

FCC Test Report

Report No.: AGC10232220302FE04

FCC ID	:	2AEAN-RCPII
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	RODECASTER PRO II (Integrated Audio Production Studio)
BRAND NAME	:	RØDE
MODEL NAME	:	RODECASTER PRO II
APPLICANT	:	Rode Microphones
DATE OF ISSUE	:	May 07, 2022
STANDARD(S)	:	FCC Part 15.247
REPORT VERSION	:	V1.0
<u>Attestation of (</u>	<u>Glo</u>	boal Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May 07, 2022	Valid	Initial Release



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1. VERIFICATION OF COMPLIANCE

Applicant	Rode Microphones	
Address	107 Carnarvon Street, Silverwater, 2128, Australia	
Manufacturer	Rode Microphones	
Address	107 Carnarvon Street, Silverwater, 2128, Australia	
Factory	Rode Microphones	
Address	107 Carnarvon Street, Silverwater, 2128, Australia	
Product Designation	RODECASTER PRO II (Integrated Audio Production Studio)	
Brand Name	RØDE	
Test Model	RODECASTER PRO II	
Date of test	Apr, 13, 2022 to May 06, 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

der zhan

Eder Zhan (Project Engineer)

May 06, 2022

Reviewed By

Calvin Liu (Reviewer)

May 07, 2022

Approved By

Max Zhang (Authorized Officer)

May 07, 2022

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as a "RODECASTER PRO II (Integrated Audio Production Studio)". 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	0.660dBm (Max)	
Modulation	GFSK	
Number of channels	40 Channels	
Antenna Designation	PCB Antenna (Comply with requirements of the FCC part 15.203)	
Antenna Gain	-1.56dBi	
Hardware Version	V1.0	
Software Version	V1.0	
Power Supply	DC 15V by adapter	

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: 2AEAN-RCPII 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	$U_c = \pm 2 \%$
Uncertainty of Occupied Channel Bandwidth	U _c = ±2 %



4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX
2	Middle channel TX
3	High channel TX

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

P 192.168.30.114 - PuTTY	
Transmit power = 0dBm	×
root@rodecaster-pro-mini:~# rc rode rf compliance -m 80 80 0 -3	
Invalid transmit power value -3	
root@rodecaster-pro-mini:~# rc_rode_rf_compliance -m 80 80 0 -5	
Invalid transmit power value -5	
root@rodecaster-pro-mini:~# rc_rode_rf_compliance -m 80 80 0 -4	
Starting Continuous Wave Modulated Test:	
First frequency = 2480MHz	
Second frequency = 2480 MHz	
Antenna ID = 0	
Transmit power = -4 dBm	
root@rodecaster-pro-mini:~# rc_rode_rf_compliance -m 02 02 0 -4	
Starting Continuous Wave Modulated Test:	
First frequency = 2402MHz	
Second frequency = 2402 MHz	
Antenna ID = 0	
Transmit power = $-4dBm$	
root@rodecaster-pro-mini:~# rc_rode_rf_compliance -m 40 40 0 -4	
Starting Continuous Wave Modulated Test:	
First frequency = 2440MHz	
Second frequency = 2440 MHz	
Antenna ID = 0	=
Transmit power = $-4dBm$	
root@rodecaster-pro-mini:~#	-



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	RODECASTER PRO II (Integrated Audio Production Studio)	RODECASTER PRO II	2AEAN-RCPII	EUT
2	Adapter	YDS-PD030	AC 100-240V 1.5A 50/60Hz; DC 5V3A/9V3A/12V2.5A/15V2A/20V1.5A	AE
3	Earphone	AM116		AE
4	Subwoofer	SPA36		AE
5	MIC	OK-01		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 Site	Attestation of C	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							
FCC Test Firm Registration Number	975832							
A2LA Cert. No.	5054.02	5054.02						
Description	Attestation of C	Global Compliance (S	Shenzhen) Co., L	td is accredited b	by A2LA			
TEST EQUIPMENT OF	CONDUCTED E	MISSION TEST						
Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due			
TEST RECEIVER	R&S	R&S ESPI 101206 May 15, 2021 Ma						
LISN	R&S	ESH2-Z5	100086	Jun. 09, 2021	Jun. 08, 2022			
Test software	R&S	ES-K1(Ver.V1.71)	N/A	N/A	N/A			

