



REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 Part 96 (CBRS Band)

Report No.: XCOL08-U2 Rev A

Company: Globalstar, Inc

Model Name: XCOMRU30N48O

REGULATORY COMPLIANCE TEST REPORT

Company Name: Globalstar, Inc

Model Name: XCOMRU30N480

To: FCC CFR 47 Part 96 (CBRS Band)

Test Report Serial No.: XCOL08-U2 Rev A

This report supersedes: NONE

Applicant: Globalstar, Inc
9450 Carroll Park Dr
San Diego, California 92121
USA

Issue Date: 26th May 2026

This Test Report is Issued Under the Authority of:

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MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2017. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; <http://www.a2la.org/scopepdf/2381-01.pdf>



1.2. RECOGNITION

MiCOM Labs, Inc is widely recognized for its wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 Mutual Recognition Agreements (MRA) with Canada, Europe, United Kingdom and Japan, our international recognition includes Conformity Assessment Body (CAB) designation status under agreements with Asia Pacific (APEC) MRA Phase 1 countries giving acceptance of MiCOM Labs test reports. MiCOM Labs test reports are accepted globally.

Country	Recognition Body	Status	MRA Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Test Firm Designation#: US1084
Canada	Industry Canada (ISED)	FCB	APEC MRA 2	US0159 ISED#: 4143A
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	Japan MRA 2	RCB 210
	Japan Approvals Institute for Telecommunication Equipment (JATE)			
	VCCI			
Europe	European Commission	NB	EU MRA 2	A-0012 NB 2280
United Kingdom	Department for Business, Energy & Industrial Strategy (BEIS)	AB	UK MRA 2	AB 2280
Mexico	Instituto Federal de Telecomunicaciones (IFT)	CAB	Mexico MRA 1	US0159
Australia	Australian Communications and Media Authority (ACMA)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)			
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)			
Singapore	Infocomm Development Authority (IDA)			
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)			
Vietnam	Ministry of Communication (MIC)			

TCB – Telecommunications Certification Bodies (TCB)

FCB – Foreign Certification Body

CAB – Conformity Assessment Body

NB – Notified Body

AB – Approved Body

MRA – Mutual Recognition Agreement

MRA Phase I - recognition for product testing

Phase II – recognition for both product testing and certification

1.3. PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065:2012. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; <http://www.a2la.org/scopepdf/2381-02.pdf>



United States of America – Telecommunication Certification Body (TCB)
Industry Canada – Certification Body, CAB Identifier – US0159
Europe – Notified Body (NB), NB Identifier - 2280
UK – Approved Body (AB), AB Identifier - 2280
Japan – Recognized Certification Body (RCB), RCB Identifier - 210

2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	8th May 2026	Draft report for client review. Test Program History There are 2 model variants of the Globalstar, Inc – XRRU; model XCOMRU30N48I which is configured for Indoor Deployments and model XCOMRU30N48O which is configured for both indoor and outdoor deployments. Model XCOMRU30N48I was tested by MiCOM Labs with test results reported in MiCOM Labs test report XCOL07-U2. Rev A. Model XCOMRU30N48O was then tested for Radiated Spurious emissions with 6.0 dBi antennas with the results reported in MiCOM Labs test report XCOL07-U7. Rev A. This test report (XCOL08-U2) uses results from XCOL07-U7 report but the addition of Radiated Emission test results for 18.3 dBi antenna model QPA65F-H2A manufactured by CCI, and EIRP results for 18.3 dBi antenna reflecting higher EIRP Power limit for category B equipment (47 dBm/ 10 MHz) versus 6 dBi antenna (category A 30 dBm/ 10 MHz) as reported in MiCOM Labs test report XCOL07-U7. Rev A.
Draft 2	15th May 2026	Draft 2 report for client review.
Rev A	26 th May 2026	Initial release of test report.

In the above table the latest report revision will replace all earlier versions.

3. TEST RESULT CERTIFICATE

Manufacturer: Globalstar, Inc 9450 Carroll Park Dr San Diego California 92121 USA	Tested By: MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model: XCOMRU30N48O	Telephone: +1 925 462 0304
Equipment Type: Outdoor Remote Radio Unit	Fax: +1 925 462 0306
S/N's: 25503989B10002 25383791B10003	
Test Date(s): 21 st – 31 st October 2025 2 nd – 3 rd February 2026 28 th - 29 th April 2026	Website: www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 96 (CBRS Band)	EQUIPMENT COMPLIES

MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

Notes:

1. This document reports conditions under which testing was conducted and the results of testing performed.
2. Details of test methods used have been recorded and kept on file by the laboratory.
3. Test results apply only to the item(s) tested.

Approved & Released for MiCOM Labs, Inc. by:



Graeme Grieve
Quality Manager MiCOM Labs, Inc.

Gordon Hurst
President & CEO MiCOM Labs, Inc.

4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	FCC 47 CFR Part 96	2025	Citizens Broadband Radio Service
II	KDB 662911 D01	2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
III	KDB 971168 D01 v03r01	2018	Power Measurement License Digital Systems
IV	KDB 940660 D01 v03	2020	Part 96 CBRS Equipment v01
V	ANSI C63.26	2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
VI	ANSI/TIA-603-E-2016	2016	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
VII	M 3003	Edition 6 March 2024	The expression of uncertainty and confidence in measurement
VIII	LAB 12	Edition 5 December 2025	The expression of uncertainty in EMC Testing
IX	ETSI TR 100 028	2001-12	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
X	A2LA R105	24 th February 2025	Reference to A2LA Accreditation Status – A2LA Advertising Policy

4.2. Test and Uncertainty Procedure

Conducted and radiated emission measurements were conducted in accordance with American National Standards Institute ANSI C63.4, listed in the Normative References section of this report.

Measurement uncertainty figures are calculated in accordance with ETSI TR 100 028 Parts 1 and 2.

Measurement uncertainties stated are based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95 % in accordance with UKAS document M 3003 listed in the Normative References section of this report.

