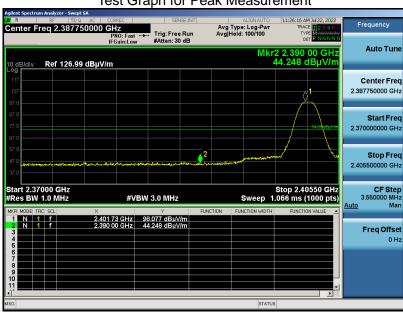




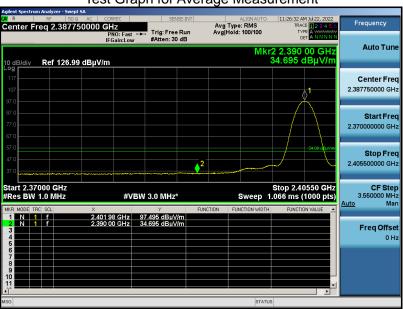
Test result for band edge emission at restricted bands (GFSK 1M)

EUT	BDE Bluetooth 5.2 Low Energy Module	Model Name	BDE-BLEM215
Temperature	25°C	Relative Humidity	55%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

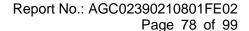
Test Graph for Peak Measurement







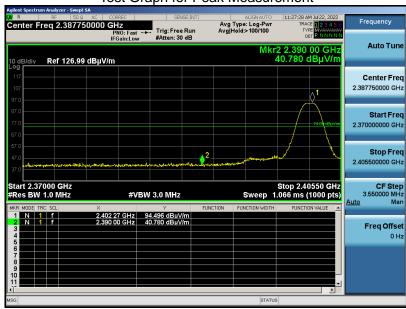
**RESULT: PASS** 



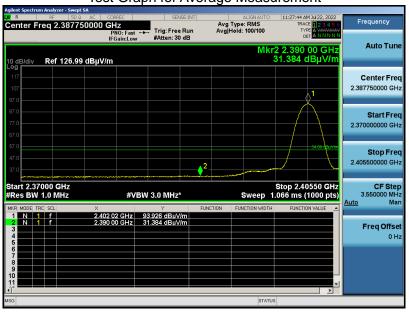


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 1 **Antenna** 

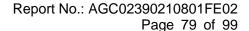
Test Graph for Peak Measurement



Test Graph for Average Measurement



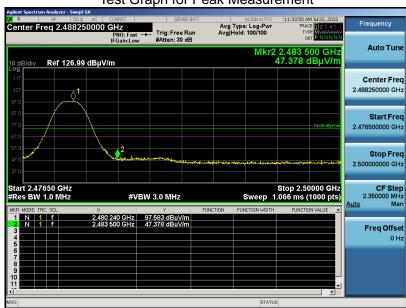
**RESULT: PASS** 



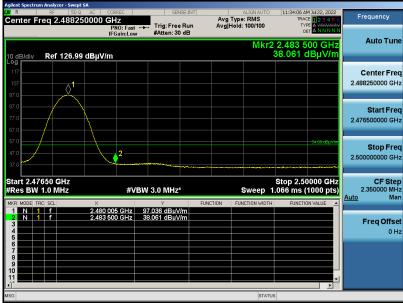


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Mode 3 Horizontal **Antenna** 

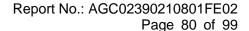
Test Graph for Peak Measurement







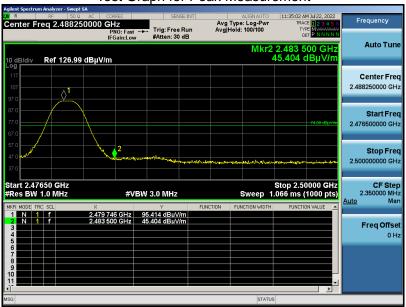
**RESULT: PASS** 



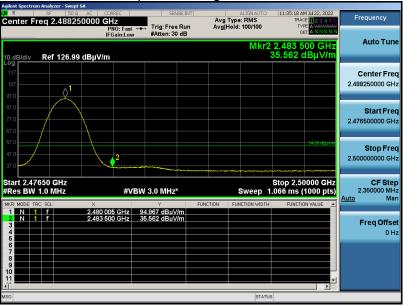


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module **Temperature** 25°C **Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 3 **Antenna** 

Test Graph for Peak Measurement

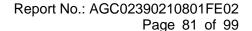






#### **RESULT: PASS**

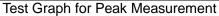
Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.

