



FCC Test Report

Report No: FCS202608147W02

Issued for

Applicant:	Shenzhen Meld Display Technology Co., Led
Address:	Room 301, Building E, Shangpai Liyukeng Industrial Zone, Shihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District, Shenzhen, China
Product Name:	LED RGB Controller
Brand Name:	N/A
Model Name:	MELD-LS-0530
Series Model:	MELD-PC-0530
FCC ID:	2BXY6-MELD-LS-0530
Issued By: Flux Compliance Service Laboratory Add: Room 105, 1/F., Baohao Technology Building 1, NO.15, Gongye West Road, Songshan Lake Hi-Tech Industrial Area, Dongguan, Guangdong, China Tel: 0769-27280901 Fax: 0769-27280901 http://www.FCS-lab.com	

TEST RESULT CERTIFICATION

Applicant's Name.....: Shenzhen Meld Display Technology Co., Led

Address.....: Room 301, Building E, Shangpai Liyukeng Industrial Zone, Shihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District, Shenzhen, China

Manufacture's Name.....: Shenzhen Meld Display Technology Co., Led

Address.....: Room 301, Building E, Shangpai Liyukeng Industrial Zone, Shihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District, Shenzhen, China

Product Description

Product Name.....: LED RGB Controller

Brand Name.....: N/A

Model Name.....: MELD-LS-0530

Series Model.....: MELD-PC-0530

Test Standards.....: FCC Rules and Regulations Part 15 Subpart C, Section 247

Test Procedure.....: ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024

This device described above has been tested by Flux Compliance Service Laboratory, 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.

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Date of Test.....:

Date (s) of performance of tests.: Aug. 11, 2026~Aug. 18, 2026

Date of Issue.....: Aug. 18, 2026

Test Result.....: Pass

Tested by

:



(orange OuYang)

Reviewed by

:



(Jayden)

Approved by

:



(Jack Wang)

Table of Contents	Page
1. SUMMARY OF TEST RESULTS	6
1.1 TEST FACTORY	7
1.2 MEASUREMENT UNCERTAINTY	7
2. GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF THE EUT	8
2.2 BLOCK ADIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	11
2.4 EQUIPMENTS LIST	12
3. CONDUCTED EMISSION MEASUREMENT	13
4. 6DB BANDWIDTH	19
4.1 Limit	19
4.2 Test Procedure	19
4.3 Test setup	19
4.4 Test results	20
4.5 Original Test Data	20
5. CONDUCTED OUTPUT POWER	24
5.1 LIMIT	24
5.2 TEST PROCEDURE	24
5.3 TEST SETUP	24
5.5 TEST RESULTS	24
6. BAND EDGE AND SPURIOUS(CONDUCTED)	25
6.1 LIMIT	25
6.2 TEST PROCEDURE	25
6.3 TEST SETUP	25
6.4 TEST RESULTS	26
6.5 Original test data	26
7. POWER SPECTRAL DENSITY	28
7.1 LIMIT	28
7.2 TEST PROCEDURE	28
7.3 TEST SETUP	28
7.4 TEST RESULTS	28

Table of Contents	Page
7.5 original test data	29
8. RADIATED EMISSION MEASUREMENT	30
8.1 RADIATED EMISSION LIMITS	30
8.2 TEST PROCEDURE	31
8.3 TESTSETUP	32
8.4. TEST RESULTS	33
9. RADIATED EMISSION (30MHZ-1000MHZ)	41
9.1 RADIATED EMISSION ABOVE 1GHZ	43
9.2 RADIATED BAND EDGE DATA	45
10. ANTENNA REQUIREMENT	46
10.1 STANDARD REQUIREMENT	46
10.2 RESULT	46

Revision History

Rev.	Issue Date	Effect Page	Contents
00	Aug. 18, 2026	N/A	N/A

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 15.247 Meas Guidance v05r02

FCC Part 15.247, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247 (b)(3)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247 (e)	Power Spectral Density	PASS	--
15.247(a)(2)	6dB Bandwidth 99% Bandwidth	PASS	--
15.205	Restricted bands of operation	PASS	--
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	--
15.203	Antenna Requirement	PASS	--

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) All tests are according to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024

1.1 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105, 1/F., Baohao Technology Building 1, No.15, Gongye West Road, Songshan Lake Hi-Tech Industrial Area, Dongguan, Guangdong, China
Telephone:	+86-0769-27280901
Fax:	+86-0769-27280901
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01 ISED Number: 25801 CAB ID : CN0097	

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	RF output power, conducted	$\pm 0.71 \text{ dB}$
2	Unwanted Emissions, conducted	$\pm 2.988 \text{ dB}$
3	Conducted Emission (9KHz-150KHz)	$\pm 4.13 \text{ dB}$
4	All emissions radiated (9KHz -30MHz)	$\pm 3.1 \text{ dB}$
5	Conducted Emission (150KHz-30MHz)	$\pm 4.74 \text{ dB}$
6	All emissions,radiated(<1G) 30MHz-1000MHz	$\pm 5.2 \text{ dB}$
7	All emissions,radiated 1GHz -18GHz	$\pm 4.66 \text{ dB}$
8	All emissions,radiated 18GHz -40GHz	$\pm 4.31 \text{ dB}$
9	Occupied bandwidth	$\pm 0.3 \text{ dB}$
10	Power Spectral Density	$\pm 0.48 \text{ dB}$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	LED RGB Controller	
Trade Name	N/A	
Model Name	MELD-LS-0530	
Series Model	MELD-PC-0530	
Model Difference	PCB board, structure and internal of these model(s) are the same, It's just that the names, colors and the number of connected light strips are different.MELD-PC-0530 connects three light strips ,MELD-LS-0530 connects two light strips.	
Product Description	Operation Frequency:	2402-2480 MHz
	Modulation Type:	GFSK
	Radio Technology:	BLE
	Bluetooth Configuration:	LE
	Number Of Channel:	40 CH
	Antenna Gain (dBi)	0
	Transmitter rate:	1Mbps
Channel List	Please refer to the Note 2.	
Power Supply	DC 5V-24 V	
Battery	N/A	
Hardware version number	V1.0	
Software version number	N/A	
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	Freq.(MHz)	Channel	Freq.(MHz)	Channel	Freq.(MHz)	Channel	Freq.(MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	NA	N/A	PCB Antenna	N/A	0	Antenna

2.2 BLOCK ADIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Block diagram of EUT configuration for test

Radiation:



Conduction



Test software: BT_Tool V1.1.4

The test software was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

No.	Test model description
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK
4	Charging

Note:

1. All the test modes can be supply by battery, only the result of the worst case recorded in the report. GFSK mode is worst mode.
2. For radiated emission, 3 axis were chosen for testing for each applicable mode.
3. The EUT used fully charge battery when tested.
4. During the test, the duty cycle>98%, the test voltage was tuned from 85% to 115% of the Nominal rate supply voltage, and found that the worst case was the nominal rated supply condition, So the report just shows that condition's data

2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
1	Adapter	XIAOMI	MDY-11-EB	N/A	this adapter is for testing only in repor
2	remote control	Shenzhen Meld Display Technology Co., Led	LS-0530-1	N/A	
3	tape lights	Shenzhen Meld Display Technology Co., Led	LS-0530-2	N/A	
4	tape lights	Shenzhen Meld Display Technology Co., Led	LS-0530-3	N/A	
5	LED light bar	Shenzhen Meld Display Technology Co., Led	LS-0530-4	N/A	

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

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”.

2.4 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2025.08.25	2026.08.24
Signal Analyzer	R&S	FSV40-N	FCS-E012	2025.08.25	2026.08.24
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2025.08.25	2026.08.24
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2025.08.25	2026.08.24
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2025.08.25	2026.08.24
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2025.08.25	2026.08.24
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2025.08.25	2026.08.24
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2025.08.25	2026.08.24
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2025.08.25	2026.08.24
Temperature & Humidity	HTC-1	victor	FCS-E005	2025.08.25	2026.08.24
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2025.08.25	2026.08.24
LISN	R&S	ENV216	FCS-E007	2025.08.25	2026.08.24
LISN	ETS	3810/2NM	FCS-E009	2025.08.25	2026.08.24
Temperature & Humidity	HTC-1	victor	FCS-E008	2025.08.25	2026.08.24
Testing Software	EZ-EMC(Ver.EMC-CON 3A1.1)				

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2025.08.25	2026.08.24
Spectrum Analyzer	Agilent	E4447A	MY50180039	2025.08.25	2026.08.24
Spectrum Analyzer	R&S	FSV-40	101499	2025.08.25	2026.08.24
Power Sensor	Agilent	UX2021XA	FCS-E021	2025.08.25	2026.08.24
Attenuator	Valley wave technology	SMA-CA110E 10 dB	FCS-E022	2025.08.25	2026.08.24
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

3. CONDUCTED EMISSION MEASUREMENT

3.1 LIMIT

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 Emissionlimit (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.

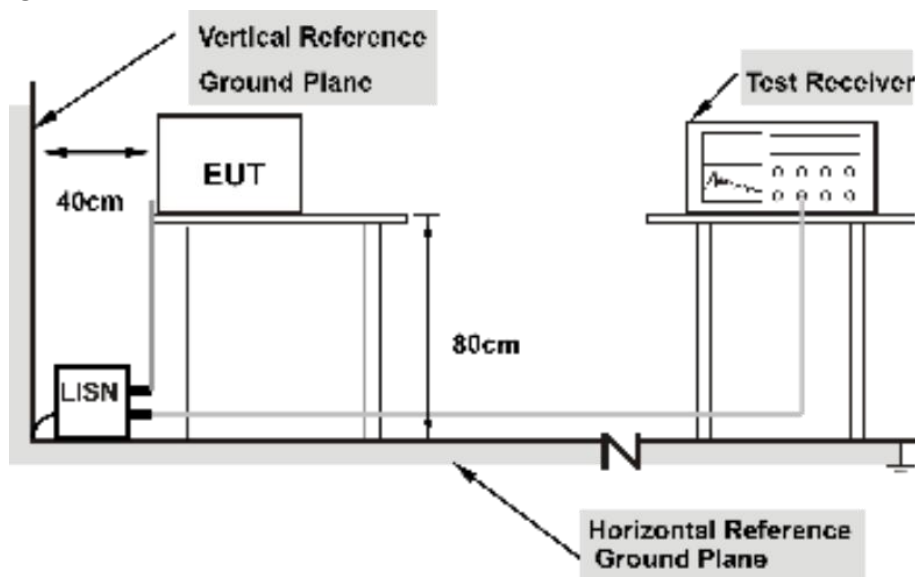
3.2 TEST PROCEDURE

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

- a. 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.
- b. 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.
- c. 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.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP

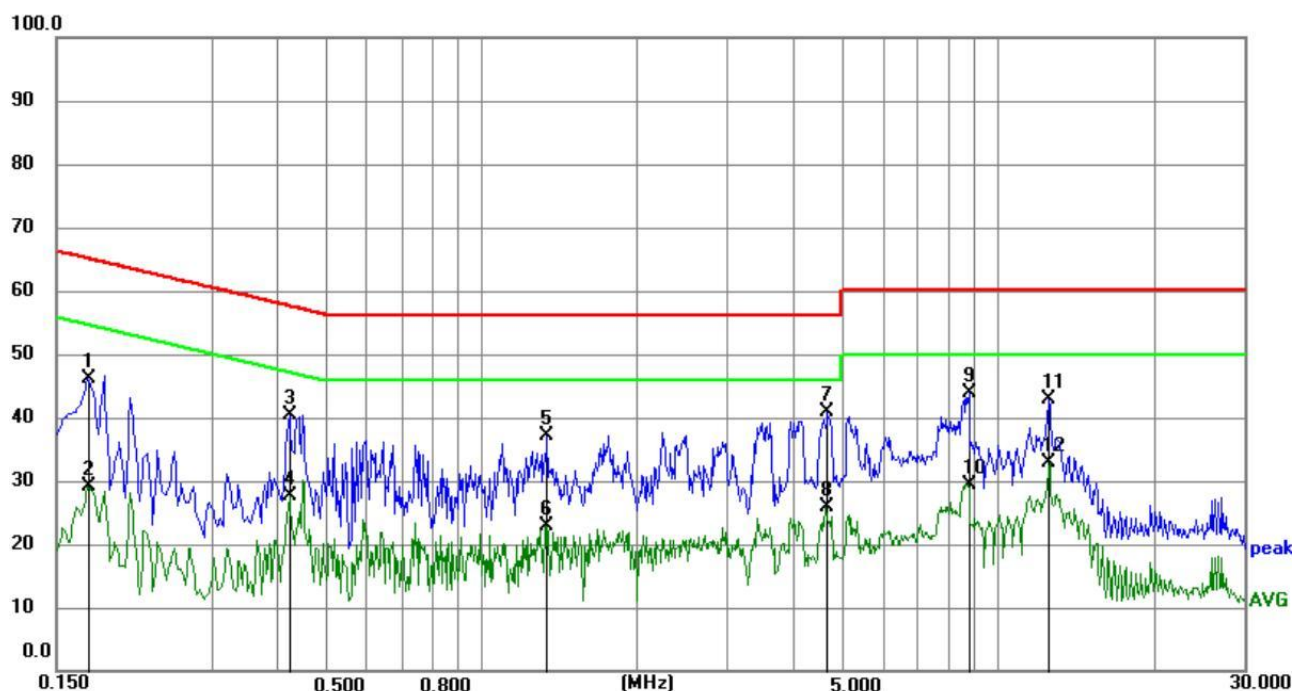


Note: 1.Support units were connected to second LISN.

