



**FCC 47 CFR PART 15 SUBPART C**

**CERTIFICATION TEST REPORT**

**FOR**

**Roboshooter/RoboAttack**

**MODEL NUMBER: TG542, TG542-R, TG630, TG630-R**

**FCC ID: 2AKBL0026020289**

**REPORT NUMBER: 4787637496.1-1**

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*Prepared for*

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	11/28/2016	Initial Issue	

Summary of Test Results			
Clause	Test Items	FCC/IC Rules	Test Results
1	20dB Bandwidth	FCC 15.249 (d)	Complied
2	TX Spurious Emission	FCC 15.249 (a)(d)(e) FCC 15.209 FCC 15.205	Complied
3	Conducted Emission Test For AC Power Port	FCC 15.207	N/A

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# 1. ATTESTATION OF TEST RESULTS

## Applicant Information

Company Name: STORMFORWARD RETAIL LTD  
Address: Unit 19, Lawson Hunt Industrial Park, Horsham, RH12 3JR, United Kingdom

## Manufacturer Information

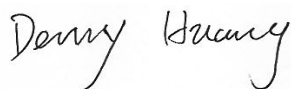
Company Name: STORMFORWARD RETAIL LTD  
Address: Unit 19, Lawson Hunt Industrial Park, Horsham, RH12 3JR, United Kingdom

## EUT Description

Product Name: Roboshooter/RoboAttack  
Brand Name: N/A  
Model Name: TG630  
Serial Number: TG542, TG542-R, TG630-R  
Model Difference: All models are identical in interior structure, electrical circuits, only the appearance, color model No. are different.  
Date Tested: November 17, 2016 ~ November 25, 2016

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013.

## 3. FACILITIES AND ACCREDITATION

Test Location	Dongguan Dongdian Testing Service Co., Ltd
Address	No. 17, Zongbu Road 2, Songshan Lake Sci&Tech Park, Dongguan City, Guangdong Province, 523808, China
Accreditation Certificate	<p>Dongguan Dongdian Testing Service Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until January 31, 2018.</p> <p>Dongguan Dongdian Testing Service Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 270092, Renewal date March 11, 2015, valid time is until March 11, 2018.</p> <p>The 3m Alternate Test Site of Dongguan Dongdian Testing Service Co., Ltd. Has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.10288A on April 23, 2015, valid time is until April 23, 2018.</p>

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.32dB
Radiated Disturbance, 9k to 30 MHz	2.76dB (9KHz-150KHz) 2.45dB(150KHz-30MHz)
Radiated Disturbance, 30 to 1000 MHz	4.70 dB (Antenna Polarize: V) 4.84 dB (Antenna Polarize: H)
Radiated Disturbance, 1 to 18 GHz	4.10dB(1-6GHz) 4.40dB (6GHz-18Gz)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

Equipment	Roboshooter/RoboAttack		
Model Name	TG542, TG542-R, TG630, TG630-R		
Difference of Model	All models are identical in interior structure, electrical circuits, only the appearance, color model No. are different .So we prepare TG630 for test only.		
Product Description	Operation Frequency	2407 MHz ~ 2477 MHz	
	Modulation Type	Data Rate	
	GFSK	250K/bps	
Power Supply	3V		
Battery	3V from LR6 battery*2		
Adapter	N/A		

### 5.2. MAXIMUM OUTPUT POWER

Frequency Range (MHz)	Number of Transmit Chains (NTX)	Frequency (MHz)	Channel Number
2407-2477	1	2407-2477	0-69[70]

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2407-2477	Integral Antenna	0



### 5.4. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2407	27	2435	54	2462
1	2408	28	2436	55	2463
2	2409	29	2437	56	2464
3	2410	30	2438	57	2465
4	2411	31	2439	58	2466
5	2412	32	2440	59	2467
6	2413	33	2441	60	2468
7	2415	34	2442	61	2469
8	2416	35	2443	62	2470
9	2417	36	2444	63	2471
10	2418	37	2445	64	2472
11	2419	38	2446	65	2473
12	2420	39	2447	66	2474
13	2421	40	2448	67	2475
14	2422	41	2449	68	2476
15	2423	42	2450	69	2477
16	2424	43	2451		
17	2425	44	2452		
18	2426	45	2453		
19	2427	46	2454		
20	2428	47	2455		
21	2429	48	2456		
22	2430	49	2457		
23	2431	50	2458		
24	2432	51	2459		
25	2433	52	2460		
26	2434	53	2461		

