TEST REPORT

Report No.	SST2504E0539
Applicant:	ShenZhen SenHang Electronics CO,.Ltd
Address of Applicant:	Tangdong Gongyeyuan Building A-6A, Hangcheng Dadao, Xixiang Subdistrict, Baoan District, Shenzhen City, China
Product Name:	MELODY GO
Trade Mark:	Springvoice
Standard(s):	FCC CFR Title 47 Part 15 Subpart E Section 15.247 ANSI C63.10-2020
FCC ID:	2BOM2-SH004
Test Report Form No:	SST-RD-7.5-02-E01(A/0)
Date of sample receipt:	2025/3/31
Date of Test:	2025/4/1 - 2025/4/24
Date of report issued:	2025/4/25

*The equipment complies with the requirements according to the standard(s) or Specification above, it is applicable only to the tested sample identified in the report.

Prepared by: Bob

Reviewed by: Tiger Chen

Approved by: Seven Zhan

DONGGUAN SET SAIL TESTING CO., LTD. *CERTIFICATE*

*The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Version	Description	Date of Issue
V1.0	Original	2025/4/25

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3 Test Summary

Test items	Basics standards	Result
Antenna requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% OCB	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 15.205/15.209	Pass

Notes:
1: NA =Not Applicable
2: Determining compliance based on the results of the compliance measurement, not taking into account measurement uncertainty. If necessary, the applicant shall informing test lab in advance
3: Additions, Deviations and Exclusions from Standards: None.

4 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:
The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Item	Uncertainty (±) (k=2, 95%)	
Output Power, Conducted	0.54	
Power Spectral Density, Conducted	1.28	
Spurious Emissions, Conducted	1.28	
Radiated Emissions(<1GHz)	9KHz~30MHz	2.6
	30MHz~1GHz	5.08
Radiated Emissions(>1GHz)	1GHz~6GHz	4.02
	6GHz~18GHz	4.62
	18GHz~40GHz	4.7
Occupied Bandwidth	1.14	
Conducted Emissions—AC mains	9kHz~150KHz	1.76
	150kHz~30MHz	2.52
Conducted Emissions—Telecom	2.64	

5 General Information

5.1 Client Information

Applicant:	ShenZhen SenHang Electronics CO,.Ltd
Address of applicant:	Tangdong Gongyeyuan Building A-6A, Hangcheng Dadao, Xixiang Subdistrict, Baoan District, Shenzhen City, China
Manufacturer:	Same as applicant
Address of Manufacturer:	Same as applicant
Factory:	Dongguan Fengyu Plastic Technology Co., LTD
Address of Factory:	Room 201, Building 1, No. 801, Zhen'an Middle Road, Chang'an Town, Dongguan City, China

5.2 General Description of EUT

Product Name:	MELODY GO
Model No.:	Enjoyplay V1.0
Test sample(s) ID:	2503270401
Sample(s) Status:	Continuously transmitter
S/N:	/
Hardware Version:	/
Software Version:	/
Operation Frequency:	2402MHz~2480MHz
Channel Numbers:	40
Channel Separation:	2MHz
Modulation Type:	GFSK
Antenna Gain:	Refer to section 5.7 for details
Power rating:	DC 3.7V, 1500mAh

5.3 Test mode(s)

Mode 1:	continuously transmitting
Mode 2:	
Mode 3:	

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402 MHz	11	2422 MHz	21	2442 MHz	31	2462 MHz
2	2404 MHz	12	2424 MHz	22	2444 MHz	32	2464 MHz
3	2406 MHz	13	2426 MHz	23	2446 MHz	33	2466 MHz
4	2408 MHz	14	2428 MHz	24	2448 MHz	34	2468 MHz
5	2410 MHz	15	2430 MHz	25	2450 MHz	35	2470 MHz
6	2412 MHz	16	2432 MHz	26	2452 MHz	36	2472 MHz
7	2414 MHz	17	2434 MHz	27	2454 MHz	37	2474 MHz
8	2416 MHz	18	2436 MHz	28	2456 MHz	38	2476 MHz
9	2418 MHz	19	2438 MHz	29	2458 MHz	39	2478 MHz
10	2420 MHz	20	2440 MHz	30	2460 MHz	40	2480 MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see above marked

5.4 Test Facility

The test facility is recognized, certified, or accredited by these organizations:	**FCC Accredited Lab** Test Firm Registration Number: 638130 Designation Number: CN1359
	IC Registration Lab CAB Identifier No. CN0154
	A2LA Accreditation Lab Certificate No.:7057.01