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due		
TEST RECEIVER	R&S	ESCI	10096	May 15, 2021	May 14, 2022		
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Nov. 17, 2021	Nov. 16, 2022		
Power sensor	Aglient	U2021XA	MY54110007	Jun. 08, 2021	Jun. 07, 2022		
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 22, 2022	Mar. 21, 2024		
Attenuator	ZHINAN	E-002	N/A	Sep. 03, 2020	Sep. 02, 2022		
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Oct. 31, 2021	Oct. 30, 2023		
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022		
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	Apr. 23, 2021	Apr. 22, 2023		
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022		
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08, 2020	Jan. 07, 2023		
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A		



7. PEAK OUTPUT POWER

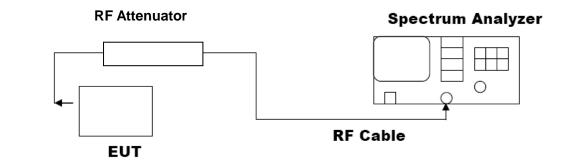
7.1. MEASUREMENT PROCEDURE

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





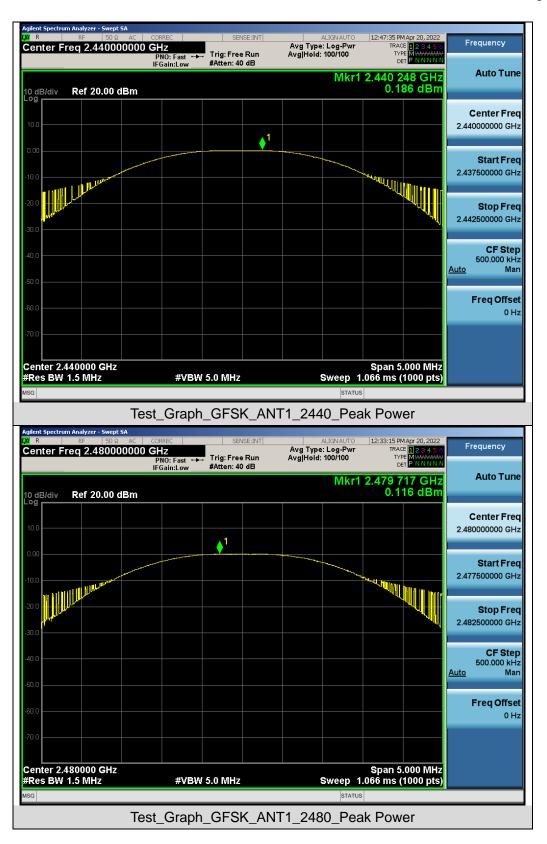
7.3. LIMITS AND MEASUREMENT RESULT

Test Data of Conducted Output Power						
Test Mode	Test Channel (MHz)	Limits (dBm)	Pass or Fail			
	2402	0.660	≪30	Pass		
GFSK	2440	0.186	≪30	Pass		
	2480	0.116	≤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.

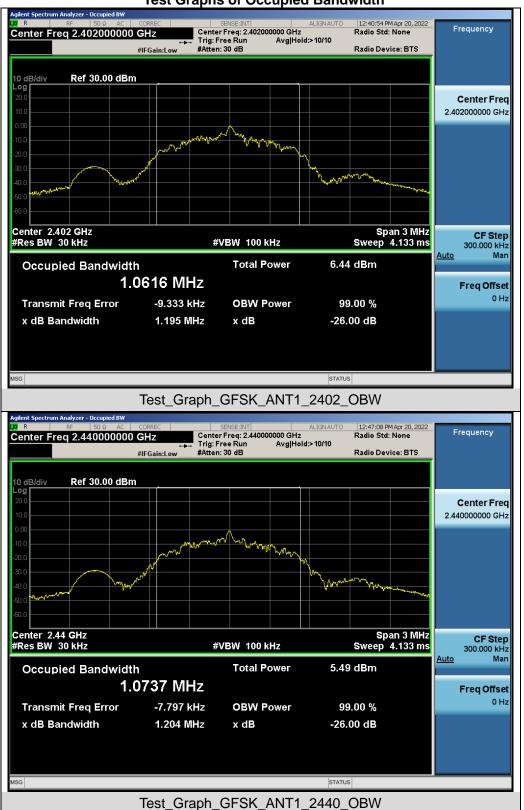
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