### 5.5. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
GFSK	CH 0, CH 37, CH 69	2407MHz, 2445MHz, 2477MHz

## 5.6. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	FCC ID
1	N/A	N/A	N/A	N/A

### I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)
1	N/A	N/A	N/A	N/A

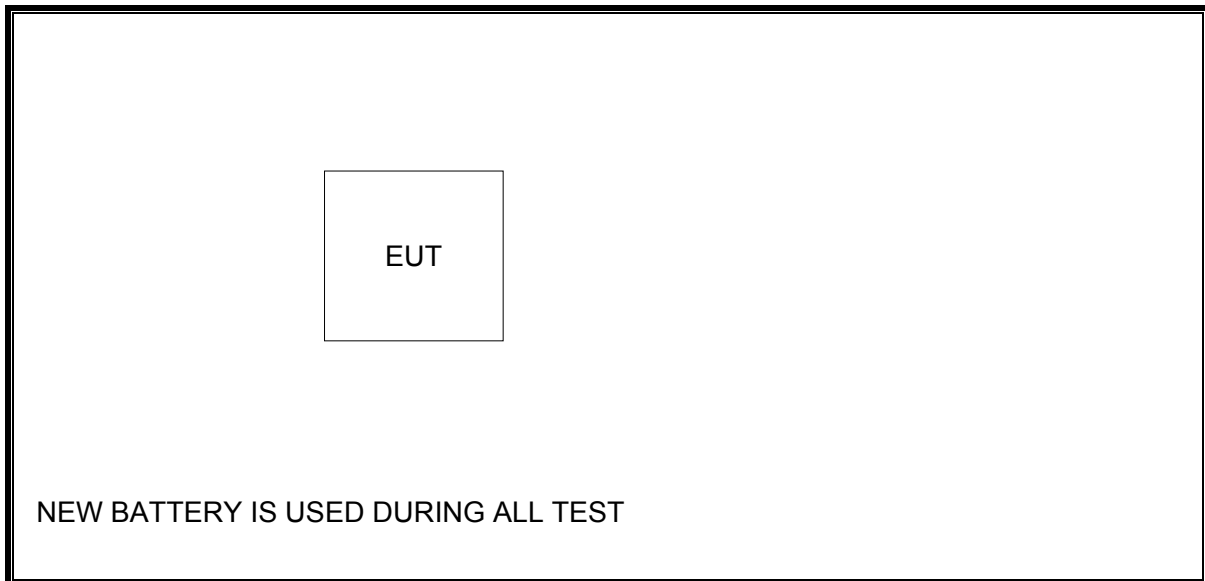
### ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	N/A	N/A	N/A	N/A

### TEST SETUP

The EUT have the engineer mode inside.

**SETUP DIAGRAM FOR TEST**



### 5.7. MEASURING INSTRUMENT AND SOFTWARE USED

Instrument(Conducted for RF Port)						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	Spectrum analyzer	R&S	FSU26	1166.1660.26	2016/10/16	2017/10/16
Instrument (Radiated Tests)						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	EMI Test Receiver	R&S	ESU8	100316	2016/10/16	2017/10/16
<input checked="" type="checkbox"/>	Spectrum analyzer	R&S	FSU26	1166.1660.26	2016/10/16	2017/10/16
<input checked="" type="checkbox"/>	Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-462	2016/10/27	2017/10/27
<input checked="" type="checkbox"/>	Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	2016/10/27	2017/10/27
<input checked="" type="checkbox"/>	Double Ridged Horn Antenna	R&S	HF907	100276	2016/10/12	2017/10/12
<input checked="" type="checkbox"/>	Pre-amplifier	A.H.	PAM-0118	360	2016/10/16	2017/10/16
<input checked="" type="checkbox"/>	RF Cable	HUBSER	CP-X2	W11.03	2016/10/16	2017/10/16
<input checked="" type="checkbox"/>	RF Cable	HUBSER	CP-X1	W12.02	2016/10/16	2017/10/16
<input checked="" type="checkbox"/>	MI Cable	HUBSER	C10-01-01-1M	1091629	2016/10/16	2017/10/16
<input checked="" type="checkbox"/>	Test software	Audix	E3	V 6.11111b	/	/

## 6. ANTENNA PORT TEST RESULTS

### 6.1. 20 dB BANDWIDTH

#### LIMITS

FCC Part15 (15.249) , Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.249(d)	Bandwidth	for reporting purposes only	2400-2483.5

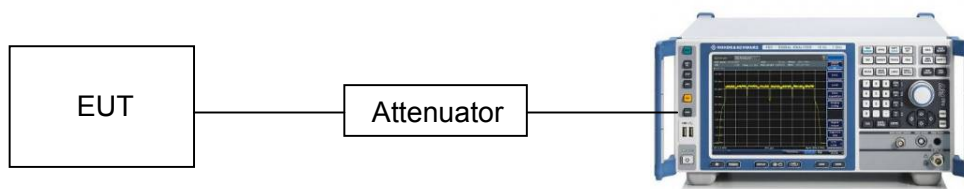
#### TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	$\geq 3 \times \text{RBW}$
Trace	Max hold
Sweep	Auto couple

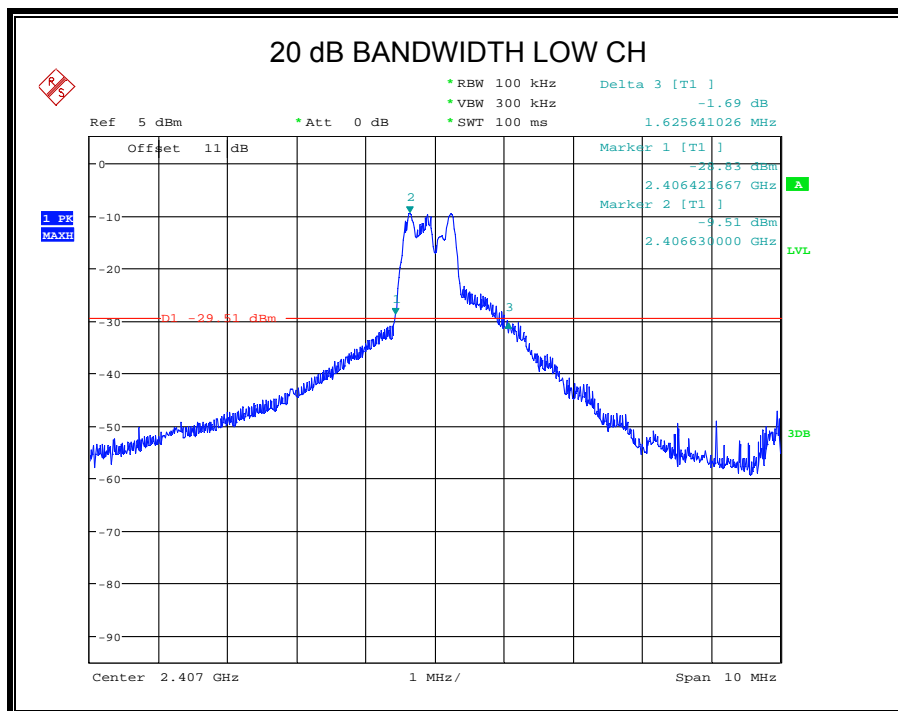
Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

