

S

T

S

L

A

B



RADIO TEST REPORT

Report No:STS1805048W01

Issued for

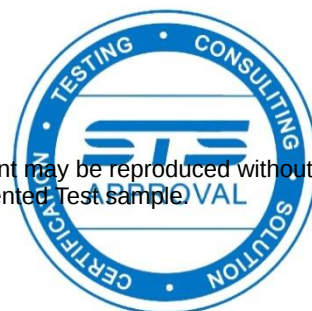
Quanxin Lighting & Electrical (USA) Inc

899 Henrietta Creek Road, Roanoke, Texas 76262, U.S.A

Product Name:	LED Luminaires
Brand Name:	N/A
Test Model Name:	SR15AA01H-78
Series Model:	N/A
FCC ID:	2ANJFQ01BM1740-08
Test Standard:	FCC Part 15.247

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS, All Test Data Presented in this report is only applicable to presented Test sample.

Shenzhen STS Test Services Co., Ltd.
1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail: sts@stsapp.com





TEST RESULT CERTIFICATION

Applicant's name: Quanxin Lighting & Electrical (USA) Inc

Address: 899 Henrietta Creek Road, Roanoke, Texas 76262, U.S.A

Manufacture's Name.....: Zhongshan Quanxin Lighting Electrical Co., Ltd.

Address: Hong Ji Street, Shalang, Long Ping Cun, West District, Zhongshan, Guangdong 528411, China

Product description

Product name: LED Luminaires

Trade mark: N/A

Test model name: SR15AA01H-78

Series model.....: N/A

Standards: FCC Part15.247

Test procedure ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of STS, this document may be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test:

Date (s) of performance of tests: 10 May 2018 ~17 May 2018

Date of Issue: 18 May 2018

Test Result.....: **Pass**

Testing Engineer :

(Chris chen)

Technical Manager :

(Sean she)

Authorized Signatory :

(Vita Li)





Table of Contents

1. SUMMARY OF TEST RESULTS	5
1.1 TEST FACTORY	6
1.2 MEASUREMENT UNCERTAINTY	6
2. GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF EUT	7
2.2 DESCRIPTION OF TEST MODES	9
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	10
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	11
3. EMC EMISSION TEST	13
3.1 CONDUCTED EMISSION MEASUREMENT	13
3.2 TEST PROCEDURE	14
3.3 TEST SETUP	14
3.4 EUT OPERATING CONDITIONS	14
3.5 TEST RESULTS	15
4. RADIATED EMISSION MEASUREMENT	16
4.1 RADIATED EMISSION LIMITS	16
4.2 TEST PROCEDURE	17
4.3 TEST SETUP	18
4.4 EUT OPERATING CONDITIONS	18
4.5 FIELD STRENGTH CALCULATION	19
4.6 TEST RESULTS	20
5. EUT TEST PHOTO	27

**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	18 May 2018	STS1805048W01	ALL	Initial Issue





1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 DTS Meas Guidance v04

FCC Part 15.247, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	--
15.247 (a)(2)	6dB Bandwidth	N/A	--
15.247 (b)(3)	Output Power	N/A	--
15.247 (c)	Radiated Spurious Emission	PASS	--
15.247 (d)	Conducted Spurious & Band Edge Emission	N/A	--
15.247 (e)	Power Spectral Density	N/A	--
15.205	Restricted Band Edge Emission	PASS	--
Part 15.247(d)/part 15.209(a)	Band Edge Emission	N/A	--
15.203	Antenna Requirement	N/A	--

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) All tests are according to ANSI C63.10-2013



1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.

Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

CNAS Registration No.: L7649; FCC Registration No.: 625569

IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	$\pm 2.88\text{dB}$
2	Conducted Emission (150KHz-30MHz)	$\pm 2.67\text{dB}$
3	RF power,conducted	$\pm 0.71\text{dB}$
4	Spurious emissions,conducted	$\pm 0.63\text{dB}$
5	All emissions,radiated (9KHz-30MHz)	$\pm 3.02\text{dB}$
6	All emissions,radiated (30MHz-200MHz)	$\pm 3.80\text{dB}$
7	All emissions,radiated (200MHz-1000MHz)	$\pm 3.97\text{dB}$
8	All emissions,radiated(>1G)	$\pm 3.03\text{dB}$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	LED Luminaires	
Trade Name	N/A	
Model Name	SR15AA01H-78	
Series Model	N/A	
Model Difference	N/A	
Product Description	The EUT is a LED Luminaires	
	Operation Frequency:	2402~2480 MHz
	Modulation Type:	GFSK
	Radio Technology	BLE
	Number Of Channel	40
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	1.5 dbi
Channel List	Please refer to the Note 2.	
Battery	Rated Voltage: 3.7V capacity :2000mAh	
Hardware version number	N/A	
Software version number	V1.27	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



