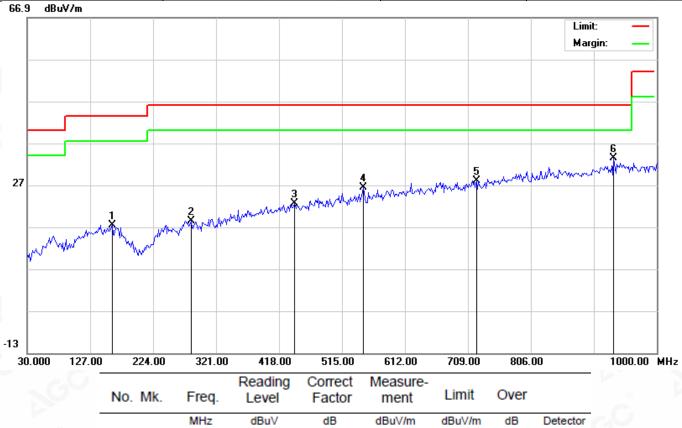


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EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



	No.	Mk. Freq	Reading Level	g Correct Factor		e- Limit	Over	
		MHz	dBu∨	dB	dBu∀/m	dBuV/m	dB	Detector
	1	160.9500	0 -1.59	19.09	17.50	43.50	-26.00	peak
	2	282.2000	0 -1.50	19.89	18.39	46.00	-27.61	peak
	3	442.2500	0 -1.24	23.83	22.59	46.00	-23.41	peak
ľ	4	547.333	3 0.56	25.92	26.48	46.00	-19.52	peak
	5	721.933	3 -0.59	28.65	28.06	46.00	-17.94	peak
	6	* 933.716	7 1.46	31.99	33.45	46.00	-12.55	peak

# RESULT: PASS

- 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.
- 2. All test modes had been tested. The mode 1 is the worst case and recorded in the report.



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/Inspection The test results the test report.

# **RADIATED EMISSION ABOVE 1GHZ**

EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4810.000	44.26	0.08	44.34	74	-29.66	peak
4810.000	34.78	0.08	34.86	54	-19.14	AVG
7215.000	40.28	2.21	42.49	74	-31.51	peak
7215.000	30.55	2.21	32.76	54	-21.24	AVG
64		0		-C-	0	
Remark:			@			. 60
actor = Anter	nna Factor + Cab	le Loss – Pre-	-amplifier.	©		

FIIT	Multiprotocol 2.4G Wireless	Madal Nama	DDE DEMONZ	
EUT	Module - Industrial Grade	Model Name	BDE-RFM207	
Temperature	25° C	Relative Humidity	55.4%	
Pressure	960hPa	Test Voltage	Normal Voltage	
Test Mode	Mode 1	Antenna	Vertical	

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	- Value Type
4810.000	45.37	0.08	45.45	74	-28.55	peak
4810.000	35.94	0.08	36.02	54	-17.98	AVG
7215.000	38.15	2.21	40.36	74	-33.64	peak
7215.000	28.46	2.21	30.67	54	-23.33	AVG
<u> </u>			-0	***		
emark:	· ©			-0		
actor = Anten	na Factor + Cab	le Loss – Pre-a	amplifier.			

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g/Inspection
The test results
the test report.

EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	46.18	0.14	46.32	74	-27.68	peak
4880.000	36.12	0.14	36.26	54	-17.74	AVG
7320.000	41.58	2.36	43.94	74	-30.06	peak
7320.000	31.49	2.36	33.85	54	-20.15	AVG
_ن	8		1 10		<u> </u>	
emark:						
	nna Factor + Cable	Loss – Pre-	amplifier.			

EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	46.28	0.14	46.42	74 💮	-27.58	peak
4880.000	35.74	0.14	35.88	54	-18.12	AVG
7320.000	40.78	2.36	43.14	74	-30.86	peak
7320.000	31.56	2.36	33.92	54	-20.08	AVG
8			20			
emark:						



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EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.000	46.29	0.22	46.51	74	-27.49	peak
4960.000	35.17	0.22	35.39	54	-18.61	AVG
7440.000	38.14	2.64	40.78	74	-33.22	peak
7440.000	29.54	2.64	32.18	54	-21.82	AVG
			1 (64			
emark:		>				
actor = Anter	nna Factor + Cable	Loss – Pre-	-amplifier.			

EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type	
4960.000	45.18	0.22	45.4	74	-28.6	peak	
4960.000	34.17	0.22	34.39	54	-19.61	AVG	
7440.000	40.19	2.64	42.83	74	-31.17	peak	
7440.000	30.67	2.64	33.31	54	-20.69	AVG	
		-66				GU	
emark:					@		
actor = Anter	nna Factor + Cabl	e 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, Over=Measure-Limit.

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

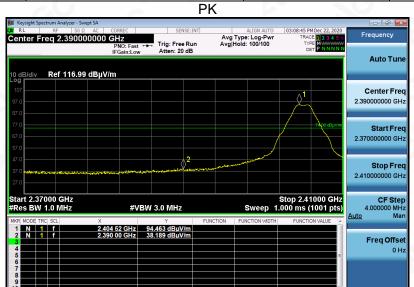
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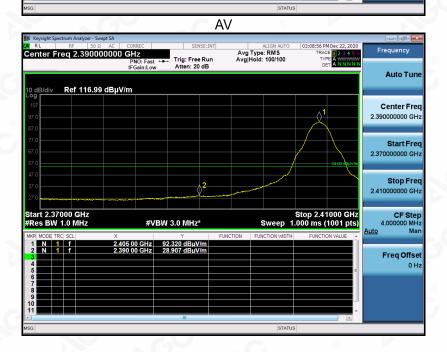


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## TEST RESULT FOR RESTRICTED BANDS REQUIREMENTS

EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal





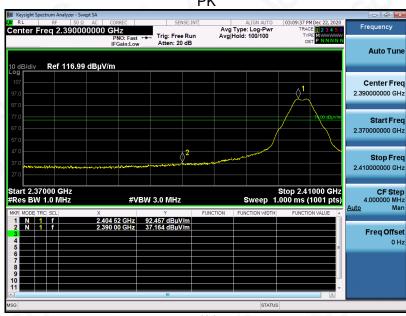
**RESULT: PASS** 

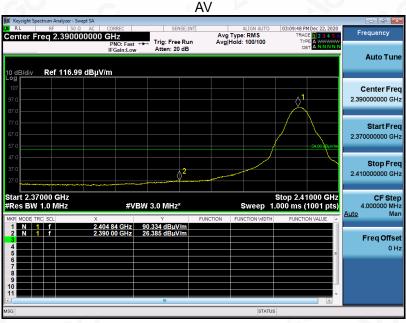


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EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical







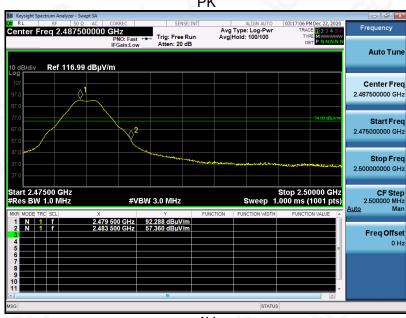
**RESULT: PASS** 

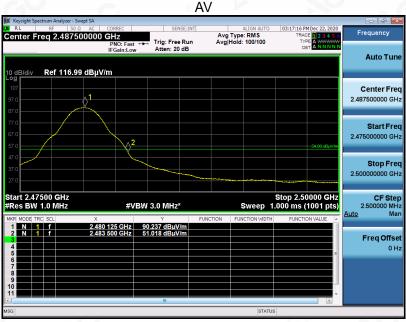


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EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal







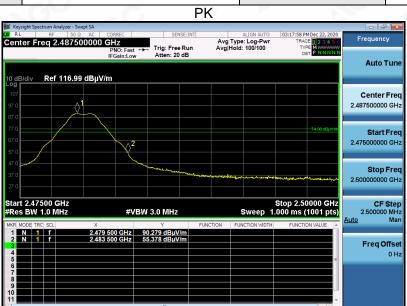
**RESULT: PASS** 

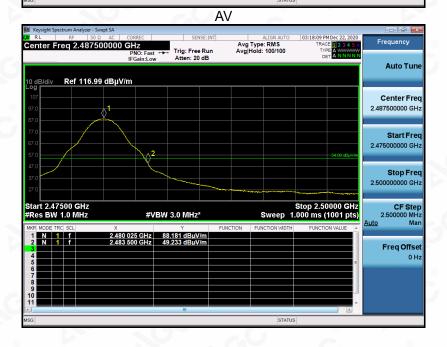
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EUT	Multiprotocol 2.4G Wireless Module - Industrial Grade	Model Name	BDE-RFM207
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical





**RESULT: PASS** 

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

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he test report.

