

# FCC Test Report

Report No.: AGC00248221101FE02

FCC ID	:	2AXMX-WATCH8		
APPLICATION PURPOSE	:	Original Equipment		
PRODUCT DESIGNATION	:	Smart watch		
BRAND NAME	:	artfone, SimpleExtre		
MODEL NAME	:	Watch 8, Watch 9, Kids Watch 4, Watch 1, Watch 2		
APPLICANT	:	Shenzhen Kuxuntong Technology Co., Ltd.		
DATE OF ISSUE	:	Dec. 14, 2022		
STANDARD(S)	:	FCC Part 15.247		
REPORT VERSION	:	V1.0		
Attestation of Global Compliance (Shenzhen) Co., Ltd				





#### **REPORT REVISE RECORD**

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec. 14, 2022	Valid	Initial Release



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# **1. VERIFICATION OF COMPLIANCE**

Applicant	Shenzhen Kuxuntong Technology Co., Ltd.		
Address	523, Area C, Shennan Garden Podium, Kexing Road, Nanshan District , Shenzhen, China		
Manufacturer	Shenzhen Kuxuntong Technology Co., Ltd.		
Address	523, Area C, Shennan Garden Podium, Kexing Road, Nanshan District , Shenzhen, China		
Factory	Shenzhen Kuxuntong Technology Co., Ltd.		
Address	523, Area C, Shennan Garden Podium, Kexing Road, Nanshan District , Shenzhen, China		
Product Designation	Smart watch		
Brand Name	artfone, SimpleExtre		
Test Model	Watch 8		
Series Model Watch 9, Kids Watch 4, Watch 1, Watch 2			
Declaration of Difference	all the same except for the model name or appearance color		
Date of receipt of test item	Nov. 30, 2022		
Date of test         Nov. 30, 2022 to Dec. 14, 2022			
Deviation	No any deviation from the test method		
Condition of Test Sample	Normal		
Test Result	Pass		
Report Template	AGCRT-US-BLE/RF		

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Prepared By Alan Duan Dec. 14, 2022 (Project Engineer) **Reviewed By** Calvin Liu Dec. 14, 2022 (Reviewer) Approved By Max Zhang Dec. 14, 2022 (Authorized Officer)

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Attestation of Global Compliance(Shenzhen)Co., Ltd

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 E-mail: agc@agccert.com

 Web: http://www.agccert.com/



# 2. GENERAL INFORMATION

# 2.1. PRODUCT DESCRIPTION

The EUT is designed as a "Smart watch". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz	
RF Output Power	-2.082dBm (Max)	
Bluetooth Version	V5.1	
Modulation	BR □GFSK, EDR □π /4-DQPSK, □8DPSK BLE ☑GFSK 1Mbps □GFSK 2Mbps	
Number of channels	40 Channel	
Antenna Designation	PIFA Antenna (Comply with requirements of the FCC part 15.203)	
Antenna Gain	2.40dBi	
Hardware Version	B02-MB-V1.2	
Software Version	00.26.00.23-8321	
Power Supply	DC 3.8V by battery	

# 2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency	
2400~2483.5MHz	0	2402 MHz	
	1	2404 MHz	
	:	:	
	38	2478 MHz	
	39	2480 MHz	



# 2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for FCC ID: 2AXMX-WATCH8 filing to comply with the FCC Part 15.247 requirements.

#### 2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

#### **2.5. SPECIAL ACCESSORIES**

Refer to section 5.2.

# 2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

#### 2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.



# **3. MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement y  $\pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Item	Measurement Uncertainty
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 3.1 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 4.0 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.8 \text{ dB}$
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_{c} = \pm 2.7 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$



# 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX_CH00
2	Middle channel TX_CH19
3	High channel TX_CH39

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.

