

TEST REPORT

Applicant : CHANGZHOU MIDEKER OPTOELECTRONIC TECHNOLOGY CO.,LTD
Address : C-2, Building 5, New Power Venture Center No.1 Qingyang North Road, Tianning District, Changzhou, Jiangsu Province, China
Manufacturer : CHANGZHOU MIDEKER OPTOELECTRONIC TECHNOLOGY CO.,LTD
Address : C-2, Building 5, New Power Venture Center No.1 Qingyang North Road, Tianning District, Changzhou, Jiangsu Province, China
Product Name : Laser level
Model Number : L92 PRO
Trademark : N/A
FCC ID : 2A7DF-L92PRO
Test Date : Jul. 06, 2026 – Jul. 29, 2026
Date of Report : Jul. 30, 2026
Test Result : This device described above has been tested by NTT, and the test results show that the equipment under test (EUT) is in compliance with the Standard requirements. And it is applicable only to the tested sample identified in the report.

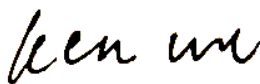
Test Procedure Used:

Standards : FCC CFR Title 47 Part 15 Subpart C Section 15.249
ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024

Prepared by(Test Engineer):
Cindy Qin



Approved(Manager):
Ken Wu



Approved(Manager):
Abel Yu





TABLE OF CONTENT

1. General Information	4
1.1. Description of Device (EUT).....	4
1.2. Channel List.....	4
1.3. Summary of test result	5
1.4. Special Accessories and Auxiliary Equipment	5
1.5. Test mode.....	5
1.6. Test configuration	5
1.7. Block Diagram	6
1.8. Test Conditions	6
1.9. Measurement Uncertainty (95% confidence levels, k=2)	6
1.10. Test Facility	7
1.11. Test Equipment.....	8
2. Conducted emission at the mains terminals test	10
2.1. Limit.....	10
2.2. Test Setup	10
2.3. Test Procedure	10
2.4. Test Result	10
3. Radiated Spurious Emissions	11
3.1. Limit.....	11
3.2. Test Setup	12
3.3. Test Procedure	14
3.4. Test Result	15
4. -20 dB Bandwidth Measurement.....	20
4.1. Limit.....	20
4.2. Test Setup	20
4.3. Test Procedure	20
4.4. Test Result	20
5. Antenna Requirement.....	22
6. TEST SETUP & EUT PHOTOGRAPH	23

Revision History of This Test Report

[illegible]

1. General Information

1.1. Description of Device (EUT)

EUT Name : Laser level
Model No. : L92 PRO
Model Difference : /
Power supply : DC 3V (CR2032)
Operation frequency : 2402MHz
Modulation : GFSK
Antenna Type : PCB Antenna, Maximum Gain is 0dBi
Intend use environment : Residential, commercial and light industrial environment

1.2. Channel List

Channel	Frequency (MHz)
1	2402

1.3.Summary of test result

RF PART		
Test Items	Test Requirement	Result
Antenna requirement	FCC part 15.203	PASS
AC Power Line Conducted Emission	FCC part 15.207	N/A
Field strength of the fundamental signal	FCC part 15.249 (a)	PASS
Spurious Emission	FCC part 15.249 (a) (d)/15.209	PASS
Band Edge	FCC part 15.249 (d)/15.205	PASS
20dB Occupied Bandwidth	FCC part 15.215 (c)	PASS
Remark: N/A is an abbreviation for Not Applicable. Measurement Uncertainty is not taken into account for conformity statement		

1.4.Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Hardware Version	Software Version
/	/	/	/	/

1.5.Test mode

The special RF test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode.

Test mode	Channel
GFSK	2402MHz
Note: Only the worst Data Record in the report	

1.6. Test configuration

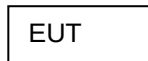
Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	
Test Software	Engineering mode
Power level setup	Default

1.7. Block Diagram

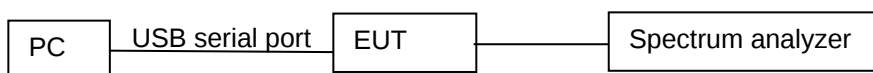
Conducted Emission



Radiated Emission



RF Conducted Test



1.8. Test Conditions

Category	Normal Conditions	Extreme Conditions
Temperature range	15-35°C	N/A
Humidity range	20-75%	N/A
Pressure range	86-106kPa	N/A
Power supply	DC 3V	N/A
Note: N/A is an abbreviation for Not Applicable.		

