

3.7 Radiated Spurious Emission Measurement

3.7.1 Test Limit

For 15.407(b)(6) requirement

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

Refer to 987594 D02 U-NII 6GHz EMC Measurement v01 clause G

Use guidance in KDB 789033 for measurements below 1000 MHz and above 1000 MHz. Unwanted emissions outside of restricted bands are measured with a RMS detector. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

3.7.2 Test Procedure

Test Method	
☐ Conducted Measurement	☒ Radiated Measurement
Test Channels	
☒ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme
Note: ☒ :Test ☐ :No Test	

3.7.3 Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000MHz	1MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

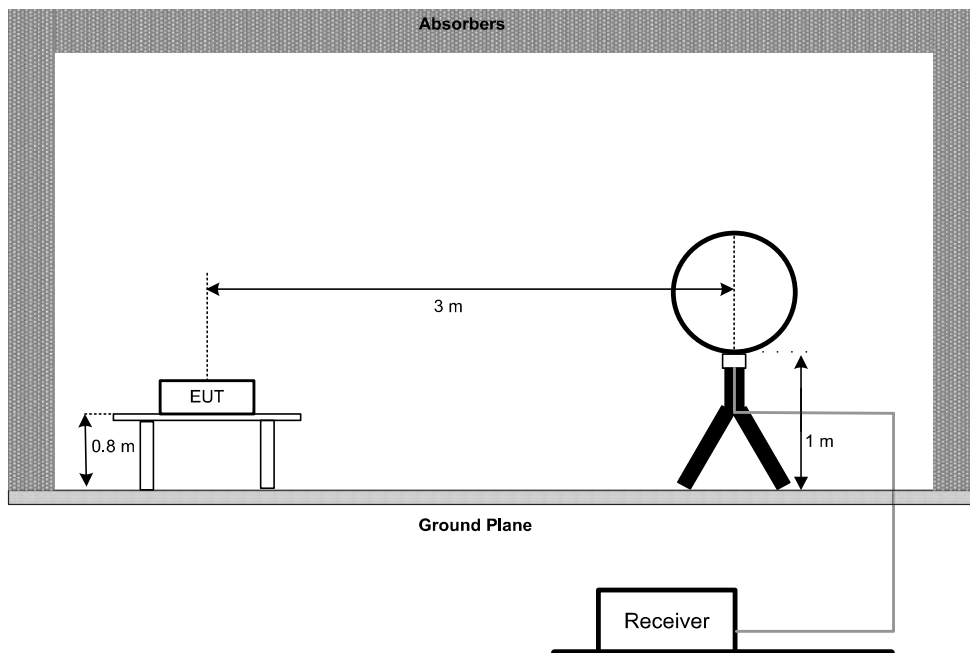
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

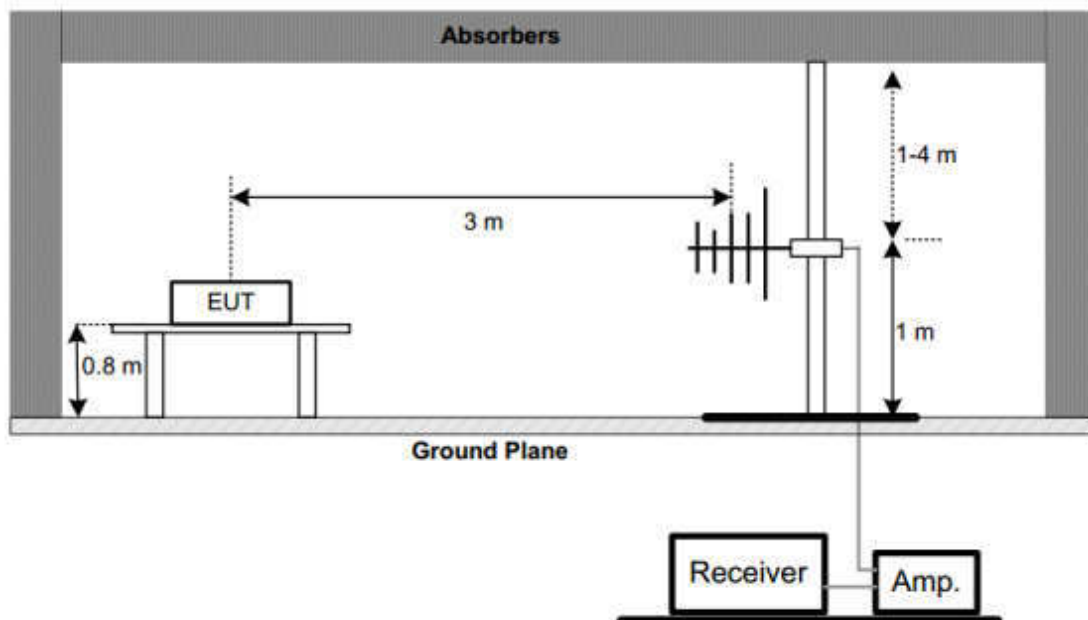
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

3.7.4 Test Setup

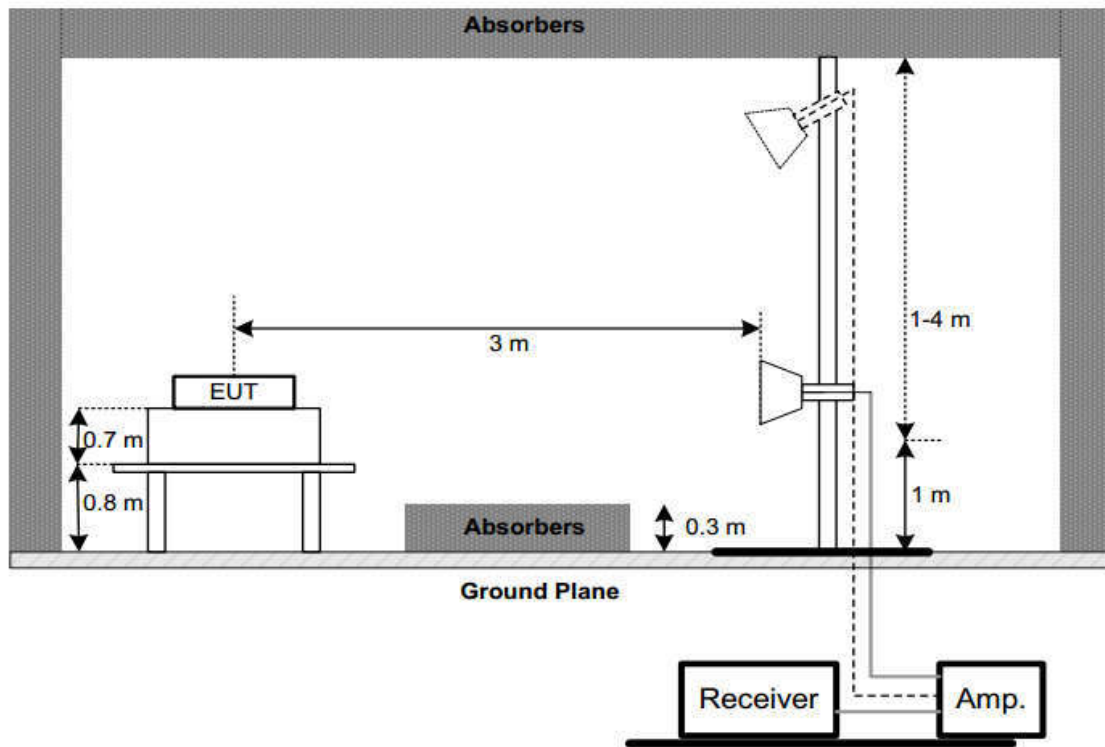
(A) Radiated Emission Test Set-Up Frequency Below 30 MHz



(B) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



(C) Radiated Emission Test Set-Up Frequency Above 1 GHz



3.7.5 Test Result

1) Radiated emission: 9kHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not recorded in this report.

2) Radiated emission: 30MHz-1GHz

Note:

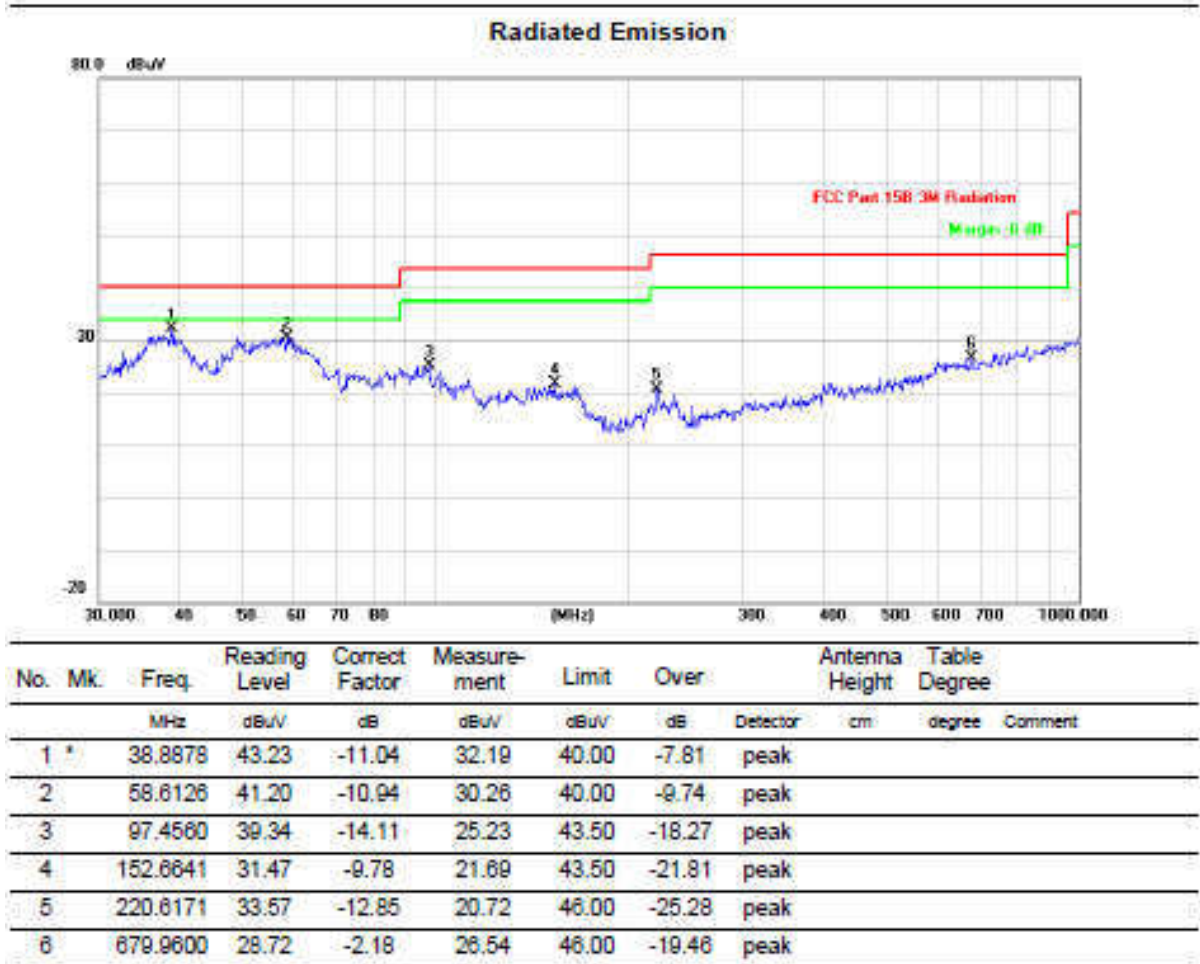
1. Measurement = Reading + Correct Factor.
2. Over = Measurement – Limit

We only recorded the data of the worst mode. Please see the following:

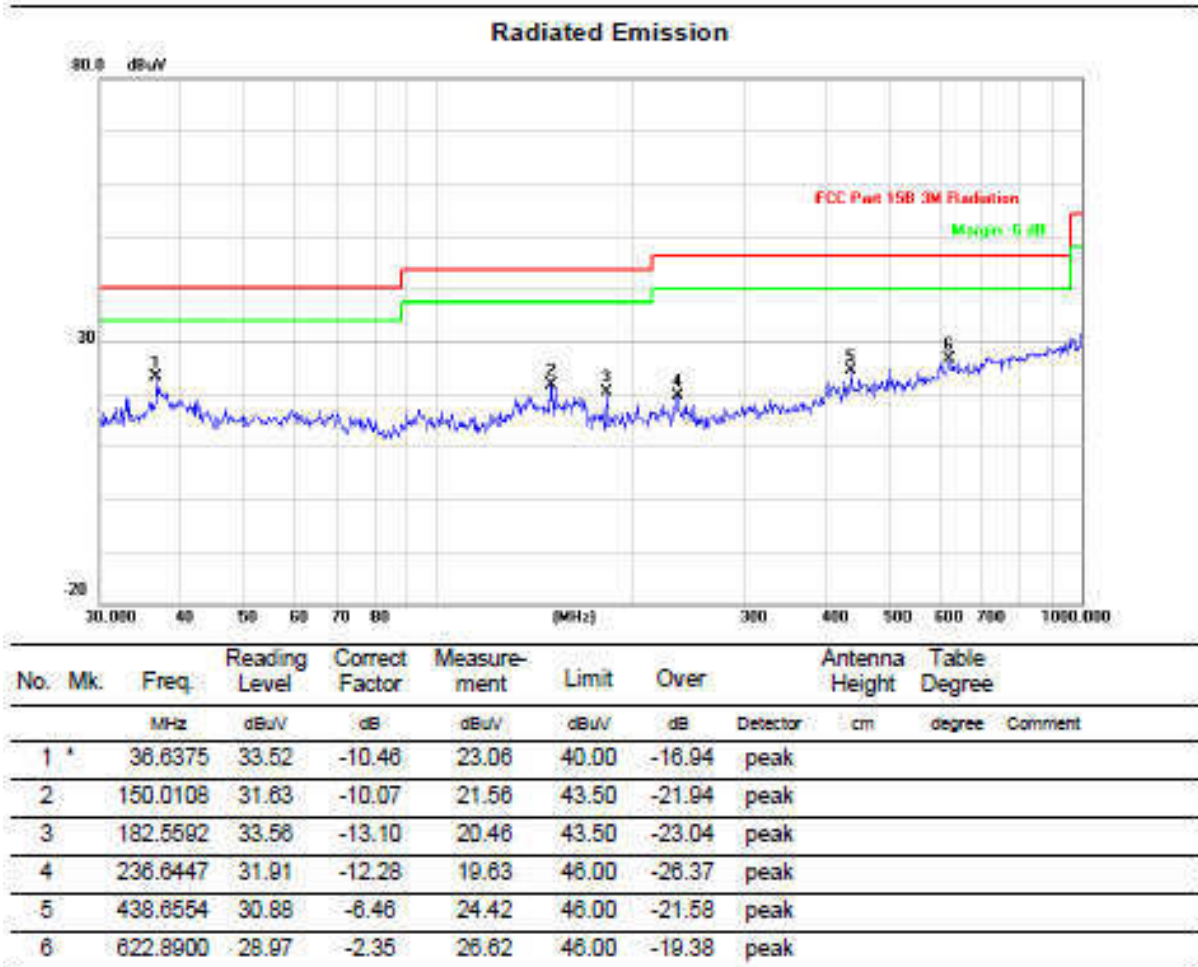
Below 1GHz (30MHz~1GHz)

Worst Case Operating Mode: BE320MIMO Channel 31

VERTICAL



HORIZONTAL



3) Radiated emission: Above 1GHz

Note:

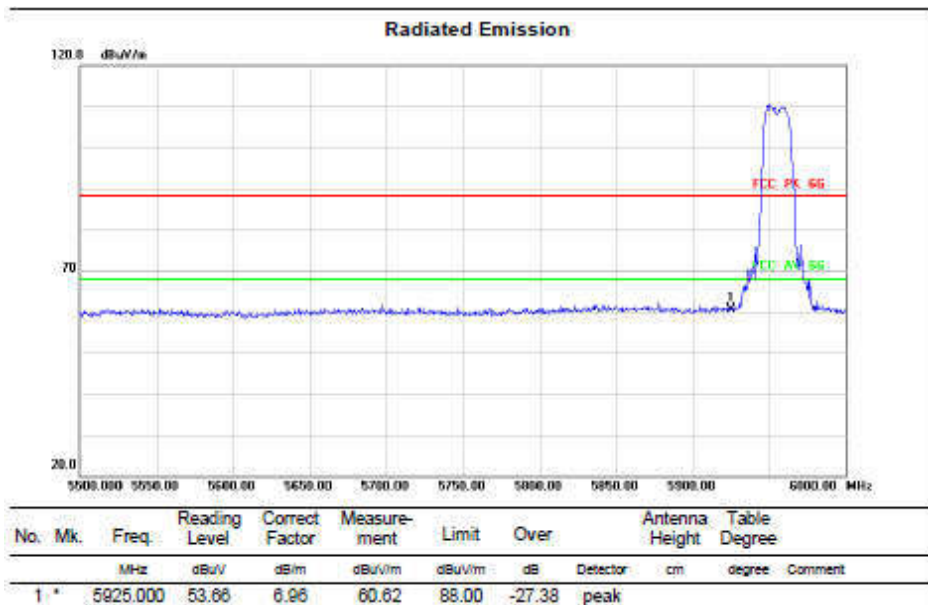
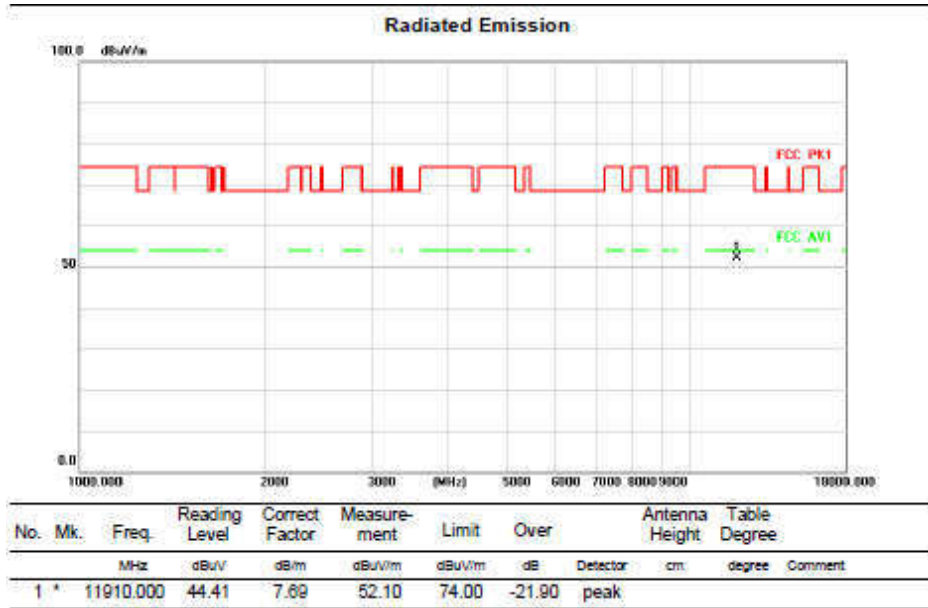
1. Measurement = Reading + Correct Factor.
2. Over = Measurement – Limit

Above 1GHz (1GHz~18GHz)

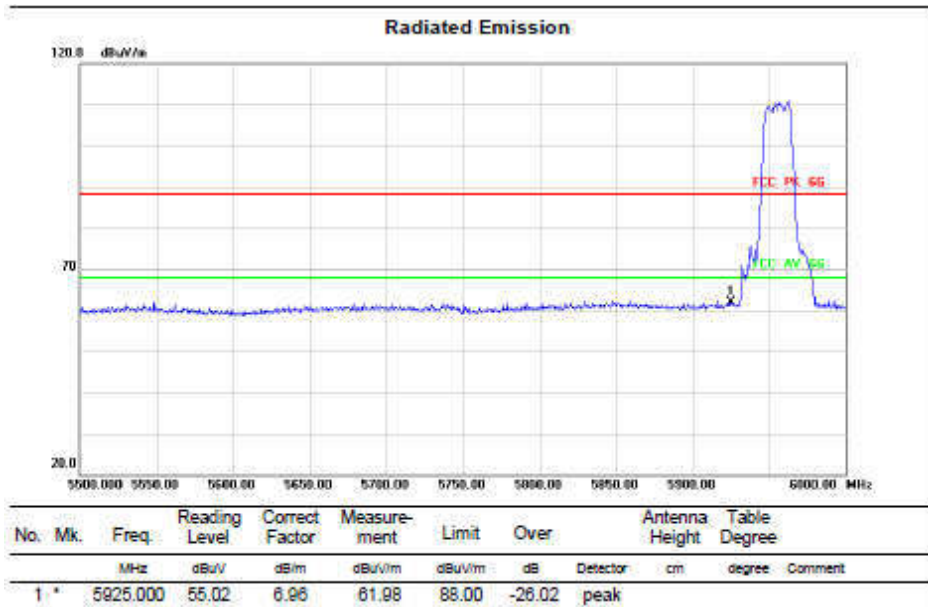
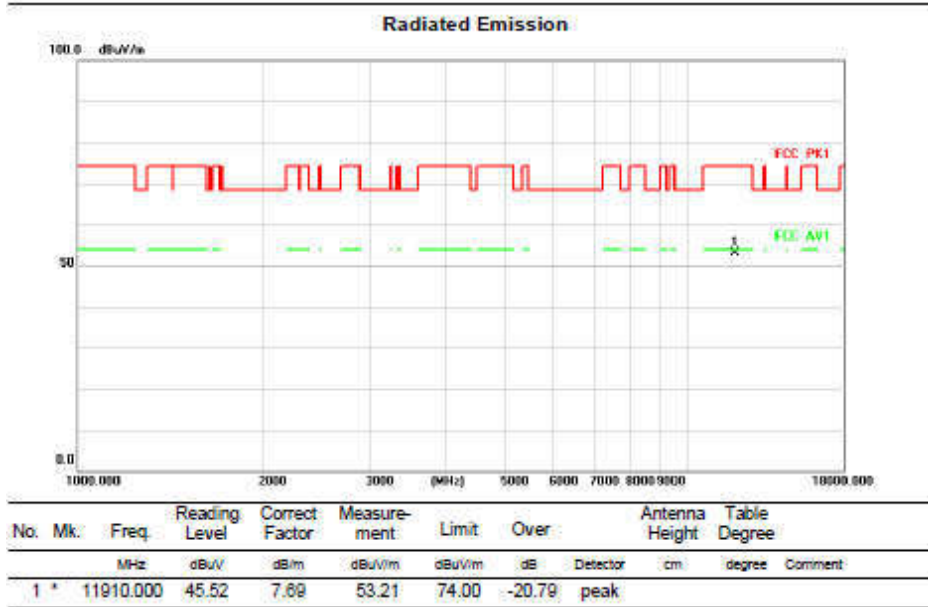
Test mode:11A-CDD

