					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)
1	EMI Test Receiver	R&S	ESCI	101247	10/27/2018	10/26/2019
2	Artificial Mains	SCHWARZBECK	NNLK 8121	573	10/27/2018	10/26/2019
3	Pulse Limiter	R&S	ESH3-Z2	101488	10/27/2018	10/26/2019
4	RF Connection Cable	HUBER+SUHNER	EF400	N/A	11/14/2017	11/13/2019
5	Test Software	R&S	ES-K1	N/A	N/A	N/A
6	Temperature and Humidity Meter	ΜΙΑΟΧΙΝ	TH10R	N/A	10/30/2018	10/29/2019

Radiat	Radiated Emissions(Below 1GHz)									
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)				
1	Semi-Anechoic Chamber	Albatross projects	SAC-3m-02	C11121	09/30/2018	09/29/2021				
2	EMI Test Receiver	R&S	ESCI	100900	10/28/2018	10/27/2019				
3	Loop Antenna	R&S	HFH2-Z2	100020	04/02/2018	04/02/2021				
4	Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	546	04/05/2017	04/04/2020				
5	RF Connection Cable	HUBER+SUHNER	N/A	N/A	09/28/2018	09/27/2019				
6	RF Connection Cable	HUBER+SUHNER	SUCOFLEX104	501184/4	09/28/2018	09/27/2019				
7	Test Software	R&S	ES-K1	N/A	N/A	N/A				
8	Turntable	Maturo Germany	TT2.0-1T	N/A	N/A	N/A				
9	Antenna Mast	Maturo Germany	TAM-4.0-P	N/A	N/A	N/A				
10	Temperature and Humidity Meter	KEJIAN	KJ03	N/A	10/30/2018	10/29/2019				

Radia	ted Emissions(Above 1GH	z)				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)
1	Anechoic Chamber	Albatross projects	SAC-3m-01	C11121	09/30/2018	09/29/2021
2	Horn Antenna	SCHWARZBECK	9120D	1011	03/27/2017	03/26/2020
3	Preamplifier	BONN	BLWA0160-2M	1811887	11/14/2018	11/13/2019
4	Pre-amplifier	SCHWARZBECK	BBV 9743	9743-0022	10/17/2018	10/16/2019
5	Broadband Pre-amplifier	SCHWARZBECK	BBV 9718	9718-248	04/28/2018	04/27/2019
6	Spectrum Analyzer	R&S	FSP40	100597	10/27/2018	10/26/2019
7	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	11/15/2018	11/14/2019
8	RF Connection Cable	HUBER+SUHNER	RE-7-FH	N/A	11/15/2018	11/14/2019
9	Test Software	Audix	E3	N/A	N/A	N/A
10	Turntable	Maturo Germany	TT2.0-1T	N/A	N/A	N/A
11	Antenna Mast	Maturo Germany	CAM-4.0-P-12	N/A	N/A	N/A
12	Temperature and Humidity Meter	MINGLE	YH101	N/A	10/30/2018	10/29/2019

RF Conducted Test									
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)			
1	Spectrum Analyzer	R&S	FSV40	100048	10/28/2018	10/27/2019			
2	EXA Signal Analyzer	Agilent	N9020A	MY5050187	09/29/2018	09/28/2019			
3	Power Meter	Anritsu	ML249A	N/A	09/29/2018	09/28/2019			
4	OSP	R&S	OSP120	101317	N/A	N/A			

5. TEST CONDITIONS AND RESULTS

5.1. Antenna requirement <u>REQUIREMENT:</u>

FCC CFR Title 47 Part 15 Subpart C Section 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. The use of a permanently attached antenna or of anantenna 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.

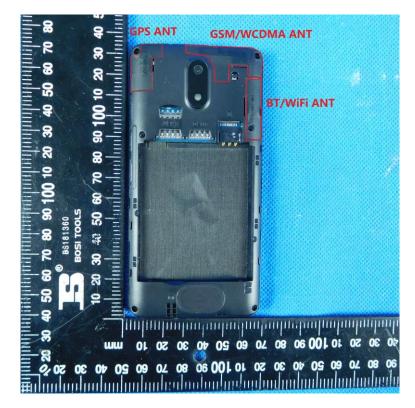
FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(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 6 dBi 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 6 dBi.

TEST RESULTS

☑ Passed □ Not Applicable

The directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



5.2. Conducted Emissions (AC Main)

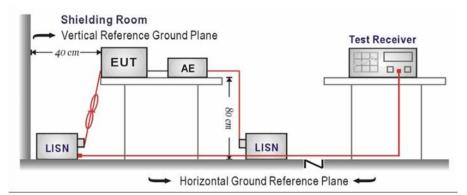
<u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.207:

	Limit (d	BuV)
Frequency range (MHz)	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 CONFIGURATION



TEST PROCEDURE

- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
- 4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 8. During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

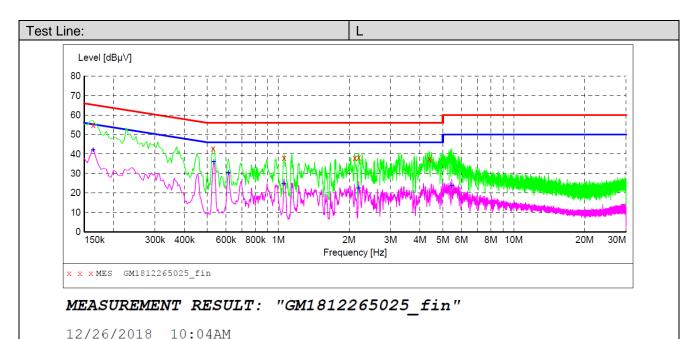
Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Note:

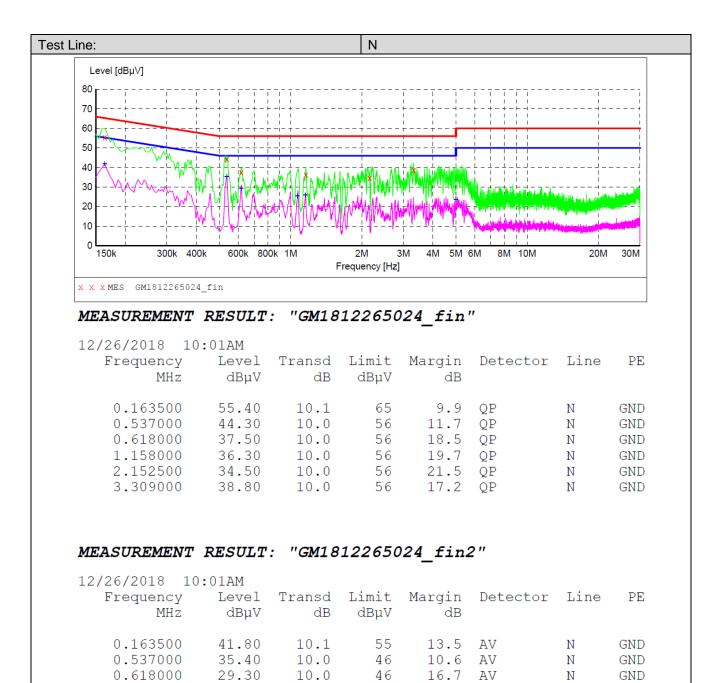
- 1) Transd=Cable lose+ Pulse Limiter Factor + Artificial Mains Factor
- 2) Margin= Limit -Level



12/26/2018 10	0:04AM						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0.163500	55.00	10.1	65	10.3	QP	L1	GND
0.528000	42.90	10.0	56	13.1	QP	L1	GND
1.059000	38.00	10.0	56	18.0	QP	L1	GND
2.116500	38.00	10.0	56	18.0	QP	L1	GND
2.197500	38.10	10.0	56	17.9	QP	L1	GND
4.384500	37.60	10.0	56	18.4	QP	L1	GND

MEASUREMENT RESULT: "GM1812265025 fin2"

