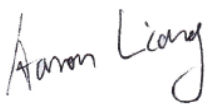
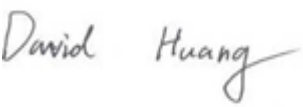


F TEST REPORT



Report No.: Q190509S003-FCC-R

Supersede Report No.: N/A

Applicant	TiVo Solutions Inc. d/b/a TiVo Inc	
Product Name	REMOTE CONTROL UNIT	
Model No.	S6BL	
Serial No.	N/A	
Test Standard	FCC Part 15.247, ANSI C63.10: 2013	
Test Date	June 11 to July 31, 2019	
Issue Date	August 06, 2019	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification ☒		
Equipment did not comply with the specification ☐		
		
Aaron Liang Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

Test Report No.	Q190509S003-FCC-R
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1. Report Revision History

Report No.	Report Version	Description	Issue Date
Q190509S003-FCC-R	NONE	Original	August 06, 2019

2. Customer information

Applicant Name	TiVo Solutions Inc. d/b/a TiVo Inc
Applicant Add	2160 Gold Street San Jose California United States
Manufacturer	Remote Solution
Manufacturer Add	92, Chogok-ri, Nammyun, Gimchun city, Kyungsangbukdo, Korea

3. Test site information

Test Lab A:

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

Test Lab B:

Lab performing tests	Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch Laboratories
Lab Address	No. 34, Chenwulu Section, Guantai Rd., Houjie Town, Dongguan City, Guangdong 523942, China
FCC Test Site No.	749762
IC Test Site No.	5936A-1
Test Software	ADT_Radiated_V7.6.15.9.2

Note: We just perform Radiated Spurious Emission above 18GHz in the test Lab. B.

4. Equipment under Test (EUT) Information

Description of EUT: REMOTE CONTROL UNIT

Main Model: S6BL

Serial Model: N/A

Date EUT received: May 30, 2019

Test Date(s): June 11 to July 31, 2019

Equipment Category : DTS

Antenna Gain: 0dBi

Antenna Type: Chip Antenna

Type of Modulation: BLE: GFSK

RF Operating Frequency (ies): BLE: 2402-2480 MHz

Max. Output Power: 5.34dBm

Number of Channels: BLE: 40CH

Port: Please refer to user's manual

Trade Name : N/A

Input Power: **Battery:**
Spec: DC 3V

FCC ID: TGN-CRB97C

5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.247 (a)(2)	DTS (6 dB) CHANNEL BANDWIDTH	Compliance
§15.247(b)(3)	Conducted Maximum Output Power	Compliance
§15.247(e)	Power Spectral Density	Compliance
§15.247(d)	Band-Edge & Unwanted Emissions into Restricted Frequency Bands	Compliance
§15.207 (a),	AC Power Line Conducted Emissions	N/A
§15.205, §15.209, §15.247(d)	Radiated Emissions & Unwanted Emissions into Restricted Frequency Bands	Compliance

Measurement Uncertainty

Emissions		
Test Item	Description	Uncertainty
Band-Edge & Unwanted Emissions into Restricted Frequency Bands and Radiated Emissions & Unwanted Emissions into Restricted Frequency Bands	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. Measurements, Examination And Derived Results

6.1 Antenna Requirement

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. 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 provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has 1 antenna:

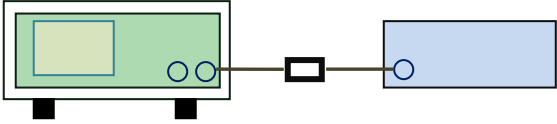
A permanently attached Chip antenna for BLE, the gain is 0dBi for BLE.

The antenna meets up with the ANTENNA REQUIREMENT.

Result: Compliance.

6.2 DTS (6 dB) Channel Bandwidth

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	June 11, 2019
Tested By :	Aaron Liang

Spec	Item	Requirement	Applicable
§ 15.247(a)(2)	a)	6dB BW ≥ 500kHz;	☒
RSS Gen(4.6.1)	b)	99% BW: For FCC reference only; required by IC.	☒
Test Setup	 Spectrum Analyzer EUT		
Test Procedure	558074 D01 DTS MEAS Guidance v05r02, 8.1 DTS bandwidth 6dB Emission bandwidth measurement procedure - Set RBW = 100 kHz. - Set the video bandwidth (VBW) ≥ 3 RBW. - Detector = Peak. - Trace mode = max hold. - Sweep = auto couple. - Allow the trace to stabilize. 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 6 dB relative to the maximum level measured in the fundamental emission.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

