FCC CO-LOCATION TEST REPORT

FCC ID	:	**APYHRO00283**
Equipment	:	**Wireless router**
Applicant	:	**SHARP CORPORATION** **1 Takumi-cho, Sakai-ku, Sakai City, Osaka, Japan 590-8522**
Manufacturer	:	**SHARP CORPORATION** **2-13-1, HACHIHONMATSU-IIDA, HIGASHI-HIROSHIMA-SHI, HIROSHIMA PREFECTURE 739-0192, JAPAN**
Standard	:	**FCC Part 15 Subpart C §15.247**

The product was received on Dec. 10, 2019 and testing was started from Dec. 30, 2019 and completed on Feb. 12, 2020. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR9O0422-06B	01	Initial issue of report	Feb. 14, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 4.18 dB at 7464.000 MHz
3.2	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Lucy Wu

1 General Description

1.1 Product Feature of Equipment Under Test

WCDMA/LTE and Wi-Fi 2.4GHz 802.11b/g/n/ax

Product Specification subjective to this standard	
Antenna Type	WWAN: **<Ant. 1>:** PIFA Antenna **<Ant. 2>:** Coupling type (LDS) Antenna WLAN: **<Ant. 1>:** Loop Antenna **<Ant. 2>:** Loop Antenna

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

1.3 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855	
Test Site No.	**Sporton Site No.**	
	03CH15-HY	

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW0007

1.4 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

2.1 Carrier Frequency and Channel

2400-2483.5 MHz 802.11b	
Channel	**Frequency (MHz)**
1	2412

WCDMA Band IV and Frequency List			
Channel/Frequency (MHz)	**Lowest**	**Middle**	**Highest**
Channel	1312	1413	1513
Frequency	1712.4	1732.6	1752.6

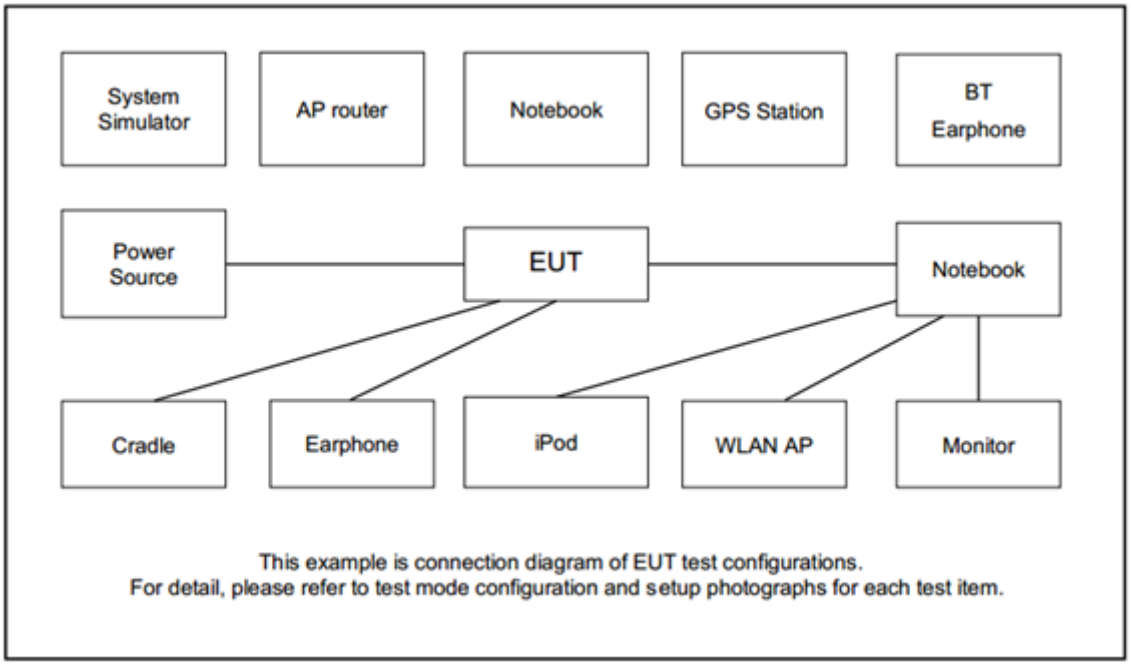
LTE Band 13 Channel and Frequency List				
BW [MHz]	**Channel/Frequency (MHz)**	**Lowest**	**Middle**	**Highest**
10	**Channel**	-	23230	-
	Frequency	-	782	-
5	**Channel**	23205	23230	23255
	Frequency	779.5	782	784.5