12/26/2018 10 Frequency MHz	0:04AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.163500 0.532500 0.613500 1.054500 2.193000 5.451000	42.00 36.00 30.60 24.60 22.40 23.80	10.1 10.0 10.0 10.0 10.0 10.0	55 46 46 46 46 50	13.3 10.0 15.4 21.4 23.6 26.2	AV AV AV AV	L1 L1 L1 L1 L1 L1	GND GND GND GND GND GND



25.50

25.90

23.40

10.0

10.0

10.0

46

46

46

20.5

20.1

22.6

AV

AV

AV

1.068000

1.153500

4.996500

GND

GND

GND

Ν

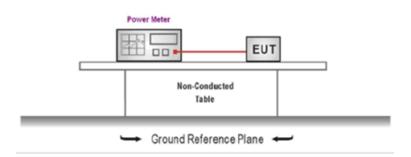
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5.3. Conducted Peak Output Power LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3): 30dBm

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was tested according to ANSI C63.10: 2013 and KDB 558074 D01 for compliance to FCC 47 CFR 15.247 requirements.
- 2. The maximum peak conducted output power may be measured using a broadband peak RF power meter.
- 3. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector
- 4. Record the measurement data.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

🛛 Passed

Not Applicable

Туре	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
	01		15.09		
802.11b	06	17.14	14.61	≤30.00	Pass
	11	16.59	13.98		
	01	15.34	11.27		
802.11g	06	14.93	10.92	≤30.00	Pass
	11	14.06	10.02		
	01	13.92	10.42		
802.11n(HT20)	06	13.57	10.08	≤30.00	Pass
	11	12.64	9.02		

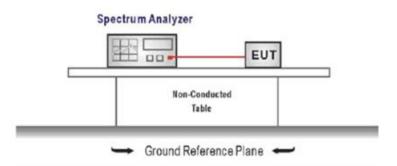
5.4. Power Spectral Density

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e):

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST CONFIGURATION



TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input,
- Configure the spectrum analyzer as shown below: Center frequency=DTS channel center frequency Span =1.5 times the DTS bandwidth RBW = 3 kHz ≤ RBW ≤ 100 kHz, VBW ≥ 3 × RBW Sweep time = auto couple Detector = peak Trace mode = max hold
- 3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
- 4. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 5. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST MODE:

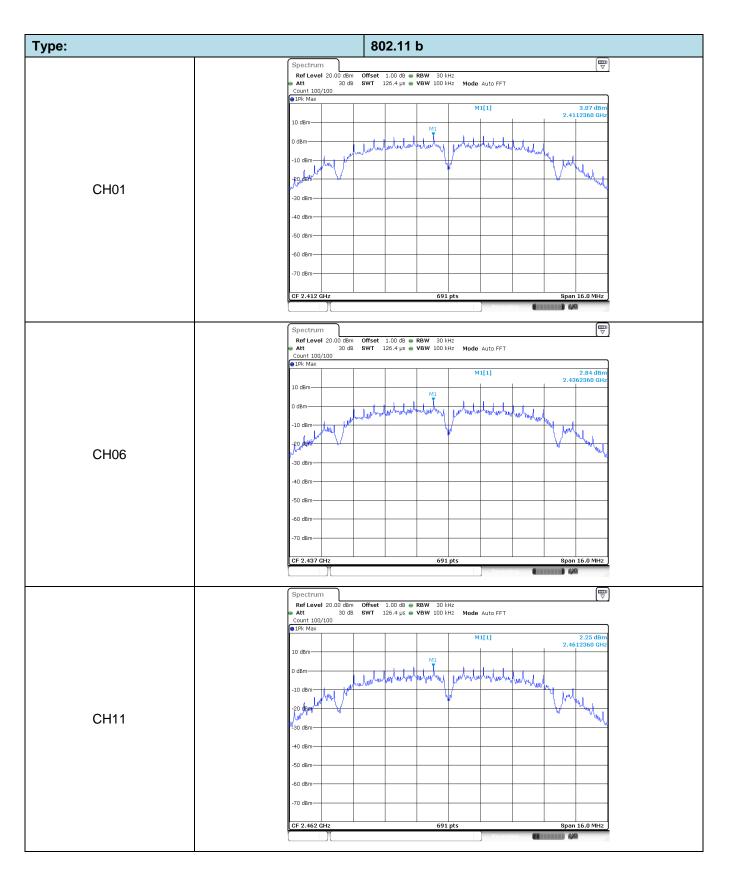
Please refer to the clause 3.3

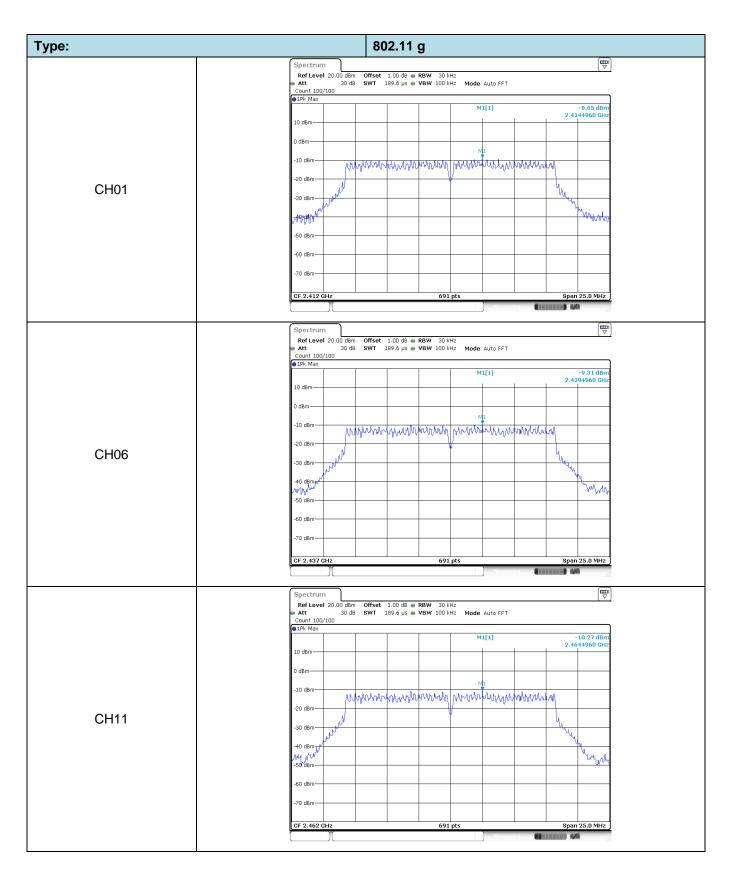
TEST RESULTS

☑ Passed □ Not Applicable

Туре	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result	
	01	01 3.07			
802.11b	06	2.84	≤8.00	Pass	
		2.25			
	01	-8.65			
802.11g	06	-9.31	≤8.00	Pass	
	11	-10.27			
	01	-10.72			
802.11n(HT20)	06	-10.99	≤8.00	Pass	
	11	-12.02			

Test plot as follows:





Type: 802.11n(HT20) Spectrum
 Ref Level
 20.00 dBm
 Offset
 1.00 dB
 RBW
 30 kHz

 Att
 30 dB
 SWT
 189.6 μs
 VBW
 100 kHz
 Mode
 Auto FFT
 Count 100/100 M1[1] -10.72 dB 2.4169930 GF 10 dBm-0 dBm--10 dBm 20 dBm CH01 30 dBr 40 dBm WYM with. -50 dBm -60 dBm 70 dBm CF 2.412 5.0 MH Span 2 IIII 480 Spectrum Ref Level 20.00 dBm Att 30 dB Count 100/100 P1Pk Max Offset 1.00 dB ● RBW 30 kHz SWT 189.6 µs ● VBW 100 kHz Mode Auto FFT M1[1] -10.99 dB 2.4357340 GF 10 dBm-0 dBm -10 dBm--20 dBm CH06 30 dBm 40 dBm <u> MM</u> ,450 pBm--60 dBm 70 dBm-691 pts CF 2.437 G 25.0 MHz **11** Spectrum Count 100/100 M1[1] -12.02 dB 2.4601190 GF 10 dBm 0 dBm -10 dBm manution particulary manufarman and and -20 dBm CH11 -30 dBm 40 dBm rsdrigstn 60 dBm 70 dBm CF 2.462 GHz 691 pts Span 25.0 MHz

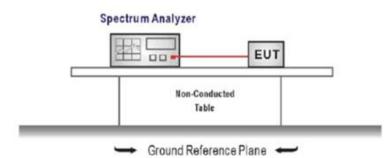
5.5. 6dB bandwidth

<u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2):

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

TEST CONFIGURATION



TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- 2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).

