

TEST REPORT

Applicant : Shenzhen Frageway Technology CO.,LTD
Address : Room 303,Building 2,No. 13 Tianyuan Road, Dongfang Community,
Songgang Street, Bao'an District, Shenzhen
Manufacturer : Shenzhen Frageway Technology CO.,LTD
Address : Room 303,Building 2,No. 13 Tianyuan Road, Dongfang Community,
Songgang Street, Bao'an District, Shenzhen
Product Name : 3-in-1 Wireless Charging Station
Model Number : MI-QIS21, QIS21-035-7458-8

Trademark : **MERKURY**, 

FCC ID : 2BH5P-QIS21

Test Date : Jun. 10, 2026 – Jun. 24, 2026

Date of Report : Aug. 11, 2026

Test Result : This device described above has been tested by BKC, 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
ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to
C63.10a-2024

Prepared by(Test Engineer):
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Reviewer(Supervisor):
Casey Wang



Approved(Manager):
Levi Xiao



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1. General Information

1.1. Description of Device (EUT)

EUT Name	: 3-in-1 Wireless Charging Station
Model No.	: MI-QIS21, QIS21-035-7458-8
Model Difference	: All models are identical to each other except for model name and color. All tests are performed on model MI-QIS21
Power supply	: Input:5V/3A, 9V/3A
Output	: Output #1 (iPhone): 5W / 7.5W / 10W / 15W Output #2 (Airpods): 5W Output #3 (Apple Watch): 2.5W
Operation frequency	: 110.5-205KHz for iPhone and Airpods 320-330kHz for Apple Watch
Max. RF output power:	: 48.23dBuV/m
Modulation	: FSK
Antenna Type	: Coil Antenna
Antenna Type	: Internal antenna, Maximum Gain is 0dBi
Intend use environment	: Residential, commercial and light industrial environment

1.2. Channel List

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
/	/	/	/	/	/

1.3. Summary of test result

RF PART		
Test Items	Test Requirement	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
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.	S/N	Remark
Adapter	APPLE	A2244	F1625031EBDPMG9DK	/
Phone	APPLE	iPhone 13	/	/
AirPods	APPLE	AirPods 2	/	
iWatch	APPLE	iWatch 5	/	

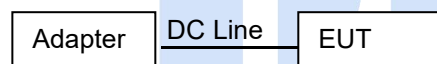
1.5. Test mode

The special RF test software was used to control EUT work in Continuous.

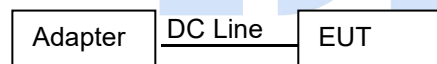
Test Modes:	
Mode 1	EUT Wireless charging(iPhone:5W+Airpods:5W+Apple Watch:2.5W)
Mode 2	EUT Wireless charging(iPhone:5W+Airpods:5W)
Mode 3	EUT Wireless charging(iPhone:5W+ Apple Watch:2.5W)
Mode 4	EUT Wireless charging(Airpods:5W+Apple Watch:2.5W)
Mode 5	EUT Wireless charging(iPhone:15W)
Mode 6	EUT Wireless charging(iPhone:10W)
Mode 7	EUT Wireless charging(iPhone:7.5W)
Mode 8	EUT Wireless charging(iPhone:5W)
Mode 9	EUT Wireless charging(Airpods:5W)
Mode 10	EUT Wireless charging(Apple Watch:2.5W)
Note: All test modes were pre-tested, but we only recorded the worst case (Mode 1) in this report.	

1.6. Block Diagram

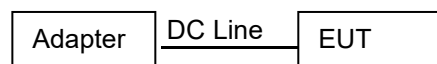
Conducted Emission



Radiated Emission



Conducted Spurious



1.7. 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	120V by adapter	N/A
Note: N/A is an abbreviation for Not Applicable.		

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

Item	MU	Remark
Uncertainty for radio frequency	$\pm 7 \times 10^{-8}$	
Conducted Emissions (150kHz~30MHz)	$\pm 2.54\text{dB}$	
Radiated Emission(9KHz~30MHz)	$\pm 1.6\text{ dB}$	
Radiated Emission(30MHz~1GHz)	Vertical: $\pm 4.14\text{dB}$ Horizontal: $\pm 4.25\text{dB}$	
Radiated Emission(1GHz~6GHz)	$\pm 3.9\text{dB}$	
Radiated Emission(6GHz~18GHz)	$\pm 4.3\text{dB}$	
Radiated Emission(18GHz~40GHz)	$\pm 3.38\text{dB}$	
Uncertainty for conducted RF Power	$\pm 0.20\text{dB}$	
Conducted spurious emissions	$\pm 0.24\text{dB}$	
Uncertainty for temperature	0.6°C	
Uncertainty for humidity	1%	
Bandwidth	$\pm 1.5 \times 10^{-6}$	
Time	$\pm 2\%$	
Duty Cycle	$\pm 2\%$	

Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%

1.9.Test Facility

Site Description	
Name of Firm	: Shenzhen BKC Testing Co., Ltd.
Site Location	: Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China.
ISED CAB identifier	: CN0188
ISED Company Number	: 34333
FCC Designation Number	: CN1416
FCC Test Firm Registration Number	: 701543

1.10.Test Equipment

Conducted Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	102762	Mar. 11. 2026	Mar. 10. 2027
2	EMI Test Receiver	R&S	ESCI	101424	Mar. 11. 2026	Mar. 10. 2027
3	Rf cables	HTEC	HCE 2M-CE	N/A	Mar. 11. 2026	Mar. 10. 2027
4	Coupling/ Decoupling Network	Diamond	CX210	N/A	Mar. 11. 2026	Mar. 10. 2027
5	CE Testing software	EZ	EZ-EMC	/	/	/

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

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Antenna	Schwarzbeck	VULB 9168	01321	Mar. 20. 2025	Mar. 19. 2028
2	EMI Test Receiver	R&S	ESRP	101478	Mar. 11. 2026	Mar. 10. 2027
3	Preamplifier	HP	8447D	2727A05345	Mar. 11. 2026	Mar. 10. 2027
4	Double Ridged Broadband	SCHWARZBECK	BBHA 9120D	02621	Mar. 11. 2026	Mar. 19. 2028
5	Preamplifier	Schwarzbeck	BBV 9718D	00041	Mar. 11. 2026	Mar. 10. 2027
6	Rf cables	HUBER+SUHNER	8M-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
7	Rf cables	HUBER+SUHNER	1.5M-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
8	Rf cables	HUBER+SUHNER	1.5M-AP-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
9	Loop antenna	ANRF	ANRF-6603	091802	Mar. 09. 2025	Mar. 10. 2027
10	Spectrum analyzer	R&S	FSP40	200061	Mar. 11. 2026	Mar. 10. 2027
11	Double Ridged Broadband Horn Antenna	COM-POWER	AH-1840	10100009	Mar. 11. 2026	Mar. 10. 2027
12	Spectrum	Agilent	N9020A	MY50510311	Mar. 11. 2026	Mar. 10. 2027
13	Band Stop Filter	Bafang	BSF5G	2024052610	Mar. 11. 2026	Mar. 10. 2027
14	RE Testing software	EZ	EZ-EMC	/		/

RF Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum	Agilent	N9020A	MY50510311	Mar. 11. 2026	Mar. 10. 2027
2	Vector source	Agilent	N5182A	MY47420223	Mar. 11. 2026	Mar. 10. 2027
3	All instrument	Rohde & Schwarz	CMW 500	101131	Mar. 11. 2026	Mar. 10. 2027
4	control unit	MW	MW100-RFCB	MW200411BK-34	/	Mar. 10. 2027
5	RF Testing software	MW	MTS 8310	/	/	/
6	Spectrum analyzer	R&S	FSP40	200061	Mar. 11. 2026	Mar. 10. 2027

Test software

Software name	RF Testing software
Software version	2.0.0.0
Software name	RE Testing software
Software version	EMEC-03A2 RE+
Software name	CE Testing software
Software version	EMEC-3A1+

2. Conducted emission at the mains terminals test

2.1.Limit

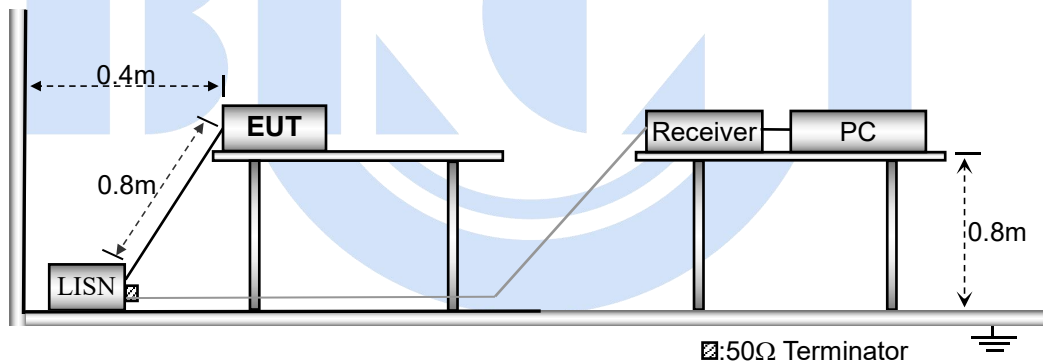
Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

Frequency MHz	Limits dB(μ V)	
	Quasi-peak Level	Average Level
0.009 ~ 0.05	110	/
0.05 ~ 0.15	90 to 80*	/
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



