

FCC TEST REPORT

FCC ID:2ARZ5-Y309

Report No..... : ZHT-250923119W01-1

Product..... : 3in1 wireless charger

Trademark..... : /

Model(s)..... : Y309 qi2.2,
AluMag Trio 2, LW-01, T654-G, T654-F, MagW5C

Model Difference..... : Y309 qi2.2 is the test model, while other models are derivative models. These models are the same on the circuit, only with different model names and color. Therefore, the test data of Y309 qi2.2 can represent the remaining models.

Applicant..... : Shenzhen Smacat Electronic Technology Co.,Ltd

Address..... : 5th Floor, Building A6, Yangbei Industrial Zone, Huangtian Hangcheng, Baoan, Shenzhen, Guangdong, China

Manufacturer..... : Shenzhen Smacat Electronic Technology Co.,Ltd

Address..... : 5th Floor, Building A6, Yangbei Industrial Zone, Huangtian Hangcheng, Baoan, Shenzhen, Guangdong, China

Prepared by..... : Guangdong Zhonghan Testing Technology Co., Ltd.

Address..... : Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Date of Receipt..... : Sep. 23, 2025

Date of Test(s)..... : Sep. 23, 2025 to -Dec. 10, 2025

Date of Issue..... : Dec. 10, 2025

Standard..... : FCC CFR Title 47 Part 15 Subpart C

Test procedure..... : /

In the configuration tested, the EUT complied with the standards specified above.

Prepared by

Reviewed by:

Approved by:

Leon Li

Leon Li/ Engineer

Baret Wu

Baret Wu/ Director

Levi Lee

Levi Lee/ Manager

Note: This device described above has been tested by ZHT, and 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 ZHT, this document may be altered or revised by ZHT, personal only, and shall be noted in the revision of the document.



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**1.TEST SUMMARY**

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Spurious Emission	15.209(a)(f)	Pass
20dB Bandwidth	15.215	Pass

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report



2.GENERAL INFORMATION

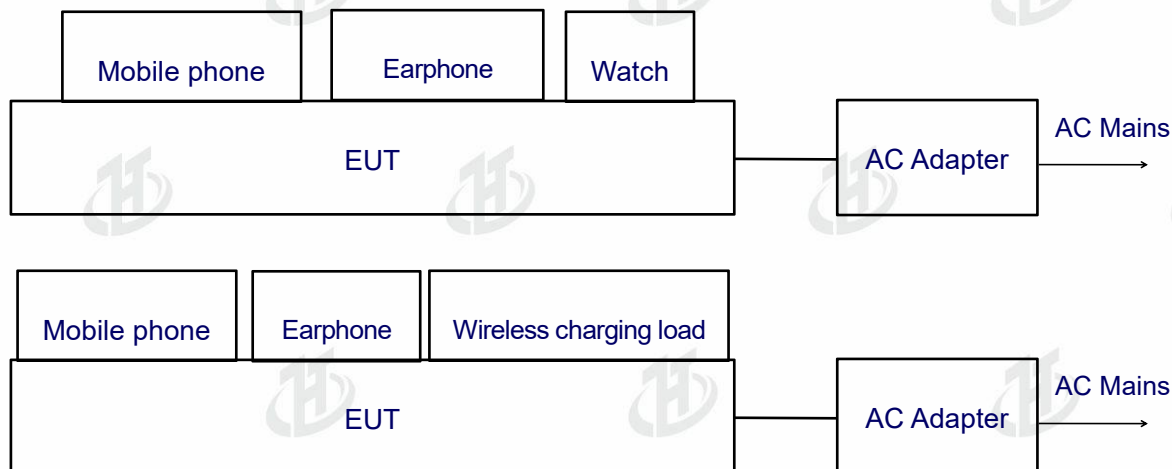
2.1 GENERAL DESCRIPTION OF EUT

Product Name:	3in1 wireless charger
Test Model No.:	Y309 qi2.2
Hardware version:	V1.0
Software version:	V1.0
Operation Frequency:	Phone: 110.5-205kHz, 360KHz Earphone: 110.5-205kHz Watch: $325 \pm 2\text{kHz}$, $1.78 \pm 0.06\text{MHz}$
Modulation type:	ASK
Antenna Type:	Coil Antenna
Antenna gain:	0dBi
Ratings	Input: 9V  3A, 12V  3A, 15V  3A Phone Output: 25W / 15W / 7.5 / 5W Earphone Output: 5W Watch Output: 5W
Sample Number:	250923119YP001
Remark:The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Guangdong Zhonghan Testing Technology Co., Ltd. does not assume any responsibility.	

2.2 Test mode

Test Modes:	
Mode 1	AC Mains + Mobile phone charging mode (110.5-205KHz) + Earphone charging mode + Apple Watch charging mode (Battery Status:≤1%)
Mode 2	AC Mains + Mobile phone charging mode (110.5-205KHz) + Earphone charging mode + Apple Watch charging mode (Battery Status:50%)
Mode 3	AC Mains + Mobile phone charging mode (110.5-205KHz) + Earphone charging mode + Apple Watch charging mode (Battery Status:≥98%)
Mode 4	AC Mains + Mobile phone charging mode (360KHz) + Earphone charging mode + Apple Watch charging mode (Battery Status:≤1%)
Mode 5	AC Mains + Mobile phone charging mode (360KHz) + Earphone charging mode + Apple Watch charging mode (Battery Status:50%)
Mode 6	AC Mains + Mobile phone charging mode (360KHz) + Earphone charging mode + Apple Watch charging mode (Battery Status:≥98%)
Mode 7	AC Mains + Mobile phone charging mode (110.5-205KHz Battery Status:≤1%) + Earphone charging mode (Battery Status:≤1%) + Wireless charging load (5W)
Mode 8	AC Mains + Mobile phone charging mode (110.5-205KHz Battery Status:50%) + Earphone charging mode (Battery Status:50%) + Wireless charging load (5W)
Mode 9	AC Mains + Mobile phone charging mode (110.5-205KHz Battery Status:≥98%) + Earphone charging mode (Battery Status:≥98%) + Wireless charging load (5W)
Mode 10	AC Mains + Mobile phone charging mode (360KHz Battery Status:≤1%) + Earphone charging mode (Battery Status:≤1%) + Wireless charging load (5W)
Mode 11	AC Mains + Mobile phone charging mode (360KHz Battery Status:50%) + Earphone charging mode (Battery Status:50%) + Wireless charging load (5W)
Mode 12	AC Mains + Mobile phone charging mode (360KHz Battery Status:≥98%) + Earphone charging mode (Battery Status:≥98%) + Wireless charging load (5W)
Note: All modes were tested, only the worst-case was recorded in the report. Mode 1 is the worst mode.	

