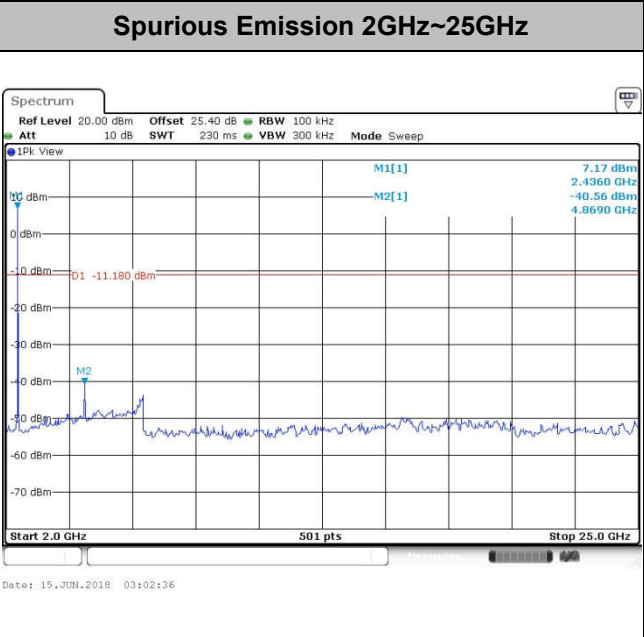
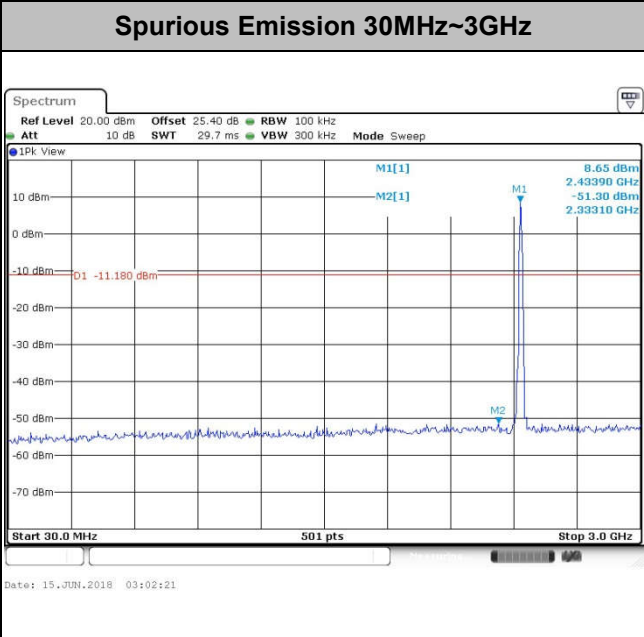
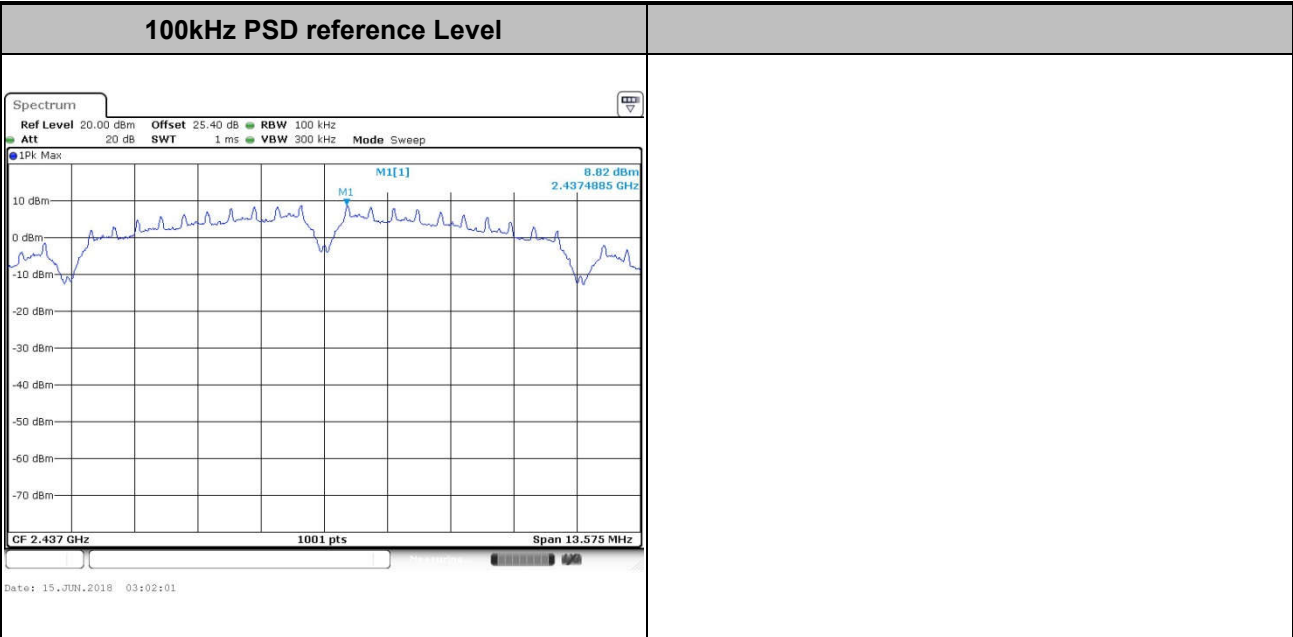


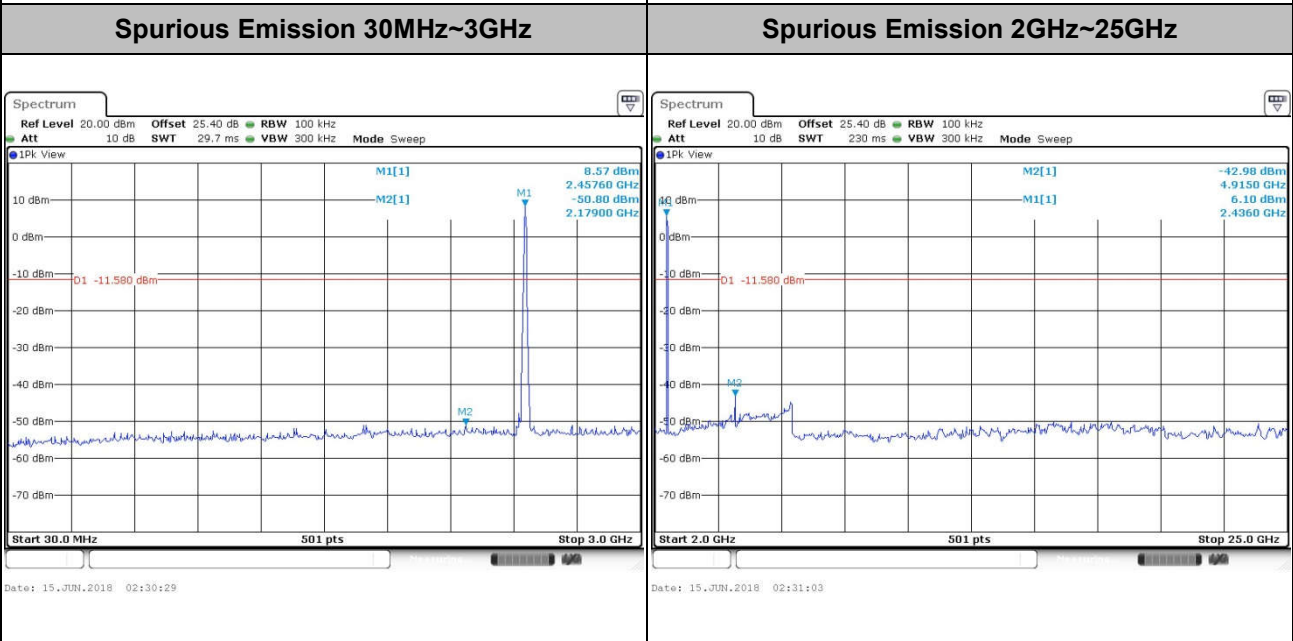
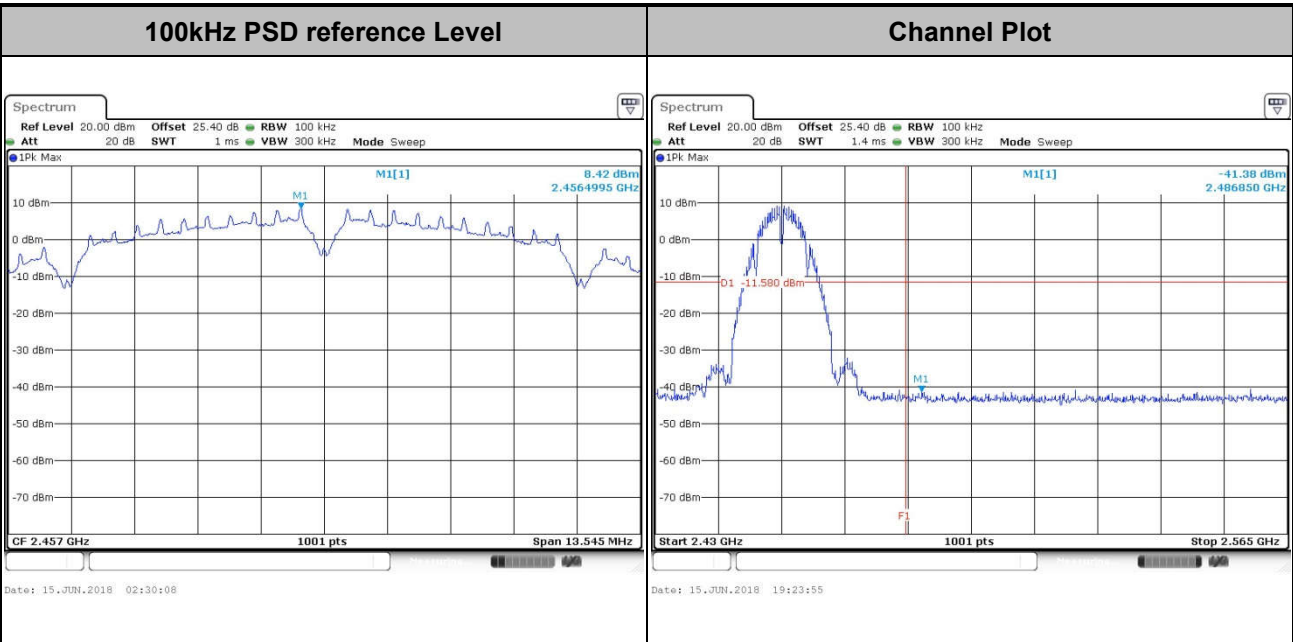


Test Mode :	802.11b	Test Channel :	06
-------------	---------	----------------	----



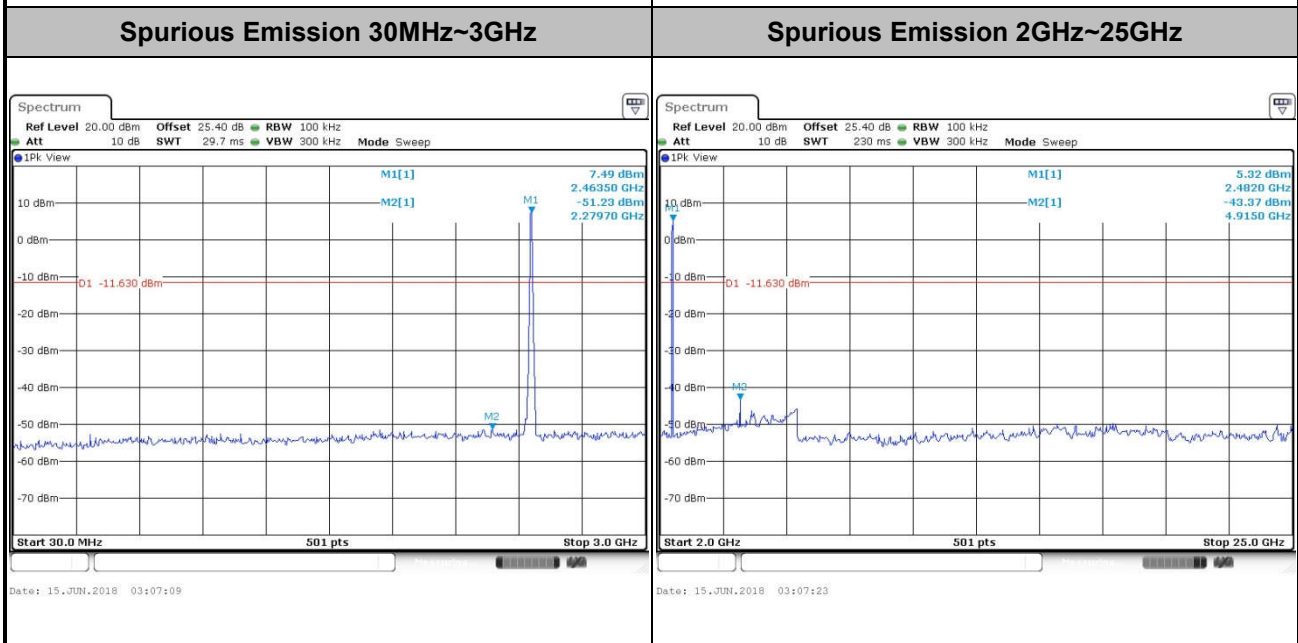
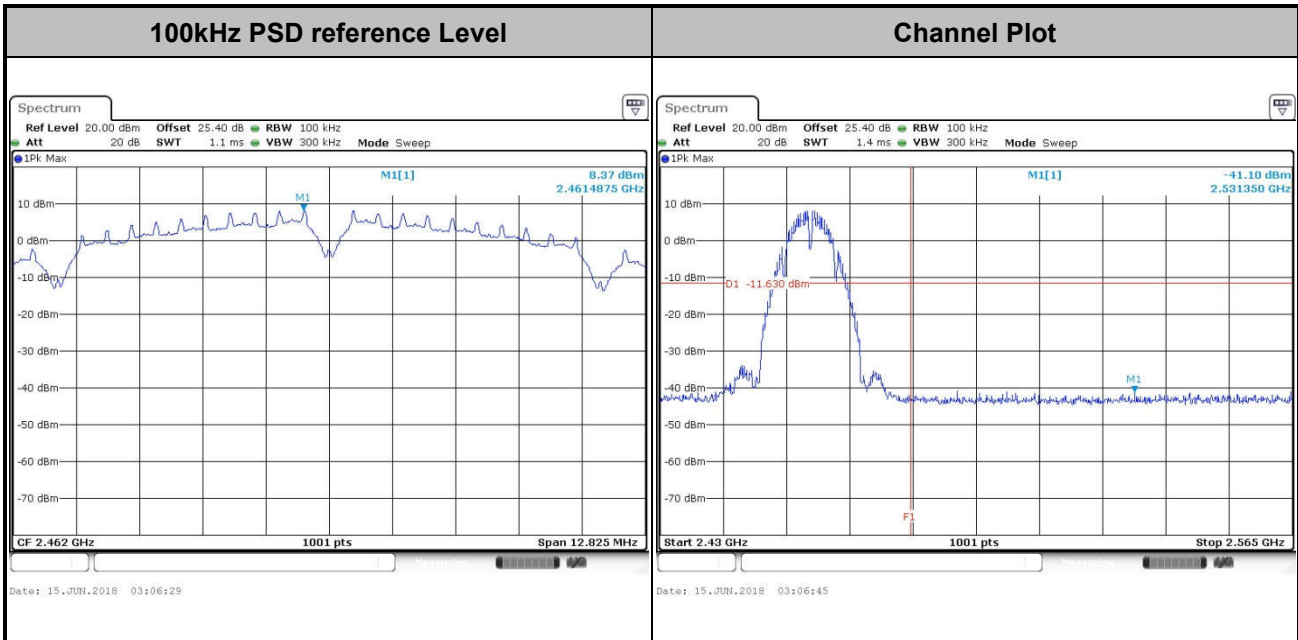