2.2 Test Mode

<Co-Location>

Test Mode
WLAN + WWAN
2.4GHz 802.11b Channel 01 + LTE Band 13 5M Middle Channel
2.4GHz 802.11b Channel 01 + WCDMA Band IV Lowest Channel

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT (4.0.00142)” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

3 Test Result

3.1 Radiated Band Edges and Spurious Emission Measurement

3.1.1 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

3.1.2 Measuring Instruments

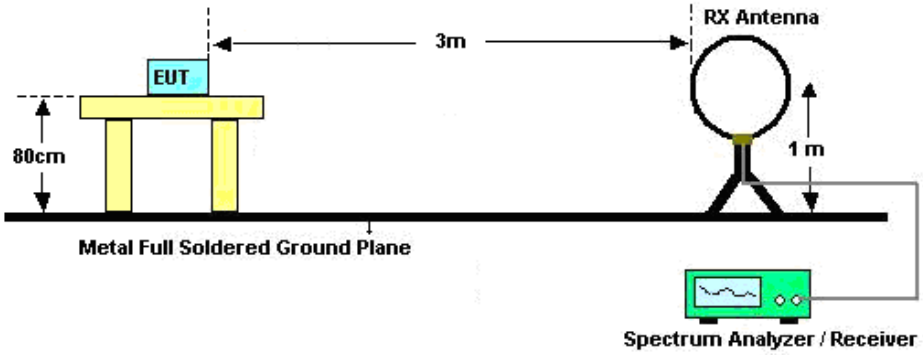
See list of measuring equipment of this test report.

3.1.3 Test Procedures

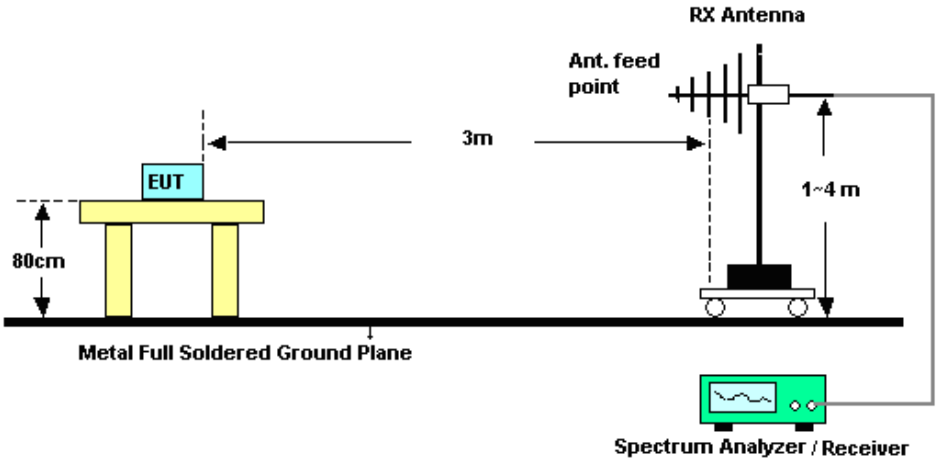
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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.