#### Software Setting

-		
ID		
		_
	]	]



# **5. SYSTEM TEST CONFIGURATION**

# **5.1. CONFIGURATION OF TESTED SYSTEM**

Radiated Emission Configure:

EUT

Conducted Emission Configure:

EUT	AE

# 5.2. EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Smart watch	Watch 8	2AXMX-WATCH8	EUT
2	Charging cable	N/A	0.63m unshielded	AE

# 5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(3)	Peak Output Power	Compliant
15.247 (a)(2)	6 dB Bandwidth	Compliant
15.247 (d)	Conducted Spurious Emission	Compliant
15.247 (e)	Maximum Conducted Output Power Density	Compliant
15.209	Radiated Emission	Compliant
15.207	Conducted Emission	Compliant



# 6. TEST FACILITY

Test software

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd							
Location		1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China						
Designation Number	CN1259	N1259						
FCC Test Firm Registration Number	975832	975832						
A2LA Cert. No.	5054.02	5054.02						
Description	Attestation of G	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA						
TEST EQUIPMENT OF	TEST EQUIPMENT OF CONDUCTED EMISSION TEST							
Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due			
TEST RECEIVER	R&S	ESPI	101206	Mar. 28, 2022	Mar. 27, 2023			
LISN	R&S	ESH2-Z5	100086	Jun. 08, 2022	Jun. 07, 2023			

ES-K1(Ver.V1.71)

N/A

N/A

N/A

# TEST EQUIPMENT OF RADIATED EMISSION TEST

R&S

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Mar. 28, 2022	Mar. 27, 2023
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Aug. 04, 2022	Aug. 03, 2023
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 22, 2022	Mar. 21, 2024
Attenuator	ZHINAN	E-002	N/A	Aug. 04, 2022	Aug. 03, 2024
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Oct. 31, 2021	Oct. 30, 2023
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	Apr. 23, 2021	Apr. 22, 2023
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 02, 2022	Sep. 01, 2024
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08, 2021	Jan. 07, 2023
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A



# 7. PEAK OUTPUT POWER

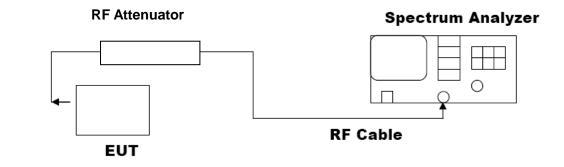
# 7.1. MEASUREMENT PROCEDURE

For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. RBW≥DTS bandwidth
- 3. VBW≥3\*RBW.
- 4. SPAN≥VBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

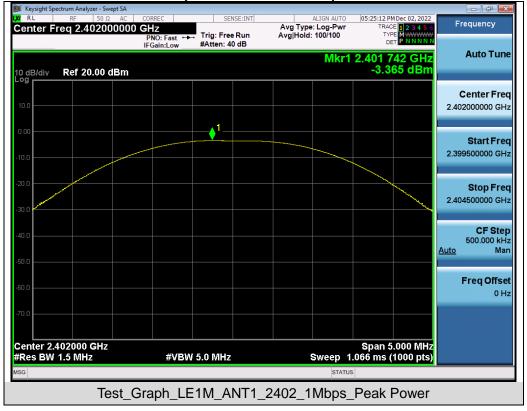
# 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) PEAK POWER TEST SETUP





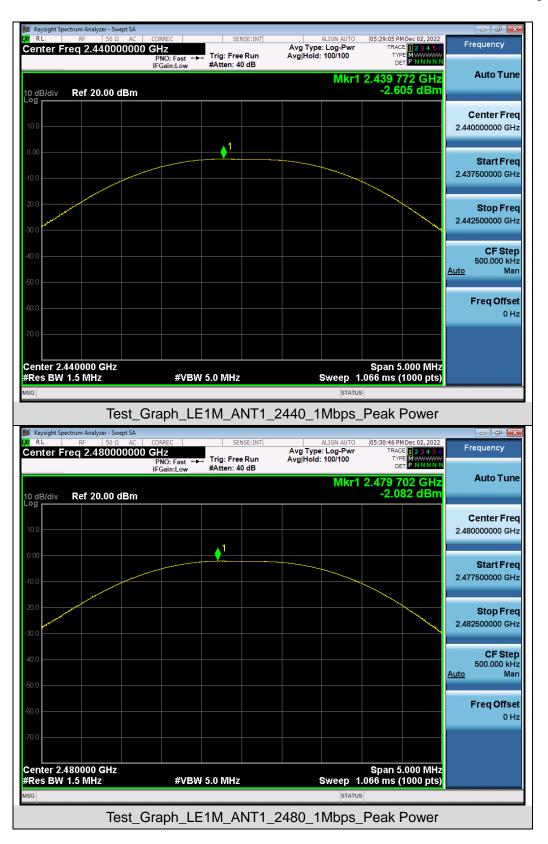
# 7.3. LIMITS AND MEASUREMENT RESULT

Test Data of Conducted Output Power					
Test Mode	Test Channel (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail	
	2402	-3.365	≪30	Pass	
GFSK 1M	2440	-2.605	≪30	Pass	
	2480	-2.082	≤30	Pass	



#### **Test Graphs of Conducted Output Power**







# 8. BANDWIDTH

# **8.1. MEASUREMENT PROCEDURE**

6dB bandwidth:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 kHz, VBW≥3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.

