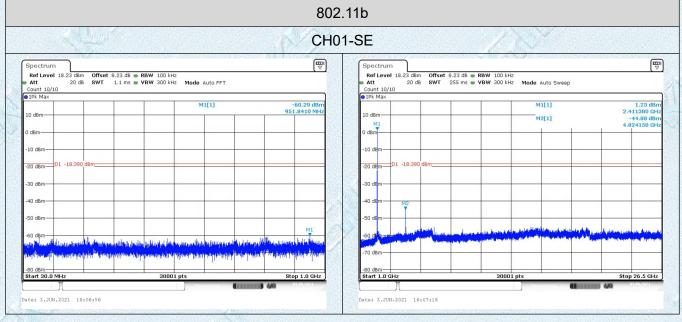




					8	02.1	1b				
	СН	01-Bai	ndedge					CI	H11-Bar	ndedge	and have
Spectrum Ref Level 20.00 d Att 30 Count 162/300			Mode Auto FFT		V	]	Count 187/300		<ul> <li>RBW 100 kHz</li> <li>VBW 300 kHz</li> </ul>	Mode Auto FFT	[
10 dBm         10 dBm           -10 dBm         -10 dBm           -20 dBm         01 -18.5           -30 dBm         -40 dBm           -50 dBm         -50 dBm           -50 dBm         -50 dBm           -50 dBm         -70 dBm		gastreytendy fre	M1[1]	A Mark	1.46 dBm 2.412970 GHz 1 -49.92 dBm 2.400000 GHz		1Pk View     10 dBm     0 dBm     -10 dBm     -20 dBm     -30 dBm     -40 dBm     -60 dBm     -70 dBm	1.560 dBm	Mary Marcal por	M1[1] M2[1] M2[1] M3 M4 M3 M4 M4 M4 M4 M4 M4 M4 M4 M4 M4	1.44 dB 2.46 157 00 -53.65 dB 2.483500 G
Start 2.3 GHz		691 pts		SI	top 2.43 GHz		Start 2.44 GHz		691 pts	;	Stop 2.55 GH
larker Type   Ref   Trc	X-value	Y-value	Function	Function Res	ult		Marker Type Ref Trc	X-value	Y-value	Function	Function Result
M1         1           M2         1           M3         1           M4         1	2.41297 GHz 2.4 GHz 2.39 GHz 2.399855 GHz	1.46 dBm -49.92 dBm -54.62 dBm -49.36 dBm	Function				Type         Ker         Trc           M1         1         1           M2         1         1           M3         1         1           M4         1         1	2.46157 GHz 2.4835 GHz 2.5 GHz	1.44 dBm -53.65 dBm -54.26 dBm -49.88 dBm	Punction	
ate: 3.JUN.2021	16:06:44				(1997) (1997)	6	Date: 3.JUN.2021	16:10:51			