2.3. Block Diagram of EUT Configuration



2.4 Test Conditions

Temperature: 25.6℃
Relative Humidity: 54.3 %

3. 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.

Auxiliary equipment					
Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
1	AC Adapter	Huizhou Jinhu Industrial Development Co., Ltd.	VCBAJACH	/	/
2	Mobile phone	Xiaomi Communications Co., Ltd.	Xiaomi 13	/	/
3	Earphone	Apple Inc.	A2031	/	/
4	Apple Watch	Apple Inc.	ultra 2	/	/
5	Mobile phone	Apple Inc.	iPhone 16 PULS	/	/
6	Wireless charging load	/	V2.0.4	/	/

Item	Shielded Type	Ferrite Core	Length	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”.

**4.TEST FACILITY AND TEST INSTRUMENT USED****4.1 TEST FACILITY**

Guangdong Zhonghan Testing Technology Co., Ltd.

Add.: Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

FCC Registration Number:255941

Designation Number: CN0325

IC Registered No.: 29832

CAB identifier: CN0143

4.2 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Receiver	R&S	ESCI	100874	May 6, 2025	May 5, 2026
2	Loop Antenna	TESEQ	HLA6121	58357	Oct. 11, 2024	Oct. 10, 2025
					Sept. 8, 2025	Sept. 7, 2026
3	Amplifier	Schwarzbeck	BBV 9743 B	00378	May 6, 2025	May 5, 2026
4	Amplifier	Schwarzbeck	BBV 9718 B	00040	May 7, 2025	May 6, 2026
5	Bilog Antenna	Schwarzbeck	VULB9162	00498	May 15, 2025	May 14, 2026
6	Horn Antenna	Schwarzbeck	BBHA9120D	02623	May 15, 2025	May 14, 2026
7	Horn Antenna	A.H.SYSTEMS	SAS574	588	Oct. 21, 2024	Oct. 20, 2025
					Oct. 20, 2025	Oct. 19, 2026
8	Amplifier	AEROFLEX	100KHz-40GHz	097	Oct. 21, 2024	Oct. 20, 2025
					Oct. 20, 2025	Oct. 19, 2026
9	Spectrum Analyzer	R&S	FSV40	101413	Oct. 21, 2024	Oct. 20, 2025
					Oct. 20, 2025	Oct. 19, 2026
10	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	May 7, 2025	May 6, 2026
11	WIDBAND RADIO COMMUNICATION TESTER	R&S	CMW500	109863	May 7, 2025	May 6, 2026
12	Single Generator	Agilent	N5182A	MY48180575	May 7, 2025	May 6, 2026
13	Power Sensor	MWRFTest	MW100-RFCB	/	May 7, 2025	May 6, 2026
14	Power Amplifier Shielding Room	EMToni	2m3m3m	/	Nov. 25, 2021	Nov. 24, 2026
15	CABLE	EMToni	DA800-NM-NM-11000MM	/	May 6, 2025	May 5, 2026

Conduction Test equipment

Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
Receiver	R&S	ESCI	100874	May 6, 2025	May 5, 2026
LISN	R&S	ENV216	102794	May 6, 2025	May 5, 2026
ISN CAT 6	Schwarzbeck	NTFM 8158	00318	May 7, 2025	May 6, 2026
ISN CAT 5	Schwarzbeck	CAT5 8158	00343	May 7, 2025	May 6, 2026
Capacitive Voltage Probe	Schwarzbeck	CVP 9222 C	00101	May 8, 2025	May 7, 2026
Current Transformer Clamp	Schwarzbeck	SW 9605	SW9605 #209	May 8, 2025	May 7, 2026
CABLE	EMToni	G223-NM-BNCM -2000MM	/	May 7, 2025	May 6, 2026

Conducted Test Instrument

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Spectrum Analyzer	R&S	FSV40	101413	Oct. 21, 2024	Oct. 20, 2025
					Oct. 20, 2025	Oct. 19, 2026
2	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	May 7, 2025	May 6, 2026
3	Power Sensor	MWRFTest	MW100-RFCB	/	May 7, 2025	May 6, 2026

4.3 TESTING SOFTWARE

Project	Software name	Edition
Radiated Emission	EZ-EMC	FA-03A2 RE+
RF Test	MTS 8310	2.0.0.0

4.4 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 Test	$U=0.92\text{dB}$
2	RF conducted power	$U=0.16\text{dB}$
3	Spurious emissions conducted	$U=0.21\text{dB}$
4	All radiated emissions (9k-30MHz)	$U=1.6\text{dB}$
5	All radiated emissions (<1G)	$U=5.1\text{dB}$
6	All radiated emissions (>1G)	$U=4.65\text{dB}$
7	Temperature	$U=0.5^{\circ}\text{C}$
8	Humidity	$U=2\%$
9	Occupied Bandwidth	$U=4.96\%$
10	Power Spectral Density	$U=0.71\text{dB}$