5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Globalstar, Inc XCOMRU30N48O to FCC CFR 47 Part 96 (CBRS Band)
Applicant:	Globalstar, Inc 9450 Carroll Park Dr San Diego California 92121 USA
Manufacturer:	Same as Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	XCOL08-U2
Date EUT received:	21 st October 2025 & 2 nd February 2026 & 28 th April 2026
Application Type:	Certification
FCC Classification:	Citizen Band Category B Devices (CBD)
Standard(s) applied:	FCC CFR 47 Part 96
Dates of test (from - to):	21 st – 31 st October 2025 & 2 nd – 3 rd February 2026 & 28 th – 29 th April 2026
No of Units Tested:	1
Product Family Name:	XRRU
Marketing Name:	XCOM RAN by Globalstar
Model(s):	XCOMRU30N48O
Location for use:	Indoor and Outdoor
Declared Frequency Range(s):	3550 - 3700 MHz;
Type of Modulation:	QPSK, 16QAM, 64QAM, 256QAM
EUT Modes of Operation:	10 MHz; 20 MHz; 40 MHz.
Declared Nominal Output Power:	+47 dBm/10 MHz EIRP.
Equipment Category:	Category B CBSD
Transmit/Receive Operation:	Transceiver
Rated Input Voltage and Current:	48 Vdc, 1.45A
Operating Temperature Range:	-40 to +55°C
Equipment Dimensions:	10.3 inches (H), 10.3 inches (W), 4.3 inches (D)
Weight:	10.56 lbs
Hardware Rev:	R1.0
Firmware Rev:	R1.0
Software Rev:	R1.01

5.2. Scope Of Test Program

Globalstar, Inc - XRRU

The scope of the test program was to test the Globalstar, Inc Model XCOMRU30N48O radio transmitter configurations in the frequency ranges 3550 - 3700 MHz, for compliance against the following specification:

FCC CFR 47 Part 96

Citizens Broadband Radio Service

The scope of Testing for this program was limited to the following tests

Radiated Spurious Emissions 30MHz to 18GHz

Rationale for testing 0.03 – 18 GHz was this unit unlike the previous the XCOMRU30N48O is designed for both indoor and outdoor operation. See Section 9.7 Radiated Emissions.

Client declares this unit as Category B under CBRS regulations and understands and agrees to keep max EIRP to 47dBm, that they will meet the antenna height requirement for Category B and that professional installation will be used for outdoor use.

Test Program History

There are 2 model variants of the Globalstar, Inc – XRRU; model XCOMRU30N48I which is configured for Indoor Deployments and model XCOMRU30N48O which is configured for both indoor and outdoor deployments. Model XCOMRU30N48I was tested by MiCOM Labs with test results reported in MiCOM Labs test report XCOL07-U2. Rev A.

Model XCOMRU30N48O was then tested for Radiated Spurious emissions with 6.0 dBi antennas with the results reported in MiCOM Labs test report XCOL07-U7. Rev A.

This test report (XCOL08-U2) uses results from XCOL07-U7 report but the addition of Radiated Emission test results for 18.3 dBi antenna model QPA65F-H2A manufactured by CCI, and EIRP results for 18.3 dBi antenna reflecting higher EIRP Power limit for category B equipment (47 dBm/ 10 MHz) versus 6 dBi antenna (category A 30 dBm/ 10 MHz) as reported in MiCOM Labs test report XCOL07-U7 Rev A.

5.3. Equipment Model(s) and Serial Number(s)

Type (EUT/Support)	TestingType	Equipment Description	Manufacturer	Model No.	Serial No.
EUT	Radiated Emissions	Small Cell Radio Unit	Globalstar, Inc	XCOMRU30N48O	25503989B10002
EUT	Conducted & radiated	Small Cell Radio Unit	Globalstar, Inc	XCOMRU30N48I	25383791B10003
Support		5G BBU	Globalstar, Inc	--	--

5.4. Antenna Details

#	Type	Manufacturer	Model	Family	Gain* (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
1	External	Linx	MON	Dipole	6.0	-	360	-	3600 – 3800
2	Integral	Globalstar	ANT 1	OMNI	6.0	-	360	-	3400 – 3800
3	External	CCI	QPA65F-H2A	Panel	18.3	-	59	+/-45	3300 - 3800
4	External	Alpha Wireless	AW3161	Panel	17.9	-	65	+/-45	3300 - 3800
5	External	Alpha Wireless	AW3924-T0-F	Panel	13.3	-	65	+/-45	3300 - 3800
6	External	Alpha Wireless	AW3923-T0-F	Panel	18.0	-	65	+/-45	3300 - 3800
7	External	Andrew	SS-65T-F	Panel	12.8	-	65	+/-45	3300 - 3800
8	External	Andrew	SS-65M-M	Panel	18.3	-	67	+/-45	3550 – 3700
9	External	JMA	MX04FIT365-01	Panel	17.0	-	65	+/-45	3550 - 3700
10	External	Prose	2TB-21U	Panel	18.2	-	69	+/-45	3300 - 3800

BF Gain - Beamforming Gain
Dir BW - Directional BeamWidth
X-Pol - Cross Polarization

*NOTE: Per applicant power settings will not be changed to accommodate different antenna configurations, so the highest antenna gain was used for EIRP calculations to present the worst case.

Antennas 1,2 and 3 in the above table were used during emissions testing.

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# of Ports	Screened	Conn Type	Data Type	Bit Rate	Environment
USB	<3m	1	No	USB Type-C	Digital	5	Admin
dc Jack	>30m	1	No	DC	Analog	--	Power
SFP	>30m	2	No	SFP+	Digital	10,000	End-User

5.6. Test Configurations

Results for the following configurations are provided in this report:

Operational Mode(s)	Channel Frequency (MHz)		
	Low	Mid	High
	3550 - 3700 MHz		
10 MHz	3,555.00	3,625.02	3,695.00
20 MHz	3,560.00	3,620.00	3,690.00
40 MHz	3,570.00	3,620.00	3,680.00

5.7. Equipment Modifications

The following modifications were required to bring the equipment into compliance:

1. NONE

5.8. Deviations from the Test Standard

The following deviations from the test standard were required in order to complete the test program:

1. NONE

6. TEST SUMMARY

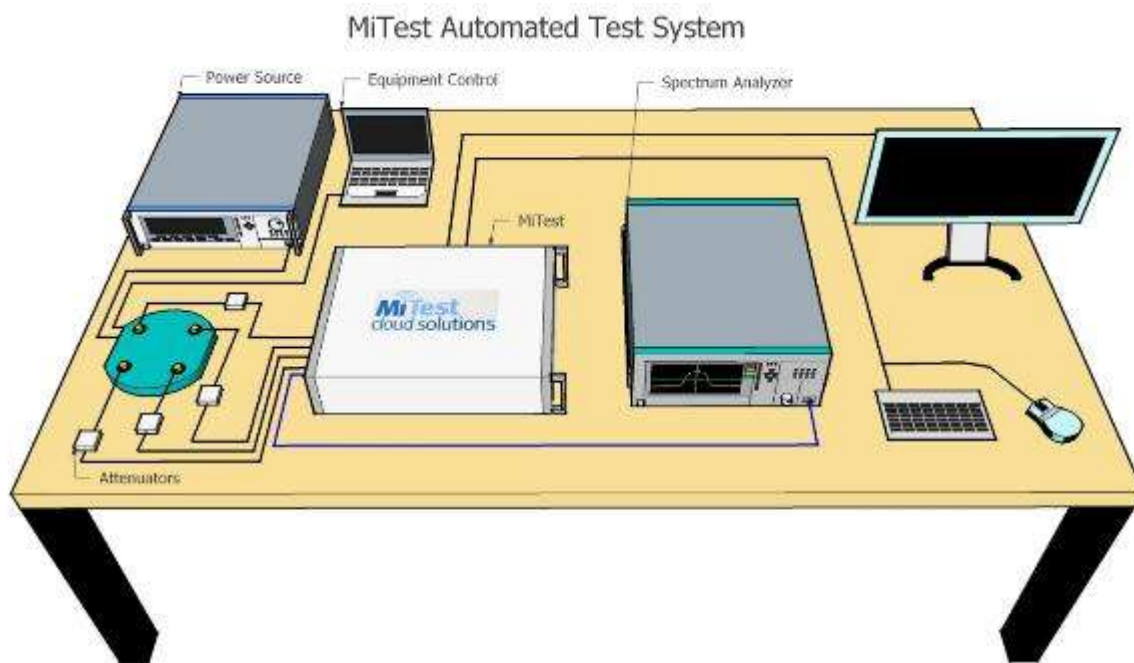
List of Measurements

Test Header	Result	Data Link
26 dB & 99% Bandwidth	Complies	View Data
Frequency Stability	Complies	View Data
Peak Transmit Power	Complies	View Data
Power Spectral Density	Complies	View Data
Peak to Average Power Ratio	Complies	View Data
Conducted Spurious Emissions	Complies	View Data
Channel Mask Emissions	Complies	See XCOL08-U2 Part 2 Test Report
Radiated Spurious Emissions	Complies	View Data

Please note all measurements take duty cycle into account.

7. TEST EQUIPMENT CONFIGURATION(S)

7.1. RF Conducted Testing



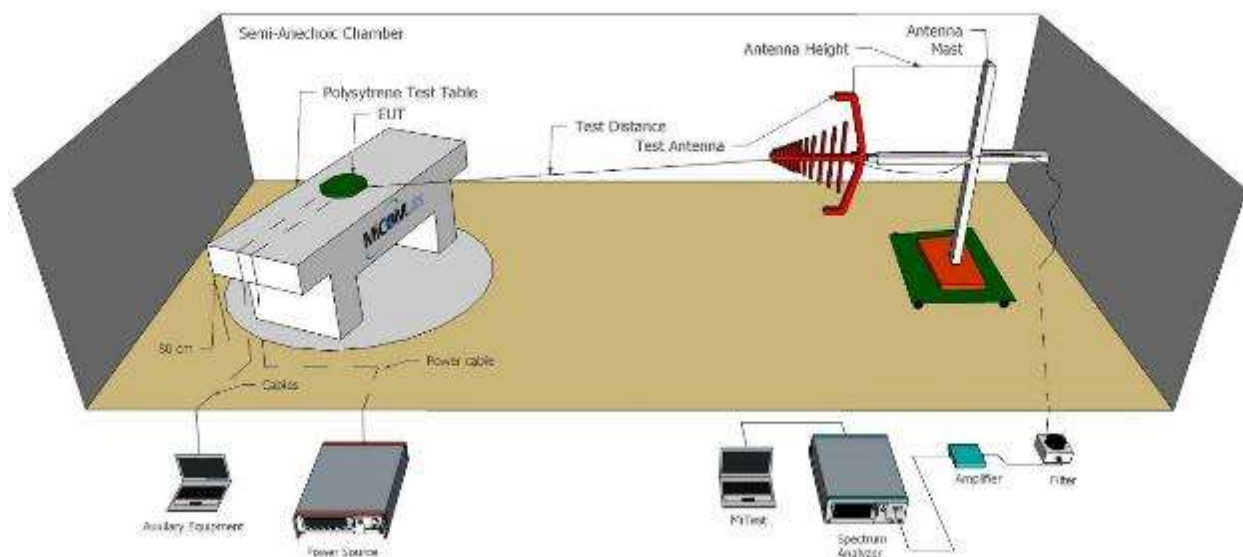
A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
#3 SA	MiTest Box to SA	Fairview Microwave	SCA1814-0101-72	#3 SA	8 Jul 2026
#3P1	EUT to MiTest box port 1	Fairview Microwave	SCA1814-0101-72	#3P1	8 Jul 2026
#3P2	EUT to MiTest box port 2	Fairview Microwave	SCA1814-0101-72	#3P2	8 Jul 2026
#3P3	EUT to MiTest box port 3	Fairview Microwave	SCA1814-0101-72	#3P3	8 Jul 2026
#3P4	EUT to MiTest box port 4	Fairview Microwave	SCA1812-0101-72	#3P4	8 Jul 2026
249	Thermocouple; Resistance Thermometer	Thermotronics	GR2105-02	9340 #2	22 Mar 2027
266	10 Hz to 50GHz MXA Signal Analyzer	Keysight	N9020B	MY60110791	25 Jul 2026
382	Tunable Notch Filter	Wainwright Instruments GmbH	WRCT800/960-0.2/40-8EEK	64	Cal when used
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.2.3.0	Not Required
405	DC Power Supply 0-60V	Agilent	6654A	MY4001826	Cal when used
408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	Not Required
441	USB Wideband Power Sensor	Boonton	55006	9179	4 Dec 2026
442	USB Wideband Power Sensor	Boonton	55006	9181	12 Dec 2026
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	21 Aug 2027
494	USB Wideband Power Sensor	Boonton	55006	9726	12 Dec 2026
510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2027
512	MiTest Cloud Solutions RF Test Box	MiCOM	2nd Gen	512	8 Jul 2026
516	USB Wideband Power Sensor	Boonton	RTP5006	10511	4 Dec 2026
555	Rhode & Schwarz Receiver (Firmware Version : 3.10 SP1)	Rhode & Schwarz	ESW 44	101893	14 Aug 2026
75	Environmental Chamber	Thermatron	SE-300-2-2	27946	20 Jun 2026