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

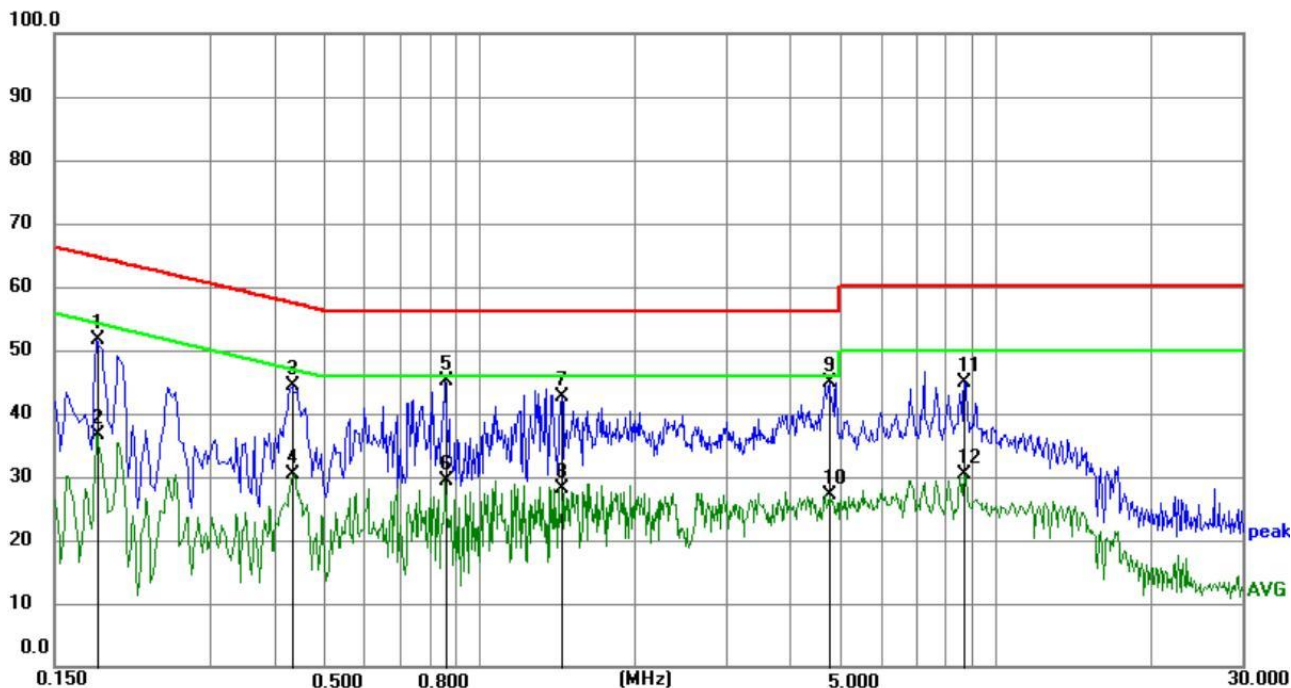
3.4 TEST RESULTS

Temperature:	26 °C	Relative Humidity:	54%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	L
Test Mode:	GFSK(LS-0530-2+LS-0530-3 +LS-0530-4)		



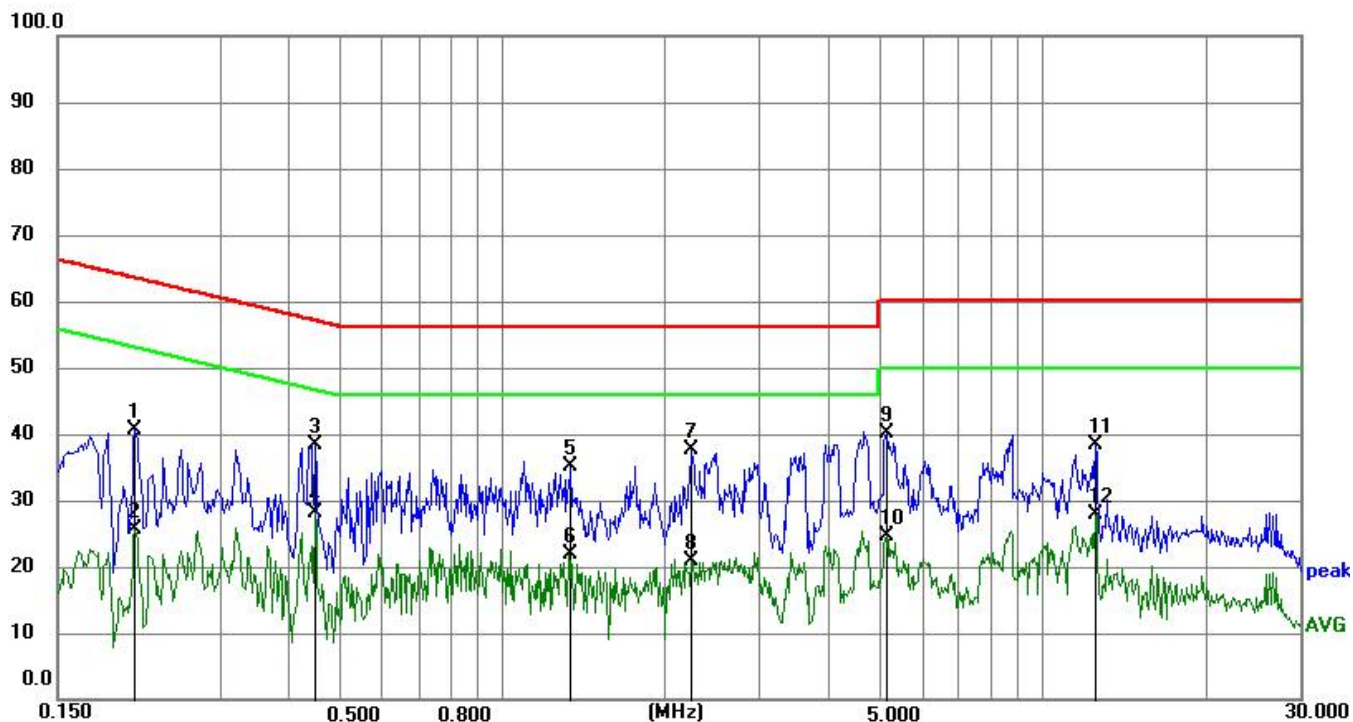
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1725	36.21	9.94	46.15	64.84	18.69	QP
2	0.1725	19.11	9.94	29.05	54.84	25.79	AVG
3	0.4245	30.52	9.90	40.42	57.36	16.94	QP
4	0.4245	17.83	9.90	27.73	47.36	19.63	AVG
5	1.3424	27.17	10.01	37.18	56.00	18.82	QP
6	1.3424	12.95	10.01	22.96	46.00	23.04	AVG
7	4.6905	30.81	10.08	40.89	56.00	15.11	QP
8	4.6905	15.73	10.08	25.81	46.00	20.19	AVG
9	8.8035	33.74	10.07	43.81	60.00	16.19	QP
10	8.8035	19.32	10.07	29.39	50.00	20.61	AVG
11	12.5700	32.75	10.11	42.86	60.00	17.14	QP
12	12.5700	22.68	10.11	32.79	50.00	17.21	AVG

Temperature:	26°C	Relative Humidity:	54%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	N
Test Mode:	GFSK(LS-0530-2+LS-0530-3 +LS-0530-4)		



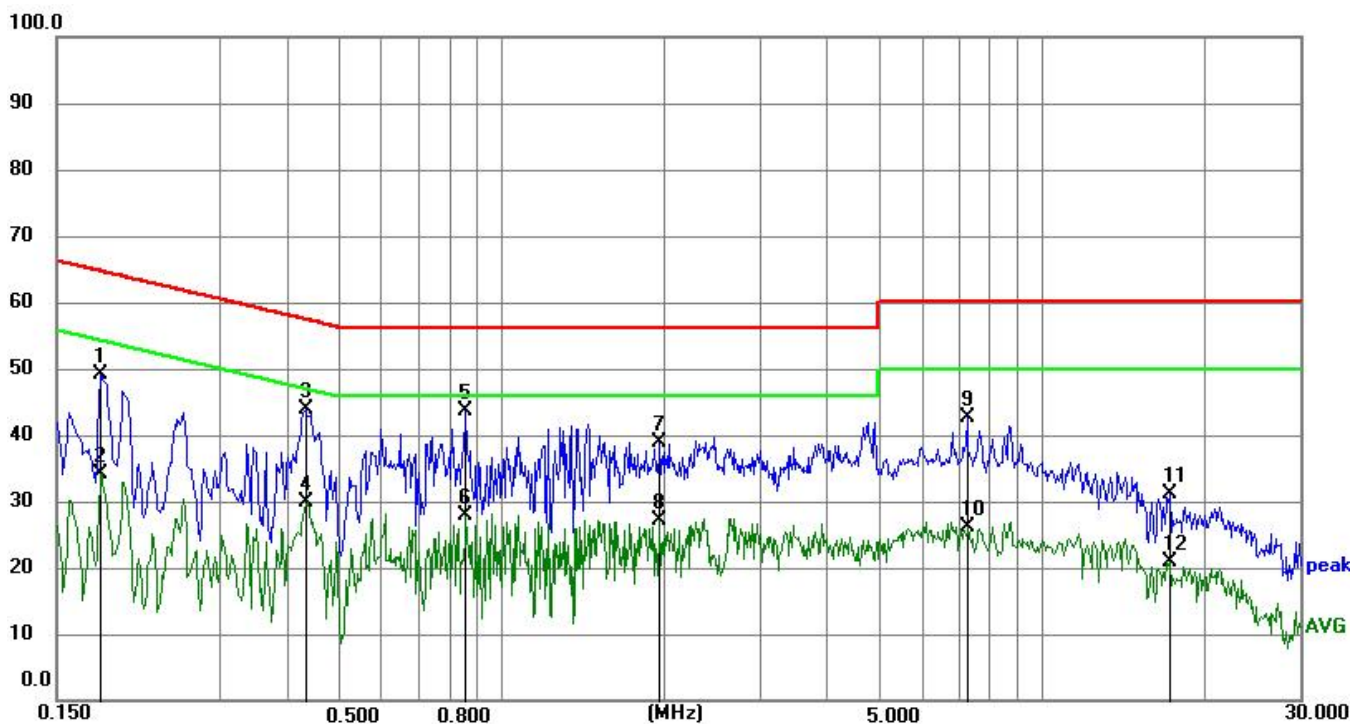
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1815	41.69	9.85	51.54	64.42	12.88	QP
2	0.1815	26.71	9.85	36.56	54.42	17.86	AVG
3	0.4335	34.43	9.90	44.33	57.19	12.86	QP
4	0.4335	20.48	9.90	30.38	47.19	16.81	AVG
5	0.8609	35.11	9.96	45.07	56.00	10.93	QP
6	0.8609	19.30	9.96	29.26	46.00	16.74	AVG
7	1.4414	32.73	10.00	42.73	56.00	13.27	QP
8	1.4414	18.10	10.00	28.10	46.00	17.90	AVG
9	4.7670	34.84	10.03	44.87	56.00	11.13	QP
10	4.7670	17.06	10.03	27.09	46.00	18.91	AVG
11	8.7225	34.81	10.13	44.94	60.00	15.06	QP
12	8.7225	20.28	10.13	30.41	50.00	19.59	AVG