Test Performed at:	**Name** GuangDong Set Sail Testing Co., Ltd.
	Address 101, No.19, Tianxin Hudie 1st Road, Huangjiang Town, Dongguan, Guangdong, China

5.5 Description of Support Units

Device Type	Brand	Model	Series No.	Note
Notebook PC	HP	ZHAN 66P	---	---

5.6 Additional Instructions

Test Software	FCC_assist_1.0.2.2-696X
Power level setup	Default

5.7 Antenna Information

Ant	Manufacturer	Model	Antenna Type	Antenna Gain (dBi)	Note
1	/	/	PCB	1.9	BT

All above information provided by the applicant which is fully responsible for those information.

5.8 Others

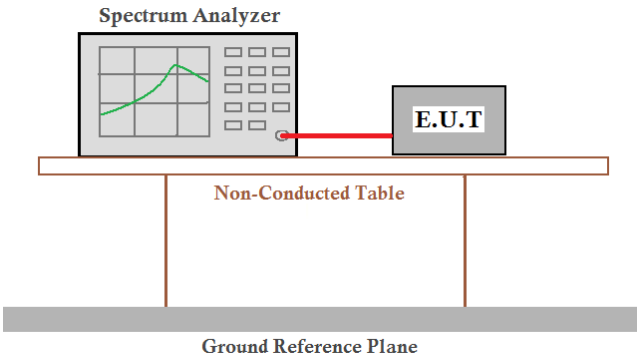
The laboratory responsible for all the information provided in the report, except those information provided by the applicant.
The applicant shall fully responsible for the information they provided.
The report would be invalid without a stamp of test laboratory and the signatures of compiler and approver.
The laboratory has not been responsible for the sampling stage; the test report merely corresponds to the test sample received.
Any objection to the test report shall submitted to the test laboratory within 15 days from the date of receipt of the report.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

6 Technical Requirement and Measurement Data

6.1 Generally requirement

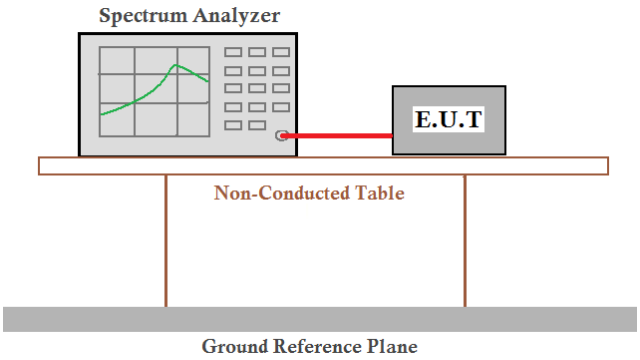
15.203 requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered 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 use of a standard antenna jack or electrical connector is prohibited.
15.247(c) (1)(i) requirement:
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 use of a standard antenna jack or electrical connector is prohibited.
EUT Antenna:
Reference to the appendix II for details

6.2 Duty Cycle

Limit
Report for use
Block diagram of Test Setup

Test Instrument
Refer to Annex A for details
Test Procedures
The transmitter output connected to the Spectrum Analyzer. Test according to Procedure 6.0)b in KDB 558074 v05r02. 1.RBW=8 MHz(the largest available value) 2.VBW=8 MHz(>RBW) 3.SPAN = 0 Hz 4.Detector = Peak 5.Number of points in sweep: 30001 6.Trace mode: Clear write 7.Measure T_{total} and T_{on} 8.Calculate Duty Cycle = T_{on}/T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)
Verdict
Pass

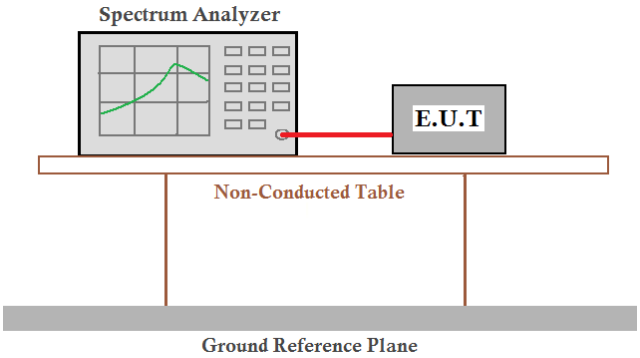
Measurement Data: The detailed test data see Appendix

