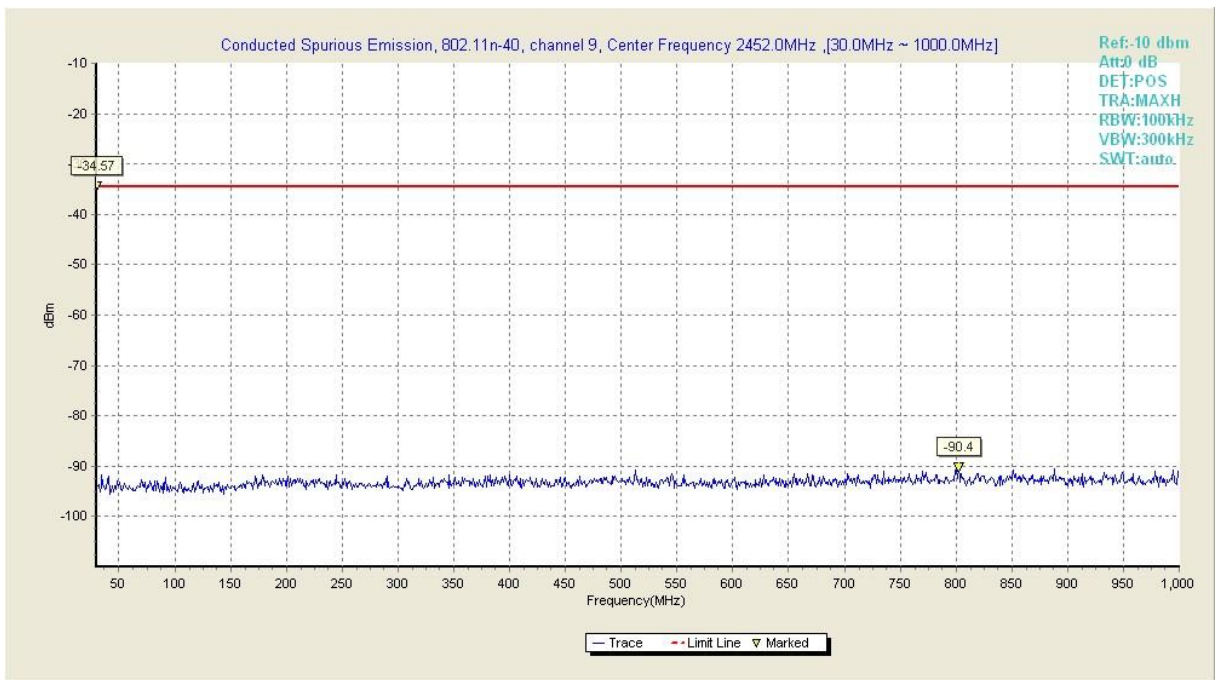
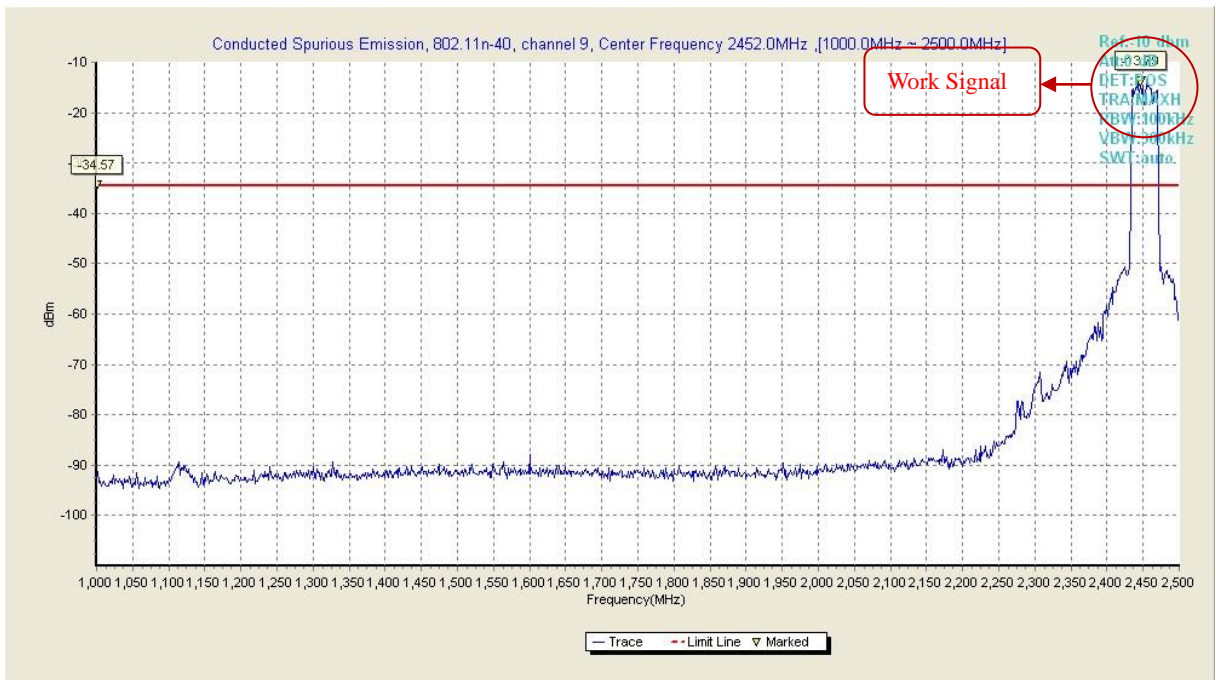


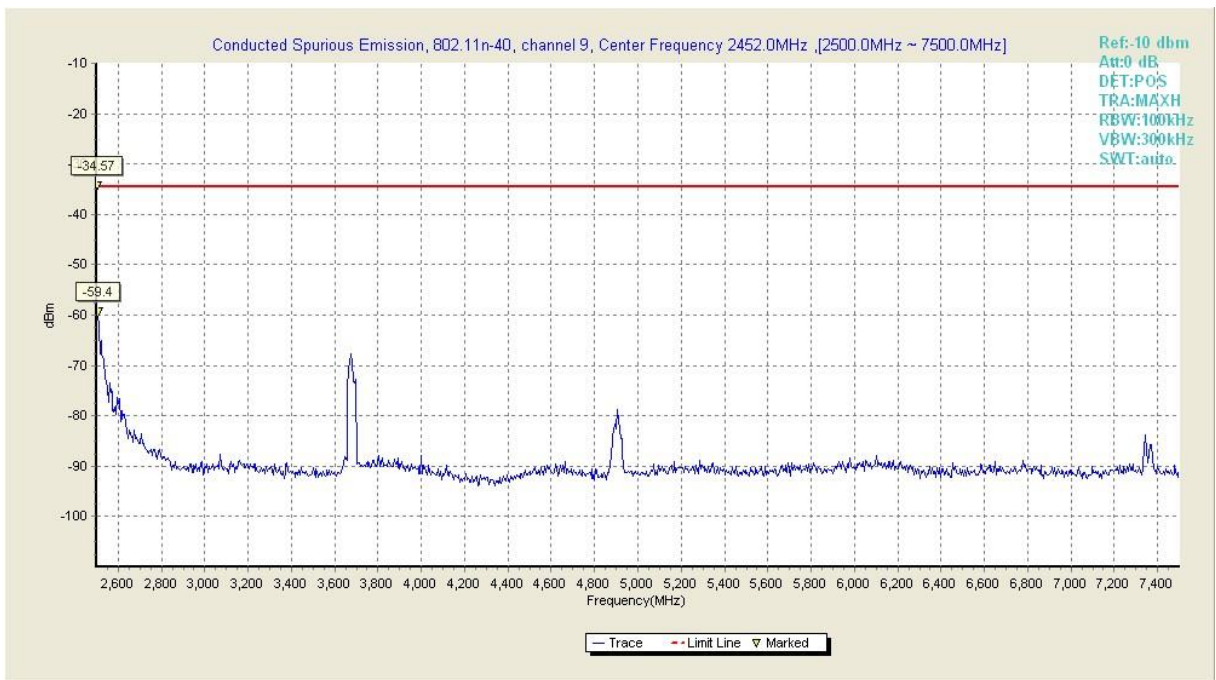
**Fig109. Conducted Transmission Spurious Emission of 802.11n-40 in channel 6, 20GHz ~ 26GHz**



