

TEST REPORT

Applicant: PepperlFuchs SE

EUT Description: Smart-Ex 203

Model: Smart-Ex 203

Brand: PEPPERL+FUCHS

FCC ID: 2AXZAS203GR01

Standards: FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 96.47

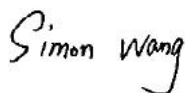
Date of Receipt: 2024/11/22

Date of Test: 2024/11/22 to 2025/03/13

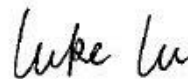
Date of Issue: 2025/03/13

BV7L. 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 BV7L, the test report shall not be reproduced except in full.



Approved By: Simon Wang



Reviewed By: Luke Lu

Revision History

Rev.	Issue Date	Description	Revised by
01	2025/03/13	Original	

Summary of Test Results

FCC Part	Test Item	Verdict
§96.47	End user device additional requirements	Pass

Contents

1	GENERAL DESCRIPTION	5
1.1	LAB INFORMATION	5
1.1.1	TESTING LOCATION	5
1.1.2	TEST FACILITY / ACCREDITATIONS	5
1.2	CLIENT INFORMATION.....	5
1.2.1	APPLICANT	5
1.2.2	MANUFACTURER	5
1.3	PRODUCT INFORMATION.....	6
2	TEST CONFIGURATION.....	7
2.1	DESCRIPTION OF TEST SETUP	7
2.2	TEST ENVIRONMENT	7
2.3	TEST RF CABLE.....	7
2.4	MODIFICATIONS	7
3	EQUIPMENT AND MEASUREMENT UNCERTAINTY	8
3.1	TEST EQUIPMENT LIST.....	8
3.2	MEASUREMENT UNCERTAINTY	8
4	TEST RESULTS	9
4.1	END USER DEVICE ADDITIONAL REQUIREMENTS.	9
5	TEST SETUP PHOTOS.....	10
	APPENDIX.....	11

1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurements tests were conducted at the Sporton International Inc.(Kunshan) facility located at No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014
Tel.: +86-512-57900158.

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 5145.02)

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.: CN1257

Sporton International Inc.(Kunshan) has been recognized as an accredited testing laboratory.
Designation Number: CN1257.

1.2 Client Information

1.2.1 Applicant

Applicant:	PepperlFuchs SE
Address:	Lilienthalstrasse 200, 68307, Mannheim, Germany

1.2.2 Manufacturer

Manufacturer:	PepperlFuchs SE
Address:	Lilienthalstrasse 200, 68307, Mannheim, Germany

1.3 Product Information

EUT Description:	Smart-Ex 203		
Model:	Smart-Ex 203		
Brand:	PEPPERL+FUCHS		
Hardware Version:	DVT2		
Software Version:	S203.14.00.00.056.4_USERDEBUG		
Technical specification:			
Operation Frequency Range:	Band	All Frequency	CBSD Work Frequency
	LTE Band 48	3550 to 3700 MHz	3550 to 3700 MHz
	NR Band n48	3550 to 3700 MHz	3550 to 3700 MHz
Antenna Type:	Coupling type (LDS) Antenna		
Antenna Gain:	Band	Ant (dBi)	
	LTE Band 48 NR Band n48	ANT7: -0.48dBi	
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user manual for more detailed description.			

2 Test Configuration

2.1 Description of test setup

Description	Manufacturer	Model	ID
Base Station	Baicells	BSC7048A243	
Base Station	Baicells	mBS31001	
Router	TP Link	TL-WDR6300	/
Laptop	DELL	Latitude 3510	/

2.2 Test Environment

Temperature:	24°C ~ 26°C
Relative Humidity	45-56 % RH Ambient
Voltage:	Nominal: 3.8Vdc

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
Signal Analyzer	Keysight	N9020A			
Power Divider	Qotana	DBPD0200001800C			