# 12. FCC LINE CONDUCTED EMISSION TEST

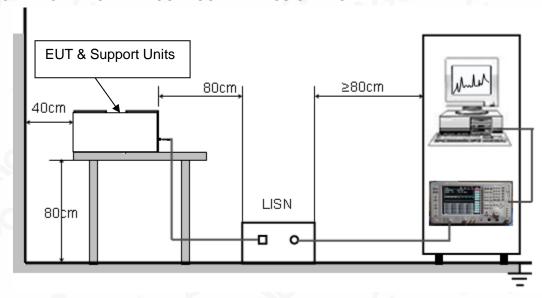
## 12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

F	Maximum R	F 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 PC 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.

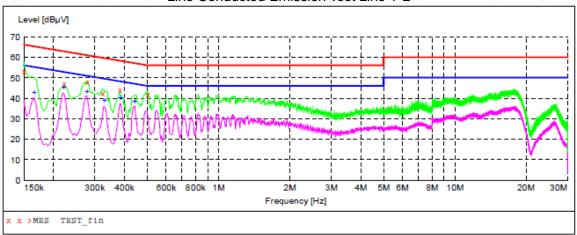
#### 12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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.



## 12.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

## Line Conducted Emission Test Line 1-L



# MEASUREMENT RESULT: "TEST fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.150000 0.222000 0.278000 0.322000 0.382000	53.10 47.40 48.10 42.50 44.00	10.6 10.8 10.8 10.7	66 63 61 60 58	12.9 15.3 12.8 17.2 14.2	QP QP QP QP OP	L1 L1 L1 L1 L1
0.502000	42.20	11.0	56	13.8	QP	L1

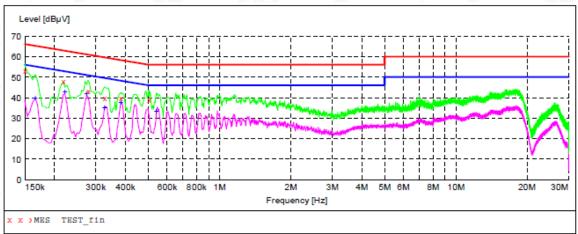
#### MEASUREMENT RESULT: "TEST fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.166000	43.00	10.7	55	12.2	AV	L1
0.222000	45.40	10.8	53	7.3	AV	L1
0.278000	43.30	10.8	51	7.6	AV	L1
0.330000	39.20	10.6	50	10.3	AV	L1
0.386000	40.30	10.3	48	7.8	AV	L1
0.442000	38.70	10.6	47	8.3	AV	L1

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## Line Conducted Emission Test Line 2-N



# MEASUREMENT RESULT: "TEST fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.150000 0.218000 0.278000 0.326000 0.382000 0.502000	53.30 47.90 43.50 39.80 39.80	10.6 10.8 10.8 10.6 10.3	66 63 61 60 58	12.7 15.0 17.4 19.8 18.4	QP QP QP QP QP OP	N N N N N

## MEASUREMENT RESULT: "TEST\_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.166000	39.90	10.7	55	15.3	AV	N
0.222000	42.70	10.8	53	10.0	AV	N
0.274000	42.10	10.8	51	8.9	AV	N
0.326000	35.30	10.6	50	14.3	AV	N
0.382000	37.80	10.3	48	10.4	AV	N
0.542000	33.70	10.8	46	12.3	AV	N

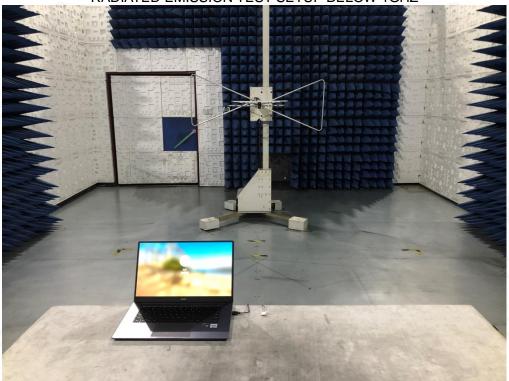
**RESULT: PASS** 



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# APPENDIX A: PHOTOGRAPHS OF TEST SETUP