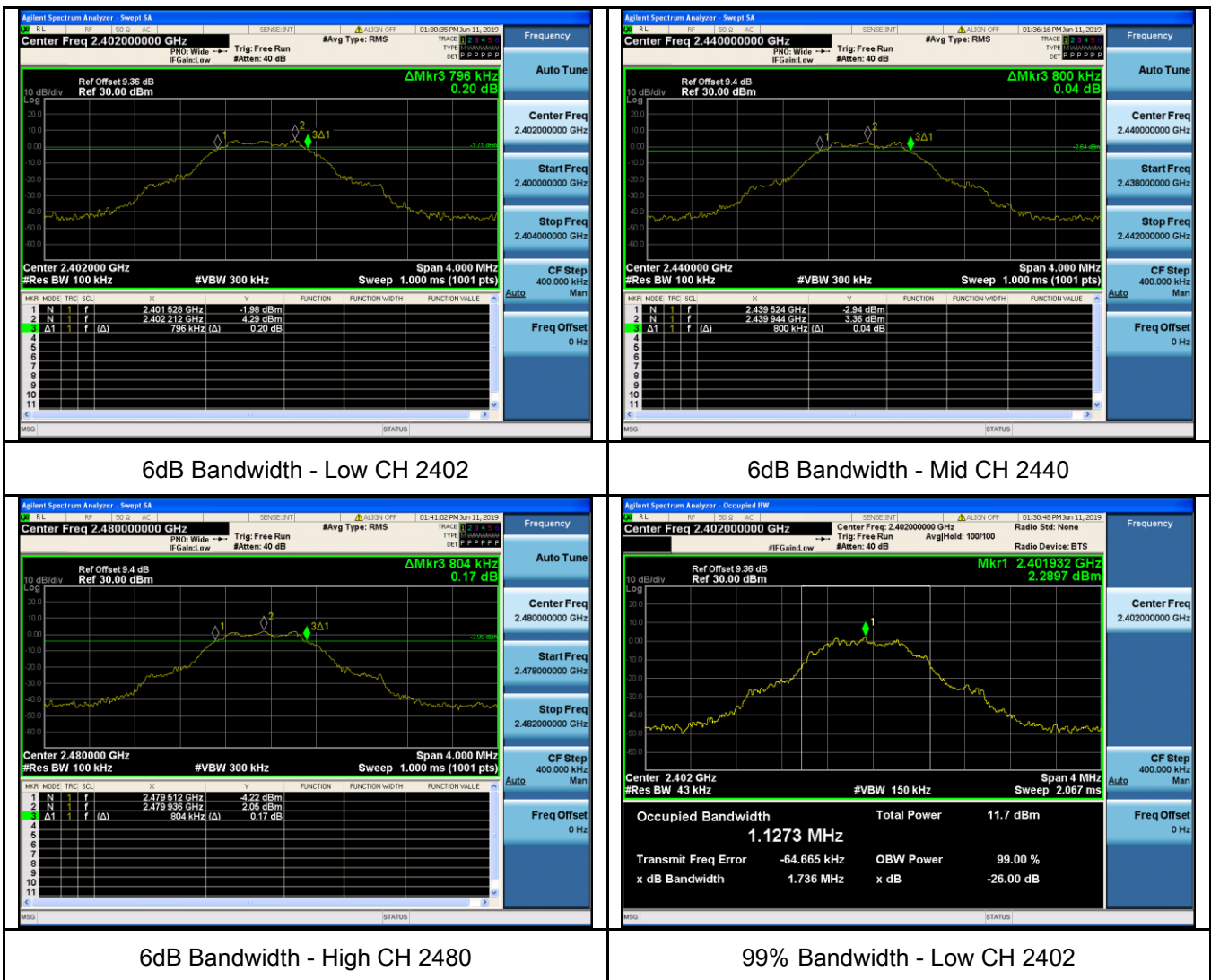
Test Plot ☒ Yes (See below) ☐ N/A

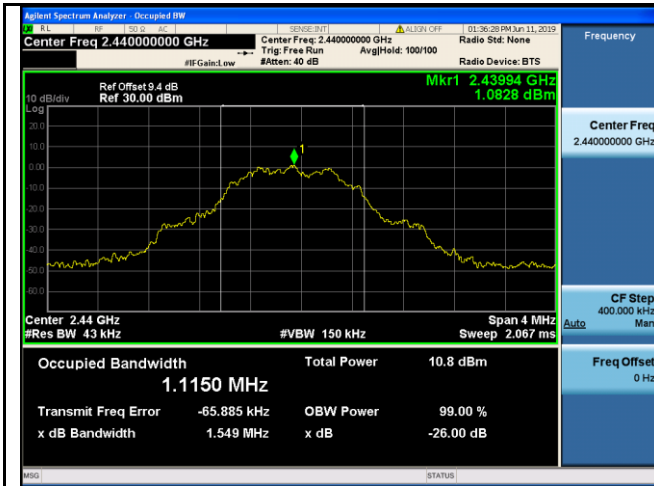
6dB Bandwidth measurement result

Test Data

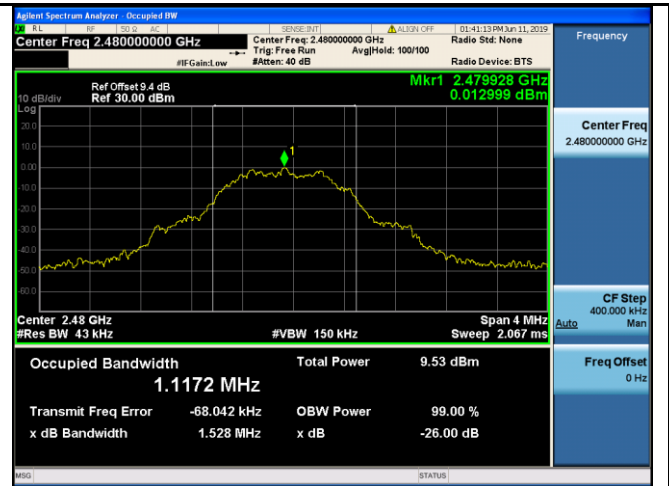
CH	Frequency (MHz)	6dB Bandwidth (kHz)	99% Occupied Bandwidth (MHz)
Low	2402	796	1.1273
Mid	2440	800	1.1150
High	2480	804	1.1172

Test Plots





99% Bandwidth - Mid CH 2440

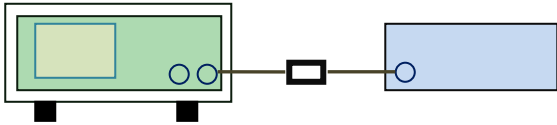


99% Bandwidth - High CH 2480

6.3 Maximum Output Power

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	June 11, 2019
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (3),RSS210 (A8.4)	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤ 1 Watt	☐
	b)	FHSS in 5725-5850MHz: ≤ 1 Watt	☐
	c)	For all other FHSS in the 2400-2483.5MHz band: ≤ 0.125 Watt.	☐
	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤ 1 Watt	☐
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤ 0.25 Watt	☐
	f)	DTS in 902-928MHz, 2400-2483.5MHz: ≤ 1 Watt	☒
Test Setup	 Spectrum Analyzer EUT		
Test Procedure	558074 D01 DTS MEAS Guidance v05r02, 9.1.2 Integrated band power method Maximum output power measurement procedure a) Set the RBW $\geq$ DTS bandwidth. b) Set VBW $\geq 3 \times$ RBW. c) Set span $\geq 3 \times$ RBW d) Sweep time = auto couple. e) Detector = peak. f) Trace mode = max hold. g) Allow trace to fully stabilize. h) Use peak marker function to determine the peak amplitude level.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