Decision Rule

- ☒ Uncertainty is not included
☐ Uncertainty is included

5.CONDUCTED EMISSION TEST

5.1 CONDUCTED EMISSION MEASUREMENT

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

5.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	QP	AVG	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

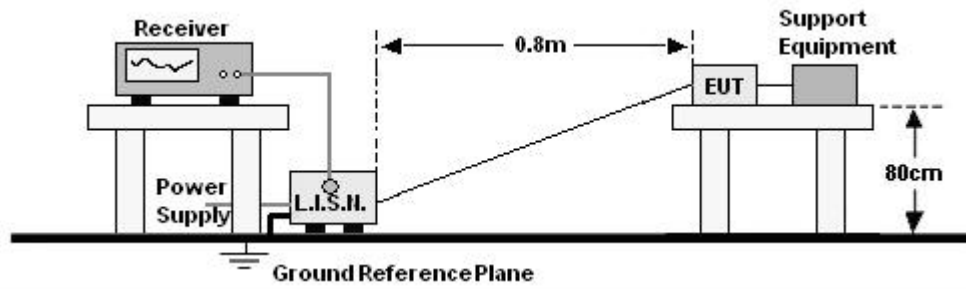
5.1.2 TEST PROCEDURE

- 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.
- 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.

5.1.3 DEVIATION FROM TEST STANDARD

No deviation

5.1.4 TEST SETUP



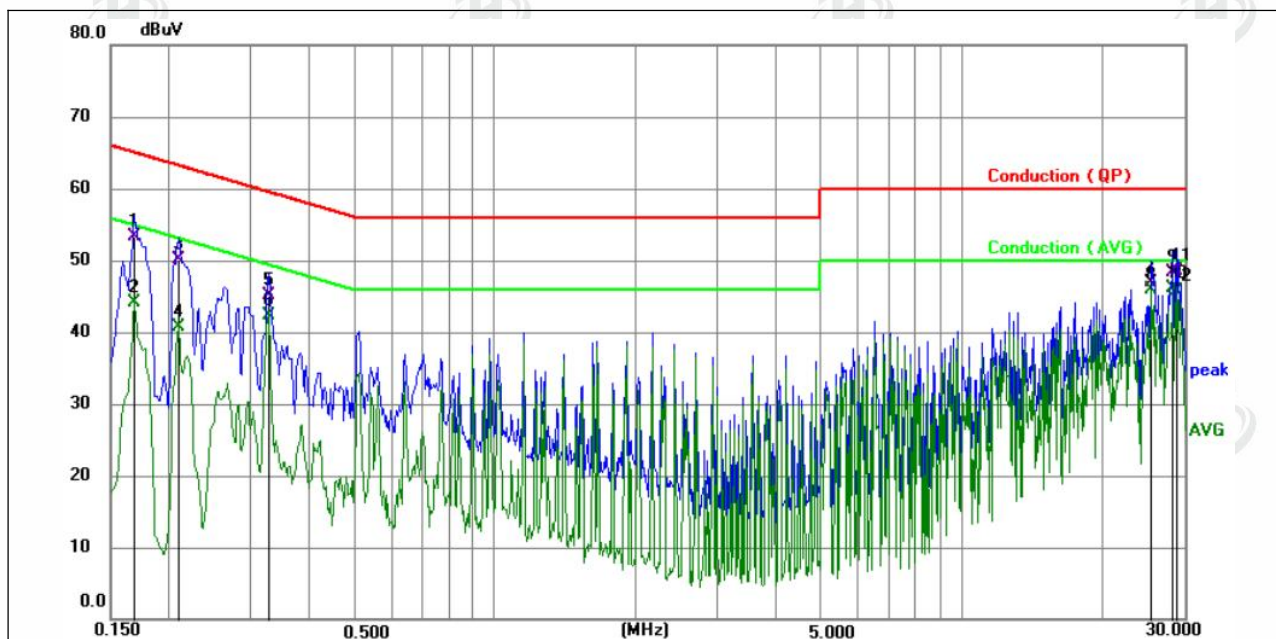
5.1.5 EUT OPERATING CONDITIONS

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.



5.1.6 Test Result

Temperature:	24.2°C	Humidity	56.1%
Pressure:	101kPa	Phase :	L
Test Voltage:	AC 120V/60Hz		