Center Frequency =DTS channel center frequency Span=2 x DTS bandwidth RBW = 100 kHz, VBW ≥ 3 × RBW Sweep time= auto couple Detector = Peak Trace mode = max hold

- 3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
- 4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission, and record the pertinent measurements.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

🛛 Passed	Not Applicable				
Туре	Channel	6dB Bandwidth (MHz)	Limit (kHz)	Result	
	01	10.11			
802.11b	06	10.11	10.11 ≥500		
	11	10.11			
	01	16.41			
802.11g	06	16.41 ≥500		Pass	
	11	16.41			
	01	17.64			
802.11n(HT20)	06	17.64	≥500	Pass	
	11	17.61			

Test plot as follows:



Туре:	802.11 g
	Spectrum Image: Construction of the sector of
	-10 dBm D1 -10.157 dBm
CH01	-30 dem
	-60 dBm
	Marker Yupe Ref Trc X-value Y-value Function Function Result M1 1 2.40378 GHz -10.75 dBm
	Spectrum
	Ref Level 20.50 dBm Offset 1.00 dB ■ RBW 100 kHz ↓ ↓ Att 30 dB SWT 75.9 μs ■ VBW 300 kHz Mode Auto FFT Count 500/500 ● IFV View ● ● ● ● ● ● ● ● ● ● > ● > ● > ● >
	10 dBm M1[1] -11.21 dBm 0 dBm M2[1] -4.49 dBm 0 dBm M2[1] -4.49 dBm
	-10 dBm - D1 -10.485 dBm
CH06	Advern 444
	-70 dBm CF 2.437 GHz 1001 pts Span 30.0 MHz
	Type Ref Trc X-value Y-value Function Function Result M1 1 2.43073 GHz -11.21 dBm -11.21 dBm <td< td=""></td<>
	Spectrum (□) Ref Level 20.50 dBm Offset 1.00 dB ● RBW 100 kHz
	Att 30 dB SWT 75.9 µs ● VBW 300 kH2 Mode Auto FFT Count 500/500 ●1Pk View 10 dBm 11.84 dBm 2.4537800 GH2 5 23 dBm
	0 dBm
CH11	-20 dBm
	-50 dBm
	CF 2.462 GHz 1001 pts Span 30.0 MHz Marker Type [Ref] Trc X-value Function Function Result M1 1 2.45378 GHz -11.84 dBm Function Function Result
	M2 1 2.46449 GHz -5.32 dBm D3 M1 1 16.41 MHz -0.14 dB

Type: 802.11n(HT20) Spectrum RefLevel 20.50 dBm Att 30 dB
 Offset
 1.00 dB
 RBW
 100 kHz

 SWT
 75.9 μs
 VBW
 300 kHz
 Mode
 Auto FFT
 Count 500/500 1Pk Max -11.66 dB 2.4031800 GF 10 dBm M2[1] -5.56 dBr 2.4144900 GH 0 dBm Ĭ. 10 dBm 1 -11.5 20 dBr 30 dBm CH01 4 19.dam ww 50 dBm 60 dBm 70 dBm CF 2.412 GHz 1001 pts Span 30.0 MHz Marker Type Ref Trc X-value 2.40318 GHz 2.41449 GHz 17.64 MHz Y-value -11.66 dBm -5.56 dBm -1.04 dB Function Function Result M1 M2 D3 M Spectrum Ref Level 20.50 dBm Att 30 dB Count 500/500 P1Pk View
 Offset
 1.00 dB ●
 RBW
 100 kHz

 SWT
 75.9 μs
 ●
 VBW
 300 kHz
 Mode Auto FFT -12.09 dBr 2.4281800 GH -5.87 dBr 2.4394900 GH M1[1] 10 dBm-M2[1] 0 dBm-Ι. -10 dBm-D1 -11.87 --20 dBm -30 dBm CH06 -40 dBm--50 dBm -60 dBm -70 dBm CF 2.437 GHz 1001 pts Span 30.0 MHz larke
 Type
 Ref
 Trc

 M1
 1

 M2
 1

 D3
 M1
 1
 X-value 2.42818 GHz 2.43949 GHz 17.64 MHz Y-value -12.09 dBm -5.87 dBm -1.19 dB Function Function Result ⊽ Spectrum
 Ref Level
 20.50 dBm
 Offset
 1.00 dB
 RBW
 100 kHz

 Att
 30 dB
 SWT
 75.9 μs
 VBW
 300 kHz
 Mode
 Auto FFT
 Count 500/500 -13.04 dB 2.4531800 GF -6.88 dB 2.4644900 GF M1[1] 10 dBm M2[1] 0 dBm me Ma 10 dBm multinturt Annala -20 dBm 30 dBm CH11 -40 dBm--50 dBm-60 dBm 70 dBm 1001 pt CF 2.462 Span 30.0 MH larke Type Ref Trc Function 2.45318 GHz Y-value -13.04 dBm Function Result M2 D3 2.46449 GHz 17.61 MHz -6.88 dBm 0.05 dB М1

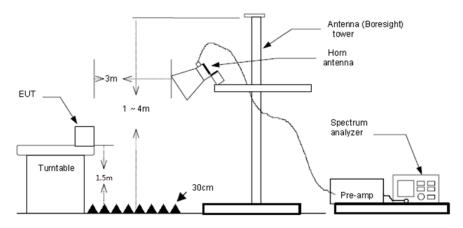
5.6. Restricted band

<u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, Radiated Emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the Radiated Emissions limits specified in §15.209(a) (see §15.205(c)).

TEST CONFIGURATION



TEST PROCEDURE

- 1) The EUT was setup and tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
- 2) The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3) The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
- 4) The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- The receiver set as follow: RBW=1MHz, VBW=3MHz PEAK detector for Peak value. RBW=1MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Note:

1) Final level= Read level + Antenna Factor+ Cable Loss- Preamp Factor

802.11b					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2310.00	26.87	28.05	6.62	0.00	61.54	74.00	-12.46	Vertical	Peak
2390.01	26.83	27.65	6.75	0.00	61.23	74.00	-12.77	Vertical	Peak
2310.00	26.30	28.05	6.62	0.00	60.97	74.00	-13.03	Horizontal	Peak
2390.01	26.87	27.65	6.75	0.00	61.27	74.00	-12.73	Horizontal	Peak
2310.00	13.16	28.05	6.62	0.00	47.83	54.00	-6.17	Vertical	Average
2390.01	15.17	27.65	6.75	0.00	49.57	54.00	-4.43	Vertical	Average
2310.00	13.15	28.05	6.62	0.00	47.82	54.00	-6.18	Horizontal	Average
2390.01	14.35	27.65	6.75	0.00	48.75	54.00	-5.25	Horizontal	Average

802.11b					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2483.49	26.93	27.26	6.83	0.00	61.02	74.00	-12.98	Vertical	Peak
2500.00	27.06	27.20	6.84	0.00	61.10	74.00	-12.90	Vertical	Peak
2483.49	27.03	27.26	6.83	0.00	61.12	74.00	-12.88	Horizontal	Peak
2500.00	26.59	27.20	6.84	0.00	60.63	74.00	-13.37	Horizontal	Peak
2483.49	13.88	27.26	6.83	0.00	47.97	54.00	-6.03	Vertical	Average
2500.00	12.81	27.20	6.84	0.00	46.85	54.00	-7.15	Vertical	Average
2483.49	13.26	27.26	6.83	0.00	47.35	54.00	-6.65	Horizontal	Average
2500.00	12.80	27.20	6.84	0.00	46.84	54.00	-7.16	Horizontal	Average