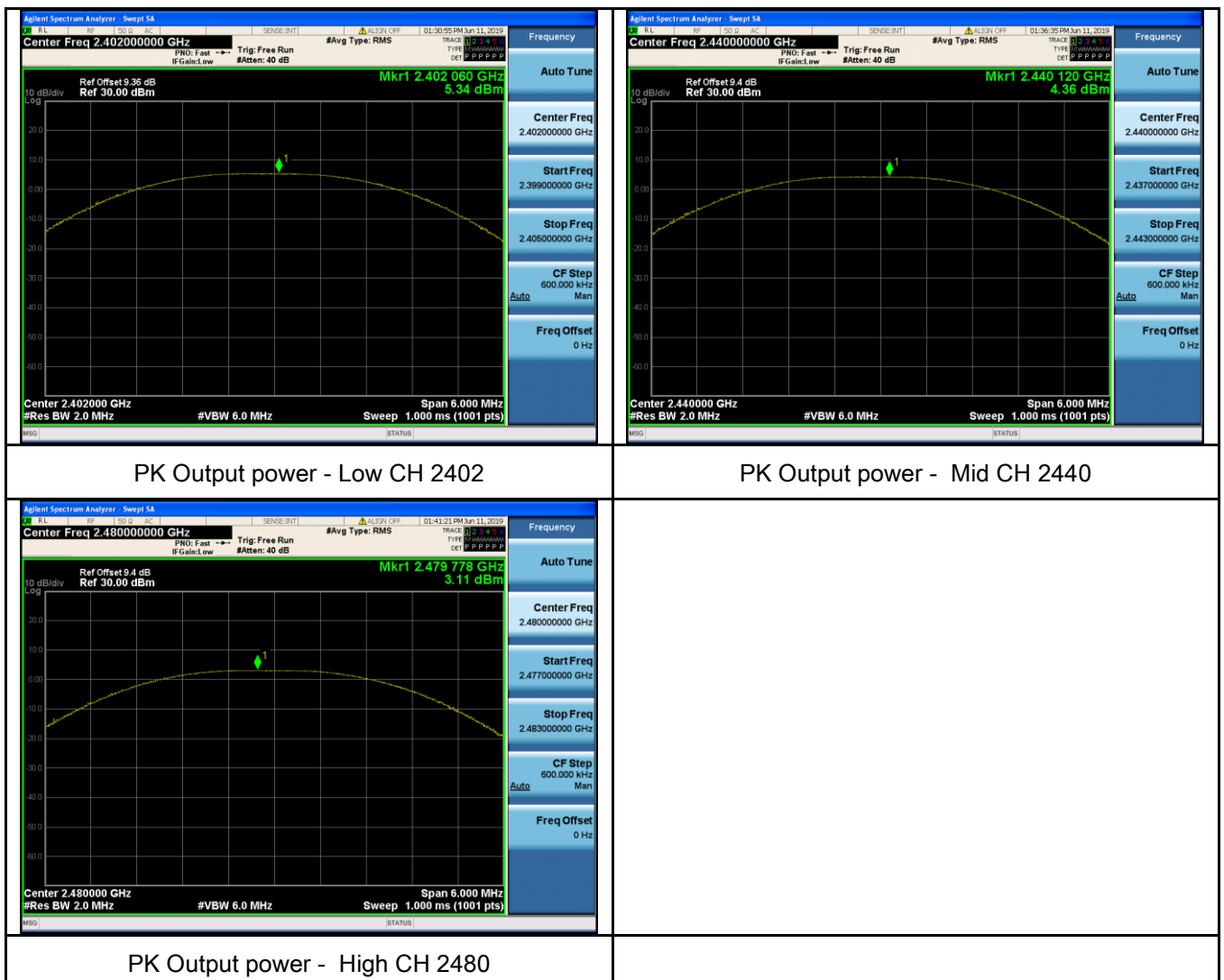
Test Plot ☒ Yes (See below) ☐ N/A

Output Power measurement result

Test Data

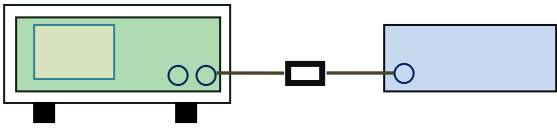
Type	CH	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
Output power	Low	2402	5.34	30	Pass
	Mid	2440	4.36	30	Pass
	High	2480	3.11	30	Pass

Test Plots



6.4 Power Spectral Density

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	June 11, 2019
Tested By :	Aaron Liang

Spec	Item	Requirement	Applicable
§15.247(e)	a)	The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.	☒
Test Setup	 Spectrum Analyzer EUT		
Test Procedure	558074 D01 DTS MEAS Guidance v05r02, 10.2 power spectral density method power spectral density measurement procedure - a) Set analyzer center frequency to DTS channel center frequency. - b) Set the span to 1.5 times the DTS bandwidth. - c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$. - d) Set the VBW $\geq 3 \times \text{RBW}$. - e) Detector = peak. - f) Sweep time = auto couple. - g) Trace mode = max hold. - h) Allow trace to fully stabilize. - i) Use the peak marker function to determine the maximum amplitude level within the RBW. - j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.		
Remark			
Result	☒ Pass ☐ Fail		

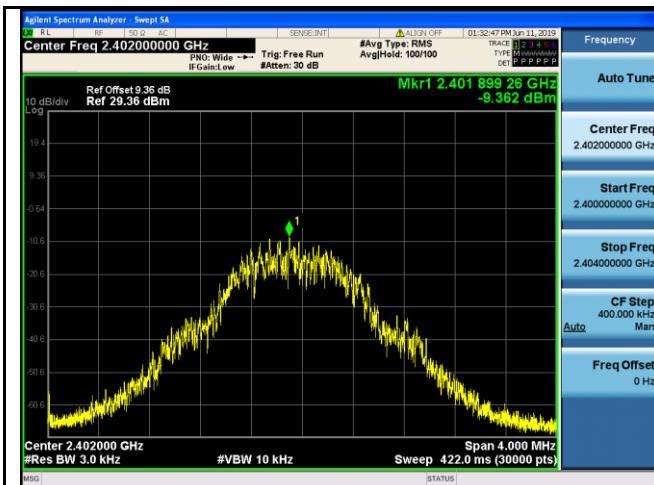
Test Data ☒ Yes ☐ N/A
 Test Plot ☒ Yes (See below) ☐ N/A

Power Spectral Density measurement result

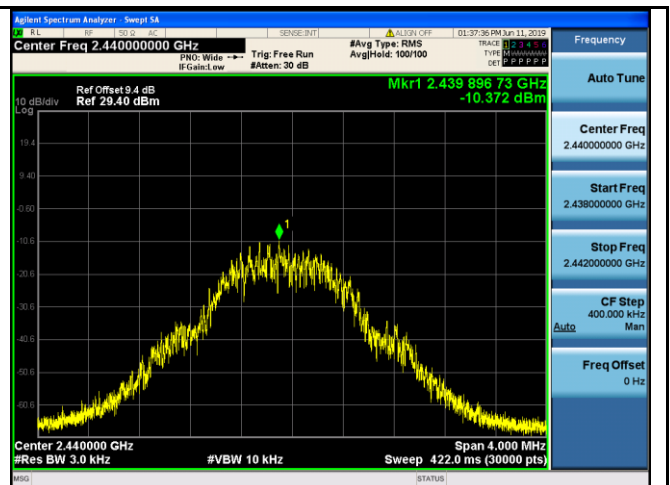
Test Data

Type	CH	Freq (MHz)	Reading (dBm)	Limit (dBm)	Result
PSD	Low	2402	-9.362	8	Pass
	Mid	2440	-10.372	8	Pass
	High	2480	-11.730	8	Pass