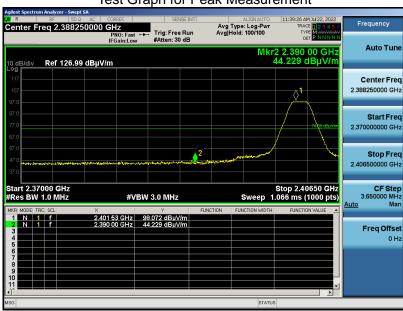


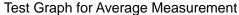


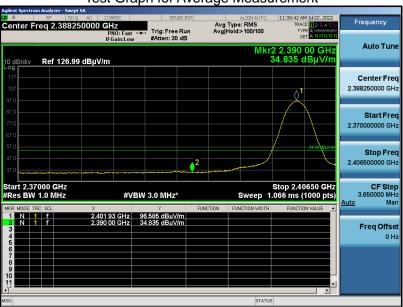
Test result for band edge emission at restricted bands (GFSK 2M)

EUT	BDE Bluetooth 5.2 Low Energy Module	Model Name	BDE-BLEM215
Temperature	25°C	Relative Humidity	55%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 4	Antenna	Horizontal

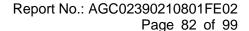








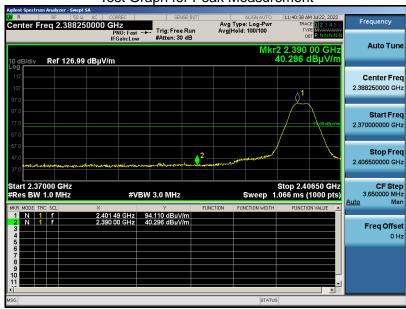
**RESULT: PASS** 



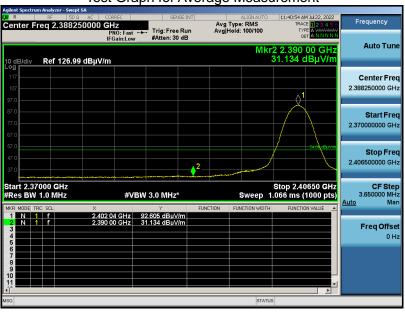


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 4 **Antenna** 

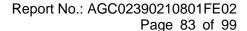
Test Graph for Peak Measurement



Test Graph for Average Measurement



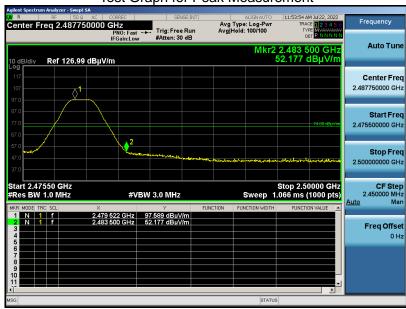
**RESULT: PASS** 



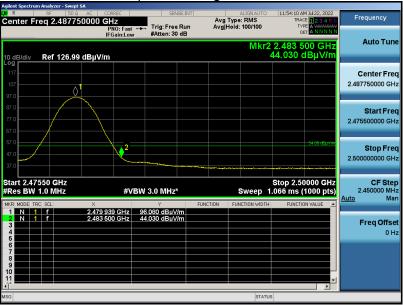


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Horizontal Mode 6 **Antenna** 