802.11g					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2310.00	26.11	28.05	6.62	0.00	60.78	74.00	-13.22	Vertical	Peak
2390.01	28.30	27.65	6.75	0.00	62.70	74.00	-11.30	Vertical	Peak
2310.00	26.29	28.05	6.62	0.00	60.96	74.00	-13.04	Horizontal	Peak
2390.01	26.70	27.65	6.75	0.00	61.10	74.00	-12.90	Horizontal	Peak
2310.00	13.16	28.05	6.62	0.00	47.83	54.00	-6.17	Vertical	Average
2390.01	15.43	27.65	6.75	0.00	49.83	54.00	-4.17	Vertical	Average
2310.00	13.16	28.05	6.62	0.00	47.83	54.00	-6.17	Horizontal	Average
2390.01	13.91	27.65	6.75	0.00	48.31	54.00	-5.69	Horizontal	Average

802.11g					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2483.49	28.25	27.26	6.83	0.00	62.34	74.00	-11.66	Vertical	Peak
2500.00	25.62	27.20	6.84	0.00	59.66	74.00	-14.34	Vertical	Peak
2483.49	27.55	27.26	6.83	0.00	61.64	74.00	-12.36	Horizontal	Peak
2500.00	27.58	27.20	6.84	0.00	61.62	74.00	-12.38	Horizontal	Peak
2483.49	15.78	27.26	6.83	0.00	49.87	54.00	-4.13	Vertical	Average
2500.00	11.99	27.20	6.84	0.00	46.03	54.00	-7.97	Vertical	Average
2483.49	15.01	27.26	6.83	0.00	49.10	54.00	-4.90	Horizontal	Average
2500.00	12.87	27.20	6.84	0.00	46.91	54.00	-7.09	Horizontal	Average

802.11n(HT	20)				CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2310.00	26.42	28.05	6.62	0.00	61.09	74.00	-12.91	Vertical	Peak
2390.01	27.68	27.65	6.75	0.00	62.08	74.00	-11.92	Vertical	Peak
2310.00	26.95	28.05	6.62	0.00	61.62	74.00	-12.38	Horizontal	Peak
2390.01	27.02	27.65	6.75	0.00	61.42	74.00	-12.58	Horizontal	Peak
2310.00	13.18	28.05	6.62	0.00	47.85	54.00	-6.15	Vertical	Average
2390.01	16.09	27.65	6.75	0.00	50.49	54.00	-3.51	Vertical	Average
2310.00	13.14	28.05	6.62	0.00	47.81	54.00	-6.19	Horizontal	Average
2390.01	13.98	27.65	6.75	0.00	48.38	54.00	-5.62	Horizontal	Average

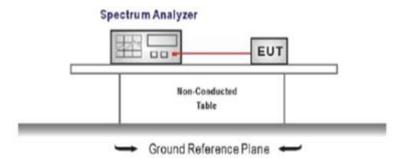
802.11n(HT	20)				CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2483.49	27.54	27.26	6.83	0.00	61.63	74.00	-12.37	Vertical	Peak
2500.00	27.31	27.20	6.84	0.00	61.35	74.00	-12.65	Vertical	Peak
2483.49	26.49	27.26	6.83	0.00	60.58	74.00	-13.42	Horizontal	Peak
2500.00	26.64	27.20	6.84	0.00	60.68	74.00	-13.32	Horizontal	Peak
2483.49	15.64	27.26	6.83	0.00	49.73	54.00	-4.27	Vertical	Average
2500.00	12.87	27.20	6.84	0.00	46.91	54.00	-7.09	Vertical	Average
2483.49	15.13	27.26	6.83	0.00	49.22	54.00	-4.78	Horizontal	Average
2500.00	12.84	27.20	6.84	0.00	46.88	54.00	-7.12	Horizontal	Average

5.7. Band edge and Spurious Emissions (conducted)

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

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 20 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 CONFIGURATION



TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- 2. Establish a reference level by using the following procedure

Center frequency=DTS channel center frequency The span = 1.5 times the DTS bandwidth. RBW = 100 kHz, VBW ≥ 3 x RBW Detector = peak, Sweep time = auto couple, Trace mode = max hold Allow trace to fully stabilize Use the peak marker function to determine the maximum PSD level

Note: the channel found to contain the maximum PSD level can be used to establish the reference level. Emission level measurement

Emission level measurement
 Set the center frequency and span to encompass frequency range to be measured
 RBW = 100 kHz, VBW ≥ 3 x RBW
 Detector = peak, Sweep time = auto couple, Trace mode = max hold
 Allow trace to fully stabilize
 Use the peak marker function to determine the maximum amplitude level.
 Place the radio in continuous transmit mode, allow the trace to stabilize view the transmit

- 4. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
- Ensure that the amplitude of all unwanted emission outside of the authorized frequency band excluding restricted frequency bands) are attenuated by at least the minimum requirements specified (at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz). Report the three highest emission relative to the limit.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