Test Channel:1

VERTICAL



HORIZONTAL

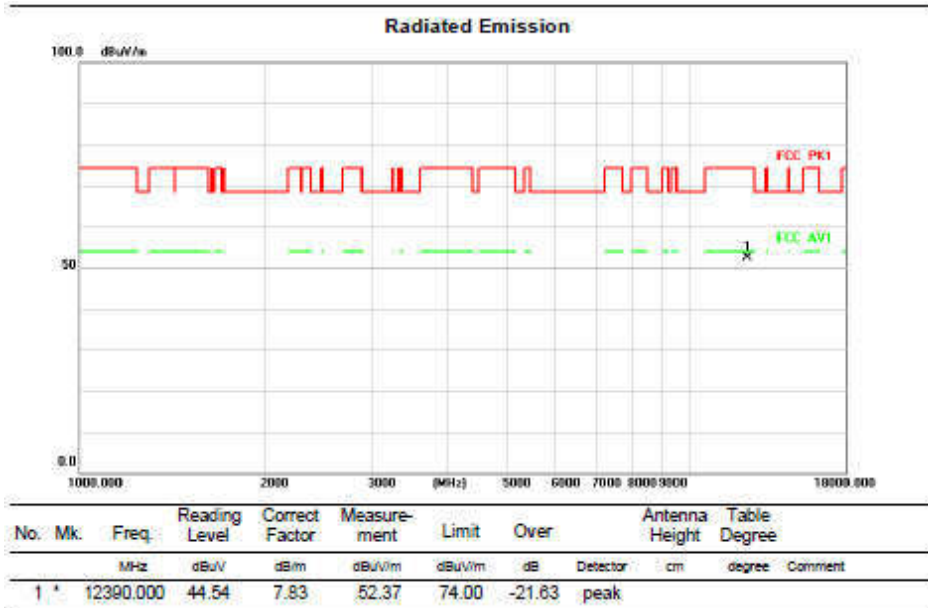


Above 1GHz (1GHz~18GHz)

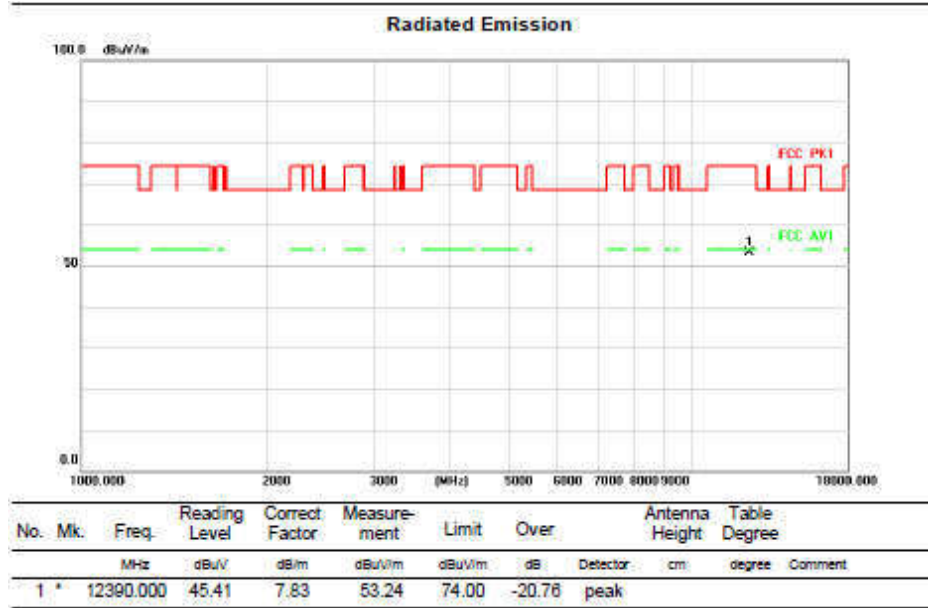
Test mode:11A-CDD

Test Channel:49

VERTICAL



HORIZONTAL

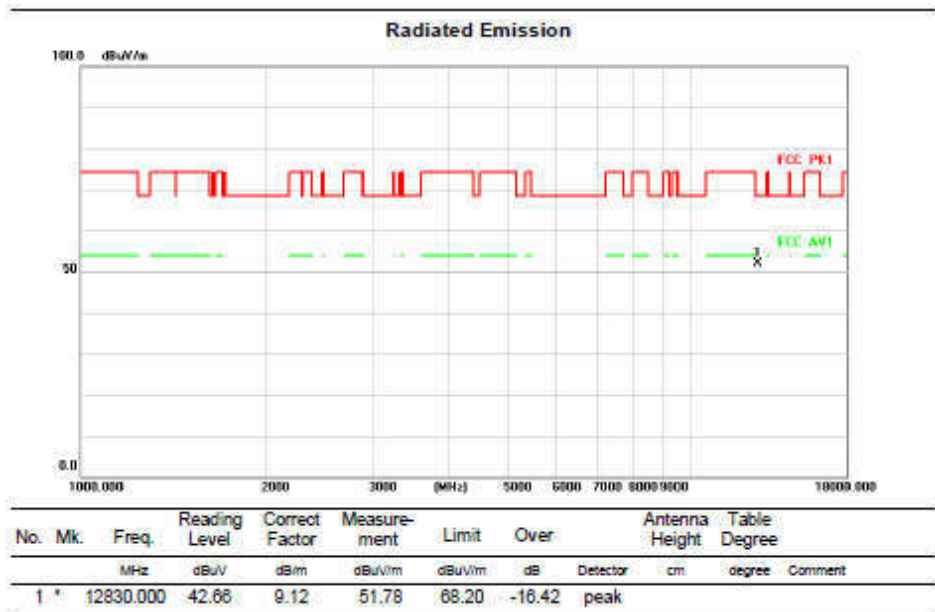


Above 1GHz (1GHz~18GHz)

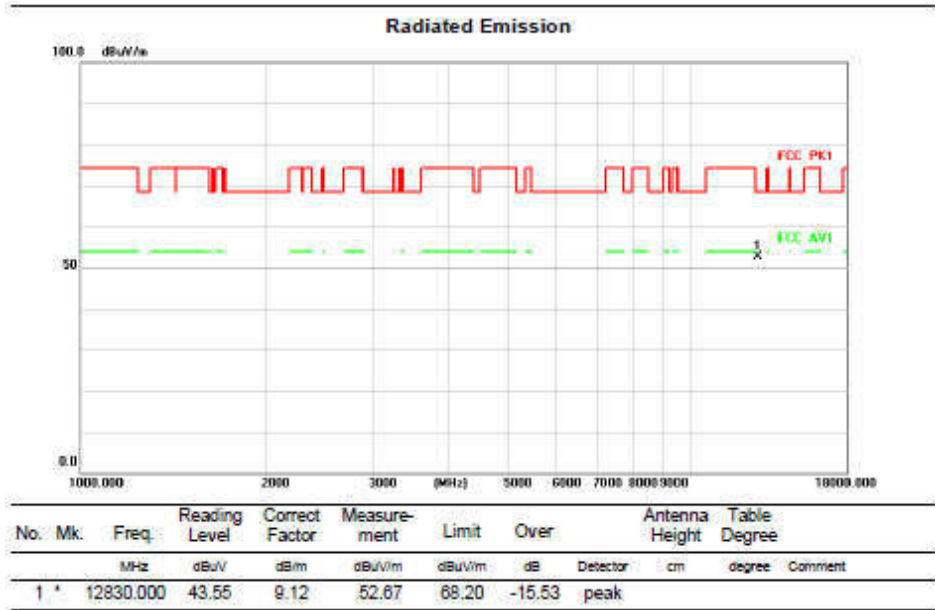
Test mode:11A-CDD

Test Channel:93

VERTICAL



HORIZONTAL

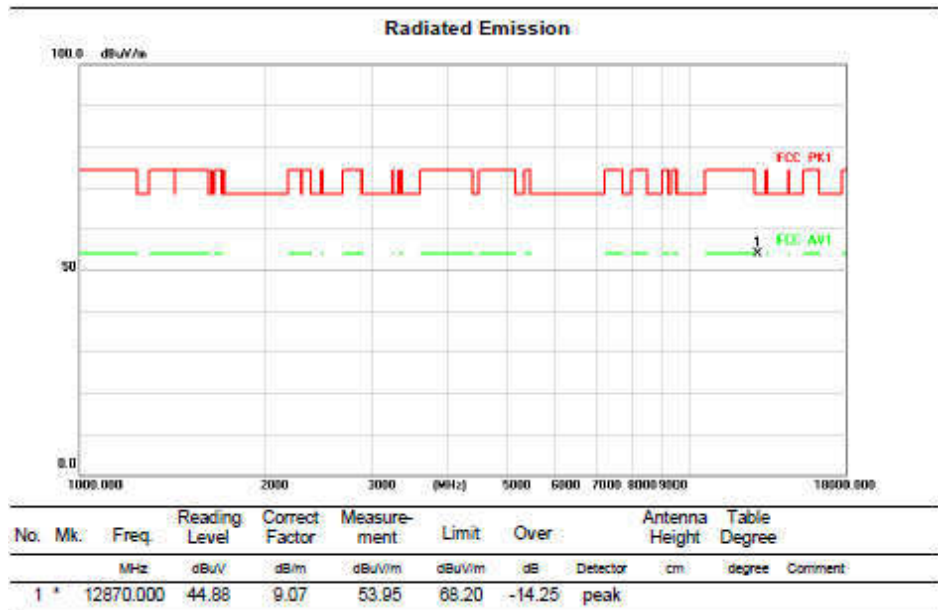


Above 1GHz (1GHz~18GHz)

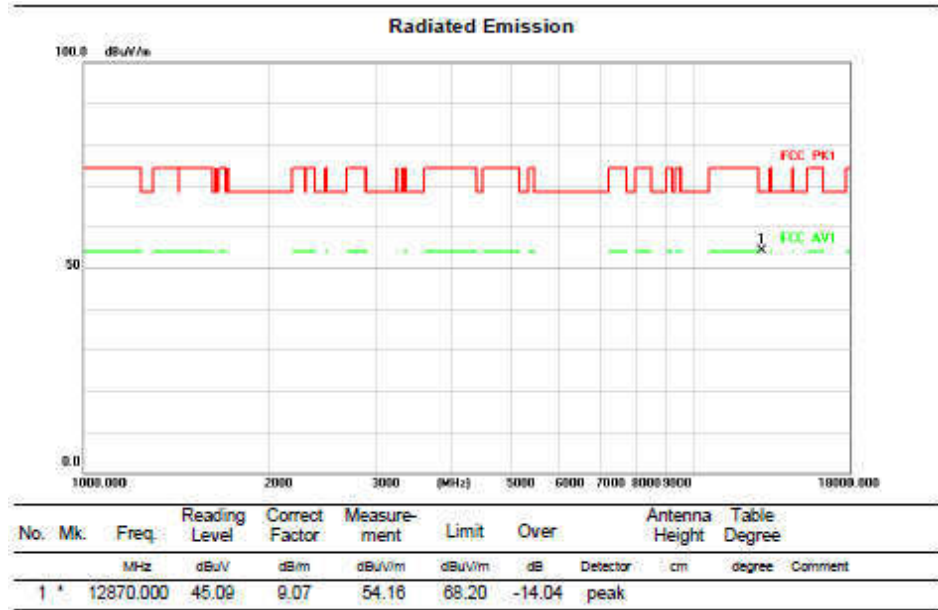
Test mode:11A-CDD

Test Channel:97

VERTICAL



HORIZONTAL

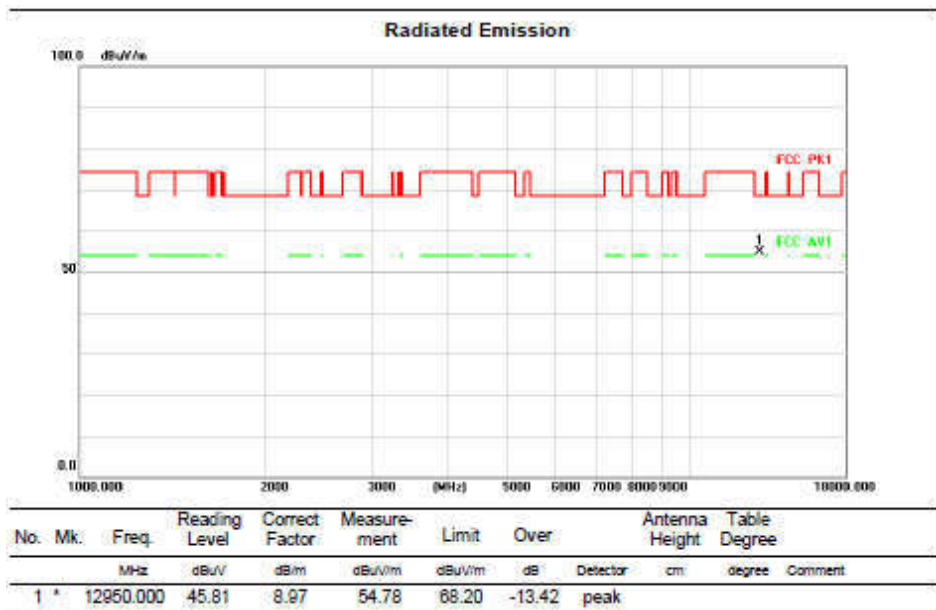


Above 1GHz (1GHz~18GHz)

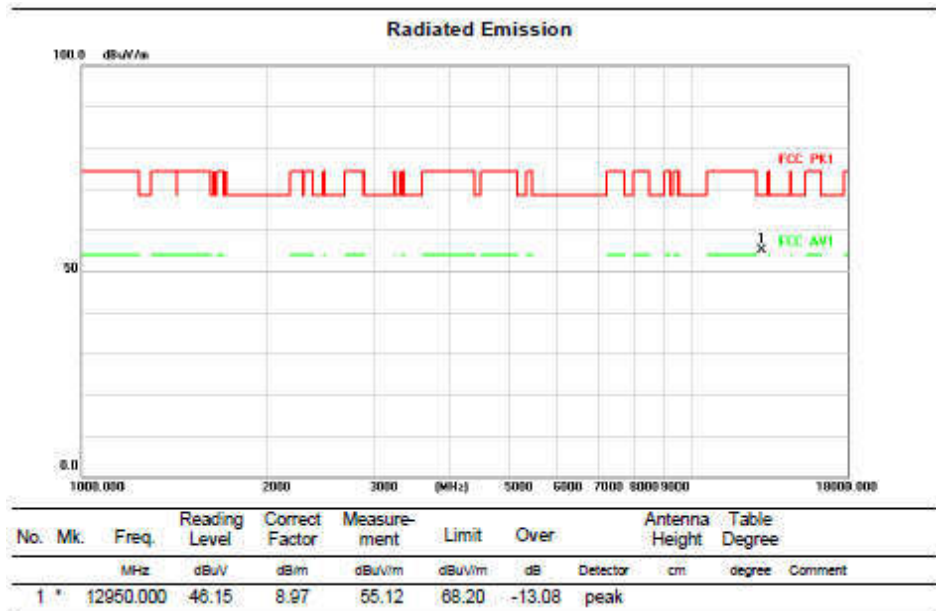
Test mode:11A-CDD

Test Channel:105

VERTICAL



HORIZONTAL

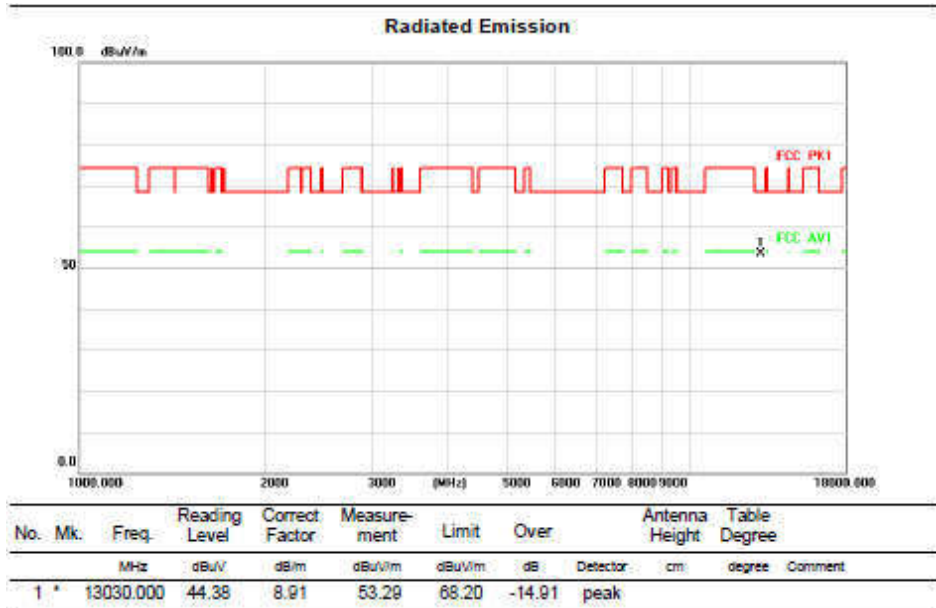


Above 1GHz (1GHz~18GHz)

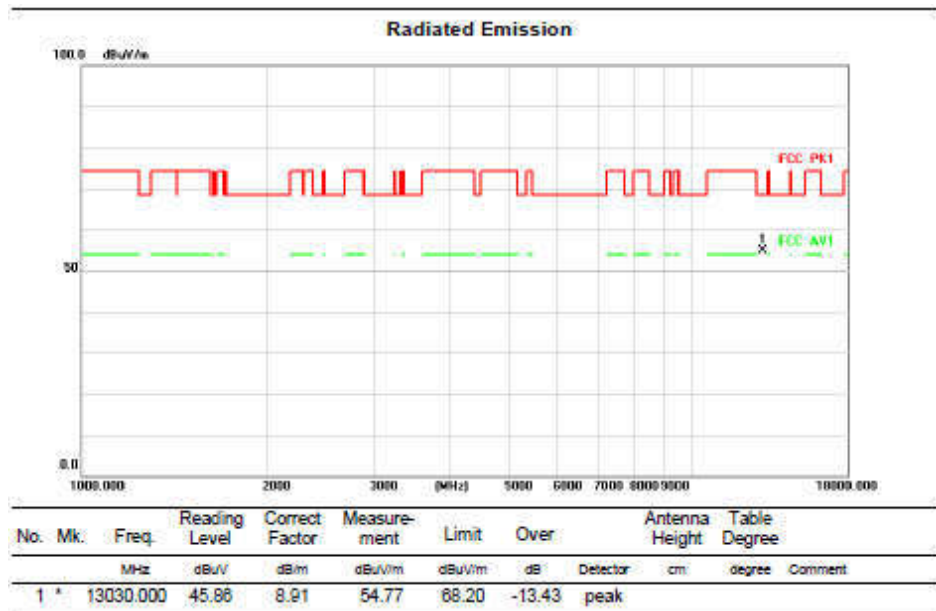
Test mode:11A-CDD

Test Channel:113

VERTICAL



HORIZONTAL

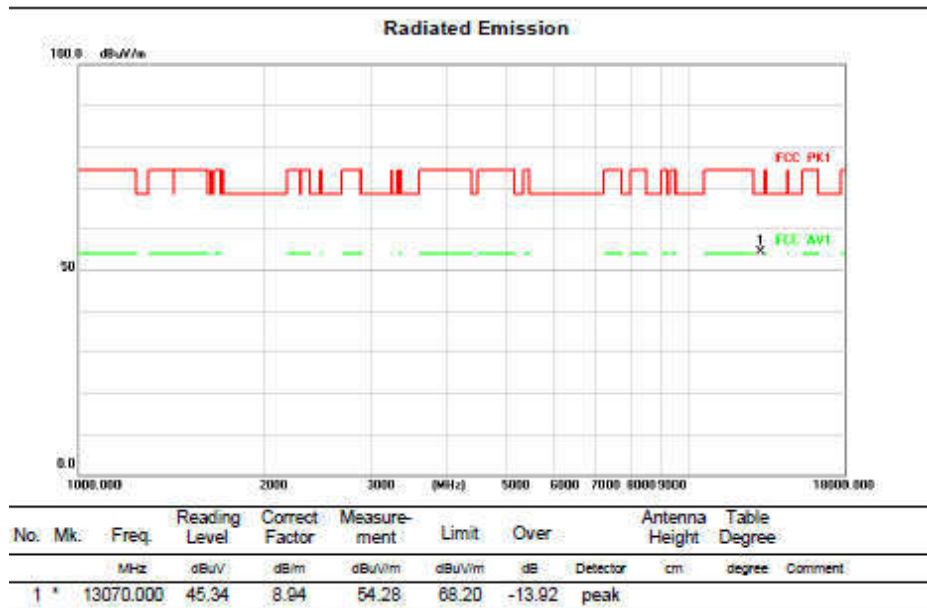


Above 1GHz (1GHz~18GHz)