6.3 Conducted Peak Output Power

Limit
1W(30dBm)
Block diagram of Test Setup

Test Instrument
Refer to Annex A for details
Test Procedures
a) Set the RBW ≥ DTS bandwidth. b) Set VBW ≥ [3 × RBW]. c) Set span ≥ [3 × RBW]. d) Sweep time = No faster than coupled (auto) time. 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.
Verdict
Pass

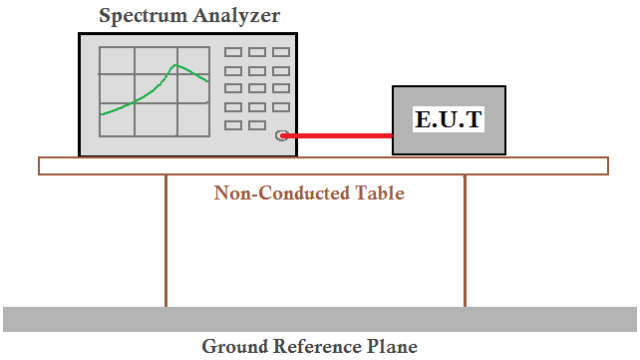
Measurement Data: The detailed test data see Appendix

6.4 Channel Bandwidth

Limit
>500KHz
Block diagram of Test Setup

Test Instrument
Refer to Annex A for details
Test Procedures
The steps for the first option are as follows: a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz. b) Set the VBW ≥ [3 × RBW]. c) Detector = peak. d) Trace mode = max-hold. e) Sweep = No faster than coupled (auto) time. f) Allow the trace to stabilize. g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “−6 dB down amplitude”. If a marker is below this “−6 dB down amplitude” value, then it shall be as close as possible to this value.
Verdict
Pass

Measurement Data: The detailed test data see Appendix

6.5 Power Spectral Density

Limit
8dBm/3kHz
Block diagram of Test Setup

Test Instrument
Refer to Annex A for details
Test Procedures
a) Set analyzer center frequency to DTS channel center frequency. b) Set the span >1.5 times the DTS bandwidth. c) Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz. d) Set the VBW ≥ [3 × RBW]. e) Detector = peak. f) Sweep time = No faster than coupled (auto) time. 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 requirement, then reduce RBW (but no less than 3 kHz) and repeat.
Verdict
Pass

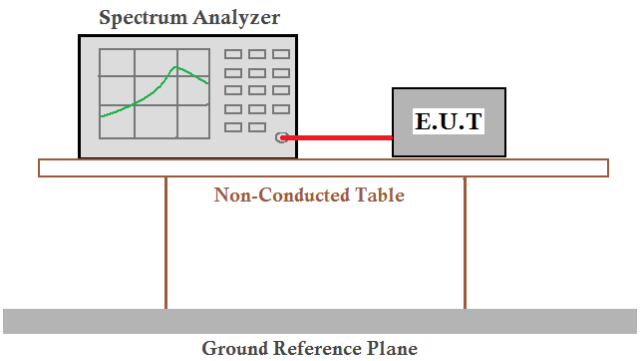
Measurement Data: The detailed test data see Appendix

6.6 Conducted Emission

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.

Block diagram of Test Setup



Test Instrument

Refer to Annex A for details

Test Procedures

Establish a reference level by using the following procedure:

a) Set instrument center frequency to DTS channel center frequency.

b) Set the span to ≥ 1.5 times the DTS bandwidth.

c) Set the RBW = 100 kHz.

d) Set the VBW ≥ [3 × RBW].

e) Detector = peak.

f) Sweep time = No faster than coupled (auto) time.

g) Trace mode = max-hold.

h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum PSD level.

Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequencyresolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

b) Set the RBW = 100 kHz.

c) Set the VBW ≥ [3 × RBW].

d) Detector = peak.

e) Sweep time = No faster than coupled (auto) time.

f) Trace mode = max-hold.

g) Allow trace to fully stabilize.

h) Use the peak marker function to determine the maximum amplitude level.