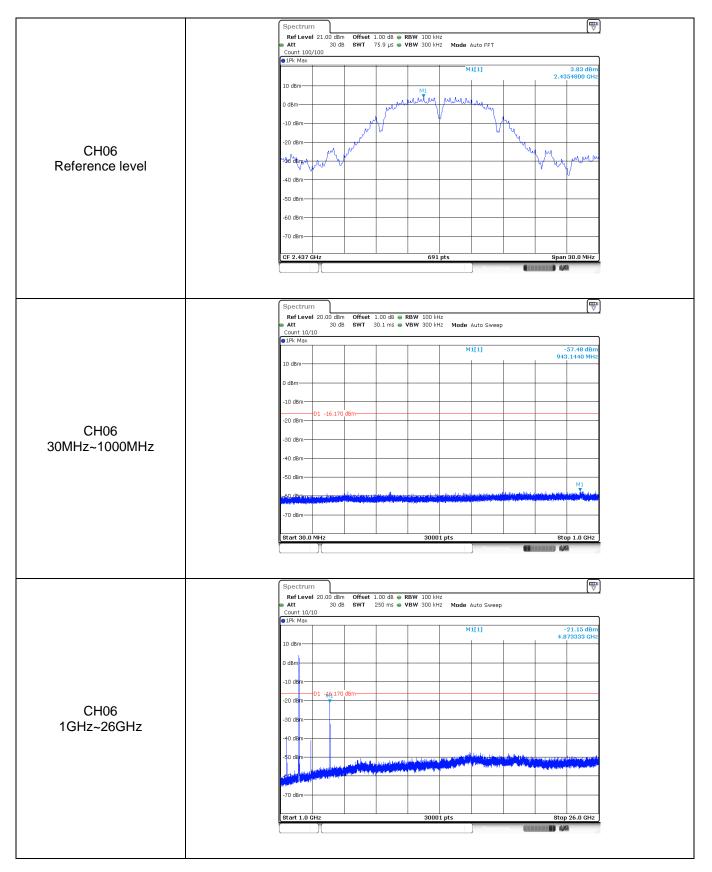
☑ Passed □ Not Applicable

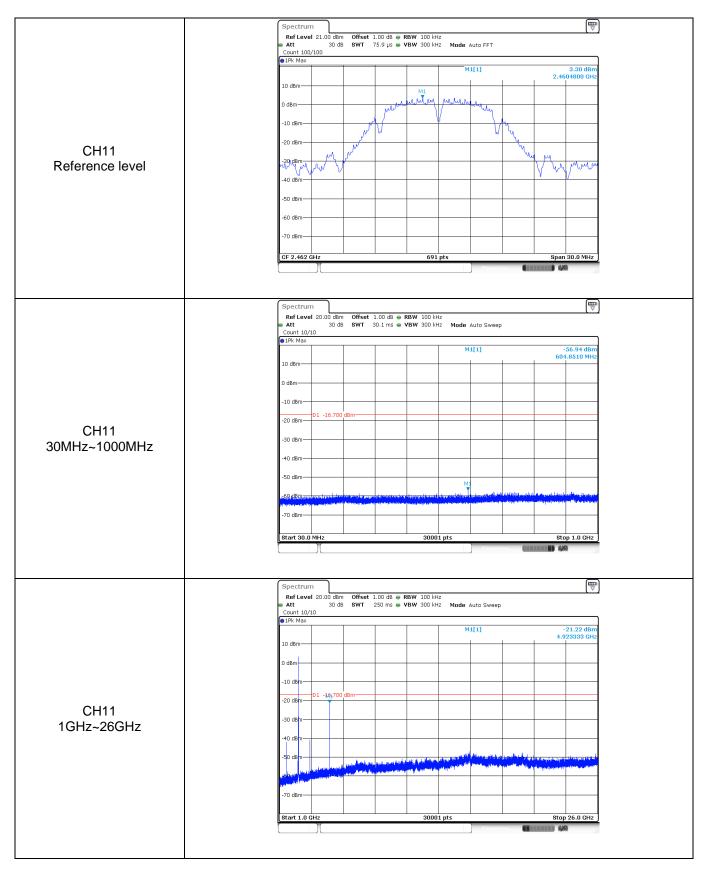
Test Item:	Bandedge		Туре:			:	802.1	1 b
	R A		fset 1.00 dB ⊜ VT 246.5 µs ⊜		Mode Auto FF	T		
	• 1F 10	dBm			M1[1]		2, M	3.98 dBm 409920 GHz 31.57 dBm 400090 GHz
		dBm				MIS	NeN 22	HUDDEO GHZ
CH01	-40	dBm			лић	, MA		
	-70	dBm	Writeling, elegate angle		www.	J *		
			2.40992 GHz 2.40 GHz 2.39 GHz	691 pts Y-value 3.98 dBm -31.57 dBm -45.71 dBm	Function	Fun	Stop ction Resul	2.422 GHz
		M4 1	2.31 GHz 397977 GHz	-59.23 dBm -24.03 dBm	Mea	suring	4	MA
	R A	ectrum ef Level 20.00 dBm Of tt 30 dB SV unt 300/300	fset 1.00 dB ● VT 113.8 µs ●		Mode Auto FF	T		
	• 1F 10	dBm M1	the c		M1[1]			3.28 dBm 605090 GHz -51.43 dBm 835000 GHz
		dBm D1 -16.720 dBm	Marine Mari				2.10	
CH11	V -40	dBm	V	Mayner	Ама	: M4		
	-60	dBm			hurt	Mmita	word	mung
		M1 1 2 M2 1	value .460509 GHz 2.4835 GHz	691 pts Y-value 3.28 dBm -51.43 dBm	Function	Fun	Sti Ction Resul	op 2.5 GHz
		M3 1	2.5 GHz 4879652 GHz	-58.19 dBm -50.80 dBm	Niea	suring		10

Test Item:	Bandedge		Ту	pe:				8	802.1	1 g
	👄 Att	.evel 20.00 dBm			RBW 100 kHz VBW 300 kHz		Auto FFT			
CH01	● 1Pk 1 ● 1Pk 1 10 dBr 0 dBm -10 dB	1ax					L[1] 2[1]		M1 2.4	-4.70 dBm 405710 GHz -36.55 dBm 400000 GHz
	-20 dB -20 dB -30 dB -40 dB	nD1 -24.700 c	18m-					Ma parte		
	4-62-dβ -70 dB Start	n	too for the top of	ana aina aina	691 p	ilionablamatich ts	HALIN MANY			2.422 GHz
	Marke Type M M M M	Ref Trc 1 1 1 1 1 1	2.3	4 GHz 9 GHz L GHz	Y-value -4.70 dBm -36.55 dBm -45.01 dBm -60.41 dBm -33.05 dBm	1 1 1	ion	Func	ction Resul	
	👄 Att	.evel 20.00 dBm			RBW 100 kHz VBW 300 kHz		Auto FFT			
	● 1PK N 10 dBr 0 dBm	lax					L[1] 2[1]			-5.47 dBm 557160 GHz -51.12 dBm 835000 GHz
	-10 db -20 db /-30 db	n D1 -25,470 g	J	lauboully						
CH11	-40 d8 -50 d8 -60 d8	n			ww	VVVV	M2M4	whenne	yun	Manut
	-70 dB	m			691 p					op 2.5 GHz
		Ref Trc 1 1 1 1	X-value 2.45571t 2.483 2.1 2.48448	5 GHz 5 GHz	Y-value -5.47 dBm -51.12 dBm -58.18 dBm -50.24 dBm	1	ion		tion Resul	
							Measuri	ng 📲		

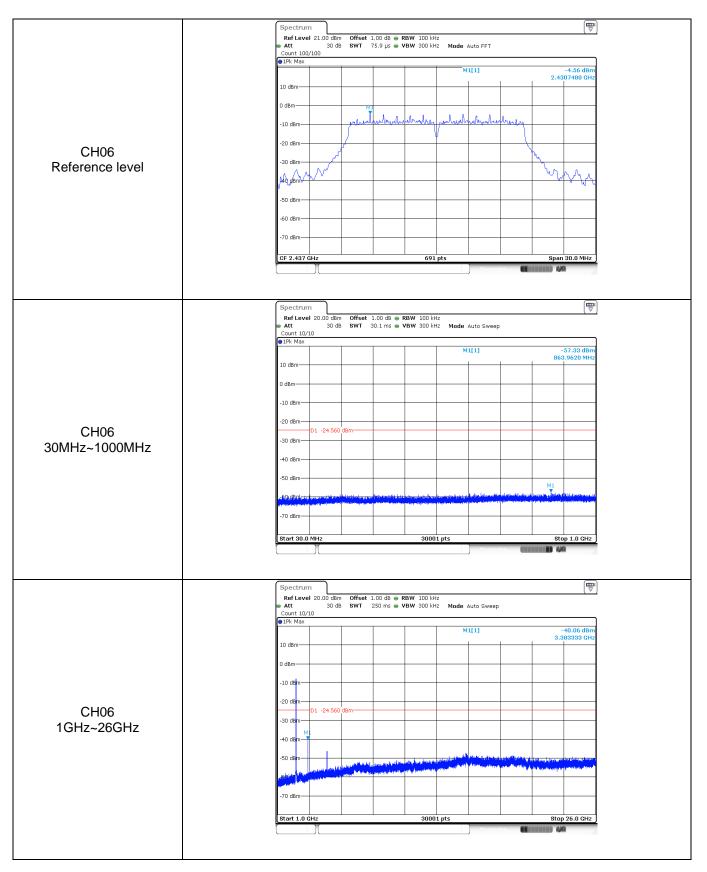
Test Item:	Bandedge	Type: 802.11 n(HT20)
		Spectrum Image: Constraint of the section
		Count 300/300 PIP Max 10 dBm
		M2[1] -39.77 dBm 0 dBm 2.400,00 GHz -10 dBm
		-20 dBm
CH01		-60 dbm
		-70 dBm
		Type Ref Trc X-value Y-value Function Function Result M1 1 2.41446 GHz -5.56 dBm -5.56 dBm M2 1 2.4 GHz -39.77 dBm - M3 1 2.39 GHz -50.22 dBm - M4 1 2.31 GHz -60.10 dBm - M5 1 2.399951 GHz -38.62 dBm -
		Spectrum TOP Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 113.8 µs VBW 300 kHz
		Count 300/300 PIPK Max 10 dBm 2.4557160 GHz
		10 dbm M2[1] -51.53 dbm 0 dbm
		-30 dBm - 01 -27.040 dBm - 01 -27.0400 dBm - 01 -27.0400 dBm - 01 -27.0400 dBm - 01 -27.040
CH11		-40 dBm
		-70 dBm
		Stop 2.5 GHz Marker Type [Ref] Trc X-value Y-value Function Function Result M1 1 2.455716 GHz -7.04 dBm M3 1 2.4635 GHz -51.53 dBm M3 1 2.5 GHz -58.21 dBm
		M4 1 2.4863652 GHz -49.82 dBm Mexicitie Mexicitie Mexicitie

