

FCC PART 96.47 CBSD-EUD TEST REPORT

OF

Applicant: Compal Electronics, Inc
 No.581 & 581-1, Ruiguang Rd., Neihu District, Taipei,
 (114) Taiwan

Product Name: 5G M.2 Module

Brand Name: Compal

Model No.: RXM-G1

Model Difference: N/A

Report Number: E2/2019/A0031

FCC ID: GKRRXMG1

FCC Rule Part: Part 96.47

Issue Date: Jul. 02, 2020

Date of Test: Oct. 31, 2019 ~ Jan. 31, 2020

Date of EUT Received: Oct. 31, 2019

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report and has been in compliance with the applicable technical standards.

The test results of this report relate only to the tested sample identified in this report.

Approved By:

CHUN-CHIEH, CHEN
 Chun Chieh Chen / Supervisor



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Revision History

Report Number	Revision	Description	Issue Date	Remark
E2/2019/A0031	Rev.00	Original.	Jul. 02, 2020	Revised By: Karen Huang

Note:

1、Disclaimer

Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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1. GENERAL PRODUCT INFORMATION

1.1. Product Description

General:

Product Name:	5G M.2 Module
Brand Name:	Compal
Model No.:	RXM-G1
Model Difference:	N/A
Hardware Version:	DVT-1
Software Version:	RXMG1.00.00.036
Power Supply:	DC 3.3V
IMEI:	359047100009060

1.2. LTE: Cellular Phone Standards Frequency Range 3500~3700Mhz

LTE Band	BW (MHz)	Operation Frequency (MHz)	
48	5	3552.5	- 3697.5
	10	3555.0	- 3695.0
	15	3557.5	- 3692.5
	20	3560.0	- 3690.0

1.3. Antenna Designation

Vendor	Type	Model Name	Modulation	Frequency (MHz)			Peak Antenna Gain (dBi)
Pulse	PIFA	ANT2	LTE Band 48	3550	~	3700	-2dBi

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1.4. Type of Emission & Max ERP/EIRP Power Measurement Result:

LTE Band	BW	Frequency		Modulation	ERP / EIRP		(W)	99%	Type of Emission
					(dBm/10MHz)				
48	5	3552.5	3697.5	QPSK	21.82	EIRP	0.152	4.5348	4M53G7D
				16QAM	20.86	EIRP	0.122	4.5177	4M52D7W
				64QAM	20.12	EIRP	0.103	4.5197	4M52D7W
				256QAM	16.83	EIRP	0.048	4.5669	4M57D7W
48	10	3555.0	3695.0	QPSK	21.94	EIRP	0.156	9.0583	9M06G7D
				16QAM	21.13	EIRP	0.130	9.0627	9M06D7W
				64QAM	20.07	EIRP	0.102	9.0342	9M03D7W
				256QAM	16.95	EIRP	0.050	9.8718	9M87D7W
48	15	3557.5	3692.5	QPSK	22.92	EIRP	0.196	13.504	13M5G7D
				16QAM	22.04	EIRP	0.160	13.582	13M6D7W
				64QAM	21.00	EIRP	0.126	13.475	13M5D7W
				256QAM	17.17	EIRP	0.052	13.609	13M6D7W
48	20	3560.0	3690.0	QPSK	22.62	EIRP	0.183	18.017	18M0G7D
				16QAM	22.09	EIRP	0.162	18.044	18M0D7W
				64QAM	21.02	EIRP	0.126	18.039	18M0D7W
				256QAM	16.74	EIRP	0.047	19.302	19M3D7W

1.5. Test Methodology of Applied Standards

FCC Part 96.47

FCC KDB 940660 D01 Part 96 CBRS Eqpt V02

Note: All test items have been performed and record as per the above standards.

1.6. Test Facility

SGS Taiwan Ltd. Central RF Lab (TAF code 3702)
No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333

FCC Registration Numbers are: TW0028

1.7. Special Accessories

No special accessories were used during testing.

1.8. Equipment Modifications

There were no modifications incorporated into the EUT.