3.2 Measurement Uncertainty

Parameter	U_{lab}
Frequency error	

Uncertainty figures are valid to a confidence level of 95%

4 Test Results

4.1 End user Device Additional Requirements.

Limits

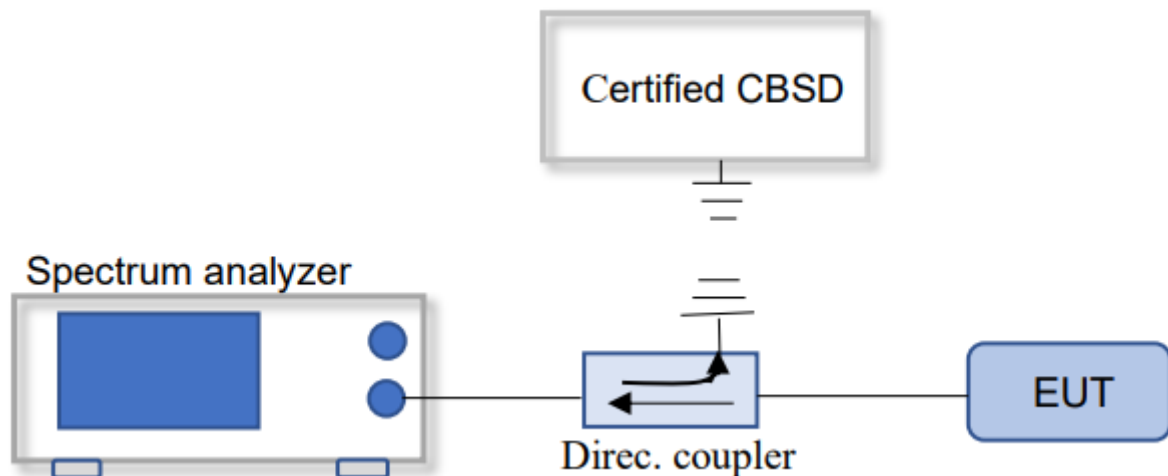
End User Devices will operate only after it receives authorization from an associated CBSD, including the frequencies and power limits for their operation.

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 (LTE Base Station FCC ID:XXXXXXXXXXXXXX, NR Base Station FCC ID: XXXXXXXXXXXXXXXXX) as a companion device.

1. Configure CBSD to operate at 3600MHz~3625MHz, 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, 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**.