1.9. Measurement Uncertainty (95% confidence levels, k=2)

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(9KHz~30MHz)	±4.51dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB
Remark: When making a conformity declaration based on test results for regulations/standards or specifications, the default is to use Clause 4.2.1 of ILAC-G8:09/2019 and the guidelines on decision rules and conformity declaration in IEC Guide 115:2023.	

1.10.Test Facility

Site Description		
Name of Firm	:	Shenzhen NTT Testing Technology Co.,Ltd.
Site Location	:	1B, Building 2, Factory Building & 103, Building 3, Factory Building, Dayang Industrial Park, No.4, Industrial Avenue, Tangwei Community, Fuhai Sub-district, Bao 'an District, Shenzhen City, Guangdong, China
FCC Designation Number	:	CN3446
FCC Test Firm Registration Number	:	129414

1.11.Test Equipment

Conducted Test Site

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
944 Shielded Room	HSRCE944	/	HTEC	2025/4/30	2028/4/29
EMI Test Receiver	ESPI	/	RS	2025/9/8	2026/9/7
LISN	NNLK 8129	00603	Schwarzbeck	2025/9/8	2026/9/7
LISN	NNHV 8123-400	00694	Schwarzbeck	2025/9/8	2026/9/7
LISN	NNHV 8123-400	00680	Schwarzbeck	2025/9/8	2026/9/7
Cable	RG223-1500MM	NA	RG	2025/9/8	2026/9/7

Radiated Test Site(Below 1G and Above 1G)&RF Test Site

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
966 Shielded Room	966 Room	/	EMToni	2025/7/24	2028/7/23
EMI Test Receiver	ESCI	101018	RS	2025/9/8	2026/9/7
Amplifi (30MHz-1GHz)	BBV 9718D	00042	SCHWARZBECK	2025/9/8	2026/9/7
Bilog Antenna (30MHz-1GHz)	VULB9168	1858	SCHWARZBECK	2025/9/9	2026/9/8
Horn antenna (1GHz-18GHz)	BBHA 9120 D	02622	SCHWARZBECK	2025/9/9	2026/9/8
Pream plifier (1GHz-18GHz)	BBV 9718D	0024	SCHWARZBECK	2025/9/8	2026/9/7
Spectrum Analyze (10Hz-40GHz)	FSV 40	100952	Rohde & Schwarz	2025/9/8	2026/9/7
Pream plifier (18GHz-40GHz)	BBV 9721	0056	SCHWARZBECK	2025/9/8	2026/9/7
Double Ridge Guide Horn Antenna (18GHz-40GHz)	SAS-574	588	A.H.System	2025/9/8	2026/9/7
Loop Antenna (9KHz-30MHz)	FMZB1519B	014	SCHWARZBECK	2025/9/8	2026/9/7
Amplifier (9KHz-30MHz)	CVP 9222 C	00109	SCHWARZBECK	2025/9/8	2026/9/7
MXG Signal Analyzer	N9020A	MY505102 02	Agilent	2025/9/8	2026/9/7
MXG Vector Signal Generator	N5182A	MY501400 20	Agilent	2025/9/8	2026/9/7

MXG Analog Signal Generator	N5181A	MY474209 19	Agilent	2025/9/8	2026/9/7
Power Sensor	TR1029-2	512364	Techoy	2025/9/8	2026/9/7
RF Swith	TR1029-1	512364	Techoy	2025/9/8	2026/9/7
Cable	DA800-4000MM	NA	DA	2025/9/8	2026/9/7
Cable	DA800-11000MM	NA	DA	2025/9/8	2026/9/7

Test software

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ-EMC	Ver.EMC-CON 3A1.1+
2	EMC radiation test system	FALA	EZ-EMC	Ver.FA-03A2 RE+
3	RF test system	TACHOY	RFTest	V1.0.0
4	RF communication test system	TACHOY	RFTest	V1.0.0

2. Conducted emission at the mains terminals test

2.1.Limit

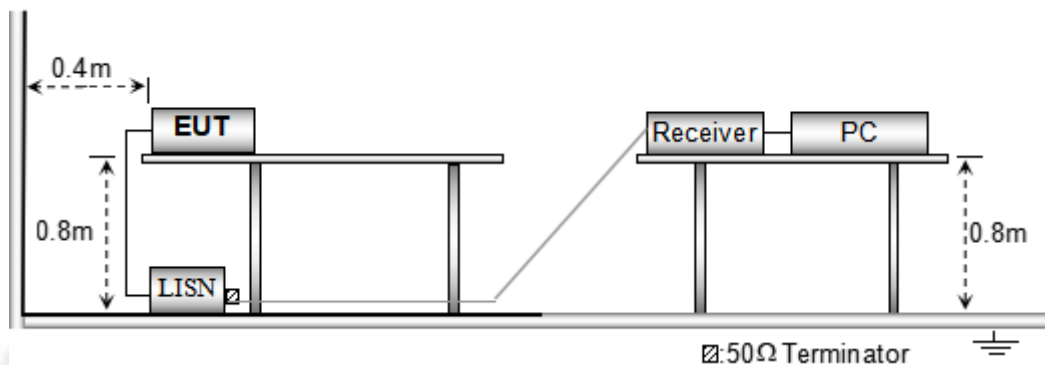
Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