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2. SUMMARY OF TEST RESULTS

2.1. Summary of test results

FCC Rules	Description Of Test	Result
§96.47(a) (1)	End User Device additional requirements	Compliant

Note

Determining compliance base on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.2. Reporting statements of conformity

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

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3. MEASUREMENT

3.1. End User Device additional requirements

FCC Part 96.47

(a) End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

(1) An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

3.2. Test Procedure

The EUT was connected to a certified Gentek CBSD (FCC ID: MXF-WLTGFC105 and qualified by WInnForum) as the companion device to show compliance with Part 96.47 requirement.

Note: EUT = End User Device (EUD)

3.3. Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

1. Setup with frequency 3560MHz and power level 22dBm/MHz
2. Enable AP service from EPC management
3. Check EUD Tx Frequency and power
4. Disable AP service from EPC management
 - a. Check EUD stops transmission within 10seconds.
5. Setup with 3690MHz & power level 3dBm/MHz
6. Enable AP service from EPC management
7. Check EUD Tx Frequency and power
8. Disable AP service from EPC management
 - a. Check EUD stops transmission within 10seconds.

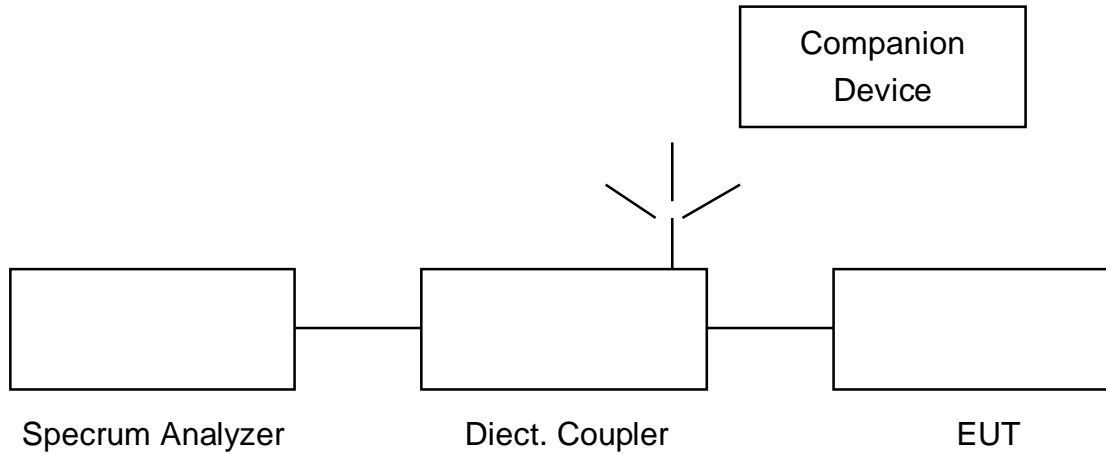
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3.4. Test Configuration of Equipment Under Test:

Connection Diagram of Test System



The companion device is certified CBRS (FCC ID: MXF-WLTGFC105)

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3.5. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120200	03/06/2019	03/05/2020
Attenuator	Woken	WATT-218FS-10	RF25	11/20/2019	11/19/2020
Attenuator	Marvelous	MVE2213-30	RF24	11/20/2019	11/19/2020
Splitter	RF-LAMBAD	RFLT2W1G18G	RF35	11/20/2019	11/19/2020
Splitter	Marvelous	MVE8586	RF265	11/20/2019	11/19/2020
DC Block	PASTERNAK	PE8210	RF32	11/20/2019	11/19/2020
Coaxial Cables	Woken	00100A1F1A185C	RF229	11/20/2019	11/19/2020
Coaxial Cables	Woken	00100A1F1A185C	RF230	11/20/2019	11/19/2020
Coaxial Cables	Woken	00100A1F1A185C	RF03	11/20/2019	11/19/2020
RJ-45 Cable	AMP Netconnect	RJ-45	RF300	N/A	N/A
RJ-45 Cable	AMP Netconnect	RJ-45	RF301	N/A	N/A
RJ-45 Cable	AMP Netconnect	RJ-45	RF302	N/A	N/A
RJ-45 Cable	AMP Netconnect	RJ-45	RF303	N/A	N/A
AP	PC i-	FXG-05TX	N/A	N/A	N/A
CBSD	Gentek	WLTGFC-105	SN: N/A FCC ID:MXF-WLT GFC105	N/A	N/A
EPC	Gentek	CSB-3230A-GT1	1412902099	N/A	N/A
Notebook	Lenovo	L420	S0011721	N/A	N/A