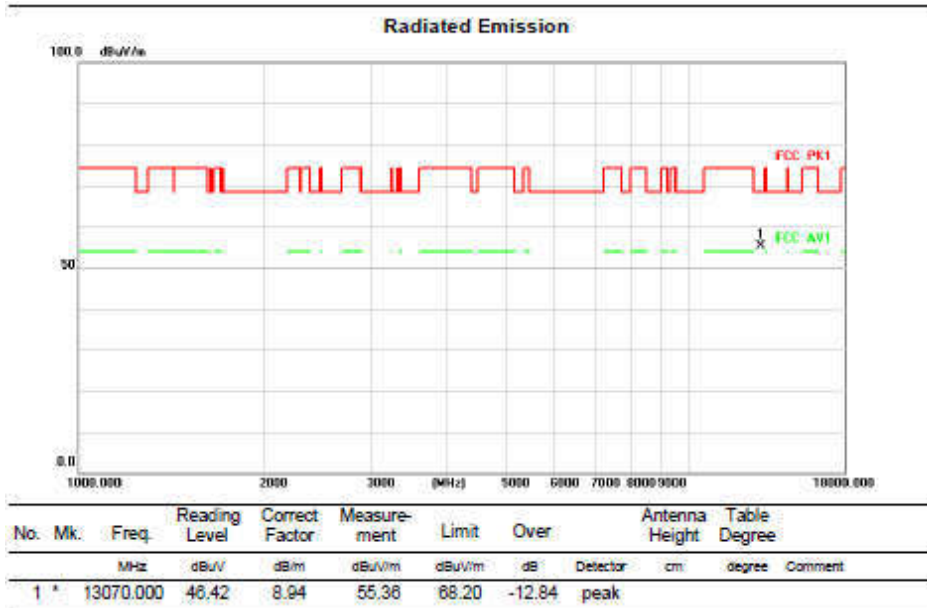
Test mode:11A-CDD

Test Channel:117

VERTICAL



HORIZONTAL

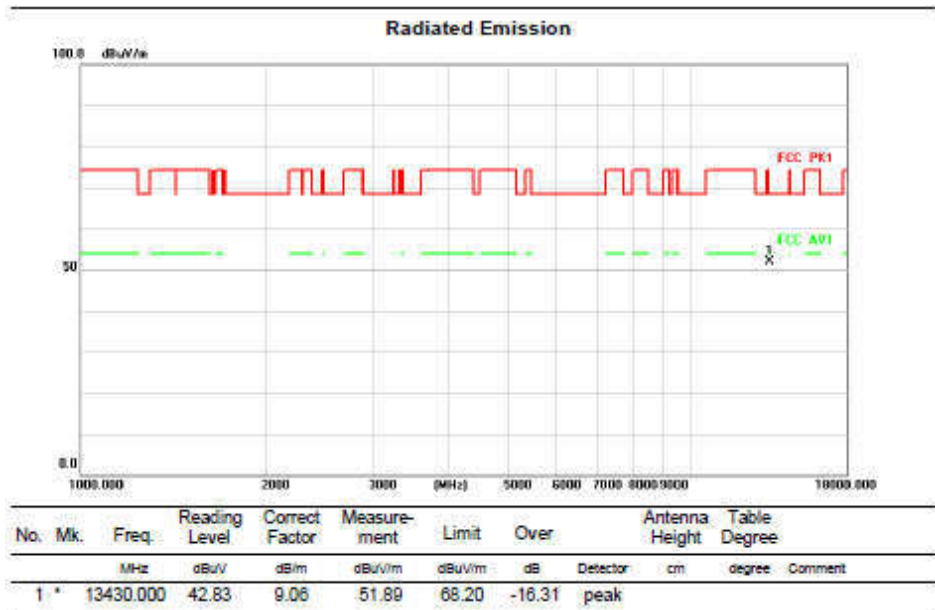


Above 1GHz (1GHz~18GHz)

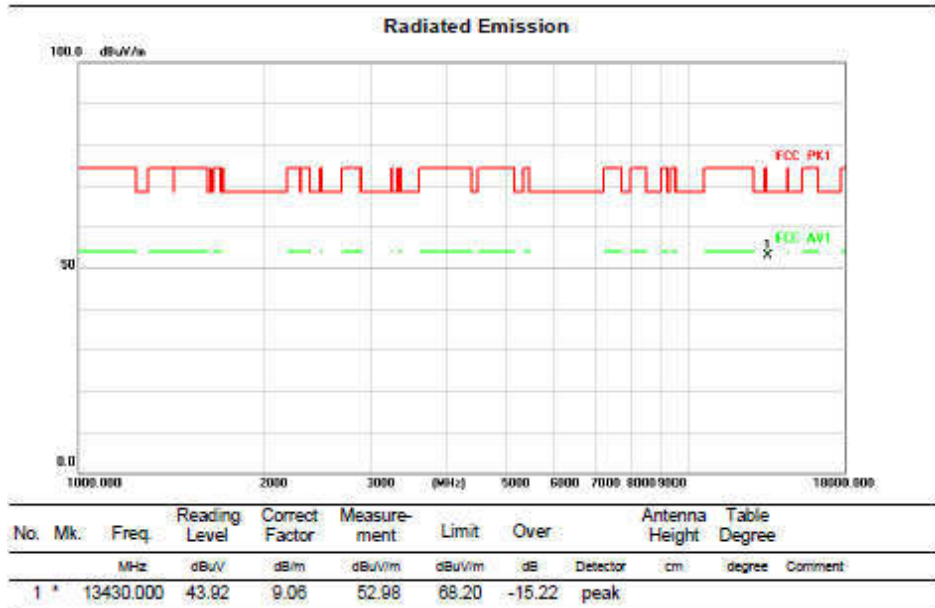
Test mode:11A-CDD

Test Channel:153

VERTICAL



HORIZONTAL

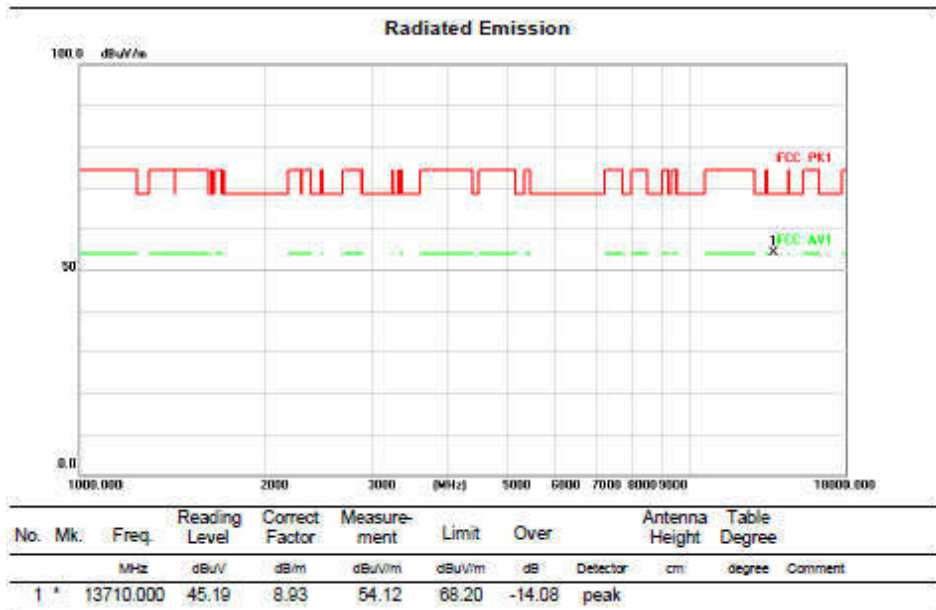


Above 1GHz (1GHz~18GHz)

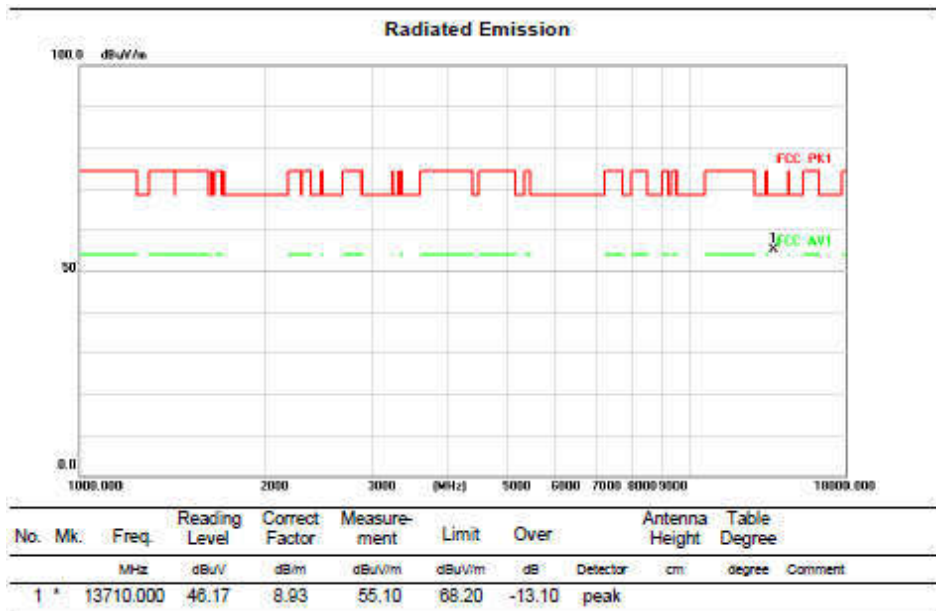
Test mode:11A-CDD

Test Channel:181

VERTICAL



HORIZONTAL

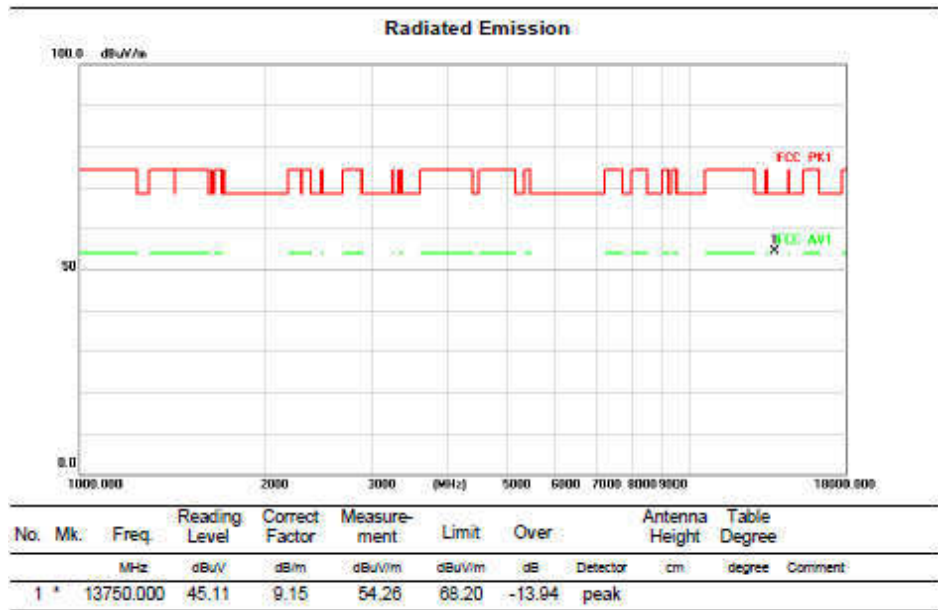


Above 1GHz (1GHz~18GHz)

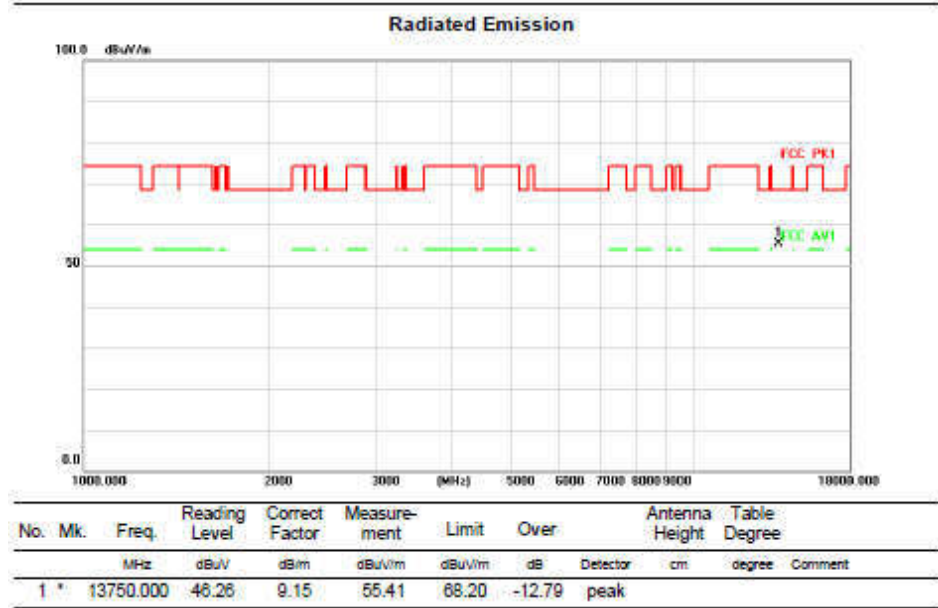
Test mode:11A-CDD

Test Channel:185

VERTICAL



HORIZONTAL

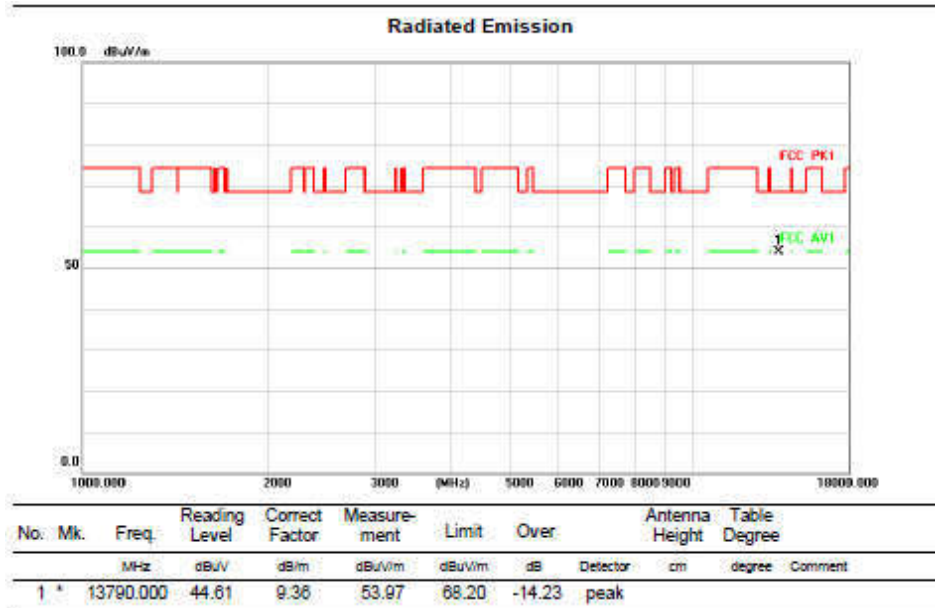


Above 1GHz (1GHz~18GHz)

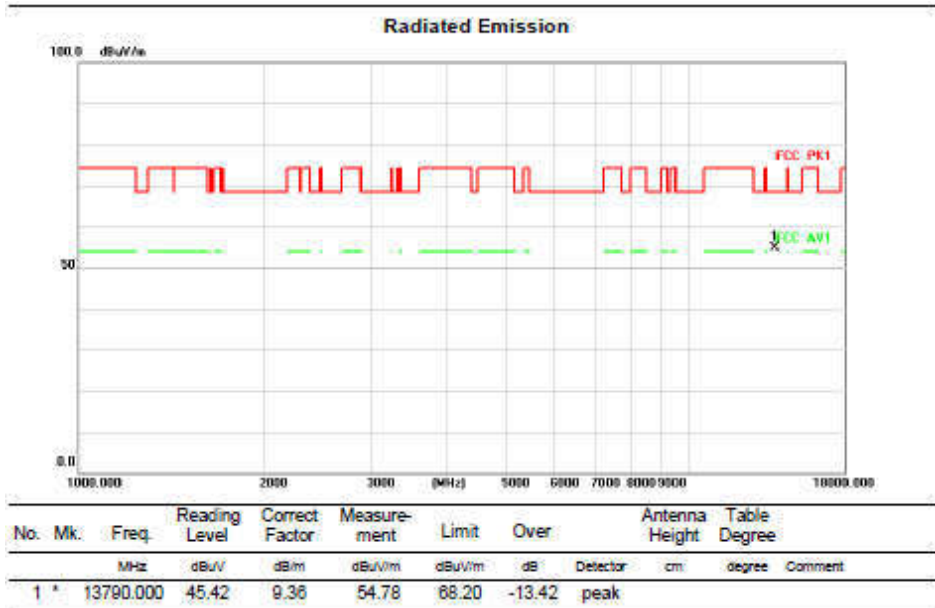
Test mode:11A-CDD

Test Channel:189

VERTICAL



HORIZONTAL

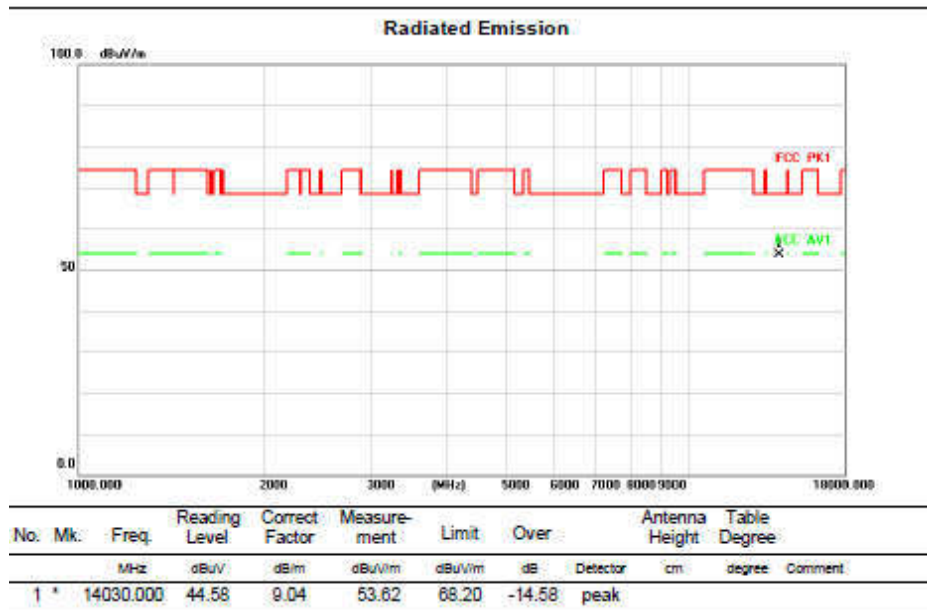


Above 1GHz (1GHz~18GHz)

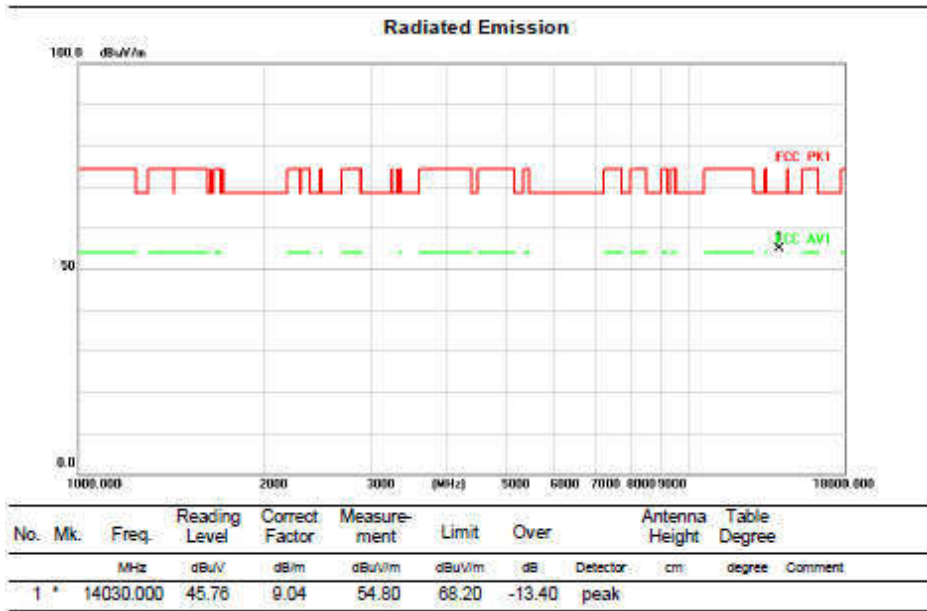
Test mode:11A-CDD

Test Channel:213

VERTICAL



HORIZONTAL

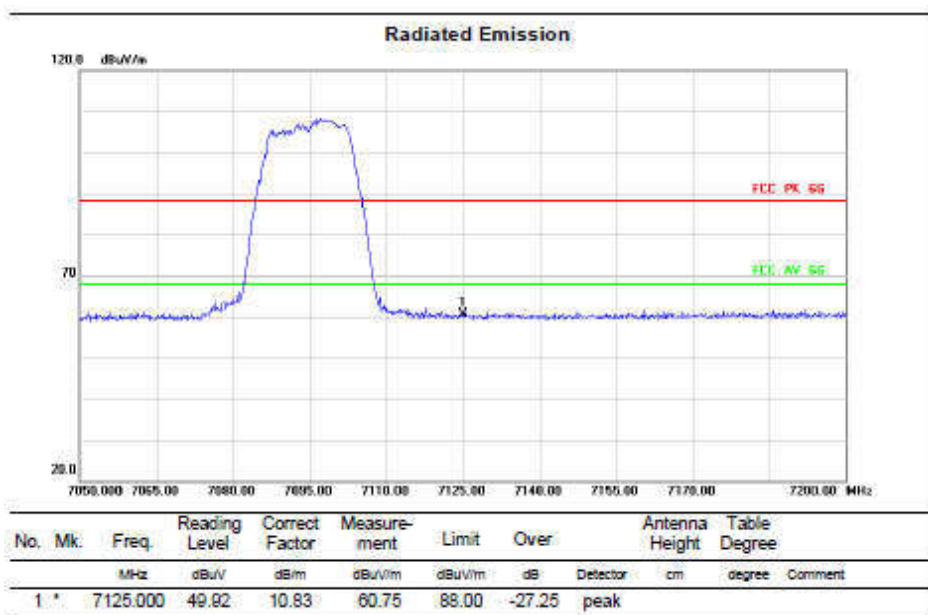
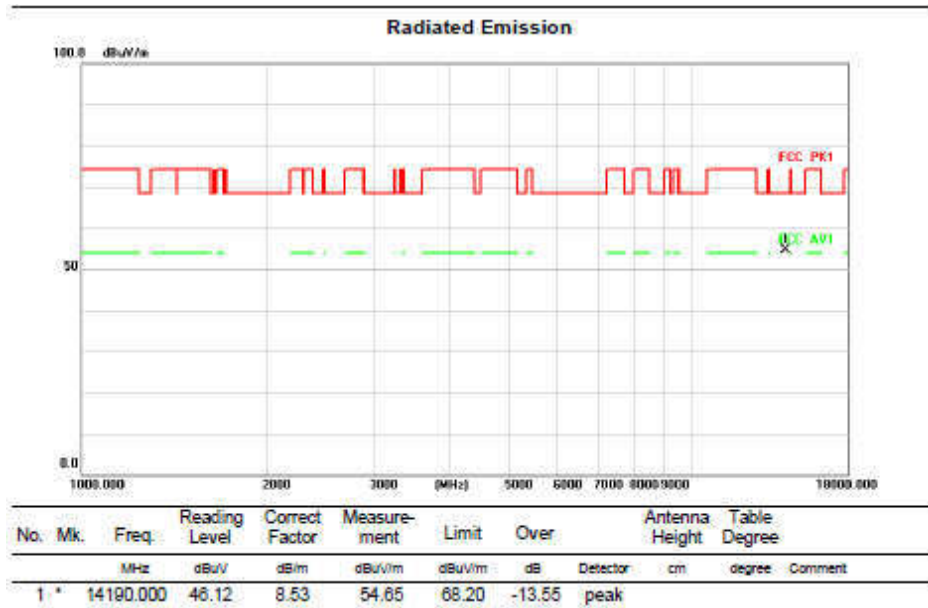