2.2.Test Setup



2.3.Test Procedure

1. The EUT was placed 0.8 meters from the horizontal 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.
2. 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.
3. 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.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item - EUT Test Photos.

2.4.Test Result

Not applicable, the product is powered by battery.

3. Radiated Spurious Emissions

3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.249
 Test Method: ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
 Test Result: PASS
 Measurement Distance: 3m

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

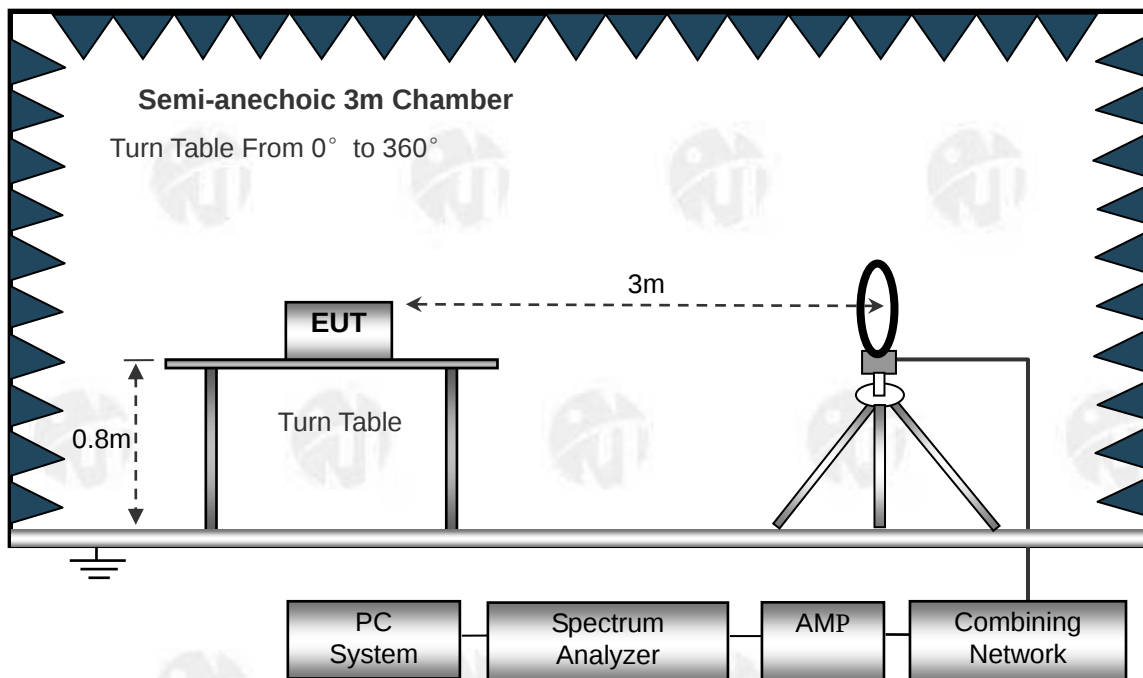
Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log(2400/F(\text{kHz})) + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log(24000/F(\text{kHz})) + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log(30) + 40$
30 ~ 88	100	3	100	$20\log(100)$
88 ~ 216	150	3	150	$20\log(150)$
216 ~ 960	200	3	200	$20\log(200)$
Above 960	500	3	500	$20\log(500)$