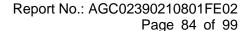
Test Graph for Peak Measurement



Test Graph for Average Measurement



**RESULT: PASS** 

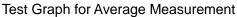


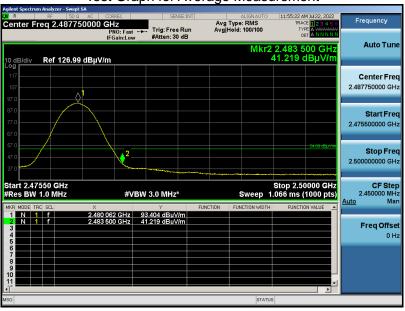


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module **Temperature** 25°C **Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 6 **Antenna** 

Test Graph for Peak Measurement

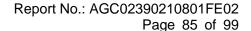






#### **RESULT: PASS**

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

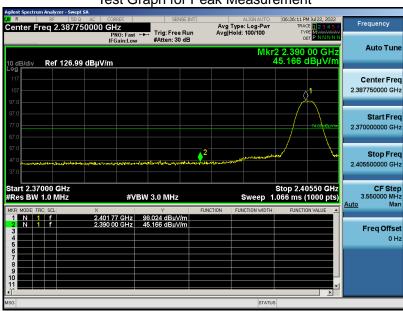


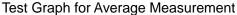


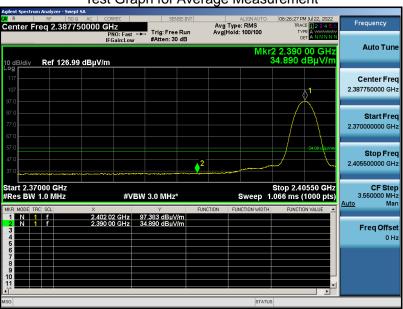
Test result for band edge emission at restricted bands (GFSK 125k)

EUT	BDE Bluetooth 5.2 Low Energy Module	Model Name	BDE-BLEM215
Temperature	25°C	Relative Humidity	55%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 7	Antenna	Horizontal

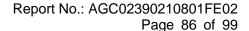
Test Graph for Peak Measurement







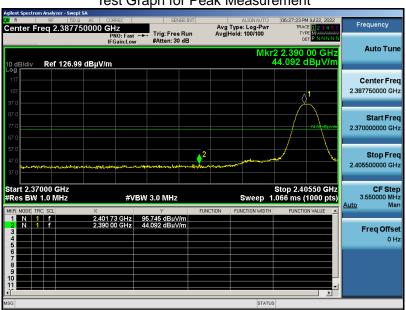
**RESULT: PASS** 



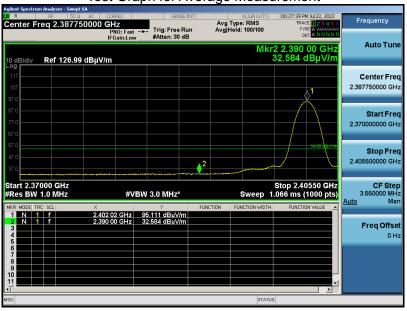


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 7 **Antenna** 

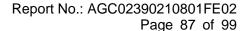
Test Graph for Peak Measurement







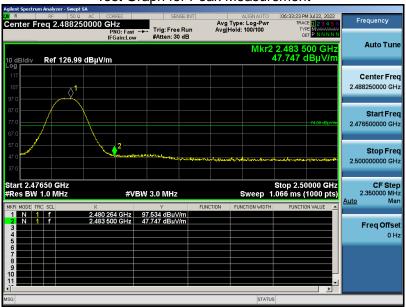
**RESULT: PASS** 



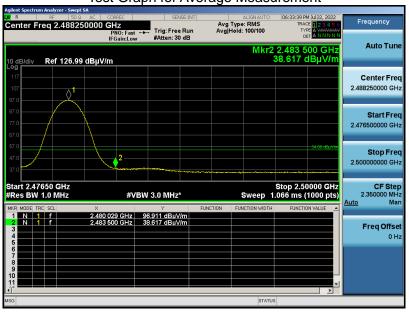


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Horizontal Mode 9 **Antenna** 

