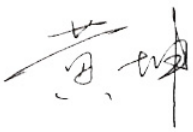
TEST REPORT

Applicant:	Fibocom Wireless Inc.
EUT Description:	5G Module
Model Tested:	FG180W-NA
Model Covered:	FG180-NA
Brand:	Fibocom
FCC ID:	ZMOFG180WNA
Standards:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 96.47
Date of Receipt:	2024/09/05
Date of Test:	2024/09/05 to 2024/10/21
Date of Issue:	2024/10/21

TOWE. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.



Huangkun
Approved By:

ChenChengfu
Reviewed By:

Revision History

Rev.	Issue Date	Description	Revised by
01	2024/10/21	Original	ChenChengfu

Summary of Test Results

Band	FCC Part	Test Item	Verdict
LTE Band 48/NR n48	§96.47	End user device additional requirements	Pass

Contents

1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014
Tel.: +86-755-27212361
Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353
Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory. Designation Number: CN1353.

ISED CAB identifier: CN0152
Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0152
Company Number: 31000

1.2 Client Information

1.2.1 Applicant

Applicant:	Fibocom Wireless Inc.
Address:	1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.2.2 Manufacturer

Manufacturer:	Fibocom Wireless Inc.
Address:	1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.3 Product Information

<table>
<tr><td>EUT Description:</td><td colspan="5">5G Module</td></tr>
<tr><td>Model Tested:</td><td colspan="5">FG180W-NA</td></tr>
<tr><td>Model Covered:</td><td colspan="5">FG180-NA</td></tr>
<tr><td>Brand:</td><td colspan="5">Fibocom</td></tr>
<tr><td>Hardware Version:</td><td colspan="5">V1.3</td></tr>
<tr><td>Software Version:</td><td colspan="5">99111.1000.00.01.01.04</td></tr>
<tr><td>IMEI:</td><td colspan="5">868640070000389</td></tr>
<tr><td colspan="6">Technical specification:</td></tr>
<tr><td rowspan="2">Modulation Type:</td><td colspan="5">LTE:
☒ QPSK, ☒ 16QAM, ☒ 64QAM, ☒ 256QAM</td></tr>
<tr><td colspan="5">NR:
☒ DFT-s-OFDM:
Pi/2-BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
☒ CP-OFDM:
QPSK, 16-QAM, 64-QAM, 256-QAM</td></tr>
<tr><td rowspan="5">Operation Frequency Range:</td><td>Band</td><td colspan="2">TX Frequency</td><td colspan="2">RX Frequency</td></tr>
<tr><td>LTE Band 42</td><td colspan="2">3550 to 3600 MHz</td><td colspan="2">3550 to 3600 MHz</td></tr>
<tr><td>LTE Band 43</td><td colspan="2">3600 to 3700 MHz</td><td colspan="2">3600 to 3700 MHz</td></tr>
<tr><td>LTE Band 48</td><td colspan="2">3550 to 3700 MHz</td><td colspan="2">3550 to 3700 MHz</td></tr>
<tr><td>NR Band n48</td><td colspan="2">3550 to 3700 MHz</td><td colspan="2">3550 to 3700 MHz</td></tr>
<tr><td>Antenna Type:</td><td colspan="5">☒ External, ☐ Integrated</td></tr>
<tr><td rowspan="5">Antenna Gain:</td><td>Band</td><td>Ant1(dBi)</td><td>Ant2(dBi)</td><td>Ant7(dBi)</td><td>Ant8(dBi)</td></tr>
<tr><td>LTE Band 42:</td><td>-6.13</td><td>-6.13</td><td>-6.13</td><td>-6.13</td></tr>
<tr><td>LTE Band 43:</td><td>-6.13</td><td>-6.13</td><td>-6.13</td><td>-6.13</td></tr>
<tr><td>LTE Band 48</td><td>-6.13</td><td>-6.13</td><td>-6.13</td><td>-6.13</td></tr>
<tr><td>NR Band n48</td><td>-6.13</td><td>-6.13</td><td>-6.13</td><td>-6.13</td></tr>
<tr><td colspan="6">Remark:
1. The above EUT's information was declared by applicant, please refer to the specifications or user manual for more detailed description.
2. Reference applicant Product Equality Declaration:
The model FG180-NA is the variant of the initial certified product FG180W-NA.
The difference between them are that the model FG180W-NA with RF interface while FG180-NA without only.</td></tr>
</table>