3.1.4 Test Setup

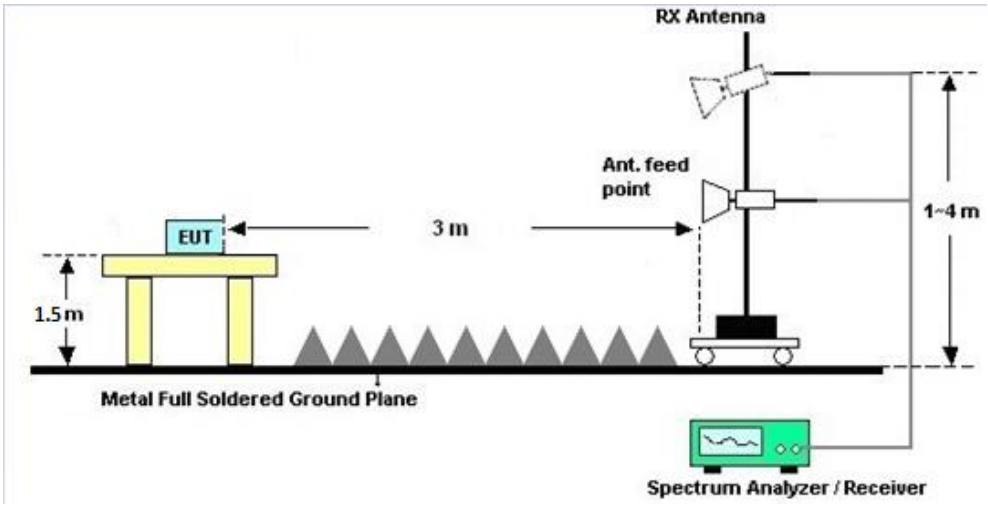
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.1.5 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.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix A and B.

3.2 Antenna Requirements

3.2.1 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 rule.

3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.2.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Dec. 30, 2019	Dec. 30, 2019~ Feb. 12, 2020	Dec. 25, 2020	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	37059 & 01	30MHz~1GHz	Oct. 12, 2019	Dec. 30, 2019~ Feb. 12, 2020	Oct. 11, 2020	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-2114	1-18GHz	Jul. 31, 2019	Dec. 30, 2019~ Feb. 12, 2020	Jul. 30, 2020	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Dec. 10, 2019	Dec. 30, 2019~ Feb. 12, 2020	Dec. 09, 2020	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 03, 2019	Dec. 30, 2019~ Feb. 12, 2020	Dec. 02, 2020	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800055007	1GHz~18GHz	Apr. 01, 2019	Dec. 30, 2019~ Feb. 12, 2020	May 31, 2020	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 23, 2019	Dec. 30, 2019~ Feb. 12, 2020	Aug. 22, 2020	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Dec. 30, 2019~ Feb. 12, 2020	Dec. 12, 2020	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY55420170	20MHz~8.4GHz	Mar. 08, 2019	Dec. 30, 2019~ Feb. 12, 2020	Mar. 07, 2020	Radiation (03CH15-HY
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	Apr. 29, 2019	Dec. 30, 2019~ Feb. 12, 2020	Apr. 28, 2020	Radiation (03CH15-HY)
Base Station	Anritsu	MT8820C	6201432817	GSM / GPRS /WCDMA / LTE FDD/TDD with 44)	Dec. 12, 2018	Dec. 30, 2019~ Feb. 12, 2020	Dec. 11, 2020	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 30, 2019~ Feb. 12, 2020	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Dec. 30, 2019~ Feb. 12, 2020	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Dec. 30, 2019~ Feb. 12, 2020	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY36980/4	30M-18G	Apr. 15, 2019	Dec. 30, 2019~ Feb. 12, 2020	Apr. 14, 2020	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9838/4PE	30M-18G	Apr. 15, 2019	Dec. 30, 2019~ Feb. 12, 2020	Apr. 14, 2020	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY802430/4	30M~18GHz	May 13, 2019	Dec. 30, 2019~ Feb. 12, 2020	May 12, 2020	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 26, 2019	Dec. 30, 2019~ Feb. 12, 2020	Feb. 25, 2020	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 26, 2019	Dec. 30, 2019~ Feb. 12, 2020	Feb. 25, 2020	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN4	1.53G Low Pass	Jul. 04, 2019	Dec. 30, 2019~ Feb. 12, 2020	Jul. 03, 2020	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3GHz High Pass Filter	Jul. 17, 2019	Dec. 30, 2019~ Feb. 12, 2020	Jul. 14, 2020	Radiation (03CH15-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.4**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0**