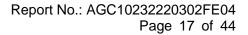
8.3. LIMITS AND MEASUREMENT RESULTS

Test Data of Occupied Bandwidth and DTS Bandwidth							
Test Mode	Test Channel (MHz)99% Occupied Bandwidth (MHz)-6dB Bandwidth (MHz)				Pass or Fail		
	2402	1.062	0.663	≥0.5	Pass		
GFSK	2440	1.074	0.676	≥0.5	Pass		
	2480	1.090	0.675	≥0.5	Pass		





Test Graphs of Occupied Bandwidth

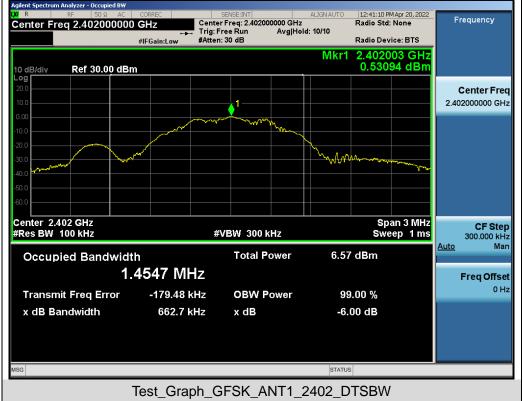






Test_Graph_GFSK_ANT1_2480_OBW











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.

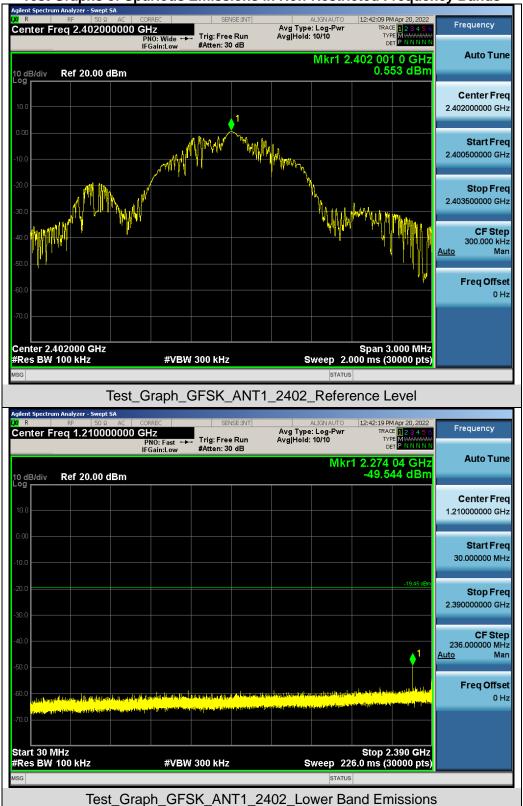
9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

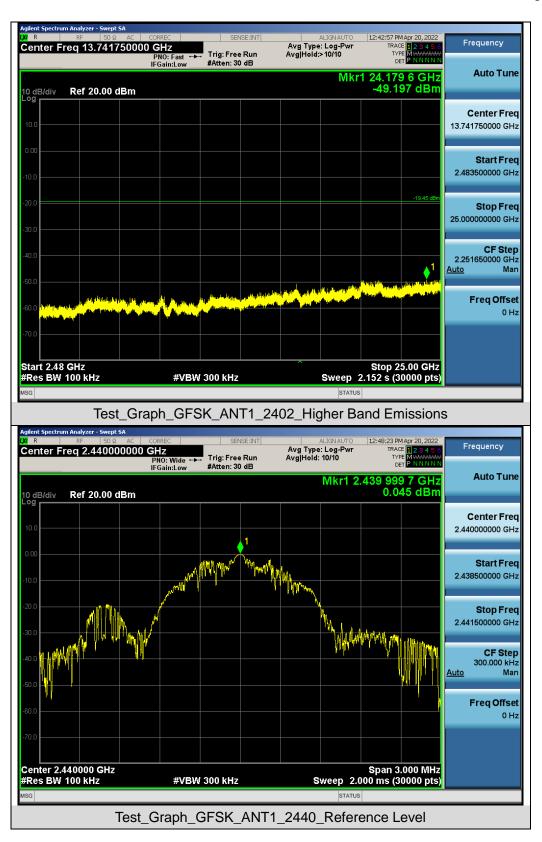
LIMITS AND MEASUREMENT RESULT						
Angliaghta Limita	Measurement Result					
Applicable Limits	Test Data	Criteria				
In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator 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				