2 Test Configuration

2.1 Description of test setup

Description	Manufacturer	Model	Serial Number
Development Board *	Fibocom	ADP-FG190B-NA-21-00	/
Remark: * the information of table is provided by client.			

2.2 Test Environment

Temperature:	Normal: 24.3℃
Relative Humidity	41% RH Ambient
Voltage:	Nominal: 3.8 Vdc, Extreme: Low 3.3 Vdc, High 4.4 Vdc

2.3 Test RF Cable

For all conducted test items: The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.

2.4 Modifications

No modifications were made during testing.

3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable recognized national standards.

3.1 Test Equipment List

Radiated Emission					
Description	**Manufacturer**	**Model**	**SN**	**Last Due**	**Cal Due**
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2024/05/30	2025/05/29

3.2 Measurement Uncertainty

Parameter	U_{lab}
Frequency error	371.88Hz

Uncertainty figures are valid to a confidence level of 95%

4 Test Results

4.1 End user Device Additional Requirements.

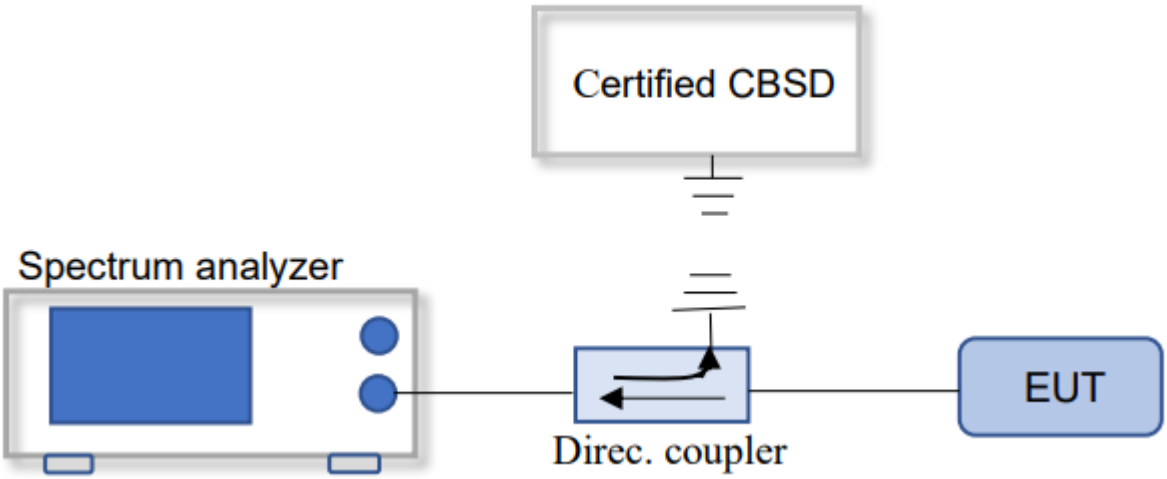
Limits

End User Devices will operate only after it receives authorization from an associated CBSD, including the frequencies and power limits for their operation.
End User Devices discontinues operation, changes Frequency, and changes its operational power level within 10 s of receiving instructions from its associated CBSD.

Test Procedure

KDB 940660 D01 Part 96 CBRS Eqpt v02, WINNF-TS-0122 V1.0.2

Test Setup



Test Settings

Based on the End user device additional requirements. During the test, use a certified Ruckus CBSD device (FCC ID: 2AG32BSC7048A243) as a companion device.