Test Mode :	802.11b	Test Channel :	10
-------------	---------	----------------	----



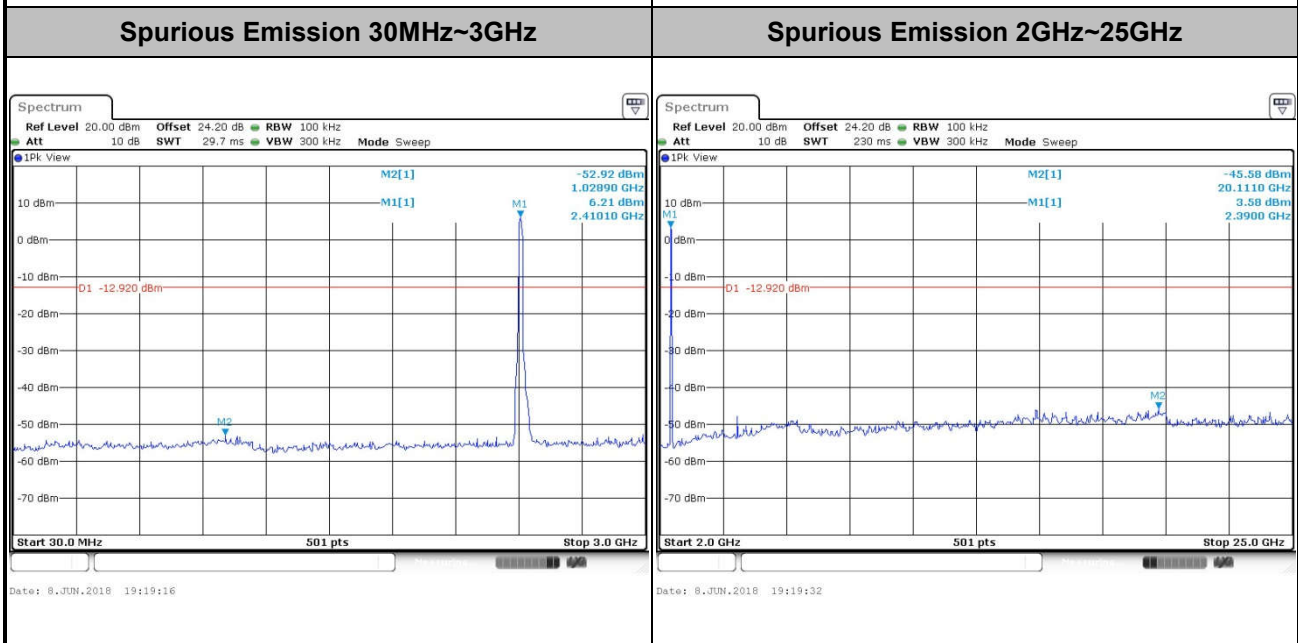
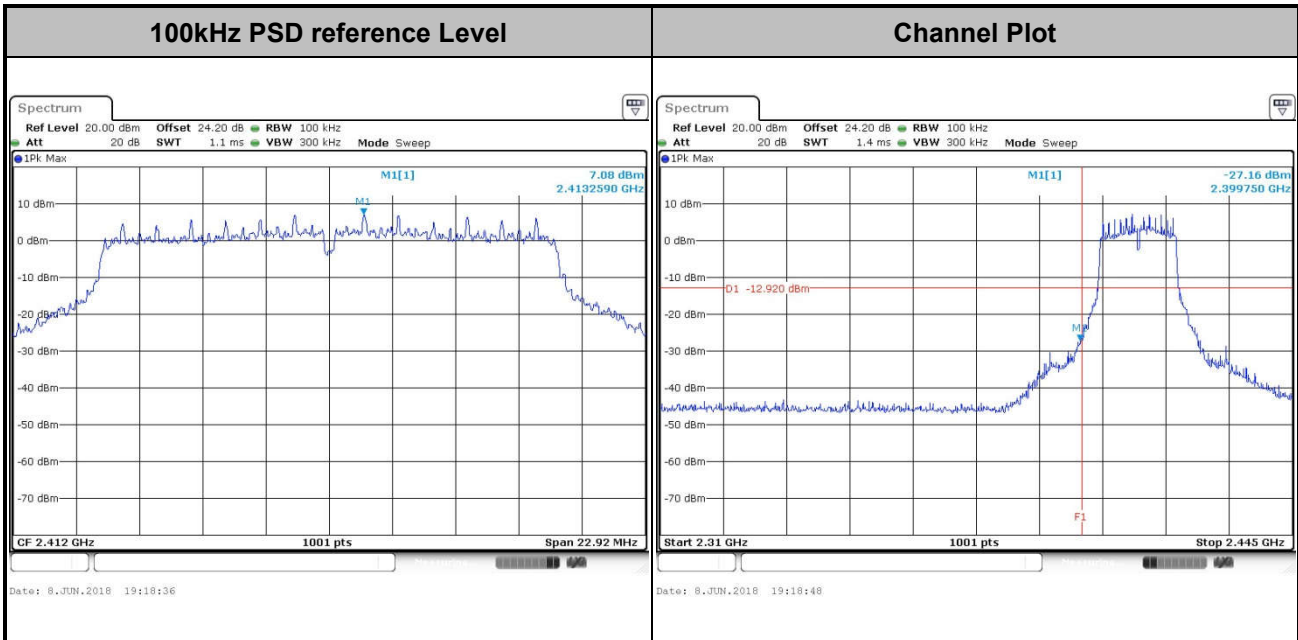


Test Mode :	802.11b	Test Channel :	11
-------------	---------	----------------	----



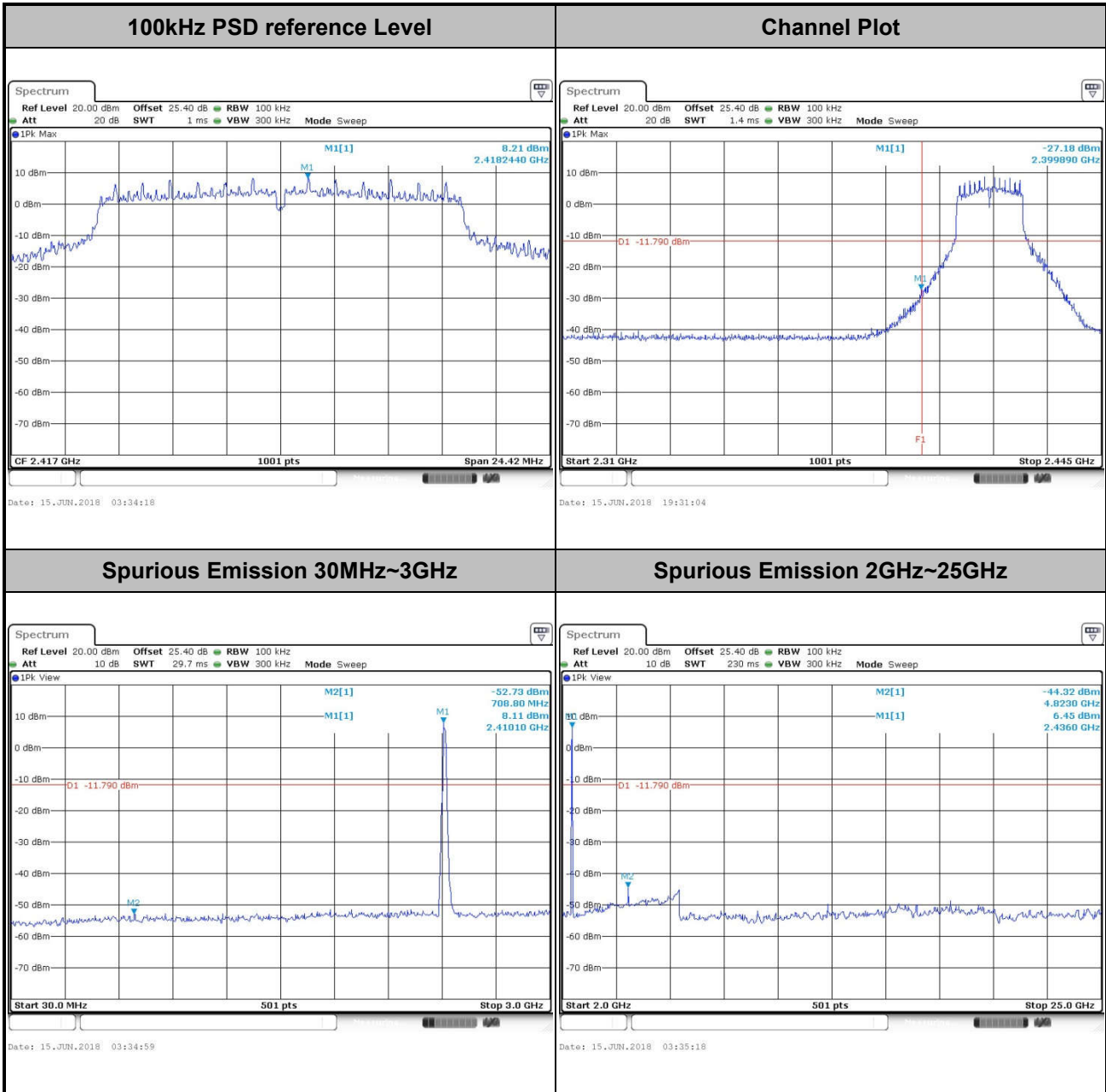


Test Mode :	802.11g	Test Channel :	01
-------------	---------	----------------	----





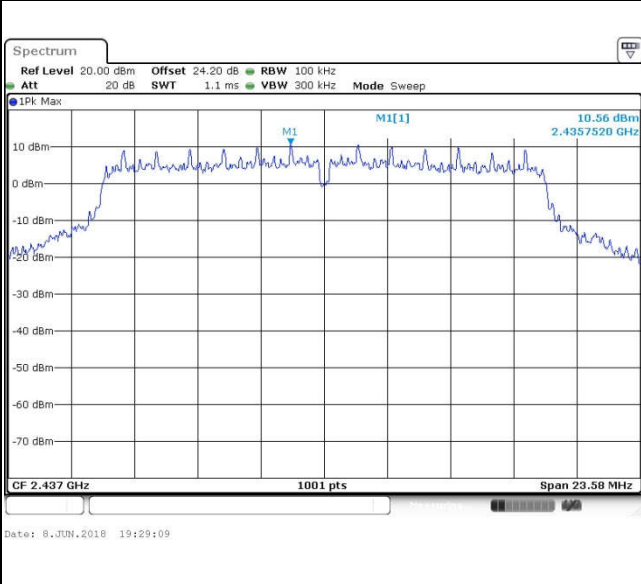
Test Mode :	802.11g	Test Channel :	02
-------------	---------	----------------	----



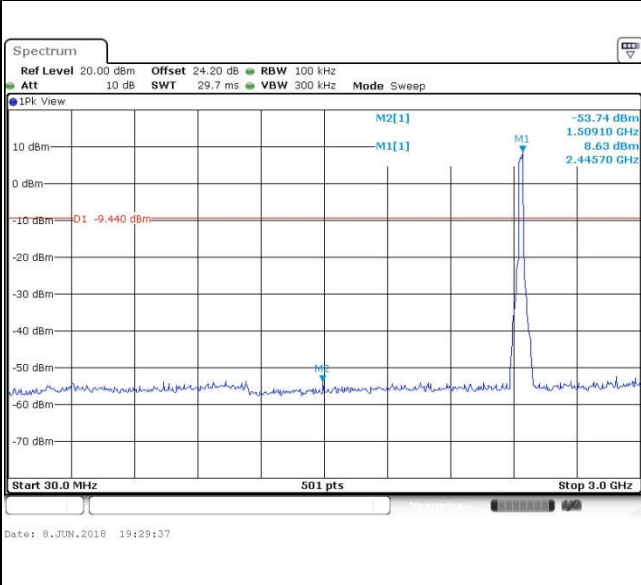


Test Mode :	802.11g	Test Channel :	06
-------------	---------	----------------	----