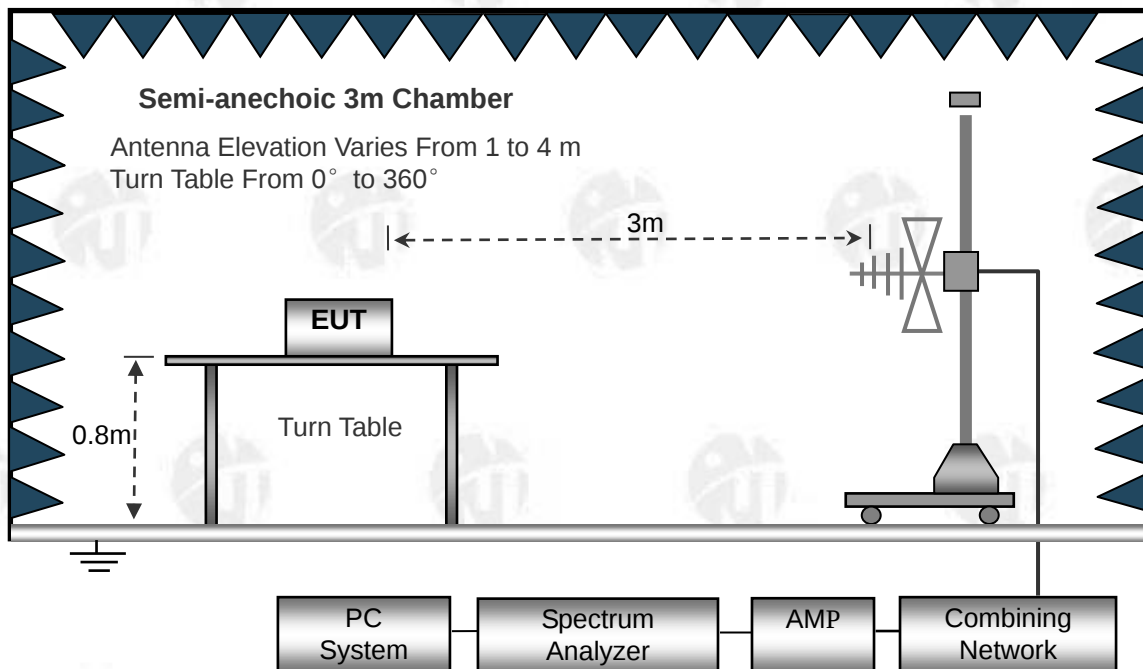
3.2.Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