Occupied bandwidth:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hoping channel The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak

4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

# 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

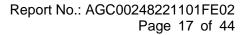
# 8.3. LIMITS AND MEASUREMENT RESULTS

Test Data of Occupied Bandwidth and DTS Bandwidth						
Test Mode	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	-6dB Bandwidth (MHz)	Limits (MHz)	Pass or Fail	
	2402	1.027	0.667	≥0.5	Pass	
GFSK 1M	2440	1.027	0.663	≥0.5	Pass	
	2480	1.026	0.665	≥0.5	Pass	





# **Test Graphs of Occupied Bandwidth**







Test\_Graph\_LE1M\_ANT1\_2480\_1Mbps\_OBW



Test Graphs of DTS Bandwidth







# 9. CONDUCTED SPURIOUS EMISSION

# 9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

# 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

# 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

#### 9.4. LIMITS AND MEASUREMENT RESULT

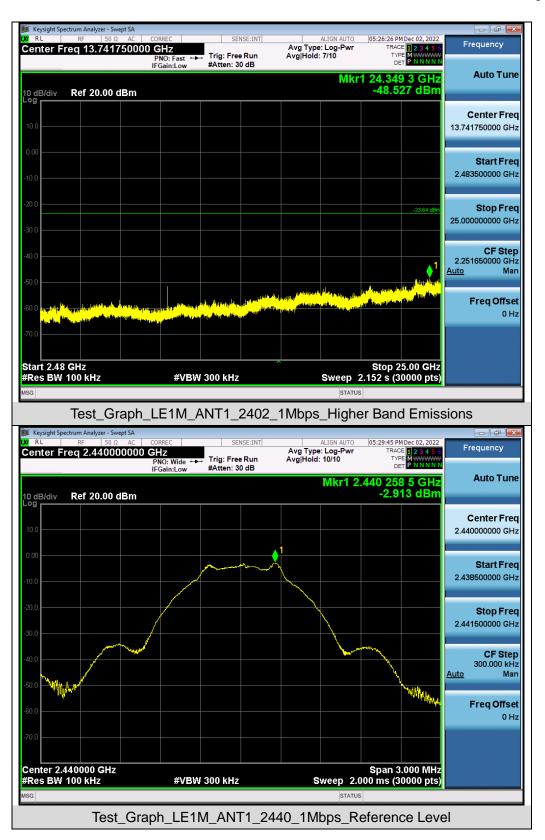
LIMITS AND MEASUREMENT RESULT				
Applieghte Limite	Measurement Result			
Applicable Limits	Test Data	Criteria		
In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.	At least -20dBc than the reference level	PASS		