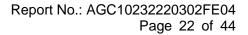




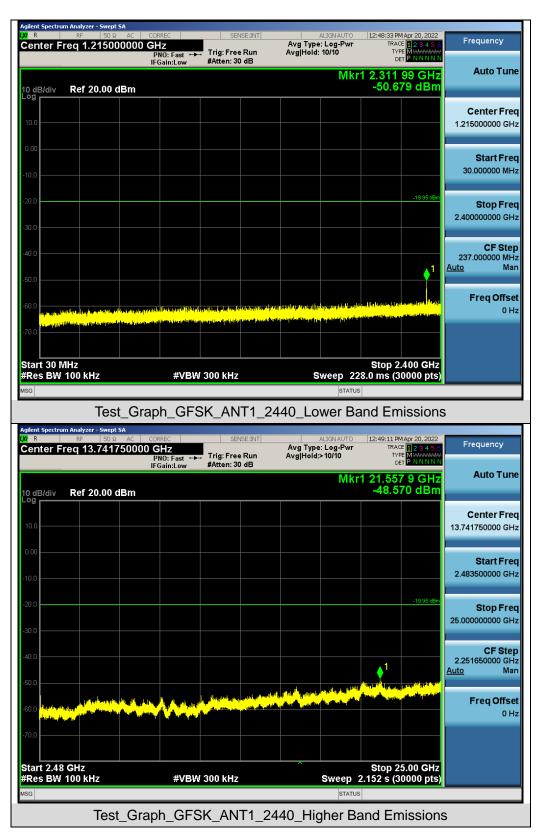
Test Graphs of Spurious Emissions in Non-Restricted Frequency Bands