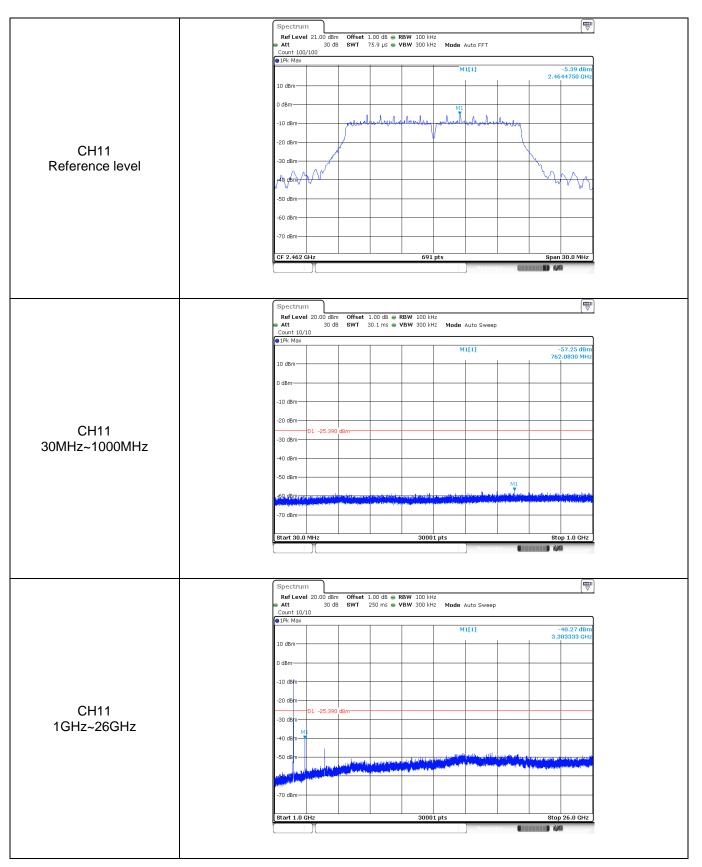
est Item:	SE	Туре:	802.11 b
		Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 µs VBW 300 kHz	
		Count 100/100 PIPK Max 10 dBm	4.10 dBm 2.4104800 GHz
CH01		-10 dBm20 dBm20 dBm20 dBm	My My Marken
Reference level		-30 db/m	
		-60 dBm	Span 30.0 MHz
		Spectrum	(m)
		Approx and Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 30.1 ms VBW 300 kHz Mode Auto Sweet Count 10/10 0 PFK Max M1[1]	
		10 dBm	972,5340 MHz
CH01		-10 dBm	
30MHz~1000MHz		-40 dBm	
		-50, dBmarting the problem of the desired of the black of the base	M3. Be under songe der schellen die State der schelle songe der State der schelle songe der State der State der St State der State der St State der State der St State der State
		Start 30.0 MHz 30001 pts	Stop 1.0 GHz
		Spectrum RefLevel 20.00 dBm Offset 1.00 dB • RBW 100 kHz Att 30 dB SWT 250 ms • VBW 300 kHz Mode Auto Sweet Count 10/10 SWT 250 ms • VBW 300 kHz Mode Auto Sweet	
		P1Pk Max M1[1] 10 d8m	-20.39 dBm 4.823333 GHz
		0 dBm -10 dBm D1 14£,900 dBm	
CH01 1GHz~26GHz		-20 dBm	
		-So den	an a standard a standard an
		-70 dBm	Stop 26.0 GHz



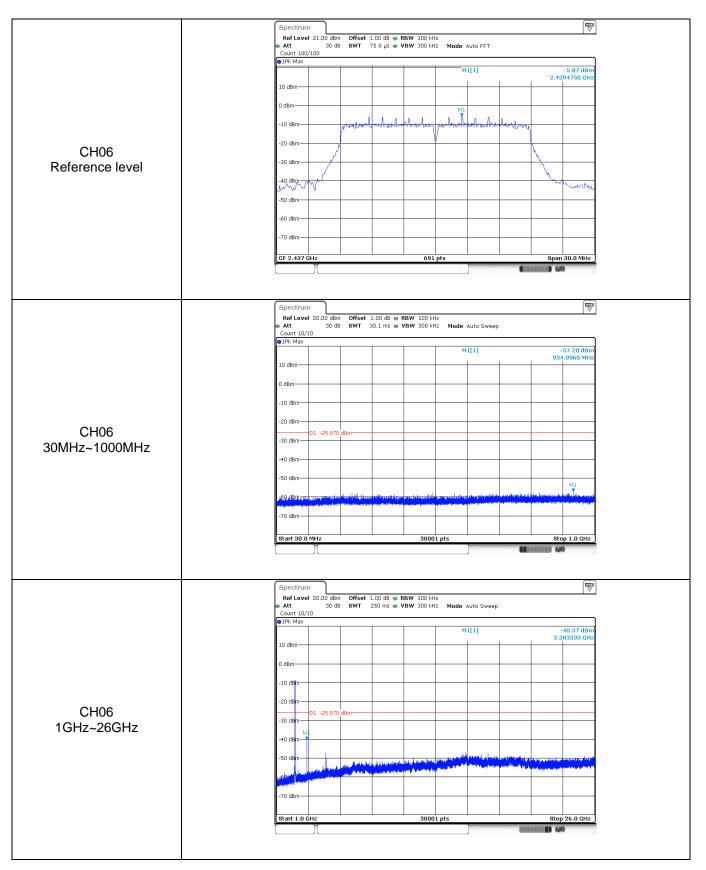


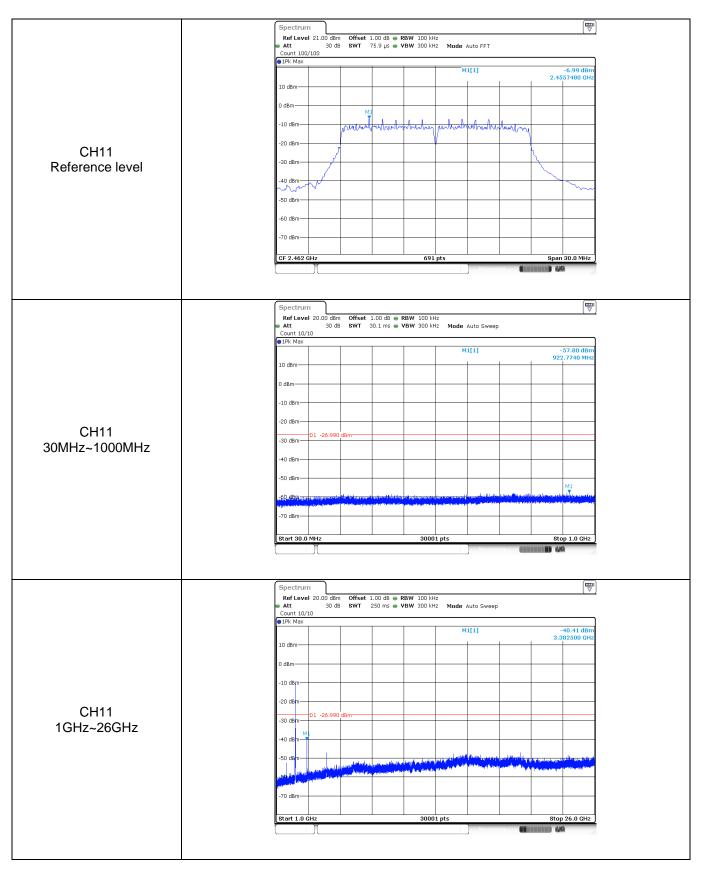
Test Item: SE	Тур	e:	802.11 g
	Spectrum Ref Level 21.00 dBm Offset 1.0 Att 30 dB SWT 75. Count 100/100 Count 100/100 SWT 75.	idB ● RBW 100 kHz P µs ● VBW 300 kHz Mode Auto FFT	
	Our 100/100 IPk Max I0 d8m	M1[1]	-4.22 dBm 2.4144750 GHz
	0 dBm	Another perturbantes	lunly
CH01 Reference level	-20 dBm		Mananan
	-50 dBm		
	-70 dBm	691 pts	Span 30.0 MHz
	Spectrum	Measur	
	Ref Level 20.00 dBm Offset 1.0	.ms 🖶 VBW 300 kHz 🛛 Mode Auto Sweep	
	10 dBm	M1[1]	-57.16 dBm 772,0410 MHz
CH01	-10 dBm -20 dBm 01 -24.220 dBm		
30MHz~1000MHz	-30 dBm		
	-50 dBm		M1 Avant-land gang data barang sang sang sang sang sang sang sang s
	-70 d8m	30001 pts	Stop 1.0 GHz
	Spectrum		
	Ref Level 20.00 dBm Offset 1.0 Att 30 dB SWT 250 Count 10/10 BWT 250 PiPk Max 10 10 10	ms VBW 300 kHz Mode Auto Sweep	-40.75 dBm 3.883333 GHz
	10 dBm		
CH01	-10 d8m -20 d8m -30 d8m		
1GHz~26GHz	-40 dBm		
	-70 dBm		
	Start 1.0 GHz	30001 pts	Stop 26.0 GHz