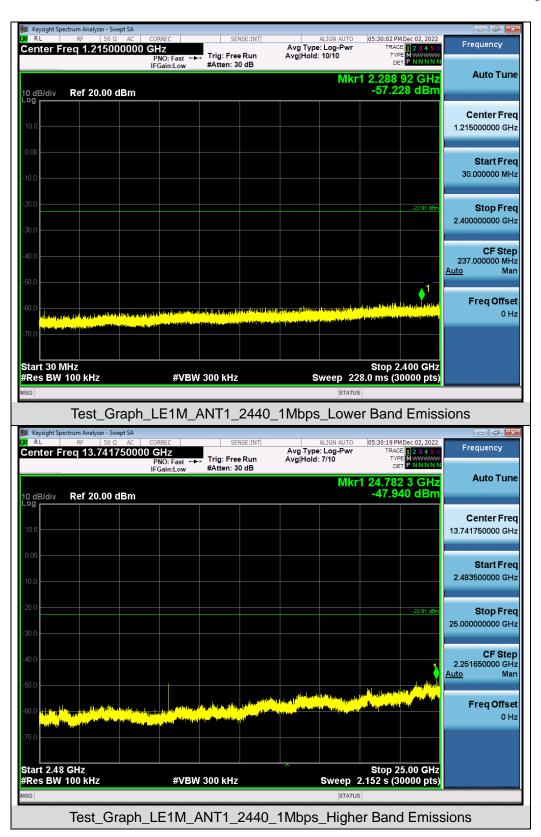


# Test Graphs of Spurious Emissions in Non-Restricted Frequency Bands





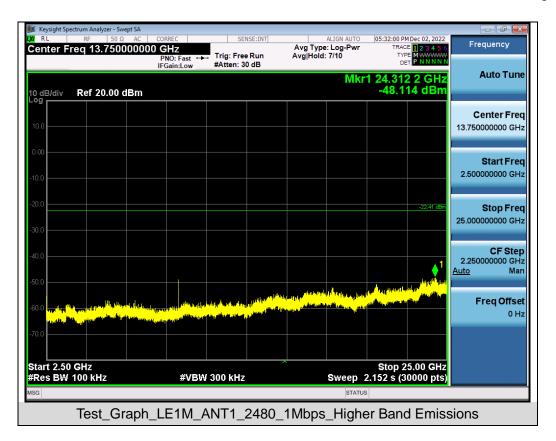




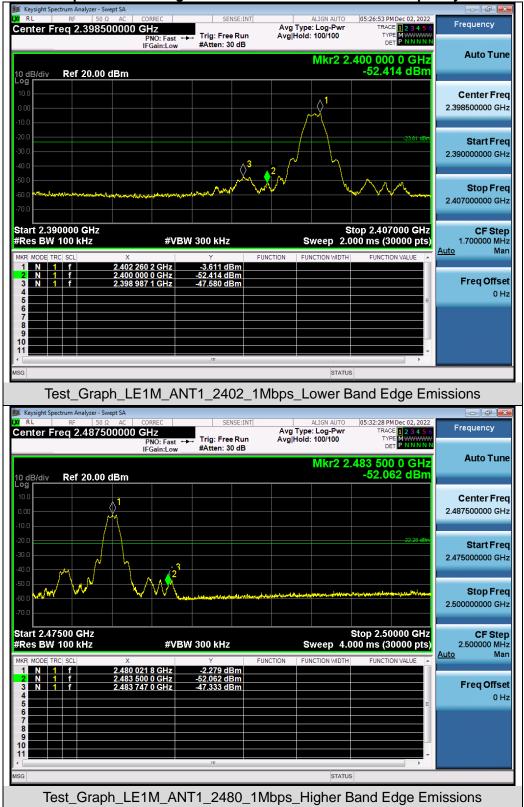












# Test Graphs of Band Edge Emissions in Non-Restricted Frequency Bands



# **10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY**

# **10.1. MEASUREMENT PROCEDURE**

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set the SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 8.4 was used in this testing.

# **10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)**

Refer to Section 7.2.

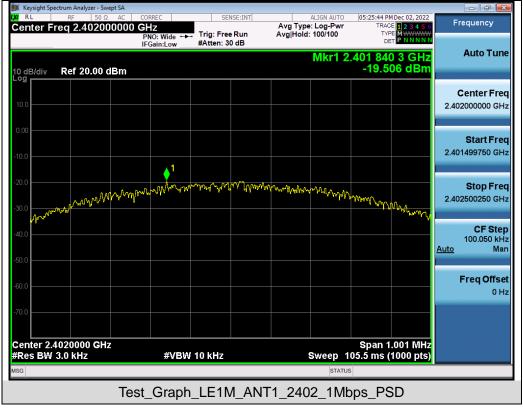
# **10.3. MEASUREMENT EQUIPMENT USED**

Refer to Section 6.

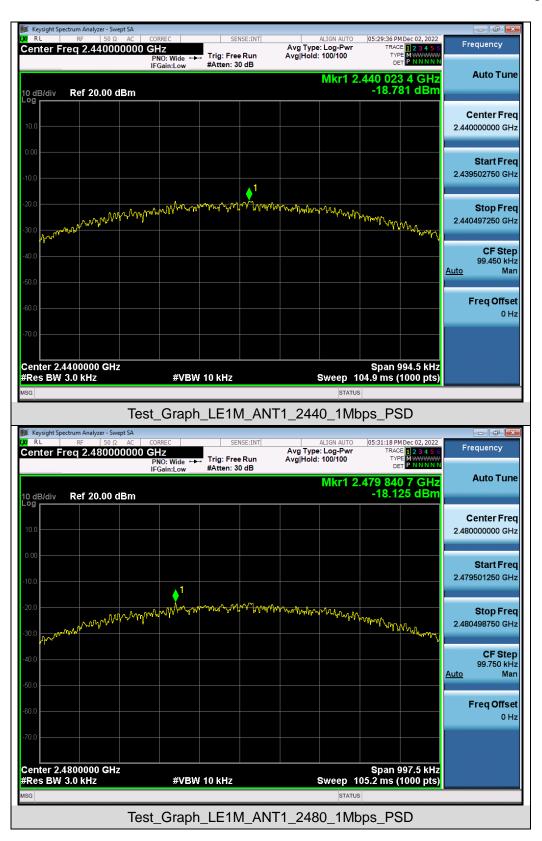
# **10.4. LIMITS AND MEASUREMENT RESULT**