1. Configure CBSD to operate at 3600MHz~3625MHz, and Power level 10dBm/MHz
2. Enable AP service from Ruckus Cloud management
3. Check End User Devices Frequency and Power
4. Disable AP service from Ruckus Cloud management, check whether the EUT stops transmitting within 10s
5. Repeat step 2 to step 4 with the CBSD operating at 3670MHz~3690MHz, and Power level 20dBm/MHz.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix.**

5 Test Setup Photos

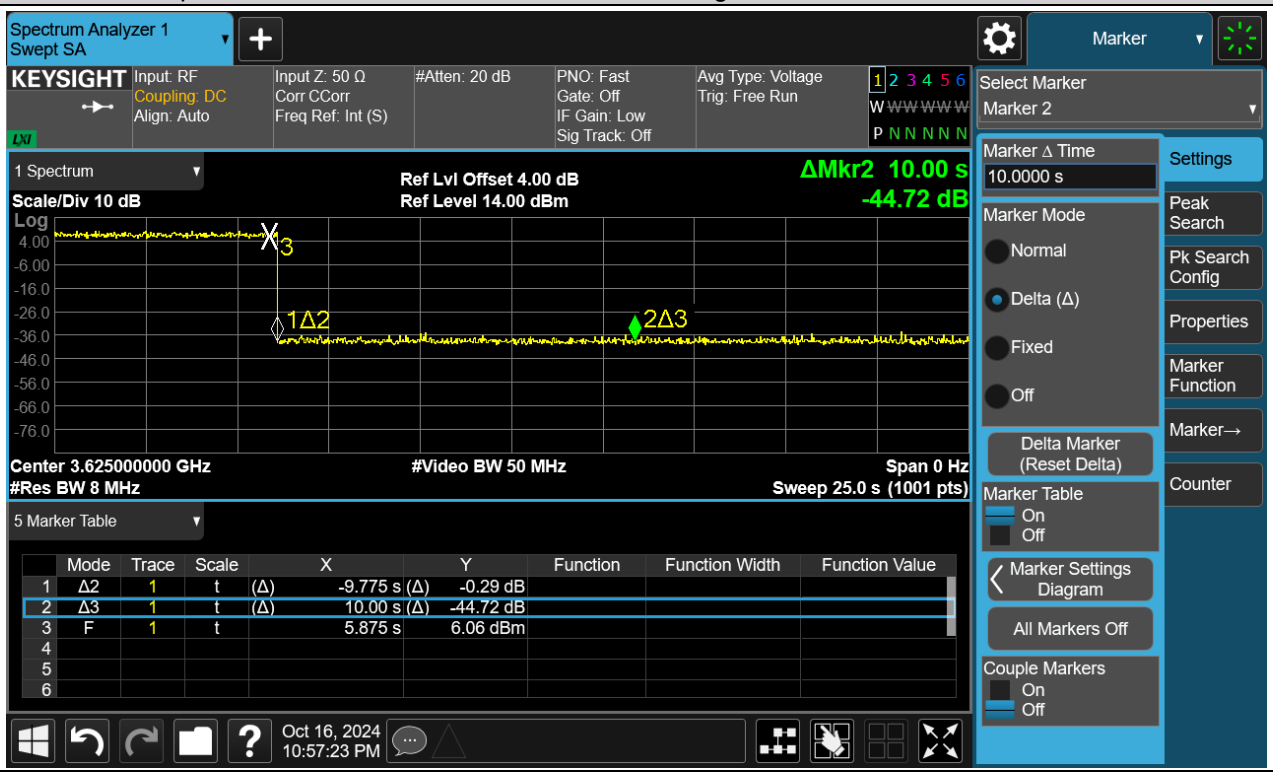
The detailed test data see: **Test Setup Photos**

