

# **FCC Test Report**

Report No.: AGC06913210801FE03

FCC ID : 2AZO9-QUIETTV

**APPLICATION PURPOSE** : Original Equipment

**PRODUCT DESIGNATION**: Quiet TV

**BRAND NAME** : MDHearing

**MODEL NAME** : Quiet TV

**APPLICANT**: SC Industries, LLC

**DATE OF ISSUE** : Sep. 01, 2021

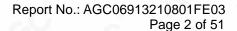
**STANDARD(S)** : FCC Part 15.247

REPORT VERSION : V

Attestation of Global Compliance (Shenzhen) Co., Ltd



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated restrou/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.





#### REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep. 01, 2021	Valid	Initial Release

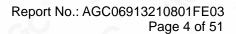
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the special pedicated fresh dynapection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter appropriation of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



# **TABLE OF CONTENTS**

1. VERIFICATION OF CONFORMITY	
2. GENERAL INFORMATION	6
2.1. PRODUCT DESCRIPTION	6
2.2. TABLE OF CARRIER FREQUENCYS	6
2.3. RECEIVER INPUT BANDWIDTH	7
2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE	7
2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR	
2.6. RELATED SUBMITTAL(S) / GRANT (S)	8
2.7. TEST METHODOLOGY	8
2.8. SPECIAL ACCESSORIES	8
2.9. EQUIPMENT MODIFICATIONS	8
2.10. ANTENNA REQUIREMENT	
3. MEASUREMENT UNCERTAINTY	9
4. DESCRIPTION OF TEST MODES	10
5. SYSTEM TEST CONFIGURATION	11
5.1. CONFIGURATION OF EUT SYSTEM	11
5.2. EQUIPMENT USED IN TESTED SYSTEM	11
5.3. SUMMARY OF TEST RESULTS	11
6. TEST FACILITY	
7. PEAK OUTPUT POWER	13
7.1. MEASUREMENT PROCEDURE	13
7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	13
7.3. LIMITS AND MEASUREMENT RESULT	14
8. 20DB BANDWIDTH	
8.1. MEASUREMENT PROCEDURE	16
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	
8.3. LIMITS AND MEASUREMENT RESULTS	
9. CONDUCTED SPURIOUS EMISSION	
9.1. MEASUREMENT PROCEDURE	
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	19

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





9.3. MEASUREMENT EQUIPMENT USED	19
9.4. LIMITS AND MEASUREMENT RESULT	
10. RADIATED EMISSION	
10.1. MEASUREMENT PROCEDURE	
10.2. TEST SETUP	30
10.3. LIMITS AND MEASUREMENT RESULT	31
10.4. TEST RESULT	31
11. NUMBER OF HOPPING FREQUENCY	41
11.1. MEASUREMENT PROCEDURE	41
11.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)	41
11.3. MEASUREMENT EQUIPMENT USED	41
11.4. LIMITS AND MEASUREMENT RESULT	
12. TIME OF OCCUPANCY (DWELL TIME)	42
12.1. MEASUREMENT PROCEDURE	42
12.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)	42
12.3. MEASUREMENT EQUIPMENT USED	
12.4. LIMITS AND MEASUREMENT RESULT	42
13. FREQUENCY SEPARATION	
13.1. MEASUREMENT PROCEDURE	46
13.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)	46
13.3. MEASUREMENT EQUIPMENT USED	46
13.4. LIMITS AND MEASUREMENT RESULT	
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	
APPENDIX B: PHOTOGRAPHS OF EUT	51

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Specificated Restriction Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



# 1. VERIFICATION OF CONFORMITY

Applicant SC Industries, LLC	
Address 150N Michigan Av Chicago Illinois United States 60601	
Manufacturer AVLink Industrial Co., Ltd.	
Address	7F., A1 Bldg., 1st Shuichanjingwan Industrial Area, Nanchang village, Gushu, Bao'an District, Shenzhen, Guangdong, China
Factory	AVLink Industrial Co., Ltd.
Address 7F., A1 Bldg., 1st Shuichanjingwan Industrial Area, Nanchang villag Bao'an District, Shenzhen, Guangdong, China	
Product Designation Quiet TV	
Brand Name	MDHearing
Test Model	Quiet TV
Date of test	Aug. 11, 2021 to Sep. 01, 2021
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BR/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	Bibo zhang	
' CC	Bibo Zhang (Project Engineer)	Sep. 01, 2021
Reviewed By	Max Zhang	
SO NO	Max Zhang (Reviewer)	Sep. 01, 2021
Approved By	Formesties	
	Forrest Lei (Authorized Officer)	Sep. 01, 2021

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written appropriation of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC06913210801FE03

Page 6 of 51

#### 2. GENERAL INFORMATION

#### 2.1. PRODUCT DESCRIPTION

The EUT is designed as "Quiet TV". 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

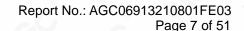
7 major teorimoar accomptio	To Lot is described as following
Operation Frequency	2403 MHz to 2478 MHz
RF Output Power	13.100dBm (Max)
Modulation	GFSK
Number of channels	26
Hardware Version	V1.3
Software Version	V1.3
Antenna Designation	PCB Antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	0.5dBi
Power Supply	DC 5V by adapter