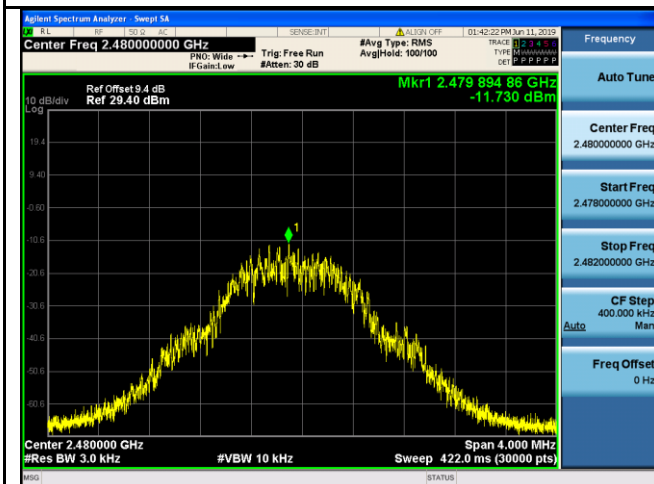
Test Plots



PSD - Low CH 2402



PSD - Mid CH 2440

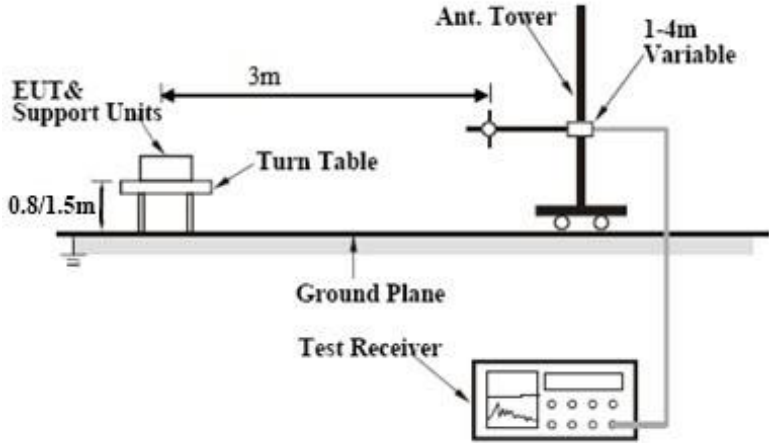


PSD - High CH 2480

6.5 Band-Edge & Unwanted Emissions into Restricted Frequency Bands

Temperature	26°C
Relative Humidity	52%
Atmospheric Pressure	1020mbar
Test date :	July 31, 2019
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(d)	a)	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.	☒
Test Setup			
Test Procedure	Radiated Method Only 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.		

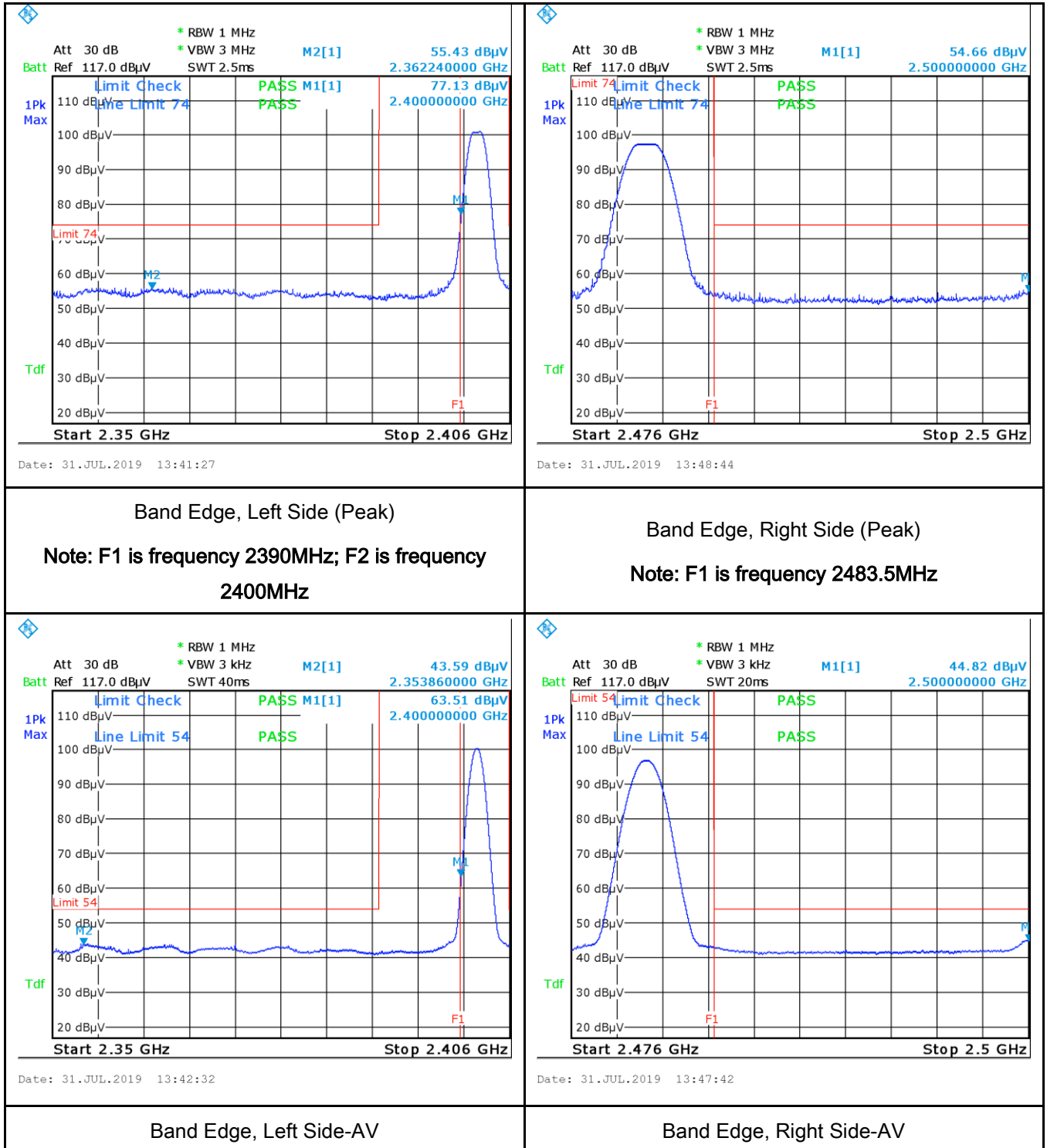
Test Report No.	Q190509S003-FCC-R
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	- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. b. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. - 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. - 5. Repeat above procedures until all measured frequencies were complete.
Remark	
Result	☒ Pass ☐ Fail

Test Data ☐ Yes ☒ N/A
Test Plot ☒ Yes (See below) ☐ N/A

Test Plots

Band Edge measurement result



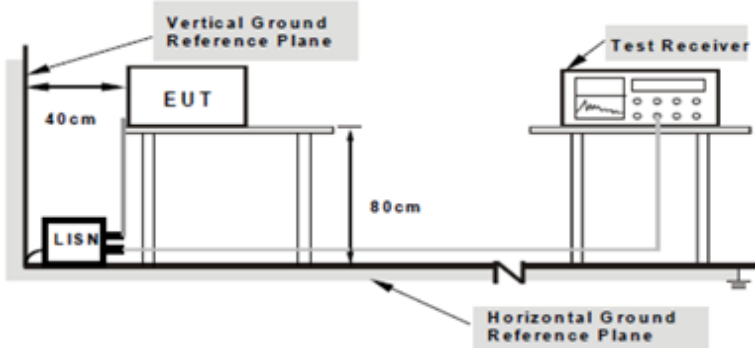
Note: Both Horizontal and vertical polarities were investigated.