Test Data of Conducted Output Power Spectral Density					
Test Mode	Test Channel (MHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail	
	2402	-19.506	<b>≤8</b>	Pass	
GFSK 1M	2440	-18.781	≪8	Pass	
	2480	-18.125	≪8	Pass	

# Test Graphs of Conducted Output Power Spectral Density









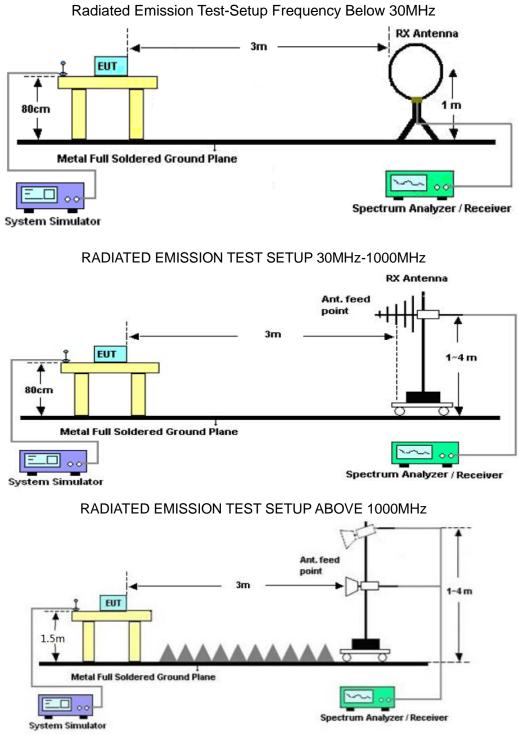
# **11. RADIATED EMISSION**

# **11.1. MEASUREMENT PROCEDURE**

- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.



# 11.2. TEST SETUP





# **11.3. LIMITS AND MEASUREMENT RESULT**

15.209 Limit in the below table has to be followed

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

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

# 11.4. TEST RESULT

# Radiated emission below 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.



EUT		Smar	t watch			Model N	Name	V	Vatch 8	
Temperature		25° (	25° C			Relative	e Humidit	<b>y</b> 5	55.4%	
Pressure		960hl	Pa			Test Voltage		Ν	Iormal Volt	age
Test Mode		Mode	93			Antenn	a	F	lorizontal	
72.0	dBu∀/m								_imit: —	1
									Margin: —	
									[	
									-	-
32						2	а Ж	1 5 M	, Å	h
				1		Uning the Road	the man	a la the start of the	human	
~	rnyt oantelstramantennet	White where the second	Winner Marine	Martine -	in the state of the second					-
										-
										1
-8 30.0	00 40 5	0 60	70 80		(MHz)	300	) 400	500 600	0 700 1000	_ .000
	No. Mk.	Fre		ading evel	Correct Factor	Measure- ment	Limit	Over		
		MH	z di	BuV	dB	dBuV/m	dB/m	dB	Detector	
	1 1	120.699	91 5	.42	21.74	27.16	43.50	-16.34	4 peak	
	2 2	282.985	52 6	6.43	23.99	30.42	46.00	-15.58	3 peak	
	3 4	120.580	03 5	64	26.78	32.42	46.00	-13.58	3 peak	
	4 (	533.832	21 6	6.42	25.55	31.97	46.00	-14.03	3 peak	