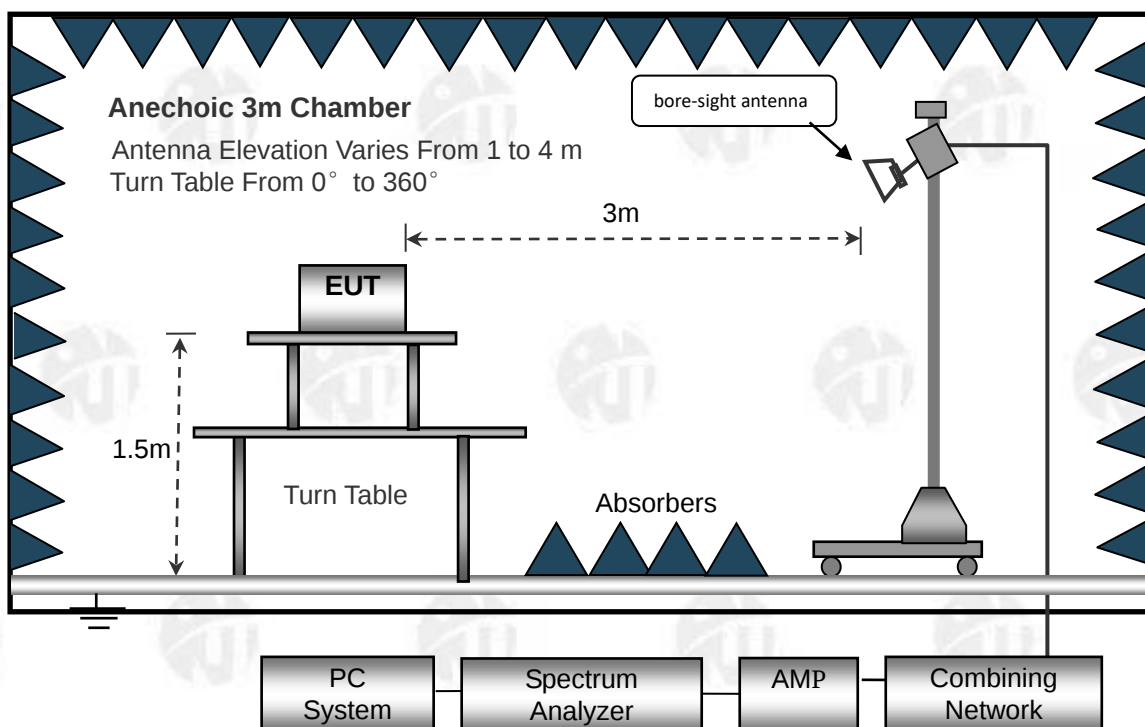
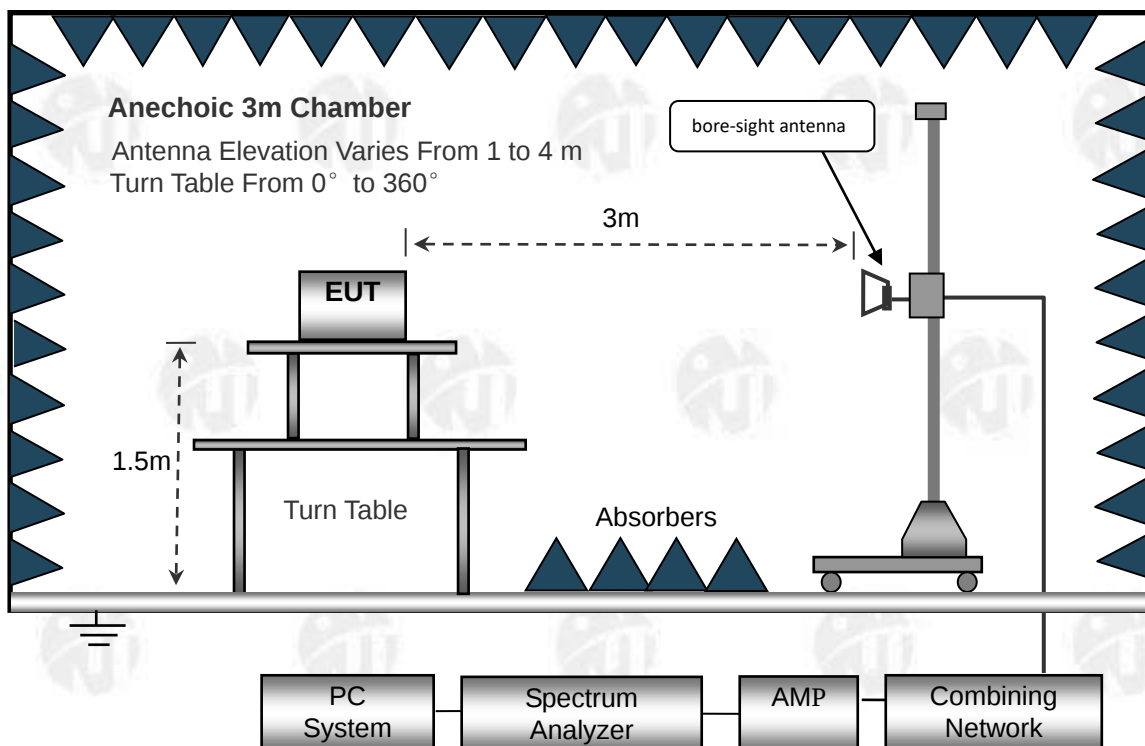
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



3.3.Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high - pass filter is used during radiated emissions above 1GHz measurement.