6.6 AC Power Line Conducted Emissions

Temperature	--
Relative Humidity	--
Atmospheric Pressure	--
Test date :	--
Tested By :	--

Requirement(s):

Spec	Item	Requirement	Applicable															
47CFR§15.207, RSS210 (A8.1)	a)	For Low-power radio-frequency devices 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, as measured using a 50 [mu] H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.																
		<table><tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBµV)</th></tr><tr><th>QP</th><th>Average</th></tr><tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr><tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr><tr><td>5 ~ 30</td><td>60</td><td>50</td></tr></table>		Frequency ranges (MHz)	Limit (dBµV)		QP	Average	0.15 ~ 0.5	66 – 56	56 – 46	0.5 ~ 5	56	46	5 ~ 30	60	50	
		Frequency ranges (MHz)			Limit (dBµV)													
				QP	Average													
		0.15 ~ 0.5		66 – 56	56 – 46													
		0.5 ~ 5		56	46													
5 ~ 30	60	50																

Test Setup	 Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.
------------	---

Procedure	- The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table. - The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains. - The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss
-----------	---

	coaxial cable. 4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	The EUT was powered by battery.
Result	☐ Pass ☐ Fail ☒ N/A

Test Data ☐ Yes ☒ N/A

Test Plot ☐ Yes (See below) ☒ N/A

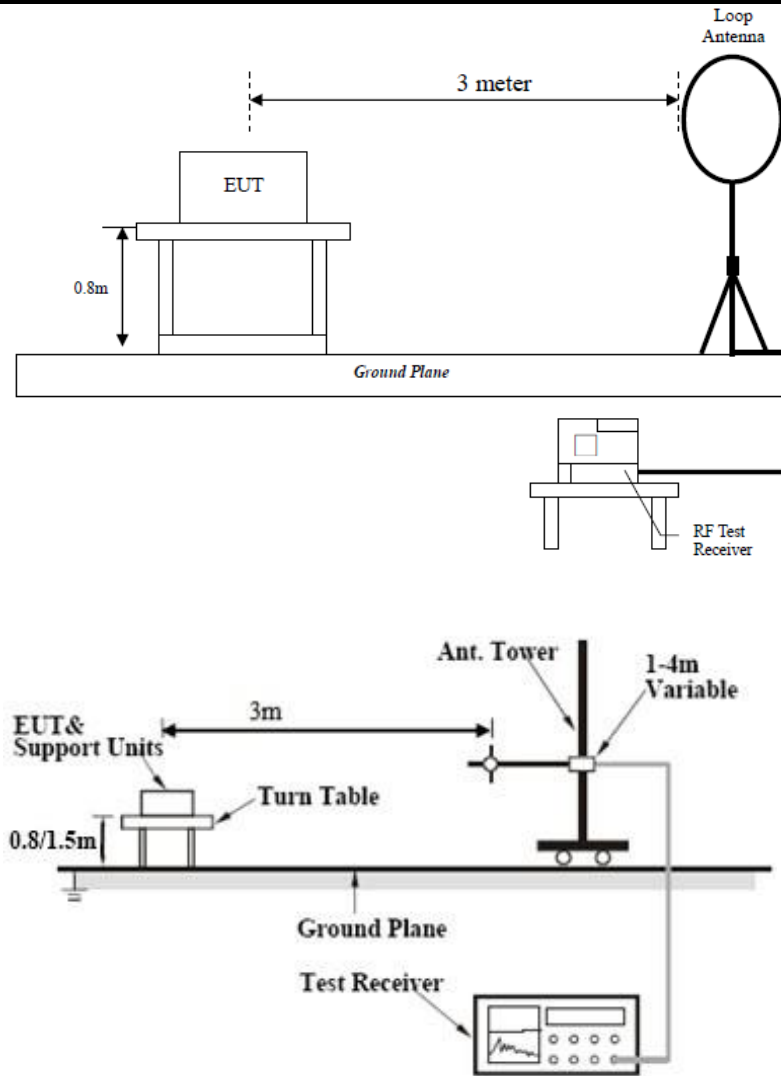
6.7 Radiated Emissions & Restricted Band

Temperature	26°C
Relative Humidity	52%
Atmospheric Pressure	1020mbar
Test date :	July 31, 2019
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable																
47CFR§15.247(d), RSS210 (A8.5)	a)	Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges	☒																
		<table><tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr><tr><td>0.009~0.490</td><td>2400/F(KHz)</td></tr><tr><td>0.490~1.705</td><td>24000/F(KHz)</td></tr><tr><td>1.705~30.0</td><td>30</td></tr><tr><td>30 – 88</td><td>100</td></tr><tr><td>88 – 216</td><td>150</td></tr><tr><td>216 960</td><td>200</td></tr><tr><td>Above 960</td><td>500</td></tr></table>		Frequency range (MHz)	Field Strength (μV/m)	0.009~0.490	2400/F(KHz)	0.490~1.705	24000/F(KHz)	1.705~30.0	30	30 – 88	100	88 – 216	150	216 960	200	Above 960	500
		Frequency range (MHz)		Field Strength (μV/m)															
		0.009~0.490		2400/F(KHz)															
		0.490~1.705		24000/F(KHz)															
		1.705~30.0		30															
		30 – 88		100															
		88 – 216		150															
		216 960		200															
	Above 960	500																	
b)	For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required ☒ 20 dB down ☐ 30 dB down	☒																	
	c)		or restricted band, emission must also comply with the radiated emission limits specified in 15.209	☒															

Test Setup



Procedure

1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
 - a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen.
 - b. The EUT was then rotated to the direction that gave the maximum emission.
 - c. Finally, the antenna height was adjusted to the height that gave the maximum emission.
3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi Peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz.