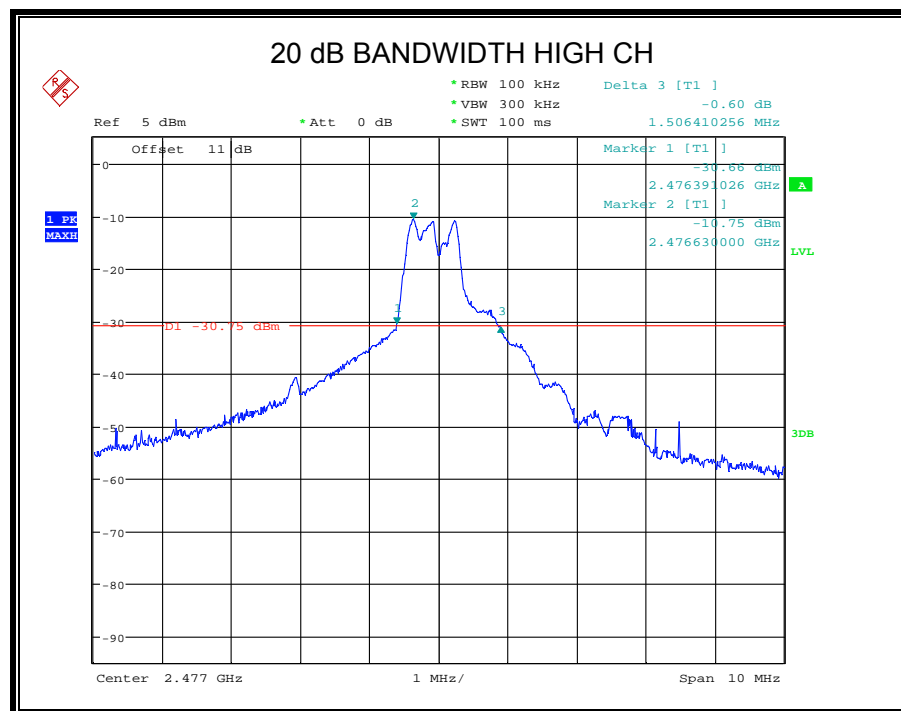
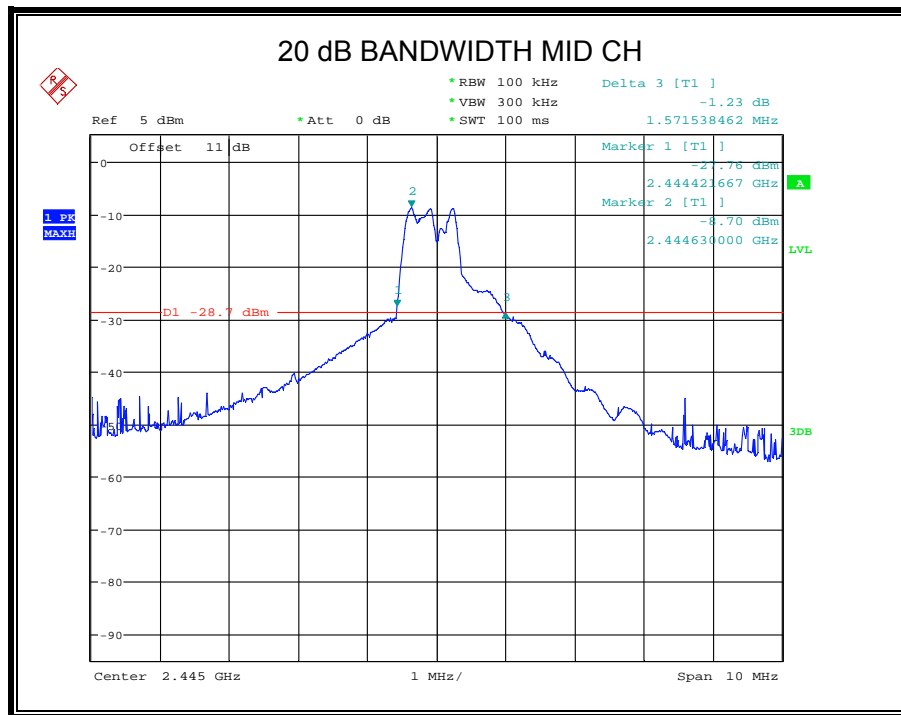
#### TEST SETUP



**RESULTS**

Channel	Frequency (MHz)	20dB bandwidth (MHz)	Result
Low	2407	1.626	Pass
Middle	2445	1.572	Pass
High	2477	1.506	Pass