Temperature:	26°C	Relative Humidity:	54%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	L
Test Mode:	GFSK(LS-0530-2+LS-0530-3)		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.2084	30.71	9.88	40.59	63.27	22.68	QP
2	0.2084	15.79	9.88	25.67	53.27	27.60	AVG
3	0.4515	28.48	9.92	38.40	56.85	18.45	QP
4	0.4515	18.13	9.92	28.05	46.85	18.80	AVG
5	1.3424	25.17	10.01	35.18	56.00	20.82	QP
6	1.3424	11.87	10.01	21.88	46.00	24.12	AVG
7	2.2378	27.60	10.04	37.64	56.00	18.36	QP
8	2.2378	10.87	10.04	20.91	46.00	25.09	AVG
9	5.1493	30.03	10.09	40.12	60.00	19.88	QP
10	5.1493	14.42	10.09	24.51	50.00	25.49	AVG
11	12.5700	28.25	10.11	38.36	60.00	21.64	QP
12	12.5700	17.68	10.11	27.79	50.00	22.21	AVG

Temperature:	26°C	Relative Humidity:	54%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	N
Test Mode:	GFSK(LS-0530-2+LS-0530-3)		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1814	39.19	9.85	49.04	64.42	15.38	QP
2	0.1814	24.21	9.85	34.06	54.42	20.36	AVG
3	0.4334	33.93	9.90	43.83	57.19	13.36	QP
4	0.4334	19.98	9.90	29.88	47.19	17.31	AVG
5	0.8608	33.61	9.96	43.57	56.00	12.43	QP
6	0.8608	17.80	9.96	27.76	46.00	18.24	AVG
7	1.9677	28.93	10.05	38.98	56.00	17.02	QP
8	1.9677	17.10	10.05	27.15	46.00	18.85	AVG
9	7.2644	32.50	10.07	42.57	60.00	17.43	QP
10	7.2644	16.17	10.07	26.24	50.00	23.76	AVG
11	17.2362	20.80	10.23	31.03	60.00	28.97	QP
12	17.2362	10.61	10.23	20.84	50.00	29.16	AVG

4. 6DB BANDWIDTH

4.1 Limit

FCC Part 15.247, Subpart C RSS-Gen Clause 6.7				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	6dB Bandwidth	$\geq 500\text{KHz}$	2400-2483.5	PASS
RSS-Gen Clause 6.7	99% Bandwidth	For reporting purposes only.	2400-2483.5	PASS

4.2 Test Procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Set the spectrum analyzer as follows

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6 dB Bandwidth : 100KHz For 99% Bandwidth : 1% to 5% of the occupied bandwidth
VBW	For 6dB Bandwidth : $\geq 3 \times \text{RBW}$ For 99% Bandwidth : approximately $3 \times \text{RBW}$
Trace	Max hold
Sweep	Auto

- (3) 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

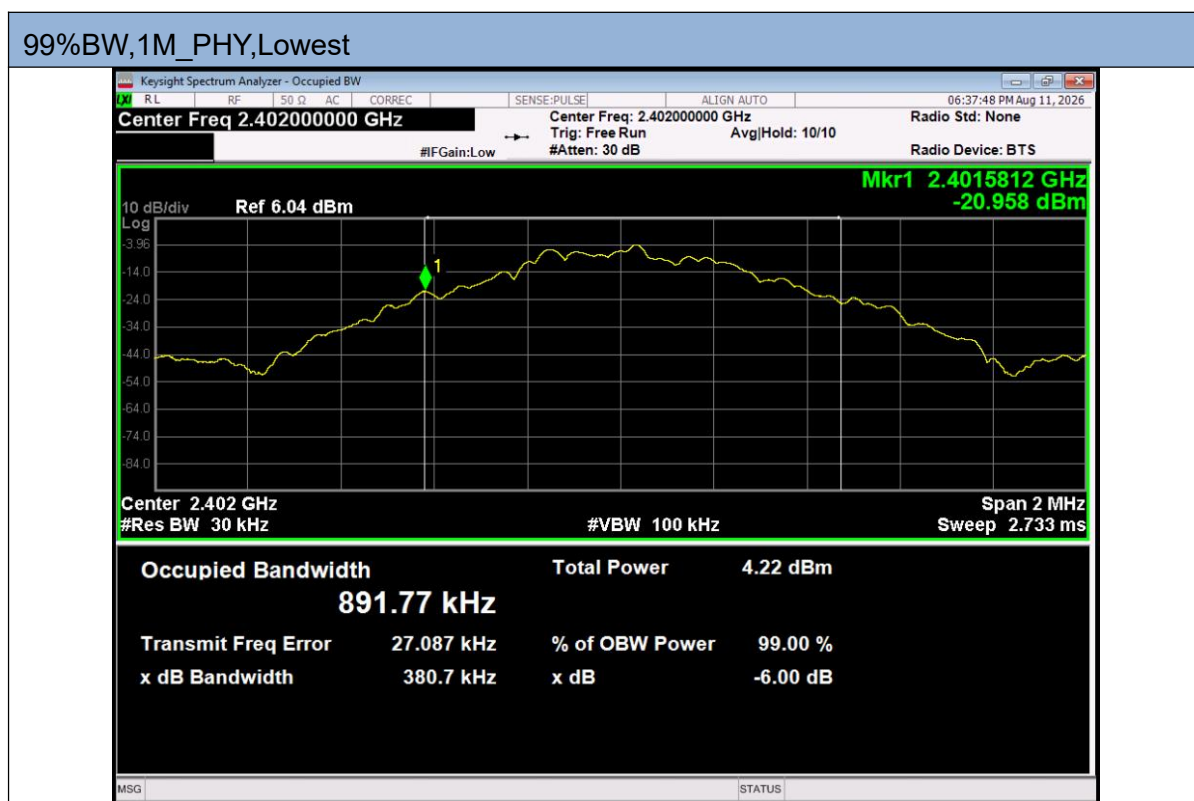
4.3 Test setup



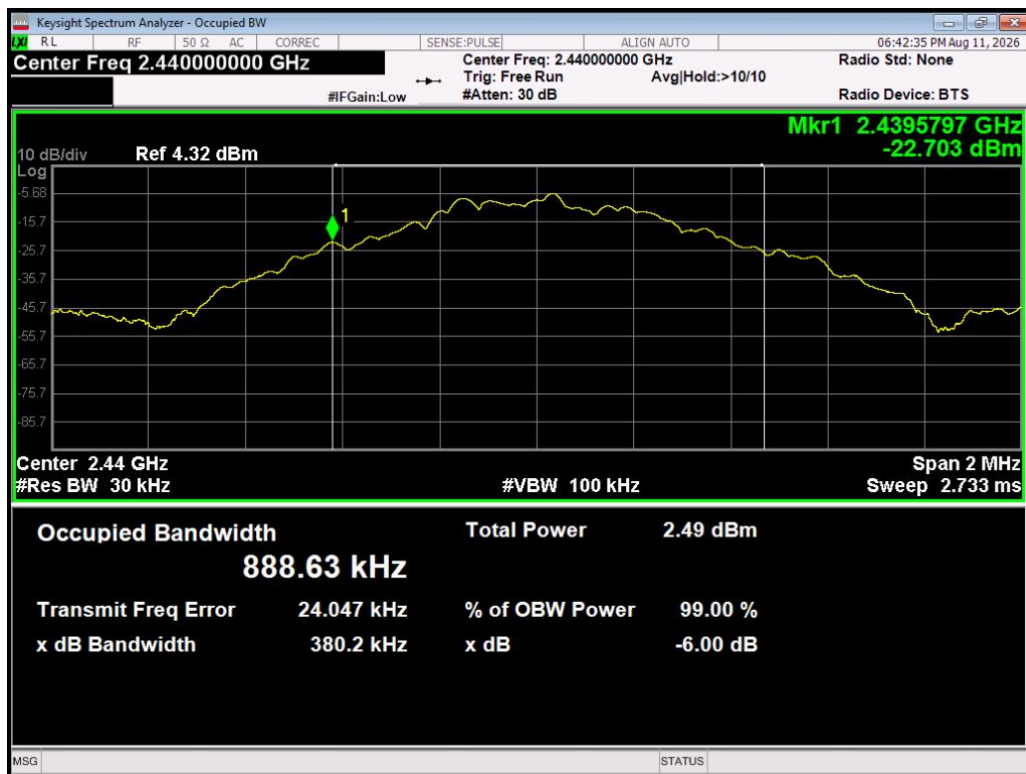
4.4 Test results

TestMode	Channel (MHz)	99% Bandwidth(MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Limit [MHz]	Verdict
Lowest	2402MHz	0.892	0.520	0.5	Pass
Middle	2440MHz	0.889	0.520	0.5	Pass
Highest	2480MHz	0.892	0.520	0.5	Pass