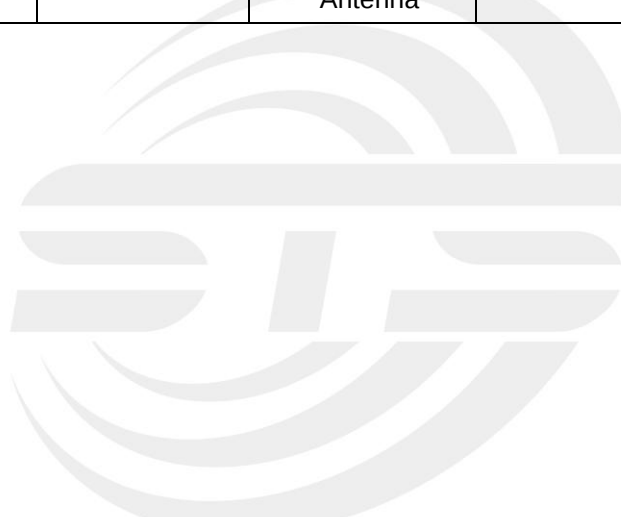
2.

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2402	11	2422	21	2442	31	2462
02	2404	12	2424	22	2444	32	2464
03	2406	13	2426	23	2446	33	2466
04	2408	14	2428	24	2448	34	2468
05	2410	15	2430	25	2450	35	2470
06	2412	16	2432	26	2452	36	2472
07	2414	17	2434	27	2454	37	2474
08	2416	18	2436	28	2456	38	2476
09	2418	19	2438	29	2458	39	2478
10	2420	20	2440	30	2460	40	2480

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	SR15AA01H-78	PCB Antenna	N/A	1.5	BT 4.0 ANT





2.2 DESCRIPTION OF TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively..

Worst Mode	Description	Data/Modulation
Mode 1	TX CH1(2402MHz)	1 MHz/GFSK
Mode 2	TX CH20(2440MHz)	1 MHz/GFSK
Mode 3	TX CH40(2480MHz)	1 MHz/GFSK

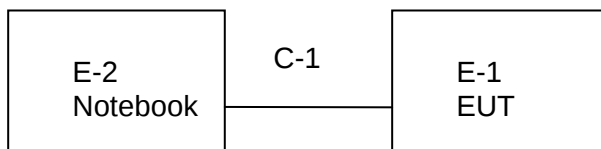
Note:

- (1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- (2) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V,50/60Hz is shown in the report
- (3) The EUT was programmed to be in continuously transmitting with a modulated carrier at maximum power on bottom/middle/top channels as required using the supported data rates/modulation types and the transmit duty cycle is not less than 98%.
- (4) Controlled using a bespoke application on the laptop PC supplied by the customer. The application was used to enable a continuous transmission mode and to select the test channels, data rates and modulation schemes as required.



2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-2	Notebook	DELL	VOSTRO.3800	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	USB Cable	NO	100cm	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.



2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESW	101535	2017.06.01	2018.05.31
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2018.11.01
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2017.10.27	2018.10.26
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	N/A	2018.03.11	2019.03.10
Temperature & Humidity	HH660	Mieo	N/A	2017.10.15	2018.10.14
Temperature & Humidity	HH660	Mieo	N/A	2017.10.15	2018.10.14
Pre-mpifier (0.1M-3GHz)	EM	EM330	60538	2018.03.11	2019.03.10
PreAmplifier (1G-26.5GHz)	Agilent	8449B	60538	2017.10.15	2018.10.14
Passive Loop (9K--30MHz)	ZHNAN	ZN3090C	16035	2018.03.11	2019.03.10
Low frequency cable	EM	R01	N/A	2018.03.11	2019.03.10
Low frequency cable	EM	R06	N/A	2018.03.11	2019.03.10
High frequency cable	SCHWARZBECK	R04	N/A	2018.03.11	2019.03.10
High frequency cable	SCHWARZBECK	R02	N/A	2018.03.11	2019.03.10
Semi-anechoic chamber	Changling	966	N/A	2017.10.15	2018.10.14
trun table	EM	SC100_1	60531	N/A	N/A
Antnna mast	EM	SC100	N/A	N/A	N/A
Max-full Antenna Corp	MF	MFA-440H	N/A	N/A	N/A

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2017.10.15	2018.10.14
LISN	R&S	ENV216	101242	2017.10.15	2018.10.14
conduction Cable	EM	C01	N/A	2018.03.11	2019.03.10
Temperature & Humidity	Mieo	HH660	N/A	2017.10.15	2018.10.14



RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2017.10.15	2018.10.14
Power Meter	R&S	NRP	100510	2017.10.15	2018.10.14
Spectrum Analyzer	Agilent	N9020A	MY51110105	2018.03.08	2019.03.07
Signal Analyzer	Agilent	N9020A	MY49100060	2017.10.15	2018.10.14

Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.