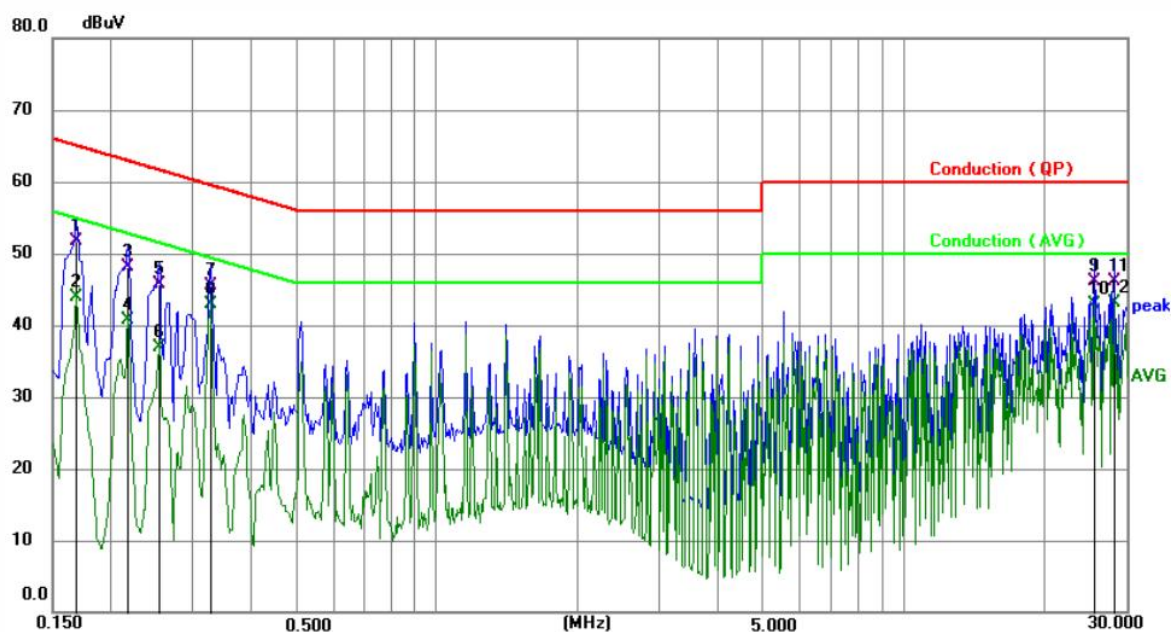
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1680	43.31	9.90	53.21	65.06	-11.85	QP
2	0.1680	34.24	9.90	44.14	55.06	-10.92	AVG
3	0.2084	40.18	9.91	50.09	63.27	-13.18	QP
4	0.2084	30.85	9.91	40.76	53.27	-12.51	AVG
5	0.3255	35.12	9.96	45.08	59.57	-14.49	QP
6	0.3255	32.28	9.96	42.24	49.57	-7.33	AVG
7	25.5884	36.61	10.26	46.87	60.00	-13.13	QP
8	25.5884	35.60	10.26	45.86	50.00	-4.14	AVG
9	28.4100	37.91	10.35	48.26	60.00	-11.74	QP
10 *	28.4100	35.70	10.35	46.05	50.00	-3.95	AVG
11	28.9230	38.06	10.36	48.42	60.00	-11.58	QP
12	28.9230	35.34	10.36	45.70	50.00	-4.30	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



Temperature:	24.2°C	Humidity	56.1%
Pressure:	101kPa	Phase :	N
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1680	41.89	9.90	51.79	65.06	-13.27	QP
2	0.1680	34.06	9.90	43.96	55.06	-11.10	AVG
3	0.2173	38.22	9.92	48.14	62.92	-14.78	QP
4	0.2173	30.88	9.92	40.80	52.92	-12.12	AVG
5	0.2534	35.68	9.93	45.61	61.64	-16.03	QP
6	0.2534	27.00	9.93	36.93	51.64	-14.71	AVG
7	0.3255	35.57	9.96	45.53	59.57	-14.04	QP
8 *	0.3255	32.93	9.96	42.89	49.57	-6.68	AVG
9	25.6335	35.86	10.26	46.12	60.00	-13.88	QP
10	25.6335	32.73	10.26	42.99	50.00	-7.01	AVG
11	28.1984	35.74	10.34	46.08	60.00	-13.92	QP
12	28.1984	32.71	10.34	43.05	50.00	-6.95	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

**6. RADIATED EMISSION MEASUREMENT**

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10-2020				
Test Frequency Range:	9kHz to 1GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Peak Value
	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

6.1 Radiated Emission Limits**Limits for frequency below 30MHz**

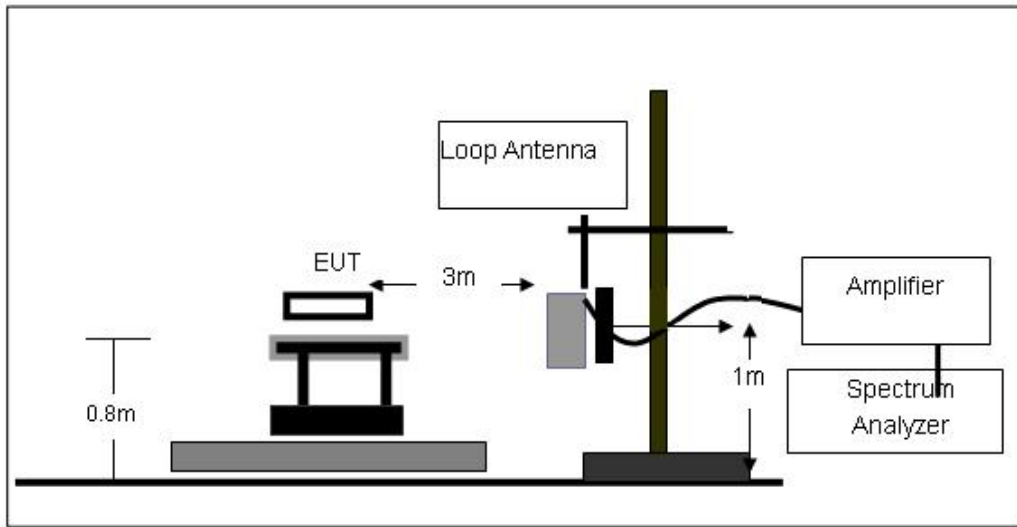
Frequency	Limit (uV/m)	Measurement Distance(m)	Remark
0.009-0.490	2400/F(kHz)	300	Peak Value
0.490-1.705	24000/F(kHz)	30	Quasi-peak Value
1.705-30	30	30	Quasi-peak Value