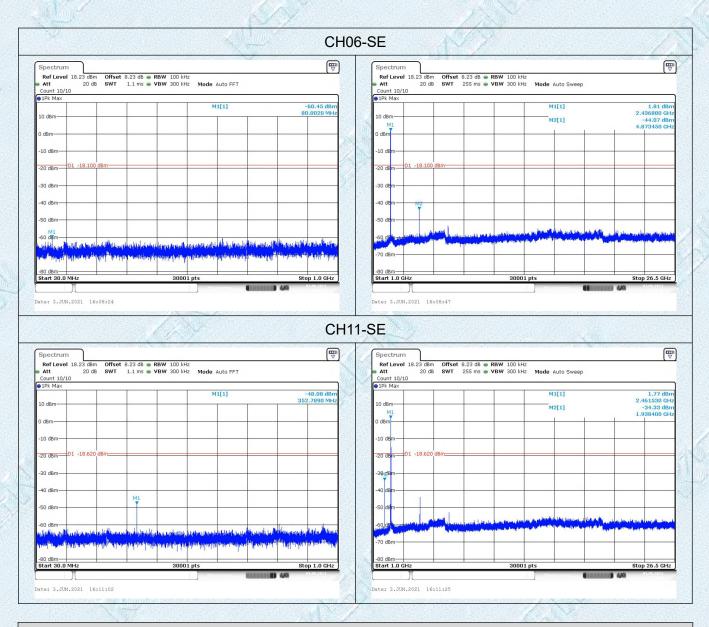


#### TRF No. FCC Part 15.247\_R1

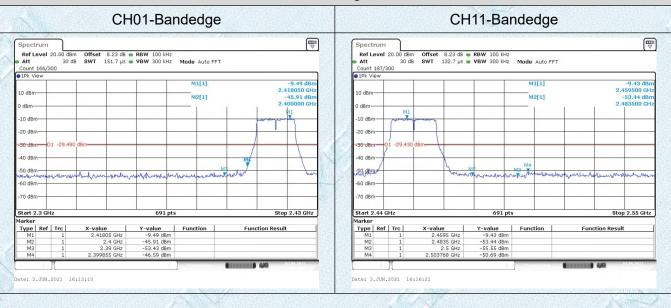
Add : West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China



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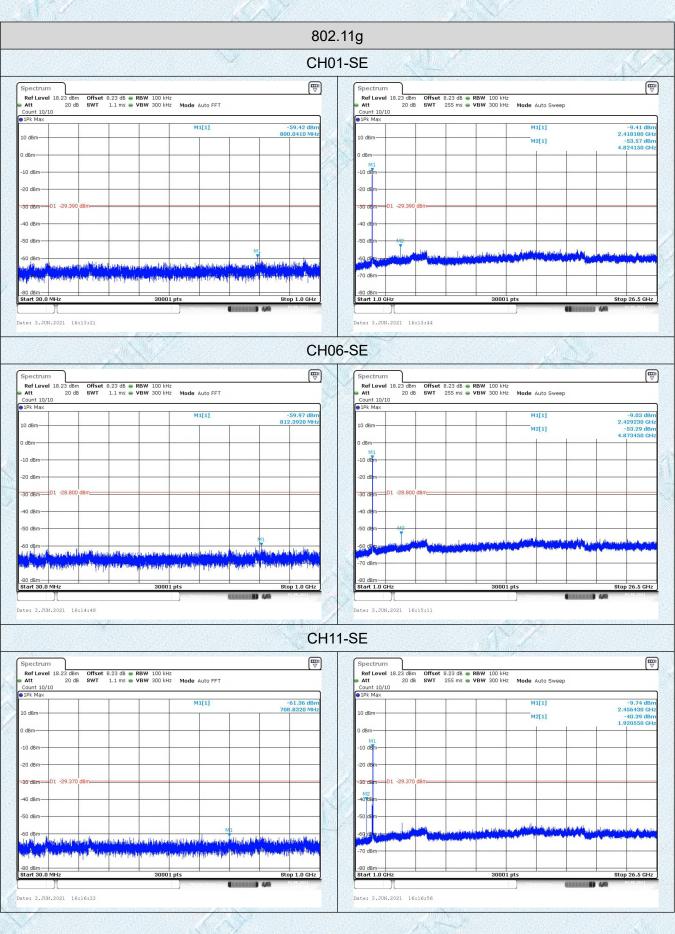




# TRF No. FCC Part 15.247\_R1

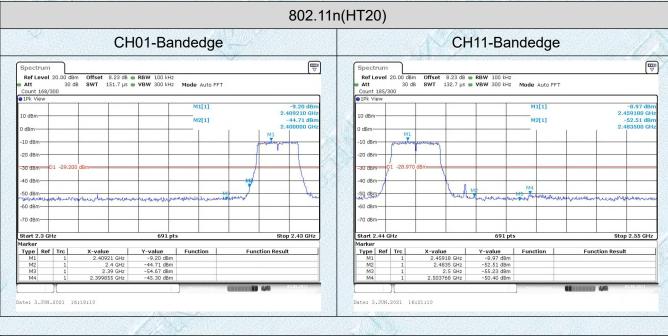
Add : West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