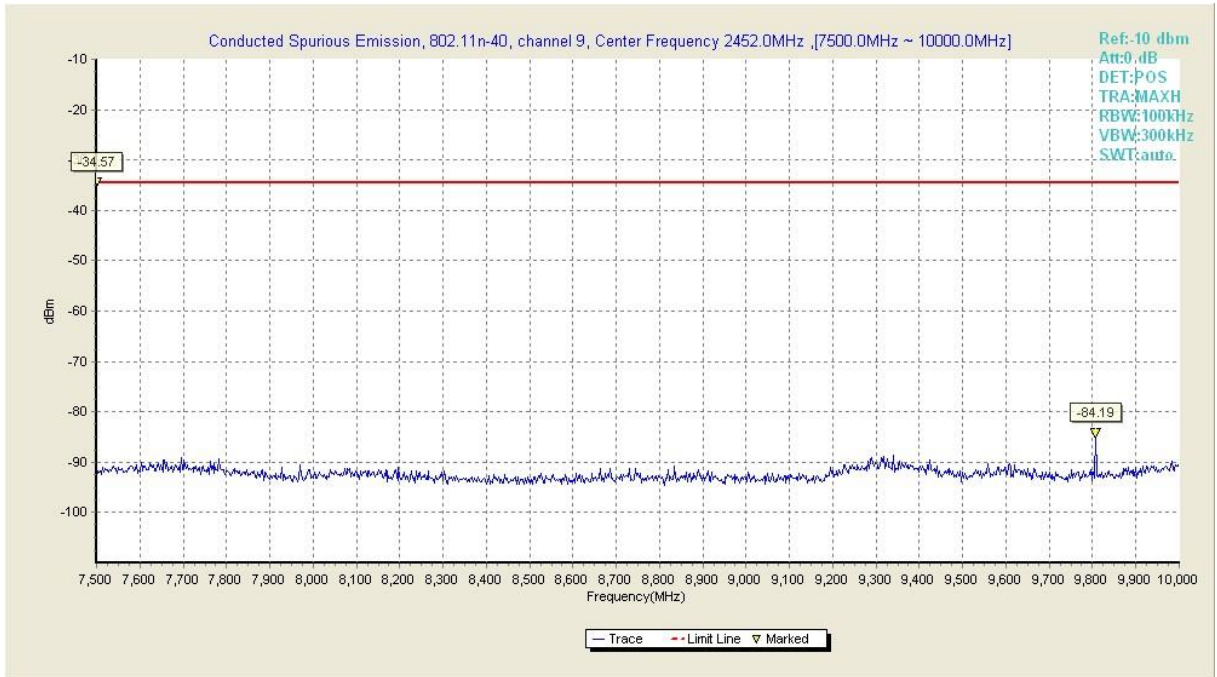
**Fig110. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 30MHz~1GHz**



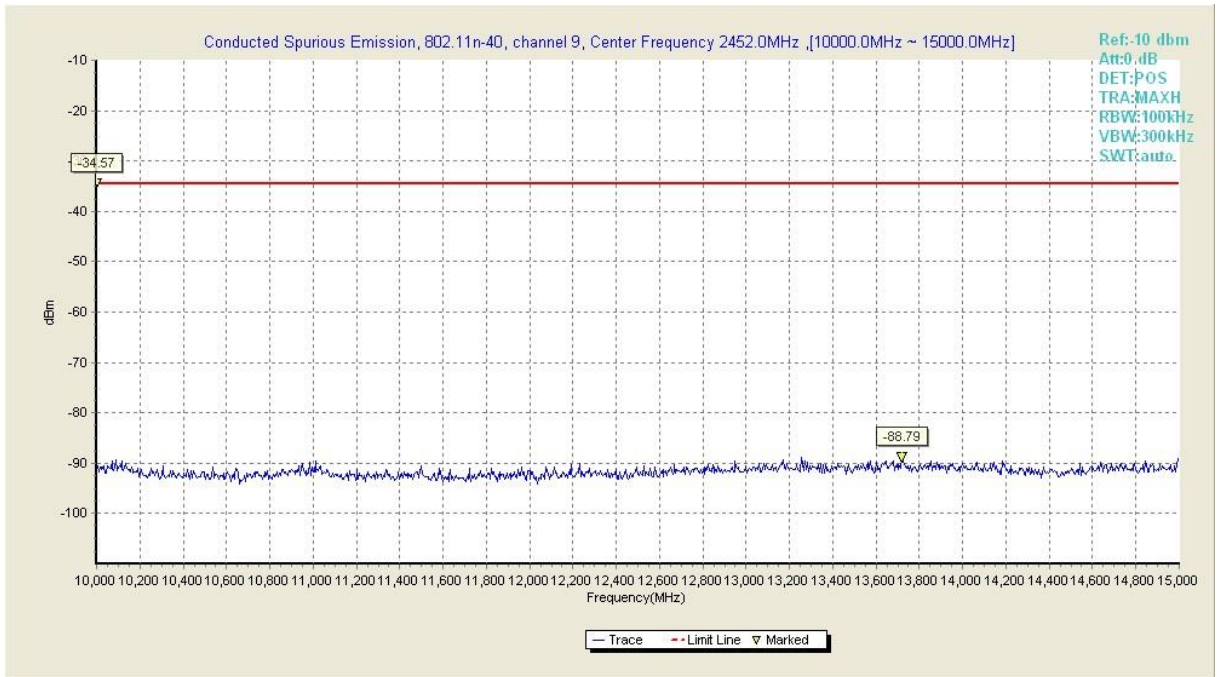
**Fig11. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 1GHz ~ 2.5GHz**