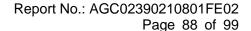
Test Graph for Peak Measurement



Test Graph for Average Measurement



**RESULT: PASS** 



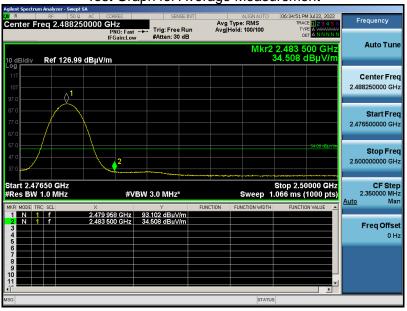


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module **Temperature** 25°C **Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 9 **Antenna** 

Test Graph for Peak Measurement

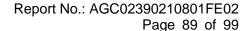






#### **RESULT: PASS**

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

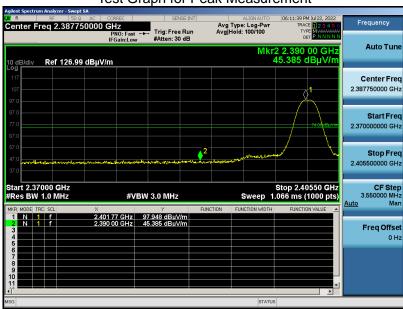


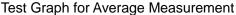


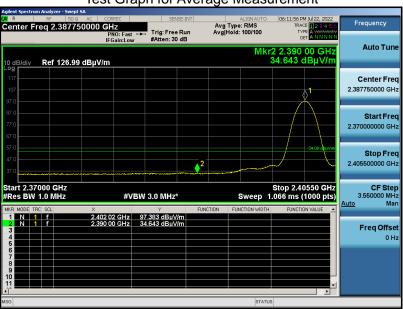
Test result for band edge emission at restricted bands (GFSK 500k)

EUT	BDE Bluetooth 5.2 Low Energy Module	Model Name	BDE-BLEM215
Temperature	25°C	Relative Humidity	55%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 10	Antenna	Horizontal

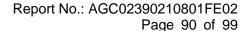
Test Graph for Peak Measurement







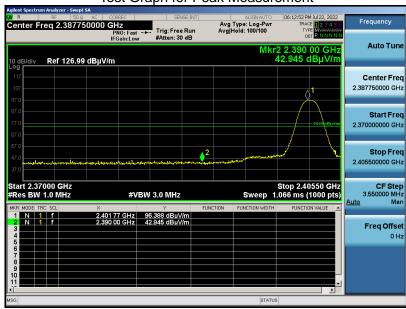
**RESULT: PASS** 



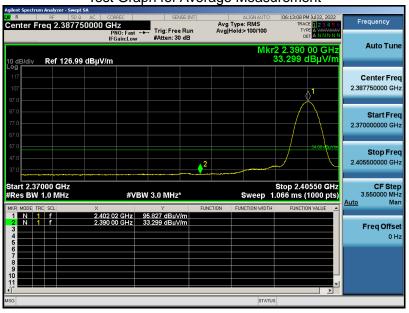


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Mode 10 Vertical **Antenna** 

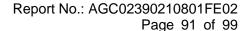
Test Graph for Peak Measurement



Test Graph for Average Measurement



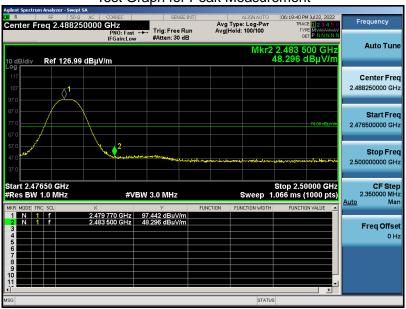
**RESULT: PASS** 



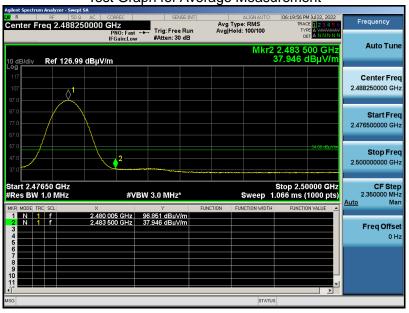


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module 25°C **Temperature Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Mode 12 Horizontal **Antenna** 