Appendix

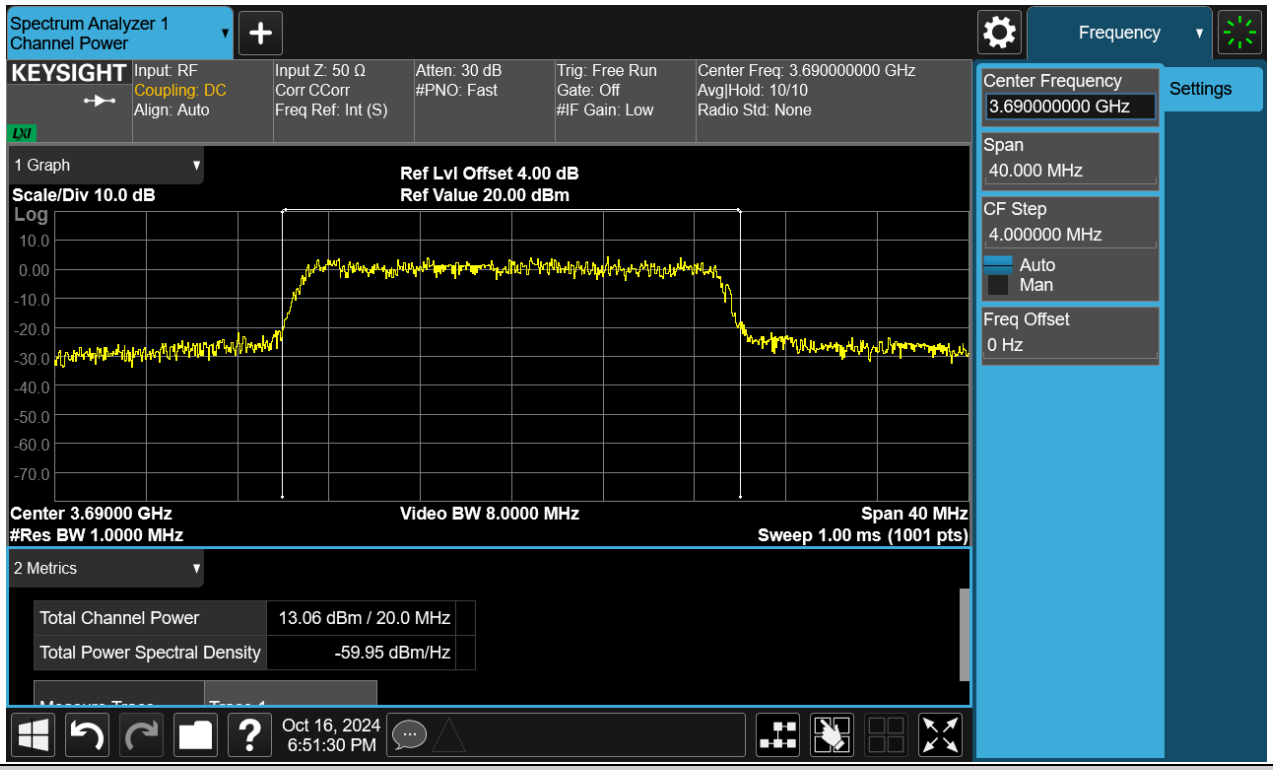
LTE

Bandwidth: 10MHz Setup with frequency 3625MHz and power level 10dBm/MHz