Verdict

Pass

Measurement Data: The detailed test data see Appendix

6.7 Radiated Spurious Emission

Limit

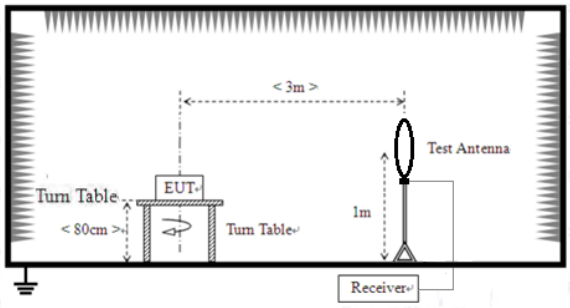
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100 **	3
88–216	150 **	3
216–960	200 **	3
Above 960	500	3

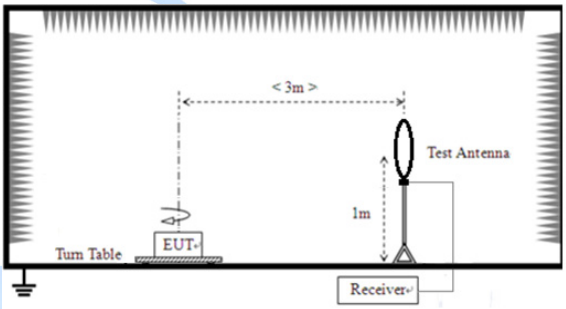
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Block diagram of Test Setup

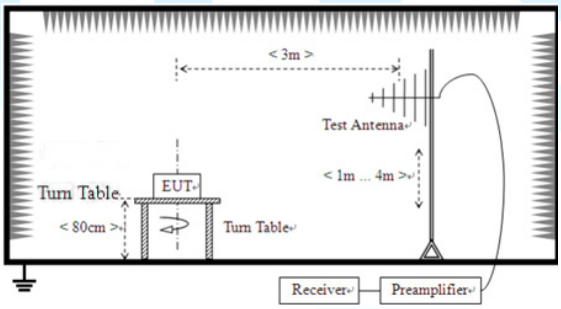
☒For table-top equipment	☐For floor standing equipment

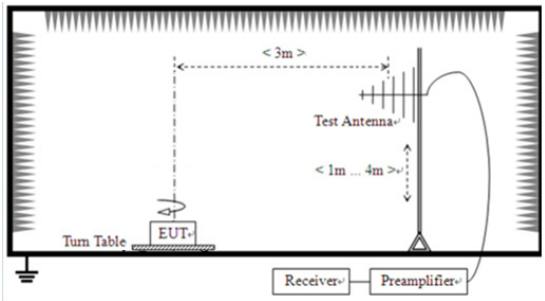
For radiated emissions from 9kHz to 30MHz



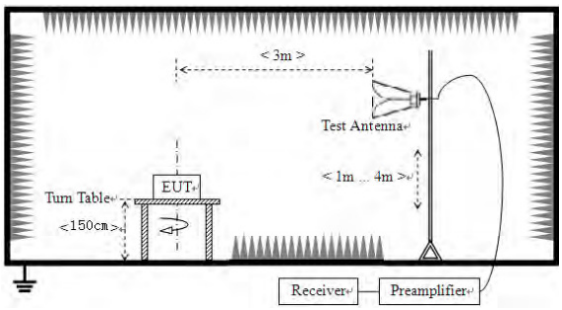


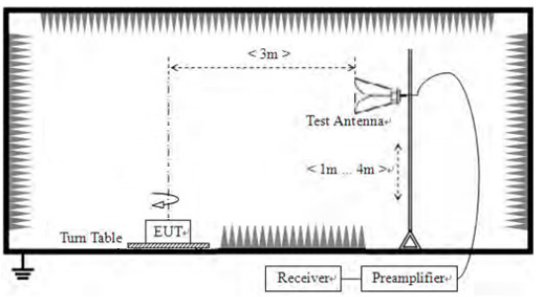
For radiated emissions from 30MHz to1GHz