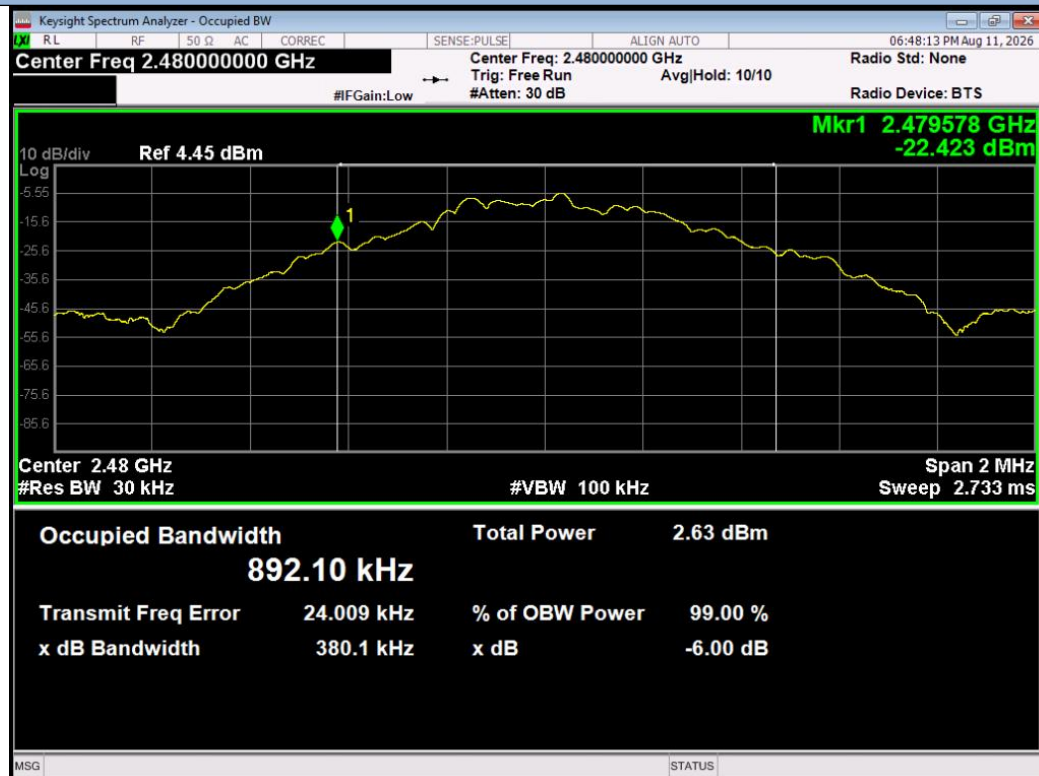
4.5 Original Test Data



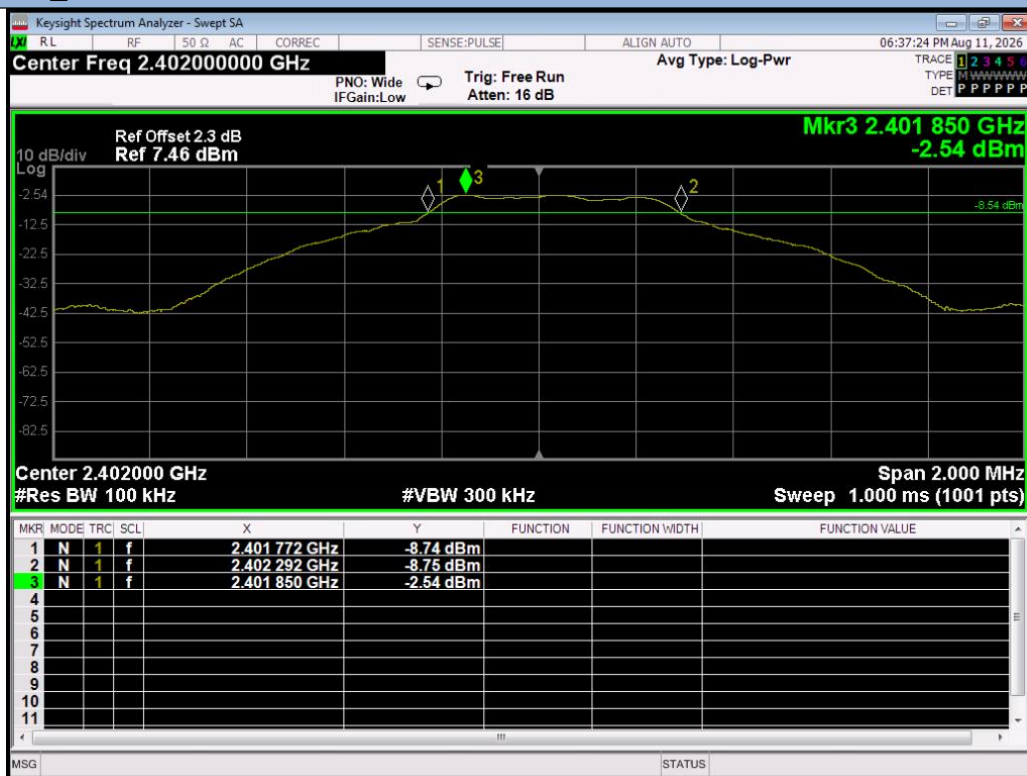
99%BW,1M_PHY,Middle



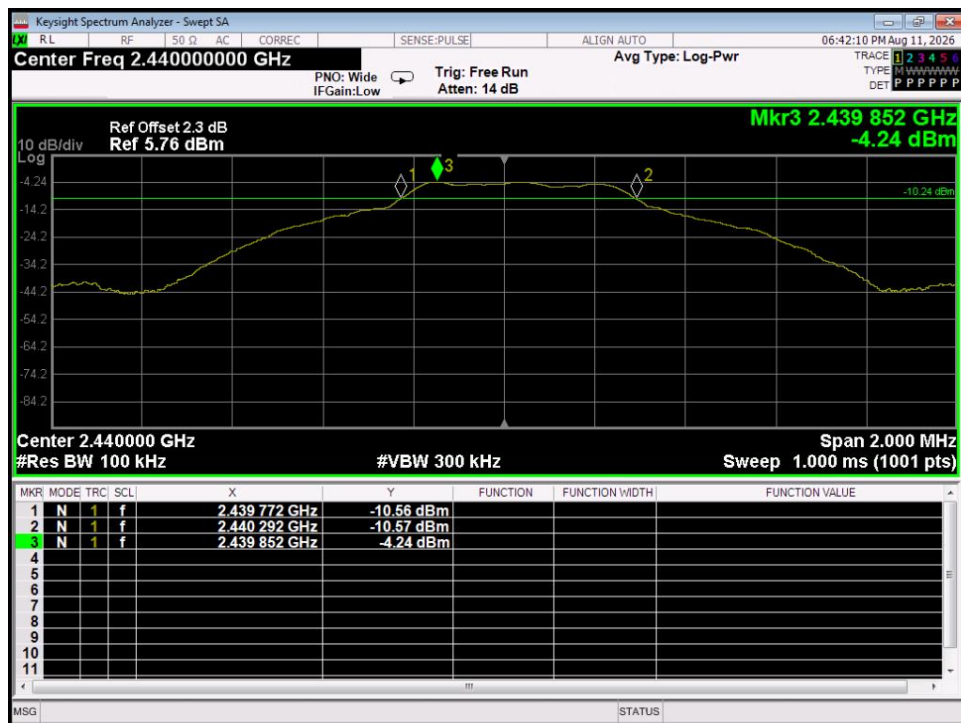
99%BW,1M_PHY,Highest



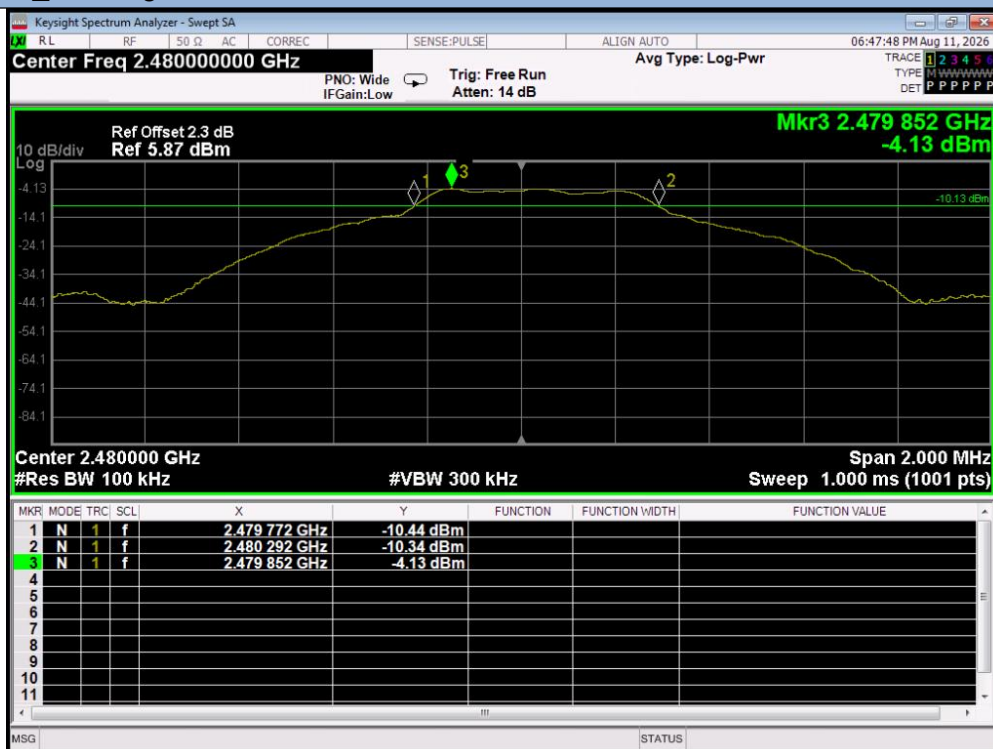
6BW,1M_PHY,Lowest



6BW,1M_PHY,Middle



6BW,1M_PHY,Highest



5. CONDUCTED OUTPUT POWER

5.1 LIMIT

FCC Part 15 Subpart C			
Section	Test Item	Limit	Frequency Range
15.247(b)(3)	Peak output power	Power <1W(30dBm)	2400-2483.5

5.2 TEST PROCEDURE

- (1) The EUT was directly connected to the Power sensor and antenna output port as show in The block diagram above.
- (2) The EUT was set to continuously transmitting in the max power during the test.

5.3 TEST SETUP



5.5 TEST RESULTS

TestMode	Channel (MHz)	Result (dBm)	Limit (dBm)	Verdict
Lowest	2402MHz	-2.14	30	Pass
Middle	2440MHz	-3.80	30	Pass
Highest	2480MHz	-3.67	30	Pass

6. BAND EDGE AND SPURIOUS(CONDUCTED)

6.1 LIMIT

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

6.2 TEST PROCEDURE

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	DTS Channel center frequency
RBW:	100kHz
VBW:	300kHz
Span	1.5times the DTS bandwidth
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

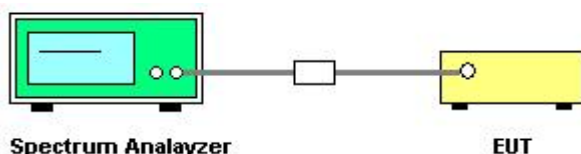
(3) Establish Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

RBW:	100kHz
VBW:	300kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{span}/\text{RBW}$
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

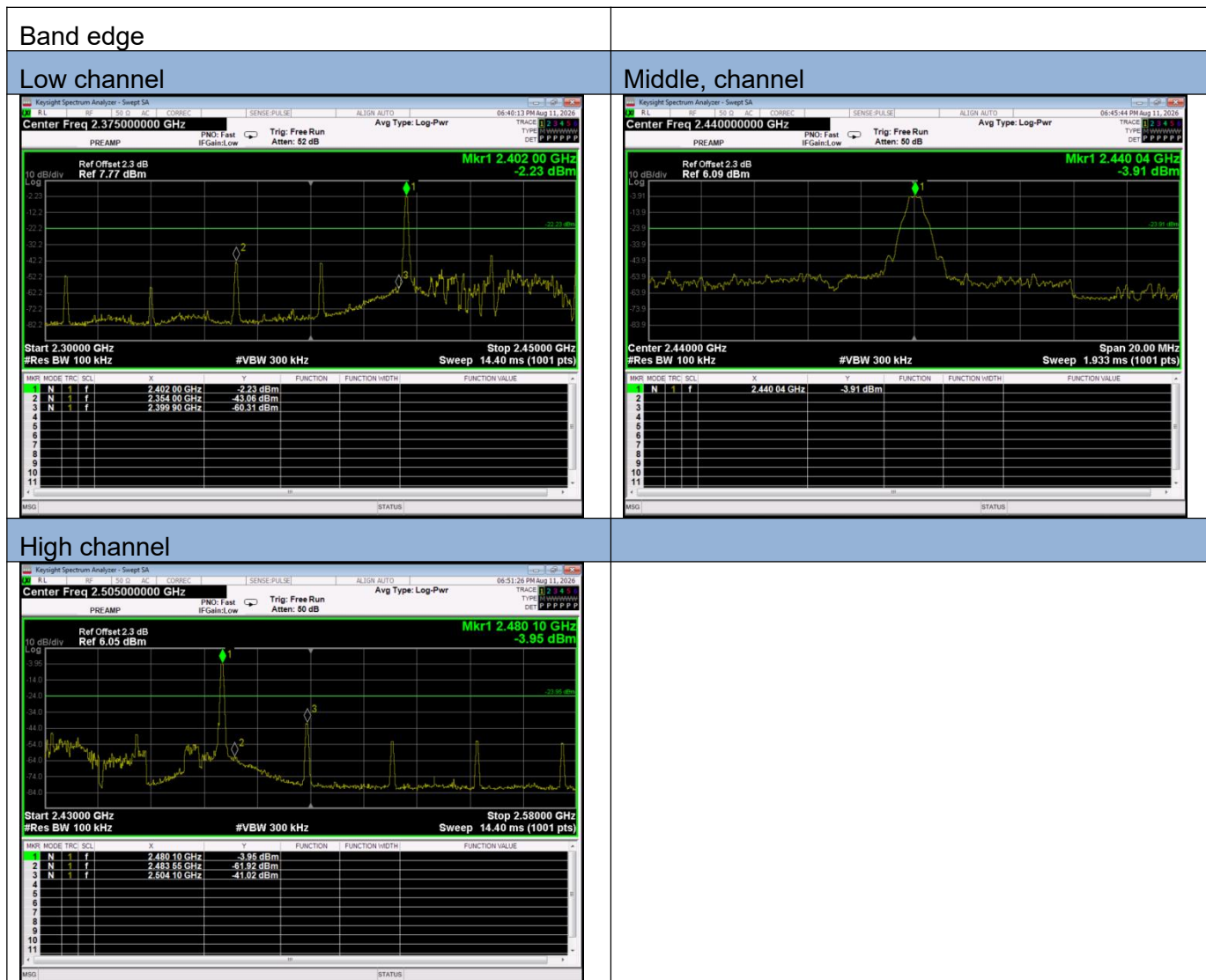
6.3 TEST SETUP



6.4 TEST RESULTS

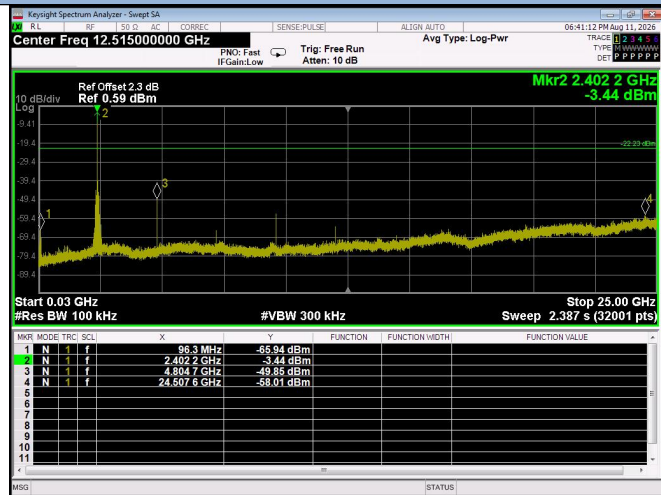
Eut set mode	CH or Frequency	Result
GFSK	CH0	Pass
	CH19	Pass
	CH39	Pass