Limits for frequency Above 30MHz

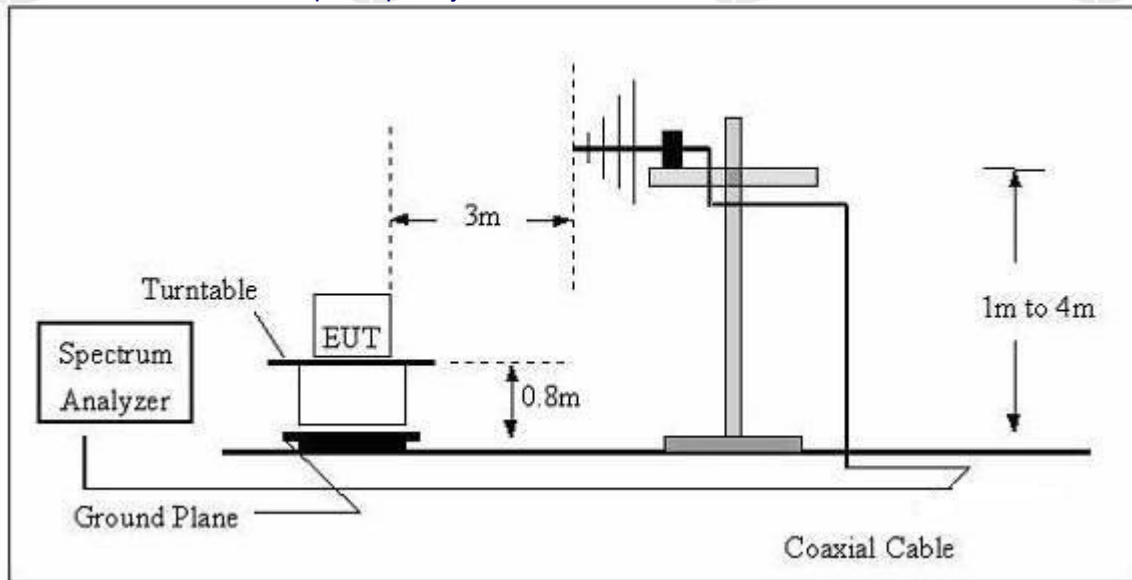
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

6.2 Anechoic Chamber Test Setup Diagram

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



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



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209 and FCC 15.205 limits.

6.3 Test Procedure

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna (calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement.

6.4 DEVIATION FROM TEST STANDARD

No deviation



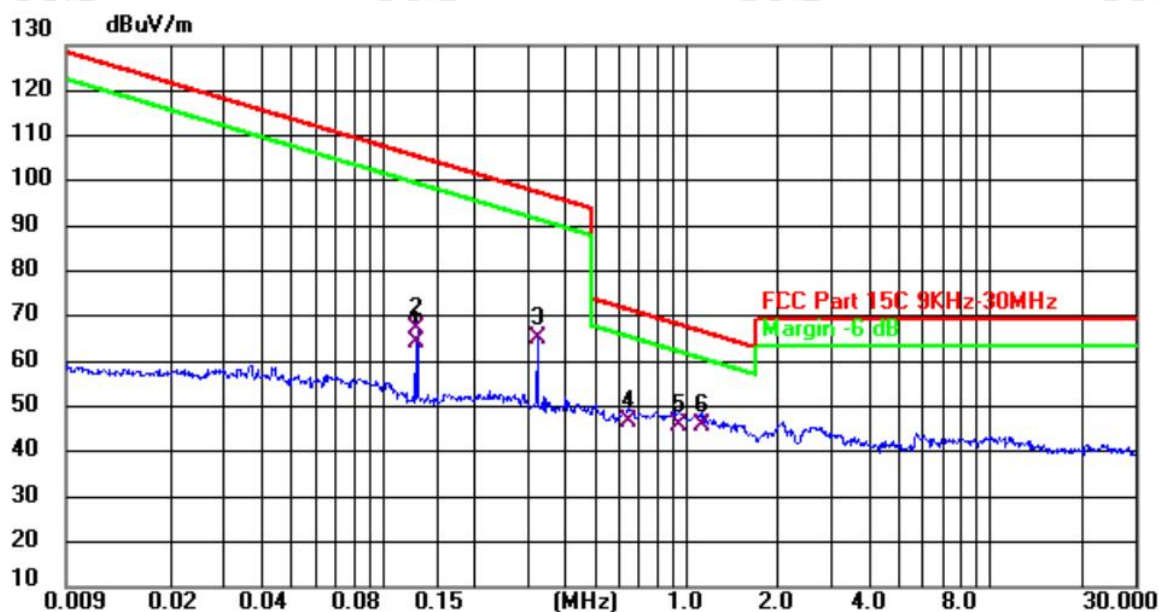
6.5 Test Result

Measurement data:

Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

Limit dBuV/m @3m = Limit dBuV/m @30m + 40

9 kHz~30 MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1283	64.02	0.16	64.18	105.44	-41.26	Peak
2	0.1291	67.16	0.16	67.32	105.39	-38.07	Peak
3	0.3234	64.47	0.77	65.24	97.41	-32.17	Peak
4	0.6411	45.31	1.38	46.69	71.47	-24.78	QP
5	0.9394	43.74	1.99	45.73	68.15	-22.42	QP
6 *	1.1130	43.57	2.34	45.91	66.67	-20.76	QP

Note:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Emission Level = Meter Reading - Factor