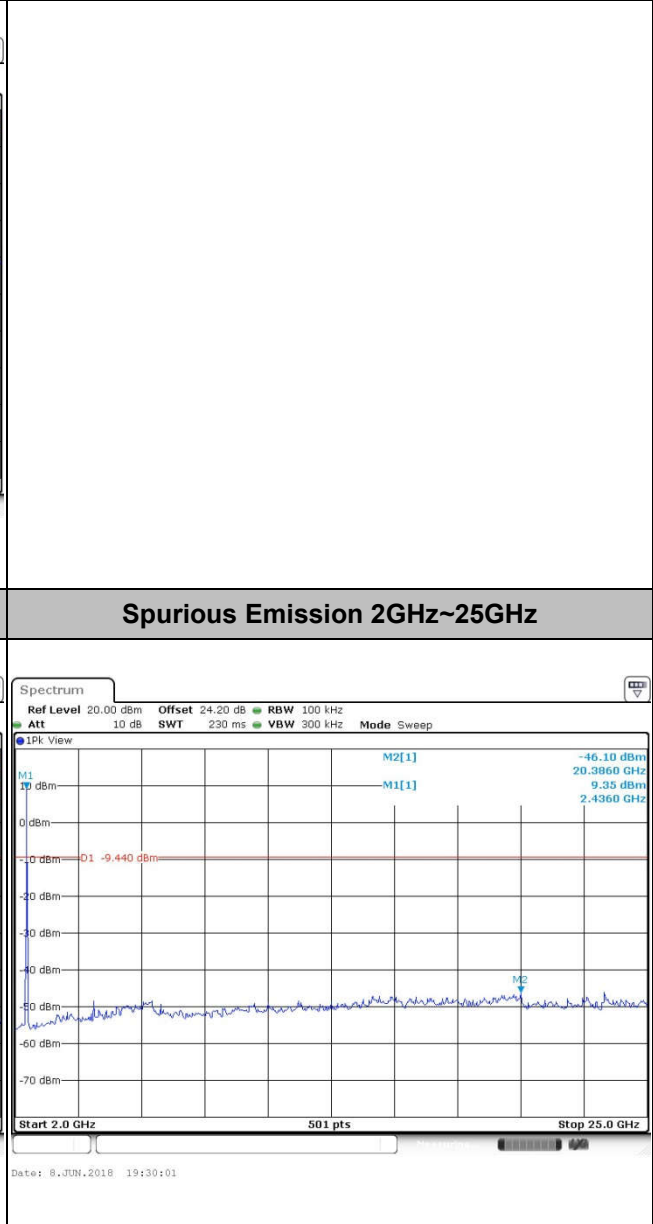
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz

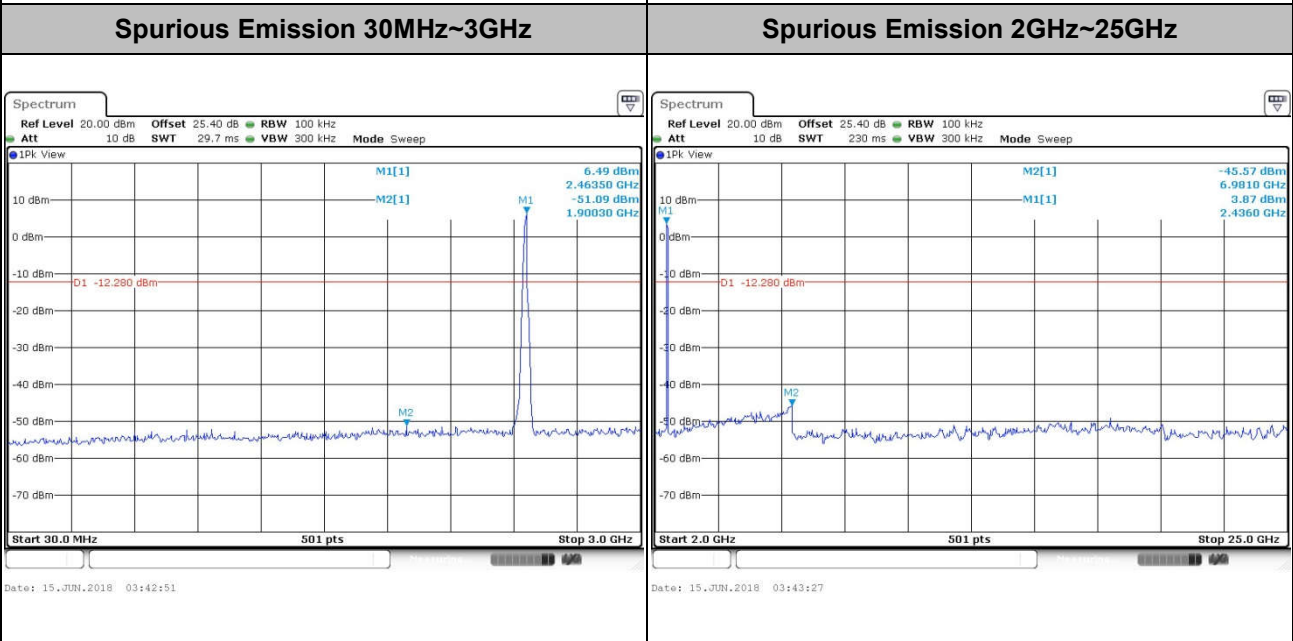
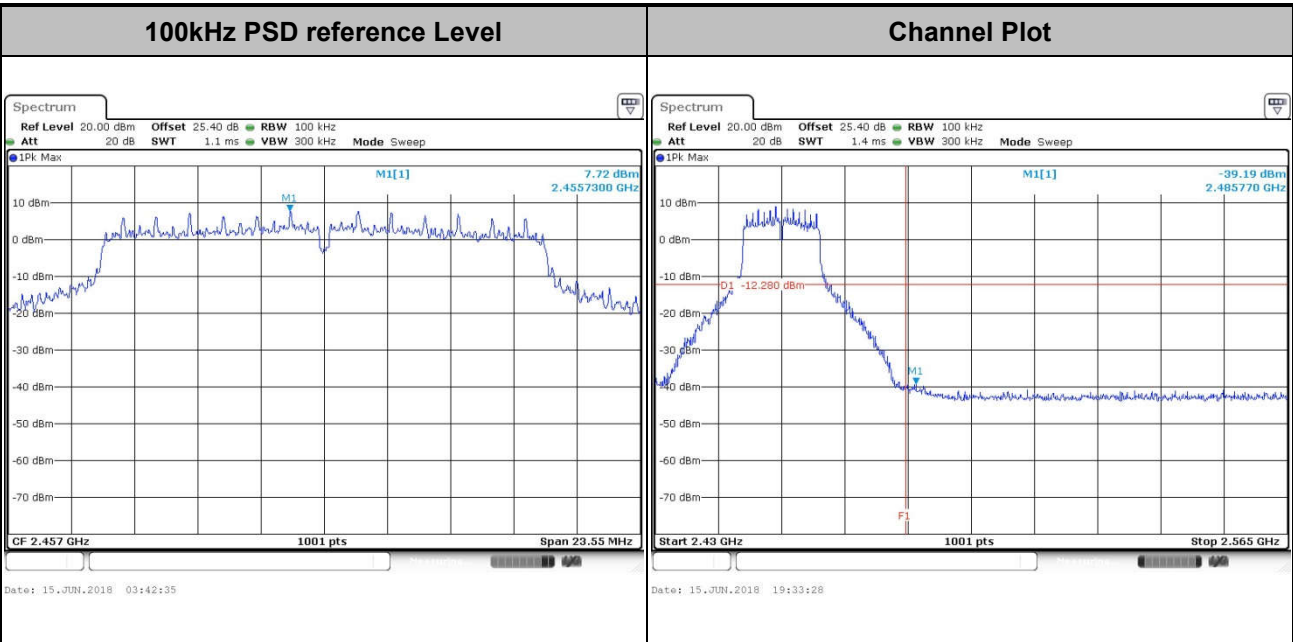


Spurious Emission 2GHz~25GHz



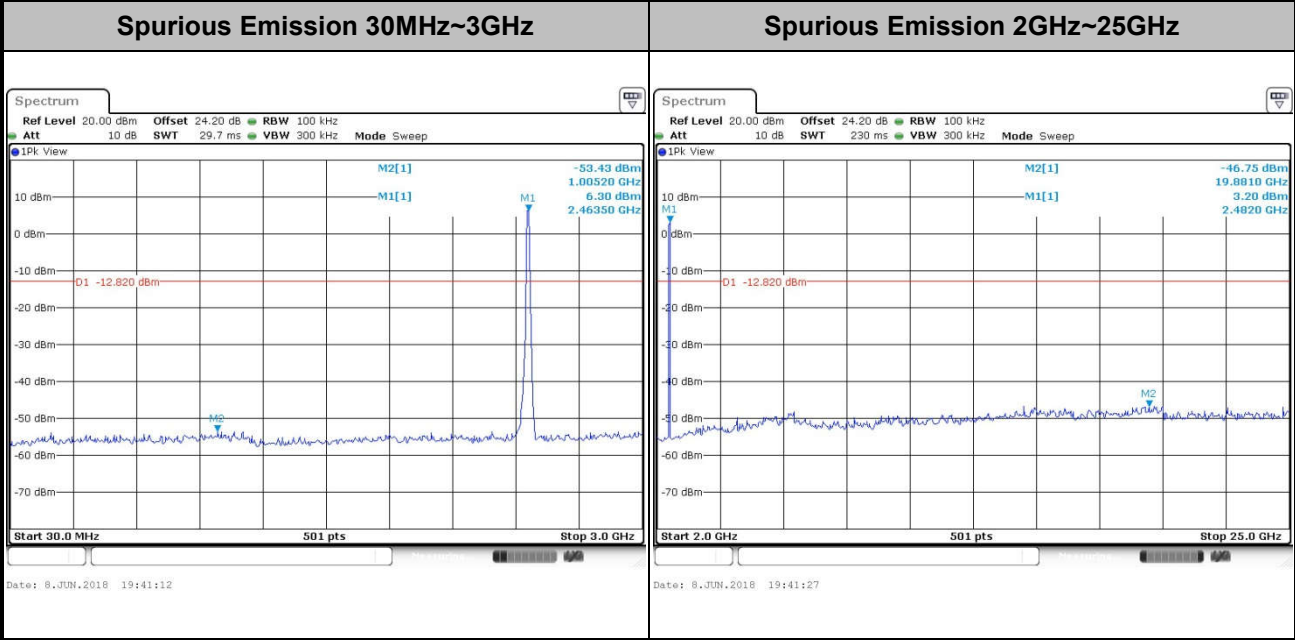
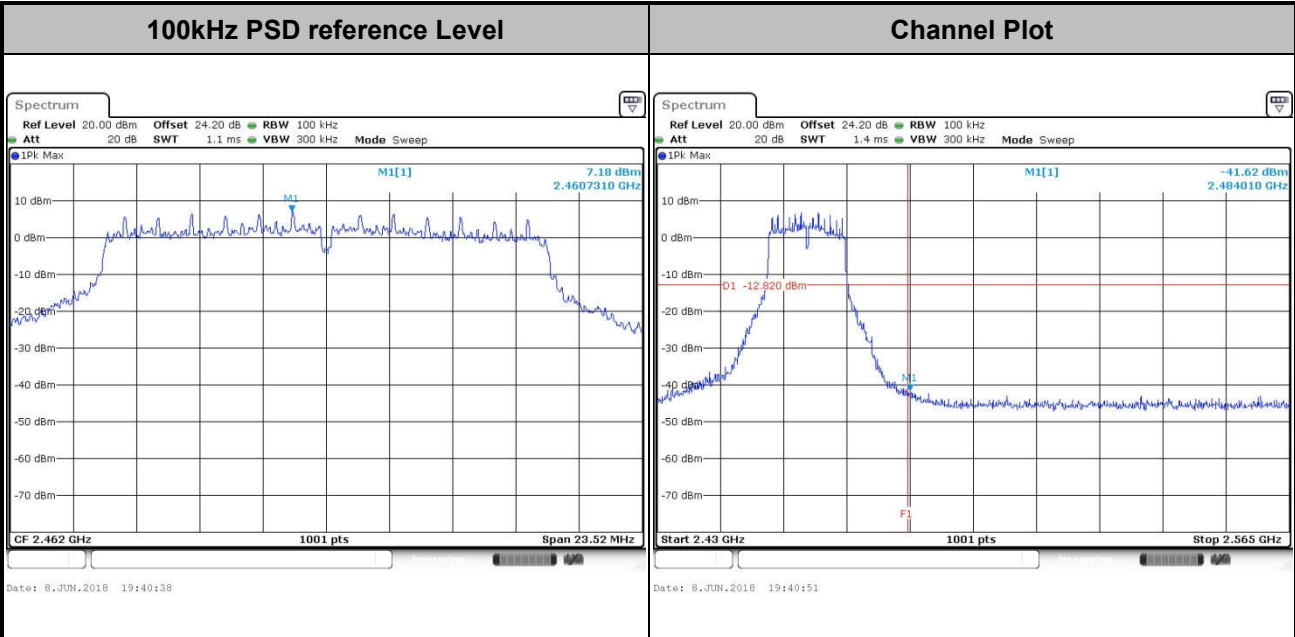


Test Mode :	802.11g	Test Channel :	10
-------------	---------	----------------	----