#### 2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency(MHz)
	1	2403
	2	2406
	3	2409
	。	- GO : 20 P
2403~2480MHz	12	2436
CO CC	13	2439
	30	
	25	2475
10 CO	26	2478

Channel Separation: 3MHz

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issued of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





#### 2.3. RECEIVER INPUT BANDWIDTH

The input bandwidth of the receiver is 2.5MHz, in every connection one device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally, the type of connection (e.g. single of multi slot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also, the slave of the connection will use these settings. Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

#### 2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE

Example of a hopping sequence in data mode: 10, 14, 22, 16, 01, 05, 24, 25, 09, 11, 08, 17, 18, 13, 02, 15, 03, 12, 04, 07, 06, 19, 20, 21, 23, 26,

# 2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR

The generation of the hopping sequence in connection mode depends essentially on two input values:

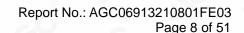
- 1. LAP/UAP of the master of the connection.
- 2. Internal master clock.

The LAP (lower address part) are the 24 LSB's of the 48 BD\_ADDRESS. The BD\_ADDRESS is an unambiguous number of every unit. The UAP (upper address part) are the 24MSB's of the 48BD\_ADDRESS The internal clock of a unit is derived from a free running clock which is never adjusted and is never turned off. For behavior action with other units only offset is used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock has a cycle of about one day(23h30). In most case it is implemented as 28 bits counter. For the deriving of the hopping sequence the entire. LAP (24 bits), 4LSB's (4bits) (Input 1) and the 27MSB's of the clock (Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR-operations) are performed to generate the Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the system has the following behavior:

The first connection between the two devices is established, a hopping sequence was generated. For Transmitting the wanted data the complete hopping sequence was not used. The connection ended. The second connection will be established. A new hopping sequence is generated. Due to the fact the clock has a different value, because the period between the two transmission is longer (and it Cannot be shorter) than the minimum resolution of the clock (312.5us). The hopping sequence will always differ from the first one.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.





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

This submittal(s) (test report) is intended for **FCC ID**: **2AZO9-QUIETTV** filing to comply with the FCC PART 15.247 requirements.

#### 2.7. 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.

#### 2.8. SPECIAL ACCESSORIES

Refer to section 5.2.

#### 2.9. EQUIPMENT MODIFICATIONS

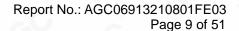
Not available for this EUT intended for grant.

#### 2.10. 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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Residual Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.





#### 3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±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%.

- Uncertainty of Conducted Emission, Uc = ±3.2 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±3.9 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of total RF power, conducted, Uc = ±0.8dB
- Uncertainty of spurious emissions, conducted, Uc = ±2.7dB
- Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %
- Uncertainty of Dwell Time: Uc = ±2 %
- Uncertainty of Frequency: Uc = ±2 %

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Factorian (Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of ACC whe test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



Report No.: AGC06913210801FE03

Page 10 of 51

# 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel GFSK(2403MHz)
2	Middle channel GFSK(2439MHz)
3	High channel GFSK(2478MHz)
4	Hopping mode GFSK

#### 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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of ACC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issued of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



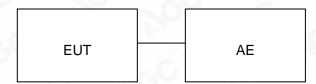
Report No.: AGC06913210801FE03

Page 11 of 51

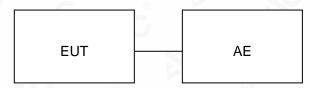
# 5. SYSTEM TEST CONFIGURATION

# **5.1. CONFIGURATION OF EUT SYSTEM**

Radiated Emission Configure:



Conducted Emission Configure:



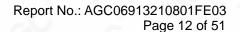
#### **5.2. EQUIPMENT USED IN TESTED SYSTEM**

Item	em Equipment Model No.		ID or Specification	Remark
1	Quiet TV	Quiet TV	2AZO9-QUIETTV	EUT
2	Adapter	ZL-PCB0100020502000	DC 5V	AE

#### **5.3. SUMMARY OF TEST RESULTS**

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(1)	(b)(1) Peak Output Power	
15.247 (a)(1)	20 dB Bandwidth	Compliant
15.247 (d)	Conducted Spurious Emission	Compliant
15.209	Radiated Emission	Compliant
15.247 (a)(1)(iii)	Number of Hopping Frequency	Compliant
15.247 (a)(1)(iii)	Time of Occupancy	Compliant
15.247 (a)(1) Frequency Separation		Compliant
15.207	Conducted Emission	Compliant

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pasting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter purportation of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





# 6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd		
Location  1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Communication Street, Bao'an District, Shenzhen, Guangdong, China			
Designation Number CN1259			
FCC Test Firm Registration Number	975832		
A2LA Cert. No.	5054.02		
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA		