	The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Result:

Test Mode:	Transmitting Mode
------------	-------------------

Frequency range: 9KHz - 30MHz

Freq. (MHz)	Detection value	Factor (dB/m)	Reading (dBuV/m)	Result (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)
--	--	--	--	--	--	>20
--	--	--	--	--	--	>20

Note:

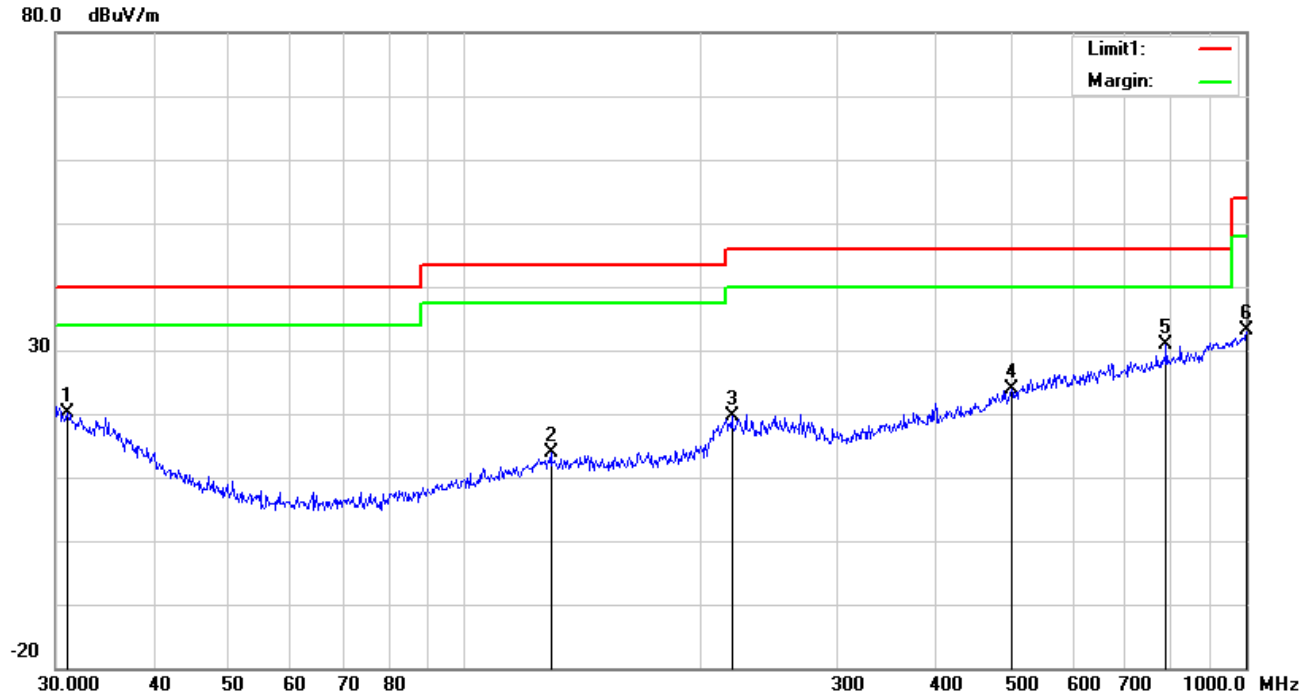
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

Test Mode: Transmitting Mode

30MHz -1GHz

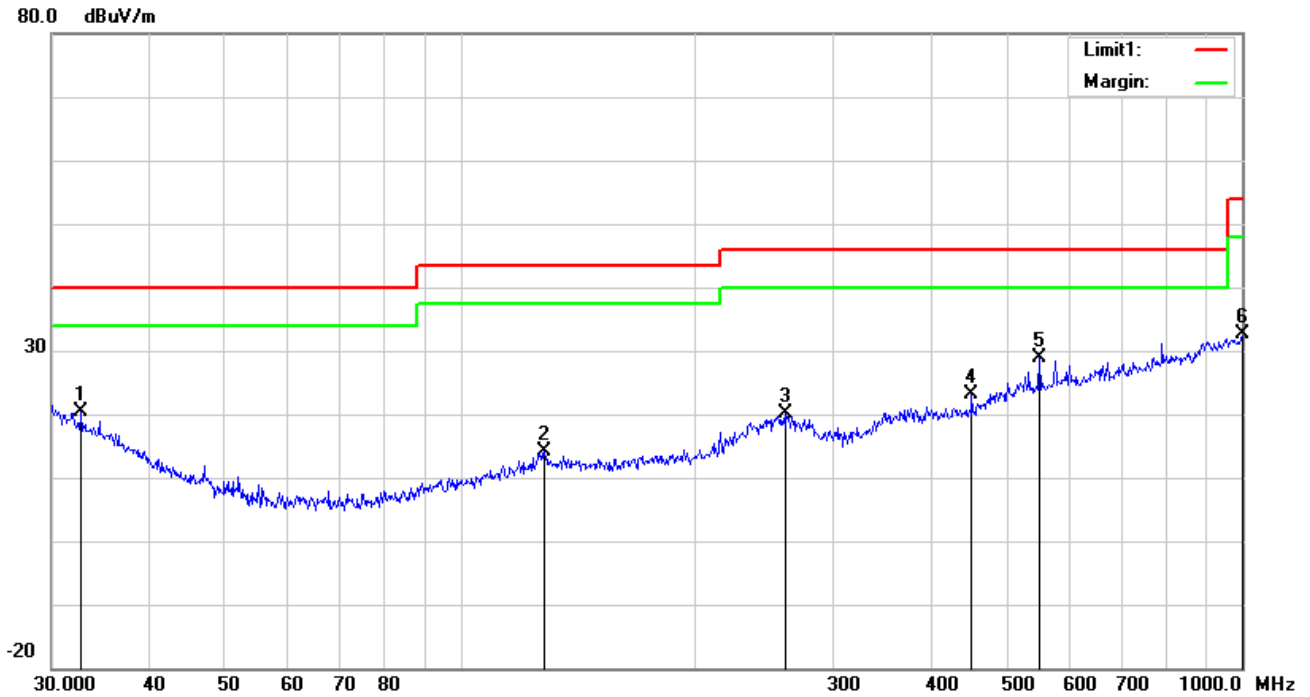


Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	H	31.0706	22.73	19.41	22.27	0.14	20.01	40.00	-19.99	217	146
2	H	129.0146	23.57	11.57	22.38	1.07	13.83	43.50	-29.67	346	101
3	H	219.8449	28.90	11.42	22.34	1.57	19.55	46.00	-26.45	333	301
4	H	501.1790	24.86	18.72	21.81	2.13	23.90	46.00	-22.10	185	255
5	H	790.6188	27.47	22.11	21.17	2.54	30.95	46.00	-15.05	353	304
6	H	1000.0000	26.70	24.40	20.69	2.76	33.17	54.00	-20.83	129	8