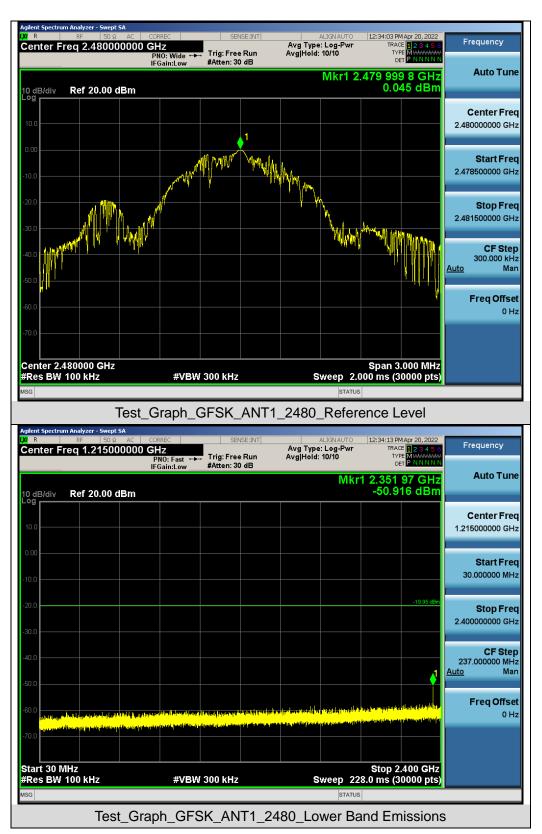




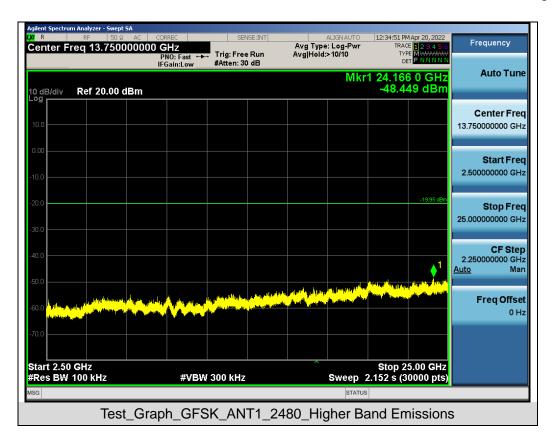




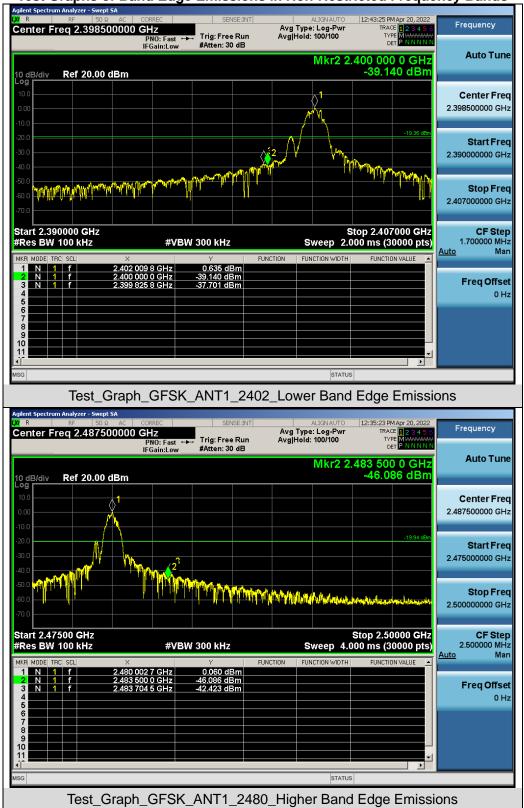












Test Graphs of Band Edge Emissions in Non-Restricted Frequency Bands



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.

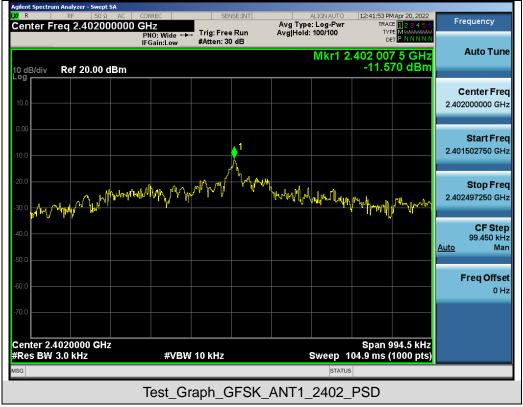
10.3. MEASUREMENT EQUIPMENT USED

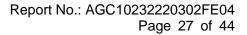
Refer to Section 6.

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	-11.570	≤8	Pass			
GFSK	2440	-13.467	≪8	Pass			
	2480	-13.685	≪8	Pass			

Test Graphs of Conducted Output Power Spectral Density











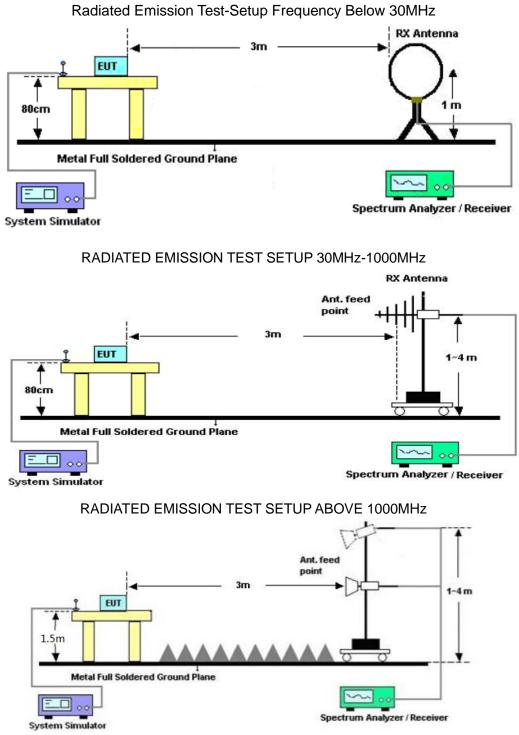
11. RADIATED EMISSION

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

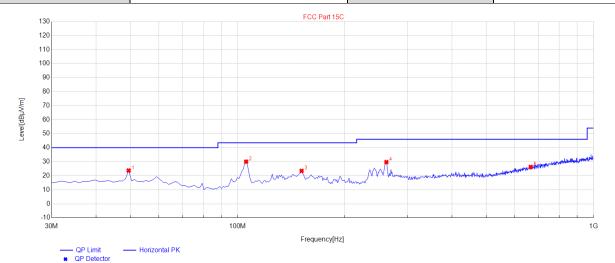
Radiated emission below 30MHz

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	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II				
Temperature	25° C	Relative Humidity	55.4%				
Pressure	960hPa	Test Voltage	Normal Voltage				
Test Mode	Mode 1	Antenna	Horizontal				