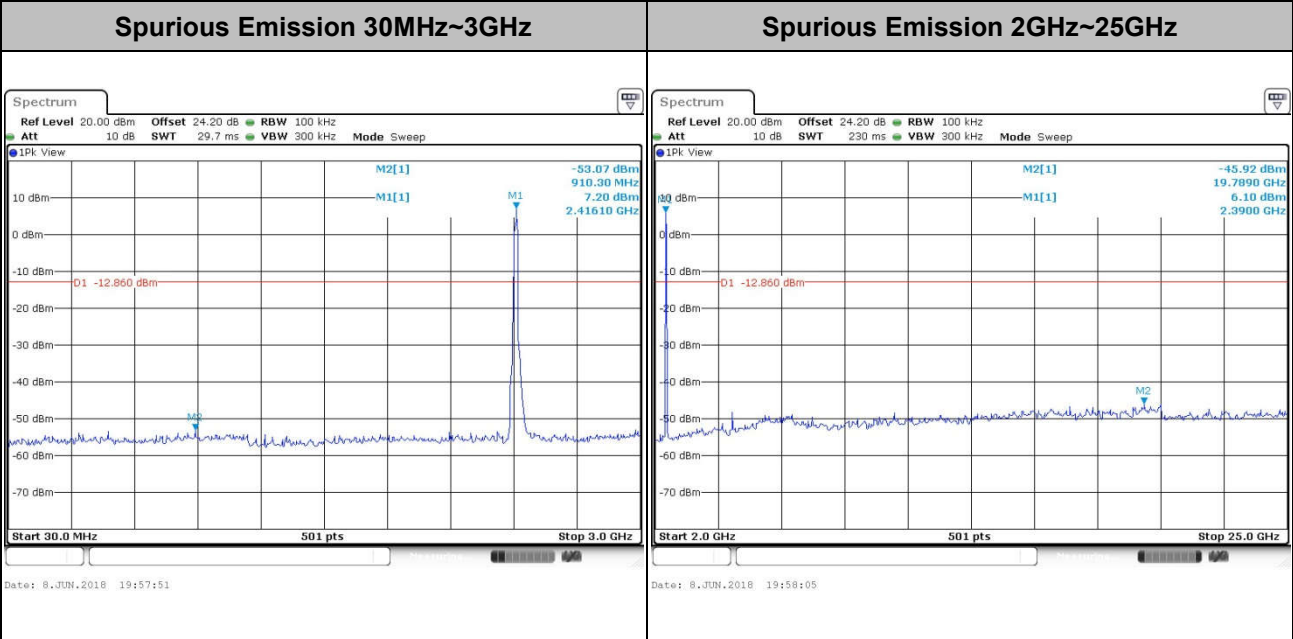
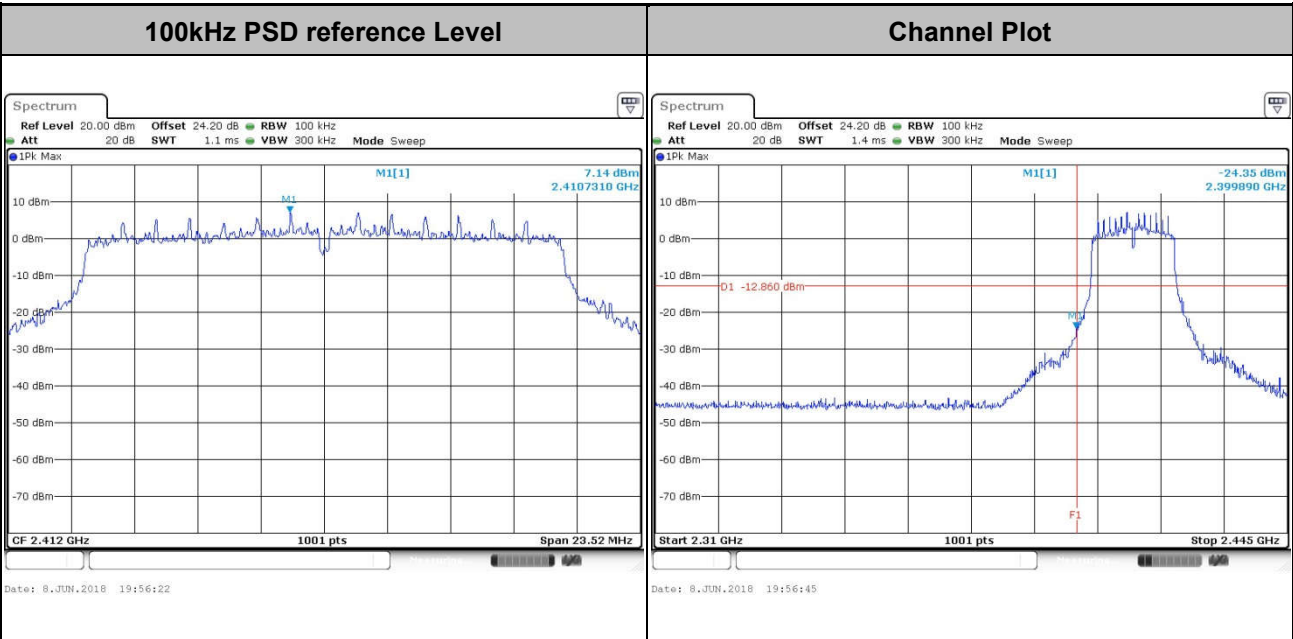


Test Mode :	802.11g	Test Channel :	11
-------------	---------	----------------	----





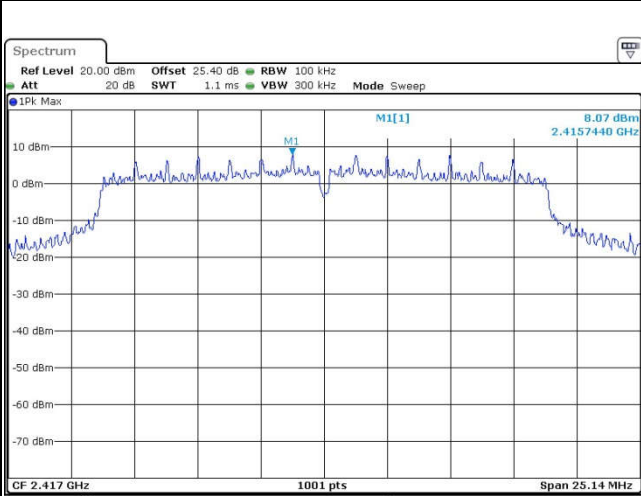
Test Mode :	802.11n HT20	Test Channel :	01
-------------	--------------	----------------	----



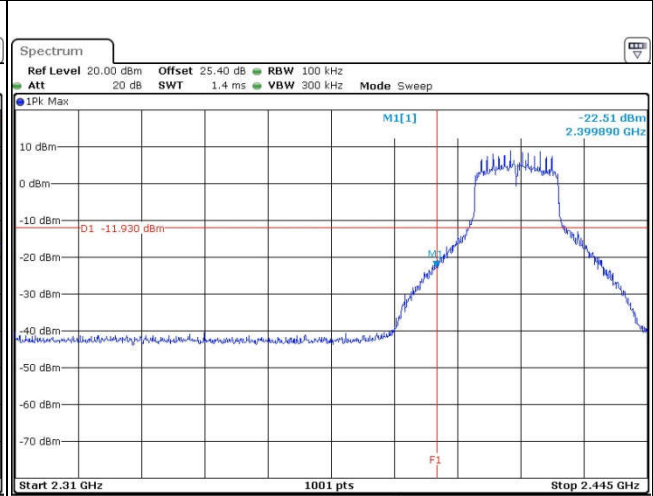


Test Mode :	802.11n HT20	Test Channel :	02
-------------	--------------	----------------	----

100kHz PSD reference Level	Channel Plot
-----------------------------------	---------------------

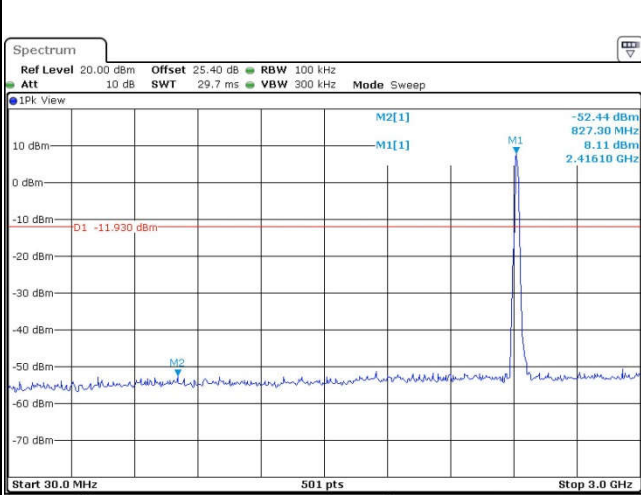


Date: 15 JUN.2018 03:54:06

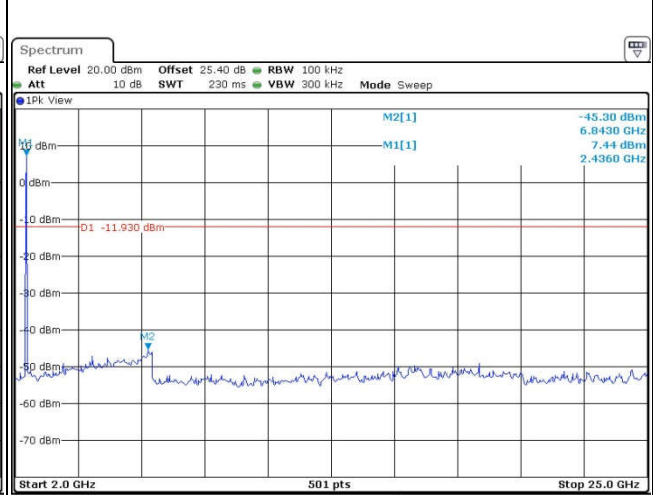


Date: 15 JUN.2018 19:36:30

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
-------------------------------------	-------------------------------------



Date: 15 JUN.2018 03:54:35

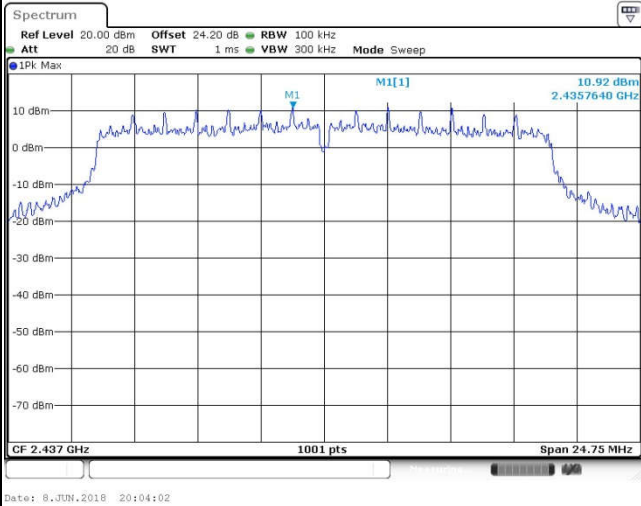


Date: 15 JUN.2018 03:54:46

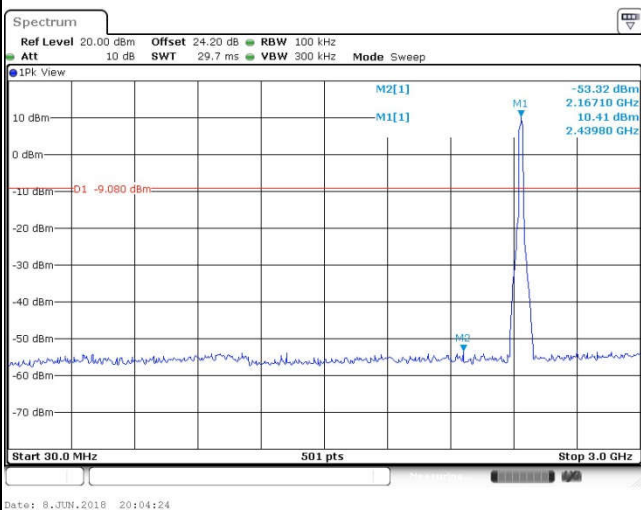


Test Mode :	802.11n HT20	Test Channel :	06
-------------	--------------	----------------	----

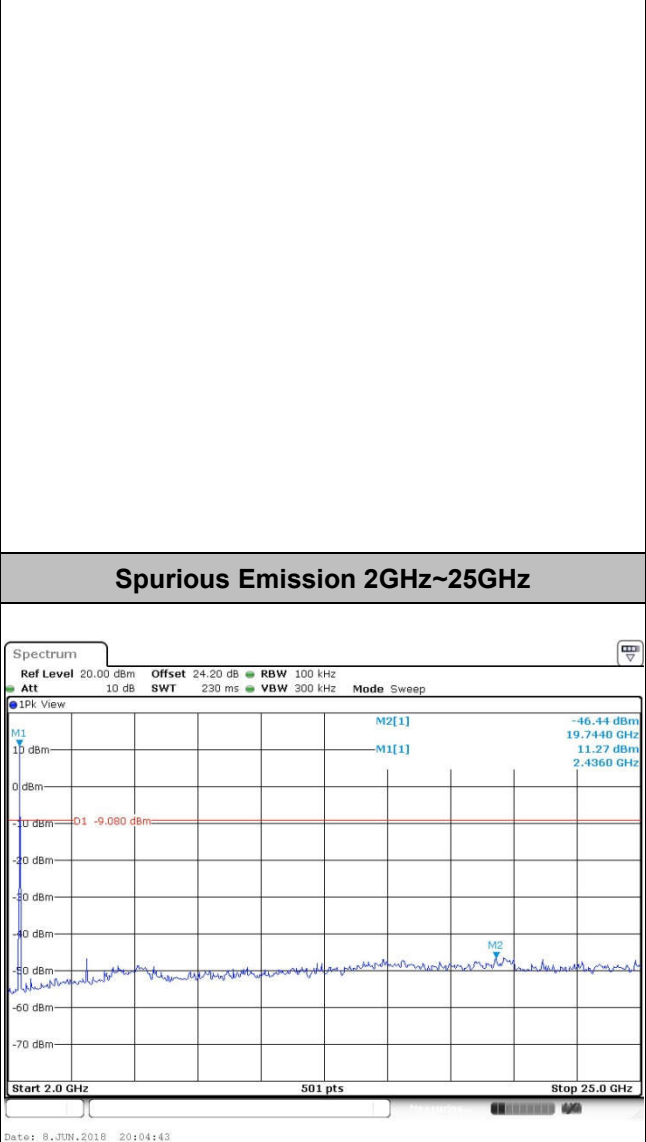
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz

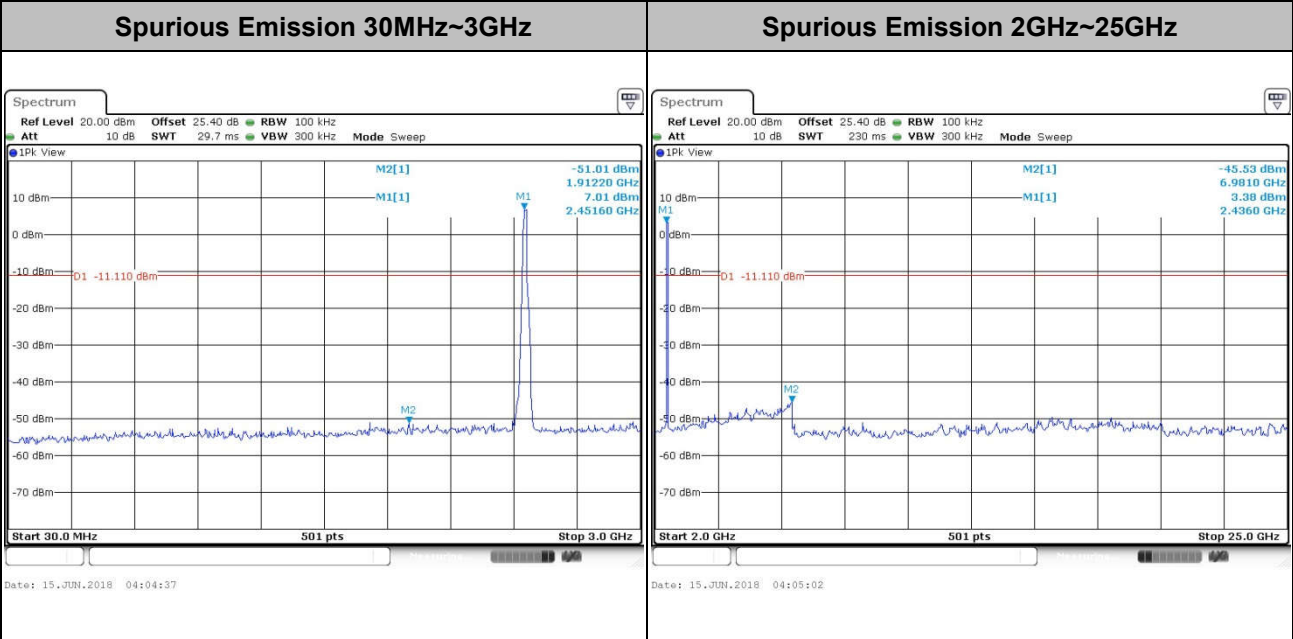
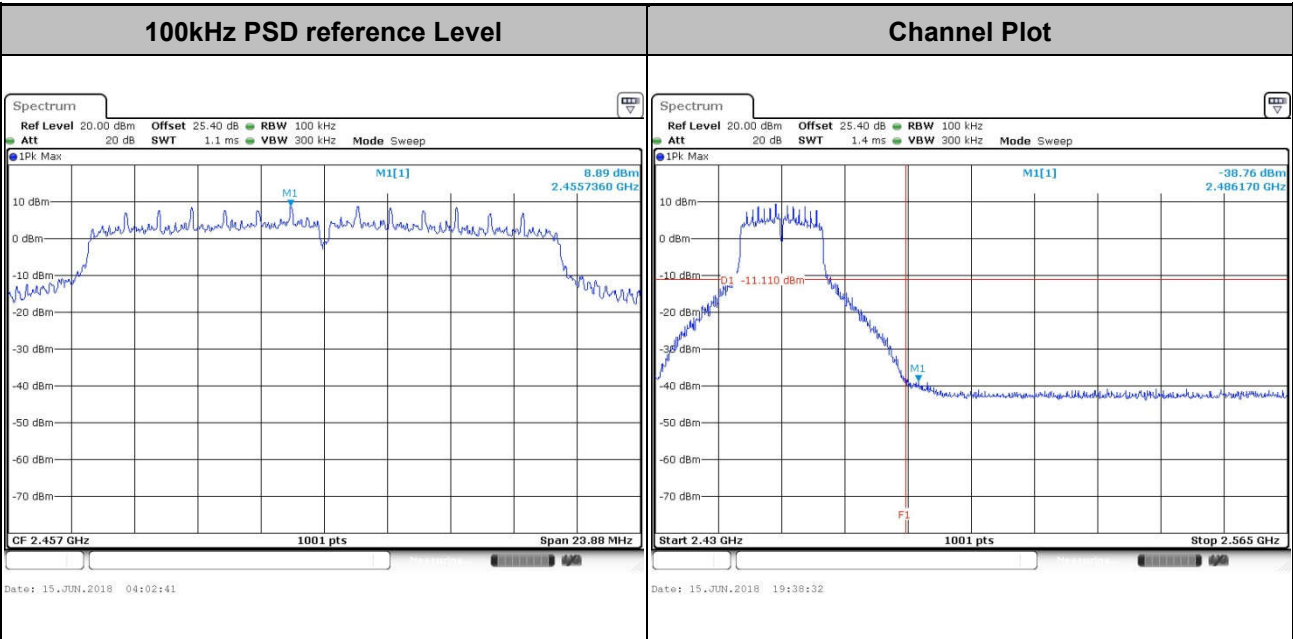


Spurious Emission 2GHz~25GHz





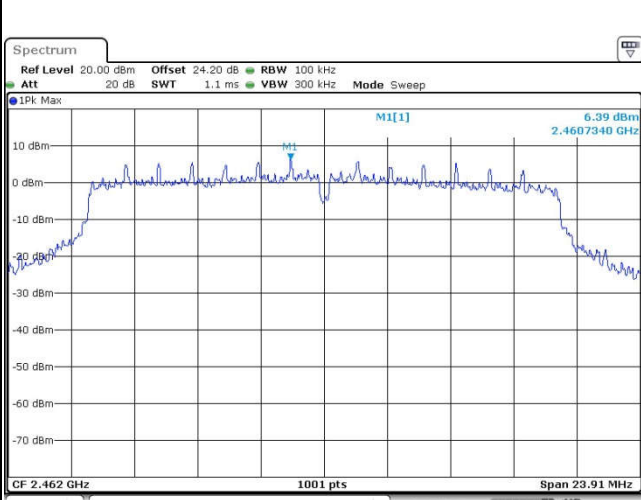
Test Mode :	802.11n HT20	Test Channel :	10
-------------	--------------	----------------	----



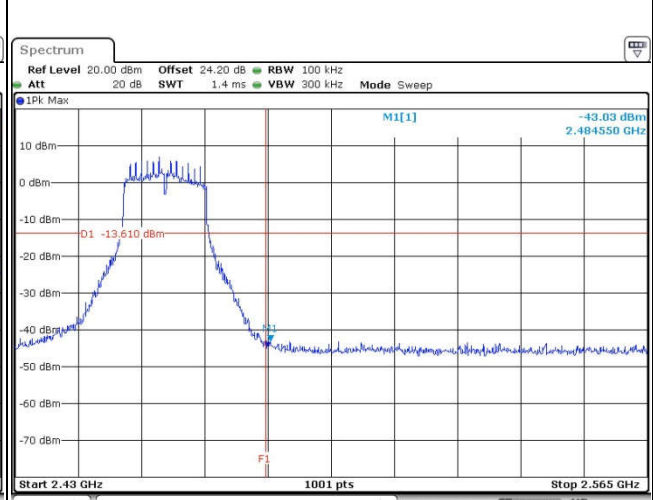


Test Mode :	802.11n HT20	Test Channel :	11
--------------------	--------------	-----------------------	----

100kHz PSD reference Level	Channel Plot
-----------------------------------	---------------------

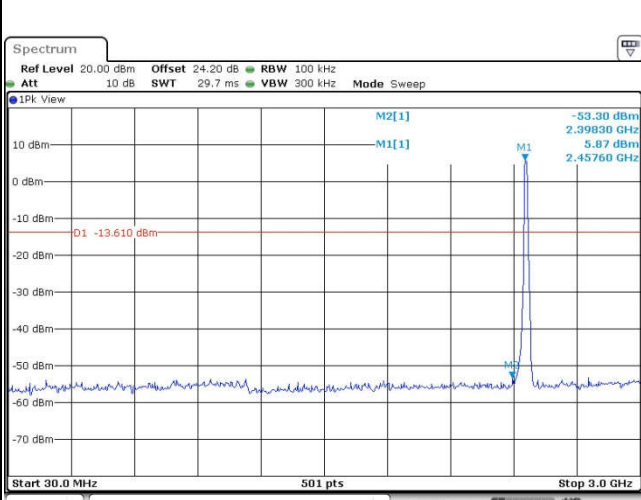


Date: 8 JUN 2018 20:14:29

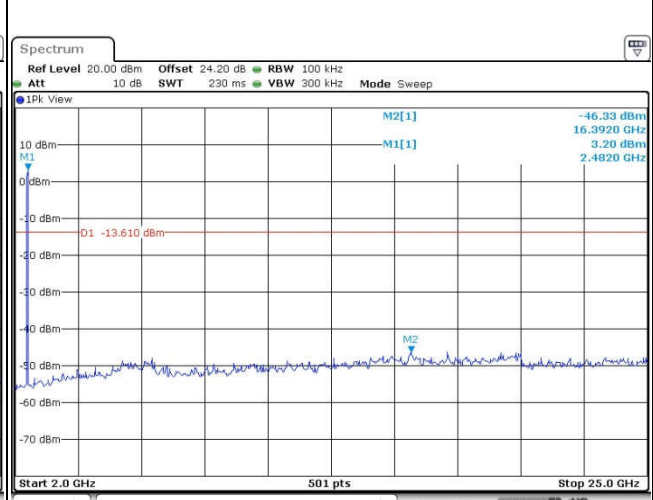


Date: 8 JUN 2018 20:16:04

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
-------------------------------------	-------------------------------------



Date: 8 JUN 2018 20:15:24



Date: 8 JUN 2018 20:15:36



3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/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

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

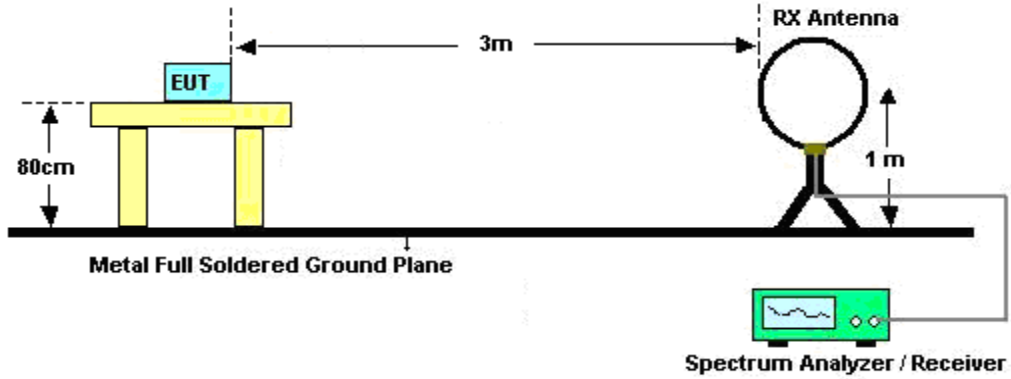


3.5.3 Test Procedures

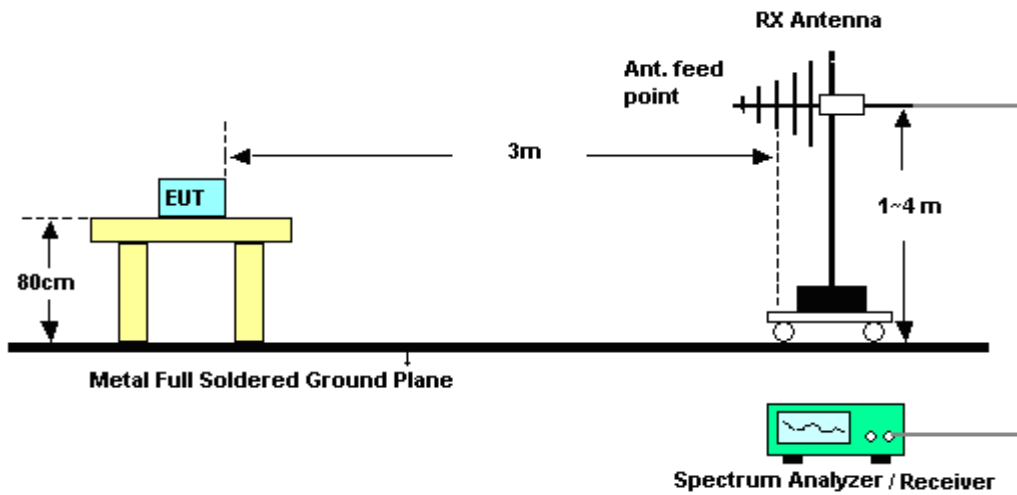
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW \geq RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

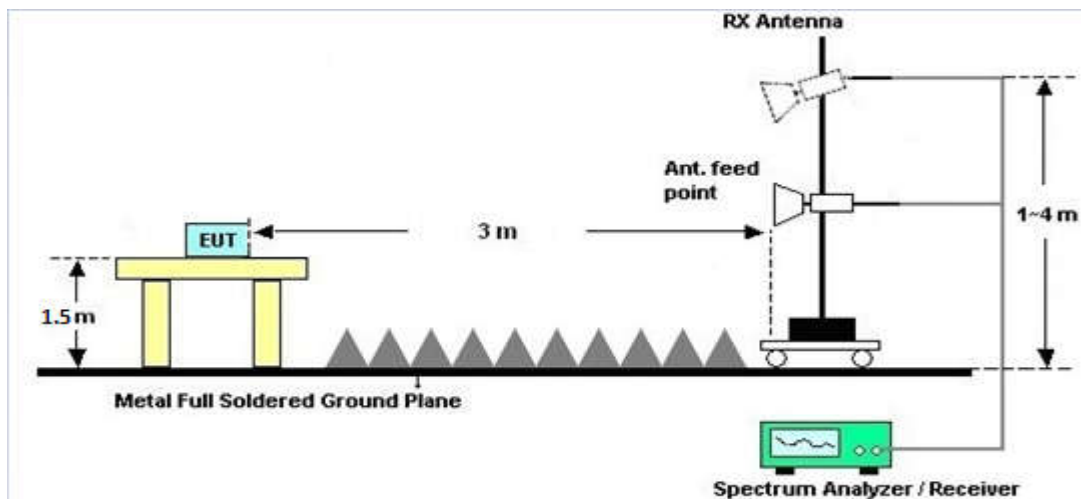
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.5.5 Test Results of Radiated Spurious Emissions (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 reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C.



3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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 in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB μ 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 the logarithm of the frequency.