est Item:	SE	Туре:	802.11 n(HT20)
		Spectrum Ref Level 21.00 dBm Offset 1.00 dB • RBW 100 kHz	
		Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Aut Count 100/100	O FFT
		PI Max M1[L] -5.60 dBm
		10 dBm	2.4144750 GHz
		0 dBm	
		-10 dBm	barloules for
		-20 dBm	
CH01		-30 dBm	
Reference level			Win reasons
		the second secon	
		-50 dBm	
		-60 dBm	
		-70 dBm	
		CF 2.412 GHz 691 pts	Span 30.0 MHz
		Spectrum Ref Level 20.00 dBm Offset 1.00 dB • RBW 100 kHz	
		Att 30 dB SWT 30.1 ms VBW 300 kHz Mode Au Count 10/10	to Sweep
		PIPk Max M1[L] -57.31 dBm
		10 dBm	911.0380 MHz
		0 dBm	
		-10 dBm	
		-20 d8m	
CH01		-30 dBm	
30MHz~1000MHz		-40 dBm	
		-50 dBm	
		- 50,49m - the second	I the state of the
		-70 dBm	<mark>A Districtional Department of the solution of the second system of</mark>
		-70 ubin-	
		Start 30.0 MHz 30001 pts	Stop 1.0 GHz
		Spectrum Ref Level 20:00 dbm Offset 1:00 db • RBW 100 kHz	
		 Att 30 dB SWT 250 ms ● VBW 300 kHz Mode Aut Count 10/10 ● IPk Max 	
		MI	L] -40.81 dBm 3.383333 GHz
		10 dBm	
		0 dBm	
		-10 dBm	
01104		-20 dBm	
CH01 1GHz~26GHz		-30 dBm	
		-40 dgm	
		-50 dBm	the set of the
			All new Birther entry Internet Birth and a study over ports and play have a firmer all
		-70 dBm	
	1	Start 1.0 GHz 30001 pts	Stop 26.0 GHz
			Measuring





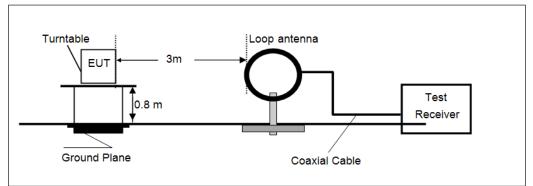
5.8. Spurious Emissions (radiated) LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

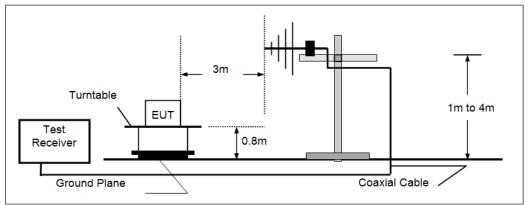
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

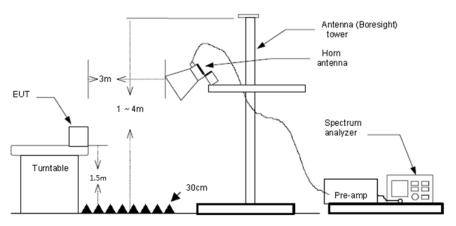
> 9kHz ~30MHz



> 30MHz ~ 1GHz



Above 1GHz



TEST PROCEDURE

- 1. The EUT was setup and tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
- 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- 6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:
 - RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold; 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.
 - (3) From 1 GHz to 10th harmonic: RBW=1MHz, VBW=3MHz Peak detector for Peak value. RBW=1MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Note:

- 1) Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.

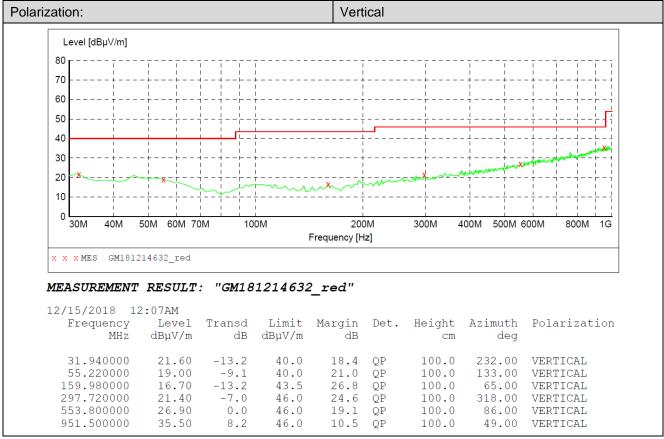
➢ 9kHz ~ 30MHz

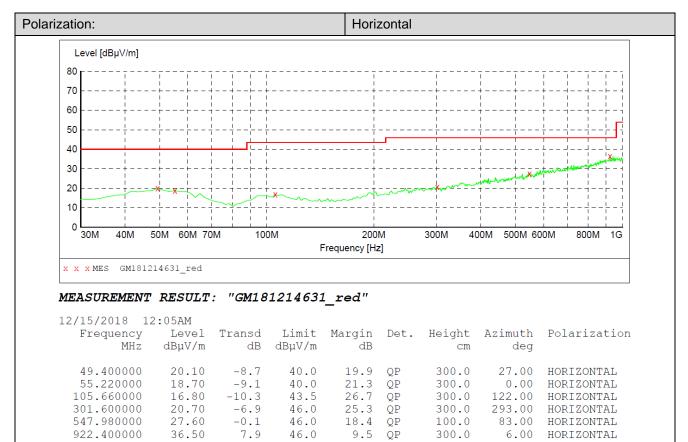
The EUT was pre-scanned the frequency band (9kHz~30MHz), found the radiated level lower than the limit, so don't show on the report.

➢ 30MHz ~1000MHz

Have pre-scan all modulation mode, found the 802.11b mode CH01 which it was worst case, so only the worst case's data on the test report.