Above 1GHz (1GHz~18GHz)

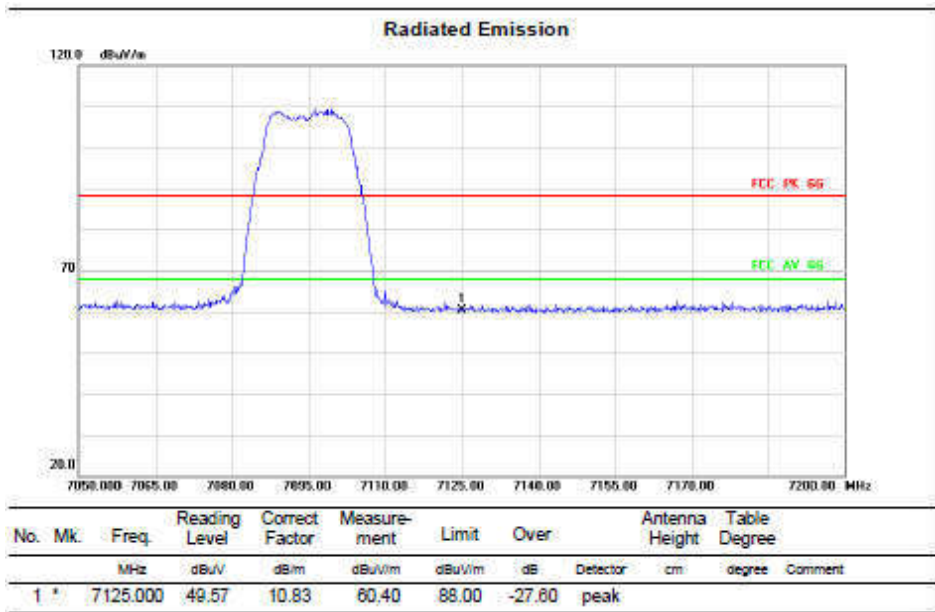
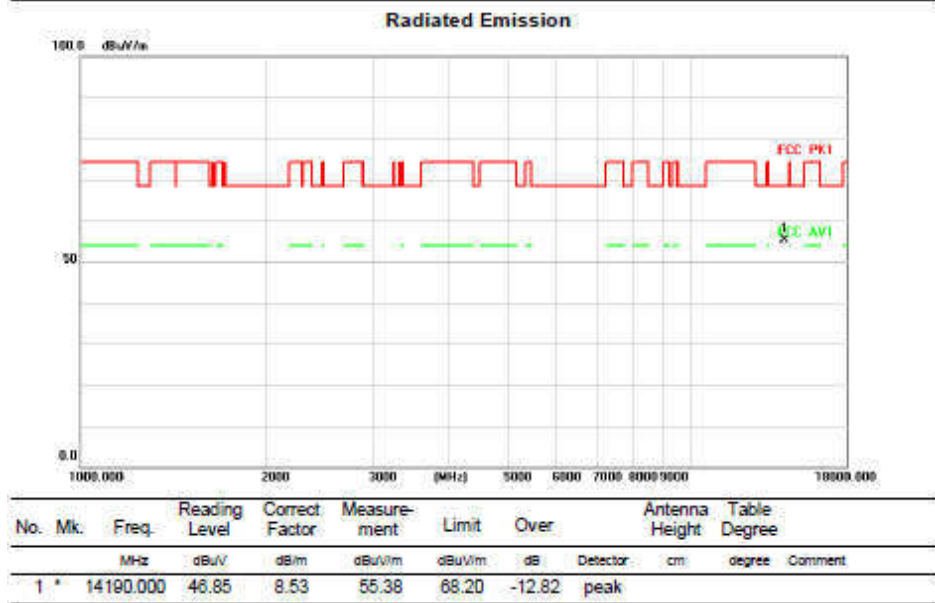
Test mode:11A-CDD

Test Channel:229

VERTICAL



HORIZONTAL

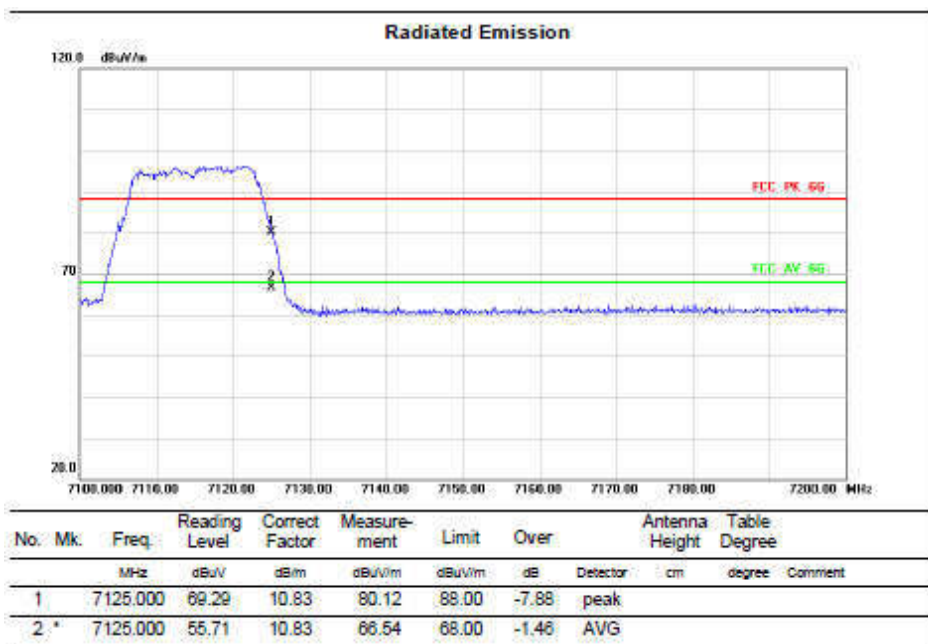
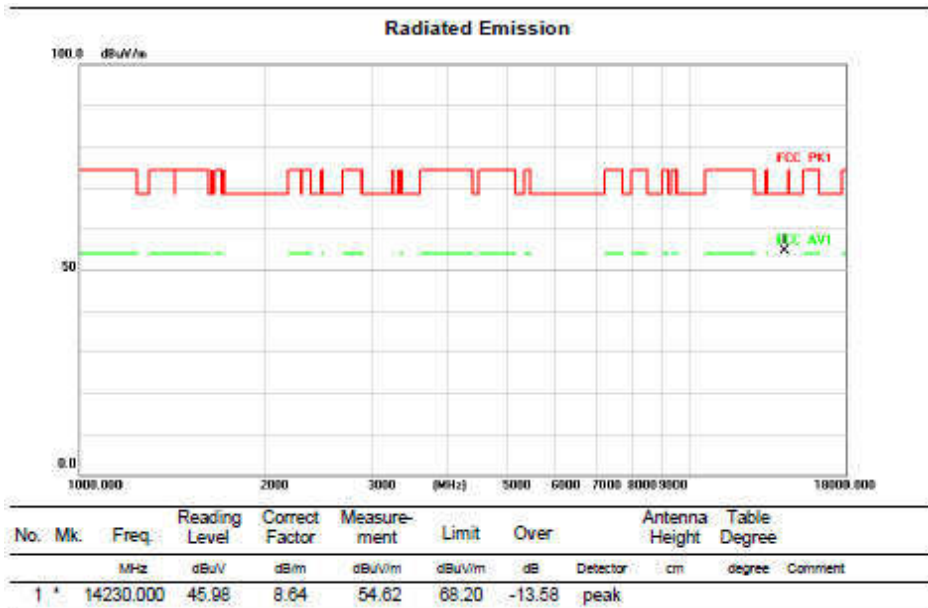


Above 1GHz (1GHz~18GHz)

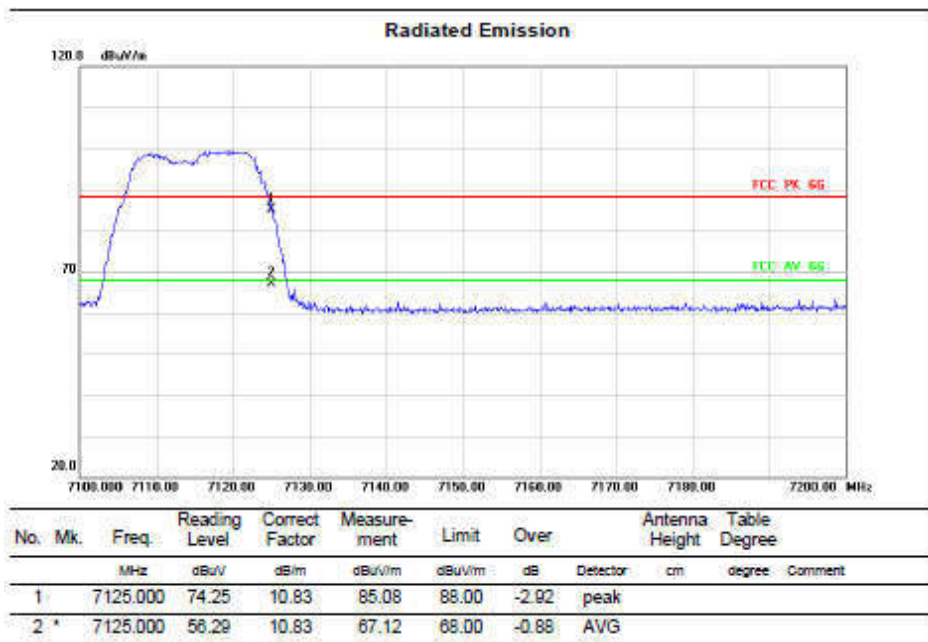
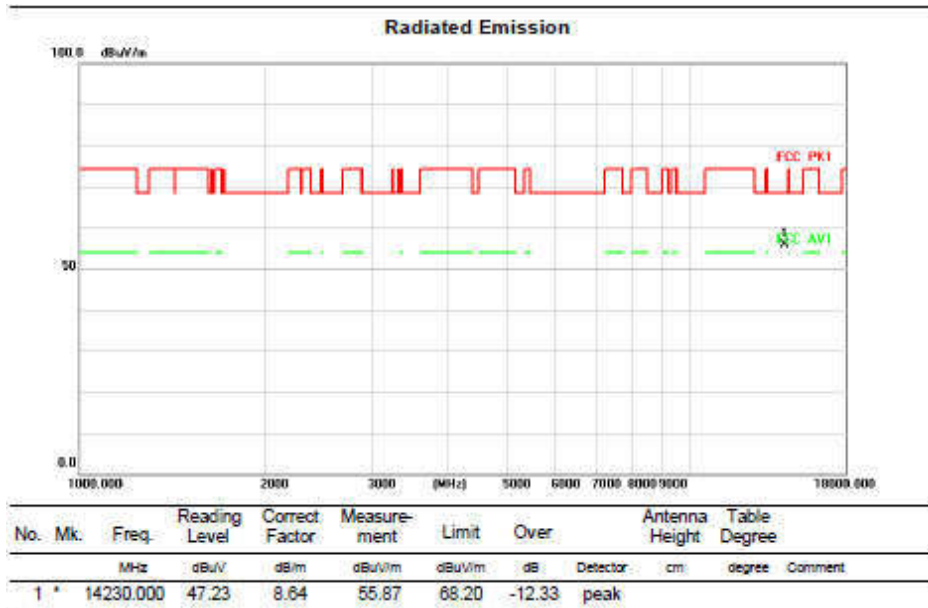
Test mode:11A-CDD

Test Channel:233

VERTICAL



HORIZONTAL

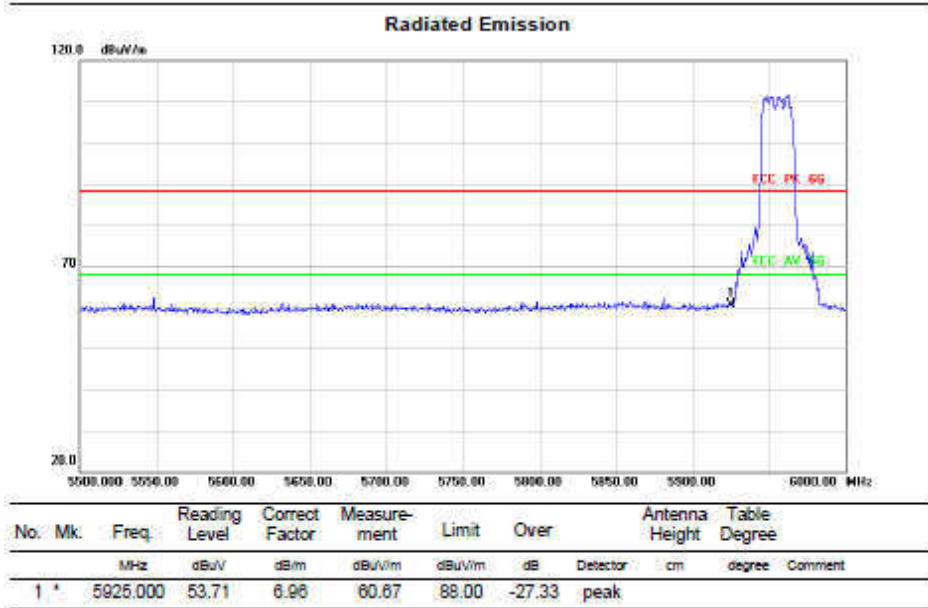
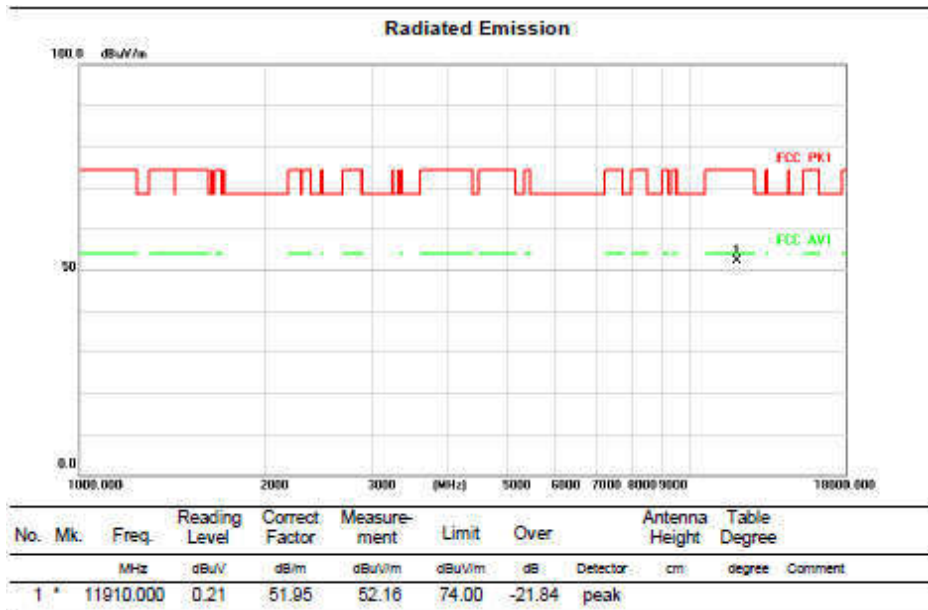


Above 1GHz (1GHz~18GHz)

Test mode:11AX20MIMO

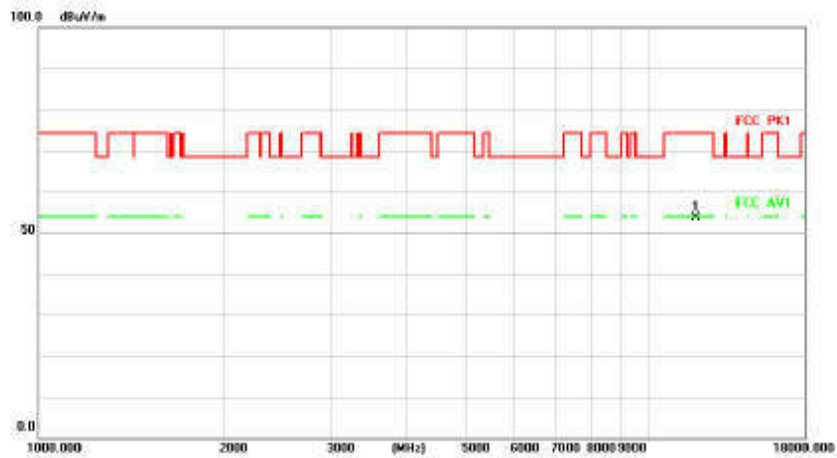
Test Channel:1

VERTICAL



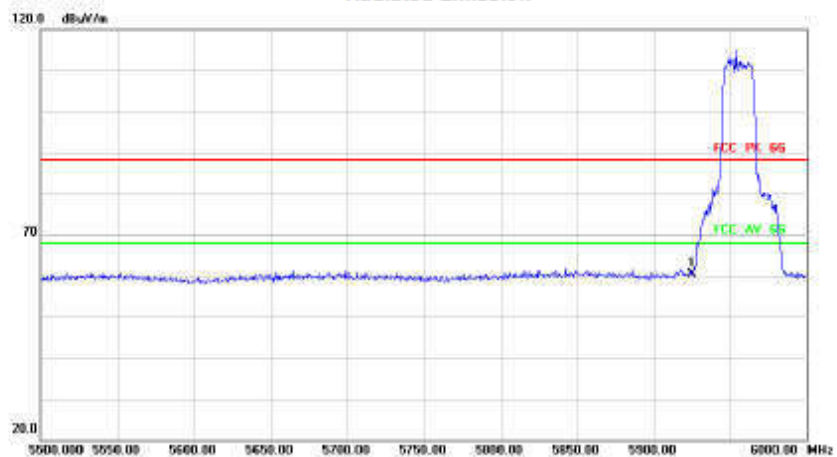
HORIZONTAL

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dBm	dBuV/m	dBuV/m	dB	cm	degree
1	*	11910.000	1.68	51.95	53.63	74.00	-20.37	peak	

Radiated Emission



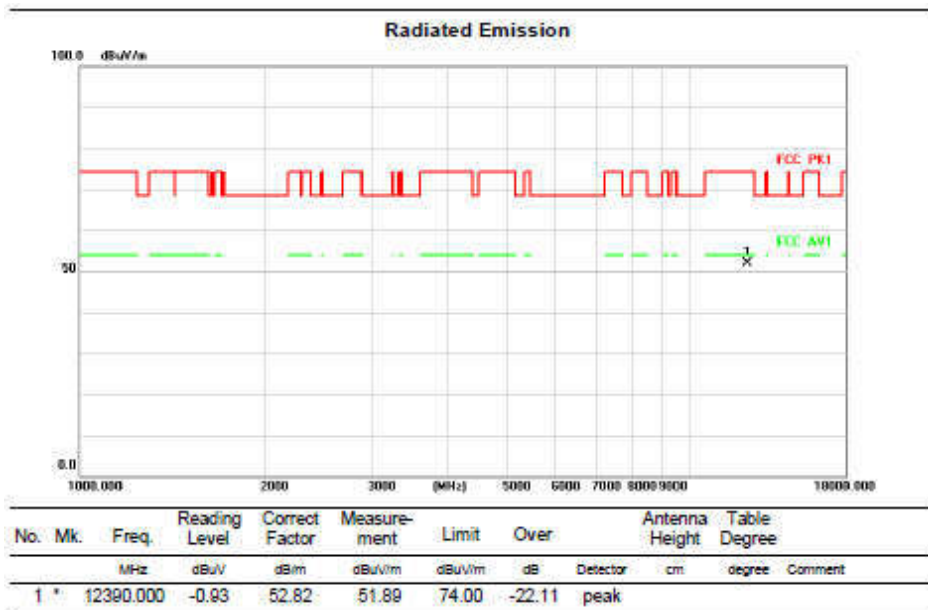
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dBm	dBuV/m	dBuV/m	dB	cm	degree
1	*	5825.000	53.37	6.96	60.33	88.00	-27.67	peak	

Above 1GHz (1GHz~18GHz)