For radiated emissions above 1GHz





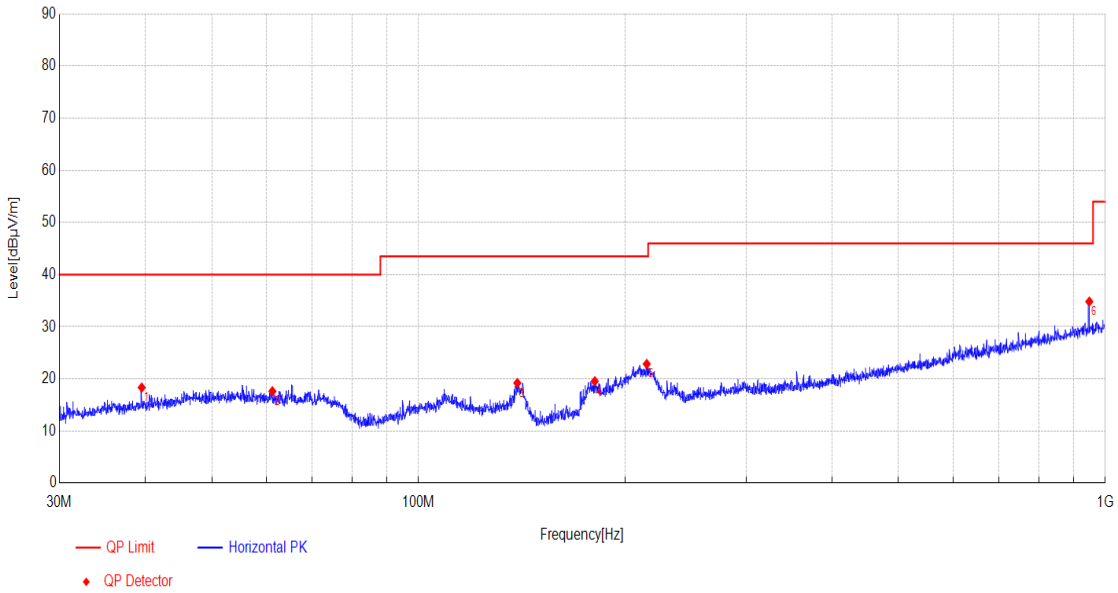
Test Instrument

Refer to Annex A for details
Test Procedures
Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 & C63.10
Verdict
Pass

Note1: The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

Note2: For those undesirable emission (in the Restricted Bands and out-of-band spurious) above 1GHz, According to KDB 558074 and ANSI C63.10 subclause 11, as an alternative, antenna-port conducted measurements in conjunction with cabinet emissions tests will be permitted to demonstrate compliance.

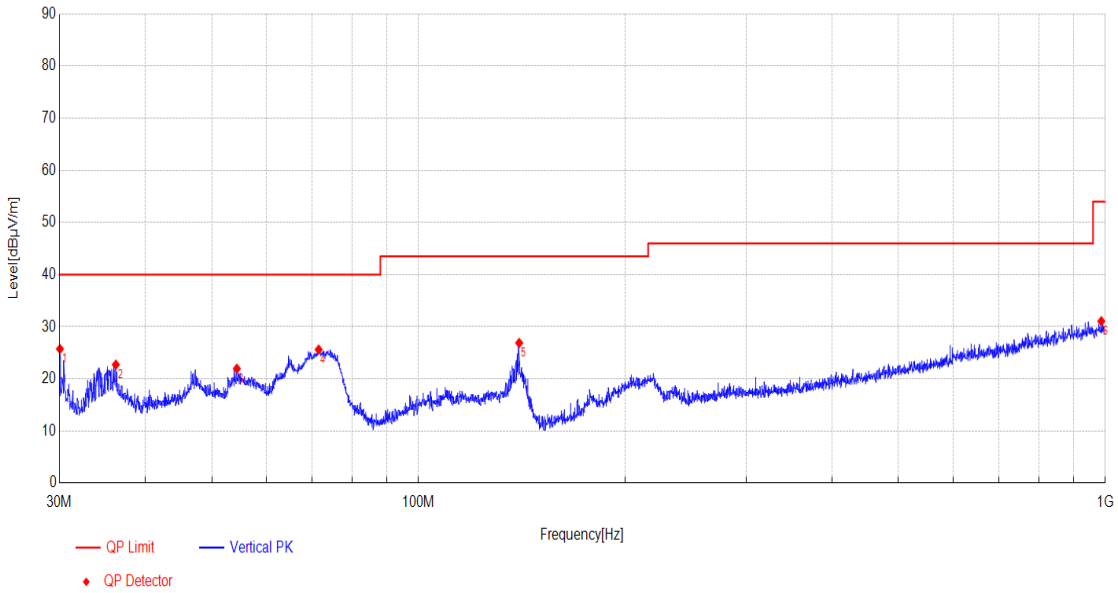
Test Result(30M~1GHz)			
Test mode	Mode 1	Polarity	Horizontal
Test voltage	AC 120V/60Hz	Temp. /Hum.	25 °C/60%



NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity	Verdict
1	39.5383	12.86	18.35	40.00	21.65	Horizontal	PASS
2	61.2816	13.10	17.63	40.00	22.37	Horizontal	PASS
3	139.3078	8.97	19.21	43.50	24.29	Horizontal	PASS
4	180.5678	11.05	19.56	43.50	23.94	Horizontal	PASS
5	214.9733	12.58	22.87	43.50	20.63	Horizontal	PASS
6	947.9423	25.55	34.83	46.00	11.17	Horizontal	PASS