**Fig112. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 2.5GHz ~ 7.5GHz**



**Fig113. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 7.5GHz ~ 10GHz**



**Fig114. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 10GHz ~ 15GHz**

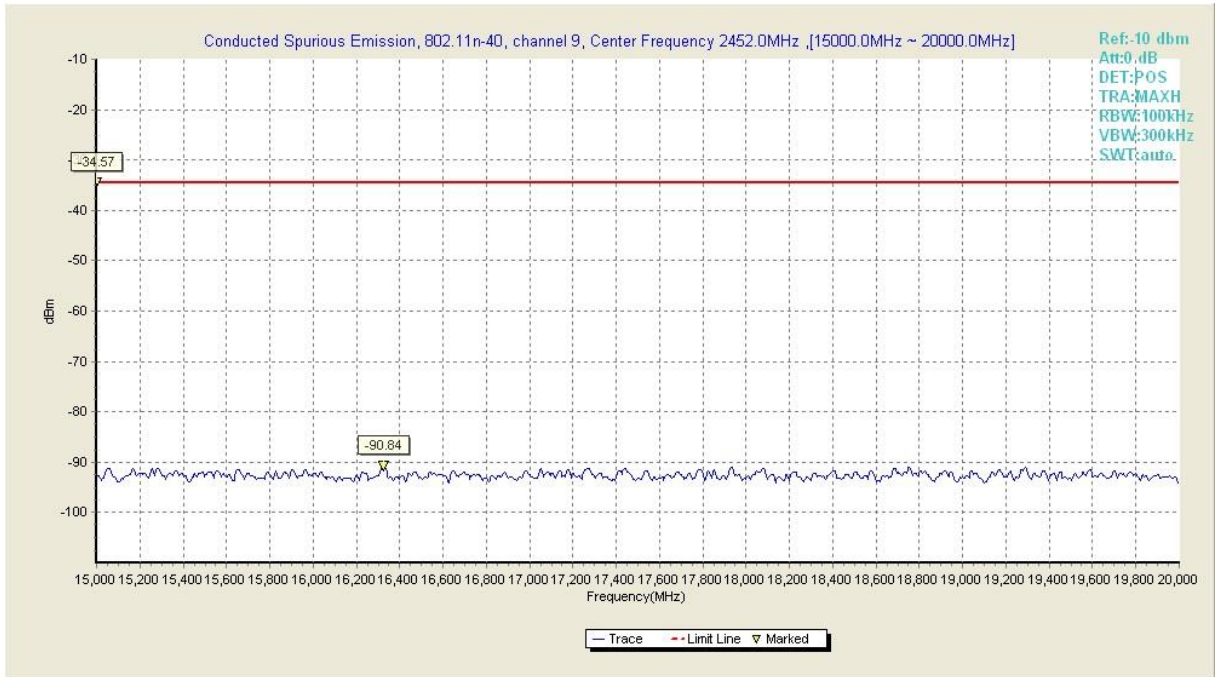


Fig115. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 15GHz ~ 20GHz

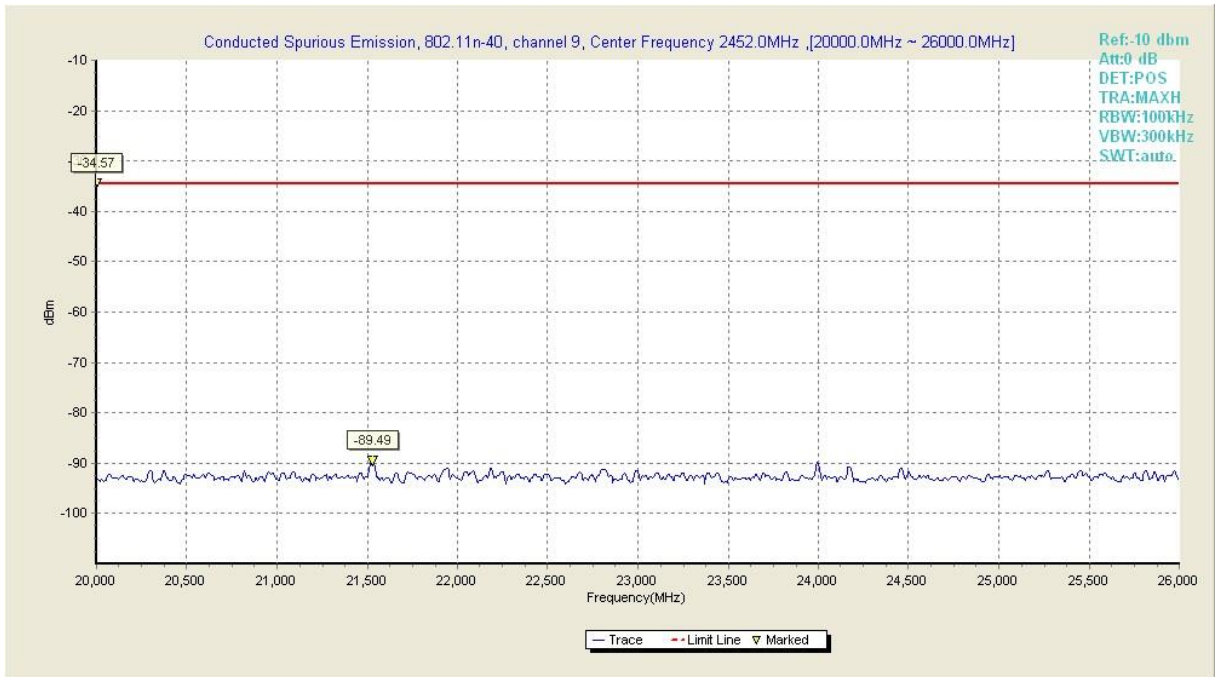


Fig116. Conducted Transmission Spurious Emission of 802.11n-40 in channel 11, 20GHz ~ 26GHz

## B.6 AC Conducted Emission

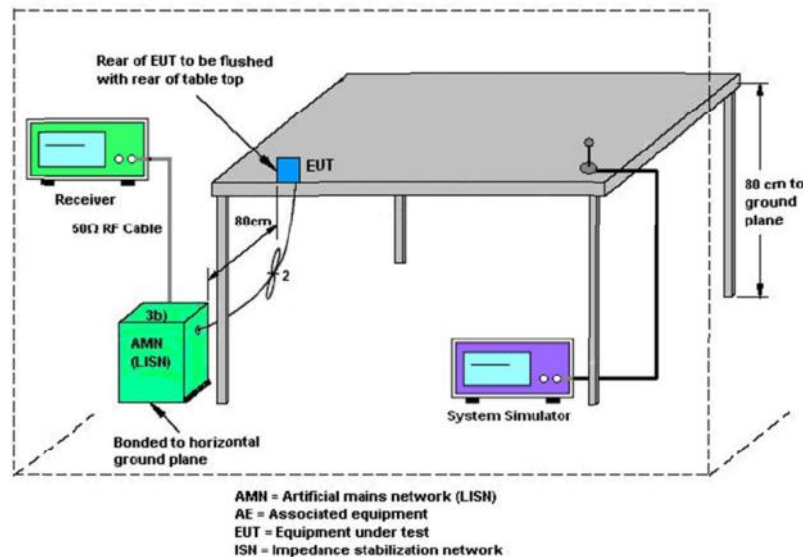
### B.6.1 Description

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits

### B.6.2 Test Procedure

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### B.6.3 Test Setup





## B.6.4 Test Results

### Limit

Frequency of Emission(MHz)	Conducted Limit(dB $\mu$ V)	
	Quasi -Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with logarithm of the frequency

### Line L

#### Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4 kHz	9 kHz (6dB)	5 ms	Auto	Off