> 30MHz ~ 1GHz





I GHz ~ 25 GHz	
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802.11b					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1179.94	36.17	26.14	4.61	37.24	29.68	74.00	-44.32	Vertical	Peak
3184.25	36.48	28.80	7.70	37.41	35.57	74.00	-38.43	Vertical	Peak
5112.49	31.72	31.85	9.76	35.16	38.17	74.00	-35.83	Vertical	Peak
6594.52	31.52	34.19	11.35	33.67	43.39	74.00	-30.61	Vertical	Peak
1805.01	35.18	25.39	5.97	37.41	29.13	74.00	-44.87	Horizontal	Peak
3200.50	39.59	28.80	7.72	37.40	38.71	74.00	-35.29	Horizontal	Peak
4821.76	35.10	31.56	9.55	35.69	40.52	74.00	-33.48	Horizontal	Peak
7489.60	31.38	36.12	12.36	33.04	46.82	74.00	-27.18	Horizontal	Peak

802.11b					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1247.90	35.42	26.25	4.74	37.20	29.21	74.00	-44.79	Vertical	Peak
3072.77	35.83	28.75	7.57	37.51	34.64	74.00	-39.36	Vertical	Peak
4785.08	33.05	31.54	9.53	35.76	38.36	74.00	-35.64	Vertical	Peak
7921.00	31.36	36.78	12.68	33.06	47.76	74.00	-26.24	Vertical	Peak
1207.28	35.58	26.29	4.67	37.22	29.32	74.00	-44.68	Horizontal	Peak
3151.99	34.70	28.80	7.66	37.44	33.72	74.00	-40.28	Horizontal	Peak
4871.10	35.24	31.46	9.59	35.61	40.68	74.00	-33.32	Horizontal	Peak
8063.40	31.81	37.04	12.45	33.05	48.25	74.00	-25.75	Horizontal	Peak

802.11b					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1207.28	35.61	26.29	4.67	37.22	29.35	74.00	-44.65	Vertical	Peak
3104.22	34.63	28.80	7.61	37.48	33.56	74.00	-40.44	Vertical	Peak
5476.22	31.82	31.81	10.18	34.46	39.35	74.00	-34.65	Vertical	Peak
7880.77	31.71	36.59	12.87	33.06	48.11	74.00	-25.89	Vertical	Peak
1213.44	35.34	26.29	4.68	37.22	29.09	74.00	-44.91	Horizontal	Peak
3644.18	33.65	29.30	8.32	37.03	34.24	74.00	-39.76	Horizontal	Peak
5311.47	32.24	31.32	10.00	34.77	38.79	74.00	-35.21	Horizontal	Peak
7357.33	31.99	36.30	12.03	33.26	47.06	74.00	-26.94	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.

3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

802.11g					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1222.74	36.03	26.28	4.70	37.21	29.80	74.00	-44.20	Vertical	Peak
3192.37	37.33	28.80	7.71	37.40	36.44	74.00	-37.56	Vertical	Peak
4785.08	33.90	31.54	9.53	35.76	39.21	74.00	-34.79	Vertical	Peak
8022.46	32.01	37.08	12.35	33.06	48.38	74.00	-25.62	Vertical	Peak
1257.47	35.88	26.24	4.76	37.19	29.69	74.00	-44.31	Horizontal	Peak
3570.71	33.83	29.21	8.22	37.08	34.18	74.00	-39.82	Horizontal	Peak
5365.83	33.05	31.43	10.08	34.67	39.89	74.00	-34.11	Horizontal	Peak
8549.59	31.47	37.10	12.88	32.92	48.53	74.00	-25.47	Horizontal	Peak

802.11g					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1204.21	36.00	26.30	4.67	37.22	29.75	74.00	-44.25	Vertical	Peak
3184.25	35.30	28.80	7.70	37.41	34.39	74.00	-39.61	Vertical	Peak
3834.51	34.43	29.63	8.55	36.88	35.73	74.00	-38.27	Vertical	Peak
7508.69	31.73	36.11	12.42	33.02	47.24	74.00	-26.76	Vertical	Peak
1313.08	35.14	26.16	4.85	37.16	28.99	74.00	-45.01	Horizontal	Peak
3200.50	36.46	28.80	7.72	37.40	35.58	74.00	-38.42	Horizontal	Peak
5099.49	33.21	31.90	9.75	35.18	39.68	74.00	-34.32	Horizontal	Peak
7860.74	32.99	36.47	12.97	33.06	49.37	74.00	-24.63	Horizontal	Peak

802.11g					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1232.12	36.61	26.27	4.71	37.21	30.38	74.00	-43.62	Vertical	Peak
3192.37	36.26	28.80	7.71	37.40	35.37	74.00	-38.63	Vertical	Peak
5560.50	32.39	31.84	10.24	34.39	40.08	74.00	-33.92	Vertical	Peak
8022.46	31.30	37.08	12.35	33.06	47.67	74.00	-26.33	Vertical	Peak
1280.07	35.14	26.22	4.80	37.18	28.98	74.00	-45.02	Horizontal	Peak
3616.45	34.44	29.30	8.29	37.05	34.98	74.00	-39.02	Horizontal	Peak
5151.68	32.63	31.69	9.79	35.08	39.03	74.00	-34.97	Horizontal	Peak
8506.17	32.29	36.92	12.87	32.91	49.17	74.00	-24.83	Horizontal	Peak

Remark:

- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

802.11n(HT	20)				CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1156.15	36.30	25.96	4.56	37.25	29.57	74.00	-44.43	Vertical	Peak
3151.99	34.90	28.80	7.66	37.44	33.92	74.00	-40.08	Vertical	Peak
5434.56	31.80	31.64	10.15	34.54	39.05	74.00	-34.95	Vertical	Peak
8549.59	32.37	37.10	12.88	32.92	49.43	74.00	-24.57	Vertical	Peak
1232.12	36.37	26.27	4.71	37.21	30.14	74.00	-43.86	Horizontal	Peak
3192.37	36.41	28.80	7.71	37.40	35.52	74.00	-38.48	Horizontal	Peak
5099.49	32.13	31.90	9.75	35.18	38.60	74.00	-35.40	Horizontal	Peak
8083.96	31.88	37.02	12.50	33.04	48.36	74.00	-25.64	Horizontal	Peak

802.11n(HT	20)				CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1642.76	35.09	25.03	5.65	37.24	28.53	74.00	-45.47	Vertical	Peak
4004.08	34.16	29.71	8.78	36.76	35.89	74.00	-38.11	Vertical	Peak
6017.06	33.14	32.50	10.70	34.13	42.21	74.00	-31.79	Vertical	Peak
8593.22	32.52	37.27	12.89	32.93	49.75	74.00	-24.25	Vertical	Peak
1257.47	35.70	26.24	4.76	37.19	29.51	74.00	-44.49	Horizontal	Peak
3266.35	35.19	28.40	7.80	37.34	34.05	74.00	-39.95	Horizontal	Peak
5164.81	33.03	31.64	9.80	35.05	39.42	74.00	-34.58	Horizontal	Peak
8593.22	32.36	37.27	12.89	32.93	49.59	74.00	-24.41	Horizontal	Peak

802.11n(HT	20)				CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1364.18	34.83	26.00	4.94	37.14	28.63	74.00	-45.37	Vertical	Peak
3184.25	36.44	28.80	7.70	37.41	35.53	74.00	-38.47	Vertical	Peak
4034.78	34.37	29.77	8.81	36.73	36.22	74.00	-37.78	Vertical	Peak
7338.62	32.68	36.30	12.01	33.29	47.70	74.00	-26.30	Vertical	Peak
1263.88	36.57	26.24	4.77	37.19	30.39	74.00	-43.61	Horizontal	Peak
3200.50	35.43	28.80	7.72	37.40	34.55	74.00	-39.45	Horizontal	Peak
5099.49	33.15	31.90	9.75	35.18	39.62	74.00	-34.38	Horizontal	Peak
8063.40	31.99	37.04	12.45	33.05	48.43	74.00	-25.57	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.

3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

6. TEST SETUP PHOTOS

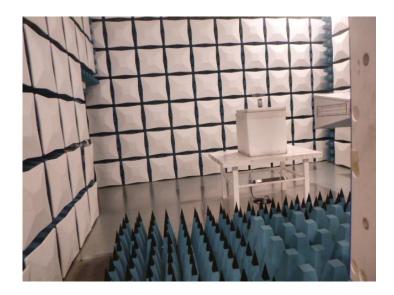
Conducted Emissions (AC Mains)



Radiated Emissions







7. EXTERANAL AND INTERNAL PHOTOS

Reference to the test report No.: CHTEW18120546

-----End of Report------