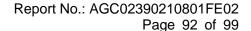
Test Graph for Peak Measurement



Test Graph for Average Measurement



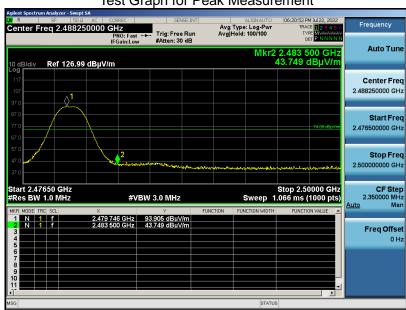
**RESULT: PASS** 



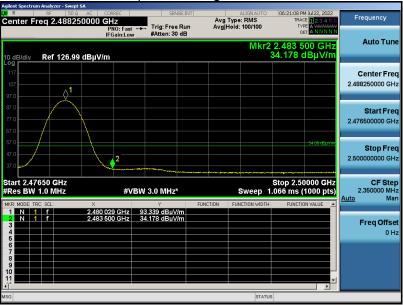


BDE Bluetooth 5.2 Low Energy **EUT Model Name** BDE-BLEM215 Module **Temperature** 25°C **Relative Humidity** 55% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Vertical Mode 12 **Antenna** 

Test Graph for Peak Measurement







#### **RESULT: PASS**

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



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#### 12. LINE CONDUCTED EMISSION TEST

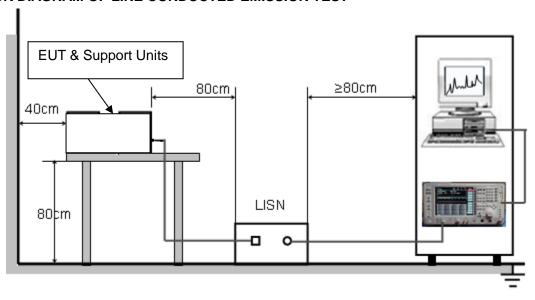
#### 12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

	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





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#### 12.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

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

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

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

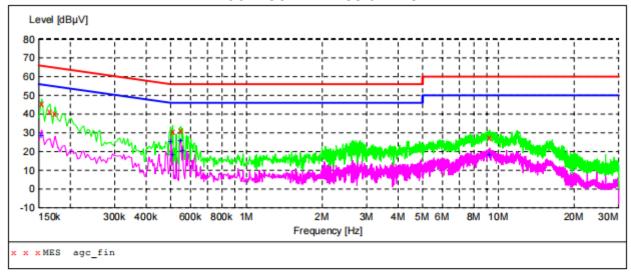
- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were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



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## 12.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

# Antenna 1 LINE CONDUCTED EMISSION TEST-L1



## MEASUREMENT RESULT: "agc fin"

202	1/8/30 14:4	40						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
	0.154000	45.80	6.9	66	20.0	QP	L1	GND
	0.166000	41.50	6.8	65	23.7	QP	L1	GND
	0.174000	40.30	6.7	65	24.5	QP	L1	GND
	0.510000	30.40	5.4	56	25.6	QP	L1	GND
	0.550000	31.20	5.4	56	24.8	QP	L1	GND
	9.230000	27.50	6.8	60	32.5	OP	L1	GND

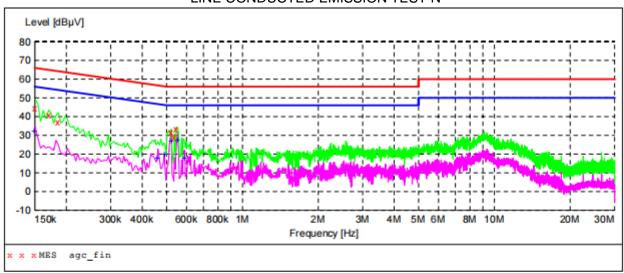
## MEASUREMENT RESULT: "agc fin2"