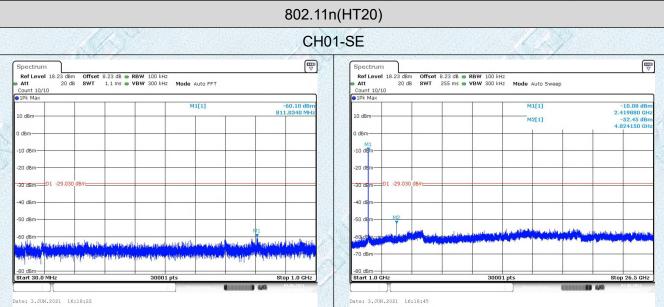




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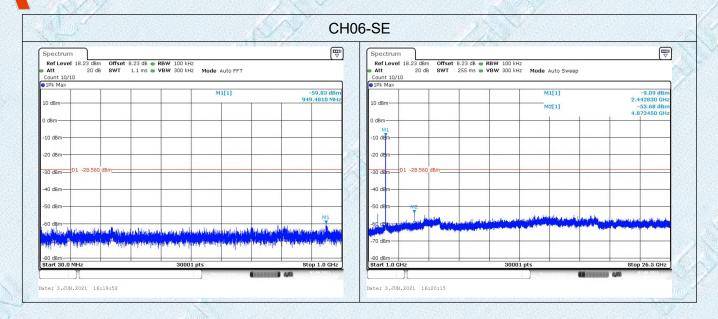


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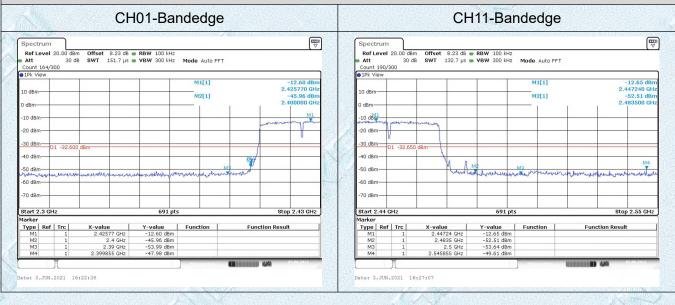


#### Report No.: KS2105S1265E01



#### CH11-SE (₩) Spectrum Spectrum Ref Level 18.23 dBm Offset 8.23 dB RBW 100 kHz Att 20 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep Ref Level 18.23 dBm Att 20 dB Offset 8.23 dB ■ RBW 100 kHz SWT 1.1 ms ■ VBW 300 kHz Mode Auto FFT 10/10 10/10 Ount 1 1Pk Ma Count 10 -60.20 dE 811.5510 M -9.30 dBr 2.456430 GH -36.70 dBr 1.920550 GH M1[1] M1[1] 10 dBr 10 dBm M2[1] dBr dBm -10 dBm 10 di -20 dBr -20 di 30 dB 3U C 40 df -50 dB 70 dBm art 1.0 Gi n 1 0 GHz 30001 pt Stop 26.5 GHz 30.01 30001 pt Date: 3.JUN.2021 16:21:22 Date: 3.JUN.2021 16:21:45

# 802.11n(HT40)

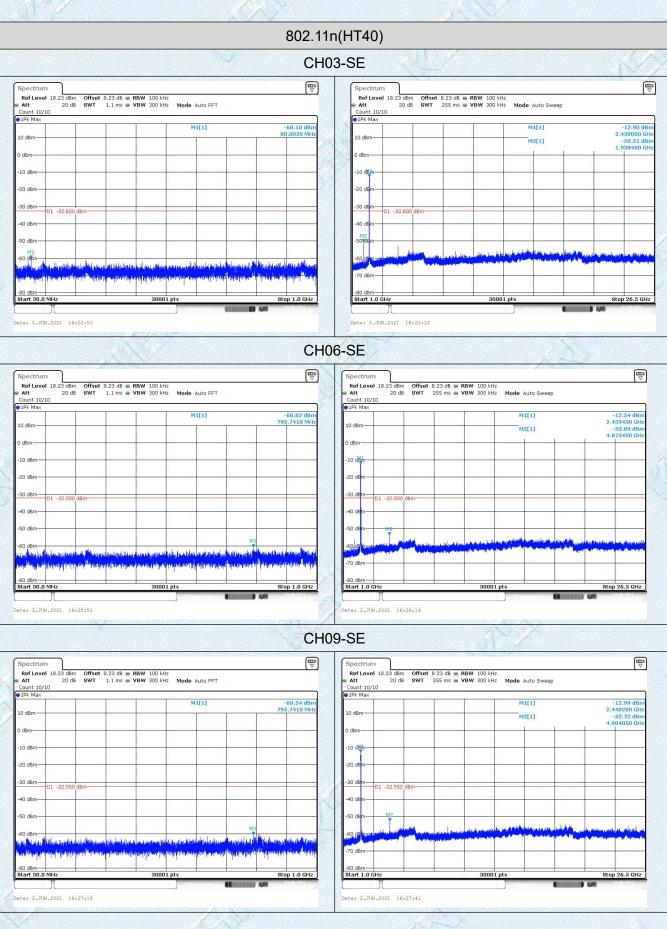


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# TRF No. FCC Part 15.247\_R1