# Radiated emission from 30MHz to 1000MHz

#### **RESULT: PASS**

5

6 \* 616.3718

884.5029

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27.00

31.96

32.87

37.56

46.00

46.00

-13.13

-8.44

peak

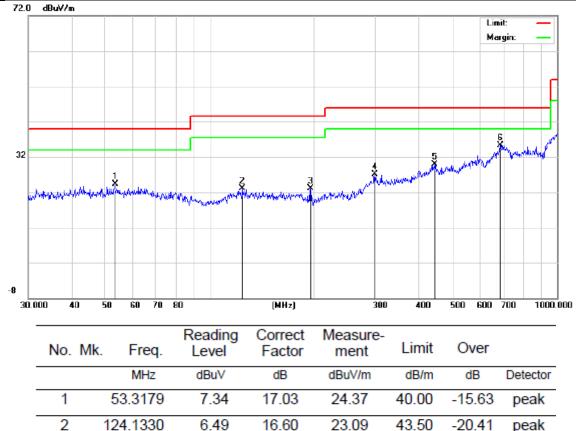
peak

5.87

5.60



EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical



15.29

20.68

23.95

28.27

23.20

27.12

29.86

35.39

43.50

46.00

46.00

46.00

-20.30

-18.88

-16.14

-10.61

peak

peak

peak

peak

# RESULT: PASS Note:

3

4

5

6 \*

1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

195.1365

298.2681

443.2943

684.7454

2. All test modes had been tested. The mode 3 is the worst case and recorded in the report.

7.91

6.44

5.91

7.12



#### Radiated emission above 1GHz

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

dBµV) (dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
13.35 0.08	43.43	74	-30.57	peak
35.44 0.08	35.52	54	-18.48	AVG
38.61 2.21	40.82	74	-33.18	peak
31.72 2.21	33.93	54	-20.07	AVG
	3.35         0.08           35.44         0.08           38.61         2.21	3.35         0.08         43.43           35.44         0.08         35.52           88.61         2.21         40.82	3.35         0.08         43.43         74           35.44         0.08         35.52         54           38.61         2.21         40.82         74	3.35         0.08         43.43         74         -30.57           35.44         0.08         35.52         54         -18.48           38.61         2.21         40.82         74         -33.18

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
44.49	0.08	44.57	74	-29.43	peak
34.76	0.08	34.84	54	-19.16	AVG
38.66	2.21	40.87	74	-33.13	peak
30.39	2.21	32.6	54	-21.4	AVG
	44.49 34.76 38.66	44.49         0.08           34.76         0.08           38.66         2.21	44.49         0.08         44.57           34.76         0.08         34.84           38.66         2.21         40.87	44.49         0.08         44.57         74           34.76         0.08         34.84         54           38.66         2.21         40.87         74	44.49         0.08         44.57         74         -29.43           34.76         0.08         34.84         54         -19.16           38.66         2.21         40.87         74         -33.13



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EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

(dB) Value Type
00.1.1 nook
-29.14 peak
-18.03 AVG
-31.98 peak
-20.22 AVG
_

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
45.39	0.14	45.53	74	-28.47	peak
38.42	0.14	38.56	54	-15.44	AVG
40.66	2.36	43.02	74	-30.98	peak
32.71	2.36	35.07	54	-18.93	AVG
	(dBµV) 45.39 38.42 40.66	(dBµV)         (dB)           45.39         0.14           38.42         0.14           40.66         2.36	(dBµV)         (dB)         (dBµV/m)           45.39         0.14         45.53           38.42         0.14         38.56           40.66         2.36         43.02	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)           45.39         0.14         45.53         74           38.42         0.14         38.56         54           40.66         2.36         43.02         74	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)         (dB)           45.39         0.14         45.53         74         -28.47           38.42         0.14         38.56         54         -15.44           40.66         2.36         43.02         74         -30.98



#### Report No.: AGC00248221101FE02 Page 35 of 44

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
4960.000	44.73	0.22	44.95	74	-29.05	peak
4960.000	35.69	0.22	35.91	54	-18.09	AVG
7440.000	38.21	2.64	40.85	74	-33.15	peak
7440.000	29.76	2.64	32.4	54	-21.6	AVG
Remark:						
actor = Anter	nna Factor + Cable	e Loss – Pre-	amplifier.			