RADIATED EMISSION TEST SETUP BELOW 1GHZ

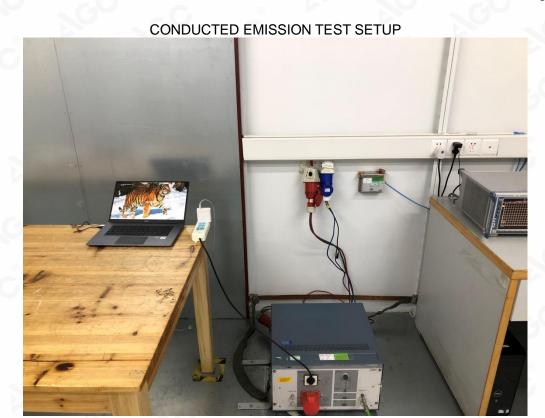


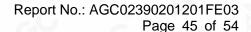
RADIATED EMISSION TEST SETUP ABOVE 1GHZ





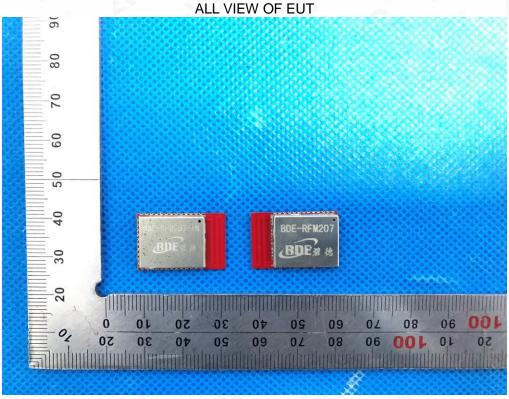
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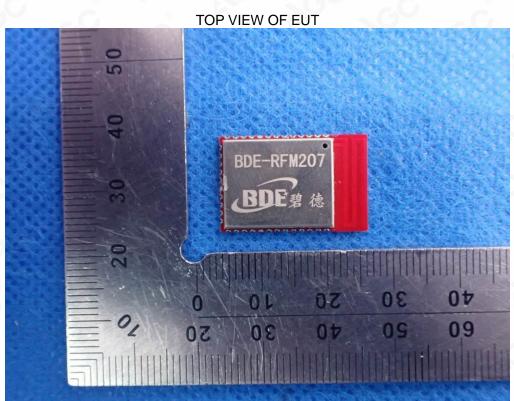




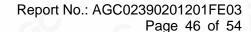
APPENDIX B: PHOTOGRAPHS OF EUT



## Main model:

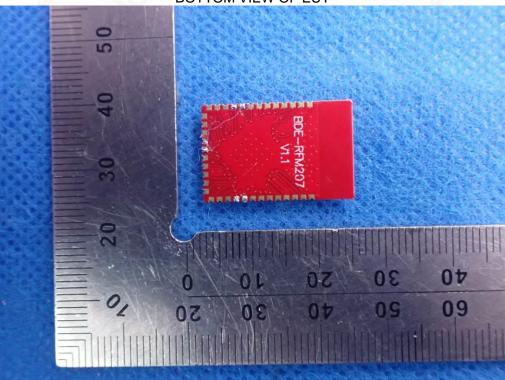


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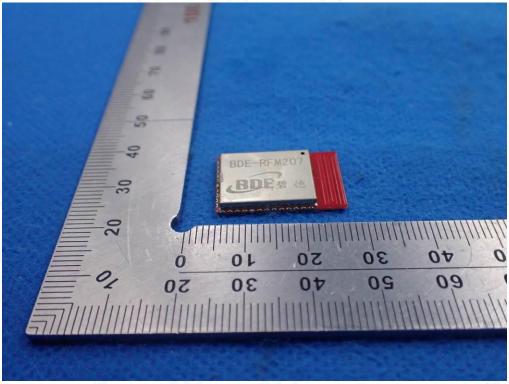