#### Previous Measurement

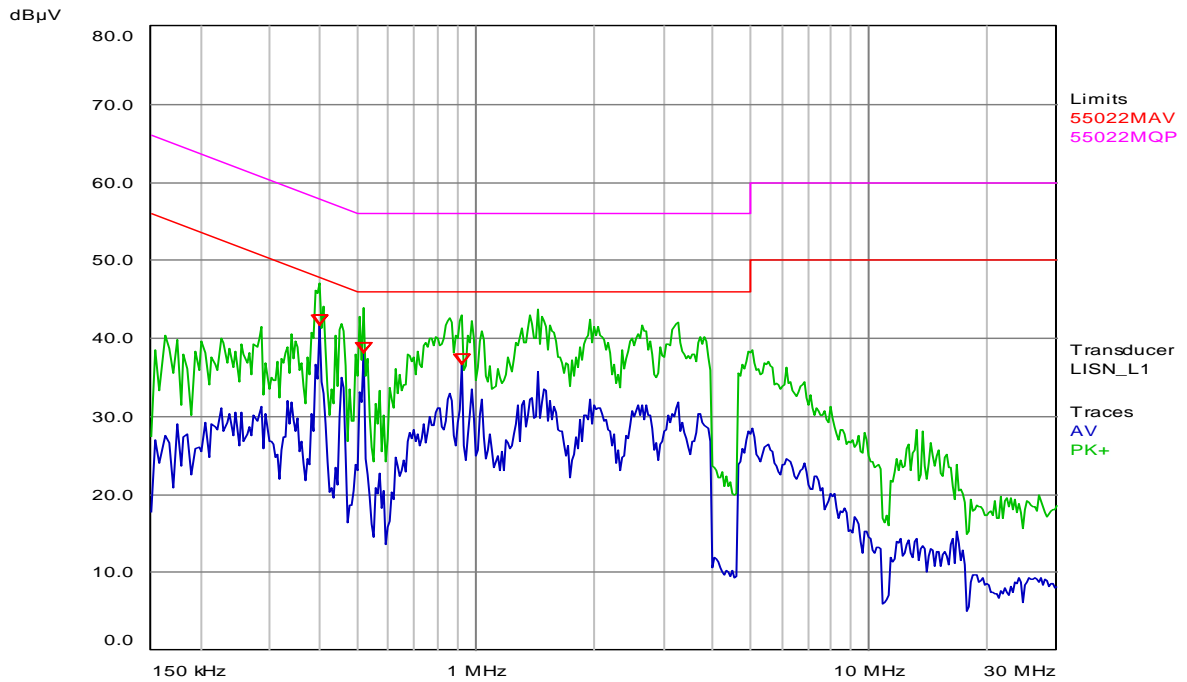
Detectors: AV, PK+

Meas Time: see scan settings

Peaks: 6

Acc. Margin: 10 dB

#### Pre-measurement Graph



### Peak Search Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
1 AV	0.402	41.60	47.81	-6.21		L1 / on
1 AV	0.518	38.06	46.00	-7.94		L1 / on
1 AV	0.918	36.72	46.00	-9.28		L1 / on

\* = limit exceeded

### Line N

#### Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4.5 kHz	9 kHz (6dB)	15 ms	Auto	Off

#### Final Measurement

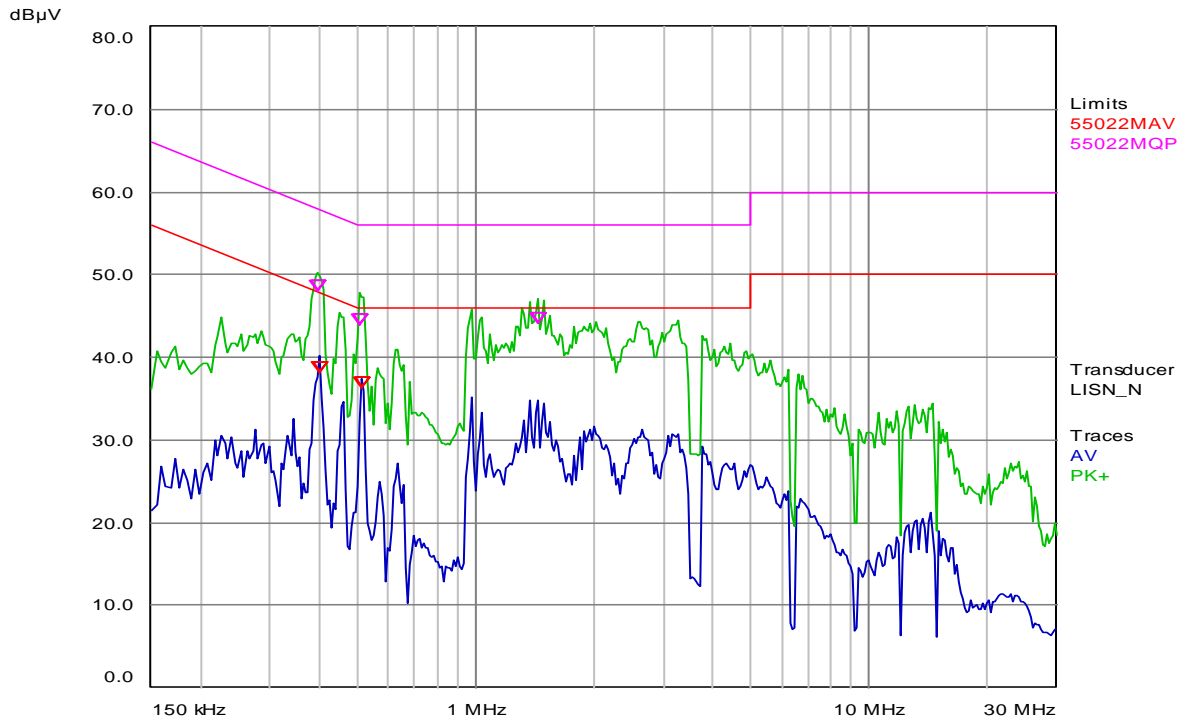
Detectors: AV, QP

Meas Time: 2 s

Peaks: 6

Acc. Margin: 10 dB

#### Pre-measurement Graph



### Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
2 QP	0.3975	47.95	57.91	-9.96		N / on
1 AV	0.402	38.17	47.81	-9.64		N / on
2 QP	0.51	43.95	56.00	-12.05		N / on
1 AV	0.5145	36.29	46.00	-9.71		N / on
2 QP	1.4325	44.07	56.00	-11.93		N / on

\* = limit exceeded

### 240V/60Hz

#### LINE L

#### Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4 kHz	9 kHz (6dB)	15 ms	Auto	Off