Radiated emission from 30MHz to 1000MHz

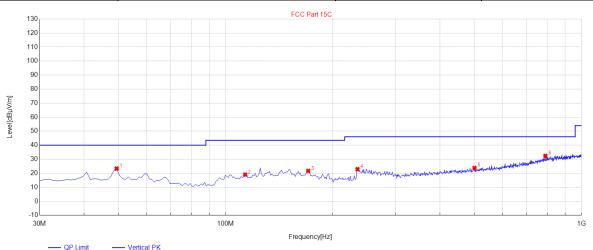


NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.4	23.72	11.61	40.00	16.28	150	130	Horizontal
2	105.66	30.07	11.40	43.50	13.43	150	300	Horizontal
3	151.25	23.48	14.89	43.50	20.02	150	60	Horizontal
4	261.83	29.73	14.71	46.00	16.27	150	340	Horizontal
5	666.32	26.28	21.93	46.00	19.72	150	150	Horizontal

RESULT: PASS



EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.4	23.30	11.61	40.00	16.70	150	180	Vertical
2	113.42	19.02	12.79	43.50	24.48	150	310	Vertical
3	170.65	21.69	13.89	43.50	21.81	150	120	Vertical
4	234.67	22.90	13.52	46.00	23.10	150	80	Vertical
5	500.45	23.79	18.89	46.00	22.21	150	60	Vertical
6	791.45	32.40	26.22	46.00	13.60	150	270	Vertical

RESULT: PASS Note:

* QP Detector

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

2. All test modes had been tested. The mode 1 is the worst case and recorded in the report.



Radiated emission above 1GHz

EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
4804.000	46.23	0.08	46.31	74	-27.69	peak		
4804.000	35.48	0.08	35.56	54	-18.44	AVG		
7206.000	41.55	2.21	43.76	74	-30.24	peak		
7206.000	32.46	2.21	34.67	54	-19.33	AVG		
Remark:	•					•		
Eactor = Anter	na Factor + Cabl	e Loss – Pre-a	molifier					

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

EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
4804.000	46.29	0.08	46.37	74	-27.63	peak
4804.000	35.28	0.08	35.36	54	-18.64	AVG
7206.000	40.15	2.21	42.36	74	-31.64	peak
7206.000	30.46	2.21	32.67	54	-21.33	AVG
emark:						



EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	45.91	0.14	46.05	74	-27.95	peak
4880.000	36.24	0.14	36.38	54	-17.62	AVG
7320.000	39.42	2.36	41.78	74	-32.22	peak
7320.000	31.46	2.36	33.82	54	-20.18	AVG
Remark:						
actor = Anter	nna Factor + Cabl	e Loss – Pre-	amplifier.			

EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
4880.000	46.15	0.14	46.29	74	-27.71	peak		
4880.000	37.64	0.14	37.78	54	-16.22	AVG		
7320.000	40.15	2.36	42.51	74	-31.49	peak		
7320.000	31.56	2.36	33.92	54	-20.08	AVG		
Remark:	1		1	1	1	1		
Factor = Anter	nna Factor + Cabl	e Loss – Pre-a	amplifier.					



EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
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)	value Type	
4960.000	46.89	0.22	47.11	74	-26.89	peak	
4960.000	36.57	0.22	36.79	54	-17.21	AVG	
7440.000	41.05	2.64	43.69	74	-30.31	peak	
7440.000	30.46	2.64	33.1	54	-20.9	AVG	
Remark:					•		
Contor - Antor	na Eactor + Cabl	alaan Dra	omplifier				

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

EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type		
4960.000	46.38	0.22	46.6	74	-27.4	peak		
4960.000	36.57	0.22	36.79	54	-17.21	AVG		
7440.000	41.08	2.64	43.72	74	-30.28	peak		
7440.000	32.15	2.64	34.79	54	-19.21	AVG		
Remark:			1		1	1		
Factor = Anten	ina Factor + Cabl	e Loss – Pre-a	mplifier.					

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.