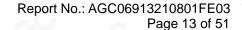
#### TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2021	May 14, 2022
LISN	R&S	ESH2-Z5	100086	Jun. 09, 2021	Jun. 08, 2022
Test software	FARA	EZ-EMC (Ver. AGC- CON03A1)	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	Dec. 07, 2020	Dec. 06, 2021
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	ZHINAN	E-002	N/A	N/A	N/A
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 09, 2019	Sep. 08, 2021
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, 2022
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03,2020	Sep. 02,2022
ANTENNA	SCHWARZBECK	VULB9168	494	Sep. 20, 2019	Sep. 19, 2021
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written appropriation of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





#### 7. PEAK OUTPUT POWER

#### 7.1. MEASUREMENT PROCEDURE

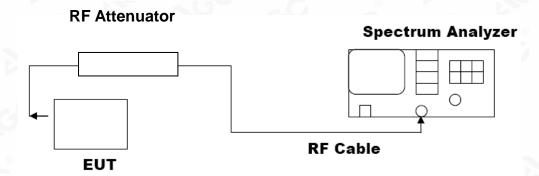
For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
- 3. RBW > 20 dB bandwidth of the emission being measured.
- 4. VBW ≥RBW.
- 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**



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written exporization of AGC, he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



# 7.3. LIMITS AND MEASUREMENT RESULT

PEAK OUTPUT POWER MEASUREMENT RESULT						
	FOR GFSK MOUI	DULATION				
Frequency Peak Power Applicable Limits (MHz) (dBm) Pass or Fail						
2403 13.100 21 Pass						
2439	12.656	21	Pass			
2478	13.088	21	Pass			

#### **CH01**



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pest Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written exphorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issue of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com. a/Inspection he test results he test report.



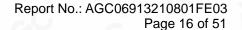




#### CH26



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



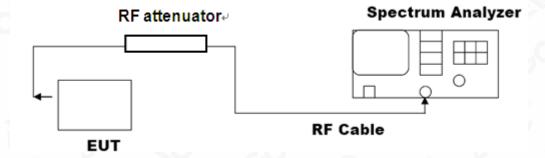


#### 8. 20DB BANDWIDTH

#### **8.1. 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 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.

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



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

g/Inspection The test results

he test report.



#### 8.3. LIMITS AND MEASUREMENT RESULTS

MEASUREMENT RESULT FOR GFSK MOUDULATION						
Applicable Limits  Measurement Result						
Applicable Limits	Test Data	Criteria				
10 CO	Low Channel	2.594	PASS			
N/A	Middle Channel	2.686	PASS			
	High Channel	2.554	PASS			

#### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Fest Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



#### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



#### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Figure/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issued of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC06913210801FE03

Page 19 of 51

#### 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 the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
  RBW = 100 kHz; VBW= 300 kHz; Sweep = auto; Detector function = peak.
- 4. Set SPA Trace 1 Max hold, then View.

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

The same as described in section 8.2

#### 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

#### 9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT						
Augusta de la Limita	Measurement Resu	lt				
Applicable Limits	Test Data	Criteria				
In any 100 kHz Bandwidth Outside the	At least -20dBc than the limit					
frequency band in which the spread spectrum	Specified on the BOTTOM	PASS				
intentional radiator is operating, the radio frequency	Channel					
power that is produce by the intentional radiator shall		8				
be at least 20 dB below that in 100KHz bandwidth						
within the band that contains the highest level of the	2.C 0					
desired power.	At least -20dBc than the limit	DACC				
In addition, radiation emissions which fall in the	Specified on the TOP Channel	PASS				
restricted bands, as defined in §15.205(a), must also						
comply with the radiated emission limits specified	C					
in§15.209(a))						

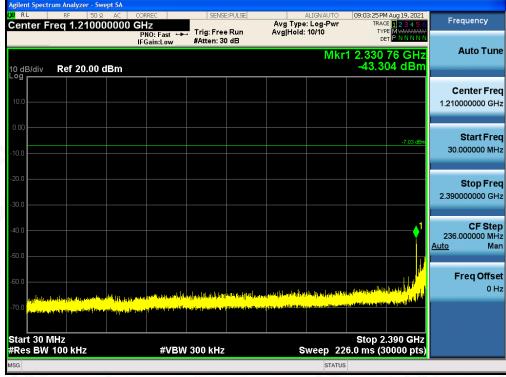
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written exporization of AGC, he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



#### TEST RESULT FOR ENTIRE FREQUENCY RANGE

TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN LOW CHANNEL





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

The test results the test report.