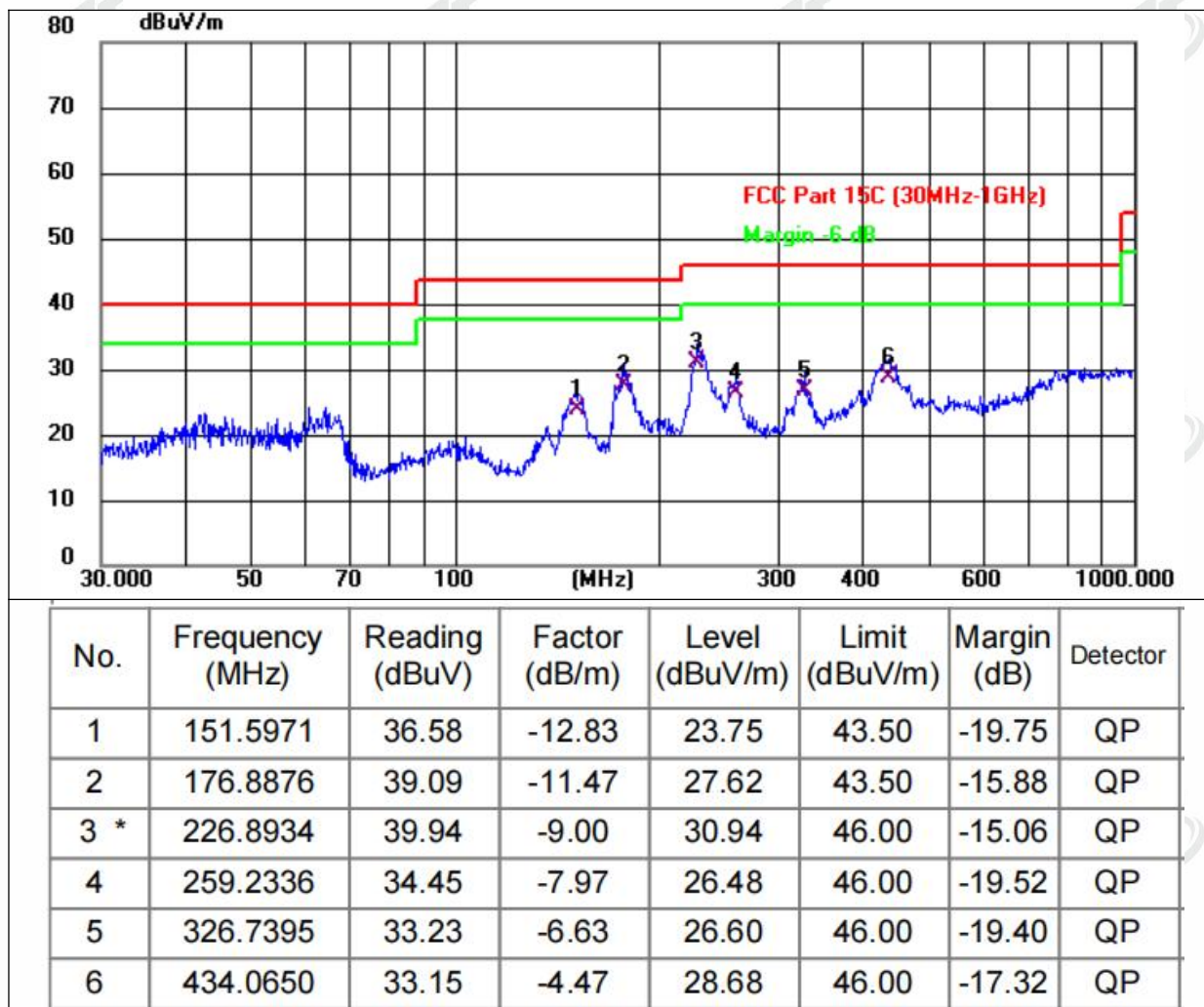
Margin = Emission Level- Limit.