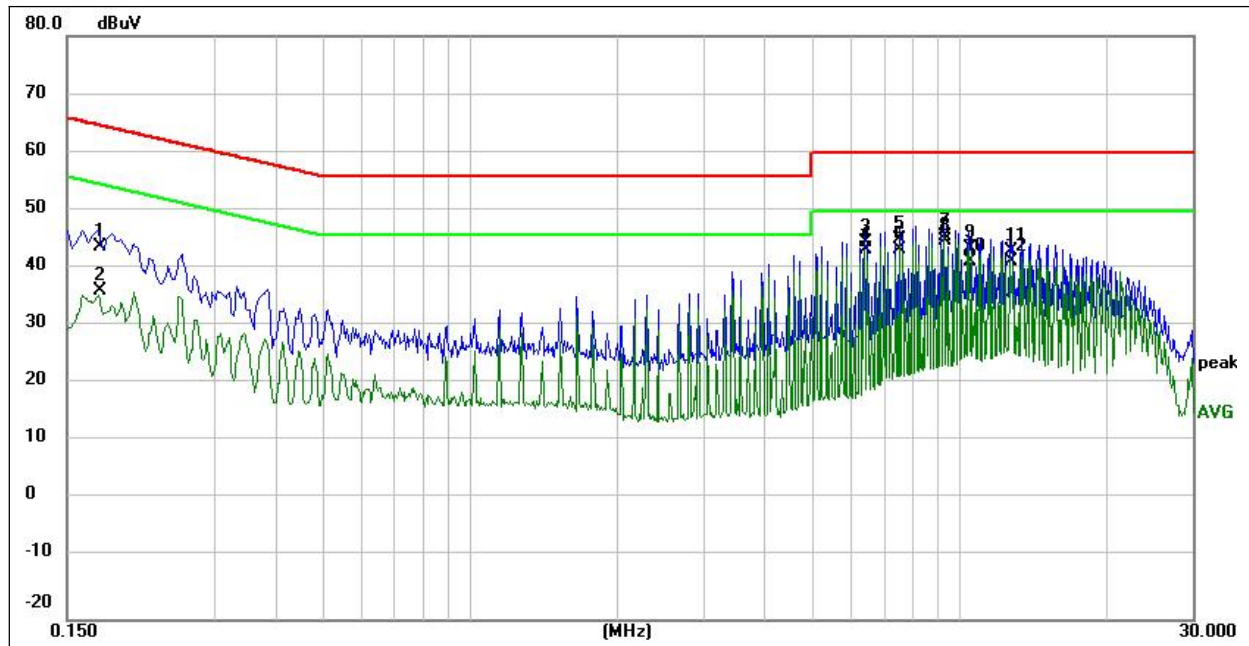
2.3.Test Procedure

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

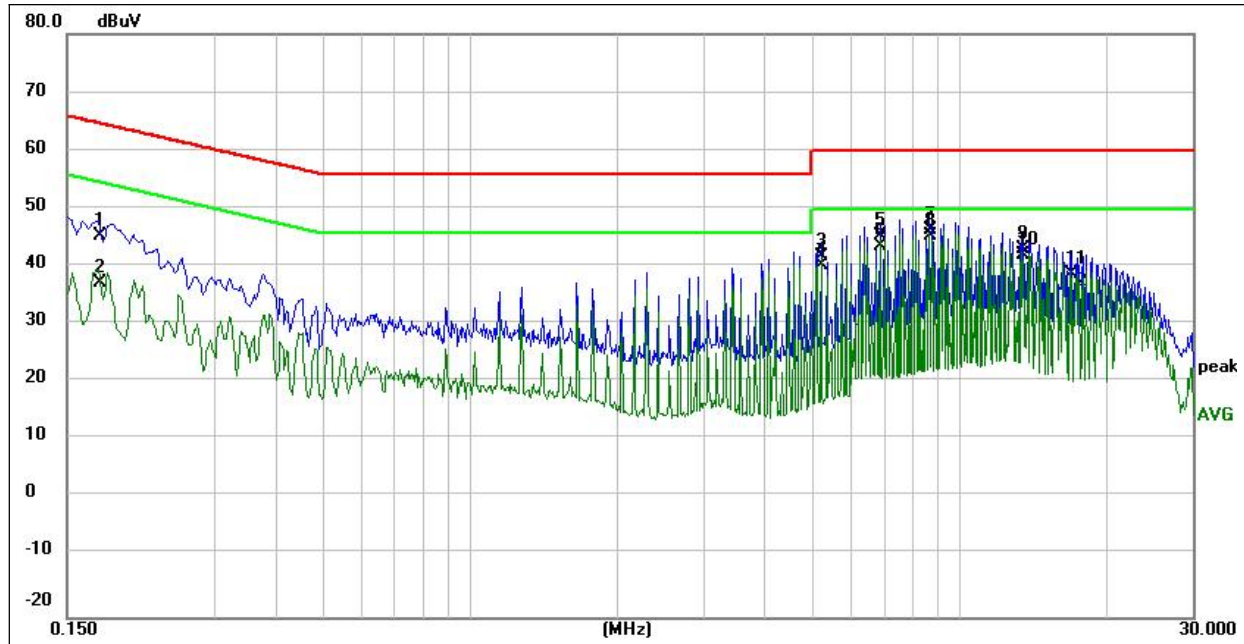
3. Conducted Emission At The Mains Terminals Test Data

Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Line
Test Voltage :	AC 120V/60Hz by adapter	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	23.11	20.76	43.87	64.77	-20.90	QP
2	0.1740	15.62	20.76	36.38	54.77	-18.39	AVG
3	6.3900	24.82	19.98	44.80	60.00	-15.20	QP
4	6.3900	23.49	19.98	43.47	50.00	-6.53	AVG
5	7.5420	25.16	19.98	45.14	60.00	-14.86	QP
6	7.5420	23.53	19.98	43.51	50.00	-6.49	AVG
7	9.3300	25.77	19.97	45.74	60.00	-14.26	QP
8 *	9.3300	25.03	19.97	45.00	50.00	-5.00	AVG
9	10.4819	23.84	19.96	43.80	60.00	-16.20	QP
10	10.4819	21.52	19.96	41.48	50.00	-8.52	AVG
11	12.7820	23.22	19.92	43.14	60.00	-16.86	QP
12	12.7820	21.45	19.92	41.37	50.00	-8.63	AVG

Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz by adapter	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	24.71	20.76	45.47	64.77	-19.30	QP
2	0.1740	16.76	20.76	37.52	54.77	-17.25	AVG
3	5.2420	21.95	19.99	41.94	60.00	-18.06	QP
4	5.2420	20.44	19.99	40.43	50.00	-9.57	AVG
5	6.9020	25.42	19.98	45.40	60.00	-14.60	QP
6	6.9020	23.76	19.98	43.74	50.00	-6.26	AVG
7	8.6899	26.49	19.98	46.47	60.00	-13.53	QP
8 *	8.6899	25.50	19.98	45.48	50.00	-4.52	AVG
9	13.4180	23.37	19.91	43.28	60.00	-16.72	QP
10	13.4180	22.20	19.91	42.11	50.00	-7.89	AVG
11	16.8660	19.02	19.92	38.94	60.00	-21.06	QP
12	16.8660	15.14	19.92	35.06	50.00	-14.94	AVG

Remark:

Measurement= Reading Level+ Factor

Margin= Measurement-Limit

4. Radiated Spurious Emissions

4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;
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

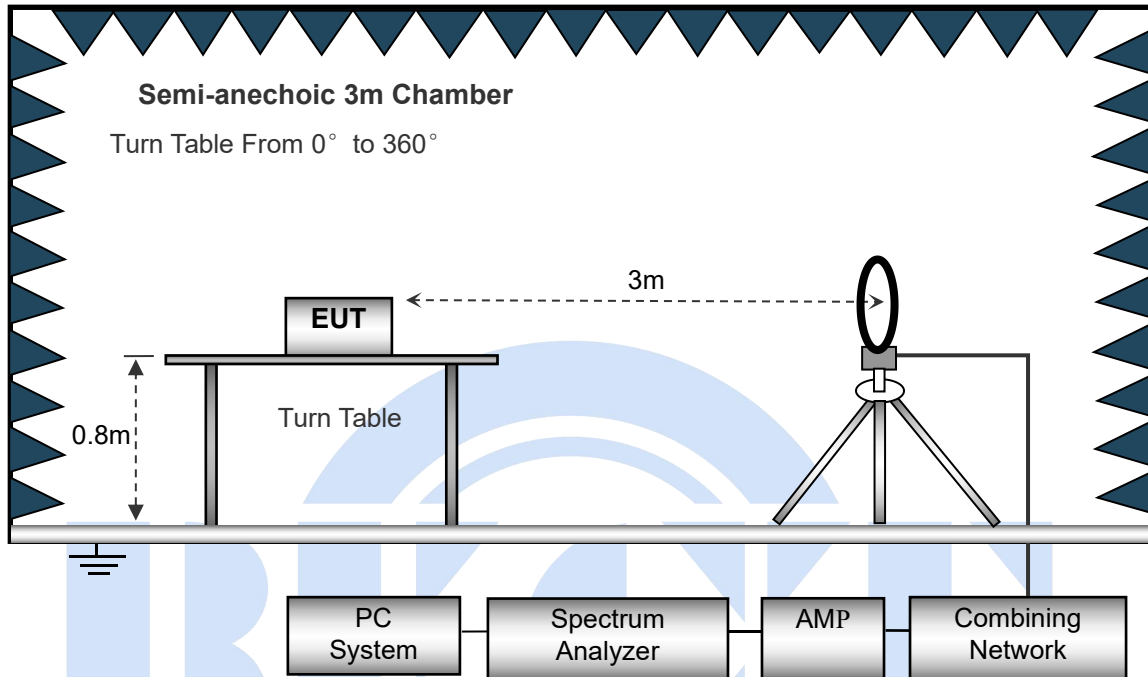
Limit:

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	$20\log(500)$

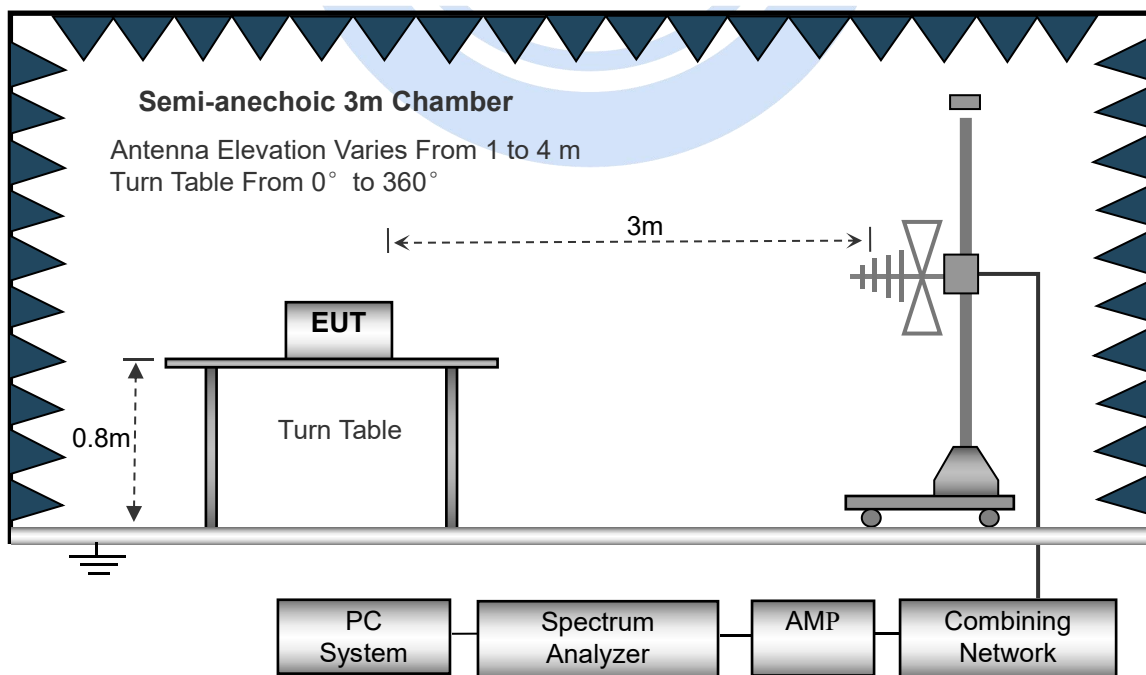
4.2. Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024.

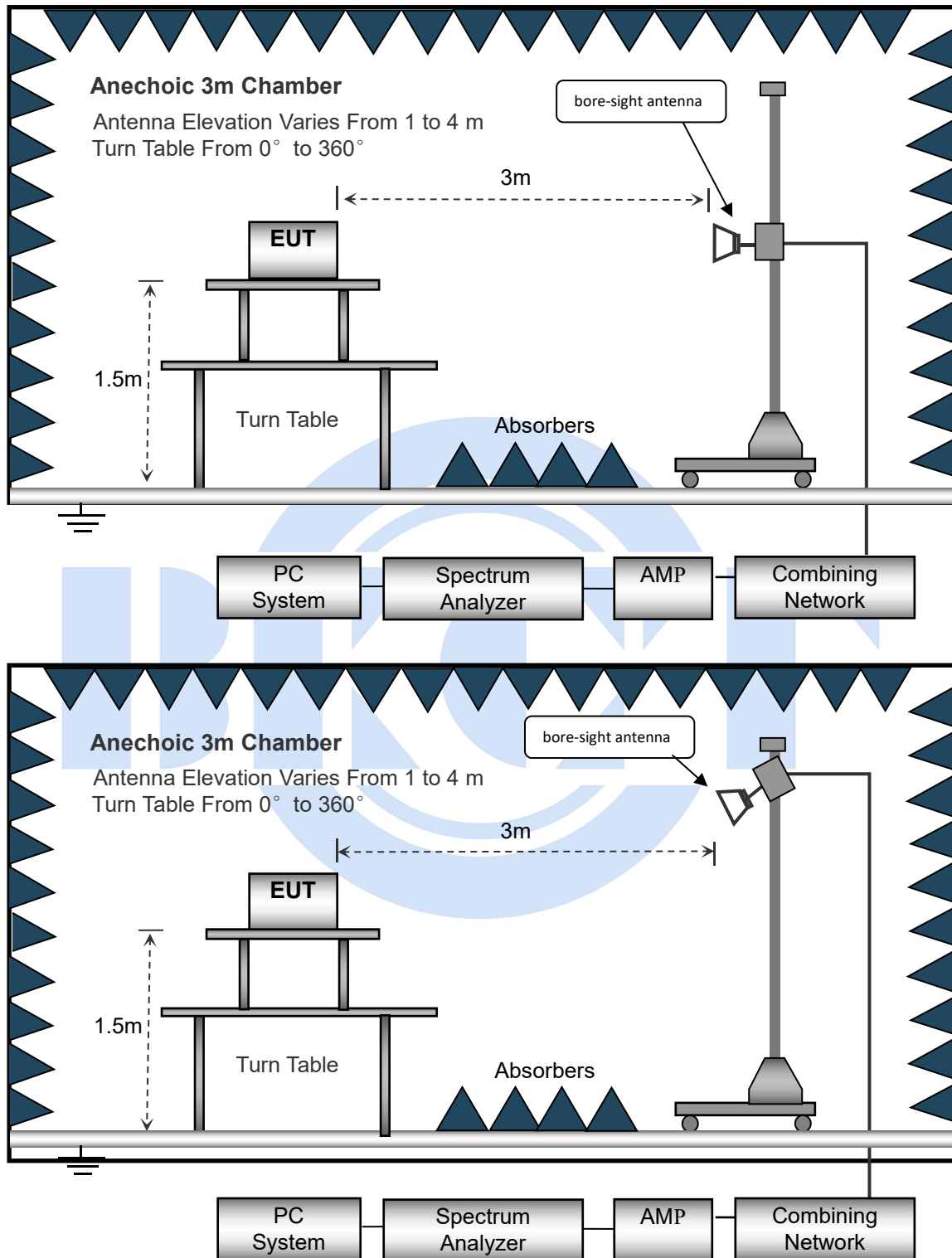
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1 GHz.