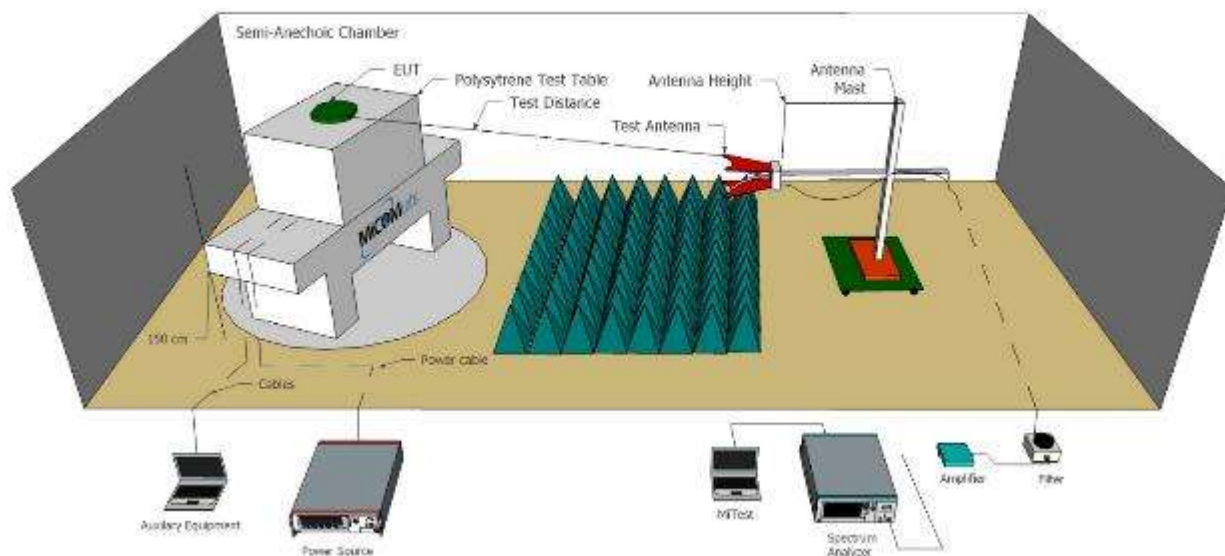
7.2. Radiated Emissions - 3m Chamber

Test Setup for Radiated Emissions for above and below 1 GHz

Radiated Emissions Below 1GHz Test Setup



Radiated Emissions Above 1GHz Test Setup



A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	22 Aug 2026
330	Variac 0-280 Vac	Staco Energy Co	3PN1020B	0546	Cal when used
336	Active loop Ant 10kHz to 30 MHz	EMCO	EMCO 6502	00060498	7 Dec 2026
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	5 Dec 2026
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	18 Aug 2026
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	7 Dec 2026
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	18 Aug 2026
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
416	Gigabit ethernet filter	ETS-Lingren	Gigafoil 260366	None	Not Required
447	MiTest Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	18 Aug 2026
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	18 Aug 2026
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	18 Aug 2026
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	18 Aug 2026
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	18 Aug 2026
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	18 Aug 2026
510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2027
554	Precision SMA Cable	Fairview Microwave	SCE18060101-400CM	554	18 Aug 2026
555	Rhode & Schwarz Receiver (Firmware Version : 3.10 SP1)	Rhode & Schwarz	ESW 44	101893	14 Aug 2026
596	DC Power Supply	Keysight	E36155A	MY63001023	17 Jan 2027
87	Uninterruptible Power Supply	Falcon Electric	ED2000-1/2LC	F3471 02/01	Cal when used
CC-05	Radiated Emissions Confidence Check	MiCOM	CC-05	None	10 Jul 2026

8. MEASUREMENT AND PRESENTATION OF TEST DATA

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy-to-read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data'.

Test and report automation was performed by [MiTest](#). [MiTest](#) is an automated test system developed by MiCOM Labs. [MiTest](#) is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.



The MiCOM Labs "[MiTest](#)" Automated Test System" (Patent Pending)

9. TEST RESULTS

9.1. 26 dB & 99% Bandwidth

Conducted Test Conditions for 26 dB and 99% Bandwidth			
Standard:	FCC CFR 47 Part 96	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	26 dB and 99 % Bandwidth	Rel. Humidity (%):	32 - 45
Standard Section(s):	96.41 (e)(3)	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		
Test Procedure for 26 dB and 99% Bandwidth Measurement The bandwidth at 26 dB and 99 % is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to approximately 1% of the emission bandwidth. Testing was performed under ambient conditions at nominal voltage. Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document.			