## 7. RADIATED TEST RESULTS

### 7.1. LIMITS AND PROCEDURE

#### LIMITS

Please refer to FCC §15.205 and §15.209

Please refer to FCC §15.249 (a)(d)(e)

The field strength of emissions from intentional radiators operated within these frequency bands			
Frequency (MHz)	Field strength of Fundamental	Field strength of Harmonics	Distance (m)
902 - 928	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
2400 – 2483.5	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
5725 – 5875	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3

Emissions radiated outside of the specified frequency bands			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
30 - 88	100	Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

#### Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

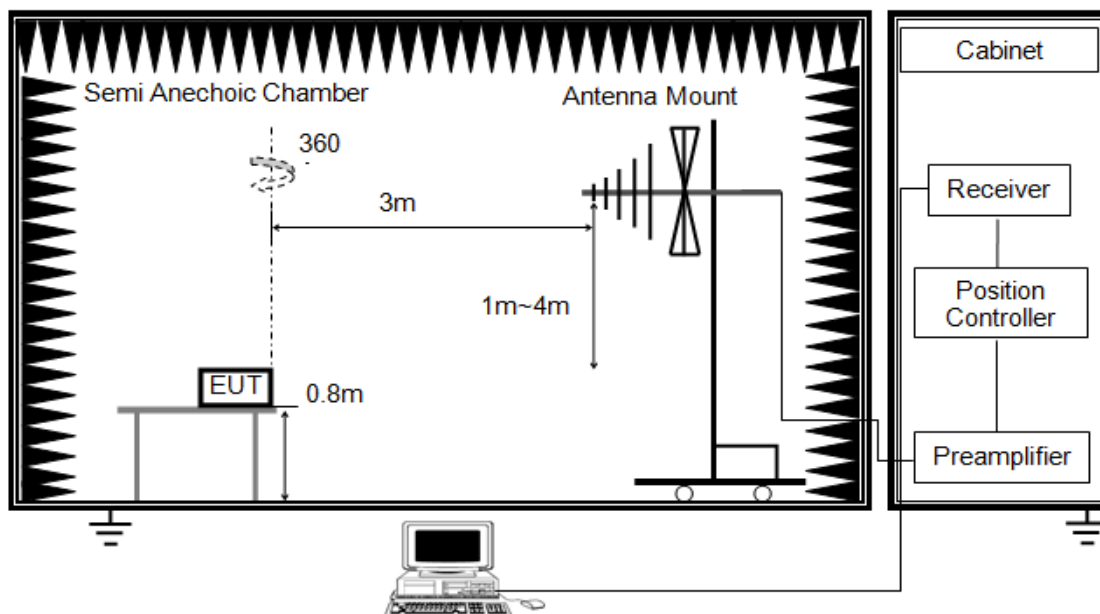
Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup>Above 38.6



**TEST SETUP AND PROCEDURE**

Below 1G

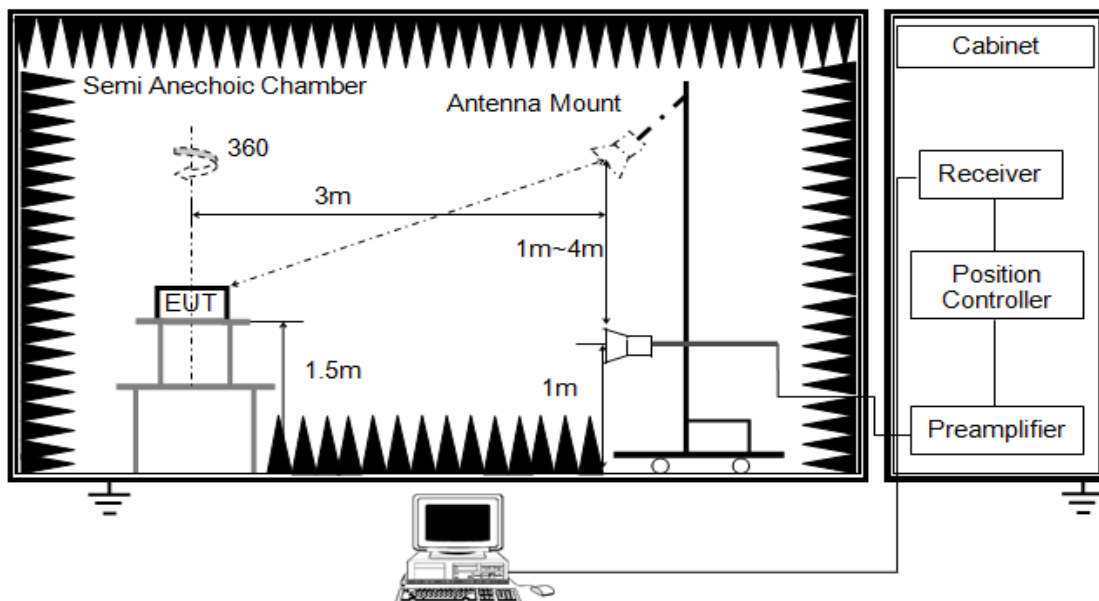


The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
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. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter 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 measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. For the actual test configuration, please refer to the related Item in this test report (Photographs of the Test Configuration)