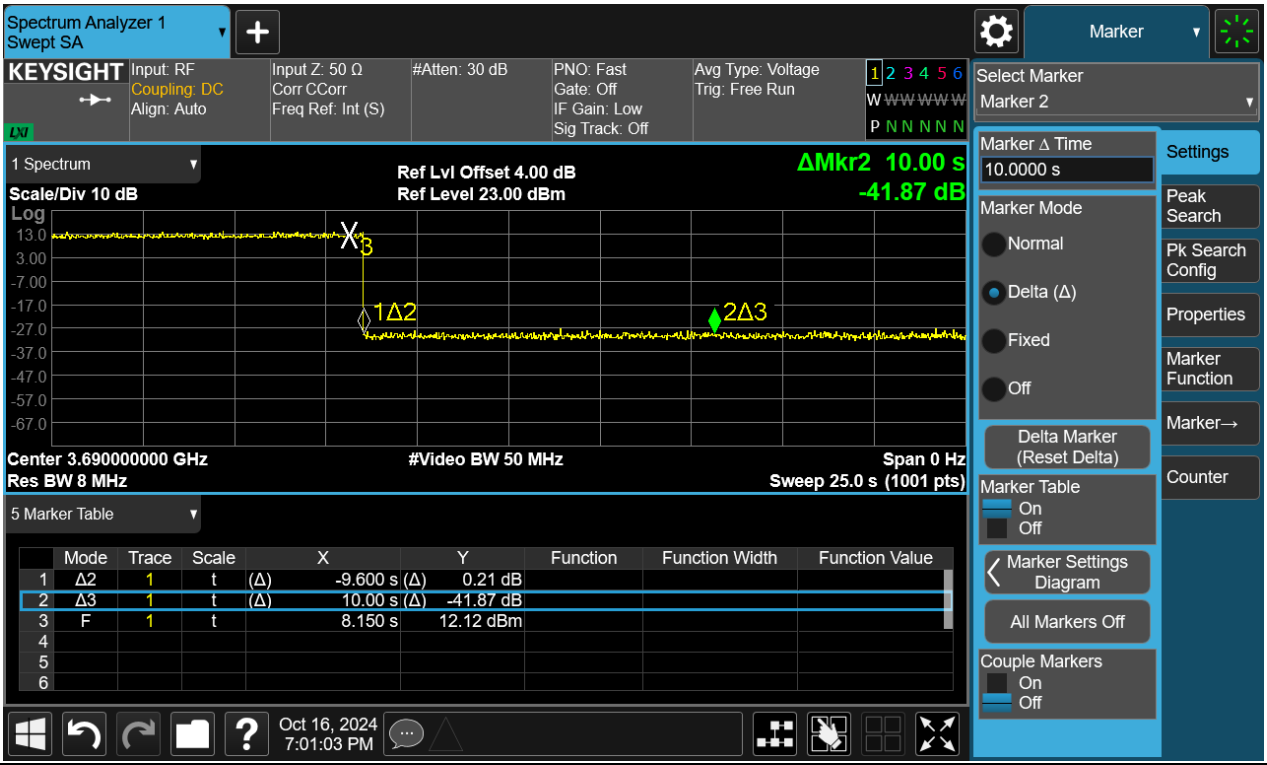
EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.