Equipment Configuration for 26 dB & 99% Bandwidth

Variant:	10MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)				Highest	Lowest
MHz	a	b	c	d		
3555.0	10.822	10.782	10.782	10.782	10.822	10.782
3625.0	10.862	10.862	10.862	10.822	10.862	10.822
3695.0	10.822	10.822	10.862	10.822	10.862	10.822

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)
	Port(s)				
MHz	a	b	c	d	
3555.0	8.818	8.818	8.818	8.858	8.858
3625.0	8.778	8.778	8.778	8.778	8.778
3695.0	8.818	8.818	8.858	8.818	8.858

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Bandwidth

Variant:	20MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)				Highest	Lowest
MHz	a	b	c	d		
3560.0	20.120	20.200	20.120	20.281	20.281	20.120
3620.0	20.601	20.601	20.521	20.601	20.601	20.521
3690.0	20.441	20.521	20.521	20.441	20.521	20.441

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)
	Port(s)				
MHz	a	b	c	d	
3560.0	18.357	18.357	18.357	18.357	18.357
3620.0	18.357	18.357	18.357	18.357	18.357
3690.0	18.357	18.357	18.357	18.277	18.357

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Bandwidth

Variant:	40MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)				Highest	Lowest
MHz	a	b	c	d		
3570.0	41.363	41.683	41.042	41.202	41.683	41.042
3620.0	42.004	42.004	41.844	41.844	42.004	41.844
3680.0	42.004	42.164	41.844	41.683	42.164	41.683

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)
	Port(s)				
	MHz	a	b	c	
3570.0	37.996	37.996	37.996	37.996	37.996
3620.0	38.156	38.156	38.156	37.996	38.156
3680.0	37.996	37.996	37.996	37.996	37.996

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

9.2. Frequency Stability

Conducted Test Conditions for Frequency Stability			
Rules and Sections:	FCC CFR 47: 96.41	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Frequency Stability	Rel. Humidity (%):	32 - 45
Standard Section(s):	ANSI C63.26-2015:5.6.3	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		
Test Procedure for Frequency Stability Measurement Frequency Stability was measured with a spectrum analyzer connected to the antenna terminal, while the EUT is operating in transmission mode at the appropriate frequency. 5.6.3 Procedure for frequency stability testing Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage. The operating carrier frequency shall be set up in accordance with the manufacturer's published operation and instruction manual prior to the commencement of these tests. No adjustment of any frequency determining circuit element shall be made subsequent to this initial set-up. Frequency stability is tested: a) At 10 °C intervals of temperatures between 0 °C and +40 °C at the manufacturer's rated supply voltage, and b) At +20 °C temperature and ±15% supply voltage variations. If a product is specified to operate over a range of input voltage then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage. During the test all necessary settings, adjustments and control of the EUT have to be performed without disturbing the test environment, i.e., without opening the environmental chamber. The frequency stabilities can be maintained to a lesser temperature range provided that the transmitter is automatically inhibited from operating outside the lesser temperature range. For handheld equipment that is only capable of operating from internal batteries and the supply voltage cannot be varied, the frequency stability tests shall be performed at the nominal battery voltage and the battery end point voltage specified by the manufacturer. An external supply voltage can be used and set at the internal battery nominal voltage, and again at the battery operating end point voltage which shall be specified by the equipment manufacturer. If an unmodulated carrier is not available, the mean frequency of a modulated carrier can be obtained by using a frequency counter with gating time set to an appropriately large multiple of bit periods (gating time depending on the required accuracy). Full details on the choice of values shall be included in the test report.			
Limits for Frequency Stability Within Authorized Band. The Citizens Broadband Radio Service equipment is authorized in the 3550-3700 MHz frequency band.			

Equipment Configuration for Frequency Stability

Variant:	10 MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	6.00
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Temp	Voltage Vdc	Center Frequency	Frequency Tolerance	PPM	Pass / Fail
		MHz	kHz		
55 °C	48	3625.020	-17.875	-0.00493101	Pass
50 °C	48	3625.020	-1.063	-0.00029324	Pass
40 °C	48	3625.020	4.413	0.00121737	Pass
30 °C	48	3625.020	59.247	0.01634391	Pass
20 °C	52.8	3625.020	-2.616	-0.00072165	Pass
20 °C	48	3625.020	-2.715	-0.00074896	Pass
20 °C	43.2	3625.020	-3.390	-0.00093517	Pass
10 °C	48	3625.020	14.179	0.00391143	Pass
0 °C	48	3625.020	-4.979	-0.00137351	Pass
-10 °C	48	3625.020	1.081	0.00029821	Pass
-20 °C	48	3625.020	0.812	0.00022391	Pass
-30 °C	48	3625.020	2.023	0.00055807	Pass
-40 °C	48	3625.020	-17.459	-0.00481625	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-02 MEASURING FREQUENCY
Measurement Uncertainty:	(@2.4GHz) = ± 0.76 ppm (1.8kHz) (@40GHz) = ± 0.87 ppm (40KHz)

9.3. Peak Transmit Power

Conducted Test Conditions for Fundamental Emission Output Power			
Standard:	FCC CFR 47: 96.41 (b)	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	RF power output	Rel. Humidity (%):	32 - 45
Standard Section(s):	ANSI C63.26:2015:5.2.4.4.2	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		

5.2.4.4.2 Alternative procedure for measuring average power of a broadband signal with a constant duty cycle using a spectrum/signal analyzer or EMI receiver

When the fundamental condition for average power measurements cannot be realized (i.e., the EUT cannot be configured to transmit at full-power on a continuous basis (i.e., duty cycle < 98%) and the instrumentation cannot be configured to measure only during active full-power transmissions), then the following procedure can be used if the EUT duty cycle is constant (i.e., duty cycle variations are less than or equal to ±2%). See 5.2.4.3.4 for guidance on measurement of duty cycle.

a) Set span to 2 to 3 × the OBW.
b) Set RBW = 1% to 5% of the OBW.
c) Set VBW ≥ 3 × RBW.
d) Set number of measurement points in sweep ≥ 2 × span / RBW.
e) Sweep time:
 1) Set = auto-couple, or
 2) Set ≥ [10 × (number of points in sweep) × (transmission symbol period)] for single sweep (automation-compatible) measurement.
f) Detector = power averaging (rms).
g) Set sweep trigger to “free run.”
h) Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.
i) Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band or channel power measurement function with band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

j) Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission. For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is a constant 25%.

Limits for Maximum EIRP dBm/10 MHz

End User Device Shall not exceed 23 dBm/10 MHz
Category A CBSD Shall not exceed 30 dBm/10 MHz
Category B CBSD Shall not exceed 47 dBm/10 MHz

For step i) above the power was integrated over 10 MHz regardless of channel bandwidth due to the parameters of the specified limit.

EUT is declared to be a Category B CBSD.