4.3. 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.



4.4. Test Result

Measurement data:

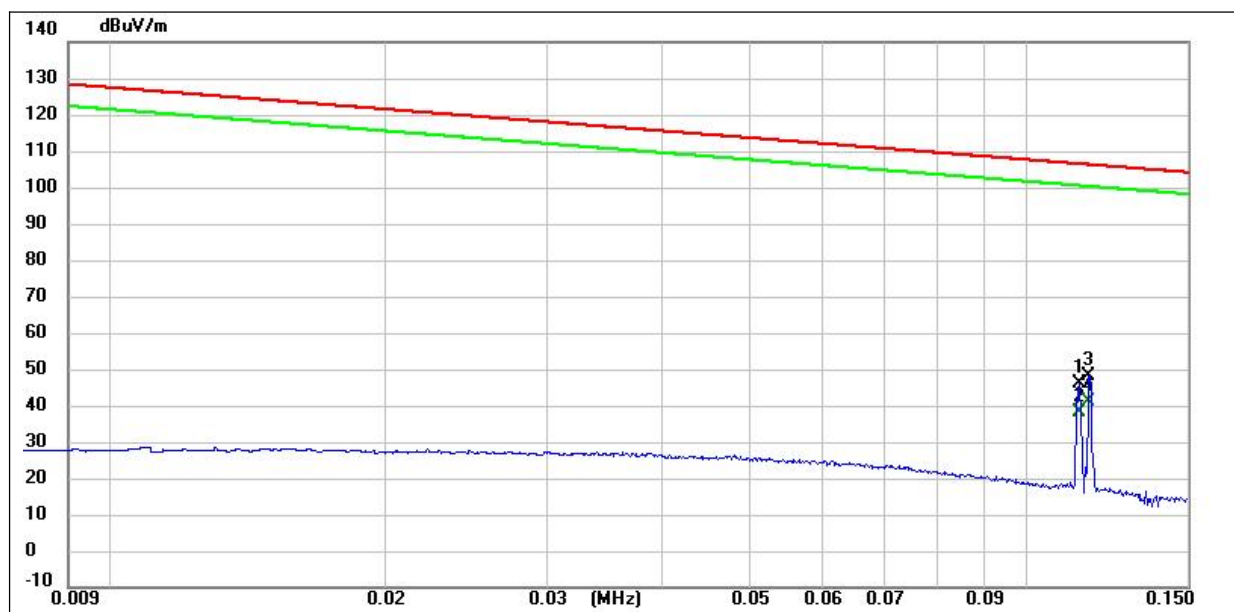
Note: Limit dBuV/m @3m = Limit dBuV/m @300m + 80

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

$\text{dBuV/m} = 20 \log (\mu\text{V/m})$

9 kHz~30 MHz

Temperature:	22°C	Relative Humidity:	45%
Pressure:	100kPa	Mode:	Mode 1
Test Voltage :	AC 120V/60Hz for adapter		



Frequency (kHz)	Reading (dBμV/m)	Factor (dB/m)	Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
0.1145	68.82	-22.75	46.07	106.42	-60.35	peak
0.1145	61.04	-22.75	38.29	106.42	-68.13	AVG
0.1170	70.79	-22.75	48.04	106.24	-58.20	peak
0.1170	63.84	-22.75	41.09	106.24	-65.15	AVG



Frequency (kHz)	Meter Reading (dBμV/m)	Factor (dB/m)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
0.3215	70.91	-22.68	48.23	97.60	-49.37	peak
0.3215	62.87	-22.68	40.19	97.60	-57.41	AVG
1.6720	30.80	-22.70	8.10	63.17	-55.07	peak
4.5080	34.88	-22.13	12.75	69.50	-56.75	peak
6.2690	38.56	-21.79	16.77	69.50	-52.73	peak
11.4631	36.88	-20.96	15.92	69.50	-53.58	peak
20.2987	36.44	-18.79	17.65	69.50	-51.85	peak

Note:

Emission Level= Meter Reading+ Factor.