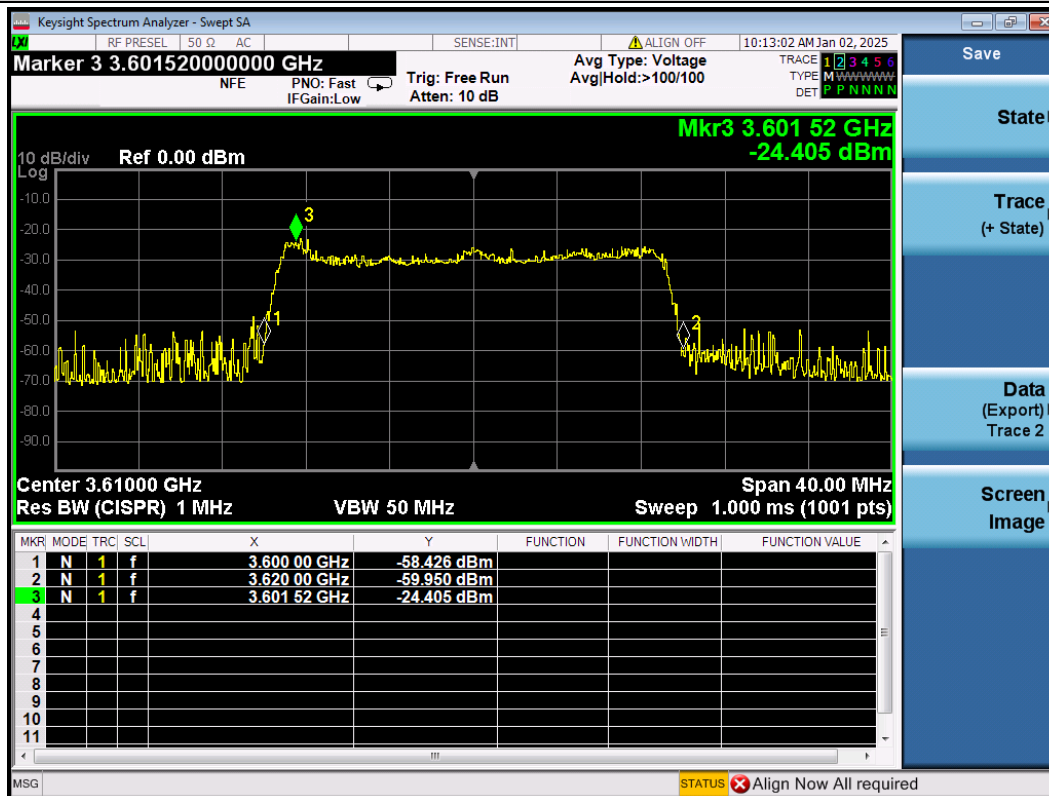
5 Test Setup Photos

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

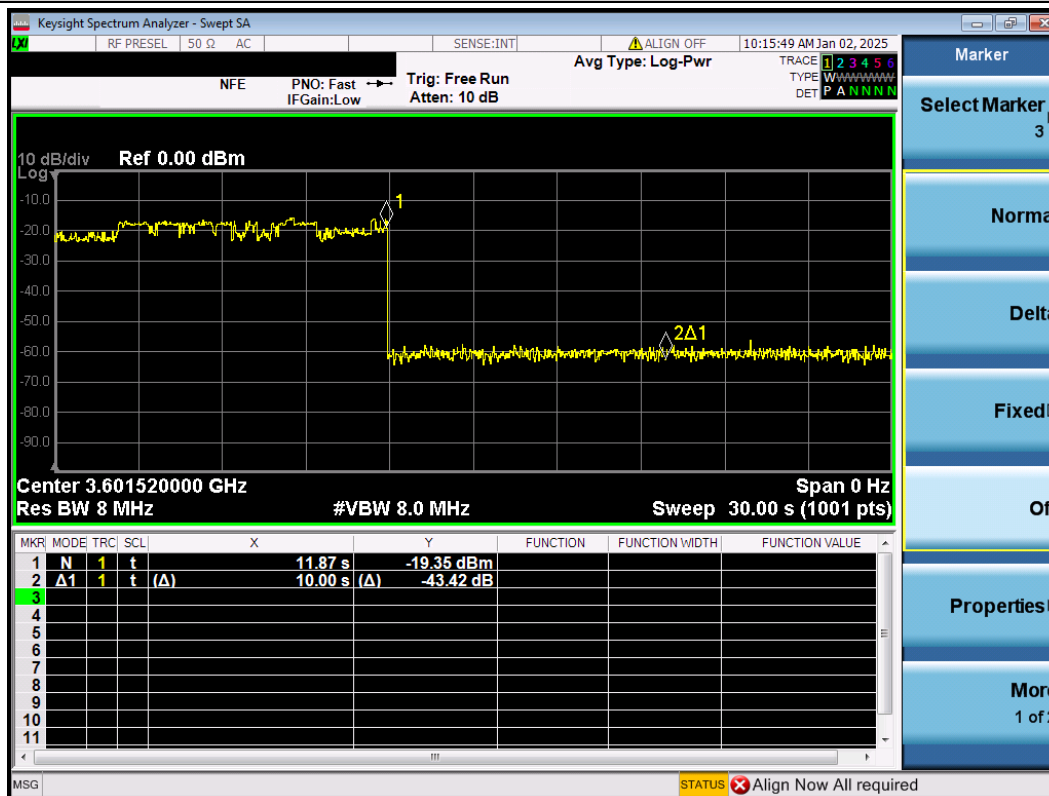
Appendix

LTE

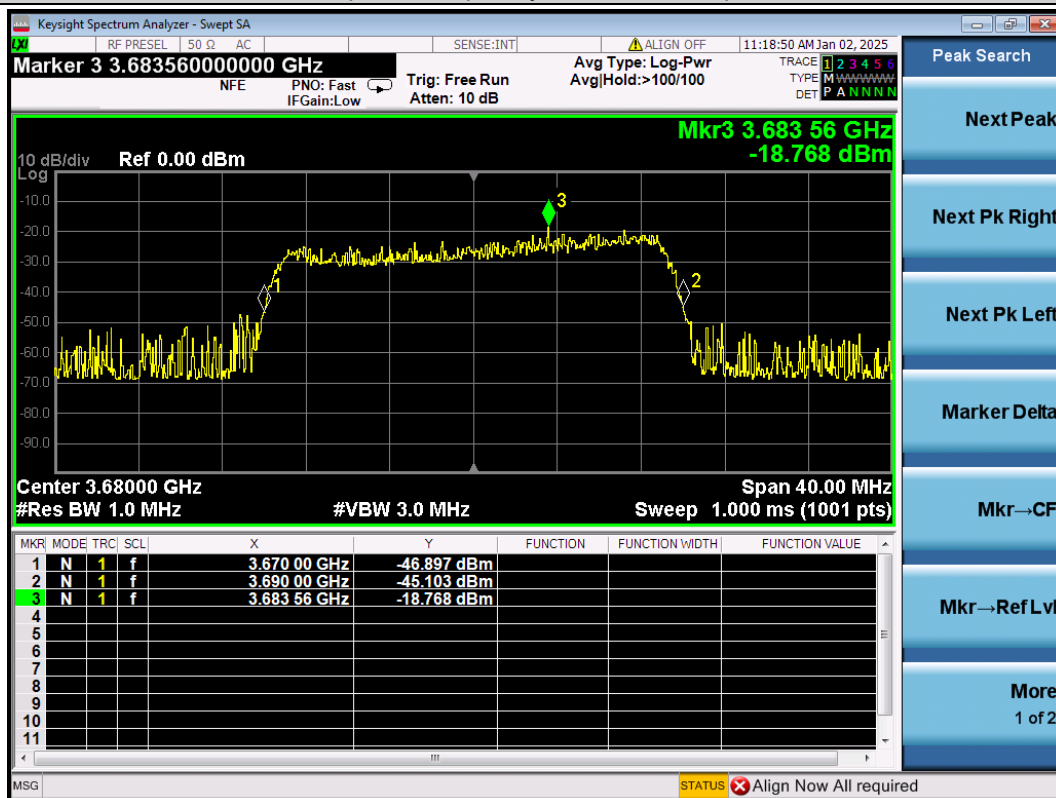