Note: Final Level =Receiver Read level + Factor
Factor= Antenna Factor + Cable Loss – Preamplifier Factor
Only the worst case report(BLE 2480MHz)

Test Result(30M~1GHz)			
Test mode	Mode 1	Polarity	Vertical
Test voltage	AC 120V/60Hz	Temp. /Hum.	25 °C/60%



NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity	Verdict
1	30.0526	10.77	25.74	40.00	14.26	Vertical	PASS
2	36.2523	12.13	22.73	40.00	17.27	Vertical	PASS
3	54.3958	13.95	21.97	40.00	18.03	Vertical	PASS
4	71.565	9.88	25.62	40.00	14.38	Vertical	PASS
5	140.1651	8.95	26.90	43.50	16.60	Vertical	PASS
6	986.9397	25.95	31.07	54.00	22.93	Vertical	PASS

Note: Final Level =Receiver Read level + Factor
Factor= Antenna Factor + Cable Loss – Preamplifier Factor
Only the worst case report(BLE 2480MHz)

6.8 Conducted Emissions

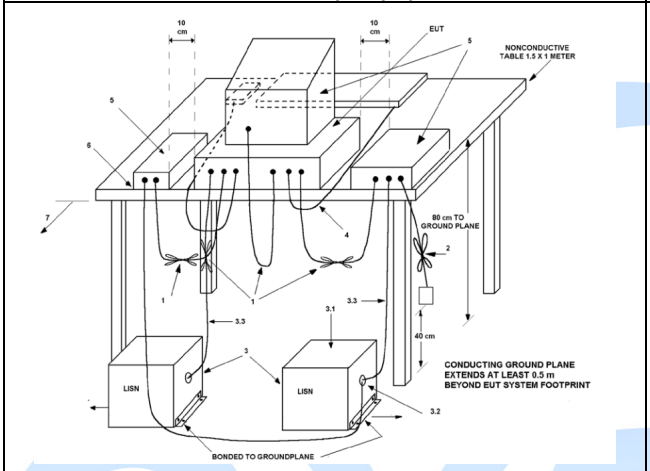
Limit

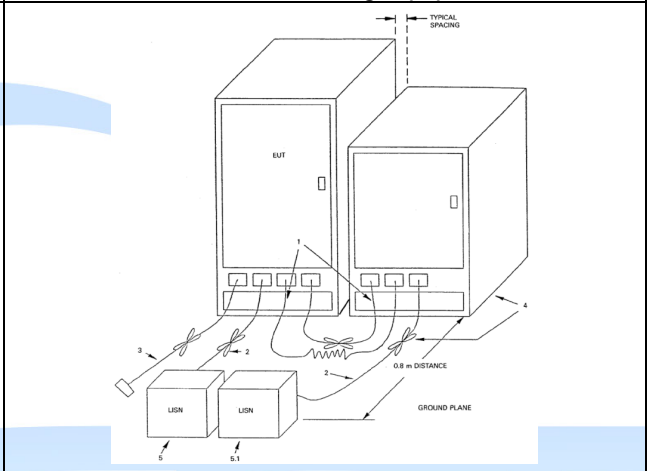
Frequency (MHz)	Quasi-peak	Average
0.15~0.50	66 to 56*	56 to 46*
0.50~5.0	56	46
5.0~30	60	50

*Decreases with the logarithm of the frequency.
If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out

Block diagram of Test Setup

☒For table-top equipment ☐For floor standing equipment





Test Instrument

Refer to Annex A for details

Test Procedures

The measurement was performed in a shield room.
Measured levels of ac power-line conducted emission shall be the radio-noise voltage from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), as terminated into a 50 Ω EMI receiver or spectrum analyzer. All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN, if used. The manufacturer shall test equipment with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended. For measurements using a LISN, the 50 Ω measuring port is terminated into a 50 Ω EMI receiver or spectrum analyzer. All other ports are terminated into 50 Ω loads.