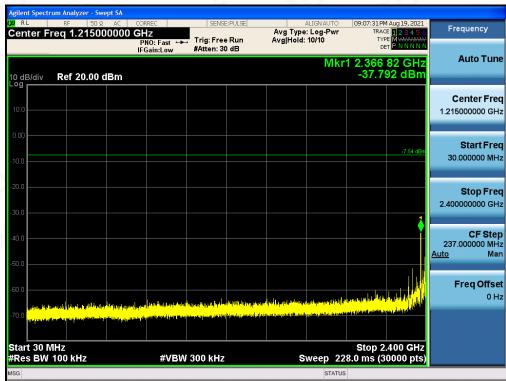


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Sedicated Pestual Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com. g/Inspection



# TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN MIDDLE CHANNEL

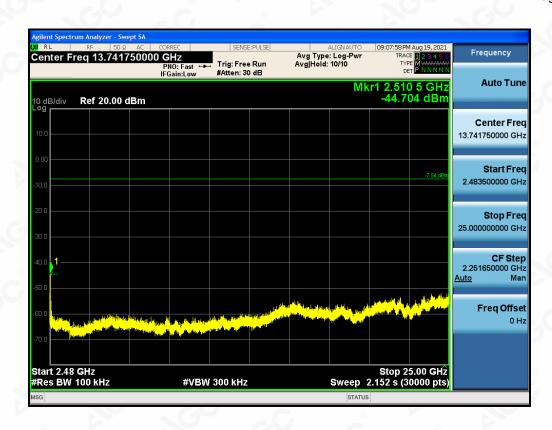




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

g/Inspection
The test results
the test report.



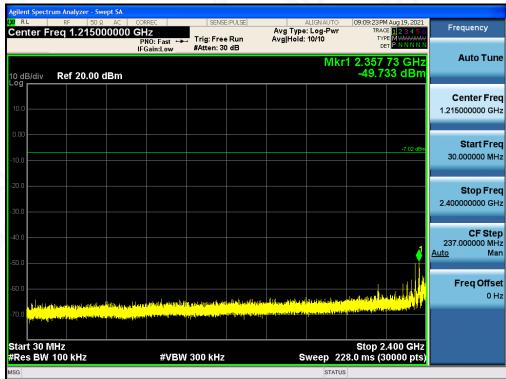


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Sedicated Pestual Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



# TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN HIGH CHANNEL

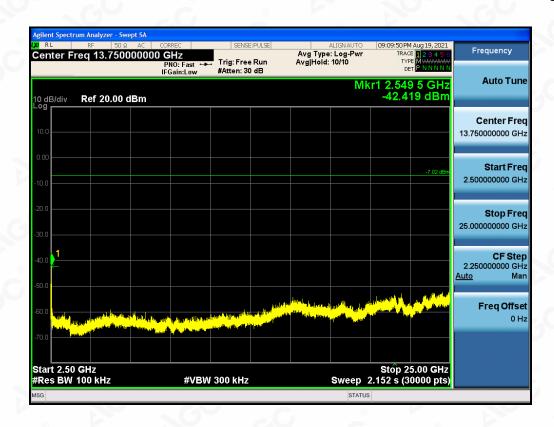




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

g/Inspection
The test results
the test report.





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Sedicated Pestual Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



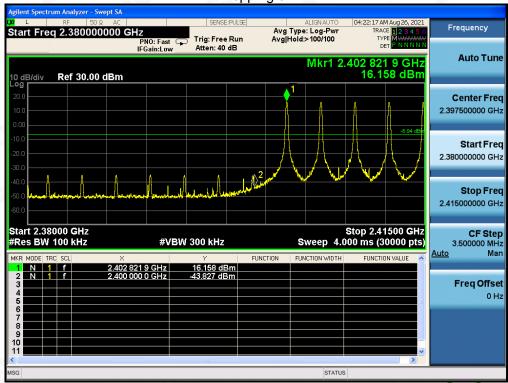
#### **TEST RESULT FOR BAND EDGE**

#### GFSK MODULATION IN LOW CHANNEL

# Hopping off



#### Hopping on



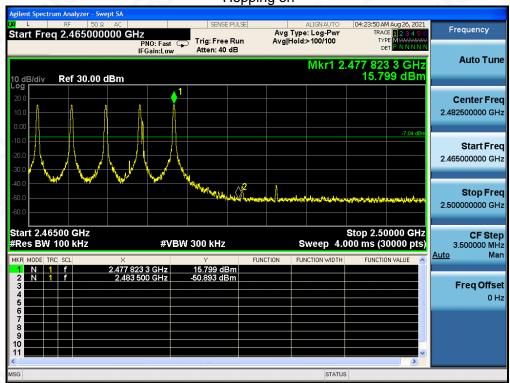
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



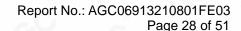
# GFSK MODULATION IN HIGH CHANNEL Hopping off



# Hopping on



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Pestho/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





#### 10. RADIATED EMISSION

#### 10.1. 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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Report No.: AGC06913210801FE03

Page 29 of 51

# The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz 1MHz/3MHz for Peak, 1MHz/3MHz for Average

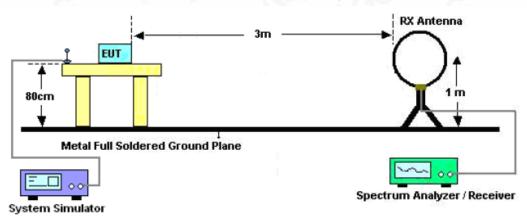
Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