EUT Smart watch Model Name

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
42.68	0.22	42.9	74	-31.1	peak
34.67	0.22	34.89	54	-19.11	AVG
38.32	2.64	40.96	74	-33.04	peak
29.11	2.64	31.75	54	-22.25	AVG
	42.68 34.67 38.32 29.11	42.68         0.22           34.67         0.22           38.32         2.64           29.11         2.64	42.68         0.22         42.9           34.67         0.22         34.89           38.32         2.64         40.96	42.68         0.22         42.9         74           34.67         0.22         34.89         54           38.32         2.64         40.96         74           29.11         2.64         31.75         54	42.68         0.22         42.9         74         -31.1           34.67         0.22         34.89         54         -19.11           38.32         2.64         40.96         74         -33.04           29.11         2.64         31.75         54         -22.25

#### **RESULT: PASS**

#### Note:

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

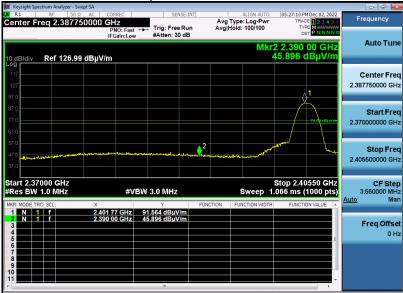
The "Factor" value can be calculated automatically by software of measurement system.



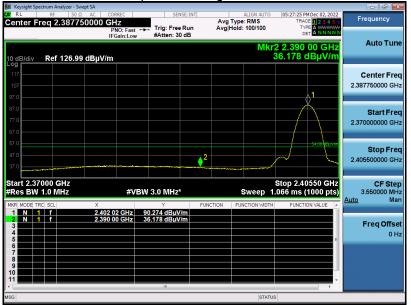
EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

# Test result for band edge emission at restricted bands

Test Graph for Peak Measurement



Test Graph for Average Measurement



# **RESULT: PASS**

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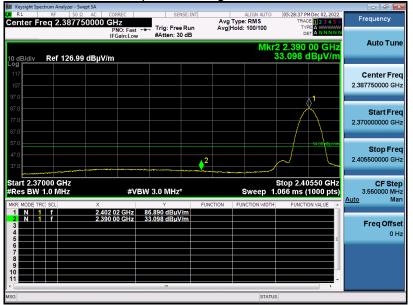
#### Report No.: AGC00248221101FE02 Page 37 of 44

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement



#### **RESULT: PASS**

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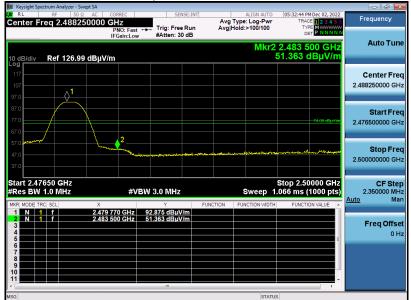
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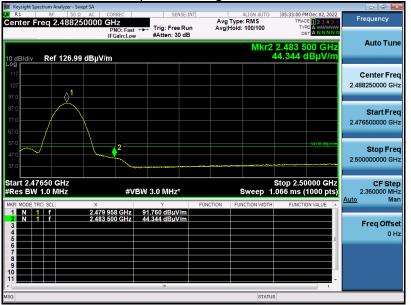
#### Report No.: AGC00248221101FE02 Page 38 of 44

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Test Graph for Peak Measurement



Test Graph for Average Measurement



#### **RESULT: PASS**

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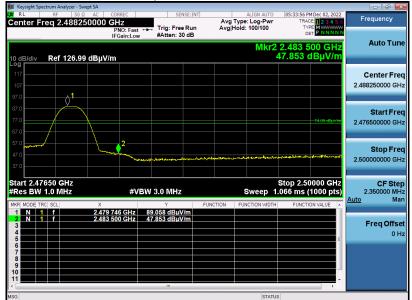
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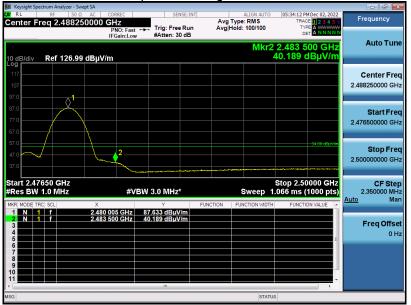
#### Report No.: AGC00248221101FE02 Page 39 of 44

EUT	Smart watch	Model Name	Watch 8
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement



# **RESULT: PASS**

Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.