2021/8/30	14:41						
Frequenc	cy Level	Transd	Limit	Margin	Detector	Line	PE
ME	łz dΒμV	dB	dΒμV	dB			
0.15400	00 28.30	6.9	56	27.5	AV	L1	GND
0.50200	00 25.50	5.4	46	20.5	AV	L1	GND
0.51000	00 18.30	5.4	46	27.7	AV	L1	GND
0.54600	26.00	5.4	46	20.0	AV	L1	GND
0.55800	00 20.60	5.4	46	25.4	AV	L1	GND
9.23400	00 18.40	6.8	50	31.6	AV	L1	GND

**RESULT: PASS** 



## LINE CONDUCTED EMISSION TEST-N



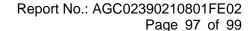
#### MEASUREMENT RESULT: "agc fin"

2021/8/30 14 Frequency MHz	:44 Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	44.70	6.9	66	21.3	QP	N	GND
0.170000	40.70	6.8	65	24.3	QP	N	GND
0.186000	37.20	6.6	64	27.0	QP	N	GND
0.522000	31.70	5.4	56	24.3	QP	N	GND
0.538000	29.20	5.4	56	26.8	QP	N	GND
0.546000	33.30	5.4	56	22.7	QP	N	GND

## MEASUREMENT RESULT: "agc fin2"

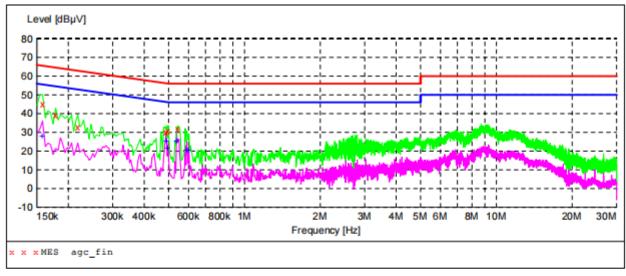
:44						
Level	Transd	Limit	Margin	Detector	Line	PE
dΒμV	dB	dΒμV	dB			
32.30	6.9	56	23.7	AV	N	GND
17.90	5.5	47	28.8	AV	N	GND
20.00	5.4	46	26.2	AV	N	GND
26.80	5.4	46	19.2	AV	N	GND
27.50	5.4	46	18.5	AV	N	GND
17.90	5.4	46	28.1	AV	N	GND
	Level dBµV 32.30 17.90 20.00 26.80 27.50	Level Transd dB	Level Transd Limit dBμV dB dBμV 32.30 6.9 56 17.90 5.5 47 20.00 5.4 46 27.50 5.4 46	Level Transd Limit Margin dB μV dB dBμV dB 32.30 6.9 56 23.7 17.90 5.5 47 28.8 20.00 5.4 46 26.2 26.80 5.4 46 19.2 27.50 5.4 46 18.5	Level Transd Limit Margin Detector dBμV dB dBμV dB  32.30 6.9 56 23.7 AV 17.90 5.5 47 28.8 AV 20.00 5.4 46 26.2 AV 26.80 5.4 46 19.2 AV 27.50 5.4 46 18.5 AV	Level dBμV         Transd dBμV         Limit dBμV         Margin dB         Detector Line dBμV           32.30         6.9         56         23.7         AV         N           17.90         5.5         47         28.8         AV         N           20.00         5.4         46         26.2         AV         N           26.80         5.4         46         19.2         AV         N           27.50         5.4         46         18.5         AV         N

**RESULT: PASS** 





Antenna 2
LINE CONDUCTED EMISSION TEST-L1



## MEASUREMENT RESULT: "agc fin"

20	21/8/30 14:	17						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
	0.158000	44.80	6.8	66	20.8	OB	L1	GND
	0.138000	44.00	0.0	00	20.0	QP	Ti T	GND
	0.178000	39.40	6.7	65	25.2	QP	L1	GND
	0.218000	33.00	6.4	63	29.9	QP	L1	GND
	0.490000	30.10	5.4	56	26.1	QP	L1	GND
	0.498000	30.90	5.4	56	25.1	QP	L1	GND
	0.546000	31.80	5.4	56	24.2	QP	L1	GND