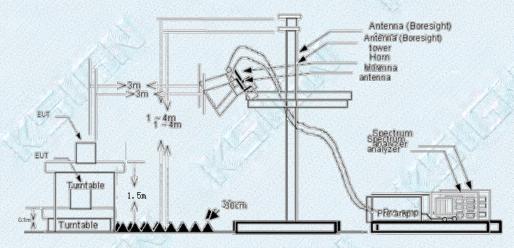
# 3.6. BAND EDGE EMISSIONS(RADIATED)

Limit

Restricted Frequency Band	(dBuV/m)(at 3m)			
(MHz)	Peak	Average		
2310 ~2390	74	54		
2483.5 ~2500	74	54		

Note: All restriction bands have been tested, only the worst case is reported.

### **Test Configuration**



#### Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2013 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 was positioned 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 the maximum 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=10Hz with PEAK detector for Average Value.

#### Test Mode

Please refer to the clause 2.2.

#### **Test Results**

Note:

1.Measurement = Reading level + Correct Factor

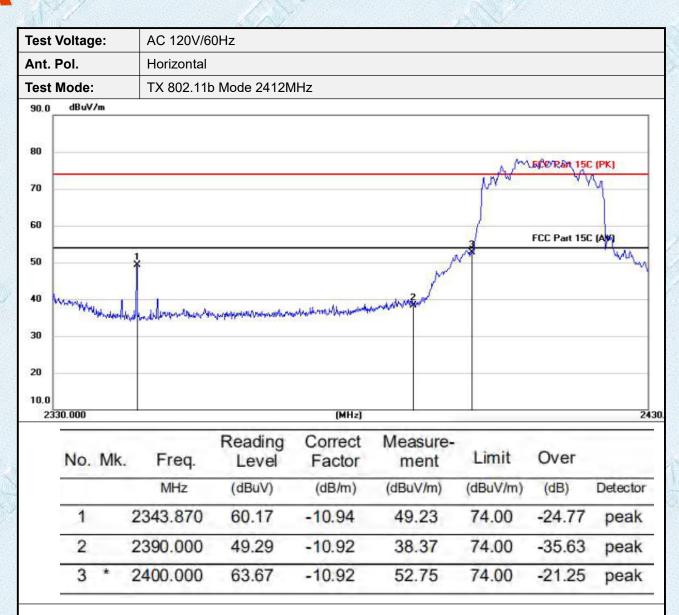
Correct Factor=Antenna Factor + Cable Loss - Preamplifier Factor

2.Pre-scan 802.11b, 802.11g, 802.11n(HT20) and 802.11n (HT40) mode, and found the 802.11b mode which it is worse case, so only show the test data for worse case.

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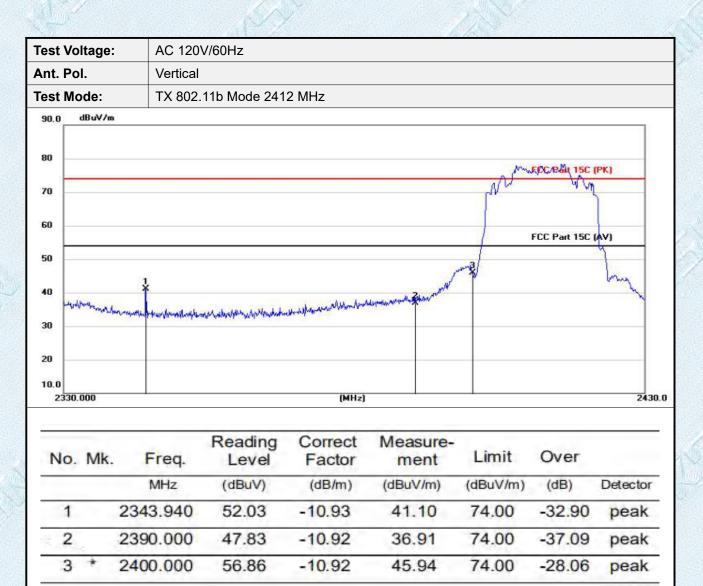
Measurement = Reading level + Correct Factor