ABOVE 1G



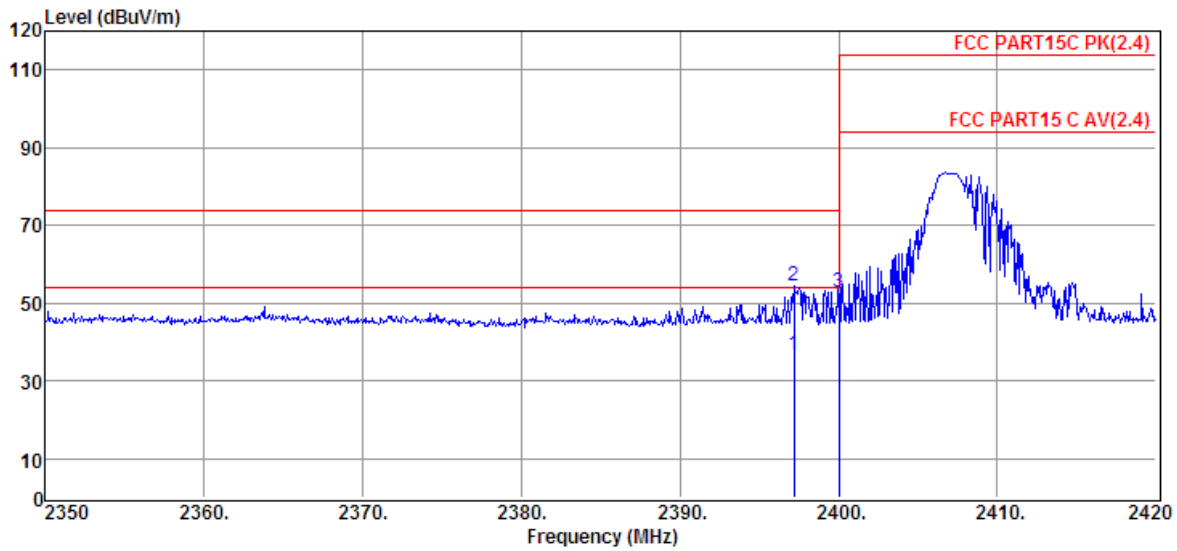
The setting of the spectrum analyser

RBW	1MHz
VBW	3MHz , 10Hz for Average
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (1.5 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. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5 meter 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:  $\text{Antenna Factor} + \text{Cable Loss} + \text{Read Level} - \text{Preamp Factor} = \text{Level}$
6. For measurement above 1GHz, the emission measurement will be measured by the Detector Peak.
7. For fundamental frequency test, set spectrum analyzer's RBW=3MHz, VBW=10MHz. peak detector for PK, RMS detector for AV, Read the Level in spectrum analyzer and record.
8. According exploratory test no any obvious emission were detected from 9KHz to 30MHz and 18GHz to 25GHz, so the final test was performed with frequency range from 30MHz to 18GHz and recorded in below.

## 7.2. RESTRICTED BANDEDGE

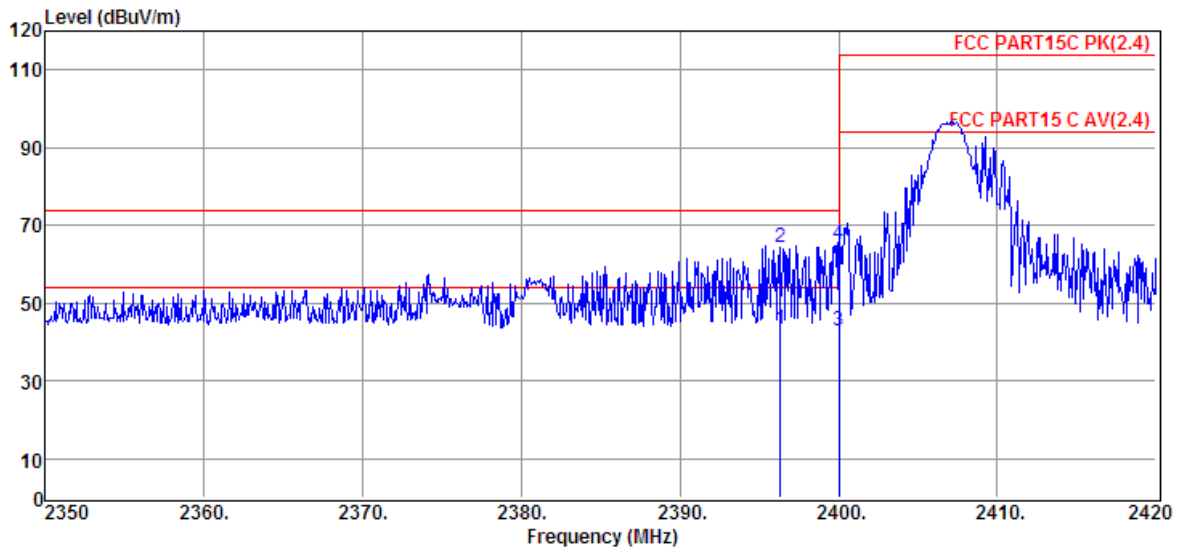
### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Facto r dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detecto r	Polarization
1	2397.18	30.30	29.80	29.42	6.03	36.71	54.00	-17.29	Average	HORIZONTAL
2	2397.18	47.94	29.80	29.42	6.03	54.35	74.00	-19.65	Peak	HORIZONTAL
3	2400.00	46.21	29.82	29.44	6.03	52.62	74.00	-21.38	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**