Margin = Emission Level- Limit.

All the modes have tested and recorded the worst mode (Mode 1) in the report.

Test Frequency : 30MHz ~ 1GHz

Radiation Emission Test Data

Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz by adapter	Test Mode	Mode 1



No.	Frequency (MHz)	Reading Level (dBuV)	Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark			
1	38.2120	27.47	-2.04	25.43	40.00	-14.57	QP			
2	49.7068	40.79	-5.72	35.07	40.00	-4.93	QP			
3	61.9949	34.96	-9.93	25.03	40.00	-14.97	QP			
4	100.5806	30.49	-4.74	25.75	43.50	-17.75	QP			
5	190.4050	39.48	-7.05	32.43	43.50	-11.07	QP			
6	281.9945	39.16	-2.52	36.64	46.00	-9.36	QP			

Radiation Emission Test Data

Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz by adapter	Test Mode	Mode 1



No.	Frequency (MHz)	Reading Level (dBuV)	Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark			
1	39.8542	30.79	-2.03	28.76	40.00	-11.24	QP			
2 *	49.5328	41.15	-5.65	35.50	40.00	-4.50	QP			
3	103.8054	31.66	-4.55	27.11	43.50	-16.39	QP			
4	154.2785	36.41	-3.90	32.51	43.50	-10.99	QP			
5 !	189.0743	44.69	-7.05	37.64	43.50	-5.86	QP			
6	289.0020	38.15	-1.20	36.95	46.00	-9.05	QP			

Remark :

Emission Level= Reading Level+Factor

Margin= Emission Level- Limit

5. -20 dB Bandwidth Measurement

5.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.215

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018; ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024