#### Final Measurement

Detectors: AV, QP

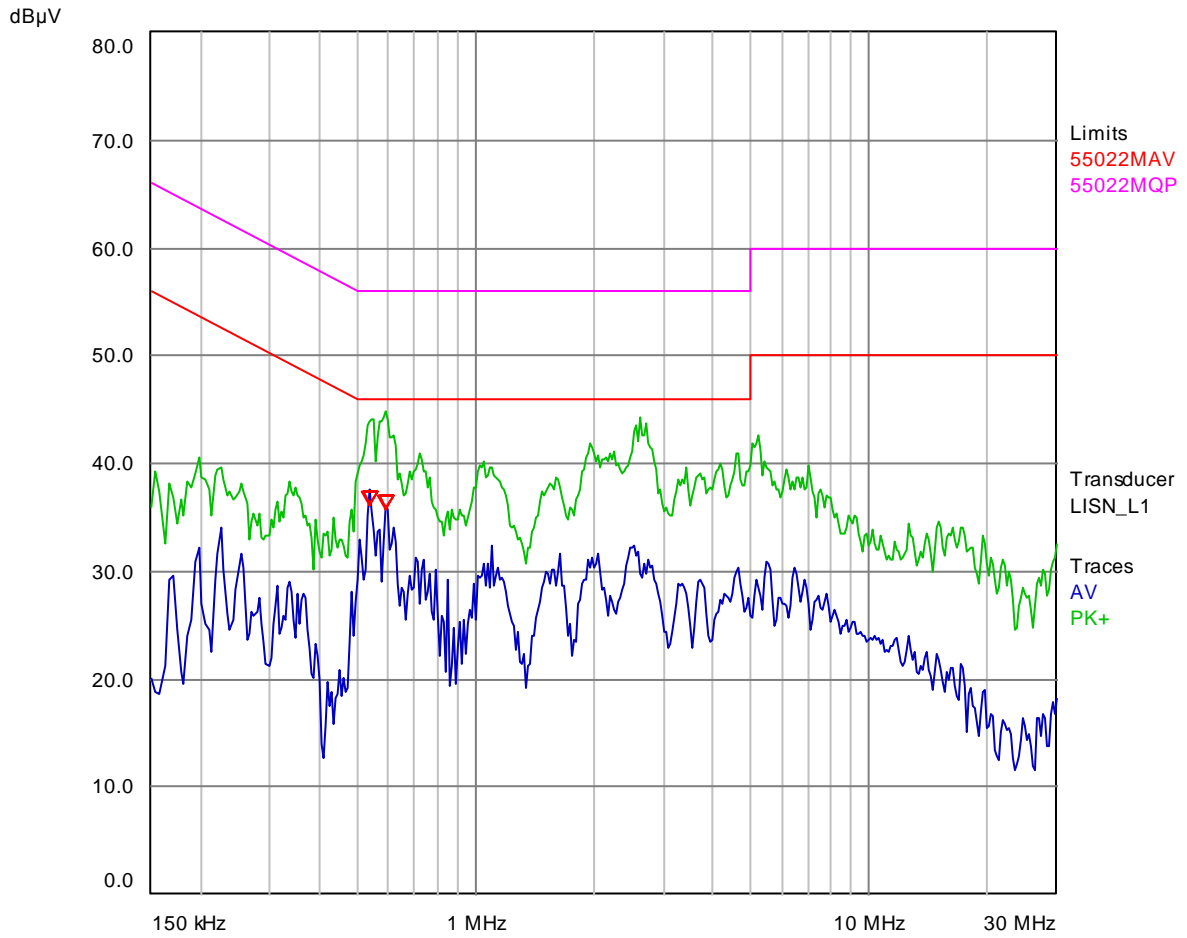
Meas Time: 2 s

Peaks: 6

Acc. Margin: 10 dB

#### Pre-measurement Graph





### Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
1 AV	0.538	36.03	46.00	-9.97		L1 / on
1 AV	0.594	35.64	46.00	-10.36		L1 / on

\* = limit exceeded

### LINE N

#### Scan Settings (1 Range)

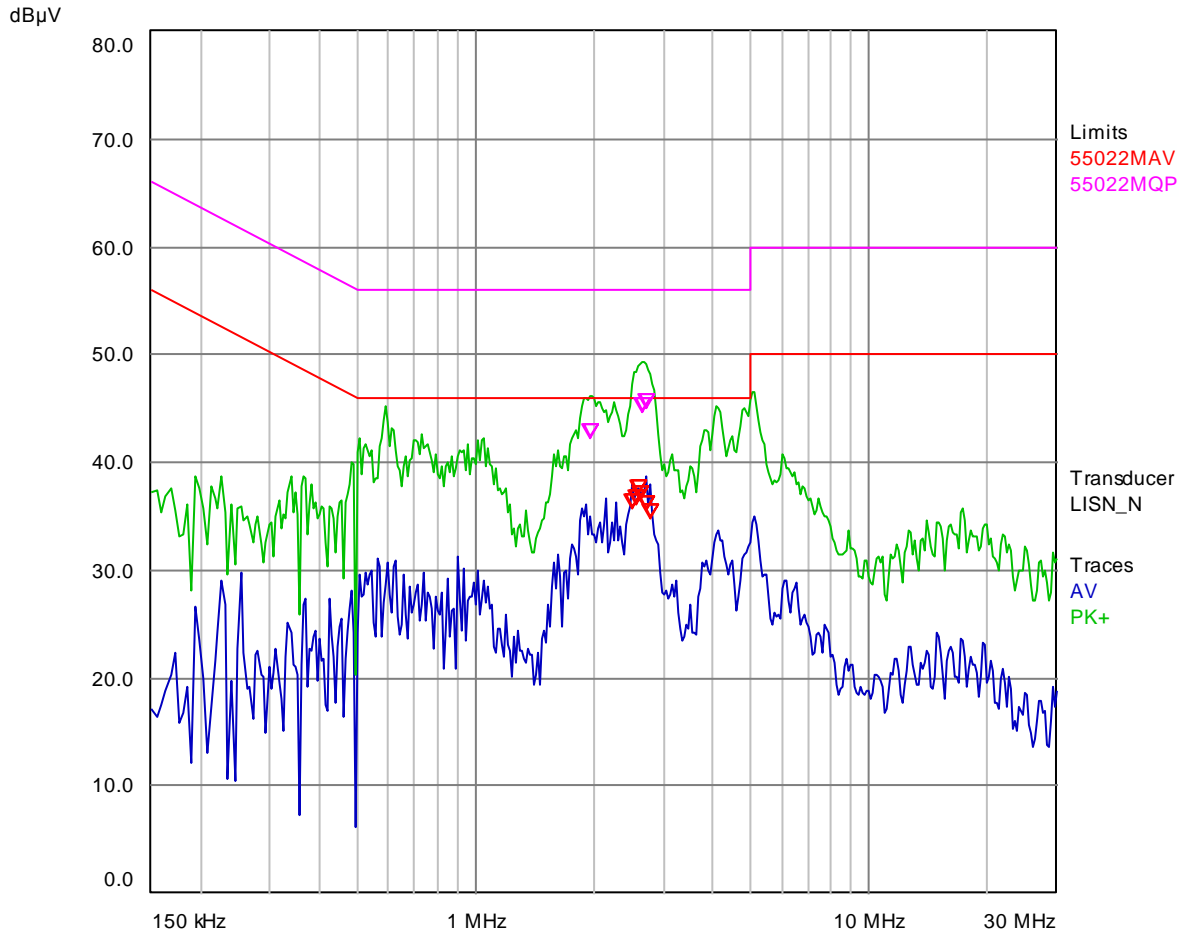
Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4.5 kHz	9 kHz (6dB)	15 ms	Auto	Off

### Final Measurement

Detectors: AV, QP  
Peaks: 6

Meas Time: 2 s  
Acc. Margin: 10 dB

### Pre-measurement Graph



### Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
2 QP	1.9635	42.15	56.00	-13.85		N / on
1 AV	2.4945	35.64	46.00	-10.36		N / on
1 AV	2.5485	36.01	46.00	-9.99		N / on
1 AV	2.58	37.02	46.00	-8.98		N / on
1 AV	2.607	36.47	46.00	-9.53		N / on
2 QP	2.6475	44.69	56.00	-11.31		N / on
2 QP	2.715	45.10	56.00	-10.90		N / on
1 AV	2.724	35.56	46.00	-10.44		N / on
1 AV	2.778	34.74	46.00	-11.26		N / on