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



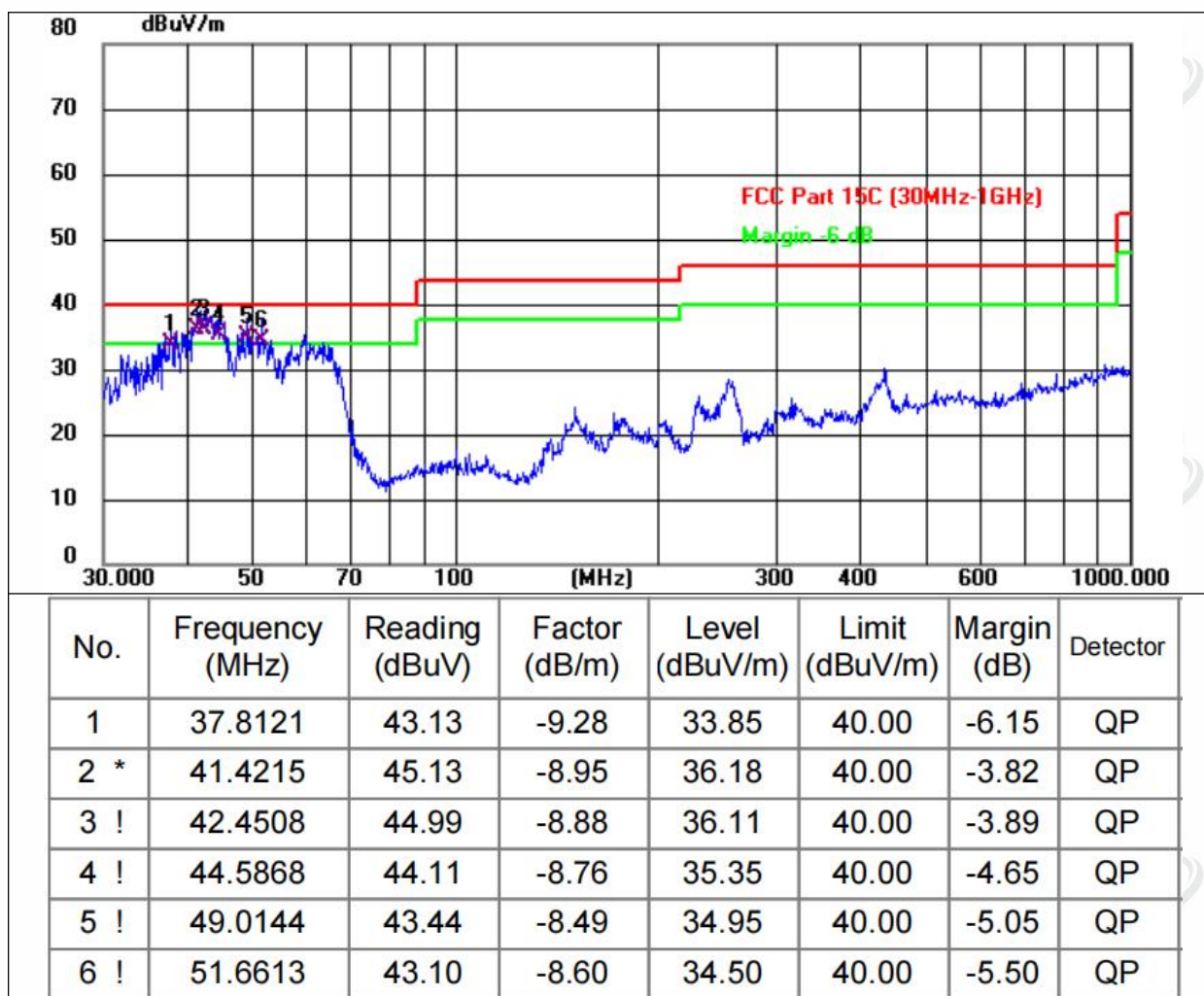
30MHz-1GHz

Temperature:	24.2℃	Humidity	56.1%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz		





Temperature:	24.2°C	Humidity	56.1%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz		



Remarks:

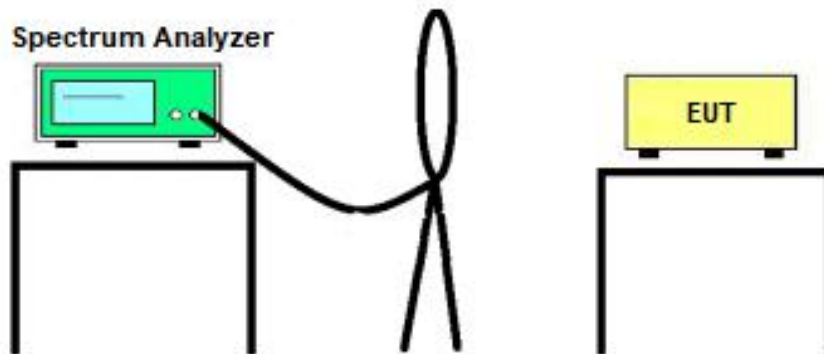
1. Factor = Antenna Factor + Cable Loss – Preamplifier Factor
2. Level = Reading + Factor
3. Margin = Emission Level- Limit.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



7.BANDWIDTH TEST

1. Set 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.

TEST SETUP

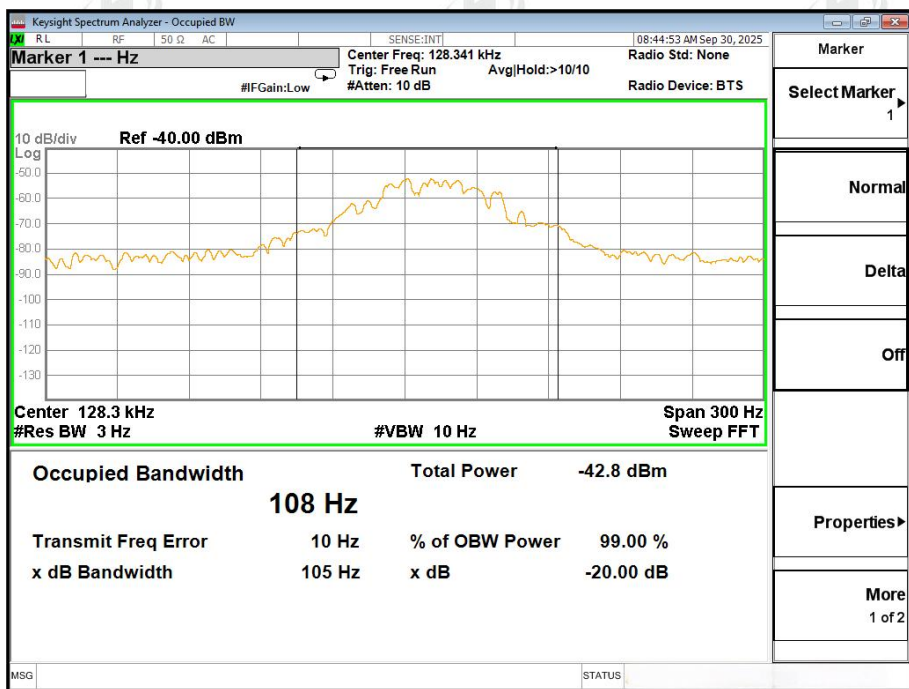




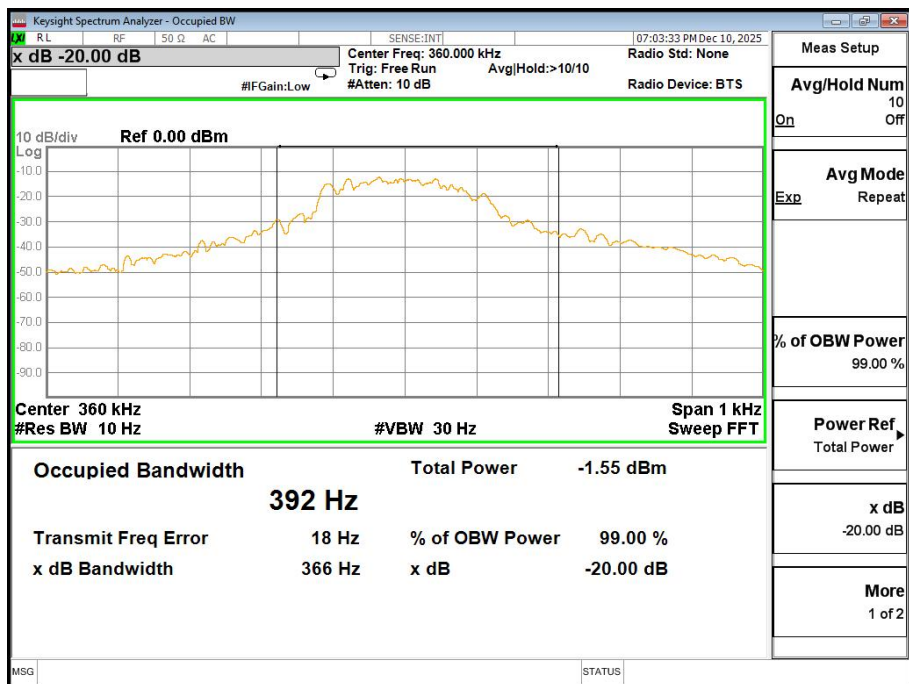
Temperature:	25.5 °C	Relative Humidity:	54%
Pressure:	101kPa		