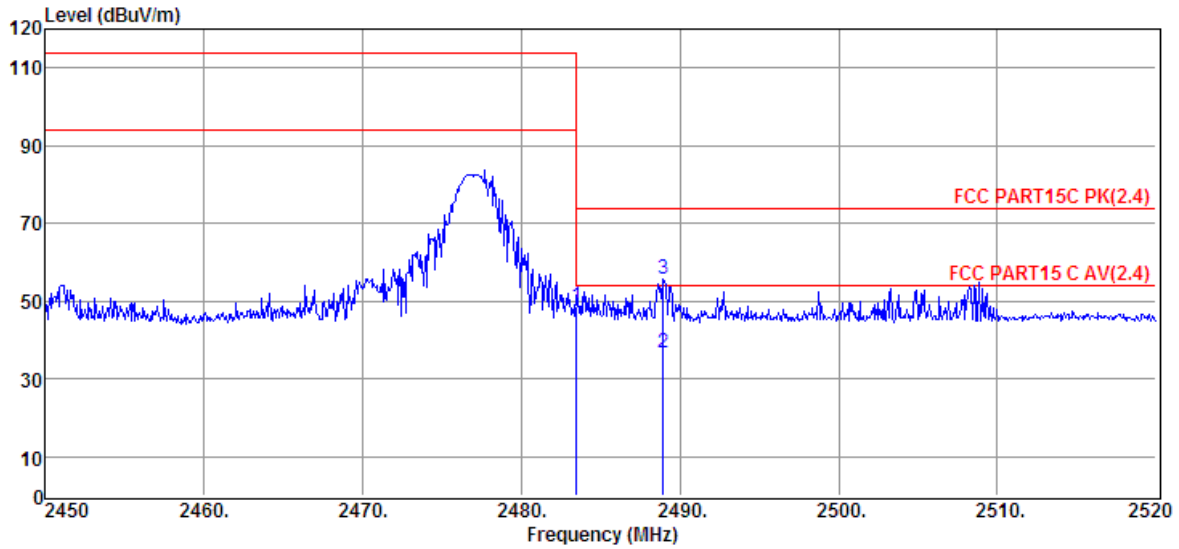


Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2396.34	37.02	29.80	29.42	6.03	43.43	54.00	-10.57	Average	VERTICAL
2	2396.34	57.84	29.80	29.42	6.03	64.25	74.00	-9.75	Peak	VERTICAL
3	2400.00	36.65	29.82	29.44	6.03	43.06	54.00	-10.94	Average	VERTICAL
4	2400.00	58.59	29.82	29.44	6.03	65.00	74.00	-9.00	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**

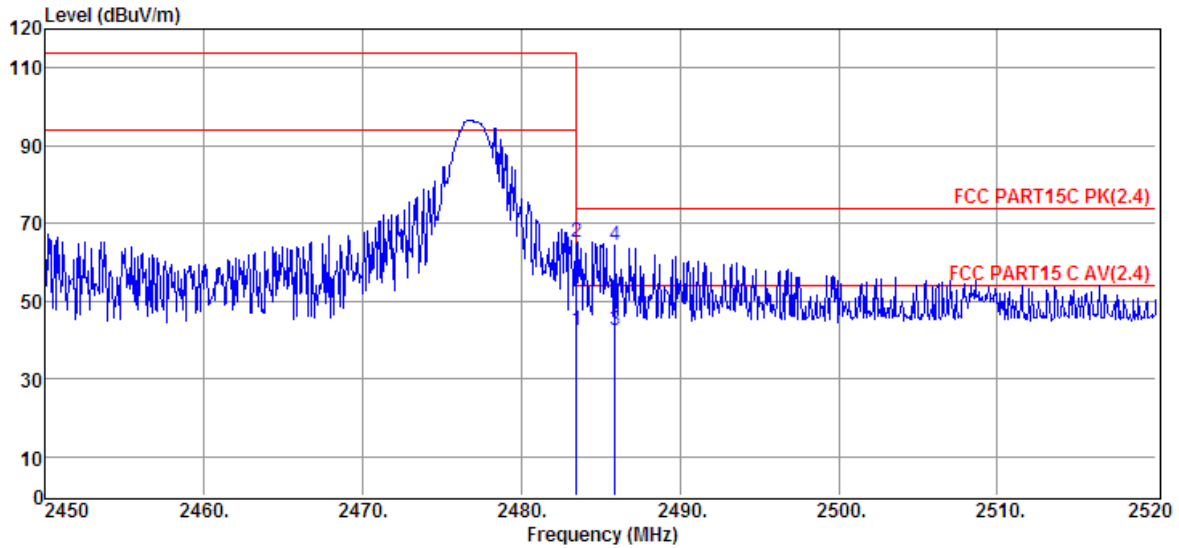
Data: 10



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detecto r	Polarization
1	2483.50	42.14	30.14	29.71	6.15	48.72	74.00	-25.28	Peak	HORIZONTAL
2	2488.92	30.09	30.16	29.71	6.15	36.69	54.00	-17.31	Average	HORIZONTAL
3	2488.92	48.88	30.16	29.71	6.15	55.48	74.00	-18.52	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