## MEASUREMENT RESULT: "agc fin2"

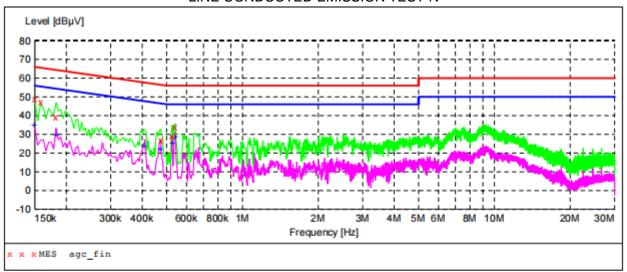
1:19						
Level	Transd	Limit	Margin	Detector	Line	PE
dΒμV	dB	dΒμV	dB			
27.70	6.8	56	27.9	AV	L1	GND
25.10	5.4	46	21.1	AV	L1	GND
21.60	5.4	46	24.4	AV	L1	GND
25.50	5.4	46	20.5	AV	L1	GND
20.50	5.4	46	25.5	AV	L1	GND
20.40	5.4	46	25.6	AV	L1	GND
	Level dBμV 27.70 25.10 21.60 25.50 20.50	Level Transd dBμV dB  27.70 6.8  25.10 5.4  21.60 5.4  25.50 5.4  20.50 5.4	Level Transd Limit dBμV dB dBμV  27.70 6.8 56 25.10 5.4 46 21.60 5.4 46 25.50 5.4 46 20.50 5.4 46	Level Transd Limit Margin dB μV dB dBμV dB 27.70 6.8 56 27.9 25.10 5.4 46 21.1 21.60 5.4 46 24.4 25.50 5.4 46 20.5 20.50 5.4 46 25.5	Level Transd Limit Margin Detector dBμV dB dBμV dB  27.70 6.8 56 27.9 AV 25.10 5.4 46 21.1 AV 21.60 5.4 46 24.4 AV 25.50 5.4 46 20.5 AV 20.50 5.4 46 25.5 AV	Level dBμV         Transd dB dBμV         Limit dB dBμV         Margin dB         Detector Line dB dBμV           27.70         6.8         56         27.9 AV         L1           25.10         5.4         46         21.1 AV         L1           21.60         5.4         46         24.4 AV         L1           25.50         5.4         46         20.5 AV         L1           20.50         5.4         46         25.5 AV         L1

**RESULT: PASS** 

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## LINE CONDUCTED EMISSION TEST-N



#### MEASUREMENT RESULT: "agc fin"

2021/8/30 14 Frequency MHz	:13 Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	48.50	6.9	66	17.5	QP	N	GND
0.158000	47.10	6.8	66	18.5	QP	N	GND
0.182000	39.00	6.7	64	25.4	QP	N	GND
0.474000	26.80	5.5	56	29.6	QP	N	GND
0.526000	29.20	5.4	56	26.8	QP	N	GND
0.542000	34.00	5.4	56	22.0	QP	N	GND

## MEASUREMENT RESULT: "agc fin2"

2021/8/30 14:14							
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
0.150000	34.70	6.9	56	21.3	AV	N	GND
0.182000	29.30	6.7	54	25.1	AV	N	GND
0.410000	23.60	5.7	48	24.0	AV	N	GND
0.474000	22.20	5.5	46	24.2	AV	N	GND
0.526000	25.30	5.4	46	20.7	AV	N	GND
0.542000	28.40	5.4	46	17.6	AV	N	GND

**RESULT: PASS** 



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

Refer to the Report No.: AGC02390210801AP02

**APPENDIX B: PHOTOGRAPHS OF EUT** 

Refer to the Report No.: AGC02390210801AP03

----END OF REPORT----



## 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.