3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emission limit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

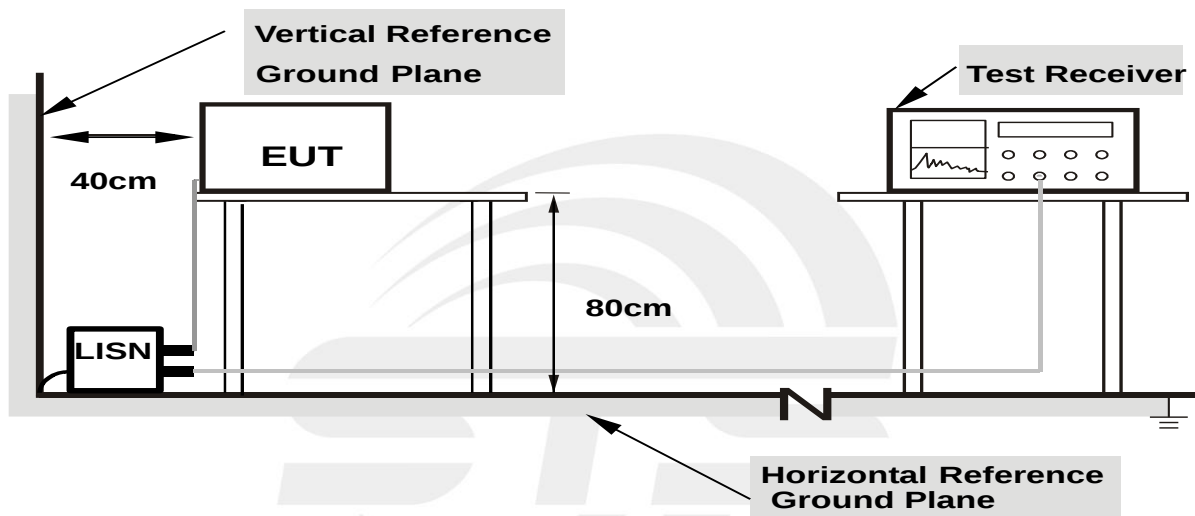
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 TEST PROCEDURE

- The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



3.5 TEST RESULTS

Temperature:	25.4 °C	Relative Humidity:	60%
Pressure:	1010hPa	Phase:	L/N
Test Voltage:	AC 120V/60Hz	Test Mode:	N/A

Note: denotes test is not applicable in this test report.





4. RADIATED EMISSION MEASUREMENT

4.1 RADIATED EMISSION LIMITS

in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (Frequency Range 9kHz-1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 3 MHz

For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2300 to 2403 MHz Upper Band Edge: 2479 to 2500 MHz
RB / VB (emission in restricted band)	1 MHz / 3 MHz



Receiver Parameter	Setting
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2 TEST PROCEDURE

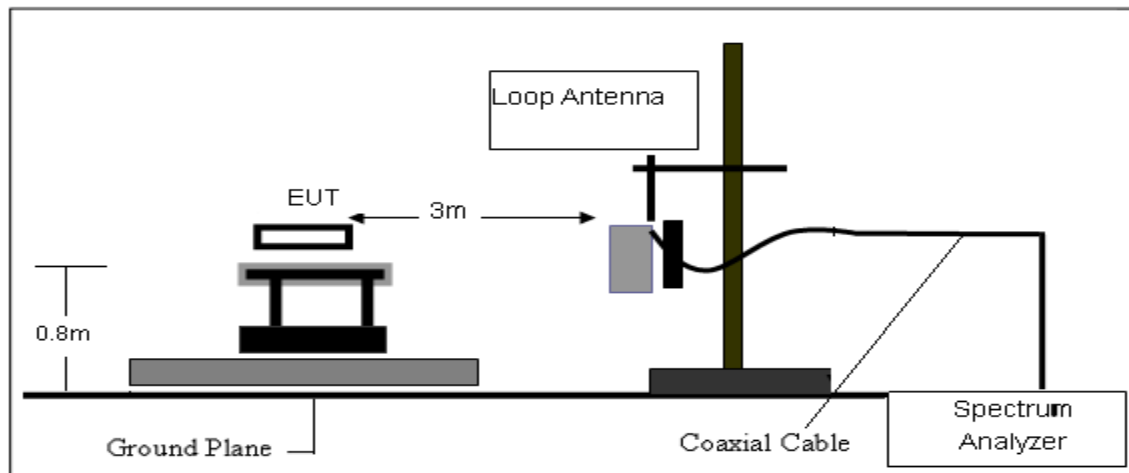
- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- The EUT was placed on the top of a rotating table 0.8 meters(above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarizations of the antenna are set to make the measurement
- 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 Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