Appendix A. Radiated Spurious Emission

Test Engineer :	Leo Lee , Mancy Chou, and Bigshow Wang	**Temperature :**	23.9 ~ 25.2°C
		Relative Humidity :	54 ~ 62 %

11b_Tx_Ch01+LTE B13 5M Ch23230 (Band Edge @ 3m)

WIFI Ant. 1 Simultaneously	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)
		2339.505	58.1	-15.9	74	44.76	28.02	16.49	31.17	100	228	P	H
		2339.4	47.27	-6.73	54	33.93	28.02	16.49	31.17	100	228	A	H
	*	2412	103.53	-	-	90.39	27.68	16.59	31.13	100	228	P	H
	*	2412	100.53	-	-	87.39	27.68	16.59	31.13	100	228	A	H
11b_Tx_Ch01													H
+													H
LTE B13 5M		2377.305	55.52	-18.48	74	42.28	27.84	16.55	31.15	380	314	P	V
CH23230		2339.61	44.17	-9.83	54	30.83	28.02	16.49	31.17	380	314	A	V
	*	2412	100.56	-	-	87.42	27.68	16.59	31.13	380	314	P	V
	*	2412	97.48	-	-	84.34	27.68	16.59	31.13	380	314	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

11b_Tx_Ch01+WCDMA B4 CH1312 (Band Edge @ 3m)

WIFI Ant. 1 Simultaneously	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)
		2329.425	56.44	-17.56	74	43.1	28.04	16.48	31.18	100	232	P	H
		2312.625	44.07	-9.93	54	30.72	28.07	16.46	31.18	100	232	A	H
	*	2412	105.13	-	-	91.99	27.68	16.59	31.13	100	232	P	H
	*	2412	101.91	-	-	88.77	27.68	16.59	31.13	100	232	A	H
11b_Tx_Ch01													H
+													H
WCDMA B4		2320.815	56	-18	74	42.65	28.06	16.47	31.18	380	277	P	V
CH1312		2332.05	44.04	-9.96	54	30.69	28.04	16.48	31.17	380	277	A	V
	*	2412	102.61	-	-	89.47	27.68	16.59	31.13	380	277	P	V
	*	2412	99.54	-	-	86.4	27.68	16.59	31.13	380	277	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

11b_Tx_Ch01+LTE B13 5M Ch23230 (Harmonic @ 3m)

WIFI Ant. 1 Simultaneously	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)
11b_Tx_Ch01 + LTE B13 5M Ch23230		4824	53.7	-20.3	74	62	31.25	19.61	59.16	100	128	P	H
		4824	43.76	-10.24	54	52.06	31.25	19.61	59.16	100	128	A	H
		7482	65.58	-8.42	74	66.37	36.54	21.78	59.11	100	81	P	H
		7482	47.55	-6.45	54	48.34	36.54	21.78	59.11	100	81	A	H
													H
													H
													H
													H
		4824	48.49	-25.51	74	56.79	31.25	19.61	59.16	400	0	P	V
		7494	69.57	-4.43	74	70.38	36.51	21.78	59.1	100	37	P	V
		7494	47.02	-6.98	54	47.83	36.51	21.78	59.1	100	37	A	V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

11b_Tx_Ch01+WCDMA B4 CH1312 (Harmonic @ 3m)

WIFI Ant. 1 Simultaneously	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)
11b_Tx_Ch01 + WCDMA B4 CH1312		4122	65.39	-8.61	74	76.32	29.94	18.99	59.86	100	190	P	H
		4122	49.8	-4.2	54	60.73	29.94	18.99	59.86	100	190	A	H
		4824	53.33	-20.67	74	61.63	31.25	19.61	59.16	100	129	P	H
		4824	42.82	-11.18	54	51.12	31.25	19.61	59.16	100	129	A	H
		7470	67.06	-6.94	74	67.84	36.56	21.77	59.11	100	75	P	H
		7470	46.69	-7.31	54	47.47	36.56	21.77	59.11	100	75	A	H
													H
													H
		4122	62.04	-11.96	74	72.97	29.94	18.99	59.86	400	287	P	V
		4122	47.89	-6.11	54	58.82	29.94	18.99	59.86	400	287	A	V
		4824	47.95	-26.05	74	56.25	31.25	19.61	59.16	100	0	P	V
		7464	69.82	-4.18	74	70.59	36.57	21.77	59.11	100	38	P	V
		7464	46.98	-7.02	54	47.75	36.57	21.77	59.11	100	38	A	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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”.