Bandwidth: 20MHz Setup with frequency 3610MHz and power level 10dBm/MHz



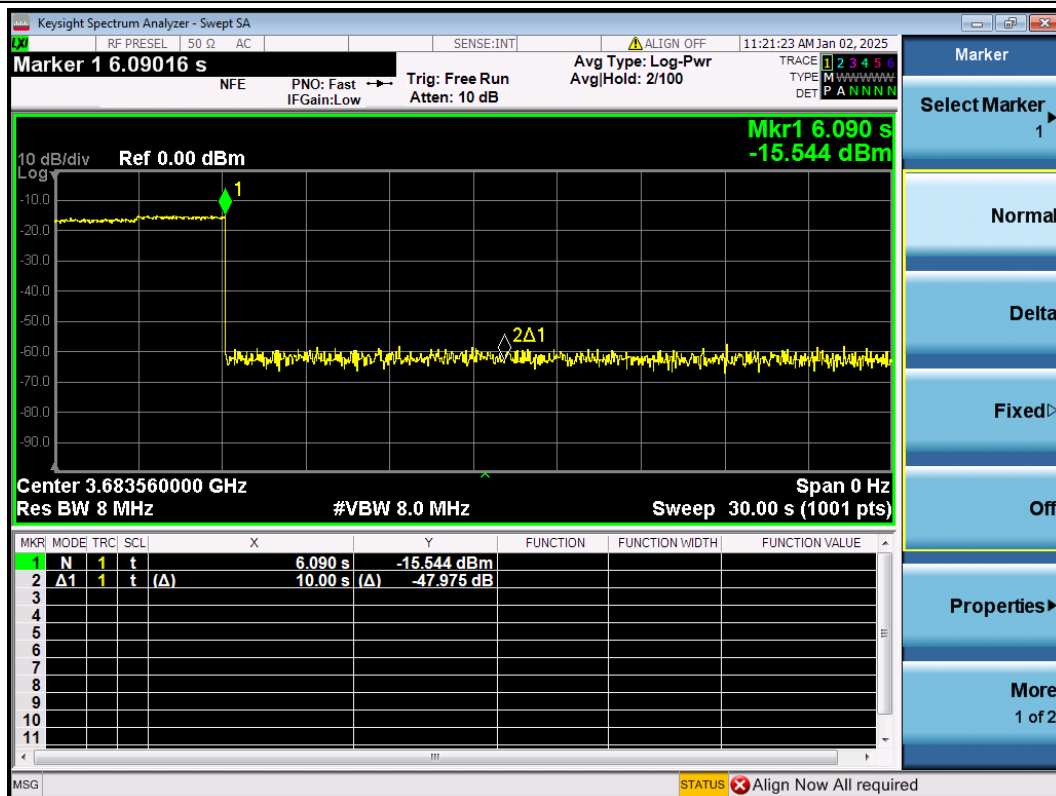
EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.