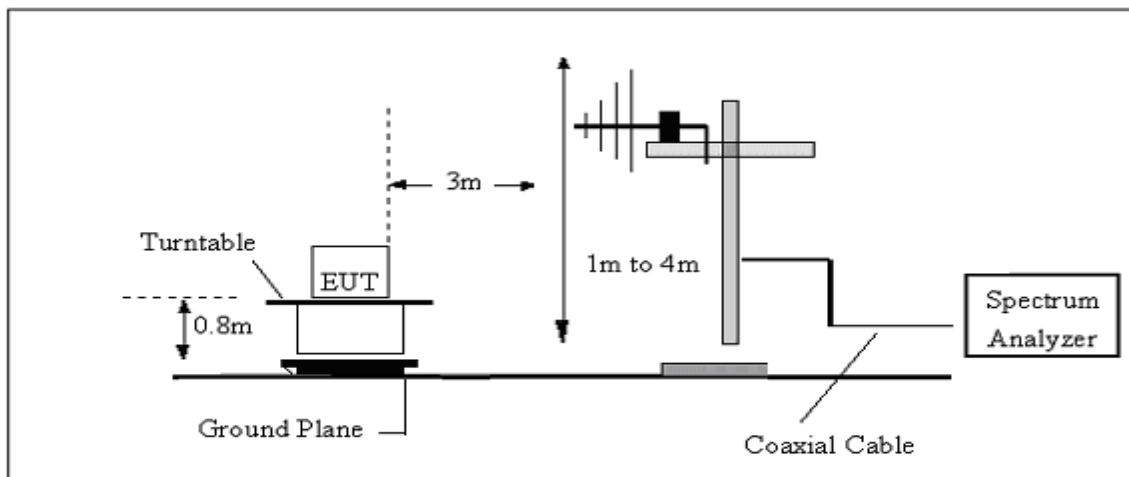
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

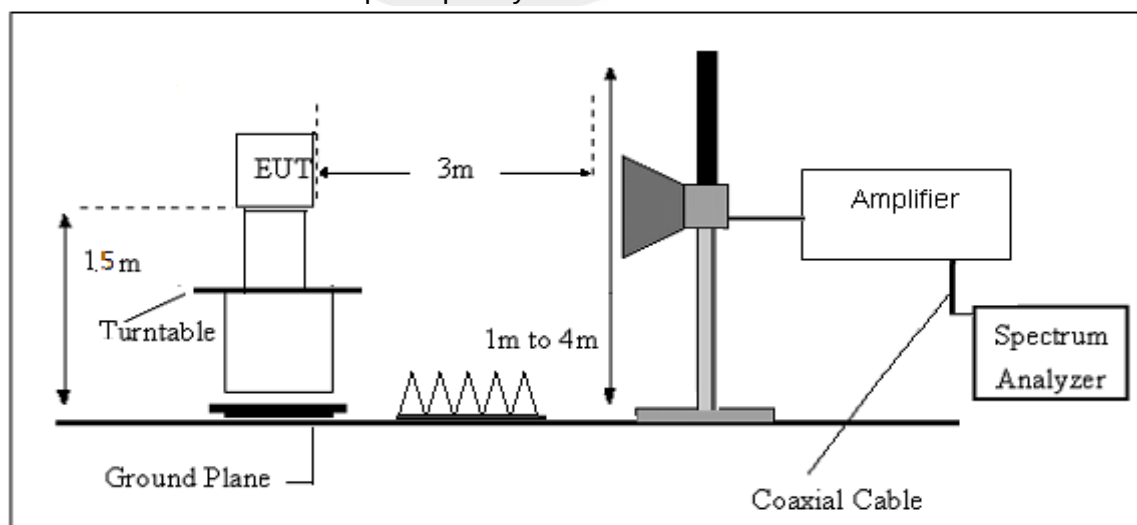
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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