Equipment Configuration for Average Output Power

Variant:	10 MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	18.3
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Output Power (dBm/10MHz)				Calculated Total Power Σ Port(s)	EIRP*	EIRP Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	dBm/10MHz	dBm/10MHz	dBm/10MHz	dB	
3555	17.23	17.43	17.15	17.22	23.28	40.5	47.0	-6.5	34.1
3625.02	17.59	18.00	17.37	17.96	23.76	41.0	47.0	-6.0	34.1
3695	17.37	17.41	18.03	17.16	23.53	40.7	47.0	-6.3	34.1

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

*EIRP = A + Antenna Gain + Beamforming Gain + Duty Cycle Correction Factor

System Loss:

Antenna Cables Approx.: 1.09 dB

Cables are specifically for this antenna any other cables will have a different cable loss not listed here.

EIRP Measurement takes system loss into account.

Equipment Configuration for Average Output Power

Variant:	20MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	18.3
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Output Power (dBm/20MHz)				Calculated Total Power Σ Port(s)	EIRP*	Normalized EIRP*	Limit	Margin	EUT Power Setting
	Port(s)									
MHz	a	b	c	d	dBm/20MHz	dBm/20MHz	dBm/10MHz	dBm/10MHz	dB	
3560.0	20.35	20.31	20.44	20.75	26.49	43.70	40.70	47.0	-6.30	
3620.0	20.40	20.76	20.81	20.72	26.70	43.91	40.91	47.0	-6.09	
3690.0	20.55	20.54	20.33	20.12	26.41	43.62	40.62	47.0	-6.38	

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	± 1.33 dB

* EIRP = A + Antenna Gain + Beamforming Gain + Duty Cycle Correction Factor

Normalized EIRP:

$10 \cdot \log(\text{Measured Bandwidth}/\text{Ref. Bandwidth})$

$10 \cdot \log(20/10) = 3$ dB

System Loss:

Antenna Cables Approx.: 1.09 dB

Cables are specifically for this antenna any other cables will have a different cable loss not listed here.

EIRP Measurement takes system loss into account.

Equipment Configuration for Average Output Power

Variant:	40 MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	18.3
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Output Power (dBm/40MHz)				Calculated Total Power Σ Port(s)	EIRP*	Normalized EIRP*	Limit	Margin	EUT Power Setting
	Port(s)									
MHz	a	b	c	d	dBm/40MHz	dBm/40MHz	dBm/10MHz	dBm/10MHz	dB	
3570	23.13	23.03	23.49	23.54	29.32	46.53	40.51	47.0	-6.49	40.5
3620	23.32	23.46	23.67	23.70	29.56	46.77	40.75	47.0	-6.25	40.5
3680	23.31	23.32	23.43	23.49	29.41	46.62	40.60	47.0	-6.40	40.5

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	± 1.33 dB

* EIRP = A + Antenna Gain + Beamforming Gain + Duty Cycle Correction Factor

Normalized EIRP:

$10 \cdot \log(\text{Measured Bandwidth}/\text{Ref. Bandwidth})$

$10 \cdot \log(40/10) = 6$ dB

System Loss:

Antenna Cables Approx.: 1.09 dB

Cables are specifically for this antenna any other cables will have a different cable loss not listed here.

EIRP Measurement takes system loss into account.

9.4. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
Standard:	FCC CFR 47:96.41 (b)	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Power Spectral Density	Rel. Humidity (%):	32 - 45
Standard Section(s):	ANSI C63.26:2015:5.2.4.4.2	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		

5.2.4.4.2 Alternative procedure for measuring average power of a broadband signal with a constant duty cycle using a spectrum/signal analyzer or EMI receiver

When the fundamental condition for average power measurements cannot be realized (i.e., the EUT cannot be configured to transmit at full-power on a continuous basis (i.e., duty cycle < 98%) and the instrumentation cannot be configured to measure only during active full-power transmissions), then the following procedure can be used if the EUT duty cycle is constant (i.e., duty cycle variations are less than or equal to $\pm 2\%$). See 5.2.4.3.4 for guidance on measurement of duty cycle.

- a) Set span to 2 to 3 $\times$ the OBW.
- b) Set RBW = 1% to 5% of the OBW.
- c) Set VBW $\geq 3 \times$ RBW.
- d) Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
- e) Sweep time:
 - 1) Set = auto-couple, or
 - 2) Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})]$ for single sweep (automation-compatible) measurement.
- f) Detector = power averaging (rms).
- g) Set sweep trigger to "free run."
- h) Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time. i) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function with band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
- j) Add $10 \log (1/\text{duty cycle})$ to the measured power level to compute the average power during continuous transmission. For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is a constant 25%.

Limits for Maximum Conducted Output Power

End User Device Shall not exceed N/A dBm/MHz
 Category A CBSD Shall not exceed 20 dBm/MHz
 Category B CBSD Shall not exceed 37 dBm/MHz

EUT is declared to be a Category B CBSD

Equipment Configuration for Power Spectral Density - Average

Variant:	10MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	18.3
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Calculated Total Power Σ Port(s)	EIRP*	EIRP Limit	Margin
	Port(s) (dBm/MHz)							
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dBm/MHz	dB
3555.0	7.23	7.43	7.15	7.22	13.28	30.49	37.00	-6.51
3625.0	7.59	8.00	7.37	7.96	13.76	30.97	37.00	-6.03
3695.0	7.37	7.41	8.03	7.16	13.53	30.74	37.00	-6.26

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

* EIRP = A + Antenna Gain + Beamforming Gain + Duty Cycle Correction Factor

Note: click the links in the above matrix to view the graphical image (plot).

System Loss:

Antenna Cables Approx.: 1.09 dB

Cables are specifically for this antenna any other cables will have a different cable loss not listed here.

EIRP Measurement takes system loss into account.

Equipment Configuration for Power Spectral Density - Average

Variant:	20MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	18.3
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Calculated Total Power Σ Port(s)	EIRP*	EIRP Limit	Margin
	Port(s) (dBm/MHz)							
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dBm/MHz	dB
3560.0	7.34	7.30	7.43	7.74	13.48	30.69	37.00	-6.31
3620.0	7.39	7.75	7.80	7.71	13.69	30.90	37.00	-6.10
3690.0	7.54	7.53	7.32	7.11	13.40	30.61	37.00	-6.39

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

* EIRP = A + Antenna Gain + Beamforming Gain + Duty Cycle Correction Factor (0.00)

Note: click the links in the above matrix to view the graphical image (plot).