Bandwidth: 20MHz Setup with frequency 3680MHz and power level 20dBm/MHz

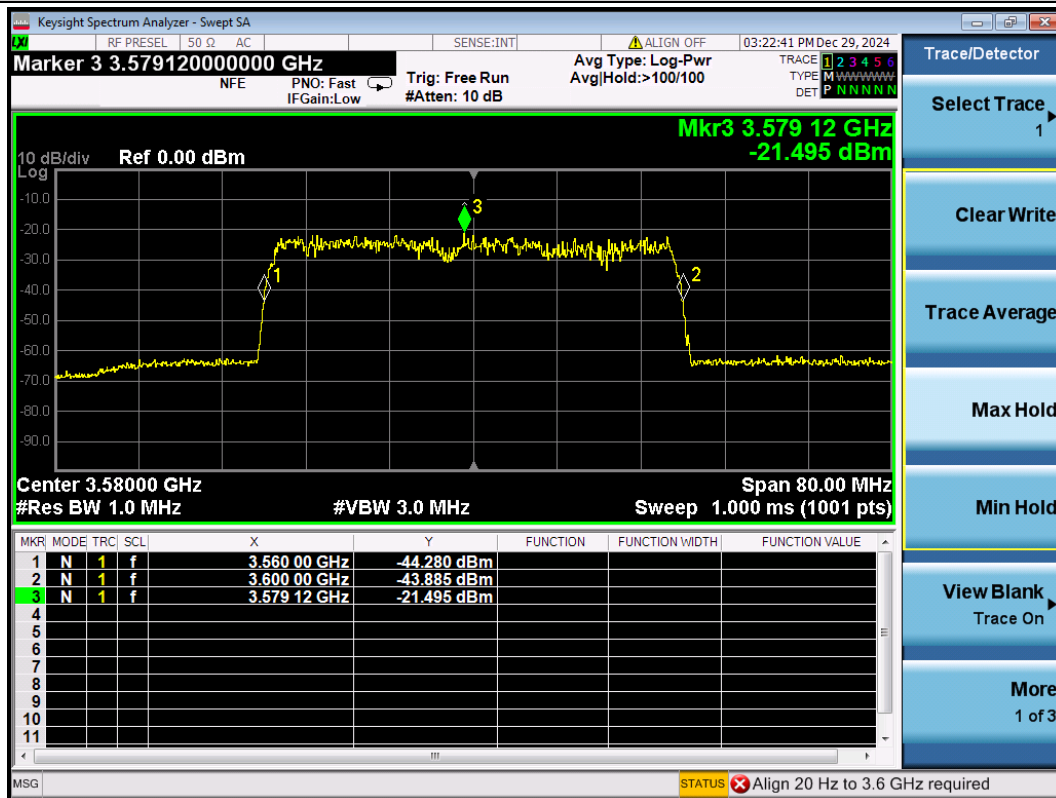


EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.