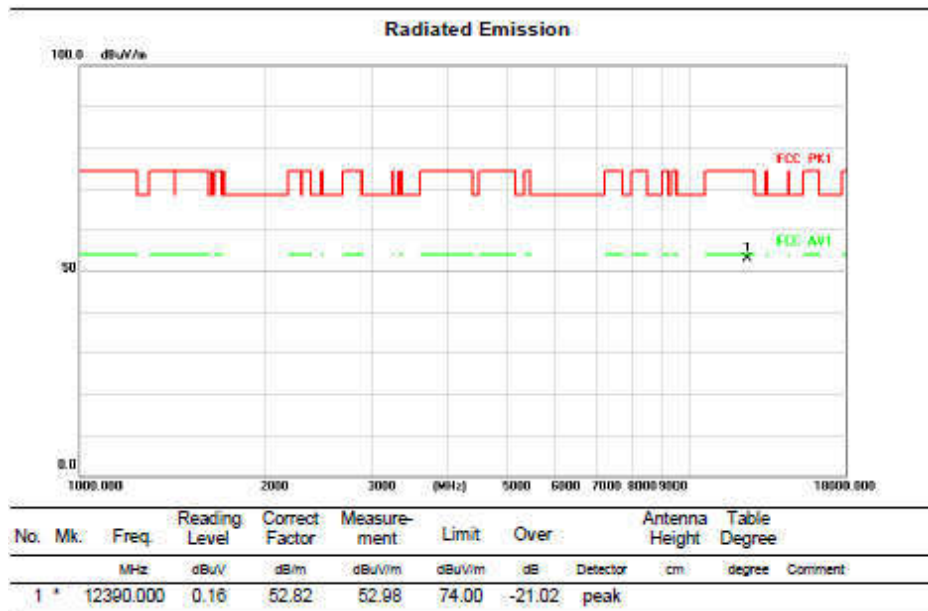
Test mode:11AX20MIMO

Test Channel:49

VERTICAL



HORIZONTAL

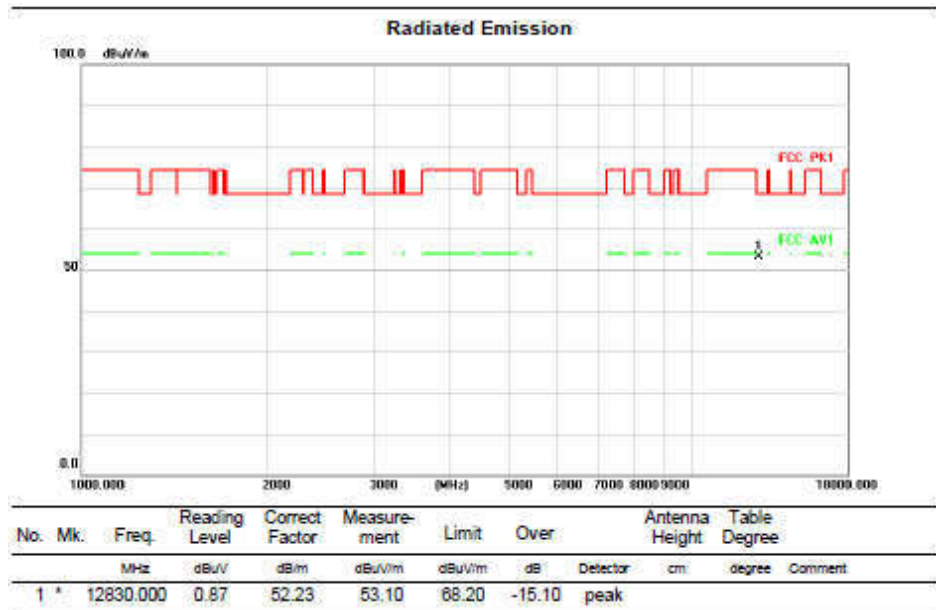


Above 1GHz (1GHz~18GHz)

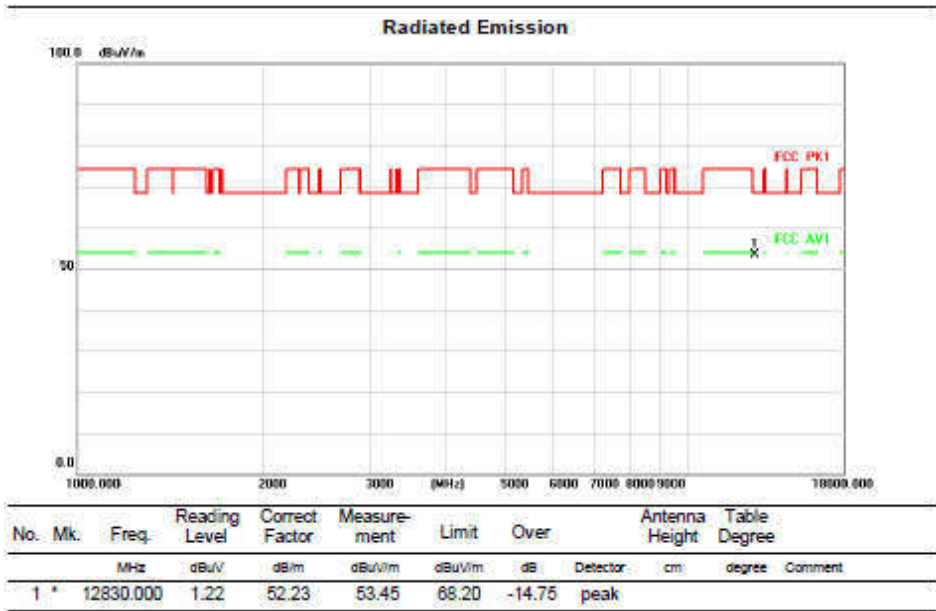
Test mode:11AX20MIMO

Test Channel:93

VERTICAL



HORIZONTAL

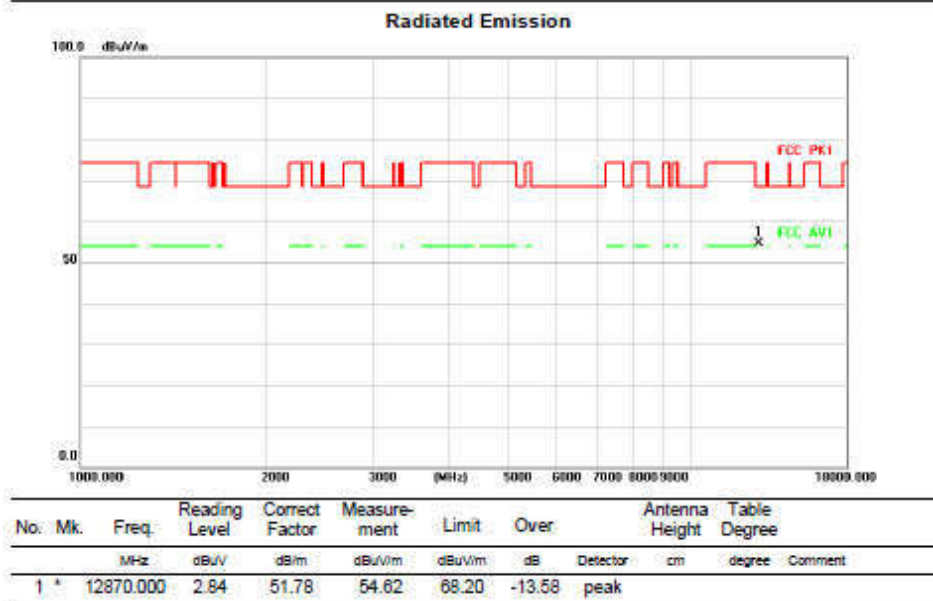


Above 1GHz (1GHz~18GHz)

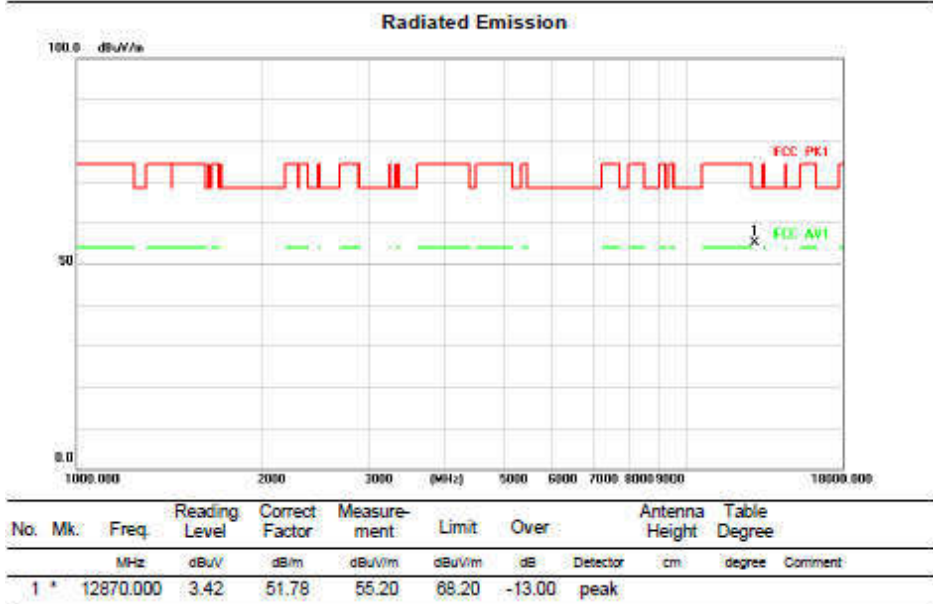
Test mode:11AX20MIMO

Test Channel:97

VERTICAL



HORIZONTAL

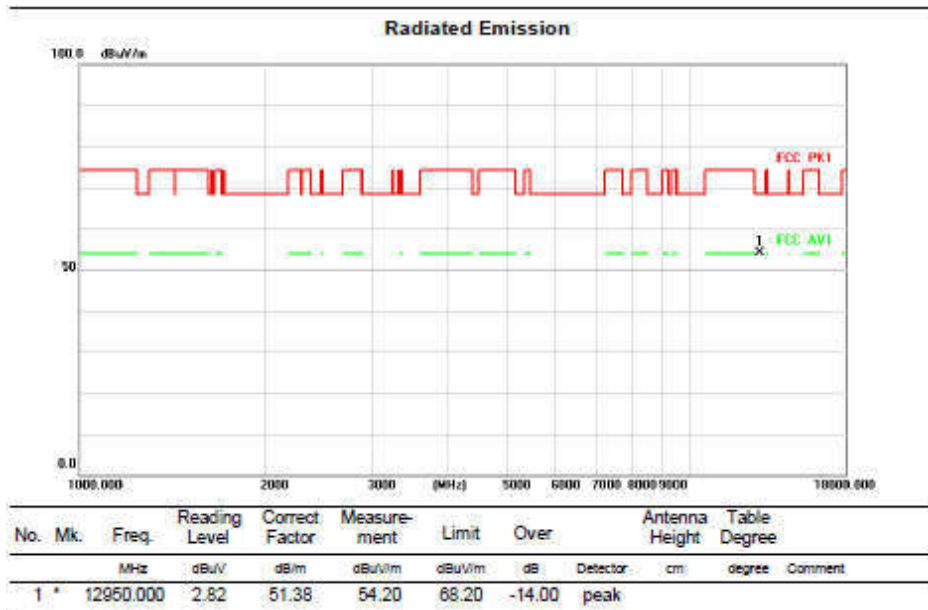


Above 1GHz (1GHz~18GHz)

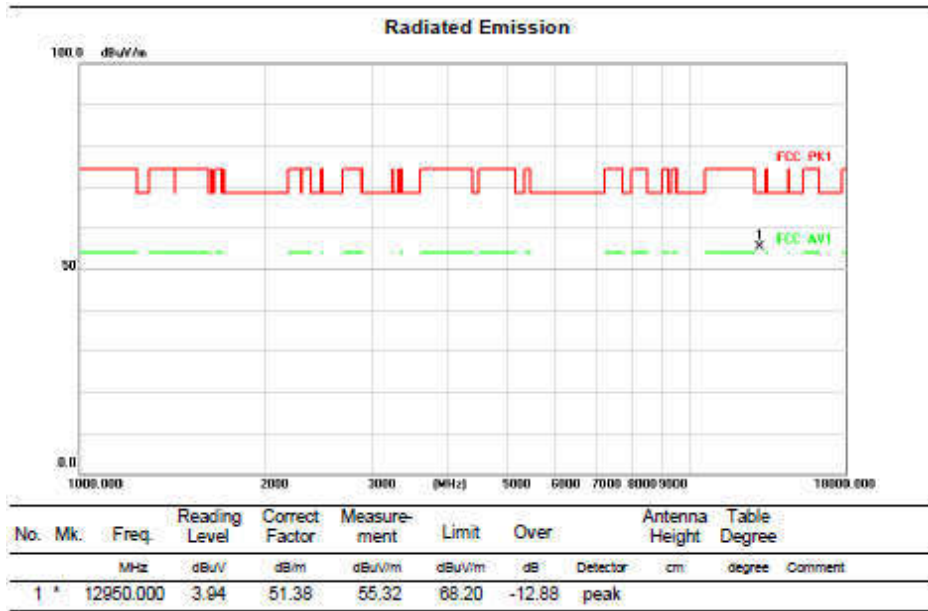
Test mode:11AX20MIMO

Test Channel:105

VERTICAL



HORIZONTAL

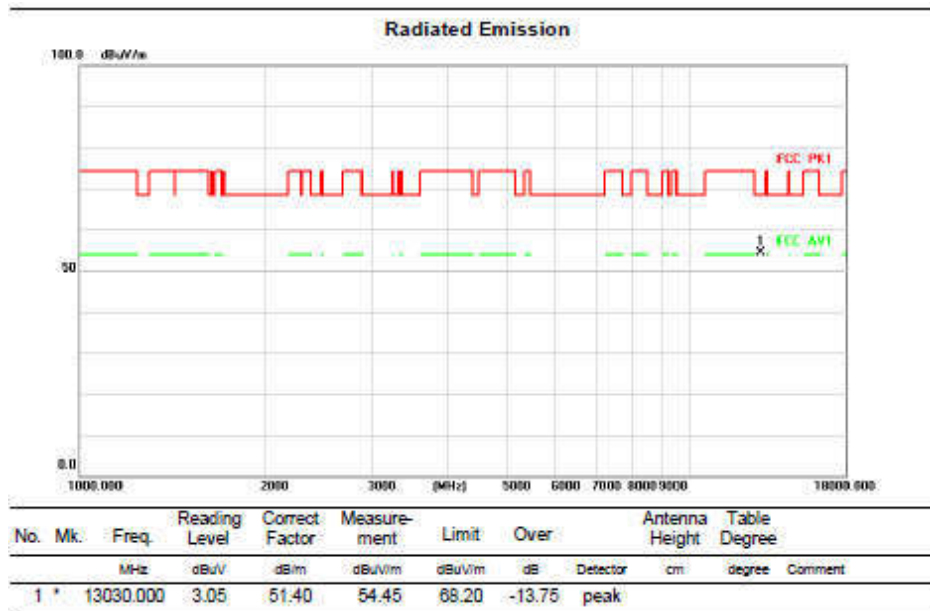


Above 1GHz (1GHz~18GHz)

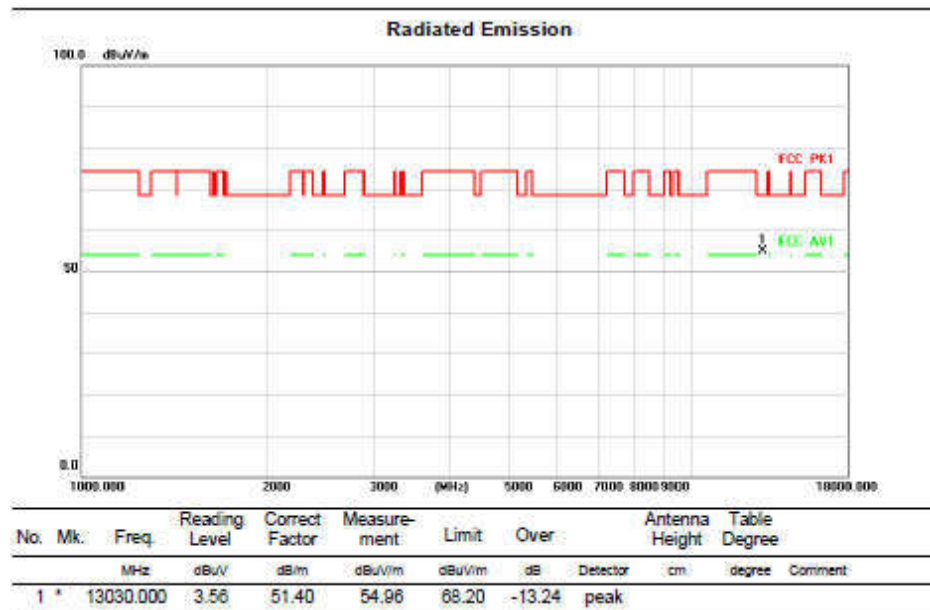
Test mode:11AX20MIMO

Test Channel:113

VERTICAL



HORIZONTAL

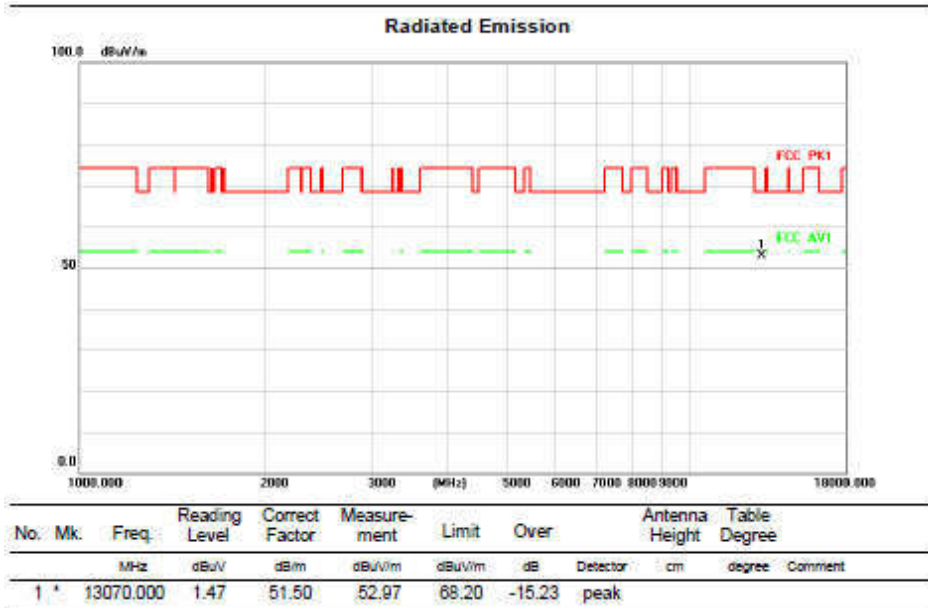


Above 1GHz (1GHz~18GHz)

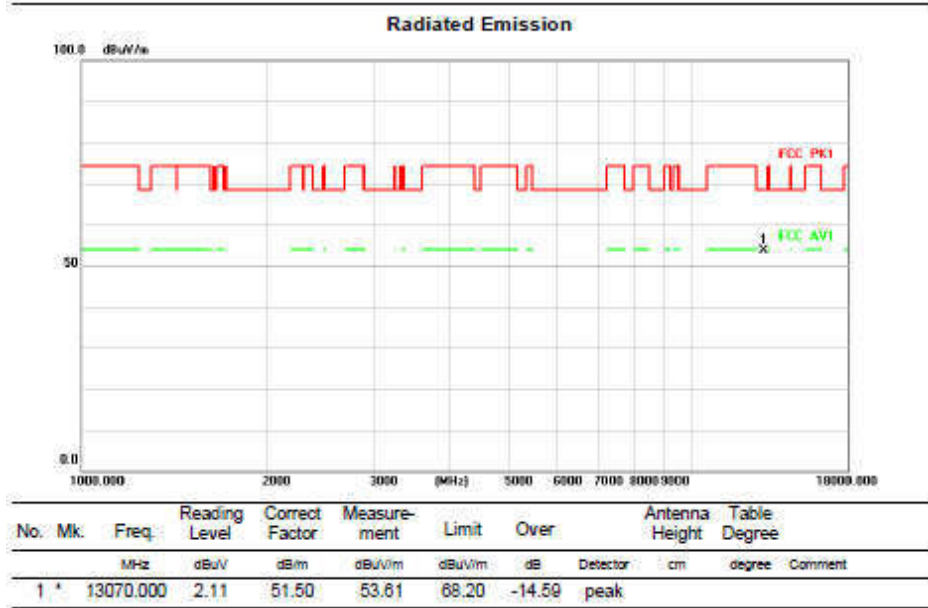
Test mode:11AX20MIMO

Test Channel:117

VERTICAL



HORIZONTAL

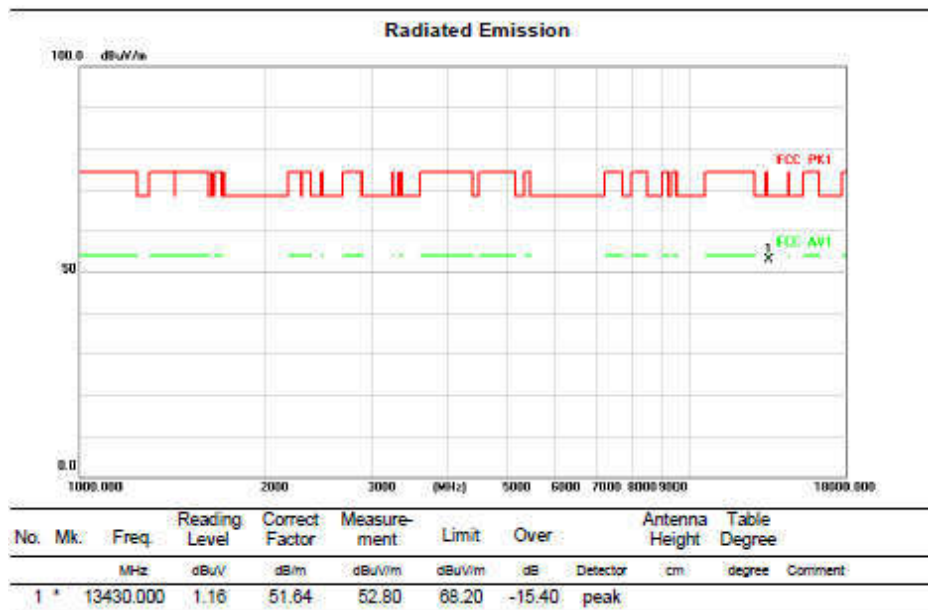


Above 1GHz (1GHz~18GHz)