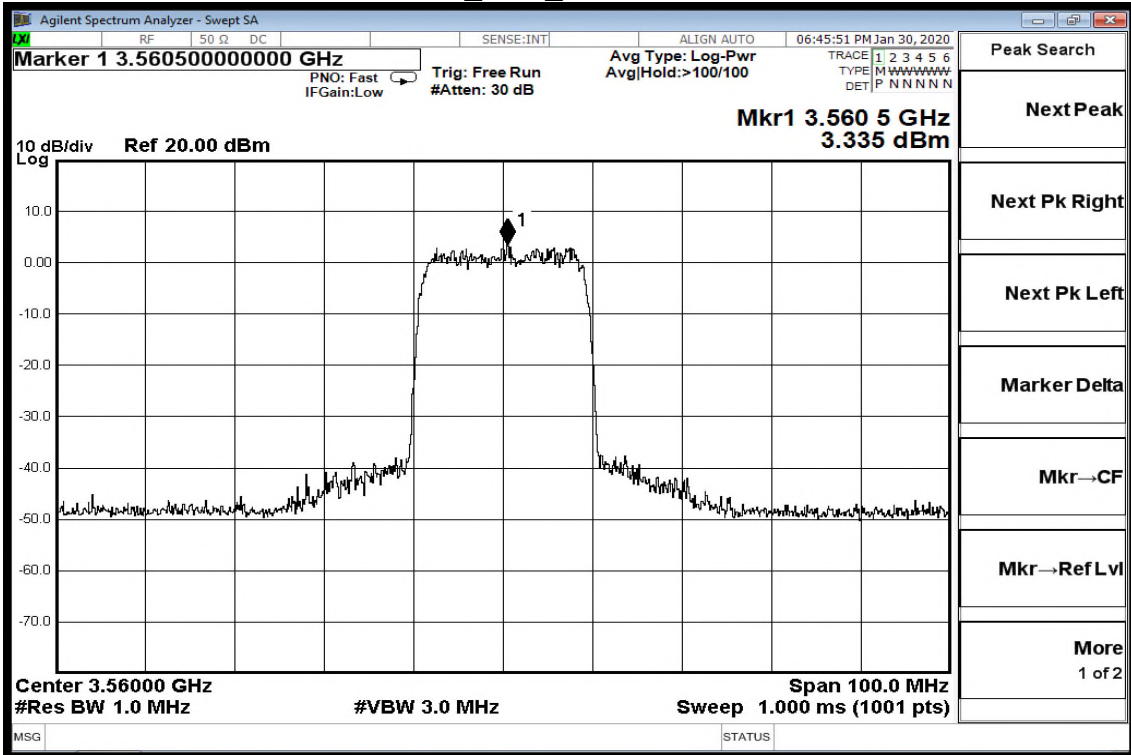
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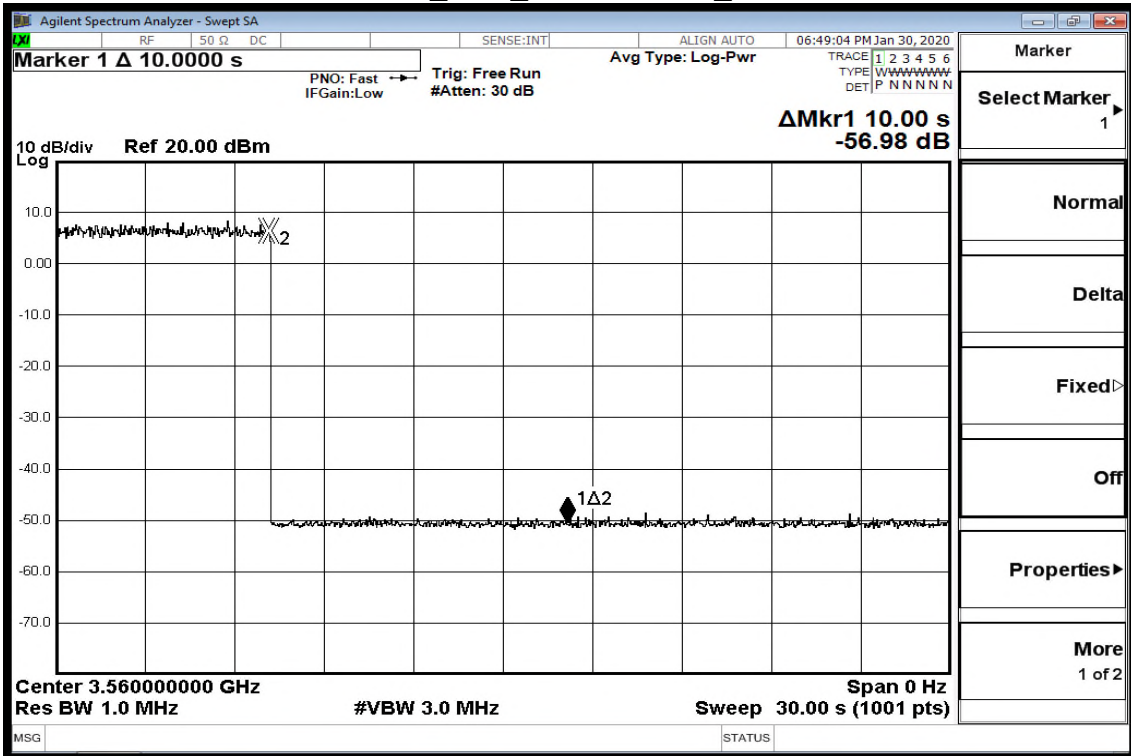
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3.6. Measurement Result