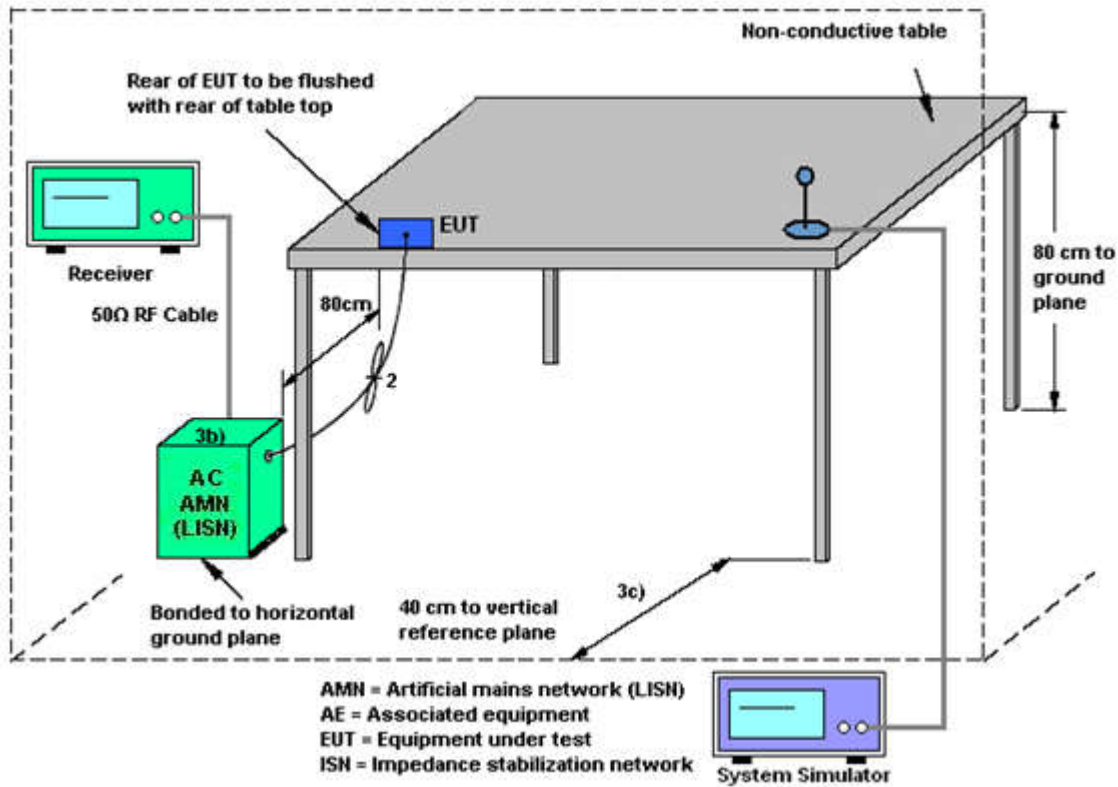
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.7 Antenna Requirements

3.7.1 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. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the Antenna exceeds 6 dBi. 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 rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
2.4 GHz	-1.66	-1.85	1.66	1.26	0.00	0.00

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	DTM-303A	TP157075	N/A	Mar. 06, 2018	May 26, 2018~ Jun. 15, 2018	Mar. 05, 2019	Conducted (TH05-HY)
Power Meter	Agilent	E4416A	GB4129234 4	N/A	Dec. 20, 2017	May 26, 2018~ Jun. 15, 2018	Dec. 19, 2018	Conducted (TH05-HY)
Power Sensor	Agilent	E9327A	US40441548	50MHz~18GHz	Dec. 20, 2017	May 26, 2018~ Jun. 15, 2018	Dec. 19, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	May 26, 2018~ Jun. 15, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Jun. 08, 2018~ Jun. 15, 2018	Jul. 17, 2018	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 25, 2017	Jun. 08, 2018~ Jun. 15, 2018	Dec. 24, 2018	Radiation (03CH12-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Jun. 08, 2018~ Jun. 15, 2018	Nov. 22, 2018	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6- 06	35414&AT-N 0602	30MHz~1GHz	Oct. 14, 2017	Jun. 08, 2018~ Jun. 15, 2018	Oct. 13, 2018	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Oct. 20, 2017	Jun. 08, 2018~ Jun. 15, 2018	Oct. 19, 2018	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA91705 84	18GHz ~ 40GHz	Nov. 27, 2017	Jun. 08, 2018~ Jun. 15, 2018	Nov. 26, 2018	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP140349	N/A	Oct. 12, 2017	Jun. 08, 2018~ Jun. 15, 2018	Oct. 11, 2018	Radiation (03CH12-HY)
Preamplifier	COM-POWE R	PA-103	161075	10MHz~1GHz	Mar. 26, 2018	Jun. 08, 2018~ Jun. 15, 2018	Mar. 25, 2019	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-001 01800-30-10 P	1590074	1GHz~18GHz	May 21, 2018	Jun. 08, 2018~ Jun. 15, 2018	May 20, 2019	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY5327014 8	1GHz~26.5GHz	Jan. 15, 2018	Jun. 08, 2018~ Jun. 15, 2018	Jan. 14, 2019	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	NCR	Jun. 08, 2018~ Jun. 15, 2018	NCR	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	NCR	Jun. 08, 2018~ Jun. 15, 2018	NCR	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500 -B	N/A	1m~4m	NCR	Jun. 08, 2018~ Jun. 15, 2018	NCR	Radiation (03CH12-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	NCR	Jun. 10, 2018	NCR	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Jun. 10, 2018	Dec. 07, 2018	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Mar. 06, 2018	Jun. 10, 2018	Mar. 05, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Jun. 10, 2018	Nov. 29, 2018	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Jun. 10, 2018	Jan. 02, 2019	Conduction (CO05-HY)



Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Jun. 10, 2018	Jan. 02, 2019	Conduction (CO05-HY)
---------------	-----------------	---------	--------	-----	---------------	---------------	---------------	----------------------

NCR: No Calibration Required



5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7dB
---	-------

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
---	--------

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2 dB
---	--------

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.7 dB
---	--------

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Kai Liao/Lena Lo/Derek Hsu/Shiang Wang	Temperature:	21~25	°C
Test Date:	2018/5/25~2018/06/15	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	2	1	2412	14.09	13.84	9.05	8.53	0.50	Pass
11b	1Mbps	2	2	2417	14.39	14.39	9.03	9.03	0.50	Pass
11b	1Mbps	2	6	2437	13.94	14.04	8.53	9.05	0.50	Pass
11b	1Mbps	2	10	2457	14.09	14.04	9.03	9.03	0.50	Pass
11b	1Mbps	2	11	2462	14.04	14.09	9.03	8.55	0.50	Pass
11g	6Mbps	2	1	2412	16.93	16.78	15.44	15.28	0.50	Pass
11g	6Mbps	2	2	2417	17.23	18.58	15.72	16.28	0.50	Pass
11g	6Mbps	2	6	2437	17.28	19.58	15.34	15.72	0.50	Pass
11g	6Mbps	2	10	2457	17.08	17.78	15.44	15.70	0.50	Pass
11g	6Mbps	2	11	2462	17.28	19.88	15.52	15.68	0.50	Pass
HT20	MCS0	2	1	2412	18.03	17.98	15.94	15.68	0.50	Pass
HT20	MCS0	2	2	2417	18.28	19.38	15.96	16.76	0.50	Pass
HT20	MCS0	2	6	2437	18.78	22.63	15.94	16.50	0.50	Pass
HT20	MCS0	2	10	2457	18.23	19.13	16.22	15.92	0.50	Pass
HT20	MCS0	2	11	2462	17.88	17.93	15.94	15.94	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	20.50	19.21	-	30.00	30.00	-1.66	-1.85	18.84	17.36	36.00	36.00	Pass
11b	1Mbps	1	2	2417	20.49	19.28	-	30.00	30.00	-1.66	-1.85	18.83	17.43	36.00	36.00	Pass
11b	1Mbps	1	6	2437	20.57	20.93	-	30.00	30.00	-1.66	-1.85	18.91	19.08	36.00	36.00	Pass
11b	1Mbps	1	10	2457	19.99	20.41	-	30.00	30.00	-1.66	-1.85	18.33	18.56	36.00	36.00	Pass
11b	1Mbps	1	11	2462	20.59	20.38	-	30.00	30.00	-1.66	-1.85	18.93	18.53	36.00	36.00	Pass
11g	6Mbps	1	1	2412	21.33	21.47	-	30.00	30.00	-1.66	-1.85	19.67	19.62	36.00	36.00	Pass
11g	6Mbps	1	2	2417	22.87	23.76	-	30.00	30.00	-1.66	-1.85	21.21	21.91	36.00	36.00	Pass
11g	6Mbps	1	6	2437	24.30	23.36	-	30.00	30.00	-1.66	-1.85	22.64	21.51	36.00	36.00	Pass
11g	6Mbps	1	10	2457	22.32	22.39	-	30.00	30.00	-1.66	-1.85	20.66	20.54	36.00	36.00	Pass
11g	6Mbps	1	11	2462	21.34	20.98	-	30.00	30.00	-1.66	-1.85	19.68	19.13	36.00	36.00	Pass
HT20	MCS0	1	1	2412	21.40	21.79	-	30.00	30.00	-1.66	-1.85	19.74	19.94	36.00	36.00	Pass
HT20	MCS0	1	2	2417	22.49	24.30	-	30.00	30.00	-1.66	-1.85	20.83	22.45	36.00	36.00	Pass
HT20	MCS0	1	6	2437	24.90	23.81	-	30.00	30.00	-1.66	-1.85	23.24	21.96	36.00	36.00	Pass
HT20	MCS0	1	10	2457	23.34	24.59	-	30.00	30.00	-1.66	-1.85	21.68	22.74	36.00	36.00	Pass
HT20	MCS0	1	11	2462	20.85	20.90	-	30.00	30.00	-1.66	-1.85	19.19	19.05	36.00	36.00	Pass
11b	1Mbps	2	1	2412	20.65	19.44	23.10	30.00		-1.66		21.44		36.00		Pass
11b	1Mbps	2	2	2417	21.22	19.84	23.59	30.00		-1.66		21.93		36.00		Pass
11b	1Mbps	2	6	2437	20.78	21.00	23.90	30.00		-1.66		22.24		36.00		Pass
11b	1Mbps	2	10	2457	20.01	20.55	23.30	30.00		-1.66		21.64		36.00		Pass
11b	1Mbps	2	11	2462	21.35	20.44	23.93	30.00		-1.66		22.27		36.00		Pass
11g	6Mbps	2	1	2412	21.67	21.52	24.61	30.00		-1.66		22.95		36.00		Pass
11g	6Mbps	2	2	2417	23.64	24.11	26.89	30.00		-1.66		25.23		36.00		Pass
11g	6Mbps	2	6	2437	24.46	24.50	27.49	30.00		-1.66		25.83		36.00		Pass
11g	6Mbps	2	10	2457	22.86	22.95	25.92	30.00		-1.66		24.26		36.00		Pass
11g	6Mbps	2	11	2462	21.36	21.02	24.20	30.00		-1.66		22.54		36.00		Pass
HT20	MCS0	2	1	2412	21.44	21.82	24.64	30.00		-1.66		22.98		36.00		Pass
HT20	MCS0	2	2	2417	23.70	24.32	27.03	30.00		-1.66		25.37		36.00		Pass
HT20	MCS0	2	6	2437	24.93	25.22	28.09	30.00		-1.66		26.43		36.00		Pass
HT20	MCS0	2	10	2457	24.14	24.68	27.43	30.00		-1.66		25.77		36.00		Pass
HT20	MCS0	2	11	2462	20.91	20.94	23.94	30.00		-1.66		22.28		36.00		Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.04	0.04	18.28	17.08	-
11b	1Mbps	1	2	2417	0.04	0.04	18.19	17.01	
11b	1Mbps	1	6	2437	0.04	0.04	18.42	18.66	
11b	1Mbps	1	10	2457	0.04	0.04	17.73	18.12	
11b	1Mbps	1	11	2462	0.04	0.04	18.41	18.03	
11g	6Mbps	1	1	2412	0.08	0.08	16.57	16.61	
11g	6Mbps	1	2	2417	0.08	0.08	18.67	18.98	
11g	6Mbps	1	6	2437	0.08	0.08	19.82	18.98	
11g	6Mbps	1	10	2457	0.08	0.08	18.03	18.31	
11g	6Mbps	1	11	2462	0.08	0.08	16.58	16.59	
HT20	MCS0	1	1	2412	0.09	0.09	16.30	16.50	
HT20	MCS0	1	2	2417	0.09	0.09	18.12	18.92	
HT20	MCS0	1	6	2437	0.09	0.09	20.03	18.94	
HT20	MCS0	1	10	2457	0.09	0.09	18.28	18.93	
HT20	MCS0	1	11	2462	0.09	0.09	15.91	15.94	
11b	1Mbps	2	1	2412	0.04	0.04	18.52	17.26	20.95
11b	1Mbps	2	2	2417	0.04	0.04	18.86	17.36	21.18
11b	1Mbps	2	6	2437	0.04	0.04	18.44	18.67	21.57
11b	1Mbps	2	10	2457	0.04	0.04	17.74	18.16	20.97
11b	1Mbps	2	11	2462	0.04	0.04	18.99	18.04	21.55
11g	6Mbps	2	1	2412	0.12	0.12	16.65	16.68	19.68
11g	6Mbps	2	2	2417	0.12	0.12	18.71	19.26	22.00
11g	6Mbps	2	6	2437	0.12	0.12	20.00	20.04	23.03
11g	6Mbps	2	10	2457	0.12	0.12	18.77	19.28	22.04
11g	6Mbps	2	11	2462	0.12	0.12	16.63	16.66	19.66
HT20	MCS0	2	1	2412	0.09	0.09	16.33	16.52	19.44
HT20	MCS0	2	2	2417	0.09	0.09	18.49	19.44	22.00
HT20	MCS0	2	6	2437	0.09	0.09	20.32	20.38	23.36
HT20	MCS0	2	10	2457	0.09	0.09	18.82	19.78	22.34
HT20	MCS0	2	11	2462	0.09	0.09	15.95	15.96	18.97

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	2	1	2412	-3.74	-5.53	-0.73	1.26		8.00		Pass
11b	1Mbps	2	2	2417	-2.08	-2.14	0.93	1.26		8.00		Pass
11b	1Mbps	2	6	2437	-5.21	-5.96	-2.20	1.26		8.00		Pass
11b	1Mbps	2	10	2457	-5.40	-5.67	-2.39	1.26		8.00		Pass
11b	1Mbps	2	11	2462	-3.63	-6.64	-0.62	1.26		8.00		Pass
11g	6Mbps	2	1	2412	-9.67	-9.71	-6.66	1.26		8.00		Pass
11g	6Mbps	2	2	2417	-7.49	-6.33	-3.32	1.26		8.00		Pass
11g	6Mbps	2	6	2437	-6.84	-5.55	-2.54	1.26		8.00		Pass
11g	6Mbps	2	10	2457	-6.79	-6.05	-3.04	1.26		8.00		Pass
11g	6Mbps	2	11	2462	-9.58	-9.53	-6.52	1.26		8.00		Pass
HT20	MCS0	2	1	2412	-8.91	-9.14	-5.90	1.26		8.00		Pass
HT20	MCS0	2	2	2417	-6.76	-7.19	-3.75	1.26		8.00		Pass
HT20	MCS0	2	6	2437	-6.02	-4.67	-1.66	1.26		8.00		Pass
HT20	MCS0	2	10	2457	-6.88	-7.00	-3.87	1.26		8.00		Pass
HT20	MCS0	2	11	2462	-10.01	-10.23	-7.00	1.26		8.00		Pass

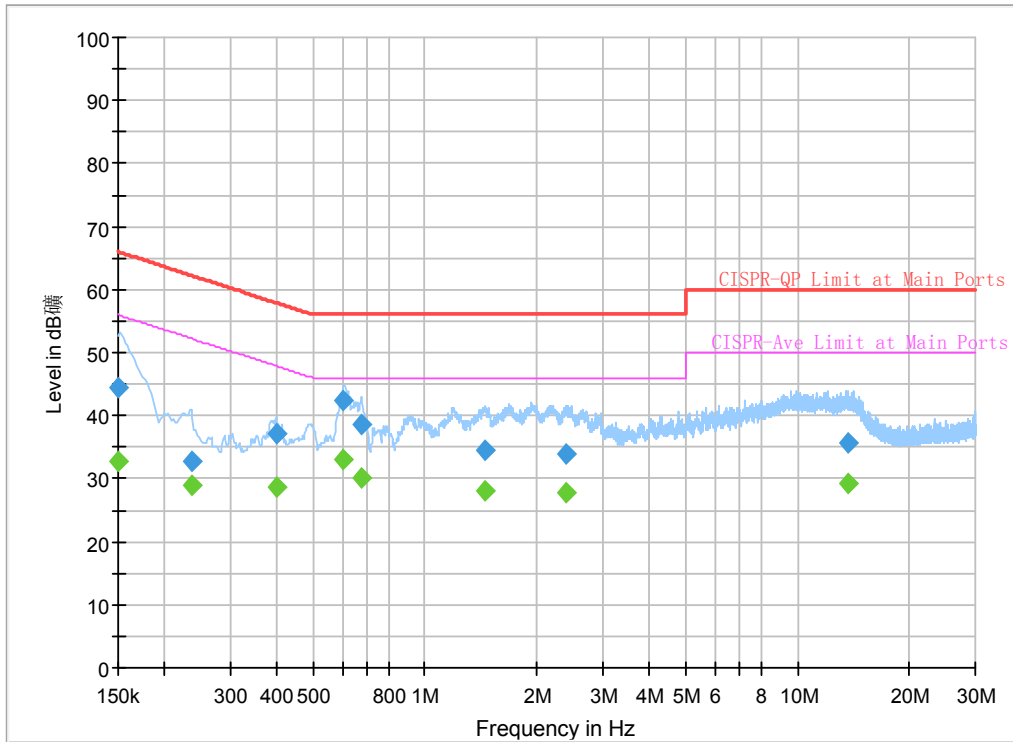
Measured power density (dBm) has offset with cable loss.