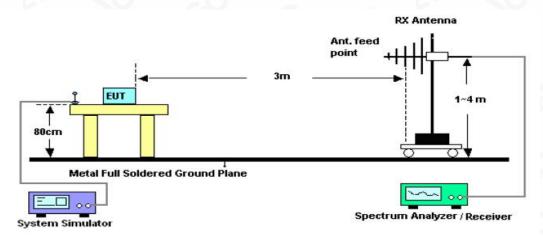


#### 10.2. TEST SETUP

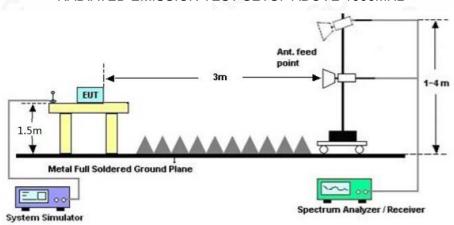
# Radiated Emission Test-Setup Frequency Below 30MHz



#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz



# RADIATED EMISSION TEST SETUP ABOVE 1000MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the coefficient of stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC06913210801FE03

Page 31 of 51

#### 10.3. 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.

#### 10.4. TEST RESULT

#### **RADIATED EMISSION BELOW 30MHz**

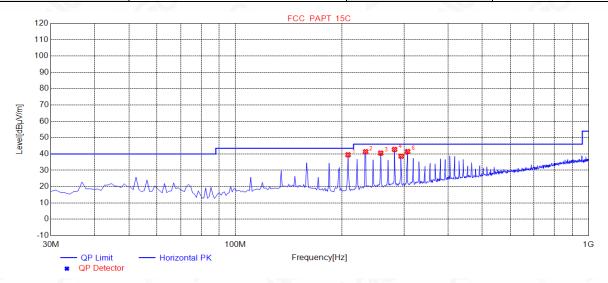
The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Past not/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



# **RADIATED EMISSION BELOW 1GHz**

EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal



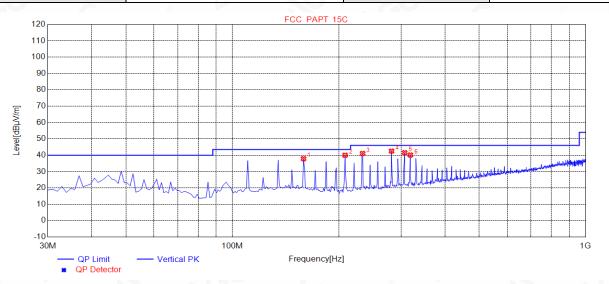
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	208.4800	39.51	12.57	43.50	3.99	100	63	Horizontal
2	233.7000	41.38	14.33	46.00	4.62	100	24	Horizontal
3	257.9500	40.55	14.58	46.00	5.45	100	0	Horizontal
4	282.2000	42.77	16.27	46.00	3.23	100	106	Horizontal
5	294.8100	38.63	15.99	46.00	7.37	100	146	Horizontal
6	307.4200	41.51	16.18	46.00	4.49	100	130	Horizontal

**RESULT: PASS** 

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Psychological Psycholo



EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



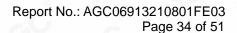
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	159.0100	37.88	14.94	43.50	5.62	100	1	Vertical
2	208.4800	40.03	12.57	43.50	3.47	100	237	Vertical
3	233.7000	41.10	14.33	46.00	4.90	100	93	Vertical
4	282.2000	42.52	16.27	46.00	3.48	100	1	Vertical
5	307.4200	41.54	16.18	46.00	4.46	100	1	Vertical
6	319.0600	40.16	16.65	46.00	5.84	100	1	Vertical

#### **RESULT: PASS**

Note: 1. Factor=Antenna Factor + Cable loss, Over= Limit-Level.

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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Residual Any report having not been stamped by the Bedicated Residual Any Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written appropriation of AGC where the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



c/Inspection
The test results
the test report.



# **RADIATED EMISSION ABOVE 1GHz**

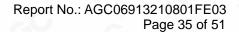
EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity 58%	
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4806.000	47.25	0.08	47.33	74	-26.67	peak
4806.000	36.57	0.08	36.65	54	-17.35	AVG
7209.000	42.58	2.21	44.79	74	-29.21	peak
7209.000	32.97	2.21	35.18	54	-18.82	AVG
	0			G	z.C	
emark:			(8)			
actor = Anter	nna Factor + Cab	le Loss – Pre-	amplifier.	®		

EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
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)	value Type
4806.000	46.59	0.08	46.67	74	-27.33	peak
4806.000	37.82	0.08	37.9	54	-16.1	AVG
7209.000	41.23	2.21	43.44	74	-30.56	peak
7209.000	32.57	2.21	34.78	54	-19.22	AVG
6	(8)			LC .		8
mark:	- CC		(0)			0

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pest Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issue of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



c/Inspection
The test results
the test report.