**RESTRICTED BANDEGE (HIGH CHANNEL, VERTICAL)**

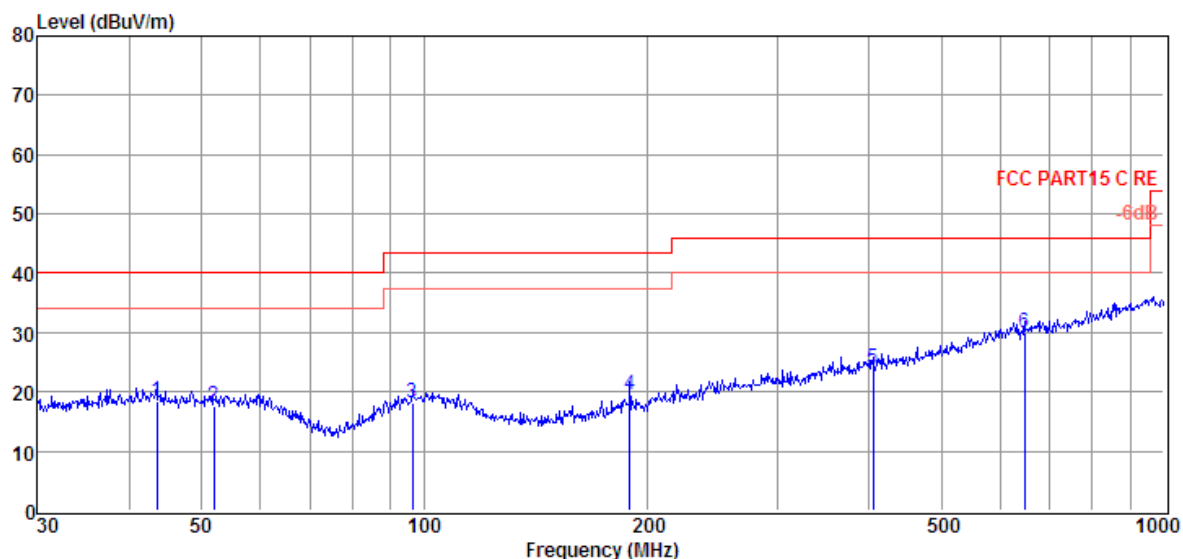


Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detecto r	Polarization
1	2483.50	36.05	30.14	29.71	6.15	42.63	54.00	-11.37	Average	VERTICAL
2	2483.50	58.47	30.14	29.71	6.15	65.05	74.00	-8.95	Peak	VERTICAL
3	2485.91	35.84	30.15	29.71	6.15	42.43	54.00	-11.57	Average	VERTICAL
4	2485.91	57.83	30.15	29.71	6.15	64.42	74.00	-9.58	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

### 7.3. SPURIOUS EMISSIONS BELOW 1 GHz

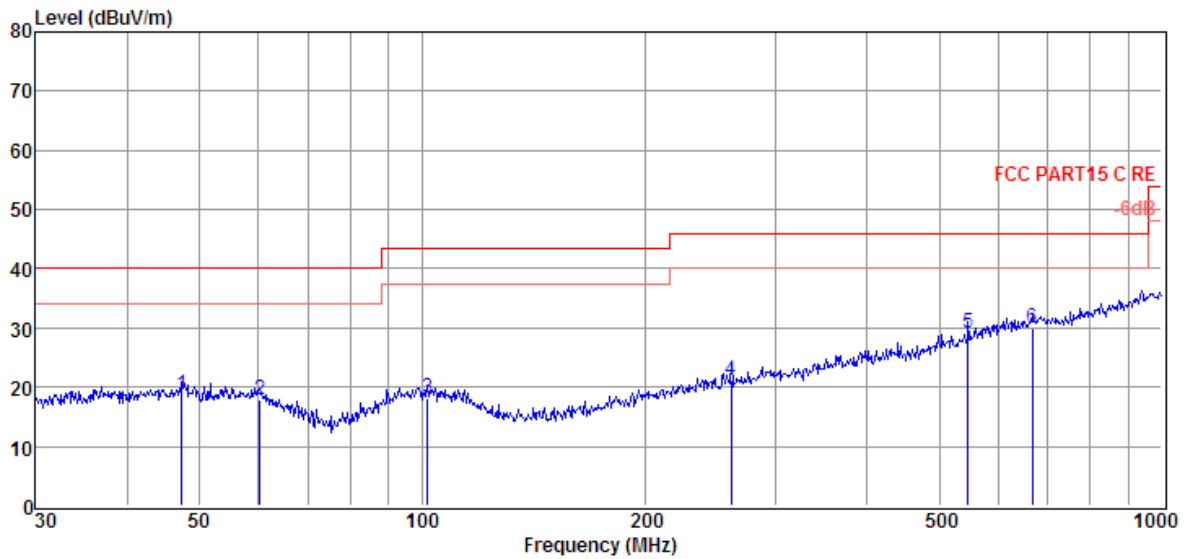
#### SPURIOUS EMISSIONS BELOW 1 GHz (TX mode, VERTICAL)



Item (Mark)	Freq. (MHz)	Read Level (dB $\mu$ V)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dB $\mu$ V/m)	Limit Line (dB $\mu$ V/m)	Over Limit (dB)	Detector	Polarization
1	43.51	2.08	12.42	3.82	18.32	40.00	-21.68	QP	VERTICAL
2	52.03	1.95	11.70	3.91	17.56	40.00	-22.44	QP	VERTICAL
3	96.44	2.05	11.72	4.27	18.04	43.50	-25.46	QP	VERTICAL
4	189.74	4.97	9.80	4.84	19.61	43.50	-23.89	QP	VERTICAL
5	404.67	2.23	15.79	5.82	23.84	46.00	-22.16	QP	VERTICAL
6	647.39	3.85	19.45	6.66	29.96	46.00	-16.04	QP	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.  
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.  
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