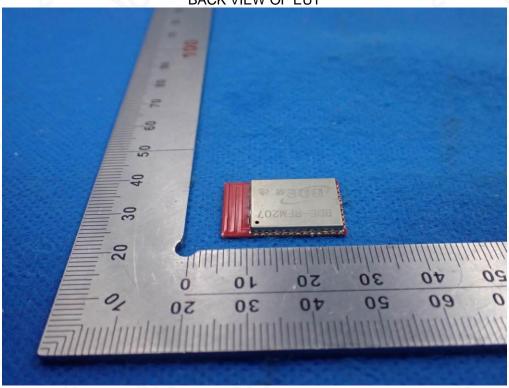
FRONT VIEW OF EUT



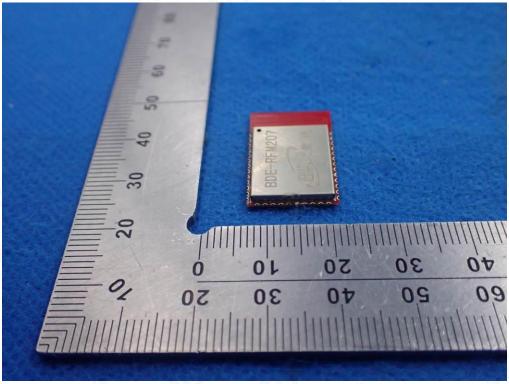


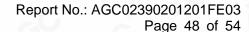
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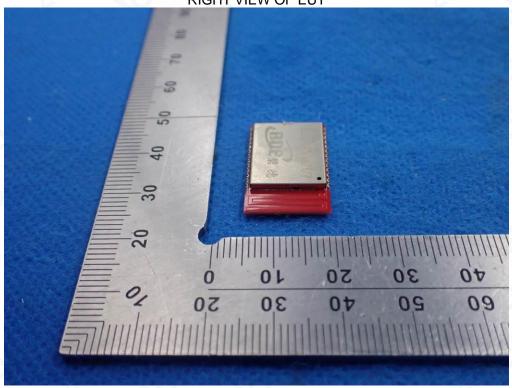
LEFT VIEW OF EUT



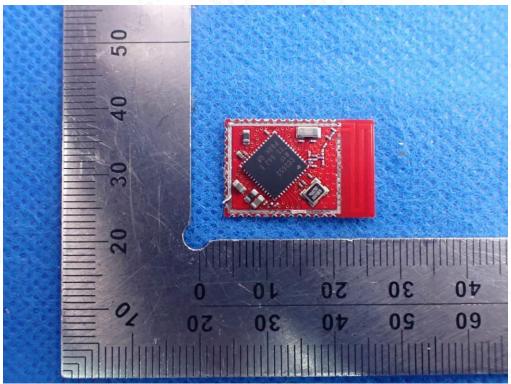


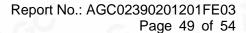






**INTERNAL VIEW-1 OF EUT** 











**INTERNAL VIEW-3 OF EUT** 



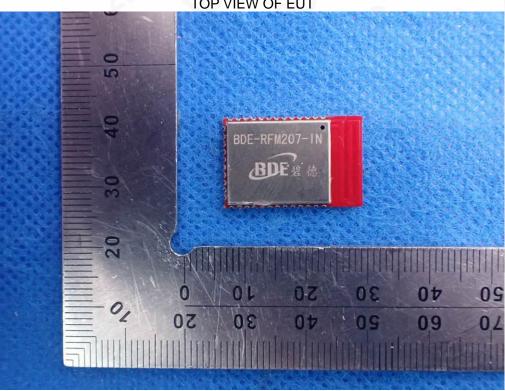
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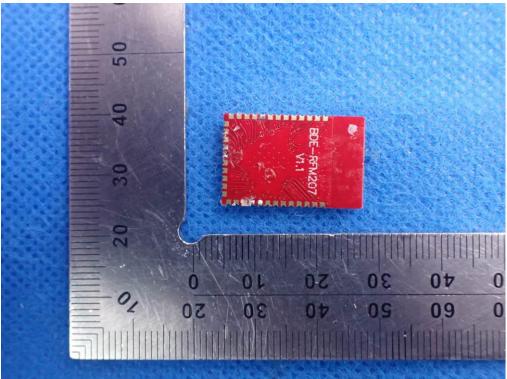
Report No.: AGC02390201201FE03 Page 50 of 54

Series model:



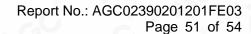


**BOTTOM VIEW OF EUT** 



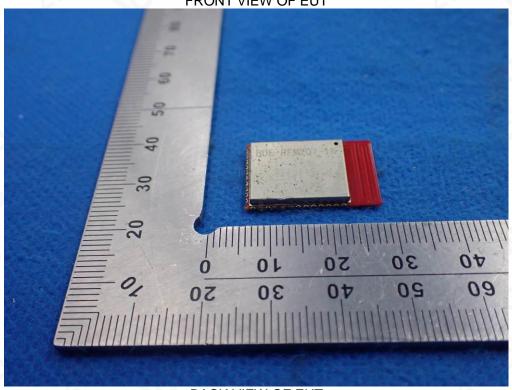
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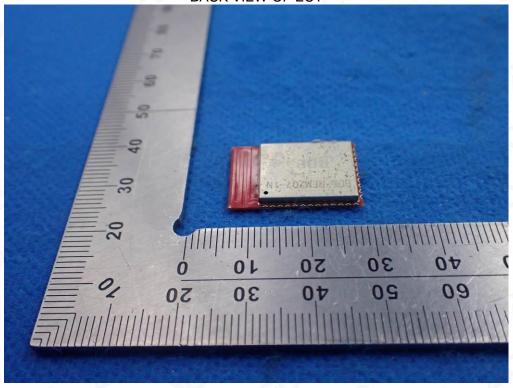