3560_20M_EIRP 22dBm



3560_20M_EIRP 22dBm_10s

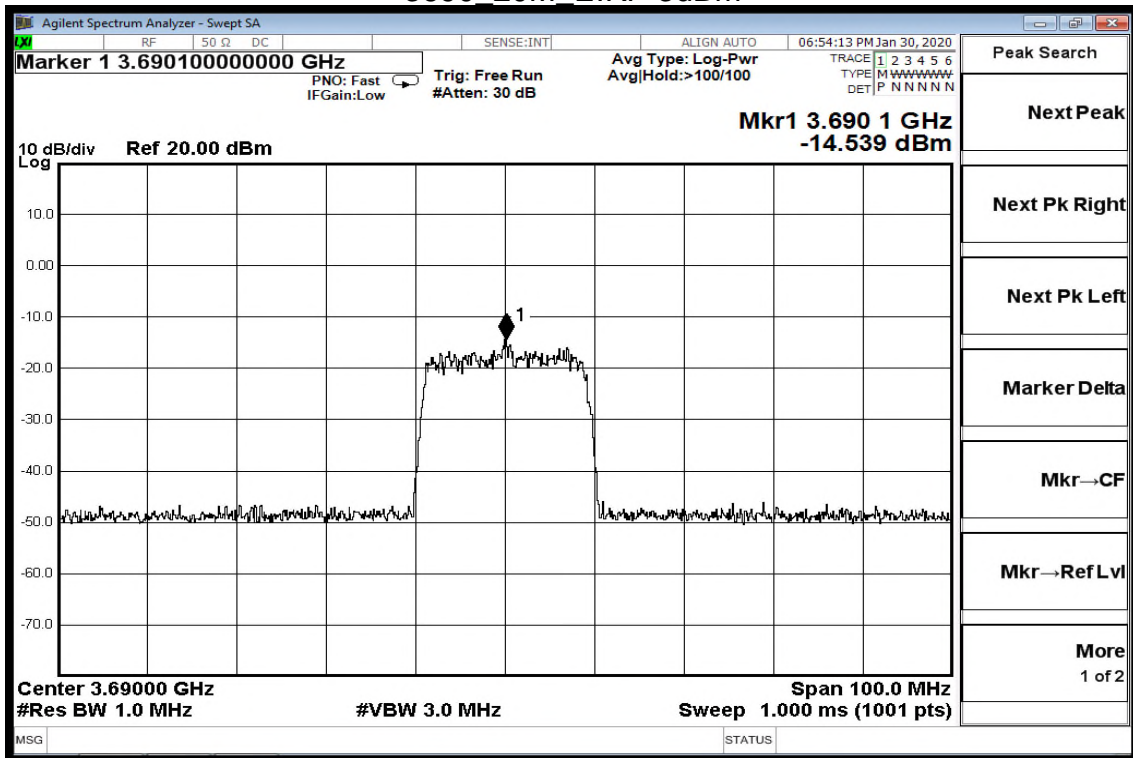


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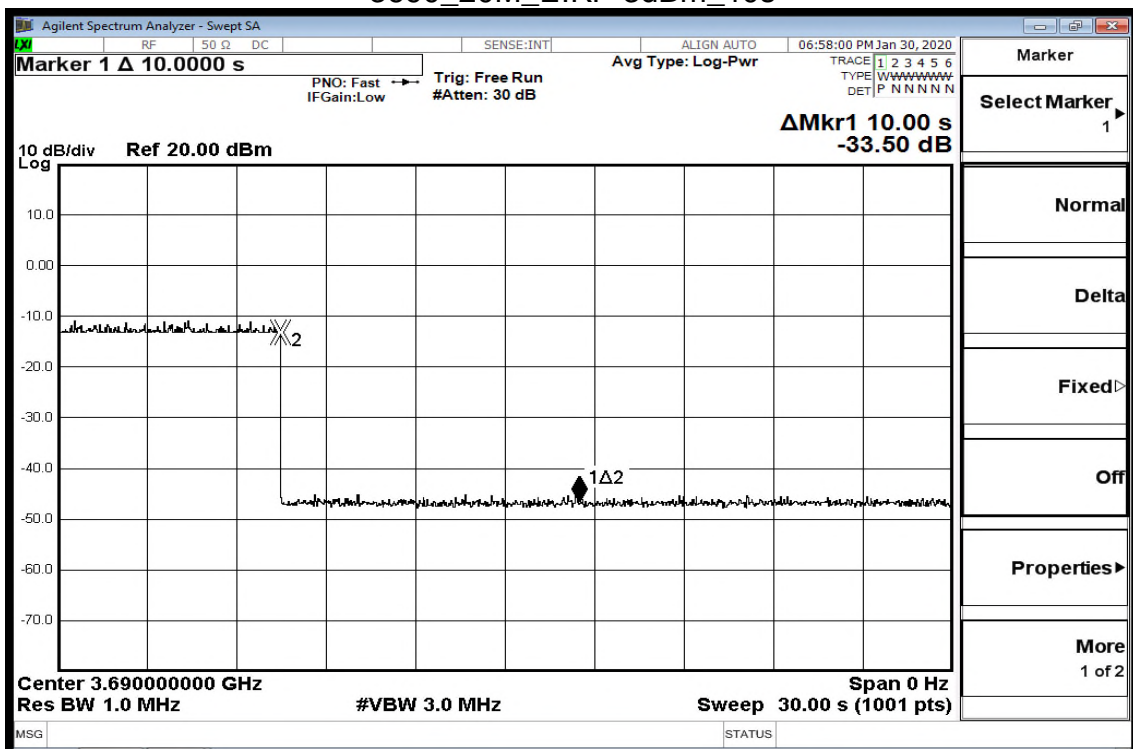
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3690 20M EIRP 3dBm



3690_20M_EIRP 3dBm_10s



~ End of Report ~

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