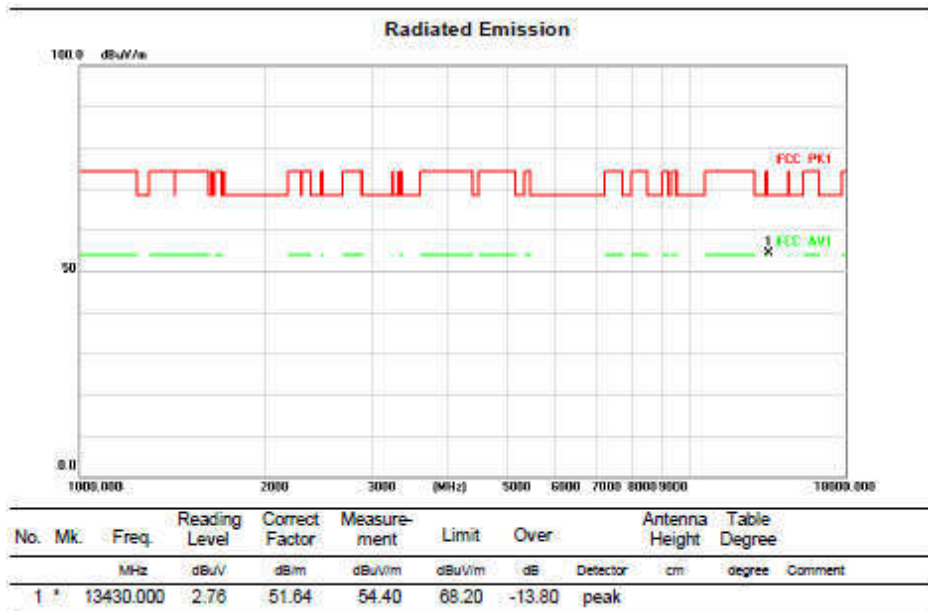
Test mode:11AX20MIMO

Test Channel:153

VERTICAL



HORIZONTAL

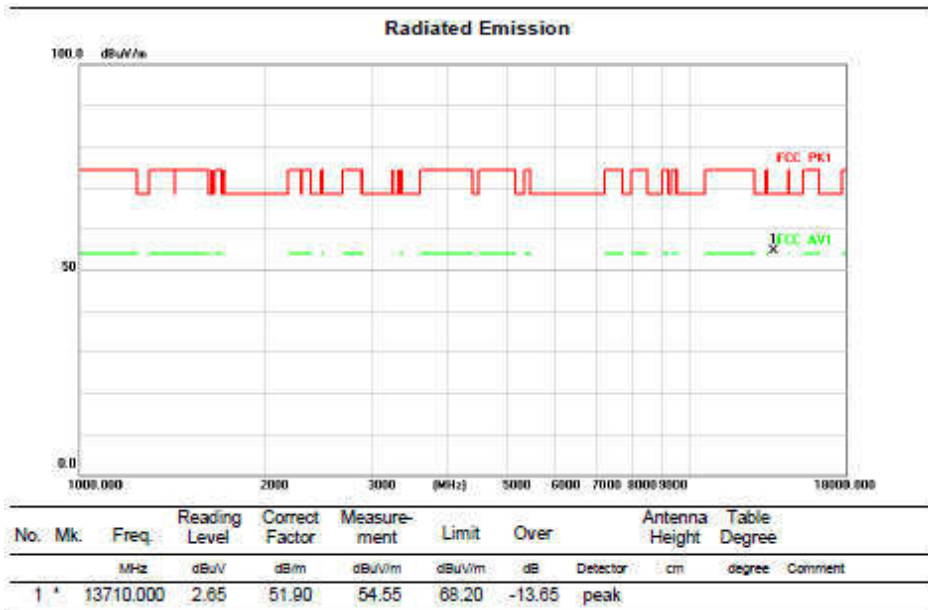


Above 1GHz (1GHz~18GHz)

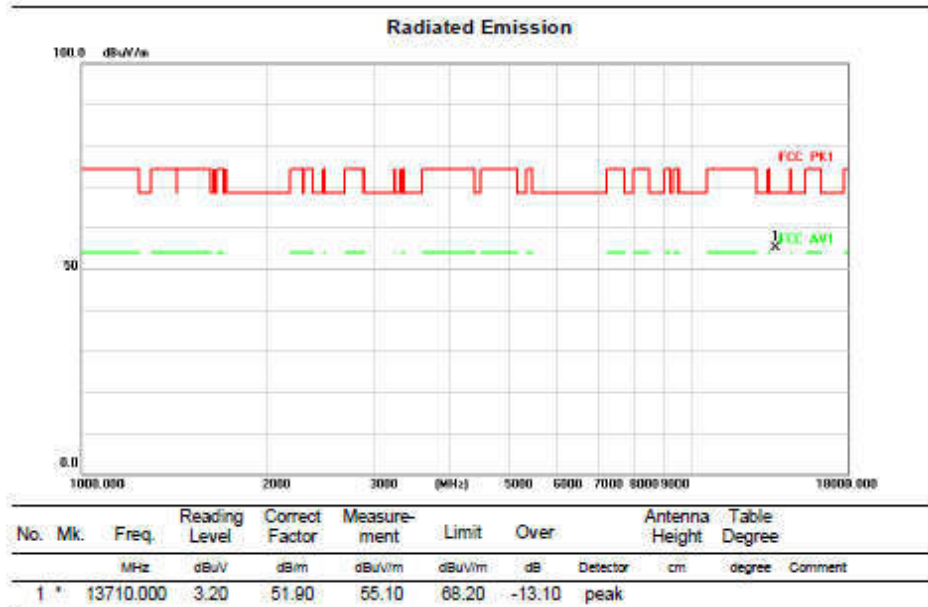
Test mode:11AX20MIMO

Test Channel:181

VERTICAL



HORIZONTAL

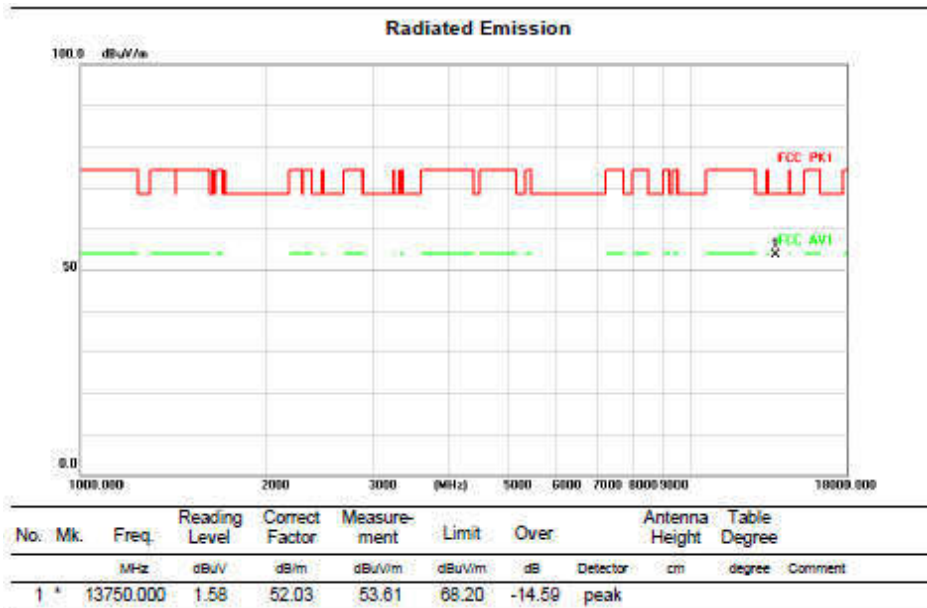


Above 1GHz (1GHz~18GHz)

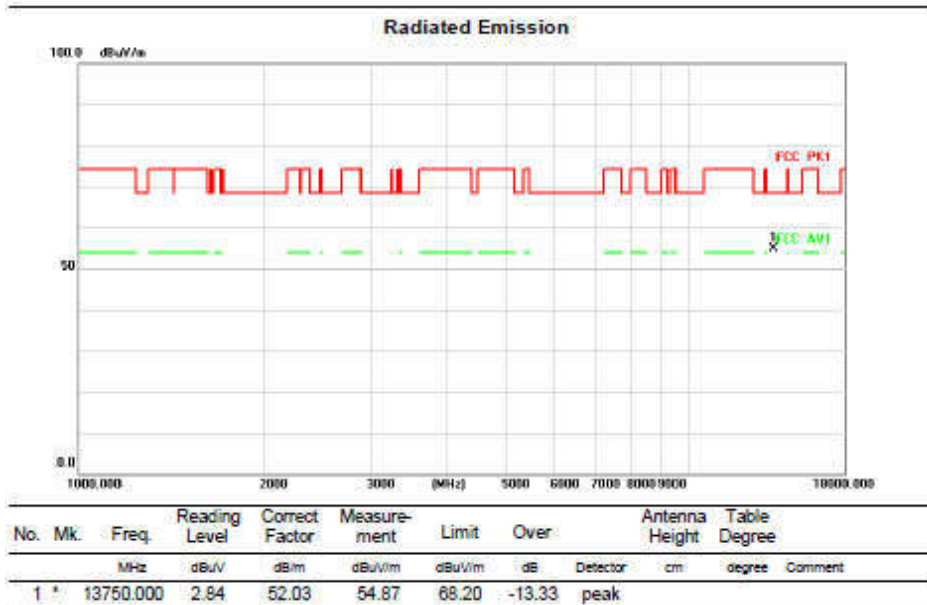
Test mode:11AX20MIMO

Test Channel:185

VERTICAL



HORIZONTAL

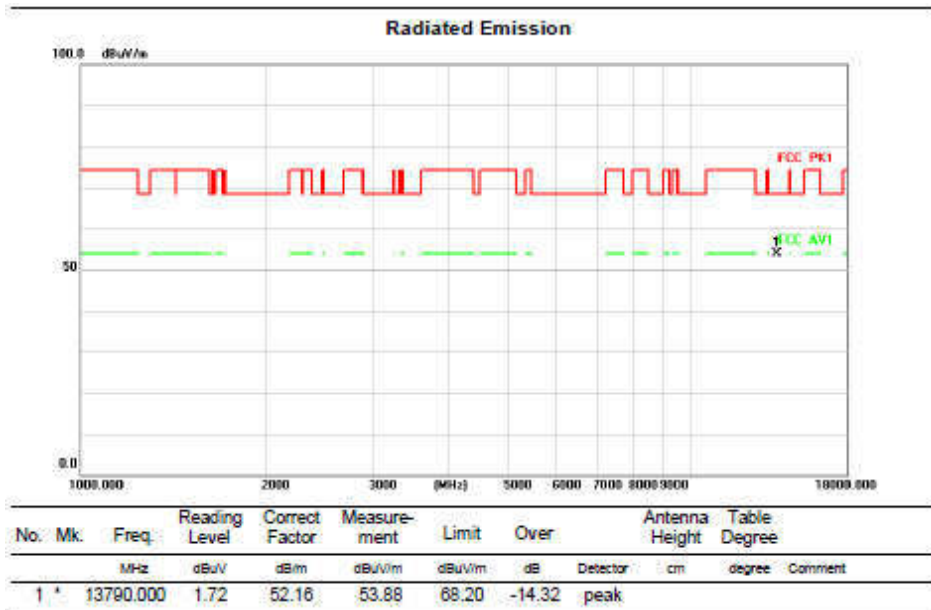


Above 1GHz (1GHz~18GHz)

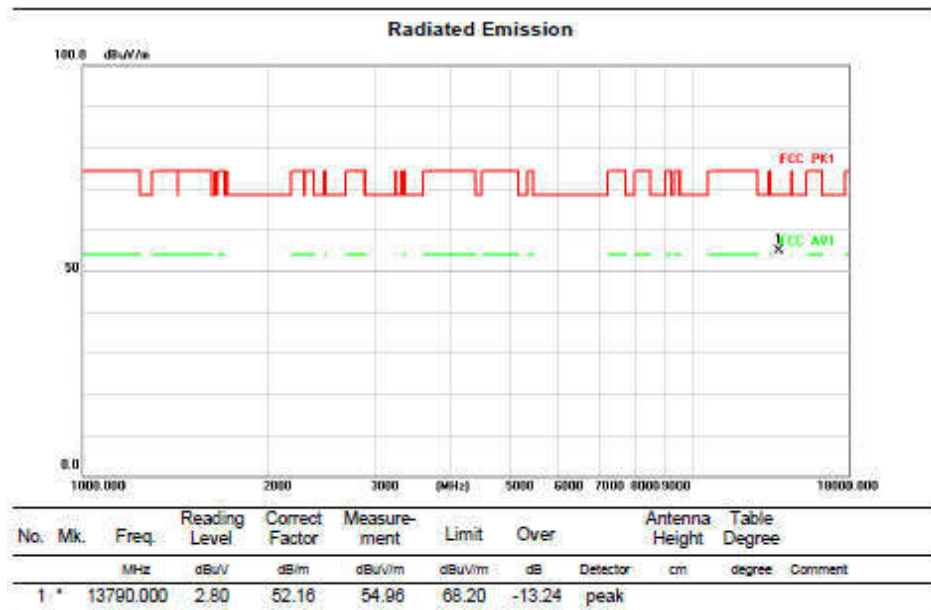
Test mode:11AX20MIMO

Test Channel:189

VERTICAL



HORIZONTAL

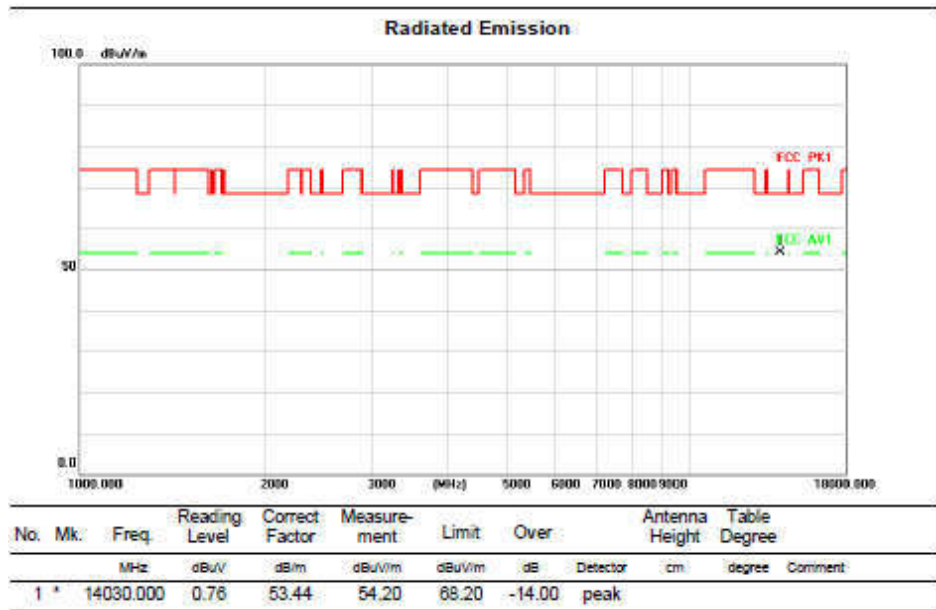


Above 1GHz (1GHz~18GHz)

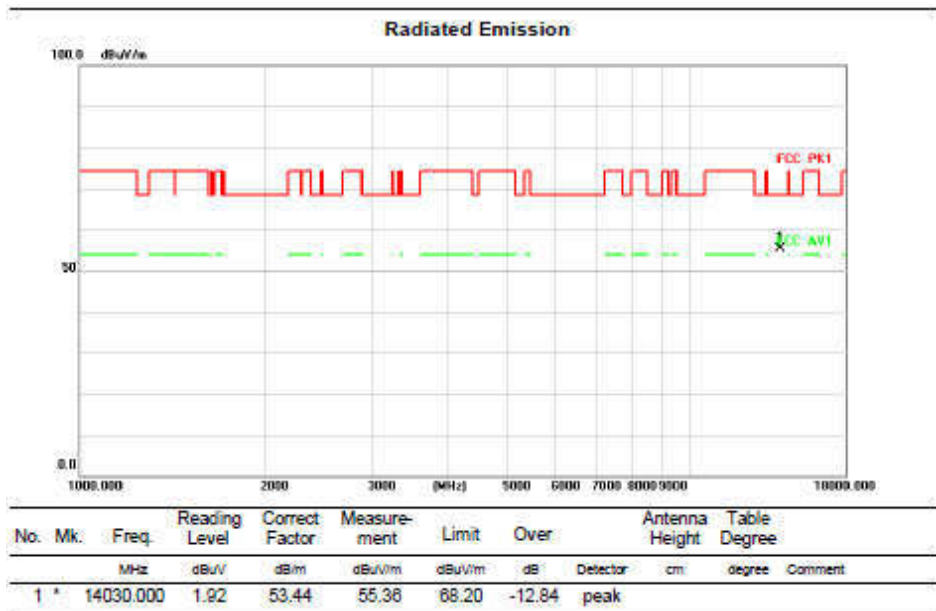
Test mode:11AX20MIMO

Test Channel:213

VERTICAL



HORIZONTAL

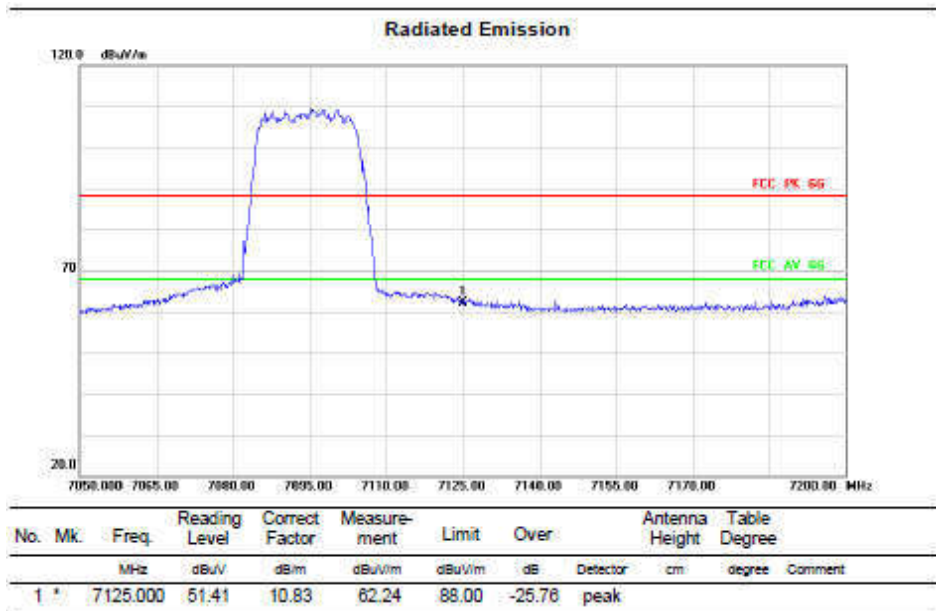
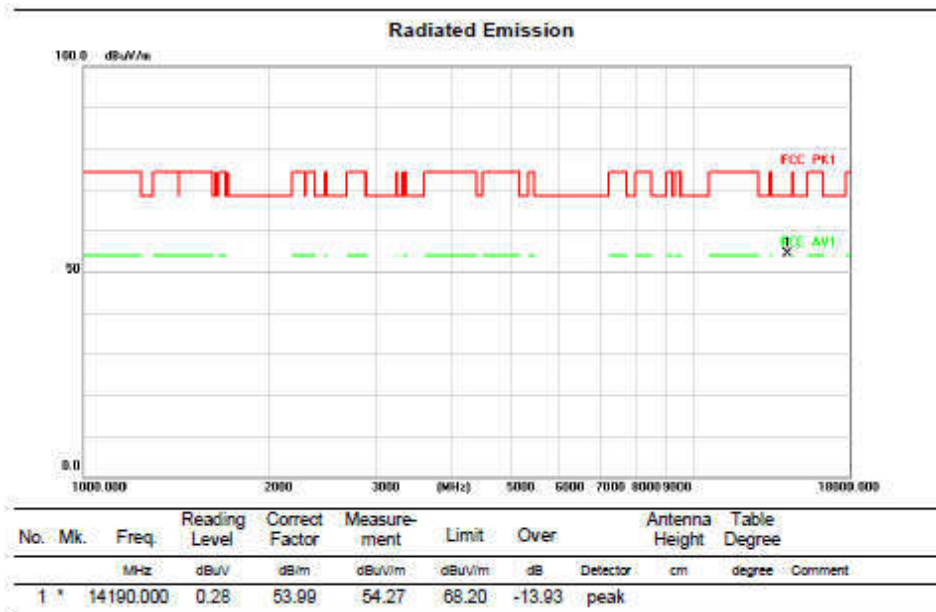


Above 1GHz (1GHz~18GHz)

Test mode:11AX20MIMO

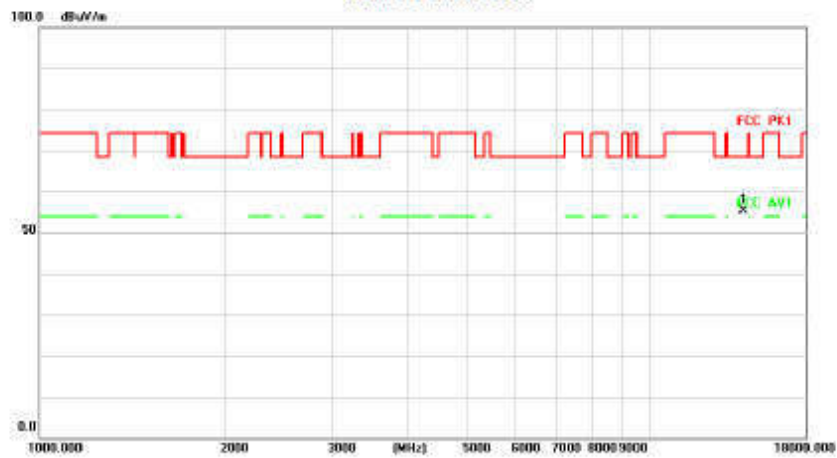
Test Channel:229

VERTICAL



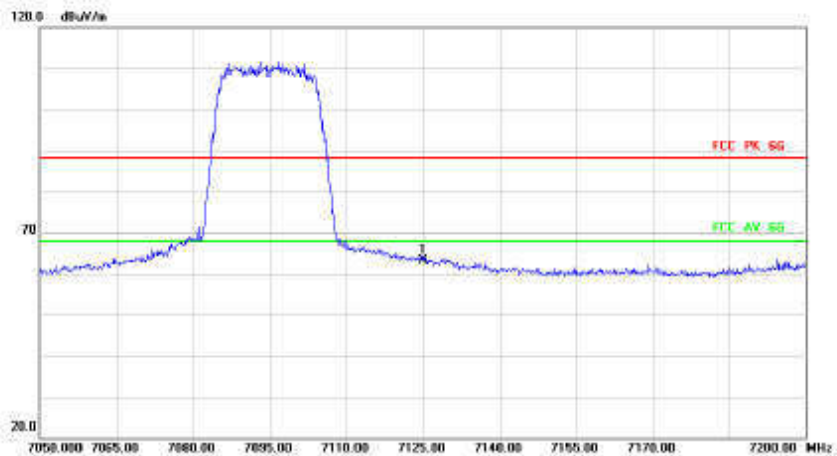
HORIZONTAL

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dSm	dBuV/m	dBuV/m	dB	cm	degree
1	*	14190.000	1.32	-53.99	55.31	68.20	-12.89	peak	