6.5 Original test data

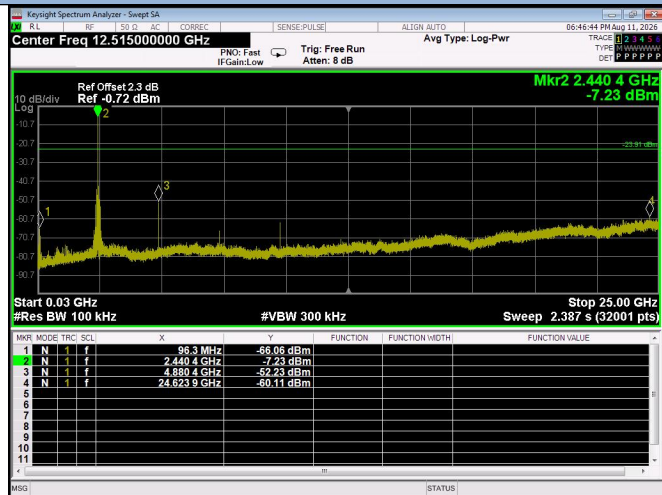


Spurious emissions

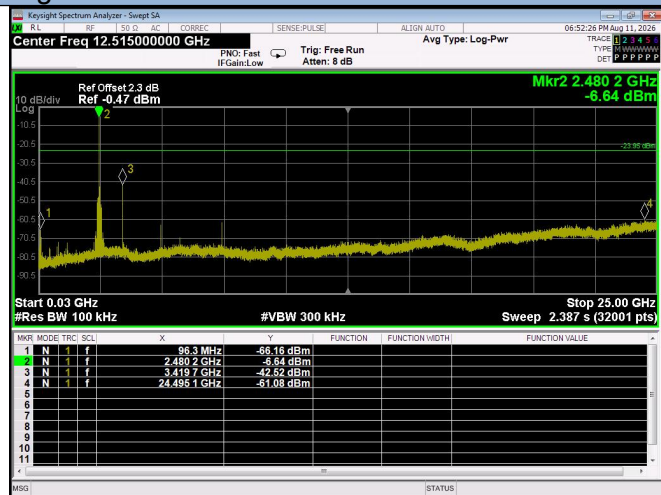
Low 2402MHz 0.3GHz-25GHz



Middle 2440MHz 0.3GHz-25GHz



High 2480MHz 0.3GHz-25GHz



7. POWER SPECTRAL DENSITY

7.1 LIMIT

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

7.2 TEST PROCEDURE

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows:

Center frequency	DTS Channel center frequency
RBW:	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW:	$\geq 3\text{RBW}$
Span	1.5 times the DTS bandwidth
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude level within the RBW

(4) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

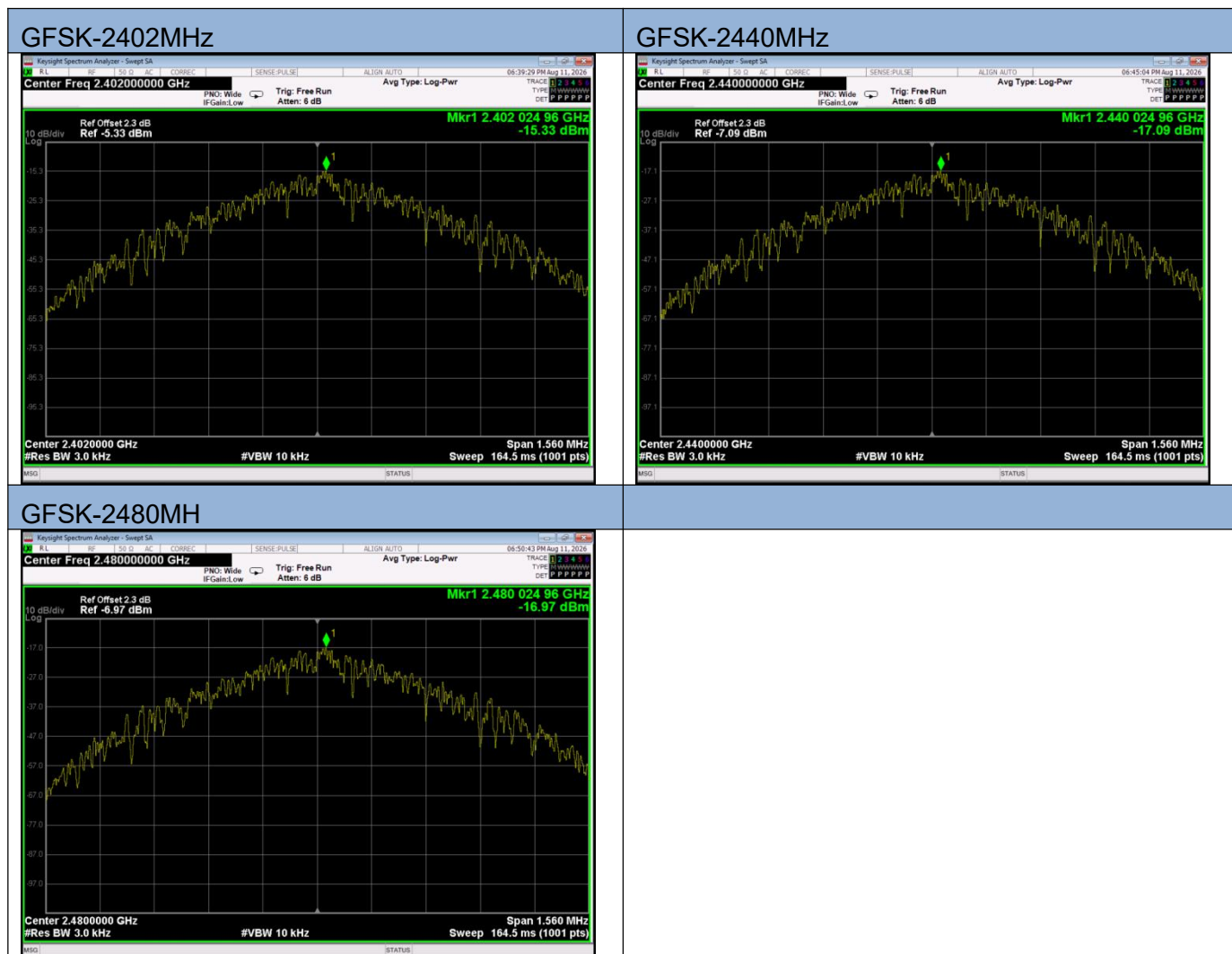
7.3 TEST SETUP



7.4 TEST RESULTS

TestMode	Channel (MHz)	Result (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
GFSK	2402MHz	-15.33	8	Pass
GFSK	2440MHz	-17.09	8	Pass
GFSK	2480MHz	-16.97	8	Pass

7.5 original test data



8. RADIATED EMISSION MEASUREMENT

8.1 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 C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 below has to be followed LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (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

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

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/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier harmonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz

For Band edge

Spectrum Parameter	Setting
Detector	Peak/AV
Start/Stop Frequency	Lower Band Edge: 2300 to 2403 MHz Upper Band Edge: 2479 to 2500 MHz
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz / 10 Hz

Receiver Parameter	Setting
Attenuation	Auto
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

8.2 TEST PROCEDURE

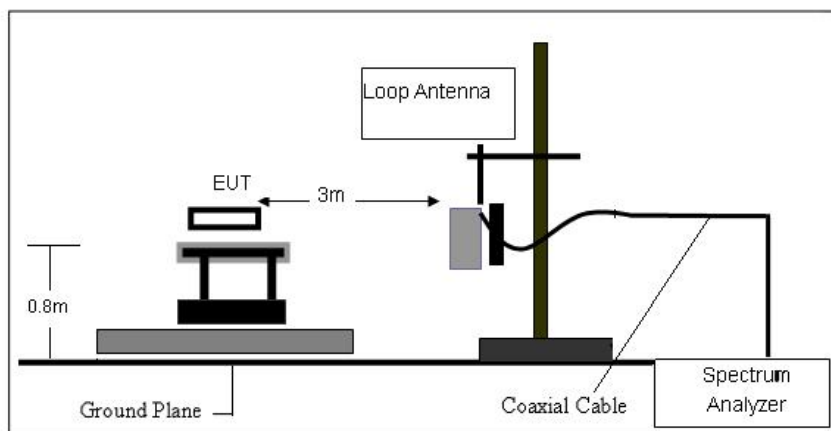
- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine 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 QuasiPeak 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:

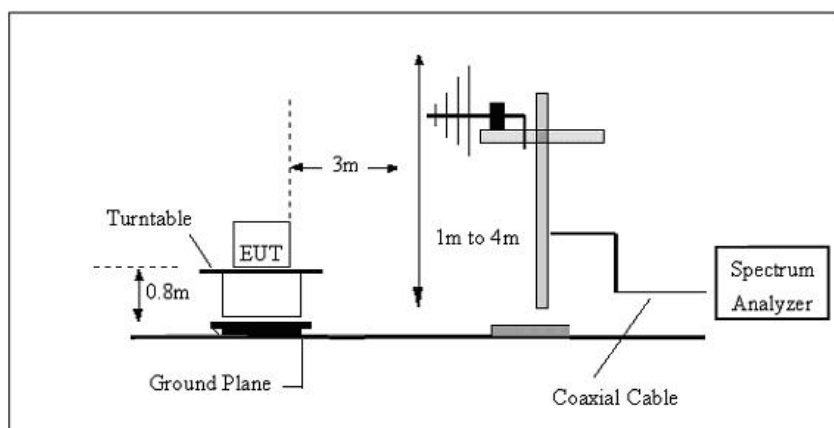
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

8.3 TESTSETUP

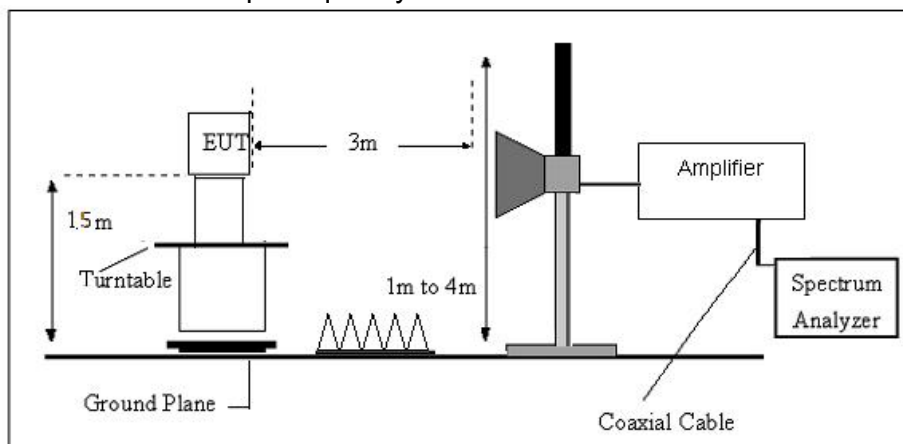
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