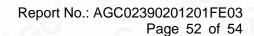


FRONT VIEW OF EUT



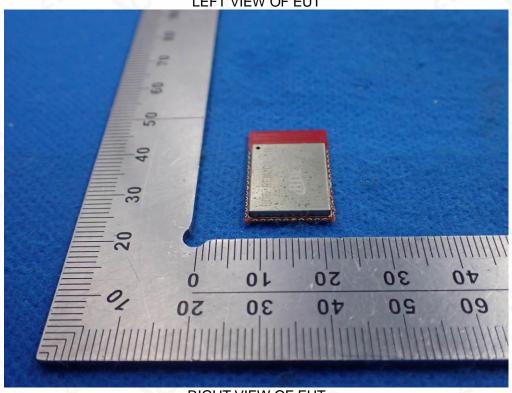




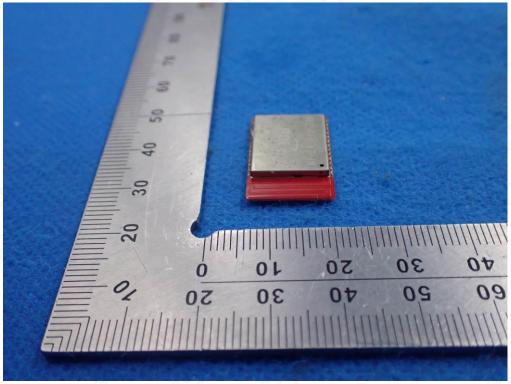




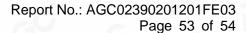






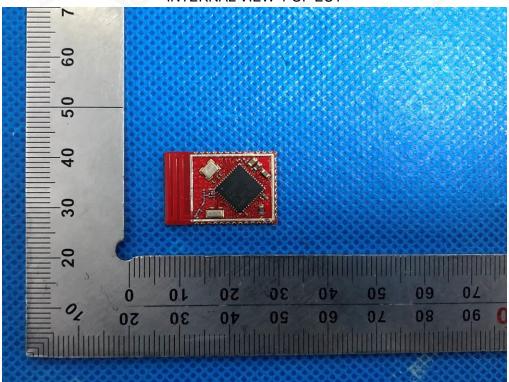


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization 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. The test results

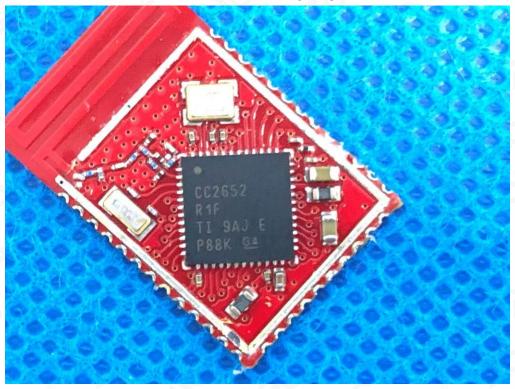


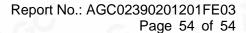


# **INTERNAL VIEW-1 OF EUT**



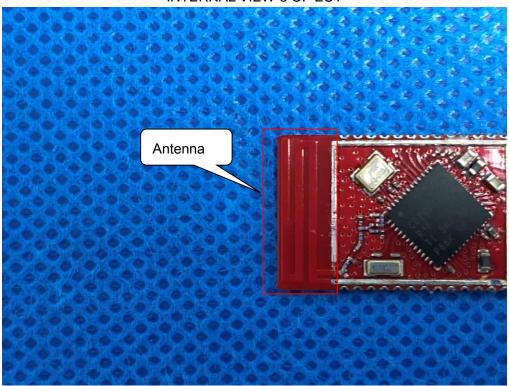
**INTERNAL VIEW-2 OF EUT** 







## **INTERNAL VIEW-3 OF EUT**



----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. The non-CMA report issued by AGC is only permitted to be used by the client as internal reference use and shall not be used for public demonstration purpose.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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.
- 10. 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.