# **12. LINE CONDUCTED EMISSION TEST**

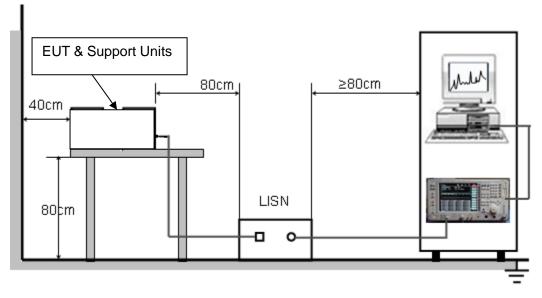
# **12.1. LIMITS OF LINE CONDUCTED EMISSION TEST**

Frequency	Maximum RF Line Voltage				
Frequency	Q.P.( dBuV)	Average( dBuV)			
150kHz~500kHz	66-56	56-46			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

Note:

- 1. The lower limit shall apply at the transition frequency.
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

# 12.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST





# 12.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipment received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

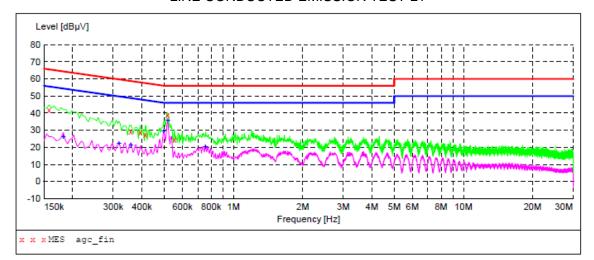
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

# 12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less – 2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.



12.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST LINE CONDUCTED EMISSION TEST-L1



#### MEASUREMENT RESULT: "agc\_fin"

2022/12/2 9:21 Frequency Level Transd Limit Margin Detector Line MHz dBµV dB dBuV dB 0.158000 42.00 6.8 66 23.6 QP г1 29.4 0.358000 29.40 5.8 59 QP ь1 28.60 29.4 0.394000 5.7 58 QP ь1 0.414000 27.50 5.6 58 30.1 QP ь1 0.518000 38.80 5.4 56 17.2 QP ь1 0.554000 24.30 5.4 56 31.7 ь1 QP

#### MEASUREMENT RESULT: "agc fin2"

2022/12/2 9:21 Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line
0.182000 0.318000 0.358000 0.498000 0.518000 0.754000	26.50 22.40 21.70 29.70 35.80 20.50	6.7 6.0 5.8 5.4 5.4 5.4	54 50 49 46 46	27.9 27.4 27.1 16.3 10.2 25.5	AV AV AV AV	L1 L1 L1 L1 L1 L1

#### **RESULT: PASS**

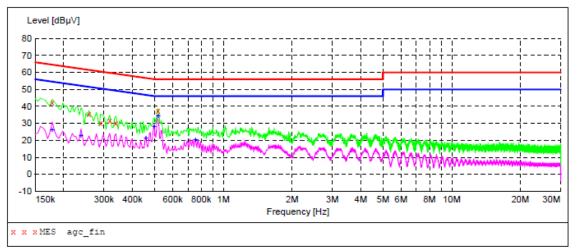
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# LINE CONDUCTED EMISSION TEST-N



#### MEASUREMENT RESULT: "agc fin"

2022/12/2 9:16 Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line
0.178000	42.20	6.7	65	22.4	QP	N
0.258000	35.60	6.2	62	25.9	QP	Ν
0.290000	30.10	6.1	61	30.4	QP	N
0.318000	31.80	6.0	60	28.0	QP	N
0.338000	30.40	5.9	59	28.9	QP	N
0.518000	37.30	5.4	56	18.7	QP	N

#### MEASUREMENT RESULT: "agc fin2"

2022/12/2 9:	16					
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.178000	26.50 23.00	6.7 6.3	55 52	28.1 29.2		N N
0.458000	21.40	5.5	47	25.3	AV	Ν
0.498000	28.50	5.4	46	17.5	AV	Ν
0.518000	34.40	5.4	46	11.6	AV	Ν
0.754000	20.40	5.4	46	25.6	AV	Ν

#### **RESULT: PASS**

Note: All the test modes had been tested, the Mode 3 was the worst case. Only the data of the worst case would be record in this test report.

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# APPENDIX A: PHOTOGRAPHS OF TEST SETUP Refer to the Report No.: AGC00248221101AP01 APPENDIX B: PHOTOGRAPHS OF EUT Refer to the Report No.: AGC00248221101AP02 ----END OF REPORT----



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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

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8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.