\* = limit exceeded

## B.7 Radiated Emission

### B.7.1 Limit of Radiated Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below

Frequency(MHz)	Field Strength(microvolts/meters)	Measurement Distance(Meters)
0.009-0.490	2400/F(kHz)	3000
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

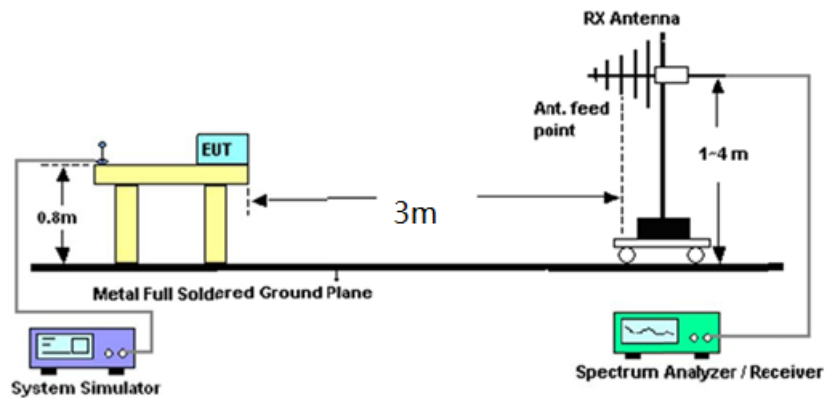
### B.7.2 Test Procedure

- a. The EUT was placed on a turntable with 1.5 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The height of the antenna is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- e. 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.
- f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode. SA setting: Span= wide enough to fully capture the emission being measured; RBW=1MHz (f > 1GHz), RBW=100kHz (f < 1GHz), VBW ≥ RBW, Sweep time=auto, Trace= Max hold. Above 18GHz shall be extrapolated to specified distance using an extrapolation factor 20dB/decade from 3m to 1m.
- g. If the emission level of the EUT in peak mode was 20dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
- h. Emission level (dBμV/m) = 20 log Emission level (μV/m).

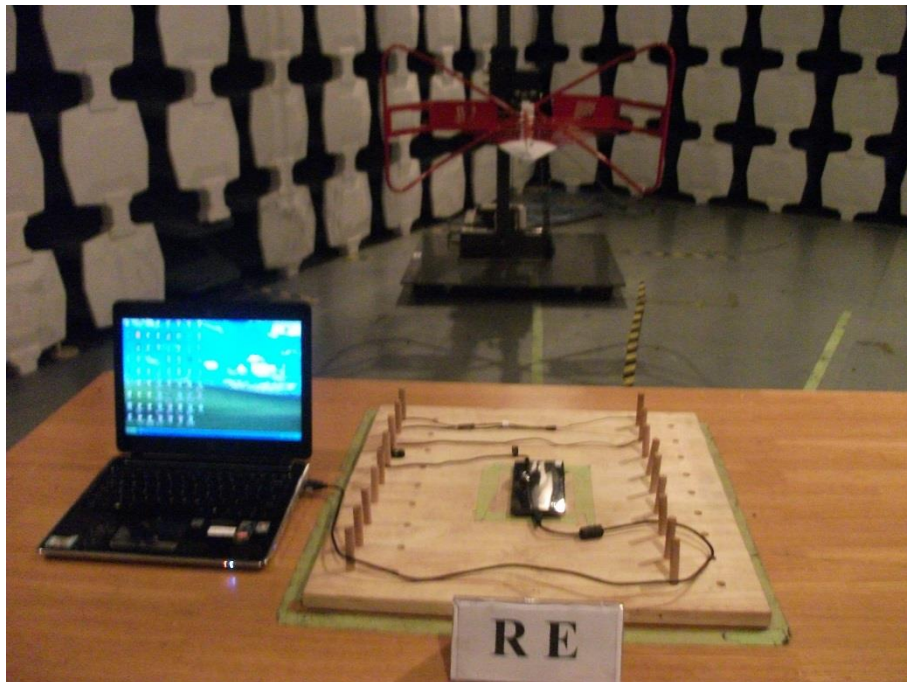
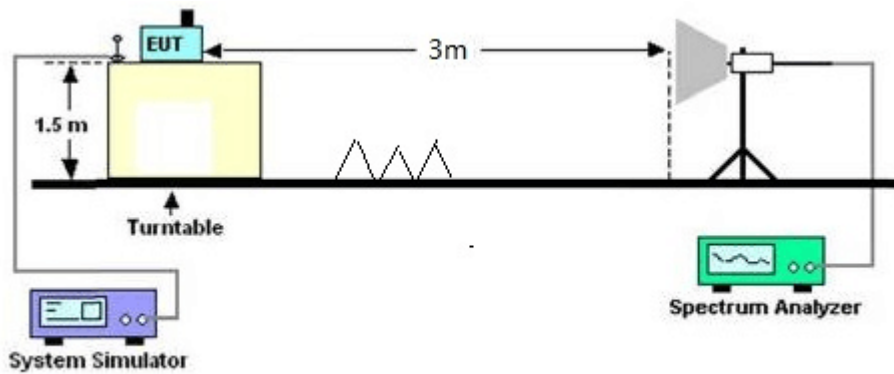
### B.7.2 Test Setup

Frequency Band(MHz)	Function	Resolution Bandwidth	Video Bandwidth
30 to 1000	QP	100kHz	100kHz
Above 1000	Peak	1MHz	1MHz
	Average	1MHz	10Hz

**Radiated Emissions Frequency: Below 1GHz**



Radiated Emissions Frequency: above 1GHz





### B.7.3 Test Results

Above 6GHz,EUT was pre-scanned and which was 20dB lower than limit line per 15.31(0) not reported.  
**Worst case data rate mode: 802.11b**