30MHz -1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	V	32.7486	24.14	18.34	22.26	0.14	20.36	40.00	-19.64	277	308
2	V	128.1130	23.81	11.60	22.38	1.06	14.09	43.50	-29.41	235	359
3	V	261.0583	28.47	12.43	22.29	1.63	20.24	46.00	-25.76	377	149
4	V	451.1350	25.79	17.16	21.91	2.01	23.05	46.00	-22.95	170	300
5	V	550.9480	28.87	19.33	21.69	2.27	28.78	46.00	-17.22	189	335
6	V	1000.0000	26.10	24.40	20.69	2.76	32.57	54.00	-21.43	291	111

Above 1GHz

Test Mode:	Transmitting Mode
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Low Channel (2402 MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2362.24	55.43	PK	74	-18.57	100	258	69.08	-13.65
2	2353.86	43.59	AV	54	-10.41	100	121	57.24	-13.65
3	*2402	101.25	PK	-	-	100	151	115.22	-13.97
4	*2402	100.17	AV	-	-	100	166	114.14	-13.97
5	4804	59.02	PK	74	-14.98	100	343	62.77	-3.75
6	4804	53.46	AV	54	-0.54	100	245	57.21	-3.75

ANTENNA POLARITY & TEST DISTANCE: Vertical AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2367.41	51.32	PK	74	-22.68	100	313	64.97	-13.65
2	2367.41	40.28	AV	54	-13.72	100	285	53.93	-13.65
3	*2402	96.57	PK	-	-	150	293	110.54	-13.97
4	*2402	95.24	AV	-	-	100	155	109.21	-13.97
5	4804	56.46	PK	74	-17.54	100	241	60.21	-3.75
6	4804	51.16	AV	54	-2.84	100	84	54.91	-3.75

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Middle Channel (2440 MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440	98.96	PK	-	-	100	36	111.98	-13.02
2	*2440	97.26	AV	-	-	100	312	110.28	-13.02
3	4880	58.45	PK	74	-15.55	100	258	62.41	-3.96
4	4880	52.89	AV	54	-1.11	200	296	56.85	-3.96

ANTENNA POLARITY & TEST DISTANCE: Vertical AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440	95.63	PK	-	-	100	320	108.65	-13.02
2	*2440	94.71	AV	-	-	100	179	107.73	-13.02
3	4880	56.32	PK	74	-17.68	100	279	60.28	-3.96
4	4880	50.94	AV	54	-3.06	200	248	54.9	-3.96

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

High Channel (2480 MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2500	54.66	PK	74	-19.34	100	306	68.31	-13.65
2	2500	44.82	AV	54	-9.18	100	80	58.47	-13.65
3	*2480	97.01	PK	-	-	100	190	110.98	-13.97
4	*2480	95.82	AV	-	-	100	186	109.79	-13.97
5	4960	58.01	PK	74	-15.99	100	84	61.76	-3.75
6	4960	51.95	AV	54	-2.05	200	83	55.7	-3.75

ANTENNA POLARITY & TEST DISTANCE: Vertical AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2500	50.06	PK	74	-23.94	100	51	63.71	-13.65
2	2500	41.47	AV	54	-12.53	100	21	55.12	-13.65
3	*2480	93.46	PK			100	244	107.43	-13.97
4	*2480	92.15	AV			100	232	106.12	-13.97
5	4960	57.39	PK	74	-16.61	100	216	61.14	-3.75
6	4960	50.21	AV	54	-3.79	100	126	53.96	-3.75

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

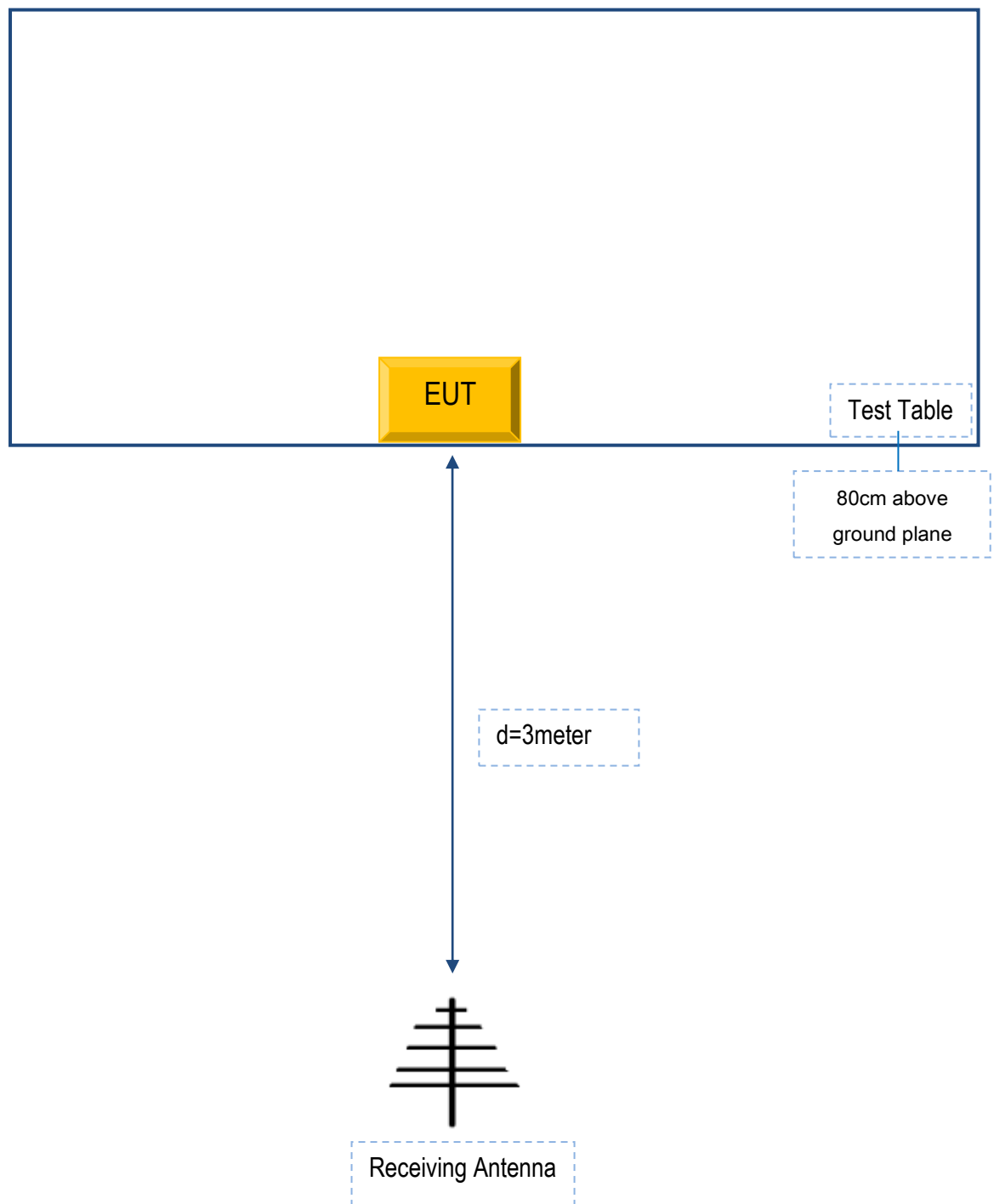
Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due
AC Line Conducted Emissions				
EMI test receiver	ESCS30	8471241027	01/04/2019	01/03/2020
Artificial Mains Network	8127	8127713	01/04/2019	01/03/2020
ISN	ISN T800	34373	01/04/2019	01/03/2020
Radiated Emissions				
EMI test receiver	ESL6	1300.5001K06-100262-eQ	01/04/2019	01/03/2020
Active Antenna	AL-130	121031	02/07/2019	02/06/2020
3m Semi-anechoic Chamber	9m*6m*6m	N/A	10/18/2018	10/17/2019
Signal Amplifier	8447E	443008	01/24/2019	01/23/2020
MXA signal analyzer	N9020A	MY49100060	01/04/2019	01/03/2020
Horn Antenna	HAH-118	71259	01/25/2019	01/24/2020
Horn Antenna	HAH-118	71283	02/01/2019	01/31/2020
AMPLIFIER	EM01G26G	60613	01/24/2019	01/23/2020
AMPLIFIER	Emc012645	980077	01/04/2019	01/03/2020
Bilog Antenna (30MHz~6GHz)	JB6	A110712	02/07/2019	02/06/2020
RF Conducted				
DC Power Supply	E3640A	MY40004013	01/04/2019	01/03/2020
MXA Signal Analyzer	N9020A	MY49100060	01/04/2019	01/03/2020
MXG Vector Signal Generator	N5182A	MY50140530	01/04/2019	01/03/2020
Series Signal Generator	E4421B	US40051152	05/11/2019	05/10/2020
RF control unit	JS0806-0806-2	188060112	04/24/2019	04/23/2020
RF control unit	JS0806-0806-2	188060112	04/24/2019	04/23/2020
Wireless Connectivity Tester	CMW270	1201.0002K75-101601-PE	04/24/2019	04/23/2020
Wireless Connectivity Tester	CMW270	1201.0002K75-101601-PE	04/24/2019	04/23/2020
Weinschel	1580-1	TL177	01/04/2019	01/03/2020
Universal Radio Communica	CMU200	121393	02/10/2019	02/09/2020