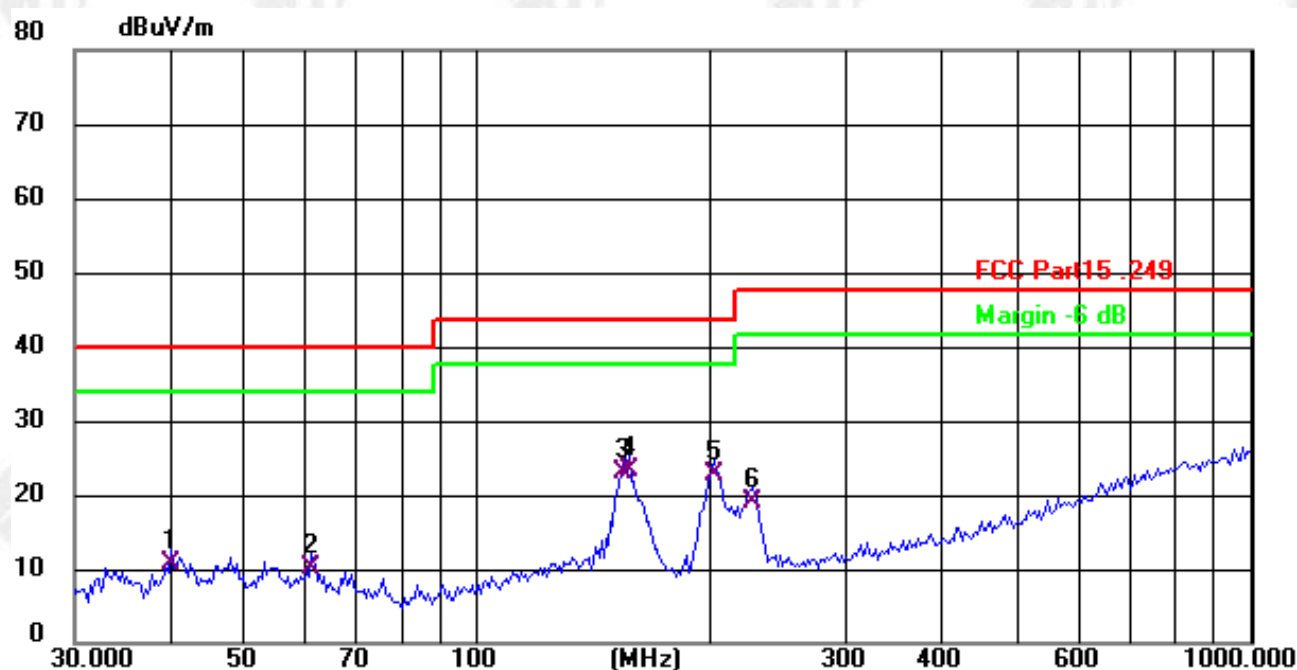
3.4.Test Result

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 1GHz

Radiation Emission Test Data			
Temperature:	25.2℃	Relative Humidity:	53%
Pressure:	1008hPa	Phase :	Horizontal
Test Voltage :	DC 3V from battery	Test Mode:	GFSK-2402MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.9942	27.35	-16.75	10.60	40.00	-29.40	QP
2	60.9175	28.05	-17.95	10.10	40.00	-29.90	QP
3	154.8204	38.93	-16.03	22.90	43.50	-20.60	QP
4 *	157.0073	39.23	-15.93	23.30	43.50	-20.20	QP
5	202.1004	42.05	-19.45	22.60	43.50	-20.90	QP
6	226.0994	37.56	-18.66	18.90	46.00	-27.10	QP

Note:

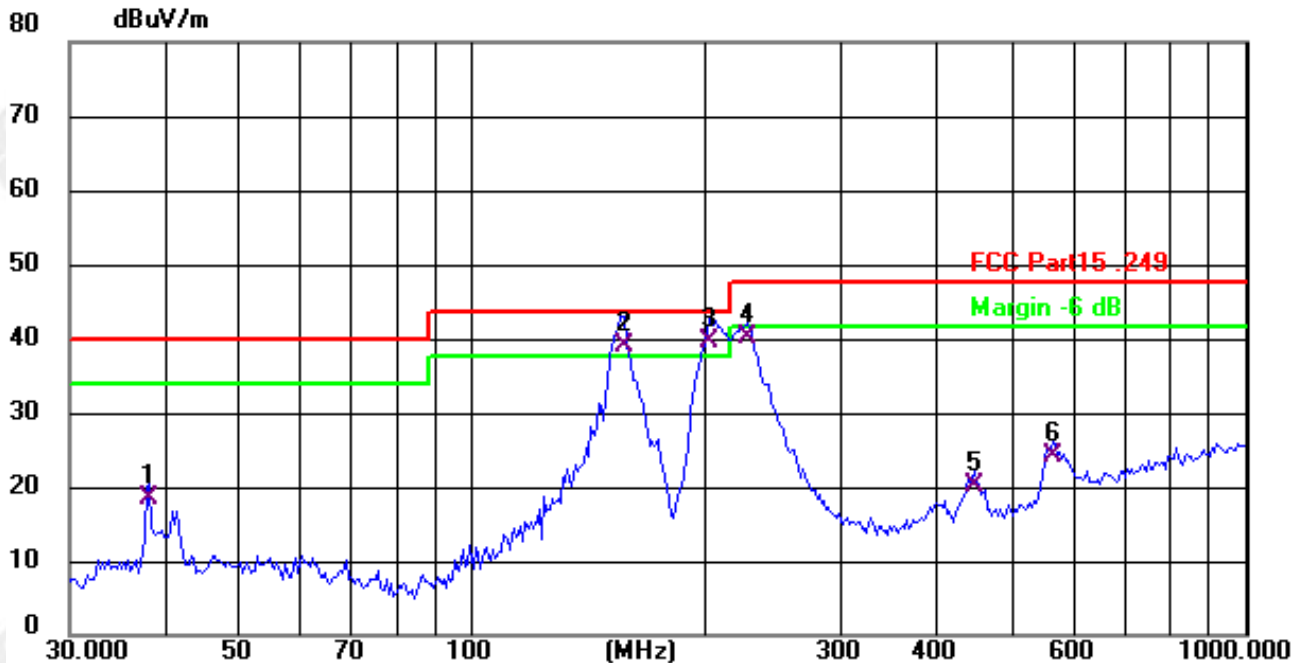
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Reading + Factor