System Loss:

Antenna Cables Approx.: 1.09 dB

Cables are specifically for this antenna any other cables will have a different cable loss not listed here.

EIRP Measurement takes system loss into account.

Equipment Configuration for Power Spectral Density - Average

Variant:	40 MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	18.3
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Calculated Total Power Σ Port(s)	EIRP*	EIRP Limit	Margin
	Port(s) (dBm/MHz)							
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dBm/MHz	dB
3570.0	7.11	7.01	7.47	7.52	13.30	30.51	37.00	-6.49
3630.0	7.30	7.44	7.65	7.67	13.54	30.75	37.00	-6.25
3680.0	7.29	7.30	7.41	7.47	13.39	30.60	37.00	-6.40

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	± 2.81 dB

* EIRP = A + Antenna Gain + Beamforming Gain + Duty Cycle Correction Factor

Note: click the links in the above matrix to view the graphical image (plot).

System Loss:

Antenna Cables Approx.: 1.09 dB

Cables are specifically for this antenna any other cables will have a different cable loss not listed here.

EIRP Measurement takes system loss into account.

9.5. Peak to Average Power Ratio

Conducted Test Conditions for Peak to Average Power Ratio			
Rules and Sections:	FCC CFR 47: 96.41 (g)	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Transmitter Output Power	Rel. Humidity (%):	32 - 45
Standard Section(s):	ANSI C63.26 Section 5.2.6 KDB 940660 D01 v03	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		
Test Procedure for Peak to Average Power Ratio Test configuration and setup used for the measurement was per the Conducted Test Set-up specified in this document. The CCDF function of the Boonton Power Meter (195 MHz RBW) was used to directly measure the PAPR for each transmission chain, and the dBr value at 0.1% recorded. Limits for Peak to Average Power Ratio The peak-to-average power ratio of any CBSD transmitter output power must not exceed 13 dB.			

Equipment Configuration for Peak to Average Power Ratio

Variant:	10 MHz Bandwidth	Duty Cycle (%):	75.0
Data Rate:	-	Antenna Gain (dBi):	6.0
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Limit	Peak-to-Average Power Ratio at 0.1%							
		Port(s)							
MHz	dBr	a	Margin	b	Margin	c	Margin	d	Margin
3555.0	13.0	9.25	-3.75	9.11	-3.89	9.24	-3.76	9.22	-3.78
3525.0	13.0	9.27	-3.73	9.20	-3.80	9.28	-3.72	9.25	-3.75
3695.0	13.0	9.33	-3.67	9.26	-3.74	9.34	-3.66	9.25	-3.75

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	$\pm 1.33\text{dB}$

Equipment Configuration for Peak to Average Power Ratio

Variant:	20 MHz Bandwidth	Duty Cycle (%):	75.0
Data Rate:	-	Antenna Gain (dBi):	6.0
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Limit	Peak-to-Average Power Ratio at 0.1%							
		Port(s)							
MHz	dBm	a	Margin	b	Margin	c	Margin	d	Margin
3560.0	13.0	9.33	-3.67	9.19	-3.81	9.31	-3.69	9.28	-3.72
3620.0	13.0	9.32	-3.68	9.23	-3.77	9.30	-3.70	9.27	-3.73
3690.0	13.0	9.35	-3.65	9.23	-3.77	9.34	-3.66	9.28	-3.72

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	$\pm 1.33\text{dB}$

Equipment Configuration for Peak to Average Power Ratio

Variant:	40 MHz Bandwidth	Duty Cycle (%):	75.0
Data Rate:	-	Antenna Gain (dBi):	6.0
Modulation:	256QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Limit	Peak-to-Average Power Ratio at 0.1%							
		Port(s)							
MHz	dBr	a	Margin	b	Margin	c	Margin	d	Margin
3570.0	13.0	9.31	-3.69	9.19	-3.81	9.32	-3.68	9.25	-3.75
3630.0	13.0	9.24	-3.76	9.18	-3.82	9.30	-3.70	9.18	-3.82
3680.0	13.0	9.25	-3.75	9.22	-3.78	9.31	-3.69	9.14	-3.86

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	$\pm 1.33\text{dB}$

9.6. Conducted Spurious Emissions and Channel Mask

9.6.1. Conducted Spurious Emissions

Test Conditions for Conducted Spurious Emissions			
Standard:	FCC CFR 47:2.1051 FCC CFR 47: 96.41 (e) (i)	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Conducted Spurious Emission	Rel. Humidity (%):	32 - 45
Standard Section(s):	ANSI C63.26: 5.7.4 & 5.7.3	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		
Test Procedure for Conducted Spurious and Band-Edge Emissions Conducted Spurious Emissions and Band-edge were measured with a spectrum analyzer connected to the antenna terminal, while the EUT is operating in transmission mode at the appropriate frequency. Test configuration and setup used for the measurement was per the Conducted Test Set-up specified in this document.			
From KDB 940660 D01 section 3.2 (b)(6)(i): Measurements must be performed for low, mid, and high channels. It is acceptable to apply the procedures in Section 5.7 of ANSI C63.26-2015 using the following settings, per Section 96.41(e)(3) – resolution bandwidth: ¹⁰ 1% of fundamental for measurements within 1 MHz immediately outside the authorized channel; and 1 MHz for beyond 1 MHz outside the authorized channel. ¹⁰ A narrower RBW is permitted in all cases to improve measurement accuracy, provided the measured power is integrated over the full reference bandwidth.			
From ANSI C63.26: 5.7.4 Spurious unwanted emission measurements: a) Set the spectrum analyzer start frequency to the lowest frequency generated by the EUT, without going below 9 kHz, and the stop frequency to the lower frequency covered by the measurements previously performed in 5.7.3. As an alternative, the stop frequency can be set to the value specified in 5.1.1, depending on the EUT operating range, if the resulting plot can clearly demonstrate compliance for all frequencies not addressed by the out-of-band emissions measurements performed as per 5.7.3. b) When using an average power (rms) detector, ensure that the number of points in the sweep ≥ 2 × (span / RBW). This may require that the measurement range defined by the start and stop frequencies be subdivided, depending on the spectrum analyzer capabilities. This requirement does not apply to peak-detected power measurements. When average power is specified by the applicable regulation, a peak-detector can be utilized for preliminary measurements to accommodate wider frequency spans. Any emissions found in the preliminary measurement to exceed the applicable limit(s) shall be further examined using a power averaging (rms) detector with the minimum number of measurement points as defined above. c) The sweep time should be set to auto-couple for performing peak-detector measurements. For measurements that use a power averaging (rms) detector, the sweep time shall be set as described for out-of-band emissions measurements in item d) of 5.7.3. d) Identify and measure the highest spurious emission levels in each frequency range. It is not necessary to re-measure the out-of-band emissions as a part of this test. Record the frequencies and amplitudes corresponding to the measured emissions and capture the data plots. e) Repeat step b) through step d) for the upper spurious emission frequency range if not already captured by a wide span measurement performed as per the alternative provided in step a). The upper frequency for this measurement is defined in 5.1.1 as a function of the EUT operating range. f) Compare the results with the corresponding limit in the applicable regulation. g) The test report shall include the data plots of the measuring instrument display and the measured data. The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in §2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.			
Limits for Conducted Spurious Emissions FCC CFR 47: 96.41 (e) (i) -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any emission shall not exceed -25 dBm/MHz. The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.			
Each chain is measured separately and the limits adjusted by -6 dB to account for the 4 transmission chains.			