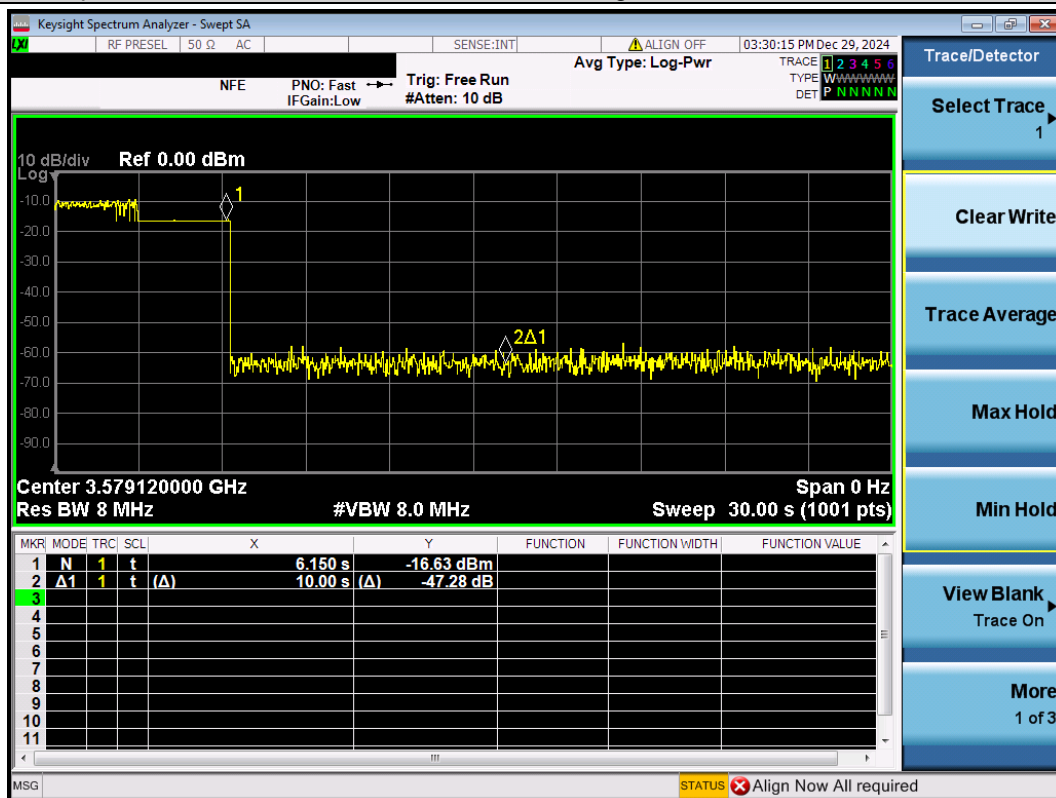


NR

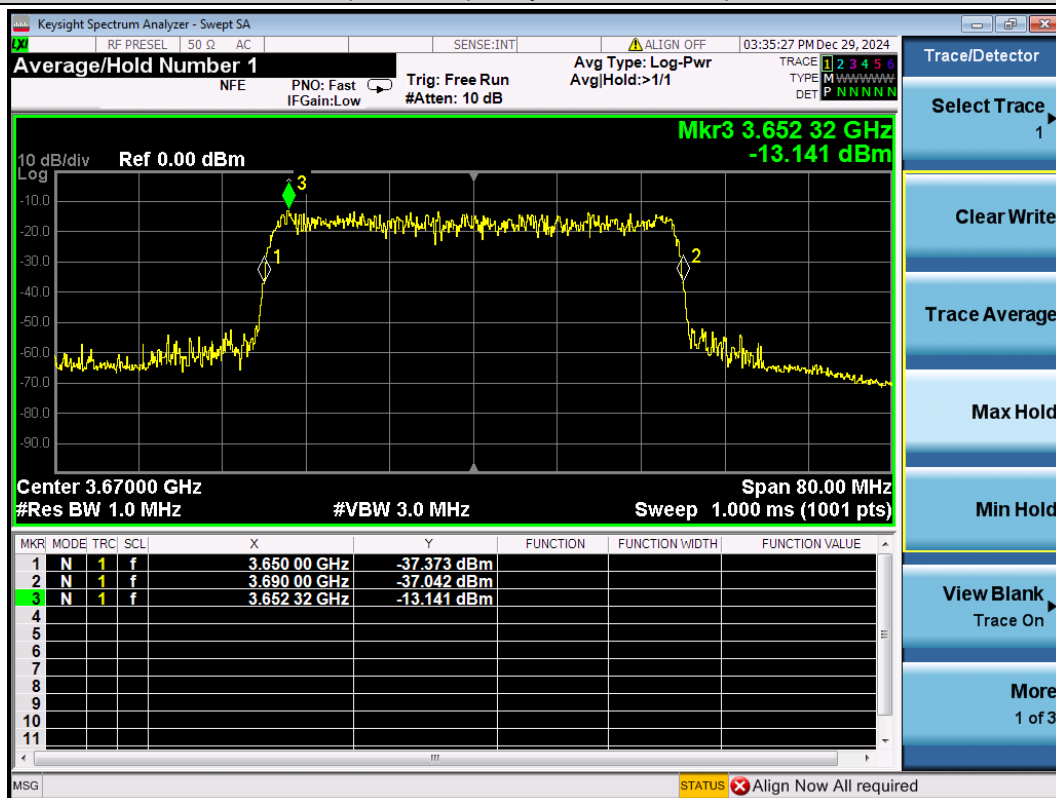
Bandwidth: 40MHz Setup with frequency 3580MHz and power level 10dBm/MHz