Appendix B. AC Conducted Emission Test Results

Test Engineer :	Arthur Hsieh	Temperature :	21~25°C
		Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line

Full Spectrum



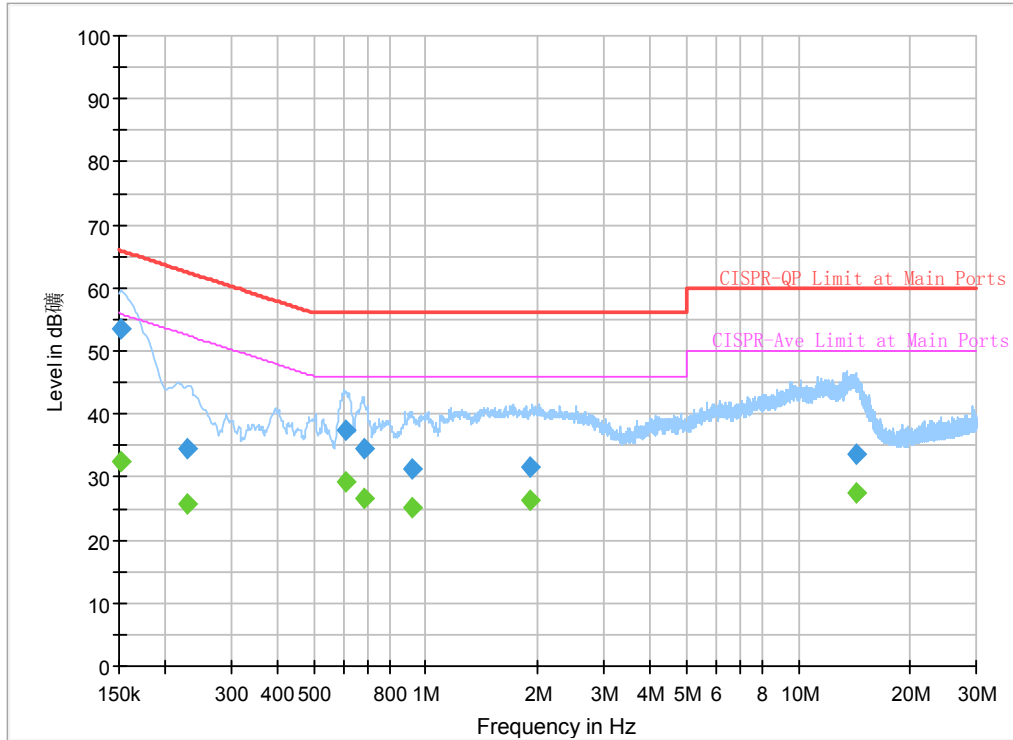
Final Result

Frequency (MHz)	Quasi-Peak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	32.73	56.00	23.27	L1	OFF	19.5
0.150000	44.32	---	66.00	21.68	L1	OFF	19.5
0.235500	---	28.88	52.25	23.37	L1	OFF	19.5
0.235500	32.73	---	62.25	29.52	L1	OFF	19.5
0.397500	---	28.74	47.91	19.17	L1	OFF	19.5
0.397500	37.05	---	57.91	20.86	L1	OFF	19.5
0.604500	---	33.01	46.00	12.99	L1	OFF	19.6
0.604500	42.26	---	56.00	13.74	L1	OFF	19.6
0.676500	---	30.06	46.00	15.94	L1	OFF	19.6
0.676500	38.69	---	56.00	17.31	L1	OFF	19.6
1.450500	---	28.21	46.00	17.79	L1	OFF	19.6
1.450500	34.46	---	56.00	21.54	L1	OFF	19.6
2.404500	---	27.86	46.00	18.14	L1	OFF	19.6
2.404500	33.88	---	56.00	22.12	L1	OFF	19.6
13.701750	---	29.12	50.00	20.88	L1	OFF	20.0
13.701750	35.63	---	60.00	24.37	L1	OFF	20.0



Test Engineer :	Arthur Hsieh	Temperature :	21~25°C
		Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

Full Spectrum



Final Result

Frequency (MHz)	Quasi-Peak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	32.38	55.88	23.50	N	OFF	19.5
0.152250	53.54	---	65.88	12.34	N	OFF	19.5
0.228750	---	25.73	52.50	26.77	N	OFF	19.5
0.228750	34.38	---	62.50	28.12	N	OFF	19.5
0.606750	---	29.16	46.00	16.84	N	OFF	19.6
0.606750	37.55	---	56.00	18.45	N	OFF	19.6
0.681000	---	26.49	46.00	19.51	N	OFF	19.6
0.681000	34.36	---	56.00	21.64	N	OFF	19.6
0.917250	---	25.25	46.00	20.75	N	OFF	19.6
0.917250	31.21	---	56.00	24.79	N	OFF	19.6
1.914000	---	26.31	46.00	19.69	N	OFF	19.6
1.914000	31.57	---	56.00	24.43	N	OFF	19.6
14.226000	---	27.42	50.00	22.58	N	OFF	20.1
14.226000	33.73	---	60.00	26.27	N	OFF	20.1



Appendix C. Radiated Spurious Emission

Test Engineer :	Watt, Karl, Ken	Temperature :	22~25°C
		Relative Humidity :	62~65%



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2368.905	59.59	-14.41	74	47.41	27.11	16.65	31.58	350	323	P	H
		2387.805	47.55	-6.45	54	35.3	27.15	16.68	31.58	350	323	A	H
	*	2412	108.33	-	-	95.99	27.19	16.72	31.57	350	323	P	H
	*	2412	104.17	-	-	91.83	27.19	16.72	31.57	350	323	A	H
		2381.4	60.09	-13.91	74	47.89	27.11	16.67	31.58	122	114	P	V
		2389.065	47.69	-6.31	54	35.44	27.15	16.68	31.58	122	114	A	V
	*	2412	107.8	-	-	95.46	27.19	16.72	31.57	122	114	P	V
	*	2412	103.65	-	-	91.31	27.19	16.72	31.57	122	114	A	V
802.11b CH 02 2417MHz		2388.68	60.14	-13.86	74	47.89	27.15	16.68	31.58	121	57	P	H
		2389.94	47.54	-6.46	54	35.28	27.15	16.68	31.57	121	57	A	H
	*	2417	111.15	-	-	98.81	27.19	16.72	31.57	121	57	P	H
	*	2417	106.22	-	-	93.88	27.19	16.72	31.57	121	57	A	H
		2350.6	59.87	-14.13	74	47.79	27.03	16.63	31.58	240	71	P	V
		2389.8	47.42	-6.58	54	35.16	27.15	16.68	31.57	240	71	A	V
	*	2417	107.19	-	-	94.85	27.19	16.72	31.57	240	71	P	V
	*	2417	103.19	-	-	90.85	27.19	16.72	31.57	240	71	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 06 2437MHz		2319.52	59.73	-14.27	74	47.75	26.99	16.58	31.59	110	134	P	H
		2389.94	47.42	-6.58	54	35.16	27.15	16.68	31.57	110	134	A	H
	*	2437	110.71	-	-	98.25	27.28	16.75	31.57	110	134	P	H
	*	2437	106.62	-	-	94.16	27.28	16.75	31.57	110	134	A	H
		2484.39	60.64	-13.36	74	48.02	27.36	16.82	31.56	110	134	P	H
		2500	47.82	-6.18	54	35.12	27.4	16.85	31.55	110	134	A	H
		2347.94	59.66	-14.34	74	47.59	27.03	16.62	31.58	148	100	P	V
		2384.76	47.45	-6.55	54	35.24	27.11	16.68	31.58	148	100	A	V
	*	2437	109.56	-	-	97.1	27.28	16.75	31.57	148	100	P	V
	*	2437	105.03	-	-	92.57	27.28	16.75	31.57	148	100	A	V
		2490.06	60.16	-13.84	74	47.49	27.4	16.83	31.56	148	100	P	V
		2497.83	47.84	-6.16	54	35.15	27.4	16.84	31.55	148	100	A	V
802.11b CH 10 2457MHz	*	2457	110.74	-	-	98.2	27.32	16.78	31.56	101	55	P	H
	*	2457	106.63	-	-	94.09	27.32	16.78	31.56	101	55	A	H
		2498.74	59.77	-14.23	74	47.08	27.4	16.84	31.55	101	55	P	H
		2483.68	48.08	-5.92	54	35.46	27.36	16.82	31.56	101	55	A	H
	*	2457	109.38	-	-	96.84	27.32	16.78	31.56	193	99	P	V
	*	2457	104.62	-	-	92.08	27.32	16.78	31.56	193	99	A	V
		2496.58	60.68	-13.32	74	47.99	27.4	16.84	31.55	193	99	P	V
		2485.24	47.95	-6.05	54	35.33	27.36	16.82	31.56	193	99	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 11 2462MHz	*	2462	111.46	-	-	98.91	27.32	16.79	31.56	125	42	P	H
	*	2462	107.39	-	-	94.84	27.32	16.79	31.56	125	42	A	H
		2483.84	60.3	-13.7	74	47.68	27.36	16.82	31.56	125	42	P	H
		2486.04	48.05	-5.95	54	35.43	27.36	16.82	31.56	125	42	A	H
	*	2462	110.31	-	-	97.76	27.32	16.79	31.56	212	100	P	V
	*	2462	105.5	-	-	92.95	27.32	16.79	31.56	212	100	A	V
		2485.52	60.11	-13.89	74	47.49	27.36	16.82	31.56	212	100	P	V
		2483.64	48.28	-5.72	54	35.66	27.36	16.82	31.56	212	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	52.25	-21.75	74	68.01	31.36	10.43	57.55	275	3	P	H
		4824	48.89	-5.11	54	64.65	31.36	10.43	57.55	275	3	A	H
		4824	48.85	-25.15	74	64.61	31.36	10.43	57.55	100	0	P	V
802.11b CH 02 2417MHz		4834	53.72	-20.28	74	69.42	31.39	10.44	57.53	278	4	P	H
		4834	50.44	-3.56	54	66.14	31.39	10.44	57.53	278	4	A	H
		7251	45.64	-28.36	74	54.01	35.97	12.86	57.2	100	0	P	H
		4834	51.96	-22.04	74	67.66	31.39	10.44	57.53	116	320	P	V
		4834	48.22	-5.78	54	63.92	31.39	10.44	57.53	116	320	A	V
		7251	44.96	-29.04	74	53.33	35.97	12.86	57.2	100	0	P	V
802.11b CH 06 2437MHz		4874	54.7	-19.3	74	70.22	31.46	10.47	57.45	258	3	P	H
		4874	51.85	-2.15	54	67.37	31.46	10.47	57.45	258	3	A	H
		7311	46.49	-27.51	74	54.85	36.11	12.8	57.27	100	0	P	H
		4874	52.83	-21.17	74	68.35	31.46	10.47	57.45	134	286	P	V
		4874	49.45	-4.55	54	64.97	31.46	10.47	57.45	134	286	A	V
		7311	45.82	-28.18	74	54.18	36.11	12.8	57.27	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WiFi Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 10 2467MHz		4914	52.69	-21.31	74	68.05	31.53	10.48	57.37	267	5	P	H
		4914	49.21	-4.79	54	64.57	31.53	10.48	57.37	267	5	A	H
		7371	44.55	-29.45	74	52.88	36.29	12.73	57.35	100	0	P	H
		4914	52.08	-21.92	74	67.44	31.53	10.48	57.37	101	319	P	V
		4914	48.99	-5.01	54	64.35	31.53	10.48	57.37	101	319	A	V
		7371	45.03	-28.97	74	53.36	36.29	12.73	57.35	100	0	P	V
802.11b CH 11 2462MHz		4924	53.88	-20.12	74	69.18	31.56	10.49	57.35	268	3	P	H
		4924	50.62	-3.38	54	65.92	31.56	10.49	57.35	268	3	A	H
		7386	46.1	-27.9	74	54.42	36.33	12.71	57.36	100	0	P	H
		4924	52.1	-21.9	74	67.4	31.56	10.49	57.35	106	319	P	V
		4924	49.05	-4.95	54	64.35	31.56	10.49	57.35	106	319	A	V
		7386	45.56	-28.44	74	53.88	36.33	12.71	57.36	100	0	P	V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 												