Radiated Emission



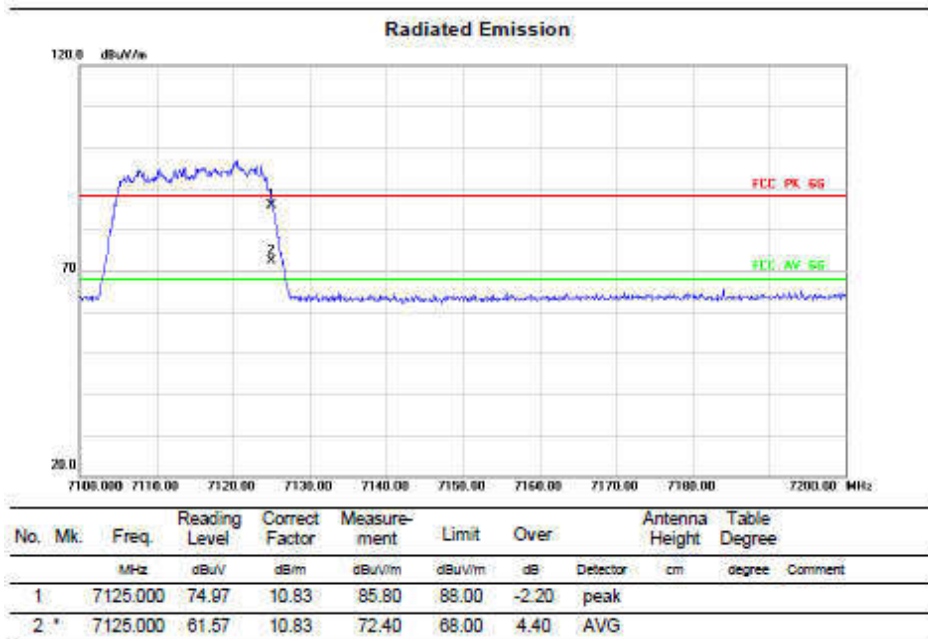
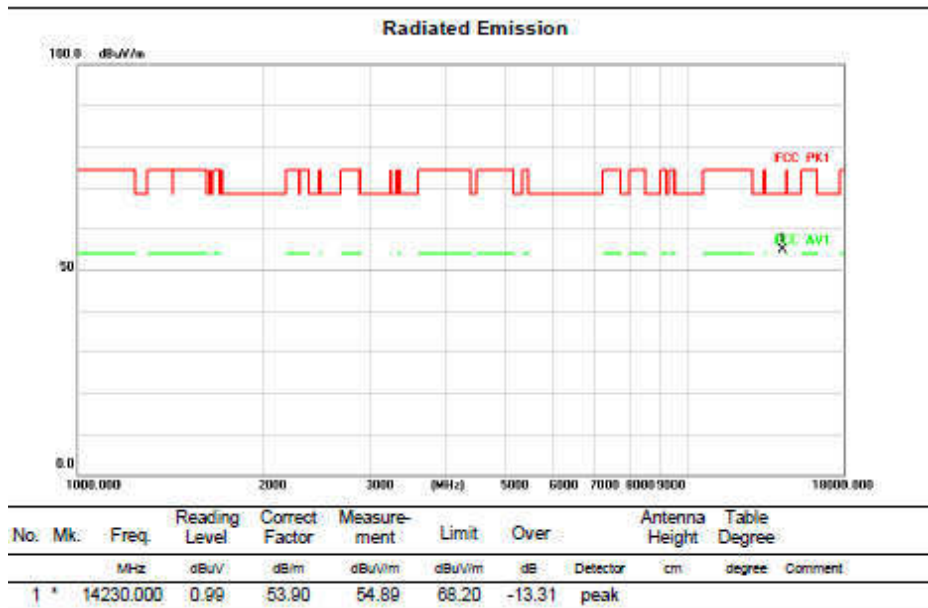
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dSm	dBuV/m	dBuV/m	dB	cm	degree
1	*	7125.000	52.20	10.83	63.03	88.00	-24.97	peak	

Above 1GHz (1GHz~18GHz)

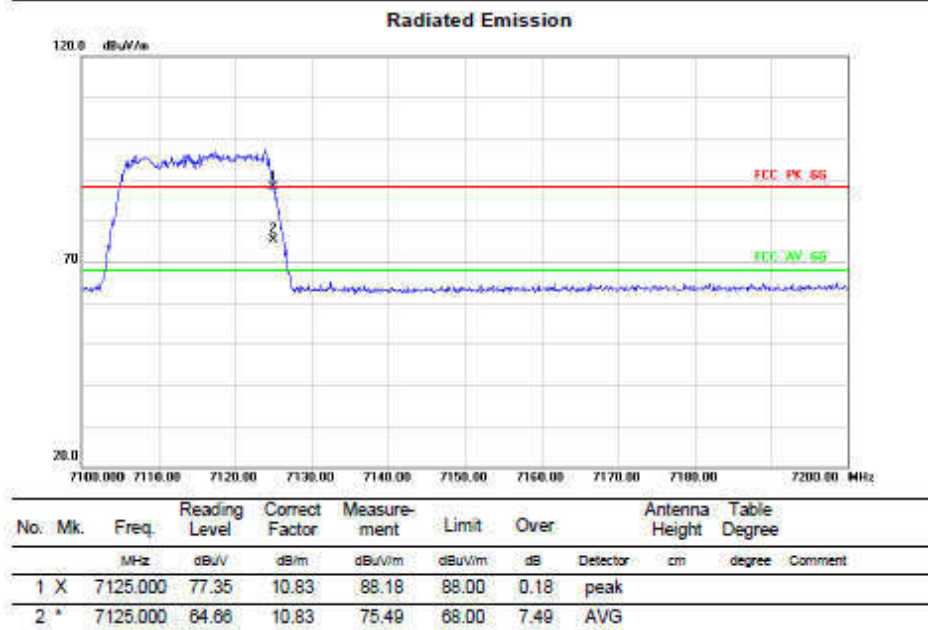
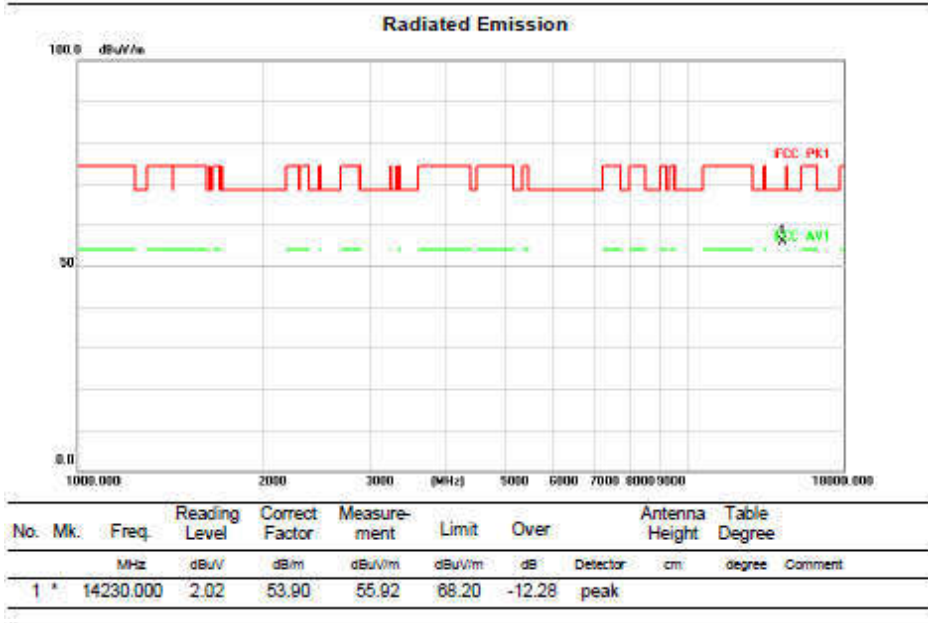
Test mode:11AX20MIMO

Test Channel:233

VERTICAL



HORIZONTAL

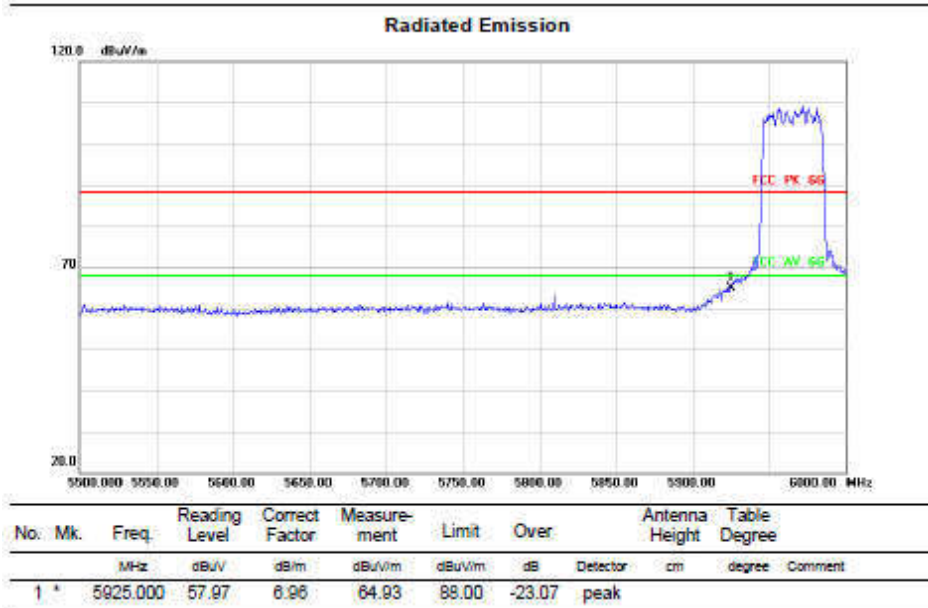
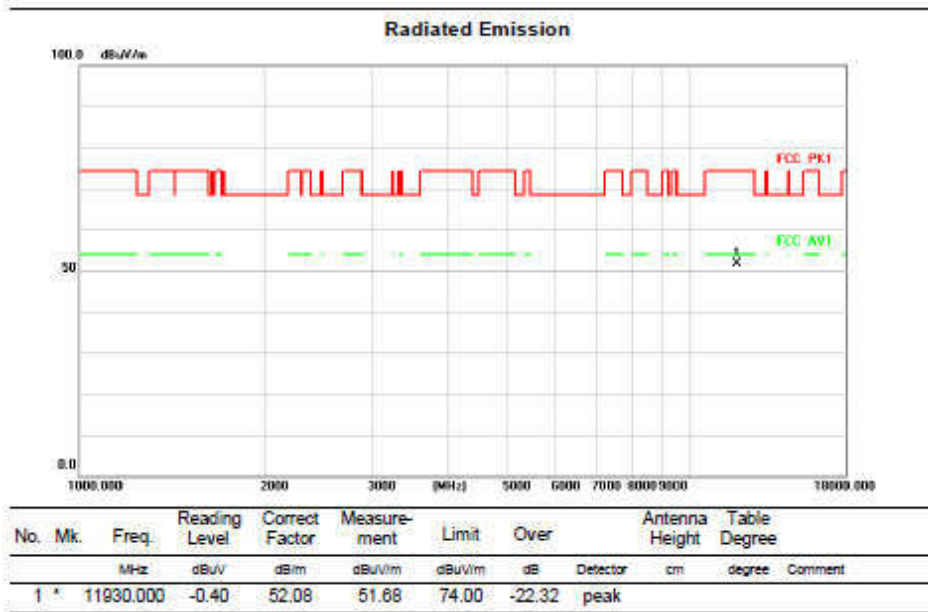


Above 1GHz (1GHz~18GHz)

Test mode:11AX40MIMO

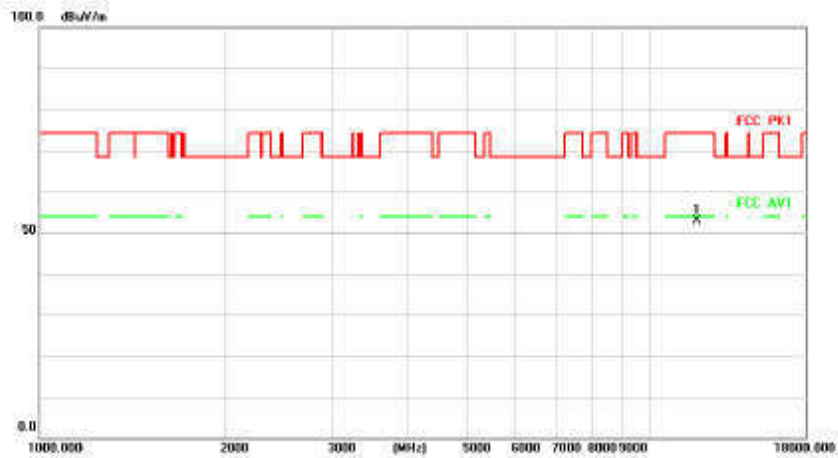
Test Channel:3

VERTICAL



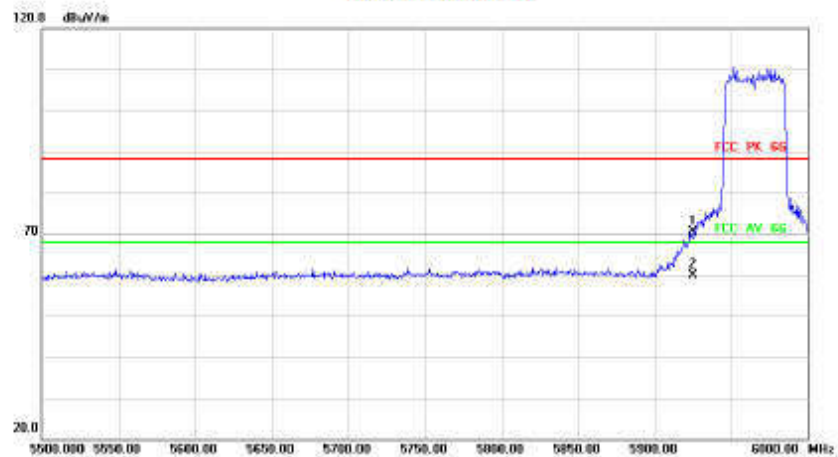
HORIZONTAL

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dBm	dBuV/m	dBuV/m	dB	cm	degree
1	*	11930.000	0.77	52.08	52.85	74.00	-21.15	peak	

Radiated Emission



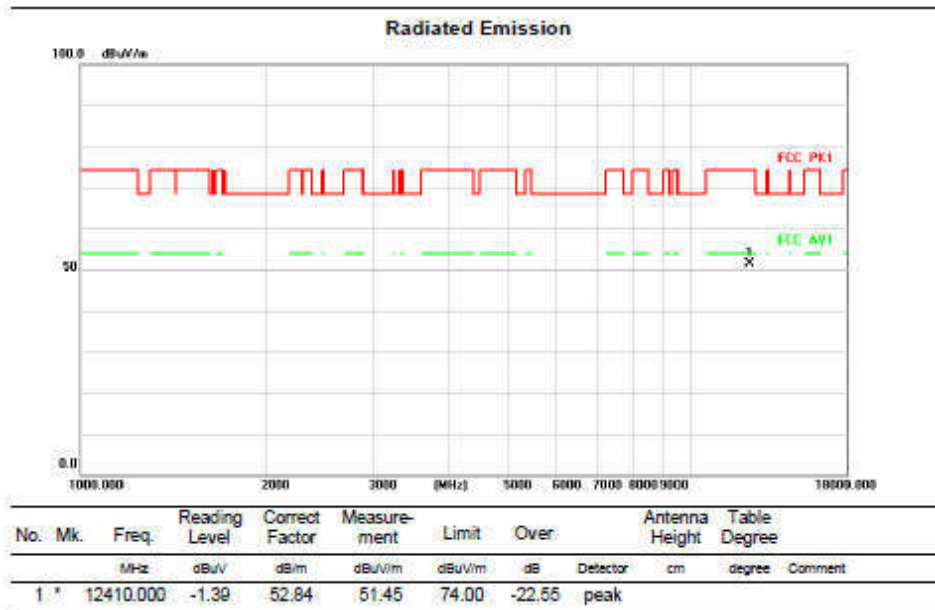
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dBm	dBuV/m	dBuV/m	dB	cm	degree
1		5925.000	63.33	6.96	70.29	88.00	-17.71	peak	
2	*	5925.000	52.91	6.96	59.87	68.00	-8.13	AVG	

Above 1GHz (1GHz~18GHz)

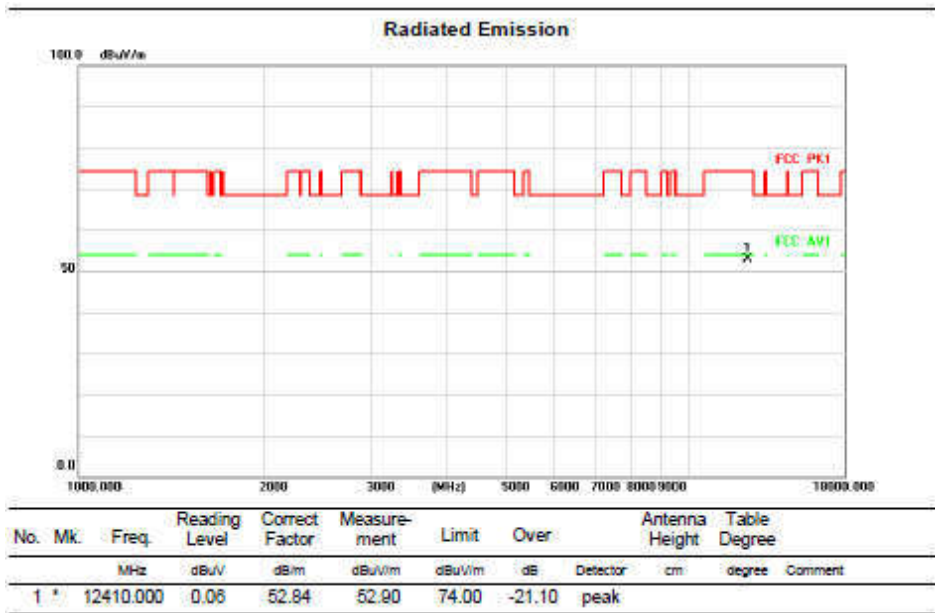
Test mode:11AX40MIMO

Test Channel:51

VERTICAL



HORIZONTAL

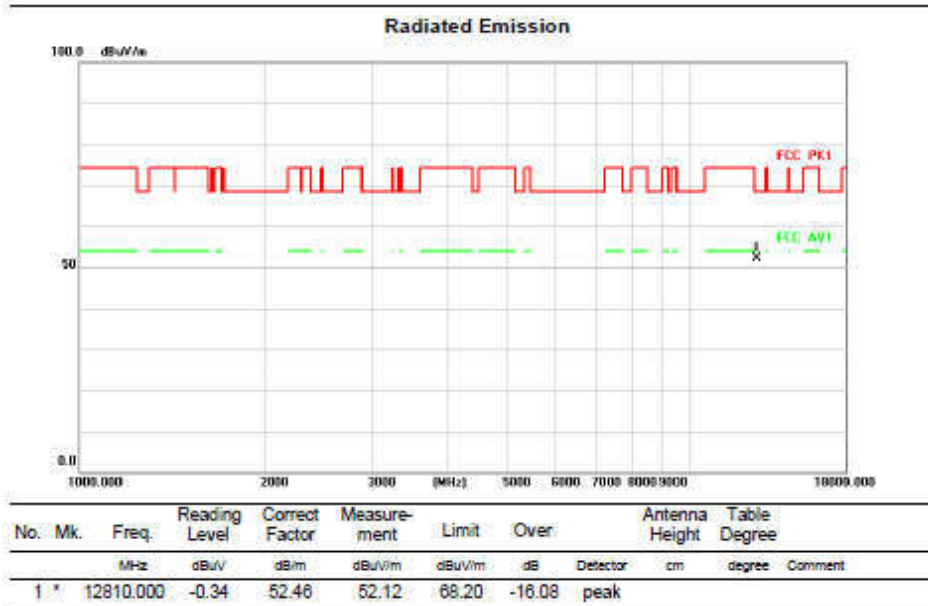


Above 1GHz (1GHz~18GHz)