Coil	Frequency (KHz)	20dB bandwidth (KHz)	Result
Phone coil (110.5-205KHz)	128.3	0.105	Pass
Phone coil (360KHz)	360	0.366	Pass
Earphone coil	129.1	0.081	Pass
Watch coil (325KHz)	323.4	0.250	Pass
Watch coil (1.78MHz)	1730	4.195	Pass

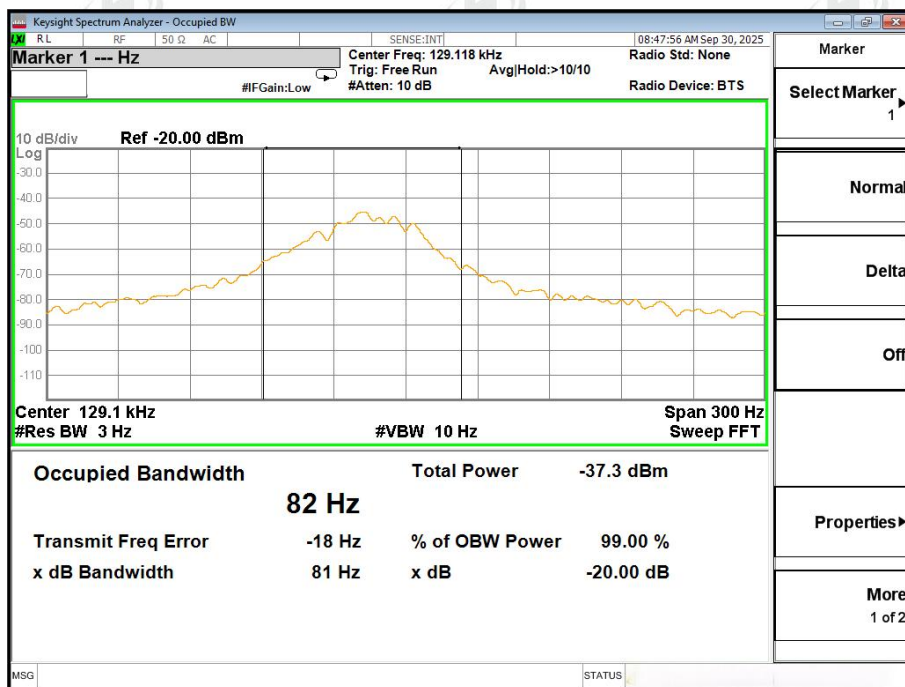
Phone coil (110.5-205KHz)



Phone coil (360KHz)



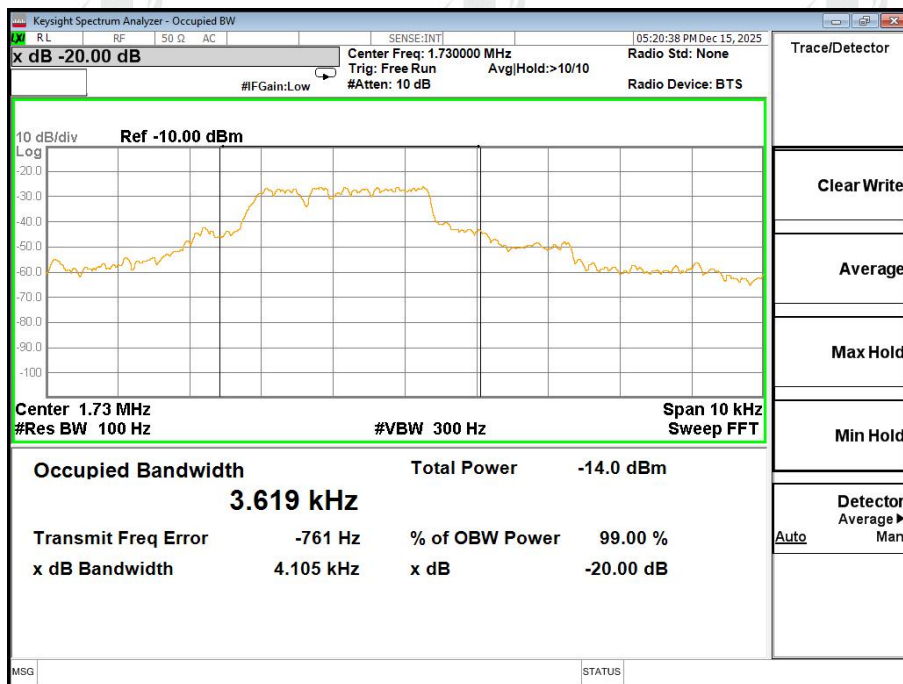
Earphone coil



Watch coil (325KHz)



Watch coil (1.78MHz)



8.ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203
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, 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:	
The antenna is Coil Antenna, the best case gain of the antennas is 0dBi, reference to the appendix II for details	

9.TEST SETUP PHOTO

Reference to the appendix I for details.

10.EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

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