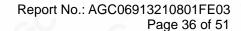
EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4878.000	48.15	0.14	48.29	74	-25.71	peak
4878.000	36.57	0.14	36.71	54	-17.29	AVG
7317.000	42.57	2.36	44.93	74	-29.07	peak
7317.000	33.59	2.36	35.95	54	-18.05	AVG
(8)	0		3 - 0	- 8	<u> </u>	
temark:	- 6	8		~G <sup>©</sup>	-6	8
actor = Anter	na Factor + Cable	e Loss - Pre-	amplifier.			G

EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
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)	Value Type
4878.000	47.58	0.14	47.72	74	-26.28	peak
4878.000	38.51	0.14	38.65	54	-15.35	AVG
7317.000	43.16	2.36	45.52	74	-28.48	peak
7317.000	33.58	2.36	35.94	54	-18.06	AVG
8	8		10°	.6		
emark:	2.0	®		9	0	
ctor = Anter	nna Factor + Cable	Loss - Pre-	amplifier.			

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pest Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issue of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
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
4956.000	46.15	0.22	46.37	74	-27.63	peak
4956.000	37.84	0.22	38.06	54	-15.94	AVG
7434.000	41.53	2.64	44.17	74	-29.83	peak
7434.000	30.94	2.64	33.58	54	-20.42	AVG
®				®		
	®				8	
emark:	- G	3			-6	(8)
actor = Anter	nna Factor + Cable	Loss - Pre-	amplifier.			<i>a.</i> C

EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
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
4956.000	47.51	0.22	47.73	74	-26.27	peak
4956.000	36.94	0.22	37.16	54	-16.84	AVG
7434.000	42.34	2.64	44.98	74	-29.02	peak
7434.000	33.57	2.64	36.21	54	-17.79	AVG
		GO	©	@		
emark:	(R)			·C	8	
actor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.			8

#### **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, Margin= Level -Limit.

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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

The test results



### TEST RESULT FOR RESTRICTED BANDS REQUIREMENTS

EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

PΚ



ΑV



**RESULT: PASS** 

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the conditional report having not been stamped by the conditional report is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written perhorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/

The test results



EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

PK



ΑV



**RESULT: PASS** 

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

PK



AV



**RESULT: PASS** 

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the coefficient of stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

g/Inspection The test results



EUT	Quiet TV	Model Name	Quiet TV
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

PK



AV



**RESULT: PASS** 

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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Peat Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written exphorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issued by Turther enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



## 11. NUMBER OF HOPPING FREQUENCY

#### 11.1. MEASUREMENT PROCEDURE

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- 1. Span: The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
- 2. RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
- 3. VBW  $\geq$  RBW. Sweep: Auto. Detector function: Peak. Trace: Max hold.
- 4. Allow the trace to stabilize.

## 11.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 8.2

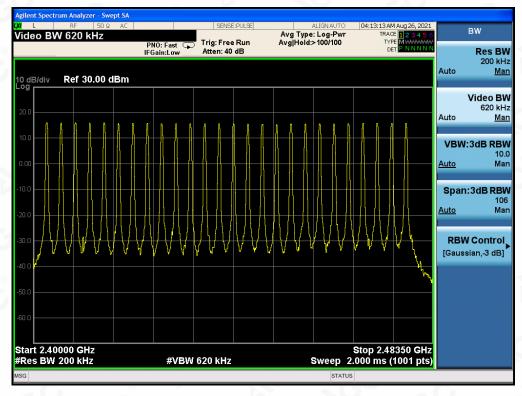
#### 11.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

#### 11.4. LIMITS AND MEASUREMENT RESULT

TOTAL NO. OF	LIMIT (NO. OF CH)	MEASUREMENT (NO. OF CH)	RESULT	
HOPPING CHANNEL	>=15	26	PASS	

#### TEST PLOT FOR NO. OF TOTAL CHANNELS



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Restroy/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Report No.: AGC06913210801FE03

Page 42 of 51

## 12. TIME OF OCCUPANCY (DWELL TIME)

#### 12.1. MEASUREMENT PROCEDURE

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- 1. Span: Zero span, centered on a hopping channel.
- 2. RBW shall be ≤channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel.
- 3. Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
- 4. Detector function: Peak. Trace: Max hold.
- 5. Use the marker-delta function to determine the transmit time per hop.
- 6. Repeat the measurement using a longer sweep time to determine the number of hops over the period specified in the requirements. The sweep time shall be equal to, or less than, the period specified in the requirements. Determine the number of hops over the sweep time and calculate the total number of hops in the period specified in the requirements, using the following equation:

(Number of hops in the period specified in the requirements) = (number of hops on spectrum analyzer)  $\times$  (period specified in the requirements / analyzer sweep time)

7. The average time of occupancy is calculated from the transmit time per hop multiplied by the number of hops in the period specified in the requirements.