5.2.Test Setup



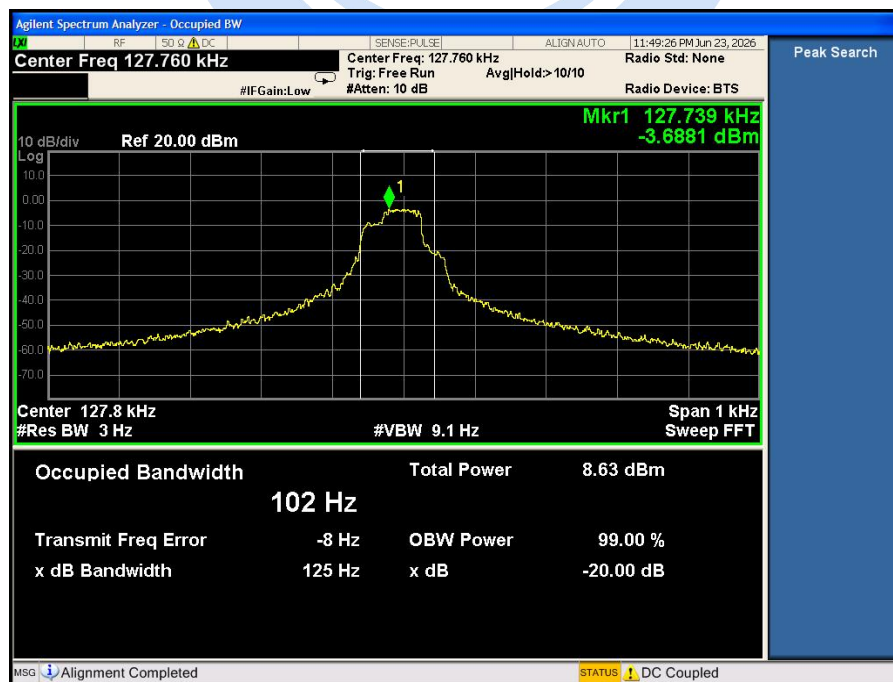
5.3.Test Procedure

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

5.4.Test Result

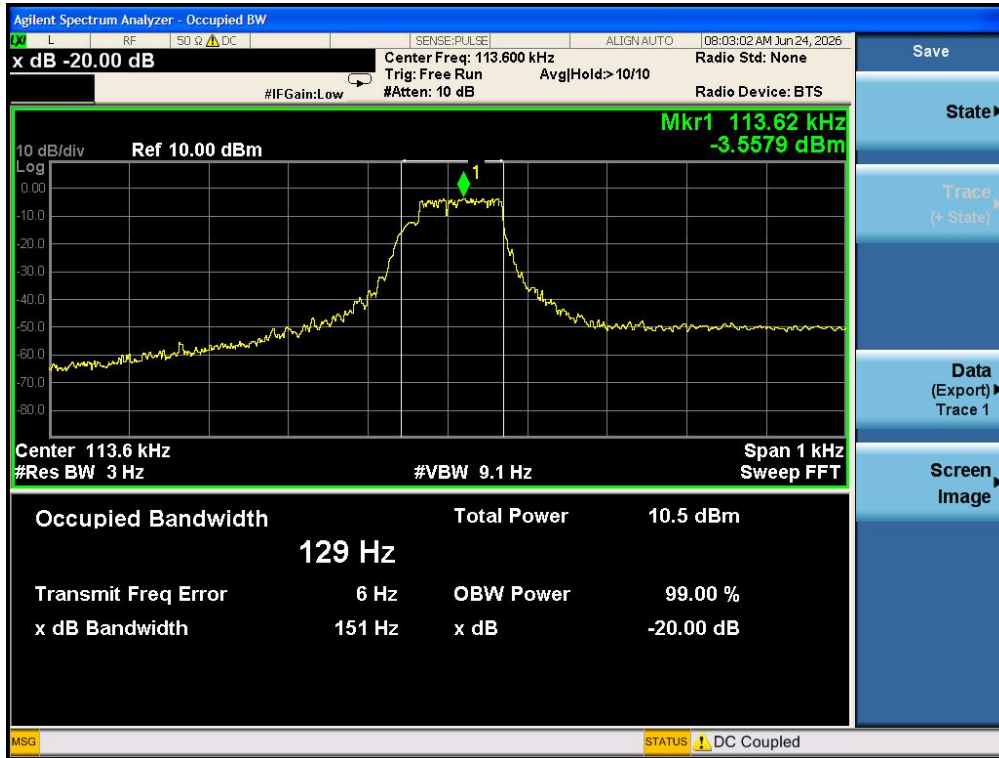
For iPhone:

Mode	Frequency (kHz)	-20dB OBW (Hz)
ASK	127.739	125



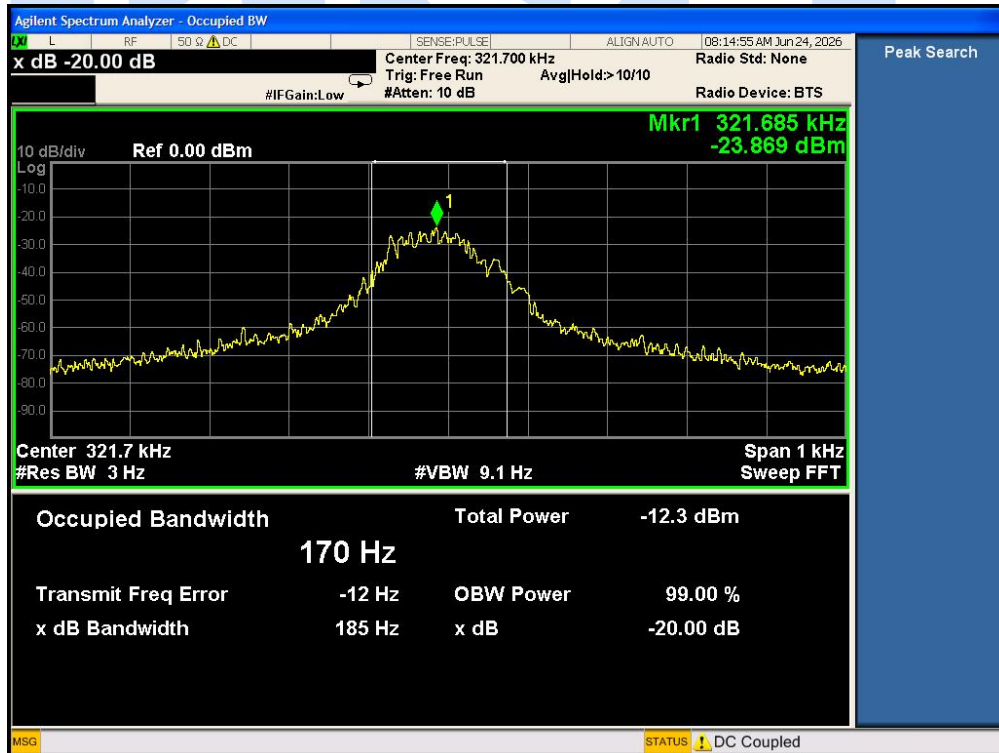
For AirPods::

Mode	Frequency (kHz)	-20dB OBW (Hz)
ASK	113.62	151



For Apple Watch:

Mode	Frequency (kHz)	-20dB OBW (Hz)
ASK	321.685	185



6. 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.



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