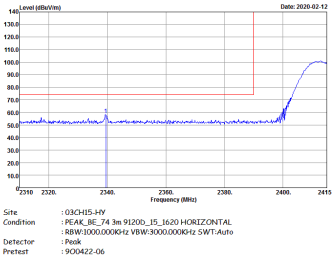
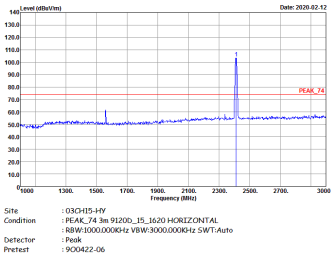
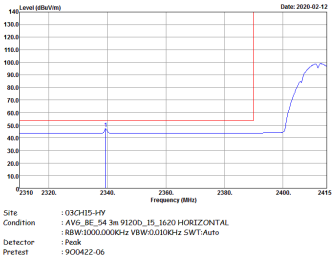
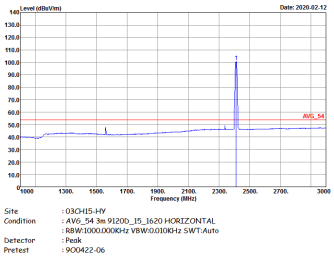
Appendix B. Radiated Spurious Emission Plots

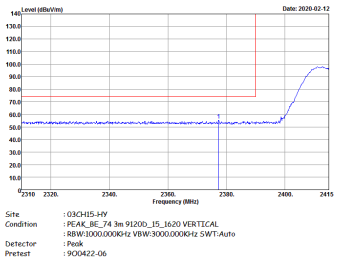
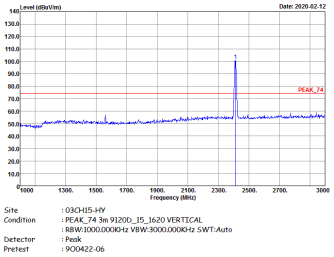
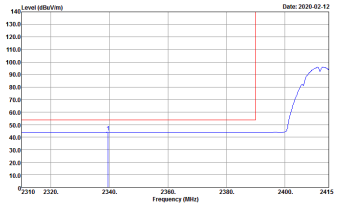
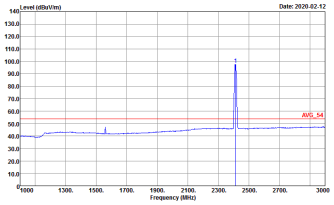
Test Engineer :	Leo Lee , Mancy Chou, and Bigshow Wang	**Temperature :**	23.9 ~ 25.2°C
		Relative Humidity :	54 ~ 62 %

Note symbol

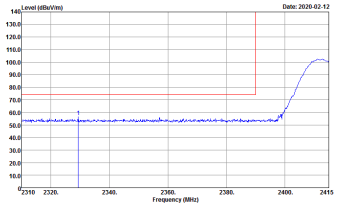
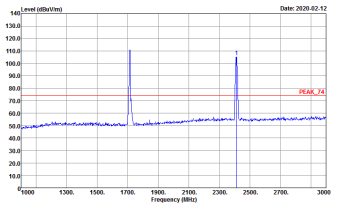
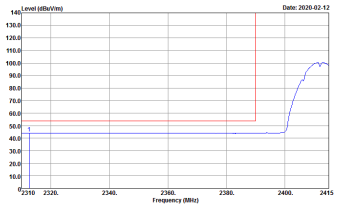
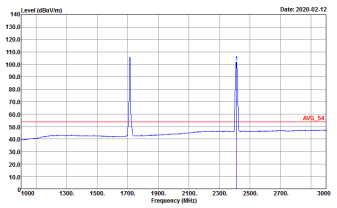
-L	**Low channel location**
-R	**High channel location**