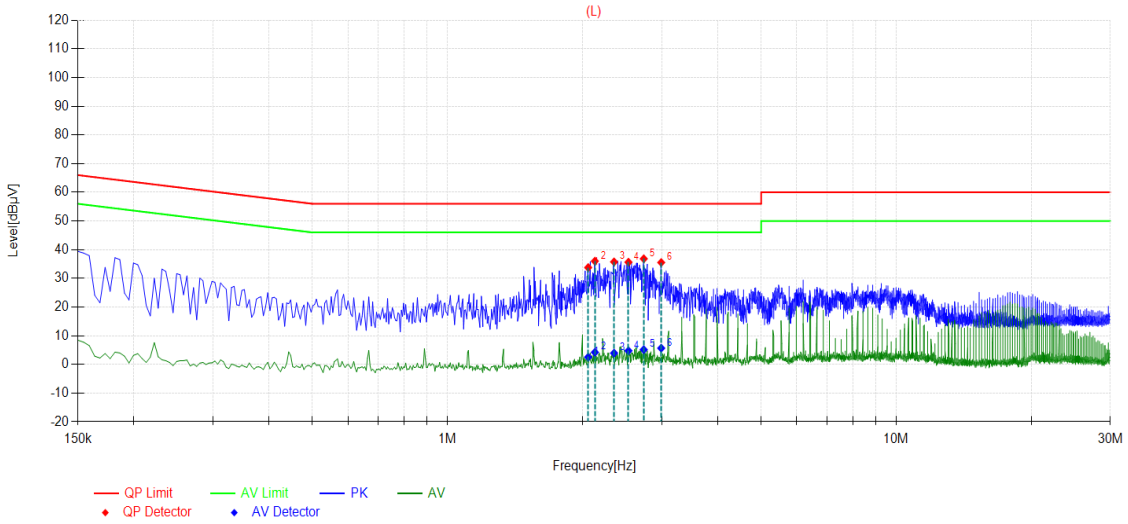
Table top devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

Verdict

Pass

Test Result			
Test mode	Mode 1	Polarity	Line
Test voltage	AC 120V/60Hz	Temp. /Hum.	25 °C/60%

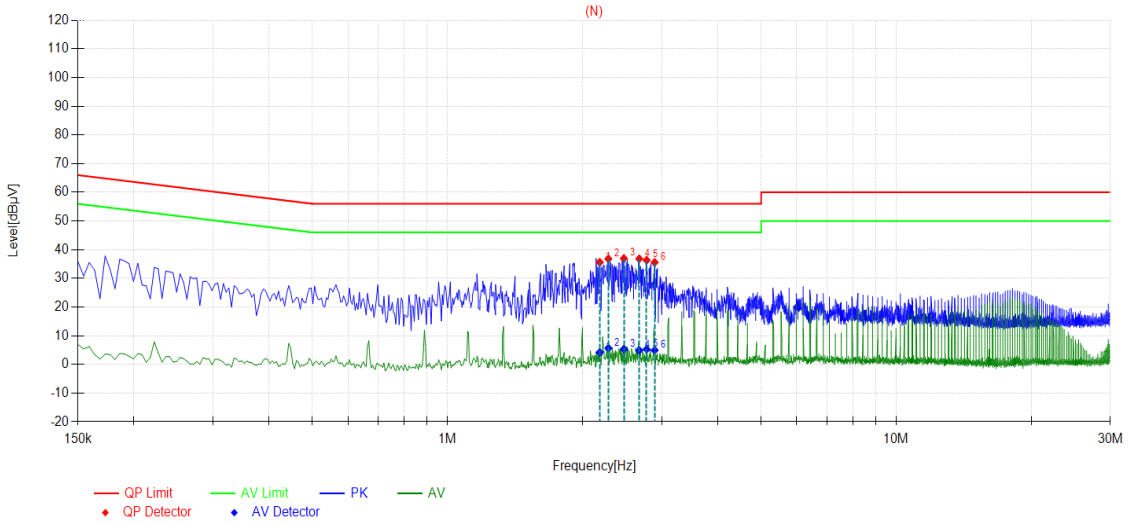


Final Data List

Freq.[MHz]	Type	QP Value [dBµV]	AV Value [dBµV]	QP Limit [dBµV]	AV Limit [dBµV]	QP Margin [dB]	AV Margin [dB]	Verdict
2.058	L	33.77	2.54	56.00	46.00	22.23	43.46	PASS
2.13	L	36.00	4.21	56.00	46.00	20.00	41.79	PASS
2.3505	L	35.74	3.93	56.00	46.00	20.26	42.07	PASS
2.5305	L	35.63	4.75	56.00	46.00	20.37	41.25	PASS
2.7375	L	36.82	5.14	56.00	46.00	19.18	40.86	PASS
2.994	L	35.52	5.66	56.00	46.00	20.48	40.34	PASS

Note: Final Level =Receiver Read level + Factor
Factor= LISN Factor + Cable Loss
Only the worst case report(BLE 2480MHz)