Test Mode: Traffic  
Verdict: Pass

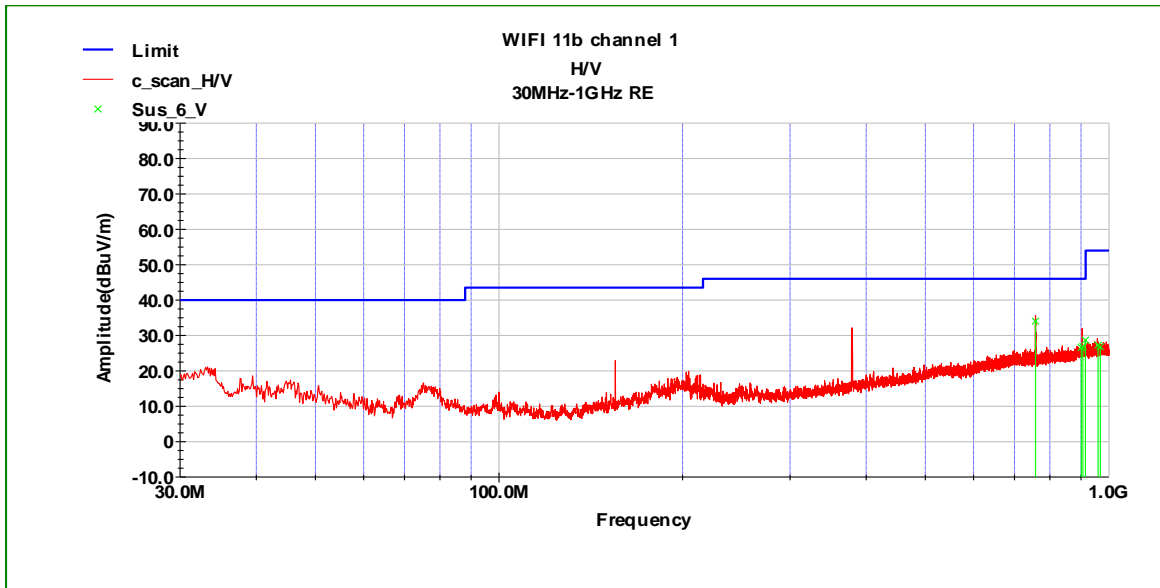


Fig.118 Radiated Emission of channel 1 in 30MHz-1GHz

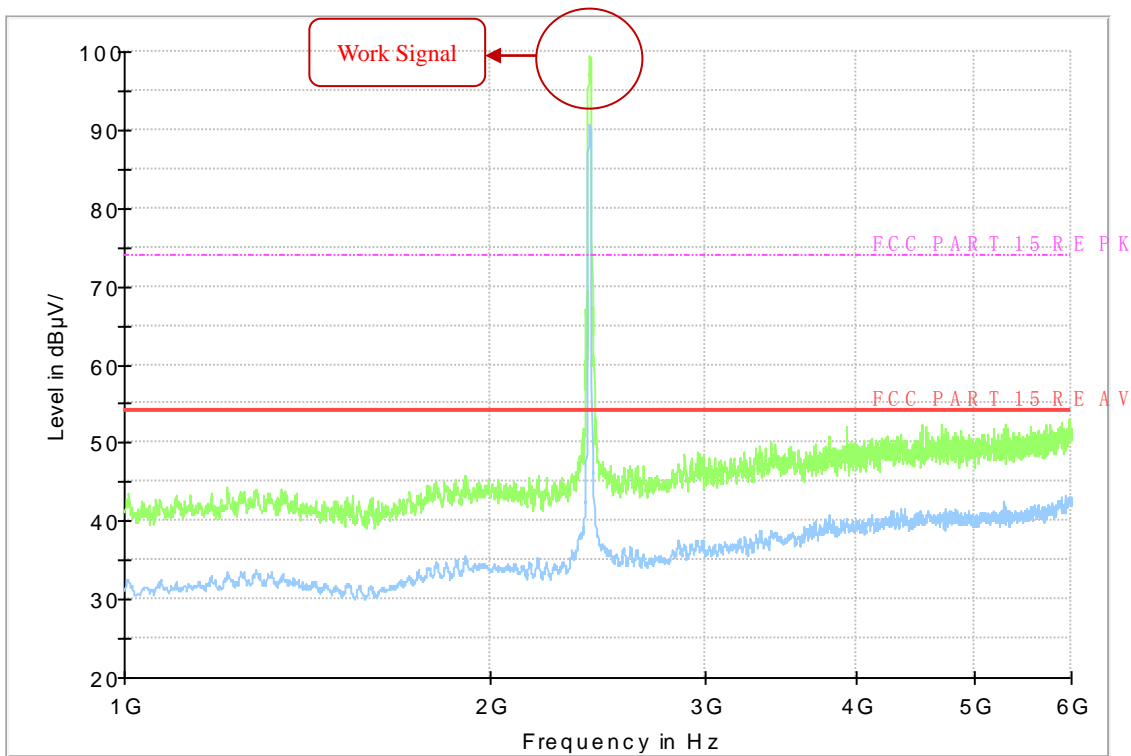


Fig.119 Radiated Emission of channel 1 in 1GHz-6GHz

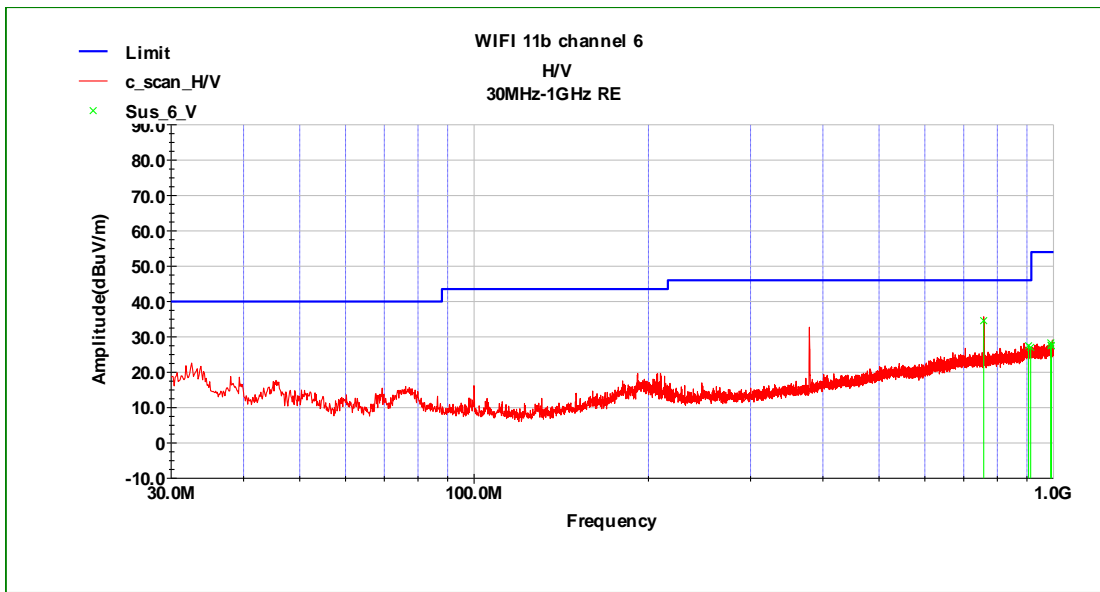


Fig.120 Radiated Emission of channel 6 in 30MHz-1GHz

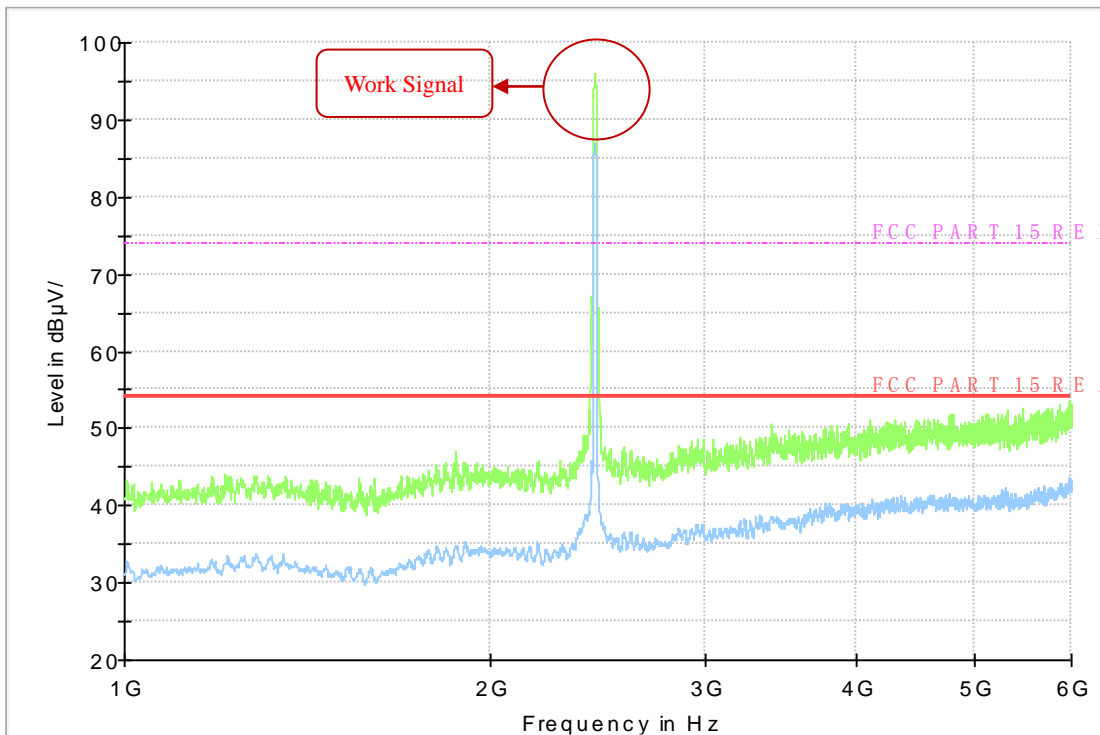


Fig.121 Radiated Emission of channel 6 in 1GHz-6GHz

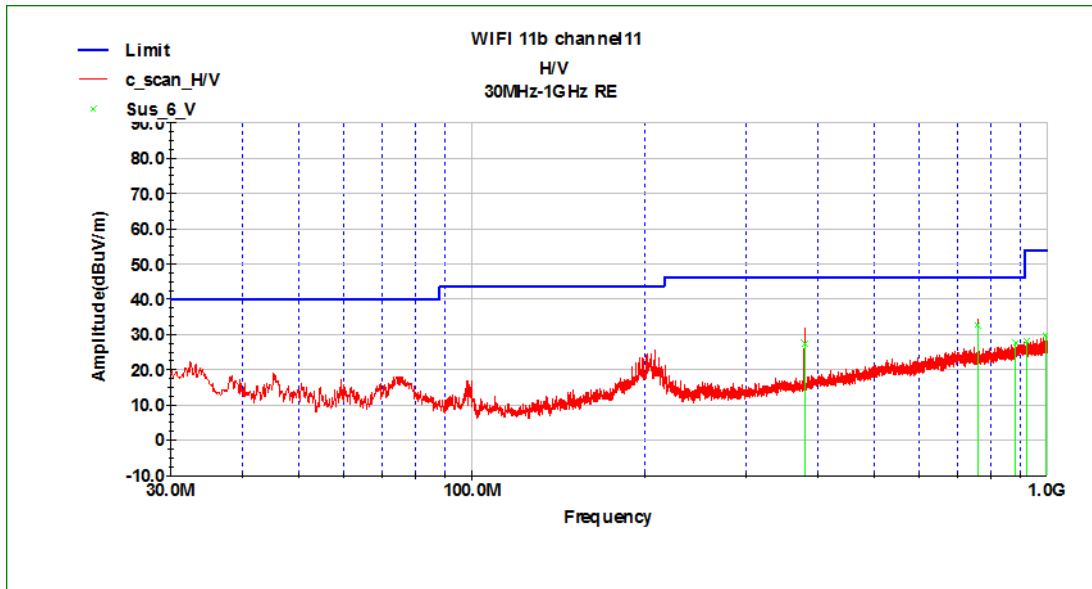


Fig.122 Radiated Emission of channel 11 in 30MHz-1GHz

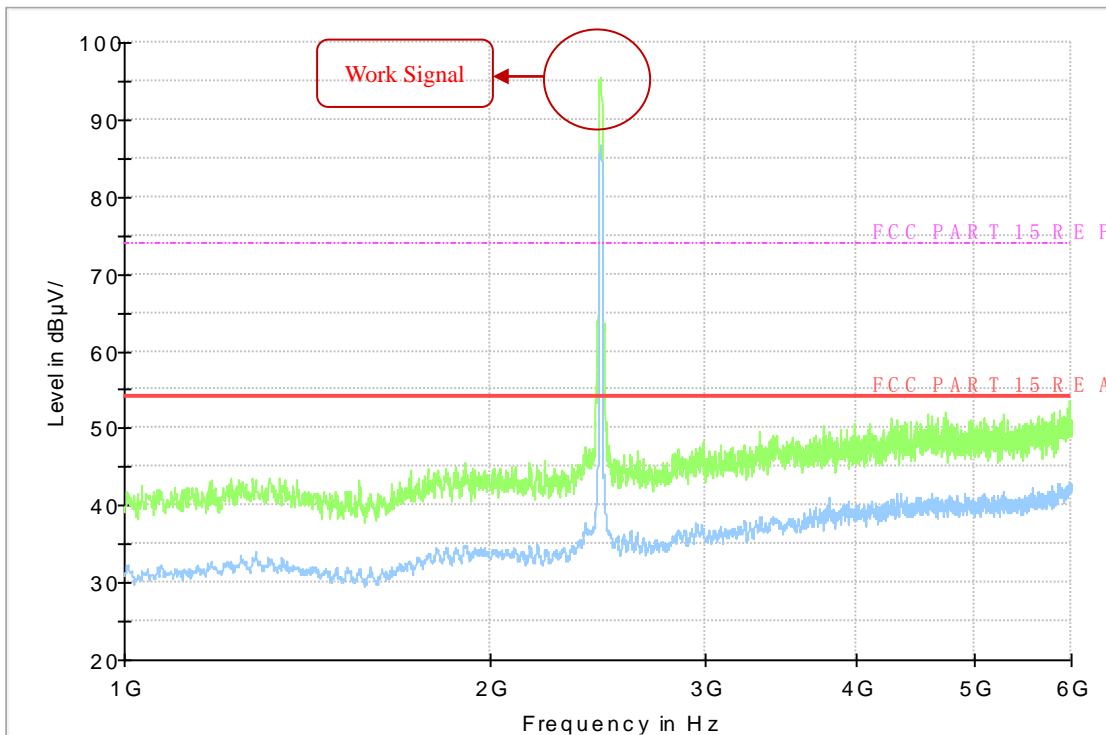


Fig.123 Radiated Emission of channel 11 in 1GHz-6GHz

## B.8 Antenna Requirements

### B.8.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with



the FCC rule.

### **B.8.2 Antenna Connected construction**

The Antenna type used in this product is PIFA Antenna without connector and it is considered to meet antenna requirement.

### **B.8.3 Antenna Gain**

The antenna peak gain of EUT is less than 6dBi, Therefore, it is not necessary to reduced maximum peak output power limit.

**ANNEX C: Report Revision History**

<b>Report NO.</b>	<b>Report version</b>	<b>Description</b>	<b>Issue Date</b>
<b>150701-WIFI</b>	<b>NONE</b>	<b>Original</b>	<b>2015.07.10</b>

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