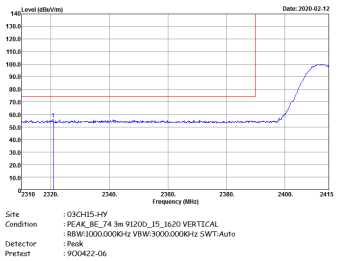
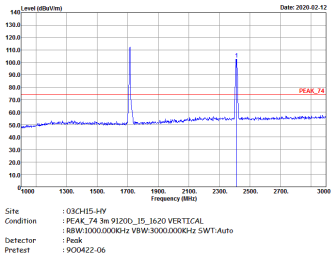
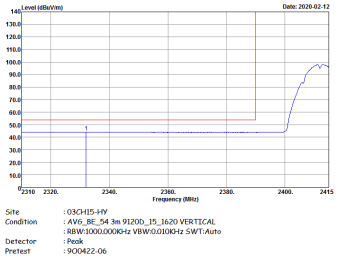
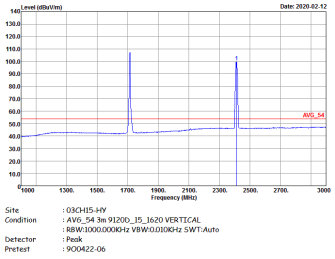
11b_Tx_Ch01+LTE B13 5M Ch23230 (Band Edge @ 3m)

Ant. 1	11b_Tx_Ch01+LTE B13 5M CH23230	
Simultaneously	**Horizontal**	**Fundamental**
Peak		
Avg.		

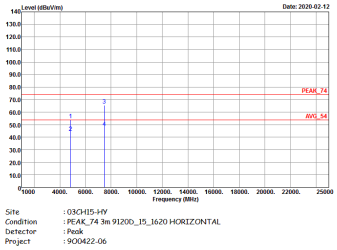
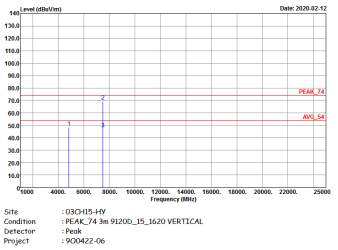
Ant. 1	11b_Tx_Ch01+LTE LTE B13 5M CH23230	
Simultaneously	**Vertical**	**Fundamental**
Peak		
Avg.		

11b_Tx_Ch01+WCDMA B4 CH1312 (Band Edge @ 3m)

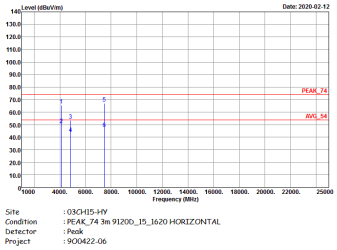
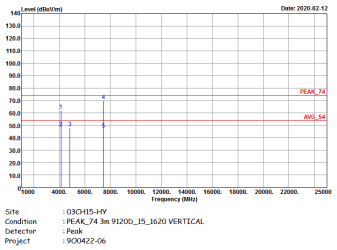
Ant. 1	11b_Tx_Ch01+ WCDMA B4 CH1312	
Simultaneously	**Horizontal**	**Fundamental**
Peak		
Avg.		

Ant. 1	11b_Tx_Ch01+ WCDMA B4 CH1312	
Simultaneously	**Vertical**	**Fundamental**
Peak		
Avg.		

11b_Tx_Ch01+LTE B13 5M CH23230 (Harmonic @ 3m)

Ant. 1	11b_Tx_Ch01+ LTE B13 5M CH23230	
Simultaneously	**Horizontal**	**Vertical**
Peak **Avg.**		

11b_Tx_Ch01+WCDMA B4 CH1312 (Harmonic @ 3m)

Ant. 1	11b_Tx_Ch01+WCDMA B4 CH1312	
Simultaneously	**Horizontal**	**Vertical**
Peak **Avg.**		

Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1	802.11b	98.01	-	-	10Hz	0.09

<Ant. 1>

802.11b