**SPURIOUS EMISSIONS BELOW 1 GHz (TX mode, HORIZONTAL)**



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Result Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Detector	Polarization
1	47.33	2.68	12.27	3.86	18.81	40.00	-21.19	QP	HORIZONTAL
2	60.28	2.34	11.57	3.98	17.89	40.00	-22.11	QP	HORIZONTAL
3	101.64	1.89	11.87	4.31	18.07	43.50	-25.43	QP	HORIZONTAL
4	261.98	3.58	12.48	5.20	21.26	46.00	-24.74	QP	HORIZONTAL
5	547.10	4.48	18.27	6.33	29.08	46.00	-16.92	QP	HORIZONTAL
6	668.14	3.61	19.76	6.73	30.10	46.00	-15.90	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.  
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.  
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



### 7.4. SPURIOUS EMISSIONS (1~18GHz)

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
Tx mode LCH									
2407.00	70.03	29.84	29.46	6.03	76.44	94.00	-17.56	Average	VERTICAL
2407.00	81.07	29.84	29.46	6.03	87.48	114.00	-26.52	Peak	VERTICAL
4814.00	29.95	33.74	29.32	8.48	42.85	54.00	-11.15	Average	VERTICAL
4814.00	42.33	33.74	29.32	8.48	55.23	74.00	-18.77	Peak	VERTICAL
7221.00	28.96	36.38	30.51	10.62	45.45	54.00	-8.55	Average	VERTICAL
7221.00	43.46	36.38	30.51	10.62	59.95	74.00	-14.05	Peak	VERTICAL
2407.00	66.55	29.84	29.46	6.03	72.96	94.00	-21.04	Average	HORIZONTAL
2407.00	76.95	29.84	29.46	6.03	83.36	114.00	-30.64	Peak	HORIZONTAL
4814.00	33.06	33.74	29.32	8.48	45.96	54.00	-8.04	Average	HORIZONTAL
4814.00	42.34	33.74	29.32	8.48	55.24	74.00	-18.76	Peak	HORIZONTAL
7221.00	28.02	36.38	30.51	10.62	44.51	54.00	-9.49	Average	HORIZONTAL
7221.00	38.99	36.38	30.51	10.62	55.48	74.00	-18.52	Peak	HORIZONTAL
Tx mode MCH									
2445.00	69.50	29.97	29.57	6.08	75.98	94.00	-18.02	Average	VERTICAL
2445.00	89.17	29.97	29.57	6.08	95.65	114.00	-18.35	Peak	VERTICAL
4890.00	31.58	33.72	29.33	8.56	44.53	54.00	-9.47	Average	VERTICAL
4890.00	42.76	33.72	29.33	8.56	55.71	74.00	-18.29	Peak	VERTICAL
7335.00	26.95	36.46	30.59	10.71	43.53	54.00	-10.47	Average	VERTICAL
7335.00	38.09	36.46	30.59	10.71	54.67	74.00	-19.33	Peak	VERTICAL
2445.00	64.90	29.97	29.57	6.08	71.38	94.00	-22.62	Average	HORIZONTAL
2445.00	74.50	29.97	29.57	6.08	80.98	114.00	-33.02	Peak	HORIZONTAL
4890.00	30.58	33.72	29.33	8.56	43.53	54.00	-10.47	Average	HORIZONTAL
4890.00	42.31	33.72	29.33	8.56	55.26	74.00	-18.74	Peak	HORIZONTAL
7335.00	26.85	36.46	30.59	10.71	43.43	54.00	-10.57	Average	HORIZONTAL
7335.00	38.67	36.46	30.59	10.71	55.25	74.00	-18.75	Peak	HORIZONTAL
Tx mode HCH									
2477.00	68.65	30.12	29.69	6.13	75.21	94.00	-18.79	Average	VERTICAL
2477.00	77.80	30.12	29.69	6.13	84.36	114.00	-29.64	Peak	VERTICAL
4954.00	31.85	33.71	29.34	8.63	44.85	54.00	-9.15	Average	VERTICAL
4954.00	42.63	33.71	29.34	8.63	55.63	74.00	-18.37	Peak	VERTICAL
7431.00	27.96	36.55	30.70	10.80	44.61	54.00	-9.39	Average	VERTICAL
7431.00	39.49	36.55	30.70	10.80	56.14	74.00	-17.86	Peak	VERTICAL
2477.00	67.00	30.12	29.69	6.13	73.56	94.00	-20.44	Average	HORIZONTAL
2477.00	76.90	30.12	29.69	6.13	83.46	114.00	-30.54	Peak	HORIZONTAL
4954.00	32.02	33.71	29.34	8.63	45.02	54.00	-8.98	Average	HORIZONTAL
4954.00	42.20	33.71	29.34	8.63	55.20	74.00	-18.80	Peak	HORIZONTAL
7431.00	26.99	36.55	30.70	10.80	43.64	54.00	-10.36	Average	HORIZONTAL
7431.00	38.77	36.55	30.70	10.80	55.42	74.00	-18.58	Peak	HORIZONTAL

Note: According exploratory test no any obvious emission were detected from 9KHz to 30MHz and 18GHz to 25GHz, so the final test was performed with frequency range from 30MHz to 18GHz and recorded in below.

## **8. ANTENNA REQUIREMENTS**

### **APPLICABLE REQUIREMENTS**

Please refer to FCC §15.203

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 FCC rule.

### **ANTENNA CONNECTOR**

EUT has an Integrated antenna without antenna connector.

### **ANTENNA GAIN**

The antenna gain of EUT is less than 6 dBi.

**END OF REPORT**

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