Bandwidth: 20MHz Setup with frequency 3690MHz and power level 20dBm/MHz

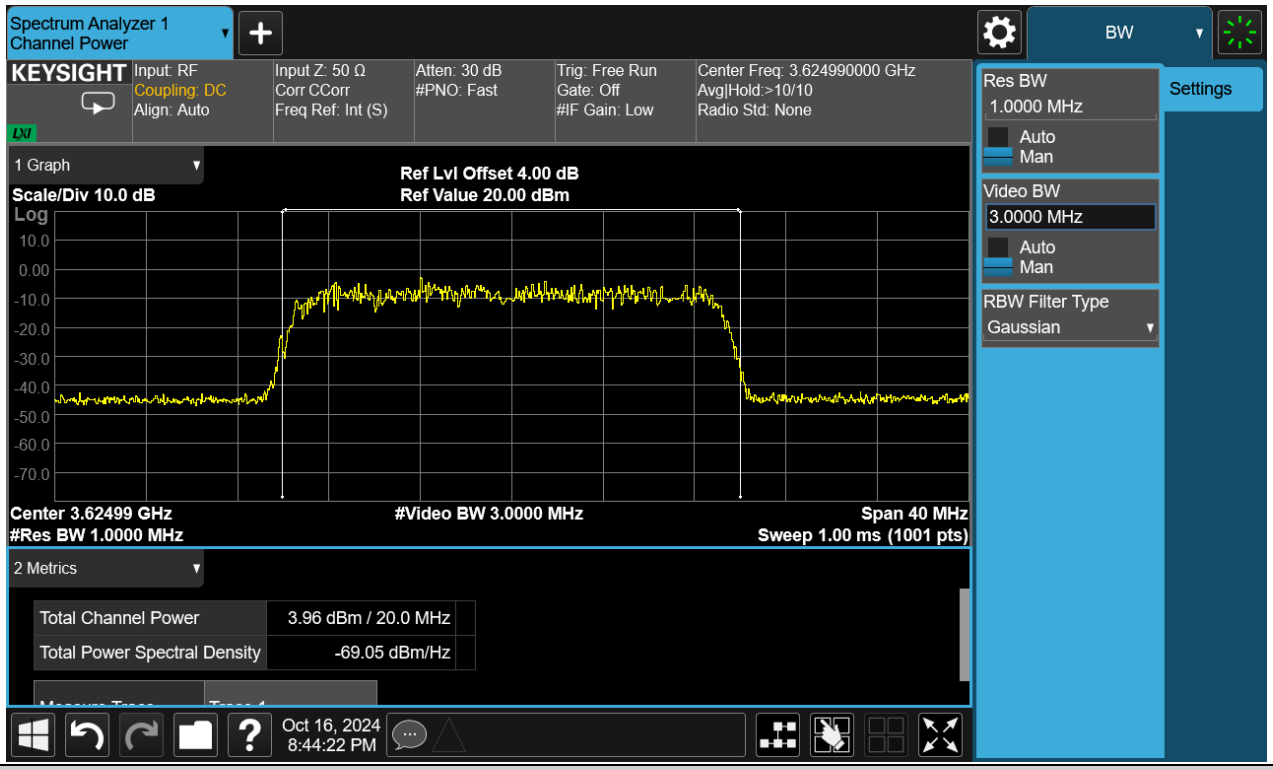


EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.