## 12.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 8.2

### 12.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

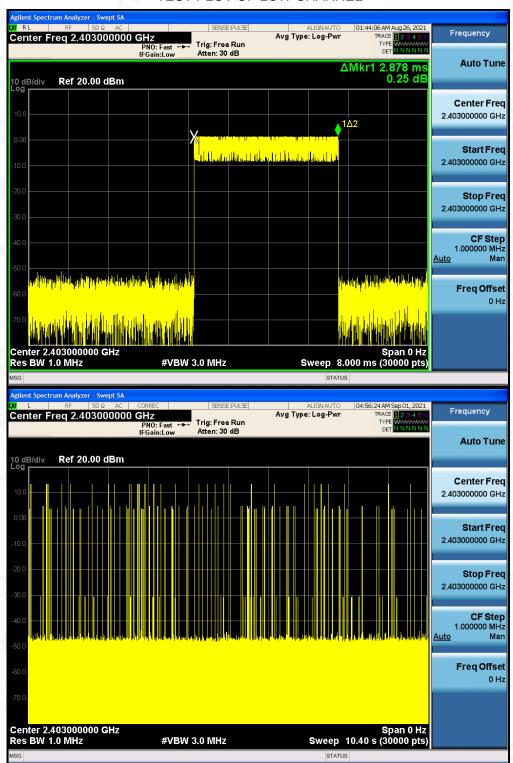
#### 12.4. LIMITS AND MEASUREMENT RESULT

Channel	Time of Pulse for GFSK (ms)	Number of hops in the period specified in the requirements	Dwell Time (ms)	Limit (ms)
Low	2.878	31	89.218	400
Middle	2.861	35	100.135	400
High	2.878	30	86.340	400

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pestud/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



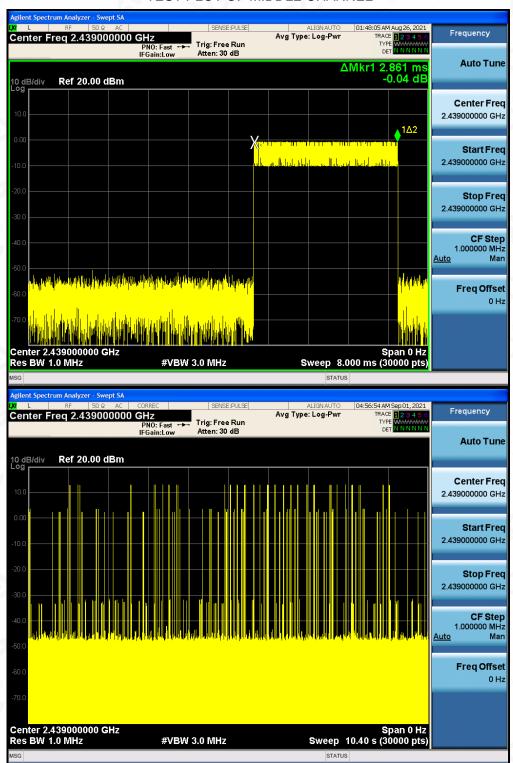
#### TEST PLOT OF LOW CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



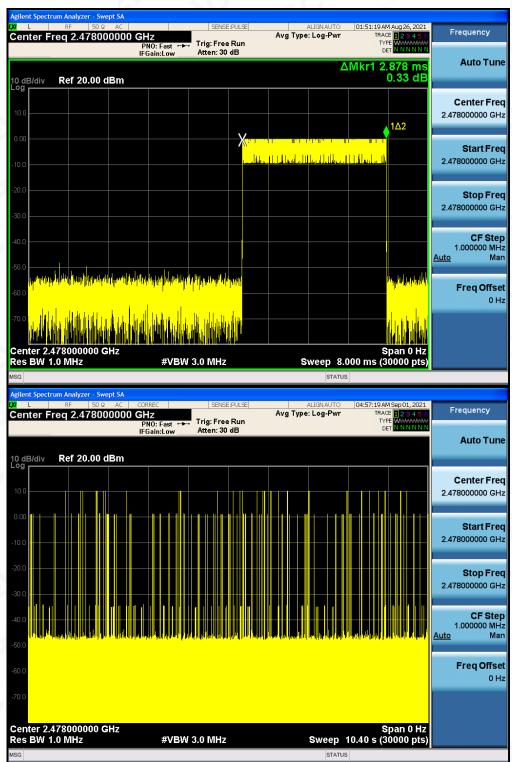
#### TEST PLOT OF MIDDLE CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Perhaps (Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written portion of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### TEST PLOT OF HIGH CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



### 13. FREQUENCY SEPARATION

#### 13.1. MEASUREMENT PROCEDURE

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- 1. Span: Wide enough to capture the peaks of two adjacent channels.
- 2. RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
- 3. Video (or average) bandwidth (VBW) ≥ RBW.
- 4. Sweep: Auto. e) Detector function: Peak. f) Trace: Max hold. g) Allow the trace to stabilize.

Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

### 13.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 6.2

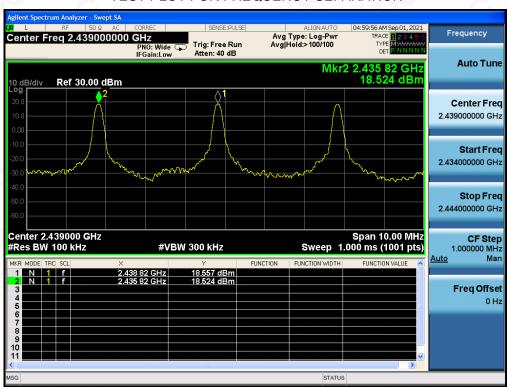
#### 13.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.3

### 13.4. LIMITS AND MEASUREMENT RESULT

CHANNEL TEST MODE SEPARATION		LIMIT	RESULT	
	MHz		Dana	
Hopping	3	≥2/3 20db BW	Pass	

#### TEST PLOT FOR FREQUENCY SEPARATION



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written exhorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



## 14. FCC LINE CONDUCTED EMISSION TEST

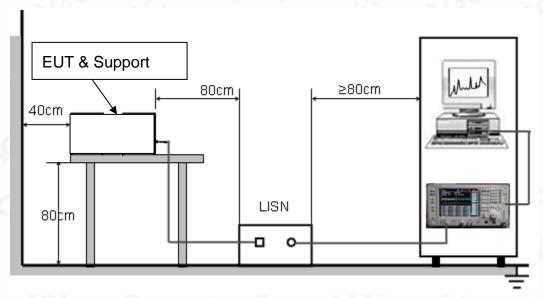
### 14.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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

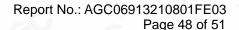
### Note:

- 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.

## 14.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Ir Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





#### 14.3. 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.

#### 14.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

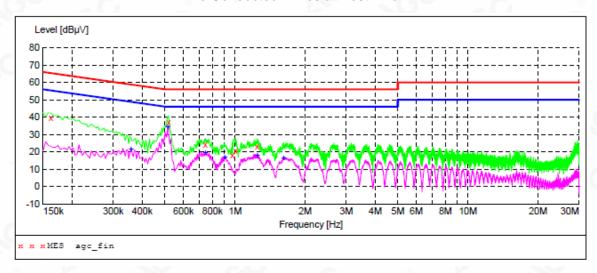
- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were 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.
- The test data of the worst case condition(s) was reported on the Summary Data page.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the bedicated resting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



### 14.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

#### Line Conducted Emission Test Line 1-L



## MEASUREMENT RESULT: "agc\_fin"

2021/8/12 9:39 Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line
0.162000	39.40	6.8	65	26.0	_	L1
0.518000	37.20	5.4	56	18.8		L1
0.746000	24.10	5.4	56	31.9		L1
0.974000	17.80	5.4	56	38.2	_	L1
1.006000	20.50	5.4	56	35.5		L1
1.246000	23.00	5.8	56	33.0		L1

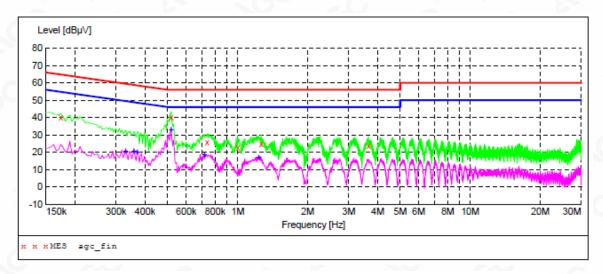
## MEASUREMENT RESULT: "agc\_fin2"

2021/8/12 9:3	9					
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.358000	21.70	5.8	49	27.1	AV	L1
0.514000	34.40	5.4	46	11.6	AV	L1
0.746000	19.50	5.4	46	26.5	AV	L1
0.902000	17.00	5.4	46	29.0	AV	L1
1.246000	18.00	5.8	46	28.0	AV	L1
1.618000	16.60	6.2	46	29.4	AV	L1

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated resting/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



### Line Conducted Emission Test Line 2-N



## MEASUREMENT RESULT: "agc\_fin"

20	021/8/12 9:36 Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
	0.174000	39.90	6.7	65	24.9	QP	N
	0.518000	40.20	5.4	56	15.8	QP	N
	0.738000	25.80	5.4	56	30.2	QP	N
	1.002000	22.70	5.4	56	33.3	QP	N
	1.262000	24.40	5.8	56	31.6	QP	N
	3.654000	23.50	6.5	56	32.5	QP	N

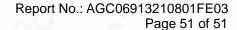
## MEASUREMENT RESULT: "agc\_fin2"

2021/8/12	9:36					
Frequen Mi	cy Level Hz dBµV		Limit dBµV	Margin dB	Detector	Line
0.3300	00 20.70	5.9	50	28.8	AV	N
0.3580	00 20.80	5.8	49	28.0	AV	N
0.3700	00 19.90	5.8	49	28.6	AV	N
0.5180	00 32.80	5.4	46	13.2	AV	N
0.7180	00 18.70	5.4	46	27.3	AV	N
1.2340	00 17.10	5.7	46	28.9	AV	N

### **RESULT: PASS**

Note: All the test modes had been tested, the mode 1 was the worst case. Only the data of the worst case would be record in this test report.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the condition of pedicated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written perhorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





## **APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

Refer to the Report No.: AGC06913210801AP01

**APPENDIX B: PHOTOGRAPHS OF EUT** 

Refer to the Report No.: AGC06913210801AP01

----END OF REPORT----

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the special dead resting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written appropriation of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



# Conditions of Issuance of Test Reports

- 1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
- 2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
- 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.
- 5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
- 6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
- 7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
- 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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written enhorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.