Margin=Emission Level-Limit

2. All the modes have tested and recorded the worst mode in the report

Radiation Emission Test Data			
Temperature:	25.2°C	Relative Humidity:	53%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	DC 3V from battery	Test Mode:	GFSK-2402MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.0782	35.45	-17.15	18.30	40.00	-21.70	QP
2 !	157.0073	54.83	-15.93	38.90	43.50	-4.60	QP
3 *	202.1004	59.15	-19.45	39.70	43.50	-3.80	QP
4	226.0994	58.76	-18.66	40.10	46.00	-5.90	QP
5	446.4140	33.05	-12.95	20.10	46.00	-25.90	QP
6	562.6622	34.31	-10.11	24.20	46.00	-21.80	QP

Note:

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

Emission Level = Reading + Factor

Margin=Emission Level-Limit

2. All the modes have tested and recorded the worst mode in the report

Field Strength Calculation

Frequency	Reading	Factor	Emission Level	Limits	Margin	Horizontal / Vertical	Detector Type
MHz	dB μ V	dB/m	dB μ V/m	dB μ V/m	dB μ V/m		
2402	92.26	-5.78	86.48	114	-27.52	H	PK
2402	82.62	-5.78	76.84	94	-17.16	H	AV
2402	90.26	-5.78	84.48	114	-29.52	V	PK
2402	74.51	-5.78	68.73	94	-25.27	V	AV
Note: 1. Emission Level = Reading + Factor , Margin= Emission Level - Limit							

1GHz~25GHz

Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:2402MHz									
V	4804.00	43.47	34.11	5.04	32.44	46.84	74.00	-27.16	Pk
V	4804.00	35.46	34.11	5.04	32.44	38.83	54.00	-15.17	AV
V	7206.00	44.79	32.57	6.30	35.89	54.41	74.00	-19.59	Pk
V	7206.00	28.98	32.57	6.30	35.89	38.60	54.00	-15.40	AV
V	9608.00	35.84	32.96	7.56	38.40	48.84	74.00	-25.16	Pk
V	9608.00	22.71	32.96	7.56	38.40	35.71	54.00	-18.29	AV
V	12010.00	32.94	32.06	8.92	39.01	48.81	74.00	-25.19	Pk
V	12010.00	21.13	32.06	8.92	39.01	37.00	54.00	-17.00	AV
H	4804.00	44.67	34.11	5.04	32.44	48.04	74.00	-25.96	Pk
H	4804.00	33.07	34.11	5.04	32.44	36.44	54.00	-17.56	AV
H	7206.00	41.03	32.57	6.30	35.89	50.65	74.00	-23.35	Pk
H	7206.00	26.33	32.57	6.30	35.89	35.95	54.00	-18.05	AV
H	9608.00	38.72	32.96	7.56	38.40	51.72	74.00	-22.28	Pk
H	9608.00	25.67	32.96	7.56	38.40	38.67	54.00	-15.33	AV
H	12010.00	37.27	32.06	8.92	39.01	53.14	74.00	-20.86	Pk
H	12010.00	26.27	32.06	8.92	39.01	42.14	54.00	-11.86	AV

Note: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
 Margin= Emission Level - Limit

2. If peak below the average limit, the average emission was no test.

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

The 1-25GHz range has been tested, and the report only records the worst performance of the 1-18G range.

Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

	Polar (H/V)	Frequenc y (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Margi n (dB)	Detec tor Type
GFSK	Low Channel: 2402MHz									
	H	2390.00	57.49	35.17	3.48	27.49	53.29	74	-20.71	PK
	H	2390.00	50.00	35.17	3.48	27.49	45.80	54	-8.2	AV
	H	2400.00	60.63	35.16	3.49	27.52	56.48	74	-17.52	PK
	H	2400.00	49.27	35.16	3.49	27.52	45.12	54	-8.88	AV
	V	2390.00	57.52	35.17	3.48	27.49	53.32	74	-20.68	PK
	V	2390.00	50.32	35.17	3.48	27.49	46.12	54	-7.88	AV
	V	2400.00	59.78	35.16	3.49	27.52	55.63	74	-18.37	PK
	V	2400.00	49.87	35.16	3.49	27.52	45.72	54	-8.28	AV
	High Channel: 2402MHz									
	H	2483.50	57.96	35.11	3.56	27.75	54.16	74	-19.84	PK
	H	2483.50	49.01	35.11	3.56	27.75	45.21	54	-8.79	AV
	H	2500.00	59.51	35.10	3.57	27.80	55.78	74	-18.22	PK
	H	2500.00	49.69	35.10	3.57	27.80	45.96	54	-8.04	AV
	V	2483.50	58.26	35.11	3.56	27.75	54.46	74	-19.54	PK
	V	2483.50	50.04	35.11	3.56	27.75	46.24	54	-7.76	AV
	V	2500.00	58.83	35.10	3.57	27.80	55.10	74	-18.9	PK
	V	2500.00	49.91	35.10	3.57	27.80	46.18	54	-7.82	AV
Remark: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit										