# TRF No. FCC Part 15.247\_R1

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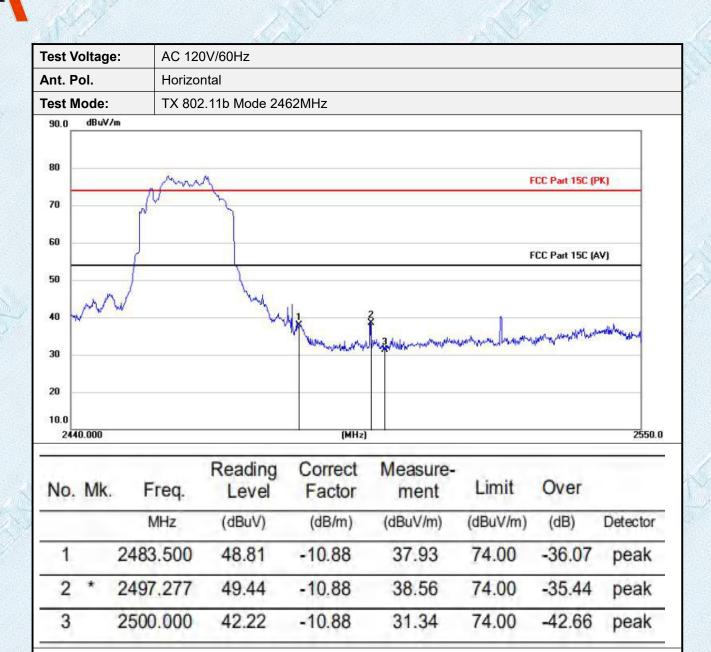




Measurement = Reading level + Correct Factor

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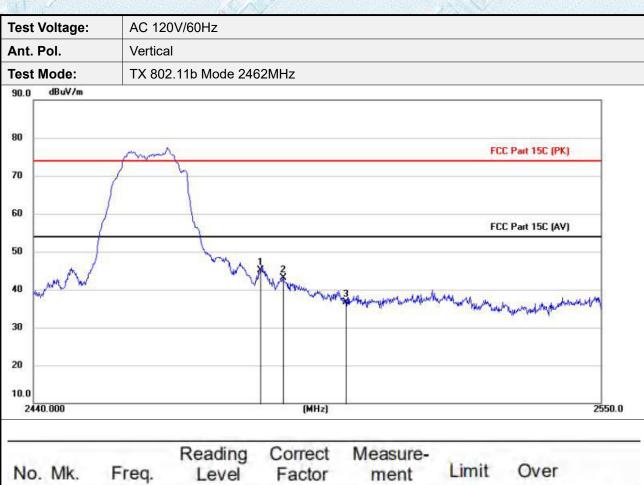


Measurement = Reading level + Correct Factor

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No.	Mk.	Freq.	Level	Factor	ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	*	2483.500	56.01	-10.88	45.13	74.00	-28.87	peak
2		2487.850	53.89	-10.88	43.01	74.00	-30.99	peak
3		2500.000	47.52	-10.88	36.64	74.00	-37.36	peak

Measurement = Reading level + Correct Factor

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# 3.7. SPURIOUS EMISSION (RADIATED)

# <u>Limit</u>

#### Radiated Emission Limits (9 kHz~1000 MHz)

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

#### Radiated Emission Limit (Above 1000MHz)

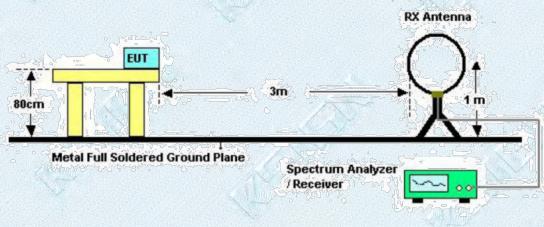
Frequency	Distance Meters(at 3m)				
(MHz)	Peak	Average			
Above 1000	74	54			