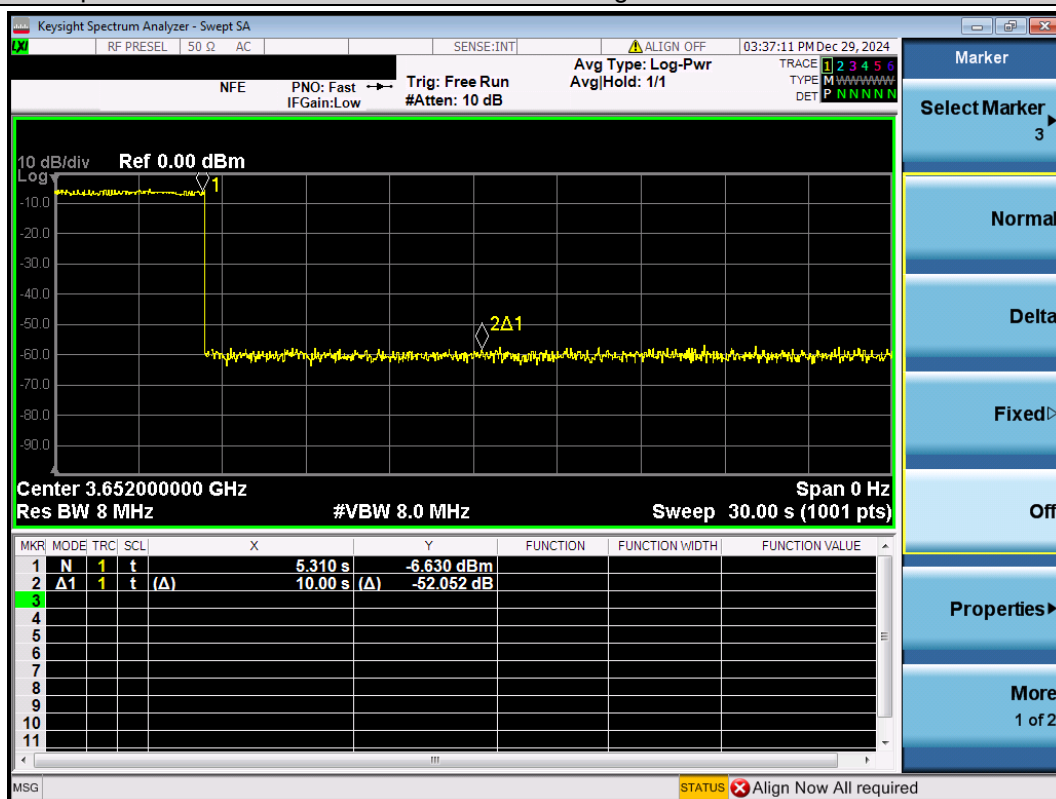
EUT stops transmission within 10 seconds of receiving instructions from its associated CBSD.



Bandwidth: 40MHz Setup with frequency 3670MHz and power level 20dBm/MHz



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



~The End~