4. -20 dB Bandwidth Measurement

4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.215
 Test Method: ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
 47 CFR Part 15.249
 Test Result: PASS

4.2.Test Setup

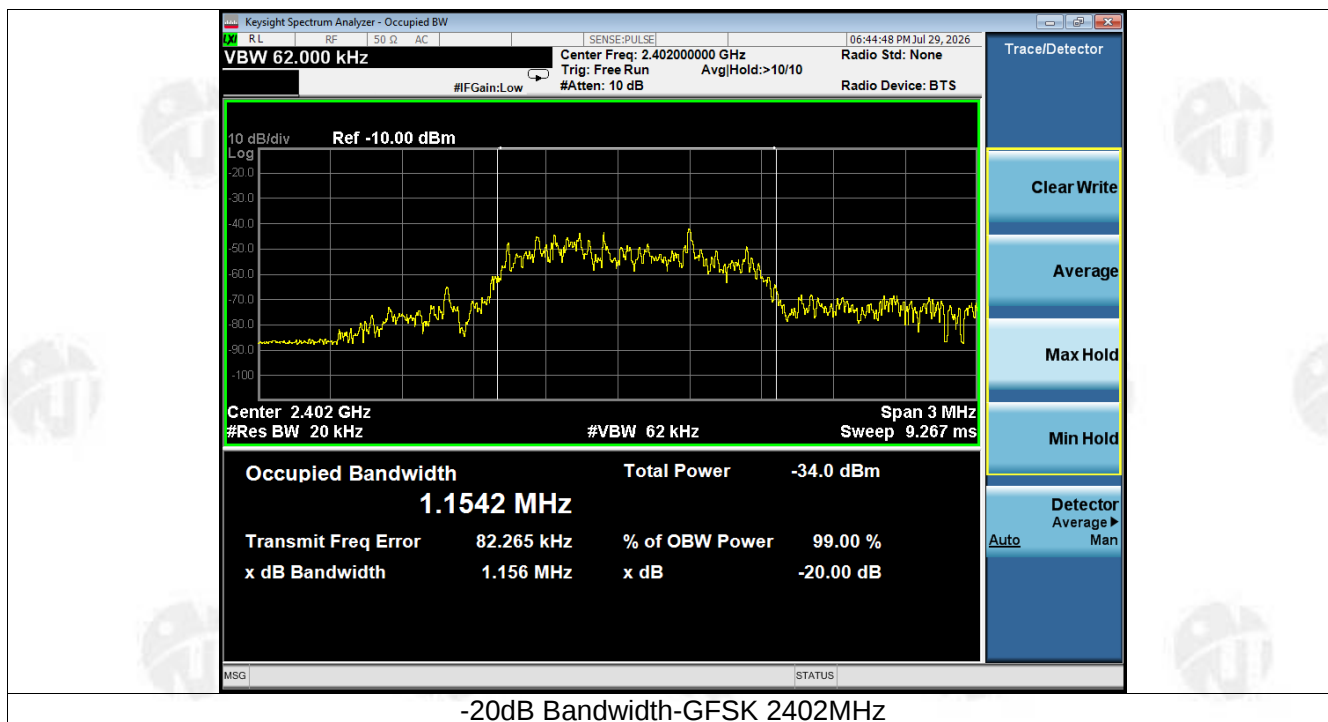


4.3.Test Procedure

1. Set the spectrum analyzer: RBW = 1%-5% OBW
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by -20 dB relative to the maximum level measured in the fundamental emission

4.4.Test Result

Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	99% OBW (MHz)
GFSK	2402	1.156	1.1542





5. Antenna Requirement

According to the FCC Part 15 Paragraph 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. This product has an integrated antenna fulfill the requirement of this section.

This product has an PCB Antenna, and the maximum antenna gain is 0dBi, fulfill the requirement of this section.



6. TEST SETUP & EUT PHOTOGRAPH

Please see the attachment for details.

----- End of Report -----