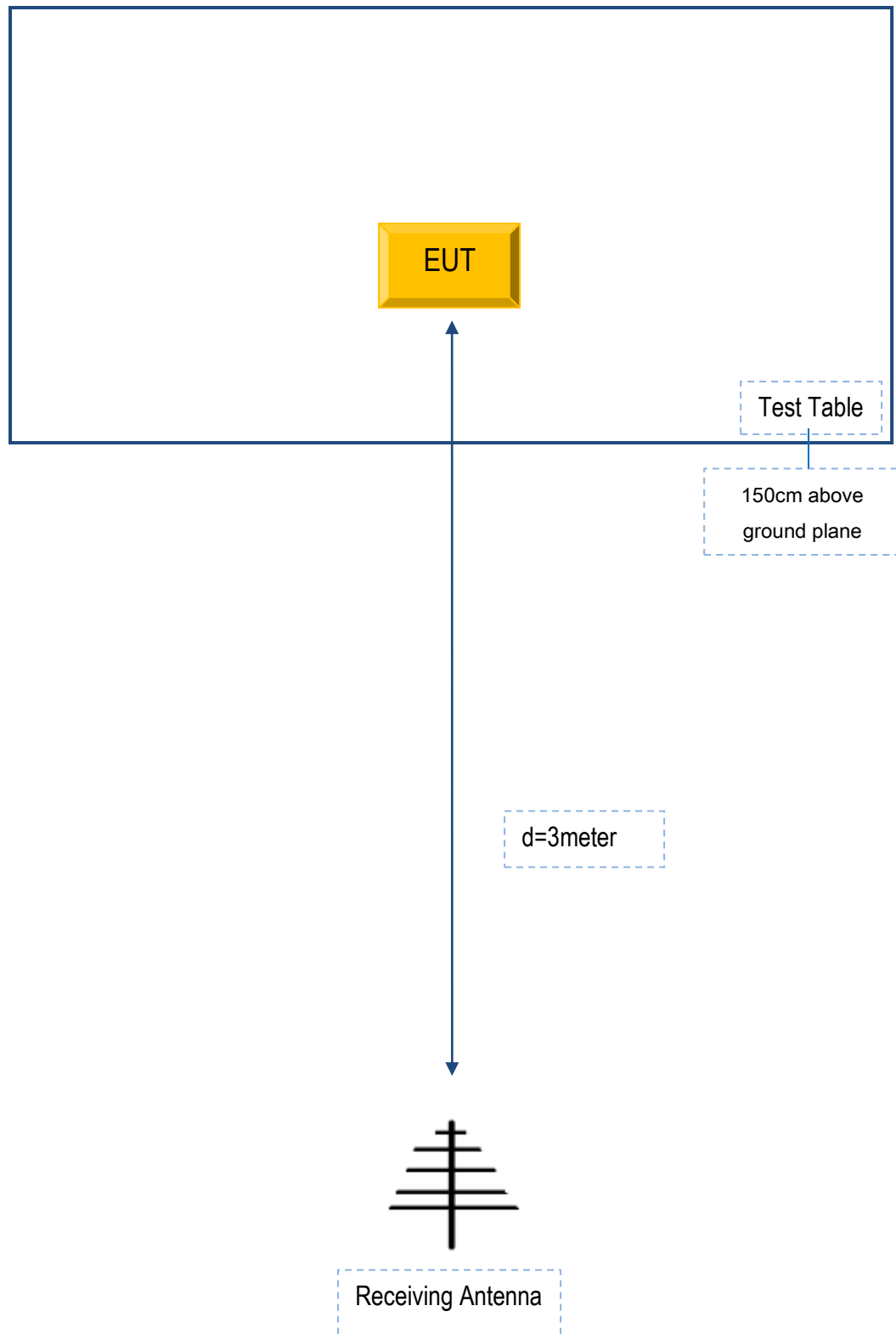
Annex B. TEST SETUP AND SUPPORTING EQUIPMENT

Annex B.i. TEST SET UP BLOCK

Block Configuration Diagram for Radiated Emissions (Below 1GHz) .



Block Configuration Diagram for Radiated Emissions (Above 1GHz) .



Annex C. ii. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Supporting Equipment:

Manufacturer	Equipment Description	Model	Serial No
-	-	-	-

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
-	-	-	-	-

Annex C. User Manual / Block Diagram / Schematics / Partlist

Please see the attachment

Annex D. DECLARATION OF SIMILARITY

Please see attachment