#### Note:

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

(2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

# **Test Configuration**



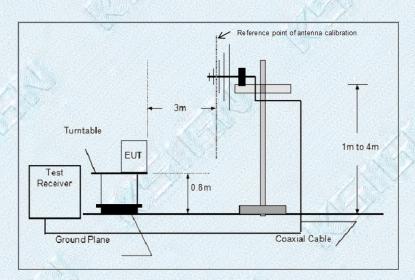
Below 30MHz Test Setup

#### TRF No. FCC Part 15.247\_R1

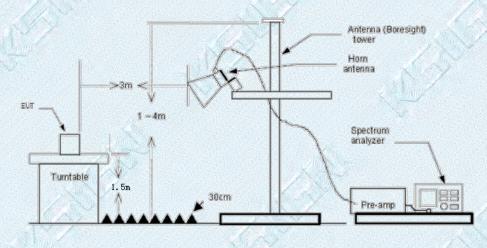
Add : West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China



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Below 1000MHz Test Setup



Above 1GHz Test Setup

#### **Test Procedure**

- 1. The EUT was setup and tested according to ANSI C63.10:2013
- 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;

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#### (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 10<sup>th</sup> harmonic:

RBW=1MHz, VBW=1MHz Peak detector for Peak value. RBW=1MHz, VBW=10Hz Peak detector for Peak value.

#### Test Mode

Please refer to the clause 2.2.

#### Test Result

#### 9 KHz~30 MHz and 18GHz~25GHz

From 9 KHz~30 MHz and 18GHz~25GHz: Conclusion: PASS

Note:

1) Measurement = Reading level + Correct Factor

Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

- 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 are very lower than the limit and not show in test report.
- 4) The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 5) Pre-scan 802.11b/g/n(HT20,HT40) modulation, and found the 802.11b modulation which it is worse case for above 1GHz, 802.11b modulation 2412MHz which it is worse case for below 1GHz, so only show the test data for worse case.

#### **BELOW 30MHz**

No emission found between lowest internal used/generated frequencies to 30MHz.

#### TRF No. FCC Part 15.247\_R1



#### 30MHz-1GHz

lest Vo	oltage:	AC 120	)V/60Hz					
Ant. Po	ol.	Horizor	ntal					
Fest Mo	ode:	TX 802	2.11b Mode 24	12MHz				
80.0	dBuV/m							
70								
60						FCC Part 15C	: (30MHz-1GHz)	
50							Margin -6	dB
40					2 5			
30	_			Α.	T. AMM		1 AWAL	1. march
30				MIL	MAN THE W	MULL	W V	
				- N MWW		And when how		nw
20	A MA M	AA	Marilla	AMM		An which Arry		~~`
20	-man V	M	hanna	M		An whith Mry		
10	and the second sec	W		NIN				
10	20	60	100	(MHz)		500		1000.
10		60 Freq.		(MHz) Correct Factor	Measure- ment	Limit	Over	1000.
10 0.0 30.000	Mk.		Reading	Correct				1000. Detecto
10 0.0 30.000	Mk. I	Freq.	100 Reading Level	Correct Factor	ment	Limit	Over	
10 0.0 30.000	Mk. 1 154	Freq. MHz	100 Reading Level (dBuV)	Correct Factor (dB/m)	ment (dBuV/m)	Limît (dBuV/m)	Over (dB)	Detecto
10 0.0 30.000 No. 1	Mk. 1 154 * 194	Freq. MHz .7662	100 Reading Level (dBuV) 50.61	Correct Factor (dB/m) -21.27	ment (dBuV/m) 29.34	Limit (dBuV/m) 43.50	Over (dB) -14.16	Detecto
10 0.0 30.000 No. 1 1 2	Mk. 1 154 * 194 241	Freq. MHz .7662 .6581	100 Reading Level (dBuV) 50.61 54.90	Correct Factor (dB/m) -21.27 -18.23	ment (dBuV/m) 29.34 36.67	Limit (dBuV/m) 43.50 43.50	Over (dB) -14.16 -6.83	Detecto QP QP
10 0.0 30.000 No. 1 1 2 3	Mk. 1 154 * 194 241 264	Freq. MHz .7662 .6581 .5069	100 Reading Level (dBuV) 50.61 54.90 50.95	Correct Factor (dB/m) -21.27 -18.23 -16.07	ment (dBuV/m) 29.34 36.67 34.88	Limit (dBuV/m) 43.50 43.50 46.00	Over (dB) -14.16 -6.83 -11.12	Detecto QP QP QP

Measurement = Reading Level+ Correct Factor

#### TRF No. FCC Part 15.247\_R1

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