4.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



4.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

$$\text{Factor} = \text{AF} + \text{CL} - \text{AG}$$





4.6 TEST RESULTS

(Between 9KHz – 30 MHz)

Temperature:	25.4 °C	Relative Humidity:	60%
Pressure:	1010 hPa	Test Voltage:	3.7V from Battery
Test Mode:	Mode1/2/3 (Mode 3-1M worst mode)	Polarization:	--

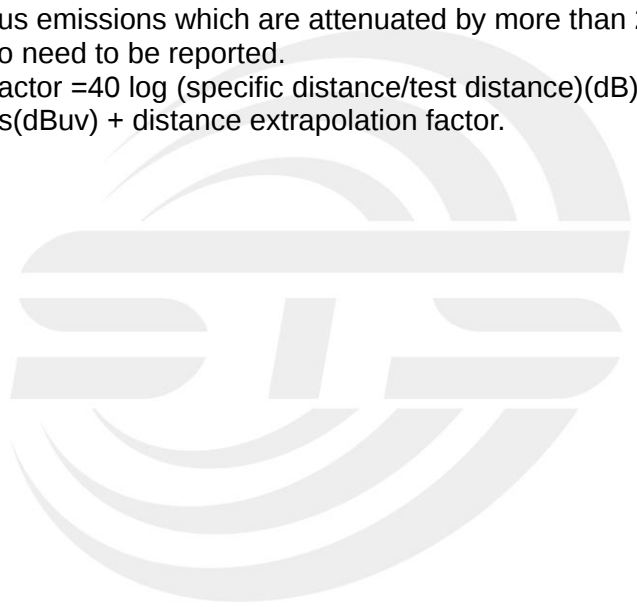
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

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

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





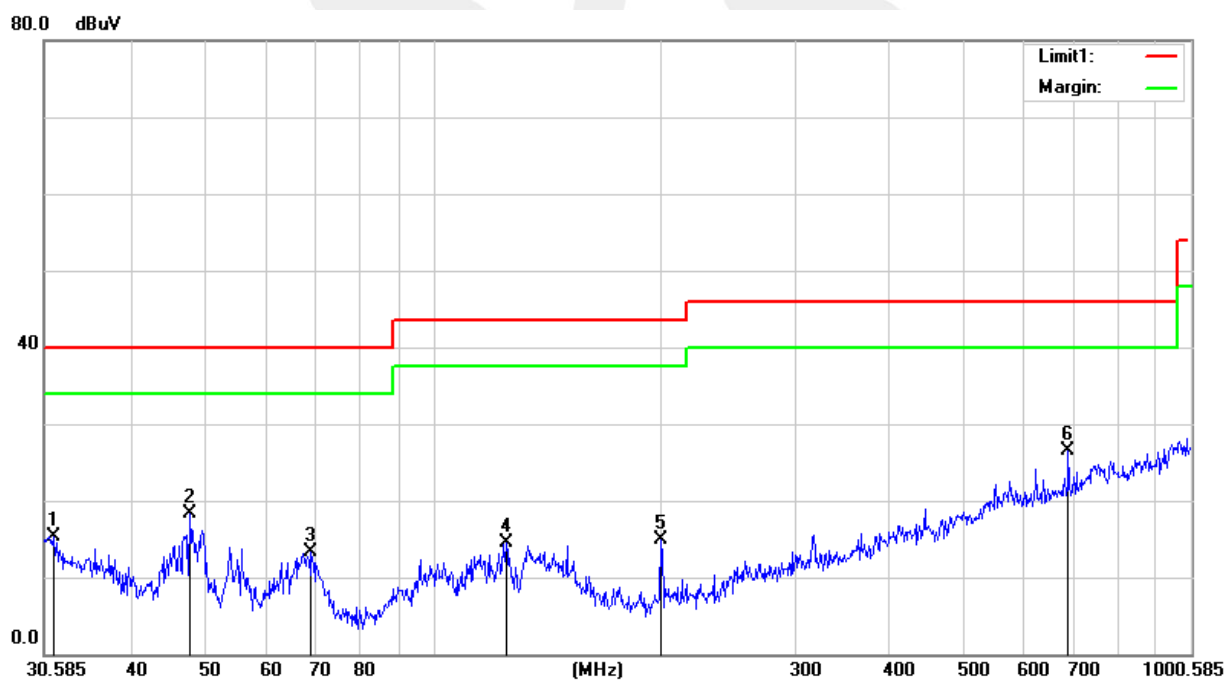
(30MHz -1000MHz)