Test Result			
Test mode	Mode 1	Polarity	Neutral
Test voltage	AC 120V/60Hz	Temp. /Hum.	25 °C/60%



Final Data List

Freq.[MHz]	Type	QP Value [dBµV]	AV Value [dBµV]	QP Limit [dBµV]	AV Limit [dBµV]	QP Margin [dB]	AV Margin [dB]	Verdict
2.184	N	35.60	4.15	56.00	46.00	20.40	41.85	PASS
2.283	N	36.81	5.66	56.00	46.00	19.19	40.34	PASS
2.472	N	36.95	5.33	56.00	46.00	19.05	40.67	PASS
2.6745	N	36.83	4.93	56.00	46.00	19.17	41.07	PASS
2.778	N	36.35	5.29	56.00	46.00	19.65	40.71	PASS
2.895	N	35.57	4.94	56.00	46.00	20.43	41.06	PASS

Note: Final Level =Receiver Read level + Factor
Factor= LISN Factor + Cable Loss
Only the worst case report(BLE 2480MHz)

7 Test Setup Photo

Reference to the **appendix I** for details.

8 EUT Constructional Details

Reference to the **appendix II** for details.

Annex A --Test Instruments list

Radiated Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. cycle**	**Cal.Date**
3m Semi- Anechoic Chamber	BOST	966	/	3 years	2023.01.07
Control Room	BOST	333	/	3 years	2023.01.07
Breiband TRILOG Messantenne	Schwarzbeck	VULB 9162	00556	1 year	2025.04.19
Broad-band Horn Antenna	Schwarzbeck	BBHA 9120 D	02783	1 year	2025.04.19
EMI Test Receiver	R&S	ESU8	100372	1 year	2025.04.17
Amplifier （1-18GHz）	TSTPASS	LNA10180G45	TSAM2303003	1 year	2025.04.17
Spectrum Analyzer	keysight	N9020A	MY51280659	1 year	2025.04.17
Amplifier（40G）	RFsystem	TRLA-180400G45B	23060801	1 year	2025.04.18
Broadband Horn Antenna（40G）	Schwarzbeck	BBHA9170	01306	1 year	2025.04.19
Spectrum analyzer	R&S	FSV40-N	101791	1 year	2025.04.17
Loop Antenna	Schwarzbeck	FMZB 1513-60B	1513-60B 044	1 year	2025.04.18
5W 6dB attenuator	/	DC-6GHz	/	Internal calibration	/
Thermohygrometer	KTJ	TA218A	879030	1 year	2025.04.21
EMI Test Software	Tonscend	TS+	V5.0	/	/

Conducted Emission					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. cycle**	**Cal.Date**
Shielding Room	BOST	854	/	3 year	2023.01.07
EMI Test Receiver	R&S	ESR3	103057	1 year	2025.04.17
LISN	R&S	ENV 216	102832	1 year	2025.04.17
ISN	Schwarzbeck	NTFM 8158	00347	1 year	2025.04.17
ISN	Schwarzbeck	CAT3 8158	00279	1 year	2025.04.17
ISN	Schwarzbeck	CAT5 8158	00524	1 year	2025.04.17
Sensor probe	TCTEST	CSP 9160A	81837	1 year	2025.04.17
High impedance capacitive voltage probe	Schwarzbeck	CVP 9222C	00221	1 year	2025.04.22
Voltage probe	Schwarzbeck	TK 9420	01304	1 year	2025.04.17
Antenna port test assembly	/	DC-3GHz	/	Internal calibration	/
Thermohygrometer	KTJ	TA218A	879036	1 year	2025.04.21
EMI Test Software	Tonscend	TS+	V4.0	/	/

RF conducted					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. cycle**	**Cal.Date**
Shielding Room	BOST	543	/	3 year	2023.01.07
Spectrum analyzer	keysight	N9020A	MY51280659	1 year	2025.04.17
Analog signal source	Agilent	N5181A	MY48180054	1 year	2025.04.17
Vector signal source	keysight	N5172B	MY57281610	1 year	2025.04.17
Thermohygrometer	KTJ	TA218A	879032	1 year	2025.04.21
Spectrum analyzer	R&S	FSV40-N	/	1 year	2025.04.17
Power meter 1	TST	TST V2	/	1 year	2025.04.17
Test Software	TST PASS	TST PASS	V2.0	/	/
Temperature and humidity chamber	Guangdong fenghe	FH-TH-1000	FH24032017	1 year	2024.04.26

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