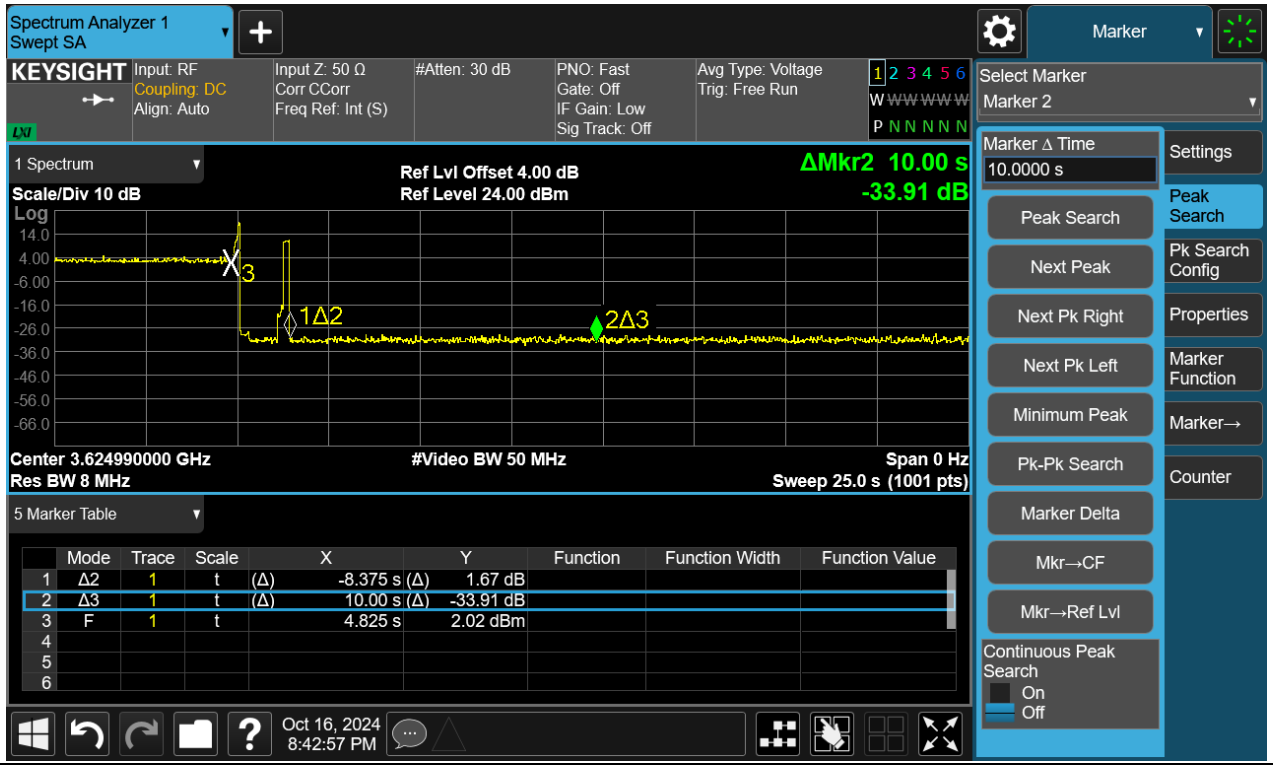


NR

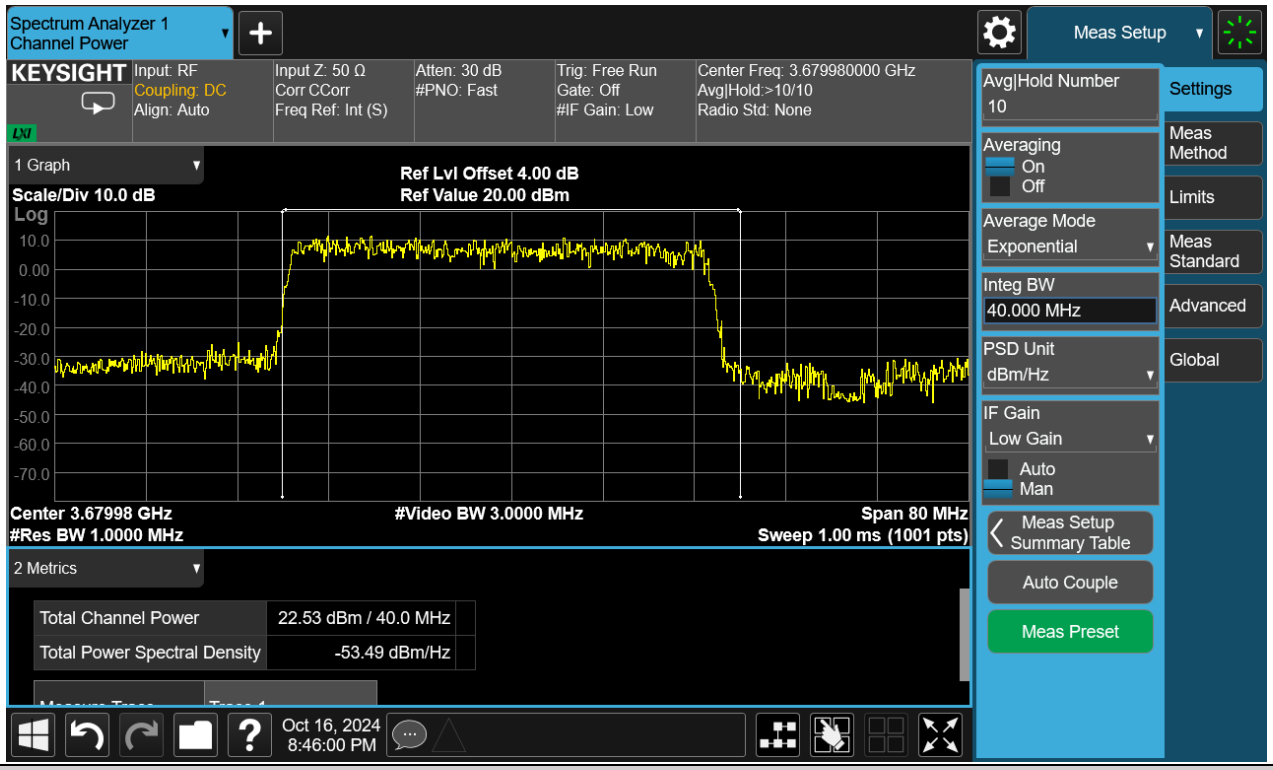
Bandwidth: 20MHz Setup with frequency 3624.99MHz and power level 10dBm/MHz