Temperature:	25.9℃	Relative Humidity:	62%
Test Voltage:	3.7V from Battery	Phase:	Horizontal
Test Mode:	Mode1/2/3(Mode 3-1M worst mode)		

Frequency	Reading	Correct	Result	Limit	Margin	Remark
(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
31.5604	27.38	-11.99	15.39	40.00	-24.61	QP
47.6302	38.65	-20.26	18.39	40.00	-21.61	QP
68.9360	37.41	-24.12	13.29	40.00	-26.71	QP
124.7245	32.15	-17.63	14.52	43.50	-28.98	QP
199.7295	35.04	-20.17	14.87	43.50	-28.63	QP
688.9321	32.06	-5.58	26.48	46.00	-19.52	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit





Temperature:	25.9 °C	Relative Humidity:	62%
Test Voltage:	3.7V from Battery	Phase:	Vertical
Test Mode:	Mode1/2/3(Mode 3-1M worst mode)		

Frequency	Reading	Correct	Result	Limit	Margin	Remark
(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
31.8924	32.42	-12.16	20.26	40.00	-19.74	QP
49.4931	49.47	-21.22	28.25	40.00	-11.75	QP
92.4024	49.00	-19.95	29.05	43.50	-14.45	QP
122.1415	49.75	-17.66	32.09	43.50	-11.41	QP
405.4481	29.55	-11.14	18.41	46.00	-27.59	QP
751.7007	32.47	-3.58	28.89	46.00	-17.11	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit

80.0 dBuV





(1GHz-25GHz)Restricted band and Spurious emission Requirements

GFSK Low Channel

Frequency	Reading	Amplifier	Loss	Antenna	Corrected	Emission				
(MHz)	(dBμV)	(dB)	(dB)	Factor	Factor	Level	Limits	Margin	Detector	Comment
Low Channel (2402 MHz)										
3264.63	48.32	44.70	6.70	28.20	-9.80	38.52	74.00	-35.48	PK	Vertical
3264.63	38.21	44.70	6.70	28.20	-9.80	28.41	54.00	-25.59	AV	Vertical
3264.80	49.25	44.70	6.70	28.20	-9.80	39.45	74.00	-34.55	PK	Horizontal
3264.80	38.60	44.70	6.70	28.20	-9.80	28.80	54.00	-25.20	AV	Horizontal
4804.31	59.34	44.20	9.04	31.60	-3.56	55.78	74.00	-18.22	PK	Vertical
4804.31	38.87	44.20	9.04	31.60	-3.56	35.31	54.00	-18.69	AV	Vertical
4804.56	59.16	44.20	9.04	31.60	-3.56	55.60	74.00	-18.40	PK	Horizontal
4804.56	38.20	44.20	9.04	31.60	-3.56	34.64	54.00	-19.36	AV	Horizontal
5359.65	44.96	44.20	9.86	32.00	-2.34	42.62	74.00	-31.38	PK	Vertical
5359.65	37.94	44.20	9.86	32.00	-2.34	35.60	54.00	-18.40	AV	Vertical
5359.74	45.56	44.20	9.86	32.00	-2.34	43.22	74.00	-30.78	PK	Horizontal
5359.74	37.07	44.20	9.86	32.00	-2.34	34.73	54.00	-19.27	AV	Horizontal
7205.92	51.29	43.50	11.40	35.50	3.40	54.69	74.00	-19.31	PK	Vertical
7205.92	33.39	43.50	11.40	35.50	3.40	36.79	54.00	-17.21	AV	Vertical
7205.91	50.77	43.50	11.40	35.50	3.40	54.17	74.00	-19.83	PK	Horizontal
7205.91	32.57	43.50	11.40	35.50	3.40	35.97	54.00	-18.03	AV	Horizontal