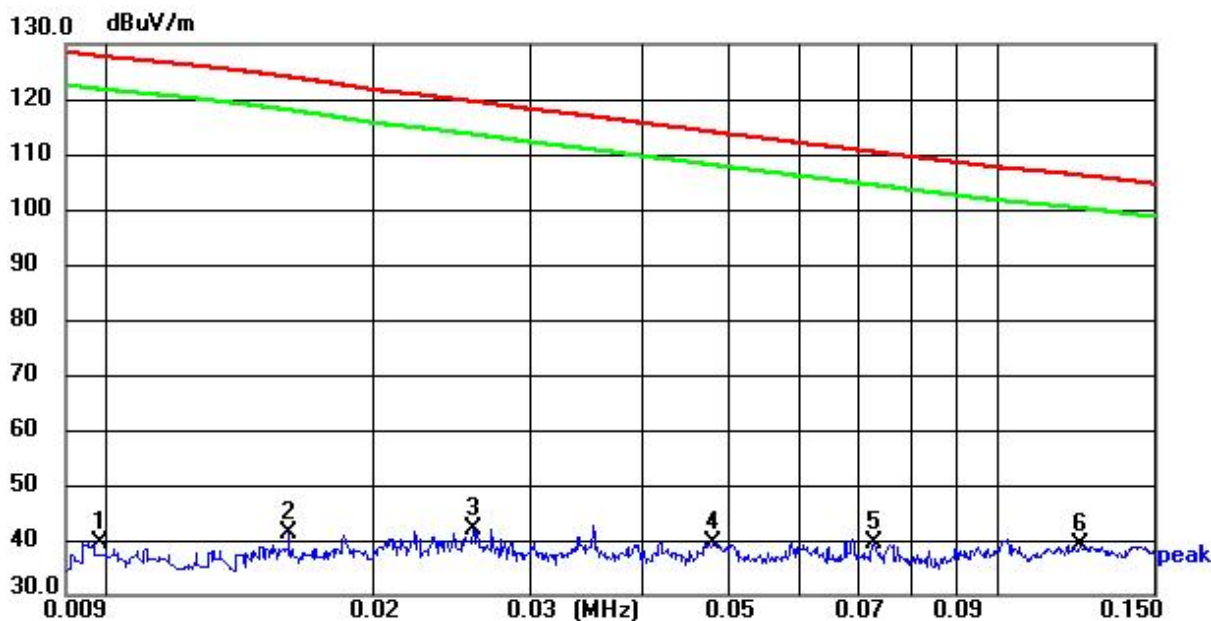
(C) Radiated Emission Test-Up Frequency Above 1GHz



8.4. TEST RESULTS

(9KHz-150KHz)

Temperature:	22.7°C	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Horizontal
Test Mode:	GFSK(LS-0530-2+LS-0530-3 +LS-0530-4)		



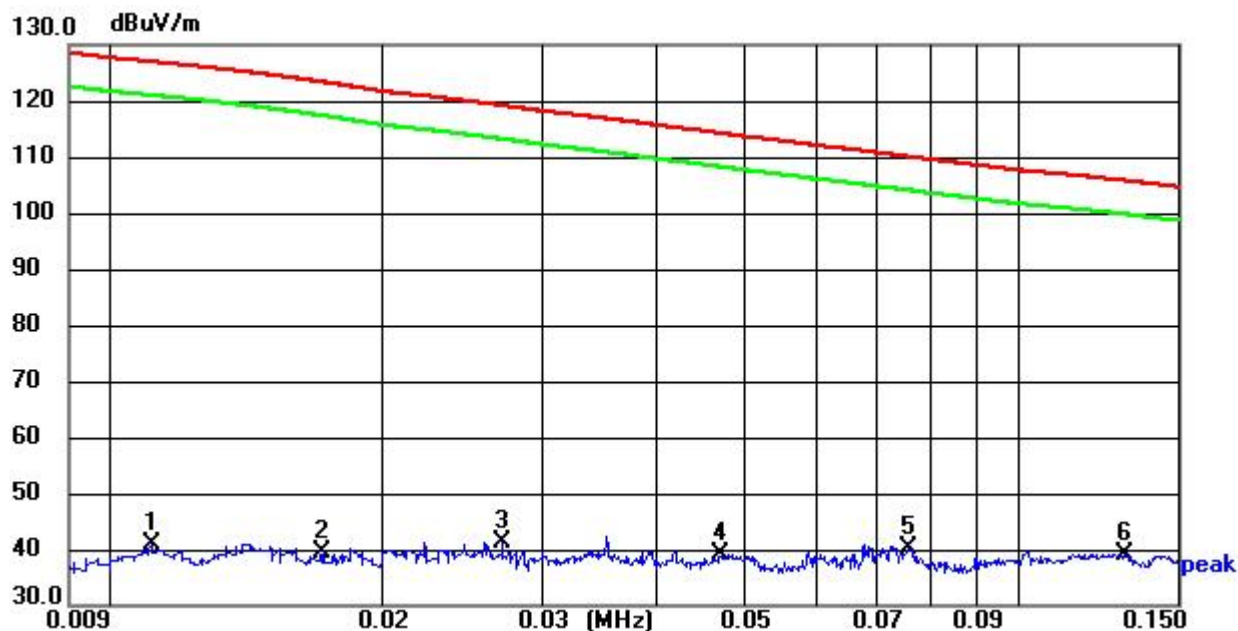
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0098	25.33	14.12	39.45	127.78	-88.33	peak
2	0.0160	26.51	14.74	41.25	124.00	-82.75	peak
3	0.0258	26.12	15.72	41.84	119.57	-77.73	peak
4	0.0480	23.80	15.76	39.56	114.00	-74.44	peak
5	0.0728	24.24	15.39	39.63	110.36	-70.73	peak
6	0.1242	24.11	15.16	39.27	106.15	-66.88	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(9KHz-150KHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Vertical
Test Mode:	GFSK(LS-0530-2+LS-0530-3 +LS-0530-4)		



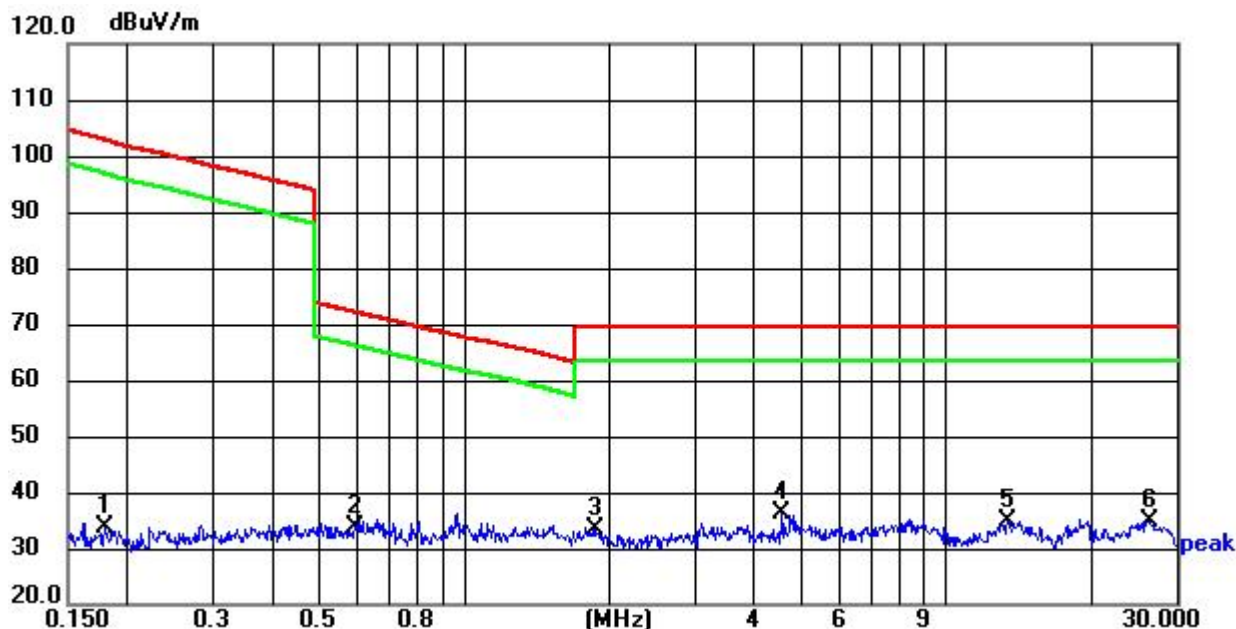
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0111	26.48	14.25	40.73	126.94	-86.21	peak
2	0.0171	24.62	14.85	39.47	123.34	-83.87	peak
3	0.0270	25.52	15.84	41.36	119.15	-77.79	peak
4	0.0470	23.15	15.78	38.93	114.20	-75.27	peak
5	0.0760	24.80	15.36	40.16	109.98	-69.82	peak
6	0.1310	24.15	15.13	39.28	105.74	-66.46	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(150KHz-30MHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Vertical
Test Mode:	GFSK(LS-0530-2+LS-0530-3 +LS-0530-4)		



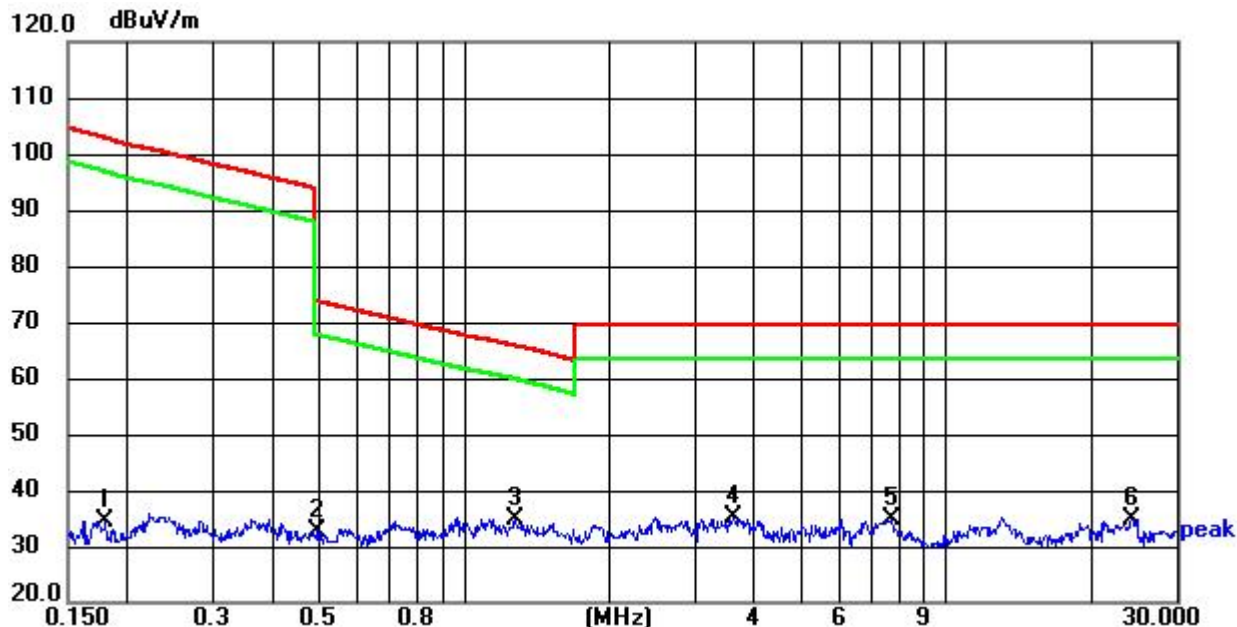
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1796	18.78	15.13	33.91	102.82	-68.91	peak
2	0.5916	18.66	15.09	33.75	72.13	-38.38	peak
3	1.8680	18.52	14.90	33.42	69.50	-36.08	peak
4	4.5494	21.48	14.79	36.27	69.50	-33.23	peak
5	13.4080	22.17	12.55	34.72	69.50	-34.78	peak
6	26.4176	58.66	-23.71	34.95	69.50	-34.55	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(150KHz-30MHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Horizontal
Test Mode:	GFSK(LS-0530-2+LS-0530-3 +LS-0530-4)		