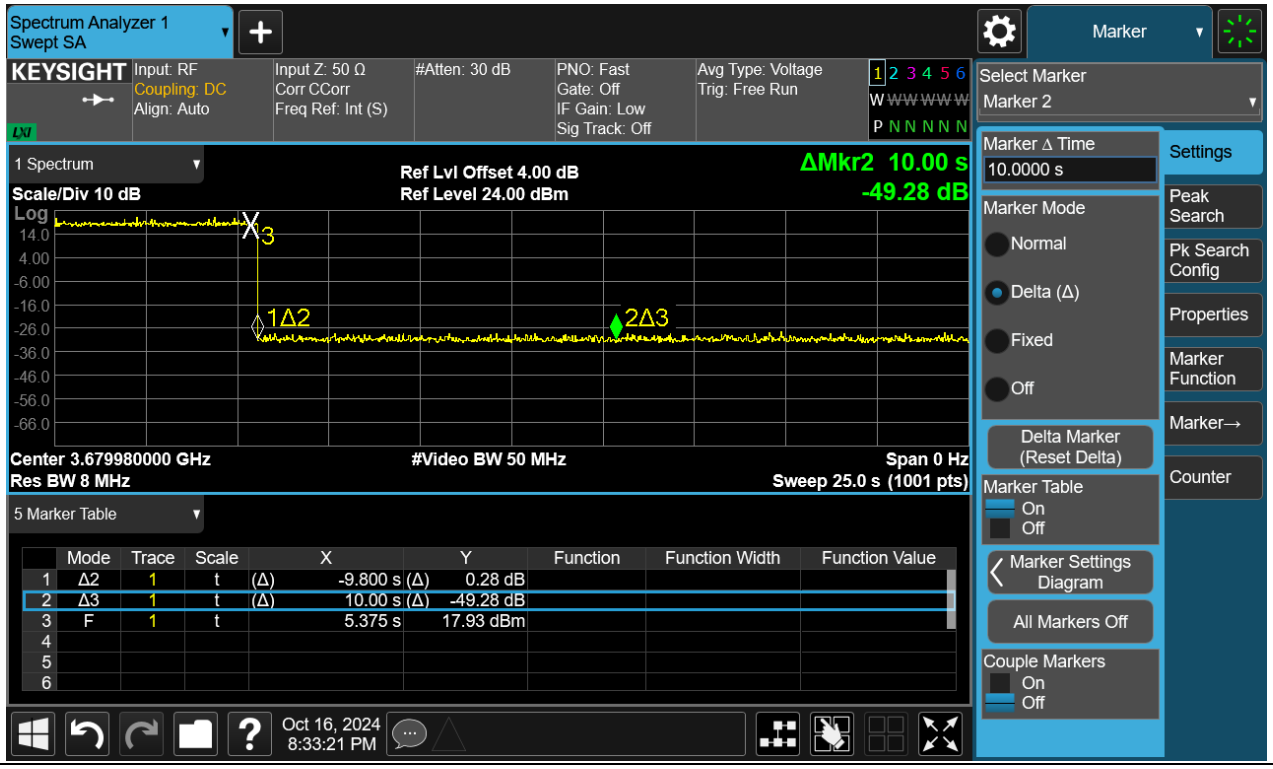
EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.



Bandwidth: 40MHz Setup with frequency 3679.98MHz and power level 20dBm/MHz



EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.



~The End~