**2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)**

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.485	60.78	-13.22	74	48.53	27.15	16.68	31.58	105	42	P	H
		2390	50.66	-3.34	54	38.39	27.15	16.69	31.57	105	42	A	H
	*	2412	110.03	-	-	97.69	27.19	16.72	31.57	105	42	P	H
	*	2412	100.3	-	-	87.96	27.19	16.72	31.57	105	42	A	H
		2389.8	60.26	-13.74	74	48	27.15	16.68	31.57	126	119	P	V
		2390	49.2	-4.8	54	36.93	27.15	16.69	31.57	126	119	A	V
	*	2412	110.82	-	-	98.48	27.19	16.72	31.57	126	119	P	V
	*	2412	100.66	-	-	88.32	27.19	16.72	31.57	126	119	A	V
802.11g CH 02 2417MHz		2389.52	61.91	-12.09	74	49.66	27.15	16.68	31.58	122	40	P	H
		2389.66	50.19	-3.81	54	37.94	27.15	16.68	31.58	122	40	A	H
	*	2417	113.45	-	-	101.11	27.19	16.72	31.57	122	40	P	H
	*	2417	103.37	-	-	91.03	27.19	16.72	31.57	122	40	A	H
		2389.94	60.39	-13.61	74	48.13	27.15	16.68	31.57	148	112	P	V
		2389.94	49.34	-4.66	54	37.08	27.15	16.68	31.57	148	112	A	V
	*	2417	114.21	-	-	101.87	27.19	16.72	31.57	148	112	P	V
	*	2417	103.82	-	-	91.48	27.19	16.72	31.57	148	112	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 06 2437MHz		2333.24	60.18	-13.82	74	48.18	26.99	16.6	31.59	112	42	P	H
		2388.4	48.33	-5.67	54	36.08	27.15	16.68	31.58	112	42	A	H
	*	2437	113.57	-	-	101.1	27.28	16.76	31.57	112	42	P	H
	*	2437	103.94	-	-	91.48	27.28	16.75	31.57	112	42	A	H
		2488.38	59.93	-14.07	74	47.26	27.4	16.83	31.56	112	42	P	H
		2484.18	48.75	-5.25	54	36.13	27.36	16.82	31.56	112	42	A	H
		2342.2	60.28	-13.72	74	48.22	27.03	16.61	31.58	115	119	P	V
		2389.66	48.34	-5.66	54	36.09	27.15	16.68	31.58	115	119	A	V
	*	2437	114.2	-	-	101.74	27.28	16.75	31.57	115	119	P	V
	*	2437	104.05	-	-	91.59	27.28	16.75	31.57	115	119	A	V
		2491.11	60.86	-13.14	74	48.19	27.4	16.83	31.56	115	119	P	V
		2486.98	48.72	-5.28	54	36.09	27.36	16.83	31.56	115	119	A	V
	802.11g CH 10 2457MHz	*	2457	113.85	-	-	101.31	27.32	16.78	31.56	332	52	P
*		2457	104.29	-	-	91.75	27.32	16.78	31.56	332	52	A	H
		2484.46	63.11	-10.89	74	50.49	27.36	16.82	31.56	332	52	P	H
		2484.4	50.59	-3.41	54	37.97	27.36	16.82	31.56	332	52	A	H
*		2457	113.81	-	-	101.27	27.32	16.78	31.56	186	112	P	V
*		2457	103.74	-	-	91.2	27.32	16.78	31.56	186	112	A	V
		2484.28	62.02	-11.98	74	49.4	27.36	16.82	31.56	186	112	P	V
		2483.56	50.17	-3.83	54	37.55	27.36	16.82	31.56	186	112	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 11 2462MHz	*	2462	110.47	-	-	97.92	27.32	16.79	31.56	131	42	P	H
	*	2462	100.21	-	-	87.66	27.32	16.79	31.56	131	42	A	H
		2484.84	61.19	-12.81	74	48.57	27.36	16.82	31.56	131	42	P	H
		2483.52	50.29	-3.71	54	37.67	27.36	16.82	31.56	131	42	A	H
	*	2462	110.03	-	-	97.48	27.32	16.79	31.56	104	126	P	V
	*	2462	100.18	-	-	87.63	27.32	16.79	31.56	104	126	A	V
		2483.6	60.88	-13.12	74	48.26	27.36	16.82	31.56	104	126	P	V
		2483.64	50.21	-3.79	54	37.59	27.36	16.82	31.56	104	126	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1+2, Note, Frequency (MHz), Level (dBµV/m), Over Limit (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include data for CH 01 (2412MHz), CH 02 (2417MHz), and CH 06 (2437MHz).

Remark

- 1. No other spurious found.
2. All results are PASS against Peak and Average limit line.



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 10 2457MHz		4914	49.95	-24.05	74	65.31	31.53	10.48	57.37	100	0	P	H
		7371	44.58	-29.42	74	52.91	36.29	12.73	57.35	100	0	P	H
		4914	49.57	-24.43	74	64.93	31.53	10.48	57.37	100	0	P	V
		7371	44.48	-29.52	74	52.81	36.29	12.73	57.35	100	0	P	V
802.11g CH 11 2462MHz		4924	46.32	-27.68	74	61.62	31.56	10.49	57.35	100	0	P	H
		7386	44.68	-29.32	74	53	36.33	12.71	57.36	100	0	P	H
		4924	46.48	-27.52	74	61.78	31.56	10.49	57.35	100	0	P	V
		7386	43.83	-30.17	74	52.15	36.33	12.71	57.36	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2388.96	60.96	-13.04	74	48.71	27.15	16.68	31.58	118	43	P	H
		2389.38	50.47	-3.53	54	38.22	27.15	16.68	31.58	118	43	A	H
	*	2412	108.83	-	-	96.49	27.19	16.72	31.57	118	43	P	H
	*	2412	98.91	-	-	86.57	27.19	16.72	31.57	118	43	A	H
		2389.905	61.51	-12.49	74	49.25	27.15	16.68	31.57	124	117	P	V
		2389.905	51	-3	54	38.74	27.15	16.68	31.57	124	117	A	V
	*	2412	110.87	-	-	98.53	27.19	16.72	31.57	124	117	P	V
	*	2412	100.57	-	-	88.23	27.19	16.72	31.57	124	117	A	V
802.11n HT20 CH 02 2417MHz		2389.66	62.09	-11.91	74	49.84	27.15	16.68	31.58	357	49	P	H
		2389.66	49.86	-4.14	54	37.61	27.15	16.68	31.58	357	49	A	H
	*	2417	114.5	-	-	102.16	27.19	16.72	31.57	357	49	P	H
	*	2417	104.12	-	-	91.78	27.19	16.72	31.57	357	49	A	H
		2388.82	60.98	-13.02	74	48.73	27.15	16.68	31.58	133	100	P	V
		2389.94	48.51	-5.49	54	36.25	27.15	16.68	31.57	133	100	A	V
	*	2417	112.23	-	-	99.89	27.19	16.72	31.57	133	100	P	V
	*	2417	102.27	-	-	89.93	27.19	16.72	31.57	133	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 06 2437MHz		2359.98	60.18	-13.82	74	48.05	27.07	16.64	31.58	113	42	P	H
		2388.54	48.58	-5.42	54	36.33	27.15	16.68	31.58	113	42	A	H
	*	2437	114.95	-	-	102.49	27.28	16.75	31.57	113	42	P	H
	*	2437	104.38	-	-	91.92	27.28	16.75	31.57	113	42	A	H
		2486.77	60.48	-13.52	74	47.85	27.36	16.83	31.56	113	42	P	H
		2483.97	48.91	-5.09	54	36.29	27.36	16.82	31.56	113	42	A	H
		2388.82	59.64	-14.36	74	47.39	27.15	16.68	31.58	115	120	P	V
		2389.66	48.65	-5.35	54	36.4	27.15	16.68	31.58	115	120	A	V
	*	2437	112.47	-	-	100.01	27.28	16.75	31.57	115	120	P	V
	*	2437	102.49	-	-	90.03	27.28	16.75	31.57	115	120	A	V
		2489.64	59.92	-14.08	74	47.25	27.4	16.83	31.56	115	120	P	V
		2490.9	48.79	-5.21	54	36.12	27.4	16.83	31.56	115	120	A	V
802.11n HT20 CH 10 2457MHz	*	2457	114.22	-	-	101.68	27.32	16.78	31.56	150	44	P	H
	*	2457	103.51	-	-	90.97	27.32	16.78	31.56	150	44	A	H
		2483.74	61.98	-12.02	74	49.36	27.36	16.82	31.56	150	44	P	H
		2483.8	50.57	-3.43	54	37.95	27.36	16.82	31.56	150	44	A	H
	*	2457	112.63	-	-	100.09	27.32	16.78	31.56	185	99	P	V
	*	2457	102.23	-	-	89.69	27.32	16.78	31.56	185	99	A	V
		2484.64	63.02	-10.98	74	50.4	27.36	16.82	31.56	185	99	P	V
		2483.74	50.51	-3.49	54	37.89	27.36	16.82	31.56	185	99	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 11 2462MHz	*	2462	108.38	-	-	95.83	27.32	16.79	31.56	108	42	P	H
	*	2462	98.85	-	-	86.3	27.32	16.79	31.56	108	42	A	H
		2484.44	61.91	-12.09	74	49.29	27.36	16.82	31.56	108	42	P	H
		2483.52	50.43	-3.57	54	37.81	27.36	16.82	31.56	108	42	A	H
	*	2462	109.16	-	-	96.61	27.32	16.79	31.56	100	125	P	V
	*	2462	98.75	-	-	86.2	27.32	16.79	31.56	100	125	A	V
		2484.08	61.72	-12.28	74	49.1	27.36	16.82	31.56	100	125	P	V
		2483.6	50.36	-3.64	54	37.74	27.36	16.82	31.56	100	125	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	48.48	-25.52	74	64.24	31.36	10.43	57.55	100	0	P	H
		4824	46.64	-27.36	74	62.4	31.36	10.43	57.55	100	0	P	V
802.11n HT20 CH 02 2417MHz		4834	53.52	-20.48	74	69.22	31.39	10.44	57.53	272	339	P	H
		4834	38.82	-15.18	54	54.52	31.39	10.44	57.53	272	339	A	H
		7251	45.44	-28.56	74	53.81	35.97	12.86	57.2	100	0	P	H
		4834	53.62	-20.38	74	69.32	31.39	10.44	57.53	386	308	P	V
		4834	37.46	-16.54	54	53.16	31.39	10.44	57.53	386	308	A	V
		7251	45.33	-28.67	74	53.7	35.97	12.86	57.2	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	55.06	-18.94	74	70.58	31.46	10.47	57.45	161	357	P	H
		4874	39.05	-14.95	54	54.57	31.46	10.47	57.45	161	357	A	H
		7311	53.7	-20.3	74	62.06	36.11	12.8	57.27	100	342	P	H
		7311	38.99	-15.01	54	47.35	36.11	12.8	57.27	100	342	A	H
		4874	49.62	-24.38	74	65.14	31.46	10.47	57.45	100	0	P	V
		7311	47.97	-26.03	74	56.33	36.11	12.8	57.27	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 10 2457MHz		4914	52.98	-21.02	74	68.34	31.53	10.48	57.37	269	3	P	H
		4914	38.16	-15.84	54	53.52	31.53	10.48	57.37	269	3	A	H
		7371	44.81	-29.19	74	53.14	36.29	12.73	57.35	100	0	P	H
		4914	52.52	-21.48	74	67.88	31.53	10.48	57.37	186	327	P	V
		4914	37.15	-16.85	54	52.51	31.53	10.48	57.37	186	327	A	V
		7371	46.24	-27.76	74	54.57	36.29	12.73	57.35	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	47.58	-26.42	74	62.88	31.56	10.49	57.35	100	0	P	H
		7386	44.03	-29.97	74	52.35	36.33	12.71	57.36	100	0	P	H
		4924	45.26	-28.74	74	60.56	31.56	10.49	57.35	100	0	P	V
		7386	45.27	-28.73	74	53.59	36.33	12.71	57.36	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz
2.4GHz WIFI 802.11b (LF)

Table with 14 columns: WIFI, Note, Frequency, Level, Over, Limit, Read, Antenna, Path, Preamp, Ant, Table, Peak, Pol. It contains 12 rows of test data for 2.4GHz WIFI 802.11b LF and a Remark section at the bottom.



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
2. Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

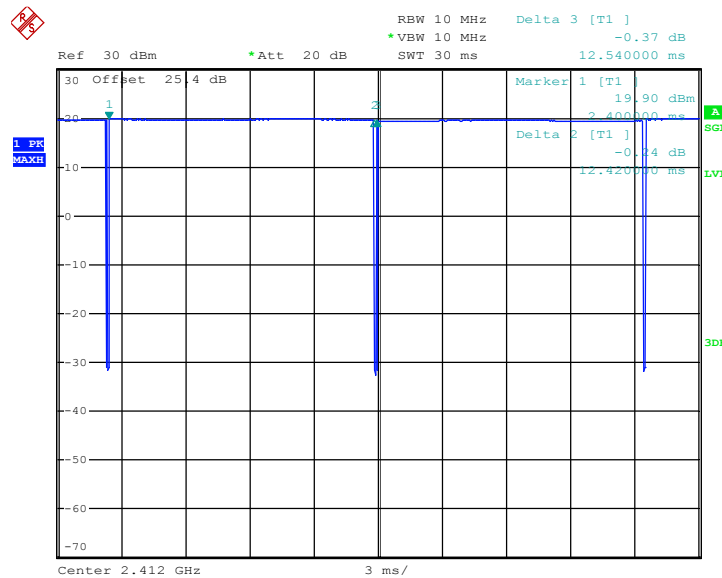
Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Duty Cycle Plots

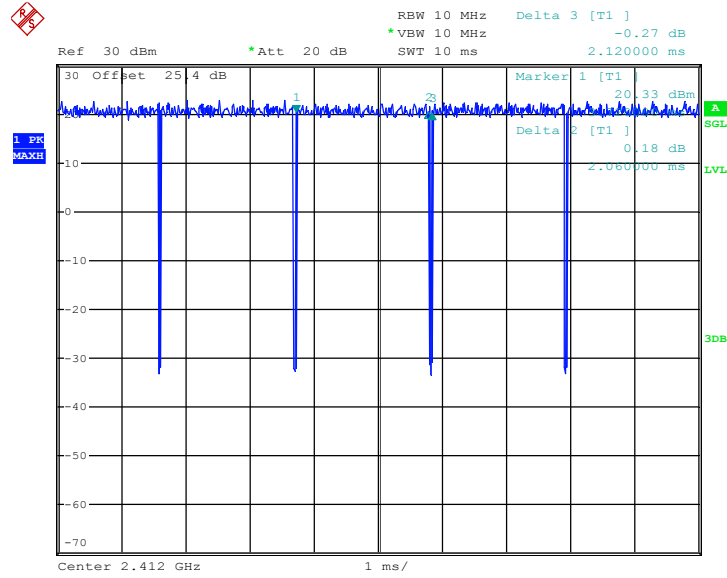
ANT	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2	802.11b	99.04	-	-	10Hz
1+2	802.11g	97.17	2.060	0.49	1kHz
1+2	802.11n HT20	97.96	1.920	0.52	1kHz

802.11b





802.11g



802.11n HT20