GFSK Mid Channel

Frequency	Reading	Amplifier	Loss	Antenna	Corrected	Emission	Limits	Margin	Detector	
(MHz)	(dBμV)	(dB)	(dB)	Factor	Factor	Level	(dBμV/m)	(dB)	Type	Comment
Mid Channel (2440 MHz)										
3264.68	49.28	44.70	6.70	28.20	-9.80	39.48	74.00	-34.52	PK	Vertical
3264.68	38.36	44.70	6.70	28.20	-9.80	28.56	54.00	-25.44	AV	Vertical
3264.63	48.77	44.70	6.70	28.20	-9.80	38.97	74.00	-35.03	PK	Horizontal
3264.63	37.95	44.70	6.70	28.20	-9.80	28.15	54.00	-25.85	AV	Horizontal
4880.31	58.32	44.20	9.04	31.60	-3.56	54.76	74.00	-19.24	PK	Vertical
4880.31	39.48	44.20	9.04	31.60	-3.56	35.92	54.00	-18.08	AV	Vertical
4880.32	58.97	44.20	9.04	31.60	-3.56	55.41	74.00	-18.59	PK	Horizontal
4880.32	39.23	44.20	9.04	31.60	-3.56	35.67	54.00	-18.33	AV	Horizontal
5359.69	46.12	44.20	9.86	32.00	-2.34	43.78	74.00	-30.22	PK	Vertical
5359.69	38.34	44.20	9.86	32.00	-2.34	36.00	54.00	-18.00	AV	Vertical
5359.70	46.01	44.20	9.86	32.00	-2.34	43.67	74.00	-30.33	PK	Horizontal
5359.70	37.25	44.20	9.86	32.00	-2.34	34.91	54.00	-19.09	AV	Horizontal
7310.72	50.99	43.50	11.40	35.50	3.40	54.39	74.00	-19.61	PK	Vertical
7310.72	33.54	43.50	11.40	35.50	3.40	36.94	54.00	-17.06	AV	Vertical
7310.76	51.86	43.50	11.40	35.50	3.40	55.26	74.00	-18.74	PK	Horizontal
7310.76	33.52	43.50	11.40	35.50	3.40	36.92	54.00	-17.08	AV	Horizontal



GFSK High Channel

High Channel (2480 MHz)										
Frequency (MHz)	Reading (dBμV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Corrected Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
3264.80	48.29	44.70	6.70	28.20	-9.80	38.49	74.00	-35.51	PK	Vertical
3264.80	39.61	44.70	6.70	28.20	-9.80	29.81	54.00	-24.19	AV	Vertical
3264.60	48.85	44.70	6.70	28.20	-9.80	39.05	74.00	-34.95	PK	Horizontal
3264.60	39.03	44.70	6.70	28.20	-9.80	29.23	54.00	-24.77	AV	Horizontal
4960.50	58.73	44.20	9.04	31.60	-3.56	55.17	74.00	-18.83	PK	Vertical
4960.50	38.81	44.20	9.04	31.60	-3.56	35.25	54.00	-18.75	AV	Vertical
4960.46	58.77	44.20	9.04	31.60	-3.56	55.21	74.00	-18.79	PK	Horizontal
4960.46	38.92	44.20	9.04	31.60	-3.56	35.36	54.00	-18.64	AV	Horizontal
5359.61	45.57	44.20	9.86	32.00	-2.34	43.23	74.00	-30.77	PK	Vertical
5359.61	38.41	44.20	9.86	32.00	-2.34	36.07	54.00	-17.93	AV	Vertical
5359.66	46.17	44.20	9.86	32.00	-2.34	43.83	74.00	-30.17	PK	Horizontal
5359.66	38.39	44.20	9.86	32.00	-2.34	36.05	54.00	-17.95	AV	Horizontal
7439.84	51.17	43.50	11.40	35.50	3.40	54.57	74.00	-19.43	PK	Vertical
7439.84	33.00	43.50	11.40	35.50	3.40	36.40	54.00	-17.60	AV	Vertical
7439.70	50.92	43.50	11.40	35.50	3.40	54.32	74.00	-19.68	PK	Horizontal
7439.70	33.18	43.50	11.40	35.50	3.40	36.58	54.00	-17.42	AV	Horizontal

Note:

1) Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Reading + Factor

2) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

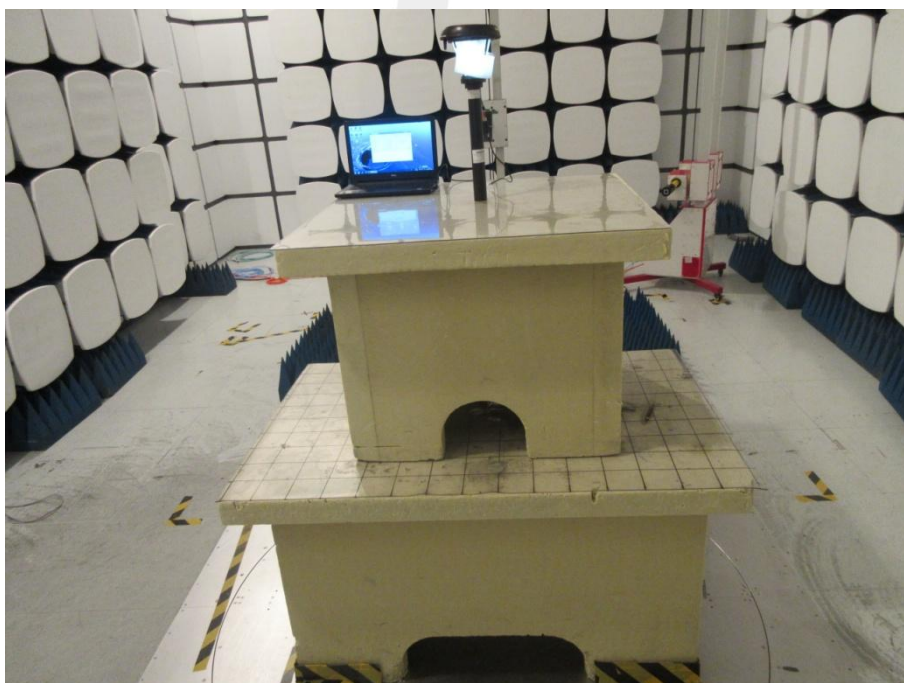
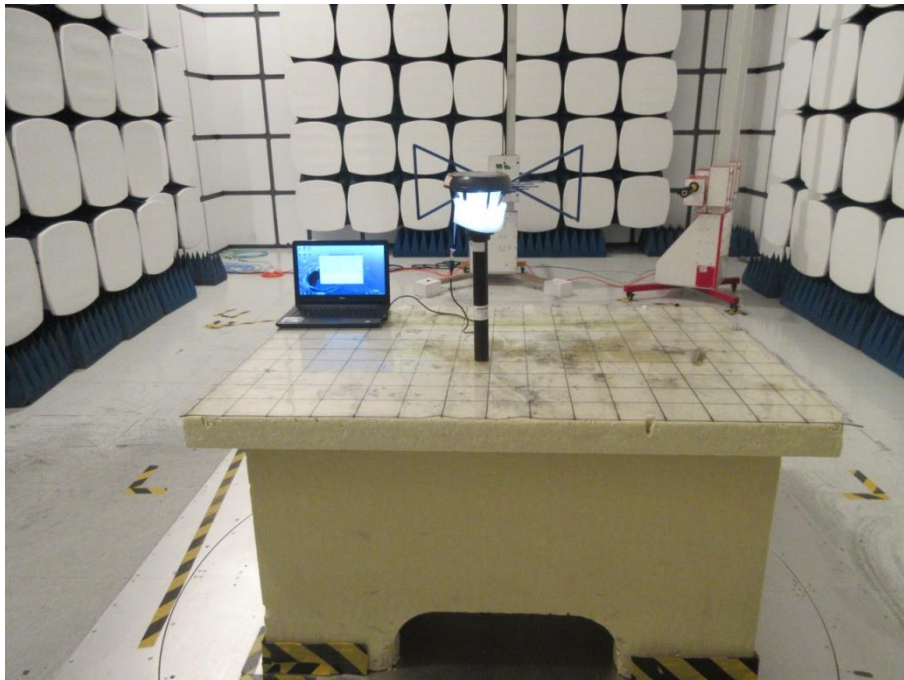


4.6 TEST RESULTS (Restricted Bands Requirements)

Frequency	Reading	Amplifier	Loss	Antenna	Corrected	Emission				
(MHz)	(dBμV)	(dB)	(dB)	Factor	Factor	Level	Limits	Margin	Detector	Comment
GFSK										
2390.00	68.25	43.80	4.91	25.90	-12.99	55.26	74.00	-18.74	PK	Vertical
2390.00	54.16	43.80	4.91	25.90	-12.99	41.17	54.00	-12.83	AV	Vertical
2390.00	69.59	43.80	4.91	25.90	-12.99	56.60	74.00	-17.40	PK	Horizontal
2390.00	53.34	43.80	4.91	25.90	-12.99	40.35	54.00	-13.65	AV	Horizontal
2483.50	69.17	43.80	5.12	25.90	-12.78	56.39	74.00	-17.61	PK	Vertical
2483.50	52.21	43.80	5.12	25.90	-12.78	39.43	54.00	-14.57	AV	Vertical
2483.50	69.23	43.80	5.12	25.90	-12.78	56.45	74.00	-17.55	PK	Horizontal
2483.50	52.87	43.80	5.12	25.90	-12.78	40.09	54.00	-13.91	AV	Horizontal
Low measurement frequencies is range from 2300 to 2403 MHz, high measurement frequencies is range from 2479 to 2500 MHz. Only show the worst point data of the emissions in the frequency 2300-2403 MHz and 2479-2500 MHz.										

5. EUT TEST PHOTO

Radiated Measurement Photos



*****END OF THE REPORT*****