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Test result for band edge emission at restricted bands

EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Test Graph for Peak Measurement



Test Graph for Average Measurement



RESULT: PASS

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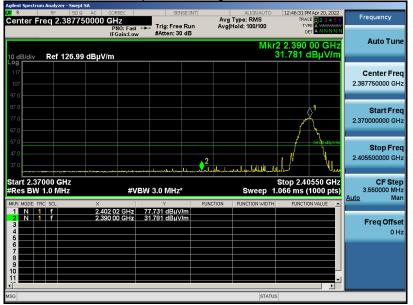
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EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement



RESULT: PASS



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EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
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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EUT	RODECASTER PRO II (Integrated Audio Production Studio)	Model Name	RODECASTER PRO II
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

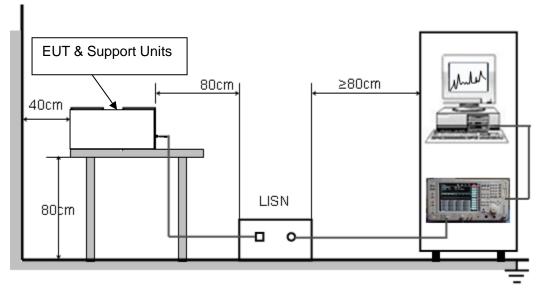
12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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

- 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 15V 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.

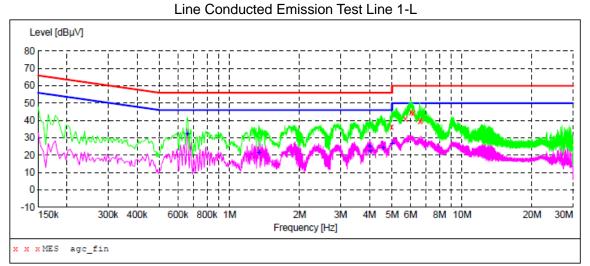
12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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.



2





MEASUREMENT RESULT: "agc_fin"

2022/4/14 13:	46					
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
4.970000	36.20	6.6	56	19.8	QP	L1
5.702000	40.80	6.6	60	19.2	QP	L1
6.034000	44.60	6.6	60	15.4	QP	ь1
6.166000	44.20	6.7	60	15.8	QP	L1
6.570000	39.40	6.7	60	20.6	QP	ь1
6.658000	40.00	6.7	60	20.0	QP	L1

MEASUREMENT RESULT: "agc_fin2"

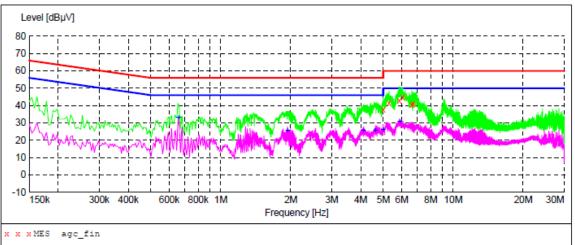
2022/4/14	13:46					
Frequenc MH	-	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.65800	32.10	5.4	46	13.9	AV	L1
1.33800	0 21.40	5.9	46	24.6	AV	L1
4.00200	0 25.10	6.5	46	20.9	AV	L1
4.02200	0 22.20	6.5	46	23.8	AV	L1
4.57000	0 24.10	6.6	46	21.9	AV	L1
4.99400	26.60	6.6	46	19.4	AV	г1

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MEASUREMENT RESULT: "agc_fin"

2022/4/14 13:50						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
4.998000	37.90	6.6	56	18.1	QP	N
5.290000	41.40	6.6	60	18.6	QP	N
5.858000	43.00	6.6	60	17.0	QP	N
6.066000	44.80	6.6	60	15.2	QP	N
6.634000	40.60	6.7	60	19.4	QP	N
6.722000	41.00	6.7	60	19.0	QP	Ν

MEASUREMENT RESULT: "agc fin2"

2022/4/14	13:5	0					
Freque:]	ncy MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.658	000	32.80	5.4	46	13.2	AV	N
1.938	000	25.30	6.4	46	20.7	AV	N
4.110	000	25.30	6.5	46	20.7	AV	N
4.626	000	25.60	6.6	46	20.4	AV	N
4.998	000	25.90	6.6	46	20.1	AV	N
5.882	000	30.70	6.6	50	19.3	AV	Ν

RESULT: PASS

Note: All test modes had been pre-tested. The mode 1 is the worst case and recorded in the report.

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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC10232220302AP02

APPENDIX B: PHOTOGRAPHS OF EUT

Refer to the Report No.: AGC10232220302AP03

----END OF REPORT----



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