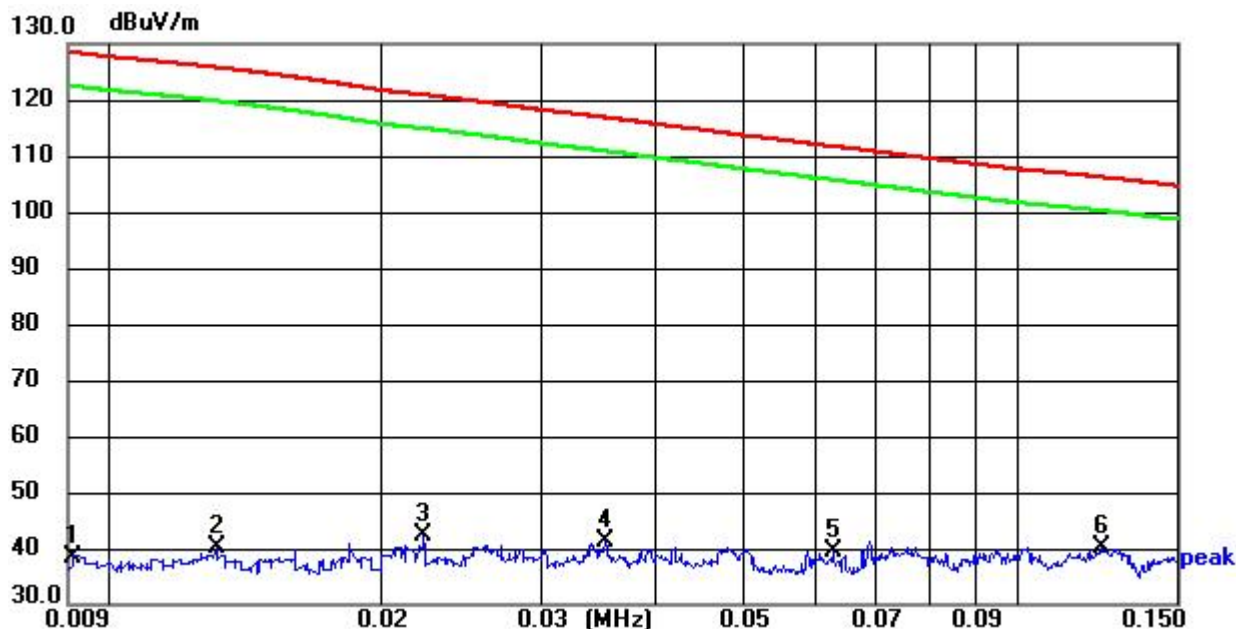
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1796	19.28	15.13	34.41	102.82	-68.41	peak
2	0.4940	17.72	15.13	32.85	73.72	-40.87	peak
3	1.2755	19.82	14.92	34.74	65.80	-31.06	peak
4	3.6225	20.36	14.83	35.19	69.50	-34.31	peak
5	7.6463	20.51	14.42	34.93	69.50	-34.57	peak
6	24.1420	57.34	-22.35	34.99	69.50	-34.51	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(9KHz-150KHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Vertical
Test Mode:	GFSK(LS-0530-2+LS-0530-3)		



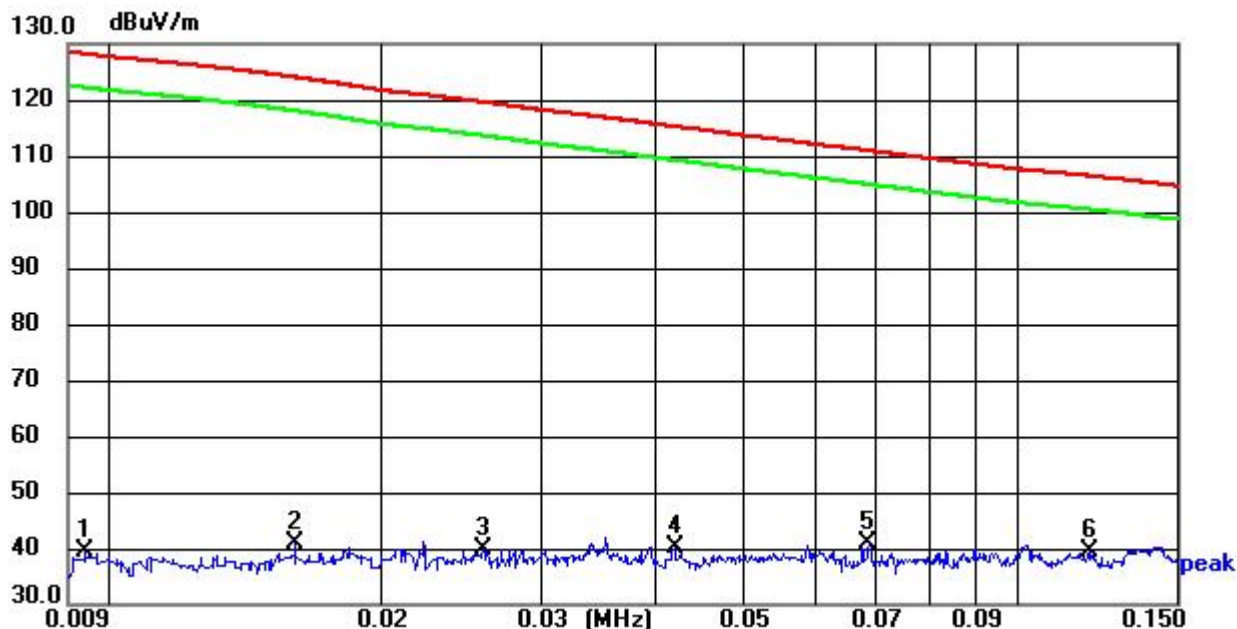
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0091	24.47	14.05	38.52	128.41	-89.89	peak
2	0.0131	25.65	14.45	40.10	125.74	-85.64	peak
3	0.0222	26.92	15.36	42.28	120.83	-78.55	peak
4	0.0352	25.29	16.01	41.30	116.80	-75.50	peak
5	0.0627	23.80	15.53	39.33	111.65	-72.32	peak
6	0.1242	25.11	15.16	40.27	106.15	-65.88	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(9KHz-150KHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Horizontal
Test Mode:	GFSK(LS-0530-2+LS-0530-3)		



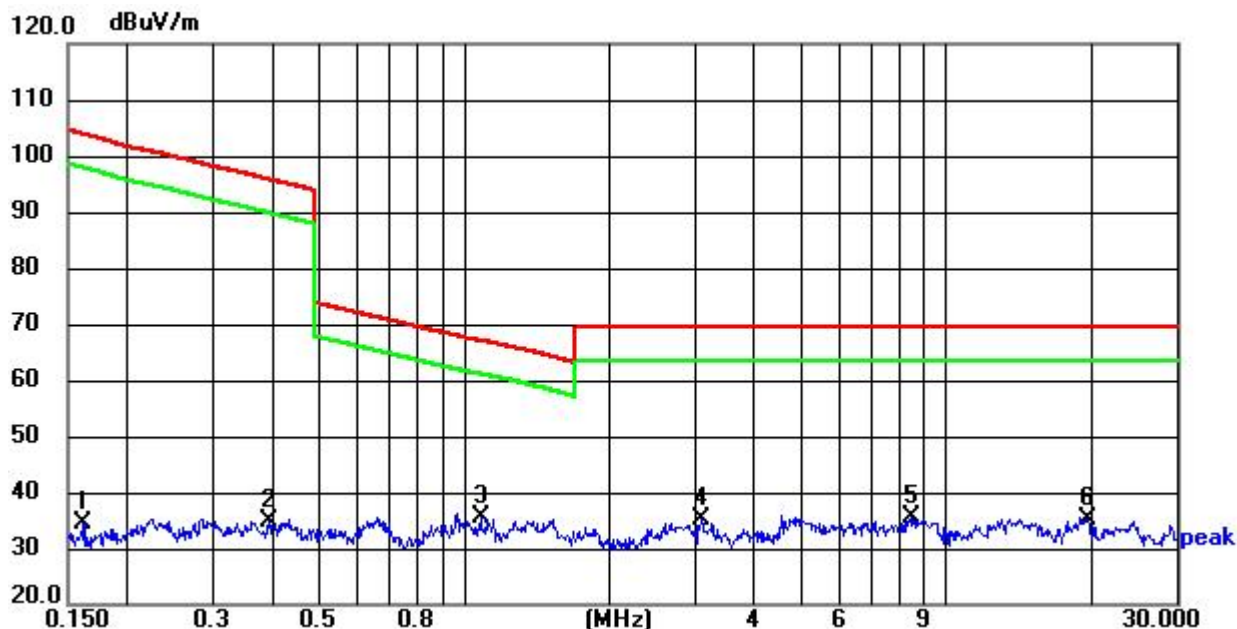
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0094	25.45	14.08	39.53	128.14	-88.61	peak
2	0.0160	26.01	14.74	40.75	124.00	-83.25	peak
3	0.0258	24.12	15.72	39.84	119.57	-79.73	peak
4	0.0420	24.17	15.88	40.05	115.20	-75.15	peak
5	0.0687	25.30	15.44	40.74	110.87	-70.13	peak
6	0.1200	24.40	15.18	39.58	106.40	-66.82	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(150KHz-30MHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Horizontal
Test Mode:	GFSK(LS-0530-2+LS-0530-3)		



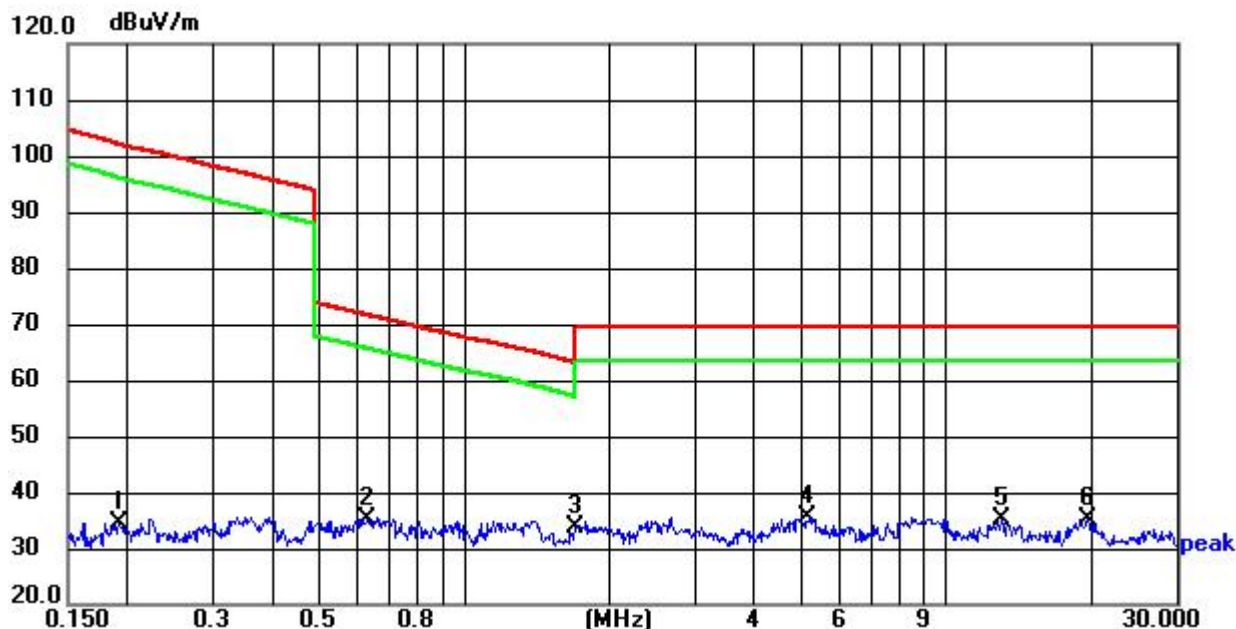
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1621	19.24	15.13	34.37	103.87	-69.50	peak
2	0.3933	19.55	15.13	34.68	95.77	-61.09	peak
3	1.0710	20.47	14.93	35.40	67.14	-31.74	peak
4	3.1065	20.44	14.85	35.29	69.50	-34.21	peak
5	8.4560	21.20	14.17	35.37	69.50	-34.13	peak
6	19.6353	24.23	10.91	35.14	69.50	-34.36	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