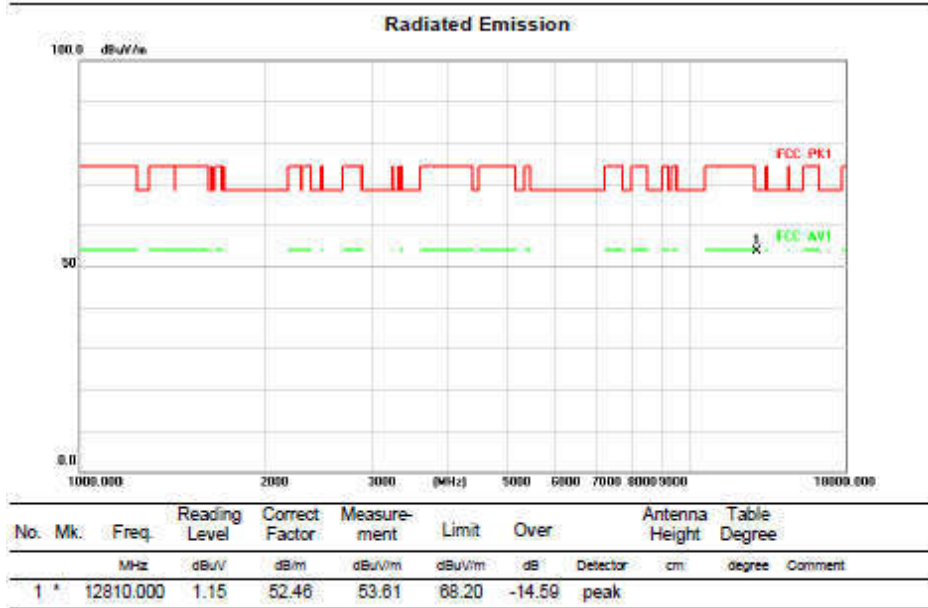
Test mode:11AX40MIMO

Test Channel:91

VERTICAL



HORIZONTAL

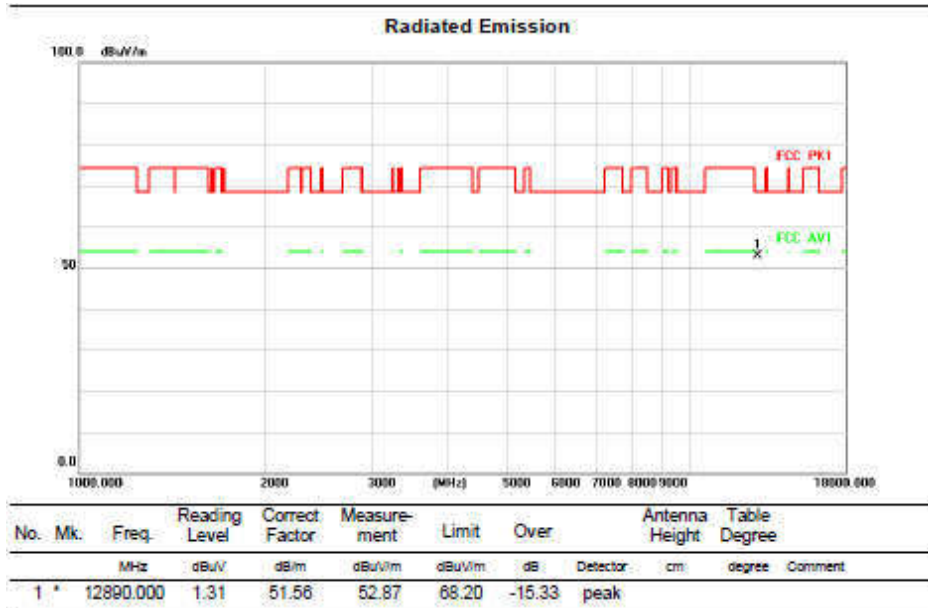


Above 1GHz (1GHz~18GHz)

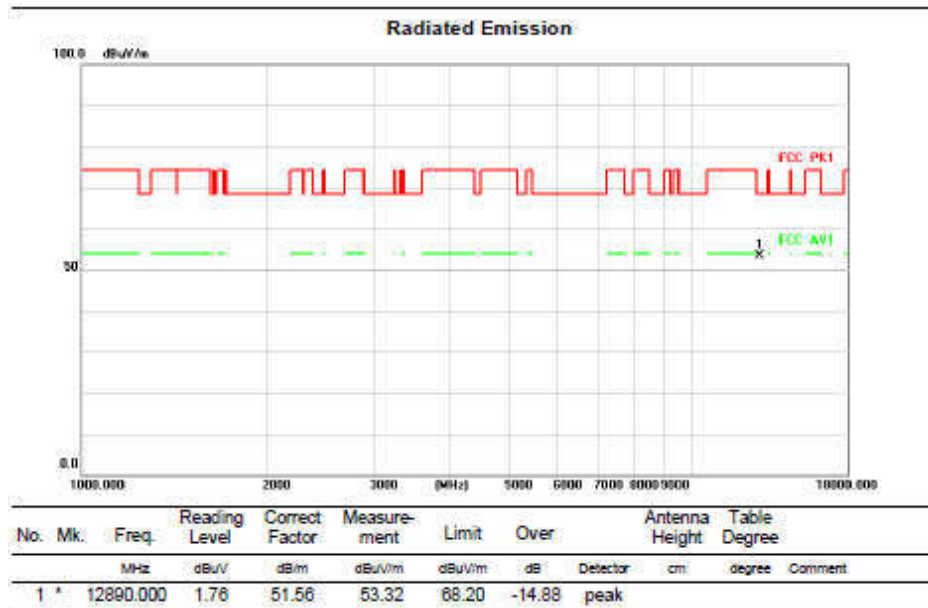
Test mode:11AX40MIMO

Test Channel:99

VERTICAL



HORIZONTAL

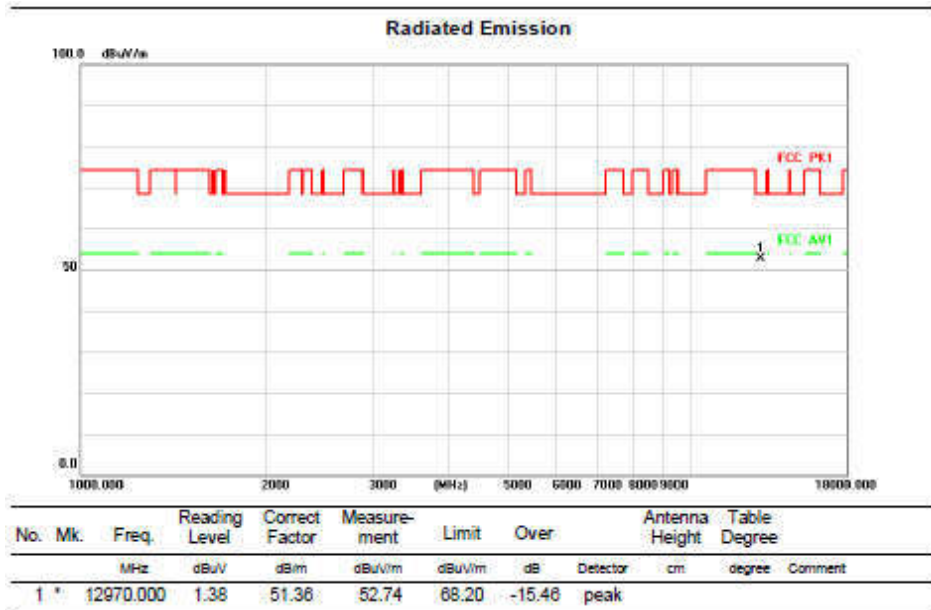


Above 1GHz (1GHz~18GHz)

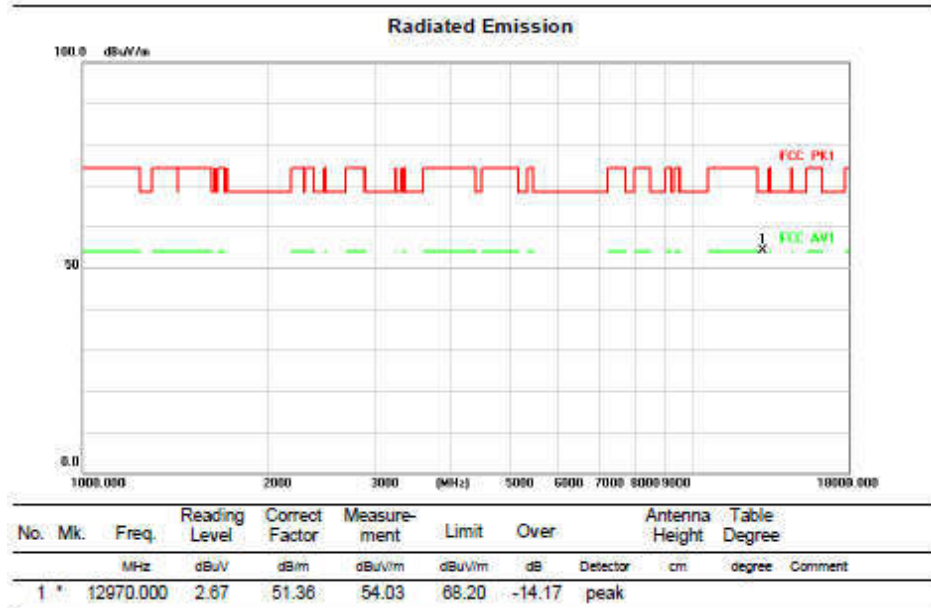
Test mode:11AX40MIMO

Test Channel:107

VERTICAL



HORIZONTAL

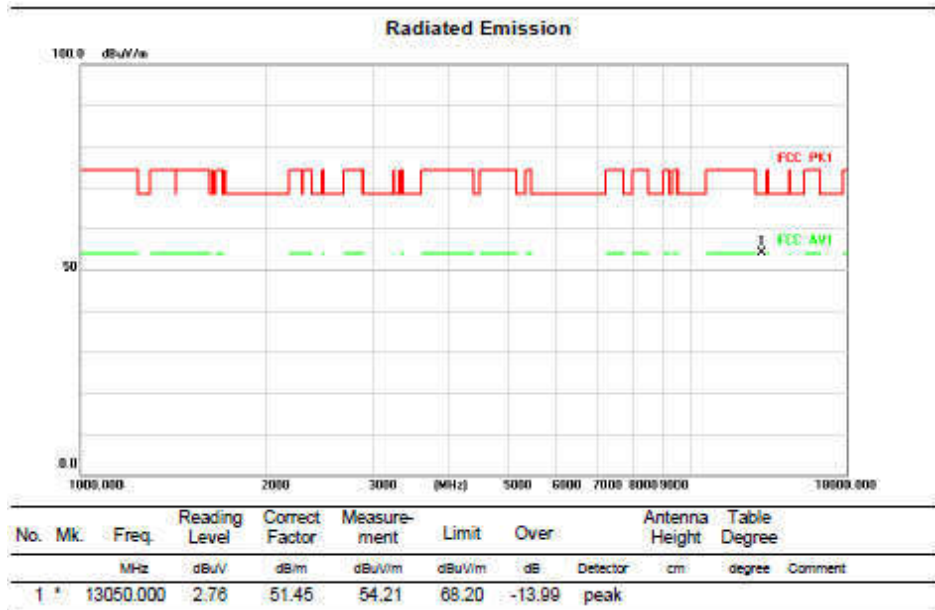


Above 1GHz (1GHz~18GHz)

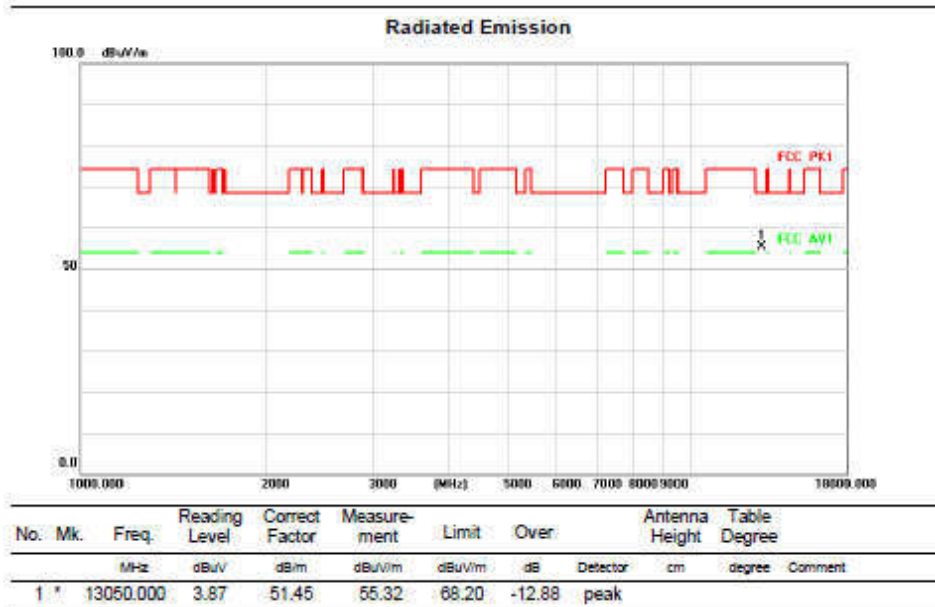
Test mode:11AX40MIMO

Test Channel:115

VERTICAL



HORIZONTAL

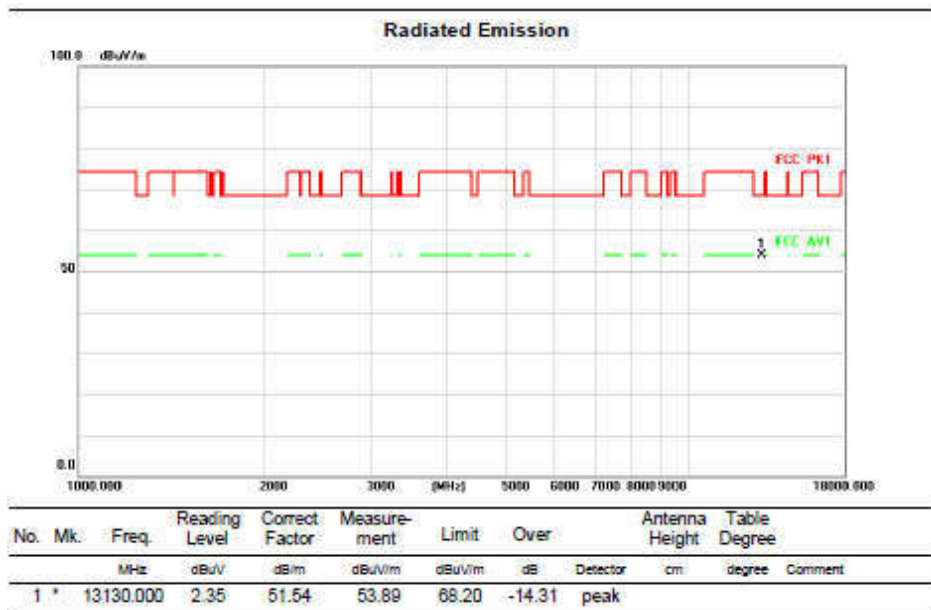


Above 1GHz (1GHz~18GHz)

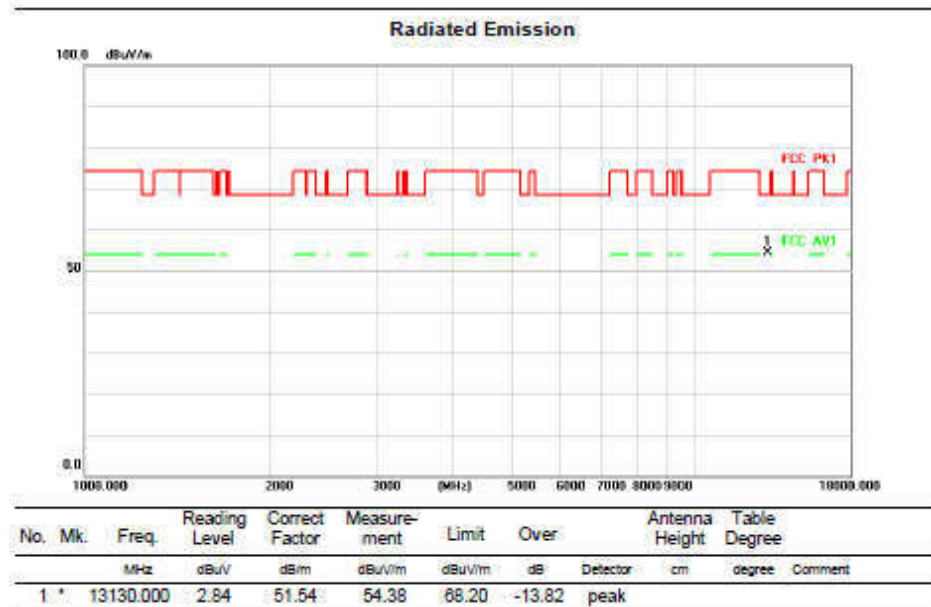
Test mode:11AX40MIMO

Test Channel:123

VERTICAL



HORIZONTAL

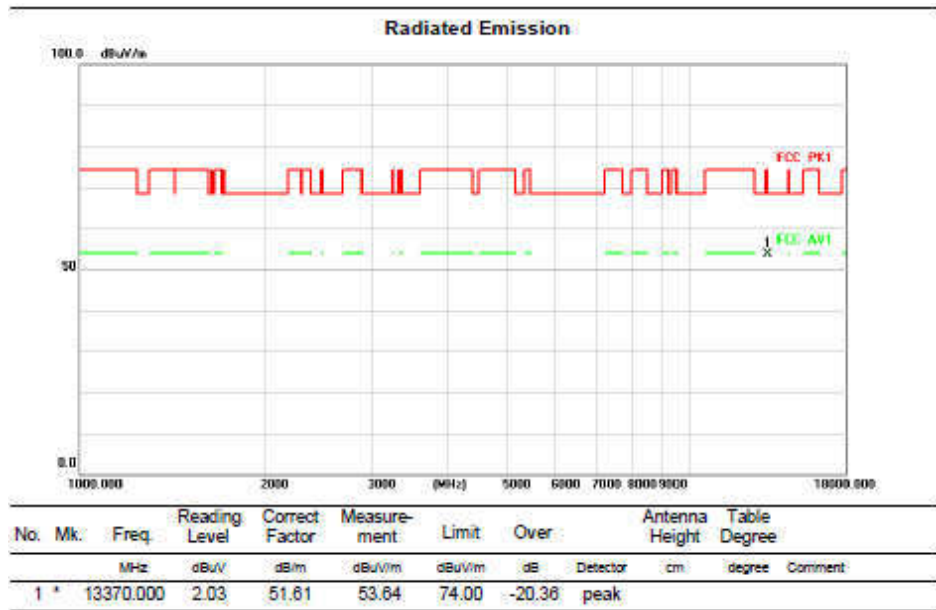


Above 1GHz (1GHz~18GHz)

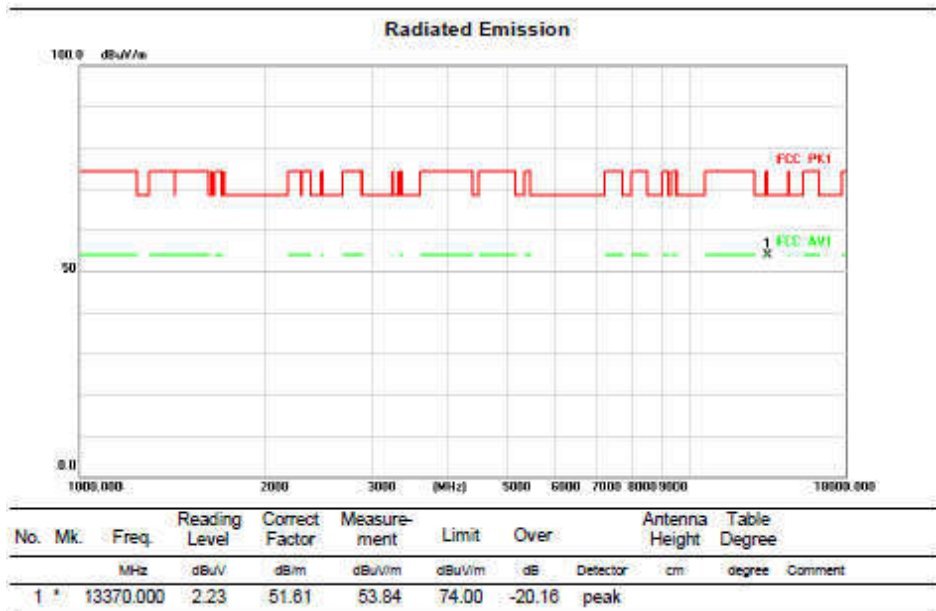
Test mode:11AX40MIMO

Test Channel:147

VERTICAL



HORIZONTAL

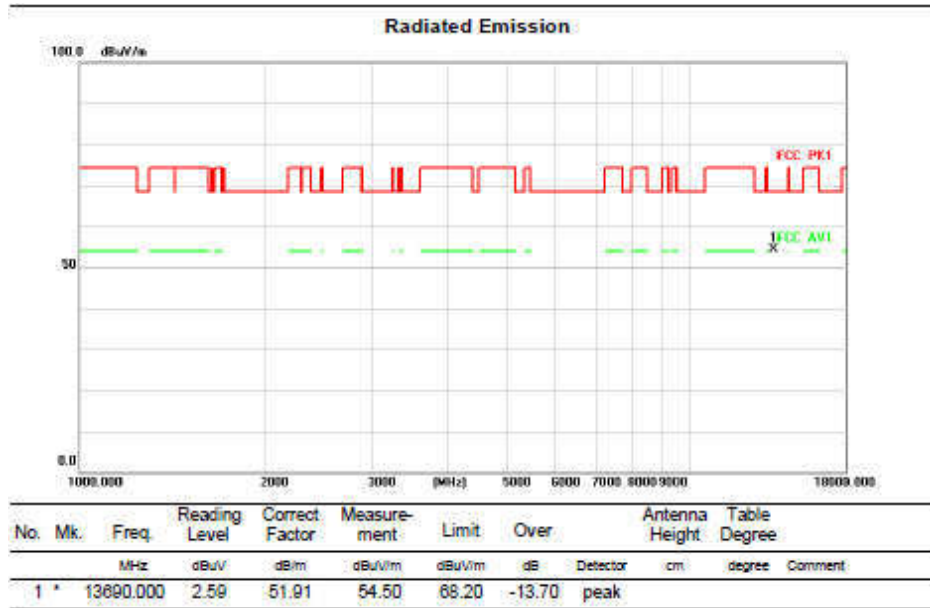


Above 1GHz (1GHz~18GHz)

Test mode:11AX40MIMO

Test Channel:179

VERTICAL



HORIZONTAL