(150KHz-30MHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Vertical
Test Mode:	GFSK(LS-0530-2+LS-0530-3)		



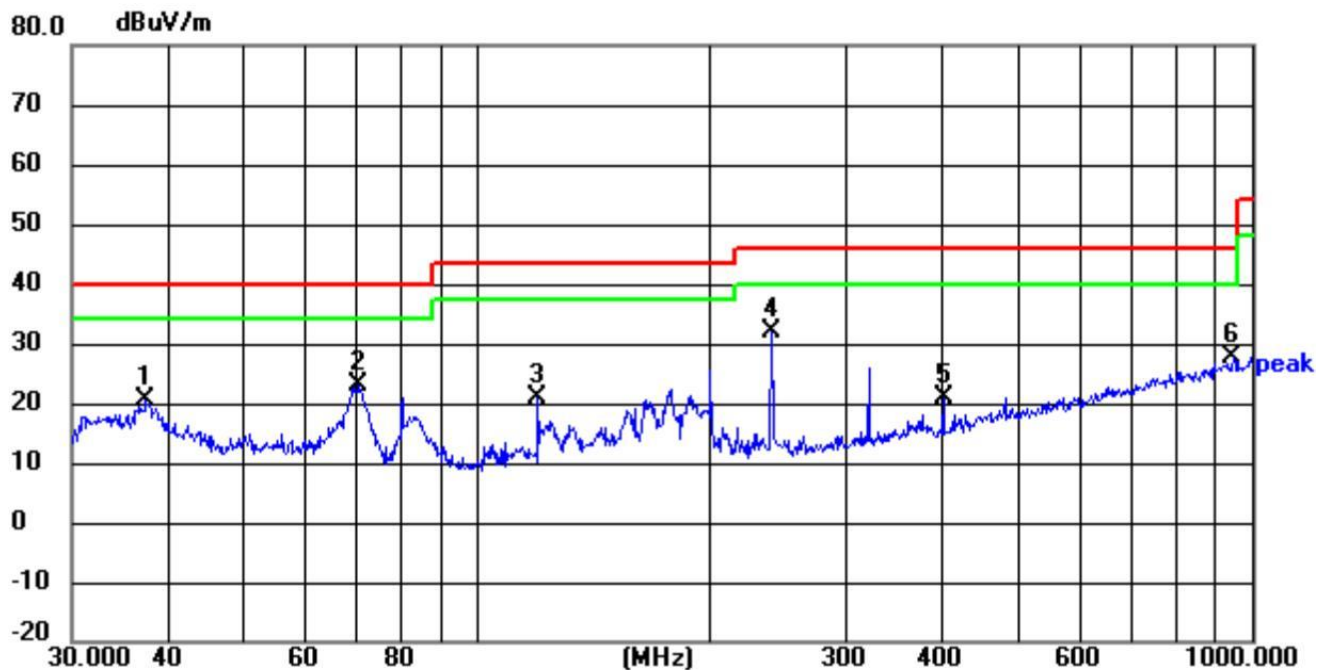
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1912	19.44	15.13	34.57	102.13	-67.56	peak
2	0.6270	20.21	15.08	35.29	71.65	-36.36	peak
3	1.6891	18.87	14.91	33.78	63.10	-29.32	peak
4	5.1660	20.84	14.76	35.60	69.50	-33.90	peak
5	12.9884	22.29	12.77	35.06	69.50	-34.44	peak
6	19.6353	24.23	10.91	35.14	69.50	-34.36	peak

Note:

For emissions below 30MHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

9. RADIATED EMISSION (30MHZ-1000MHZ)

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Horizontal
Test Mode:	Low channel GFSK(Worst mode)		



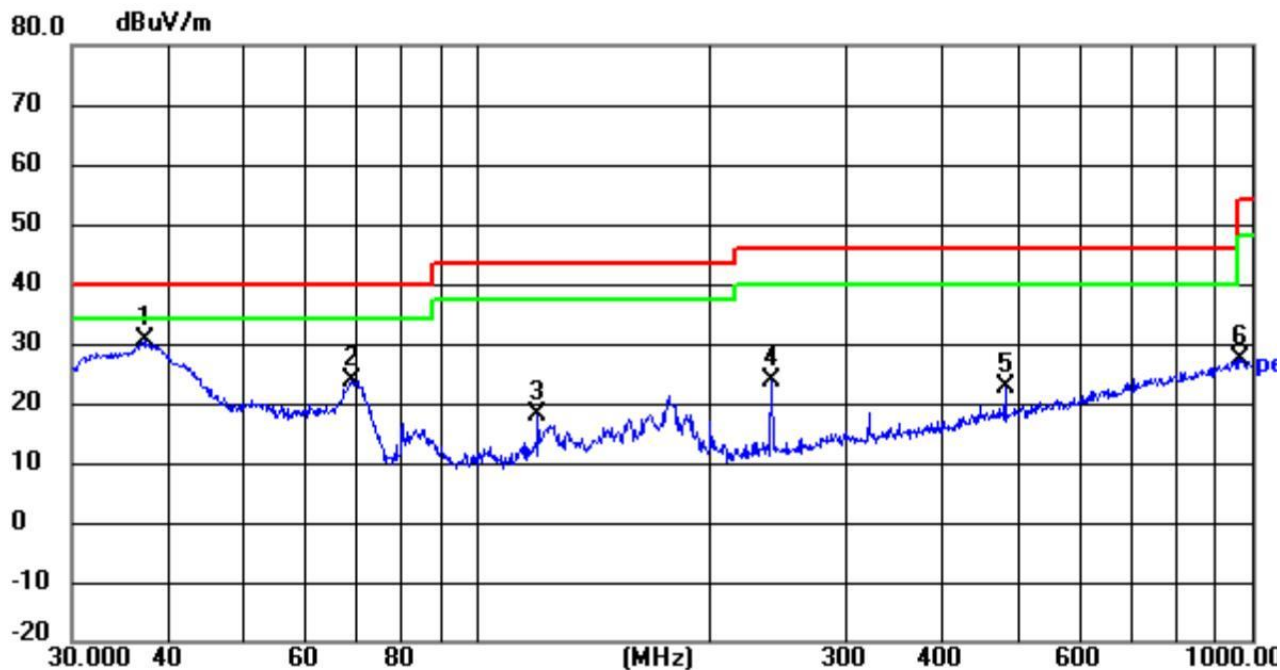
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	37.4165	32.46	-11.83	20.63	40.00	-19.37	QP
2	70.3365	37.97	-14.93	23.04	40.00	-16.96	QP
3	119.8556	34.77	-13.70	21.07	43.50	-22.43	QP
4	239.9874	45.20	-13.31	31.89	46.00	-14.11	QP
5	400.4319	30.38	-9.57	20.81	46.00	-25.19	QP
6	945.4399	27.21	0.36	27.57	46.00	-18.43	QP

Note: 1. Margin = Result (Result =Reading + Factor)-Limit

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.

Temperature:	22.7°C	Relative Humidity:	61%
Test Voltage:	DC 5V Form Adapter Input AC 120V/60Hz	Phase:	Vertical
Test Mode:	Low channel GFSK(Worst mode)		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	37.1550	42.49	-11.86	30.63	40.00	-9.37	QP
2	68.8721	38.45	-14.75	23.70	40.00	-16.30	QP
3	119.8556	31.86	-13.70	18.16	43.50	-25.34	QP
4	239.9874	36.95	-13.31	23.64	46.00	-22.36	QP
5	480.5276	29.83	-7.22	22.61	46.00	-23.39	QP
6	965.5421	26.97	0.47	27.44	54.00	-26.56	QP

Note: 1. Margin = Result (Result =Reading + Factor)-Limit

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.

9.1 RADIATED EMISSION ABOVE 1GHZ

Low CH (GFSK)

Peak

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804.00	57.35	32.01	5.775	43.81	51.32	74.00	-22.68	Vertical
7206.00	49.41	35.19	6.425	42.55	48.47	74.00	-25.53	Vertical
9608.00	45.52	37.32	7.274	41.74	48.37	74.00	-25.63	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	49.06	32.01	5.775	43.81	43.03	74.00	-30.97	Horizontal
7206.00	46.87	35.19	6.425	42.55	45.93	74.00	-28.07	Horizontal
9608.00	45.41	37.32	7.274	41.74	48.26	74.00	-25.74	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

Middle CH (GFSK)

Peak

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4880	58.31	32.16	5.824	43.69	52.61	74.00	-21.39	Vertical
7320	50.42	35.39	6.491	42.41	49.89	74.00	-24.11	Vertical
9760	47.93	37.40	7.352	41.64	51.04	74.00	-22.96	Vertical
12200	*					74.00		Vertical
14640	*					74.00		Vertical
4880	53.64	32.16	5.824	43.69	47.94	74.00	-26.06	Horizontal
7320	49.72	35.39	6.491	42.41	49.19	74.00	-24.81	Horizontal
9760	46.85	37.40	7.352	41.64	49.96	74.00	-24.04	Horizontal
12200	*					74.00		Horizontal
14640	*					74.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss- Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. "***", means this data is the too weak instrument of signal is unable to test.
4. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

High CH (GFSK)
Peak

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4960	57.49	32.74	5.874	43.56	52.54	74.00	-21.46	Vertical
7440	49.17	35.86	6.556	42.27	49.31	74.00	-24.69	Vertical
9920	46.58	37.46	7.430	41.55	49.92	74.00	-24.08	Vertical
12400	*					74.00		Vertical
14880	*					74.00		Vertical
4960	49.87	32.74	5.874	43.56	44.92	74.00	-29.08	Horizontal
7440	47.25	35.86	6.556	42.27	47.39	74.00	-26.61	Horizontal
9920	45.73	37.46	7.430	41.55	49.07	74.00	-24.93	Horizontal
12400	*					74.00		Horizontal
14880	*					74.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. "*", means this data is the too weak instrument of signal is unable to test
4. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

9.2 RADIATED BAND EDGE DATA

Low CH (GFSK)

Peak

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310	58.19	27.62	3.70	47.84	41.67	74.00	-32.33	Horizontal
2390	57.23	27.14	3.79	47.72	40.44	74.00	-33.56	Horizontal
2400	59.67	27.10	3.80	47.70	42.87	74.00	-31.13	Horizontal
2310	57.25	27.62	3.70	47.84	40.73	74.00	-33.27	Vertical
2390	57.47	27.14	3.79	47.72	40.68	74.00	-33.32	Vertical
2400	58.52	27.10	3.80	47.70	41.72	74.00	-32.28	Vertical

High CH(GFSK)

Peak

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.5	57.48	27.60	3.89	47.57	41.40	74.00	-32.60	Horizontal
2500	59.21	27.70	3.91	47.55	43.27	74.00	-30.73	Horizontal
2483.5	59.42	27.60	3.89	47.57	43.34	74.00	-30.66	Vertical
2500	58.15	27.70	3.91	47.55	42.21	74.00	-31.79	Vertical

Remark.

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor
- 2.The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.
- 3.All restriction band have been tested, and only the worst case is shown in report
- 4.For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if 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 6dBi.

10.2 RESULT

The antennas used for this product are PCB antenna and no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 0dBi.

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