Equipment Configuration for Conducted Spurious Emissions - Average

Variant:	10MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	256QAM	Beam Forming Gain (Y):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Average (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
3555.0	30.0 - 26000.0	-56.101	-46.00	-55.401	-46.00	-56.101	-46.00	-51.439	-46.00
3625.0	30.0 - 26000.0	-56.101	-46.00	-56.201	-46.00	-56.201	-46.00	-51.901	-46.00
3695.0	30.0 - 26000.0	-57.001	-46.00	-58.001	-46.00	-57.601	-46.00	-53.801	-46.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Conducted Spurious Emissions - Average

Variant:	20MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	256QAM	Beam Forming Gain (Y):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Average (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
3560.0	30.0 - 26000.0	-56.101	-46.00	-55.401	-46.00	-56.001	-46.00	-51.101	-46.00
3620.0	30.0 - 26000.0	-56.001	-46.00	-56.101	-46.00	-56.439	-46.00	-51.901	-46.00
3690.0	30.0 - 26000.0	-56.939	-46.00	-57.801	-46.00	-57.401	-46.00	-53.501	-46.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Conducted Spurious Emissions - Average

Variant:	40MHz	Duty Cycle (%):	75
Data Rate:	100.00 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	256QAM	Beam Forming Gain (Y):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Average (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
3570.0	30.0 - 26000.0	-56.001	-46.00	-55.539	-46.00	-55.901	-46.00	-51.001	-46.00
3620.0	30.0 - 26000.0	-56.239	-46.00	-56.339	-46.00	-56.201	-46.00	-51.901	-46.00
3680.0	30.0 - 26000.0	-56.301	-46.00	-57.301	-46.00	-57.239	-46.00	-53.039	-46.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB

Note: click the links in the above matrix to view the graphical image (plot).

9.6.2. Channel Mask Emissions

See test report XCOL08-U2 Part 2 for test “**Channel Mask Emissions.**”

9.7. Radiated Emissions

Radiated Test Conditions for Radiated Spurious Emissions			
Standard:	FCC CFR 47: 96.41 (2)	Ambient Temp. (°C):	20.0 - 24.5
Test Heading:	Radiated Spurious	Rel. Humidity (%):	32 - 45
Standard Section(s):	ANSI C63.26: 5.5	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Radiated Spurious Emissions

Measurements were performed in accordance with ANSI C63.26.

The measurement equipment was set to measure in peak hold mode. The emissions were measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode.

The highest emissions relative to the limit are listed for each frequency band measured. No emissions observed above 18GHz.

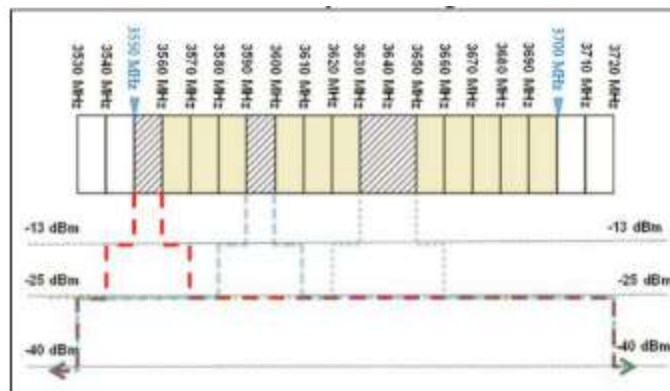
Limits for Maximum Spurious Emissions

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm / MHz.

KDB 940660 D01 Section 3.2

6) Emissions outside the fundamental – The limits for emission outside the fundamental are as follows:

- Within 0 MHz to 10 MHz above and below the assigned channel ≤ -13 dBm/MHz
 - Greater than 10 MHz above and below the assigned channel ≤ -25 dBm/MHz
 - Any emission below 3530 MHz and above 3720 MHz ≤ -40 dBm/MHz
- i) Measurements must be performed for low, mid, and high channels. It is acceptable to apply the procedures in Section 5.7 of ANSI C63.26-2015 using the following settings, per Section 96.41(e)(3) – resolution bandwidth: 1% of fundamental for measurements within 1 MHz immediately outside the authorized channel; and 1 MHz for beyond 1 MHz outside the authorized channel.
 - ii) Consistent with basic guidance in KDB Publication 971168 D01, when antenna-port conducted measurements are performed to demonstrate compliance to the applicable unwanted emission limits (Section 2.1051), a separate radiated measurement is required to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power levels, or intermediate circuit elements under normal conditions of installation and operation (Section 2.1053). The Section 96.41(e) limits generally also apply to radiated unwanted emissions.
 - iii) Note that unwanted emissions for CBSDs are relative to the authorized channel, as assigned by the SAS. Emission limits for example SAS-assigned channels are shown below.

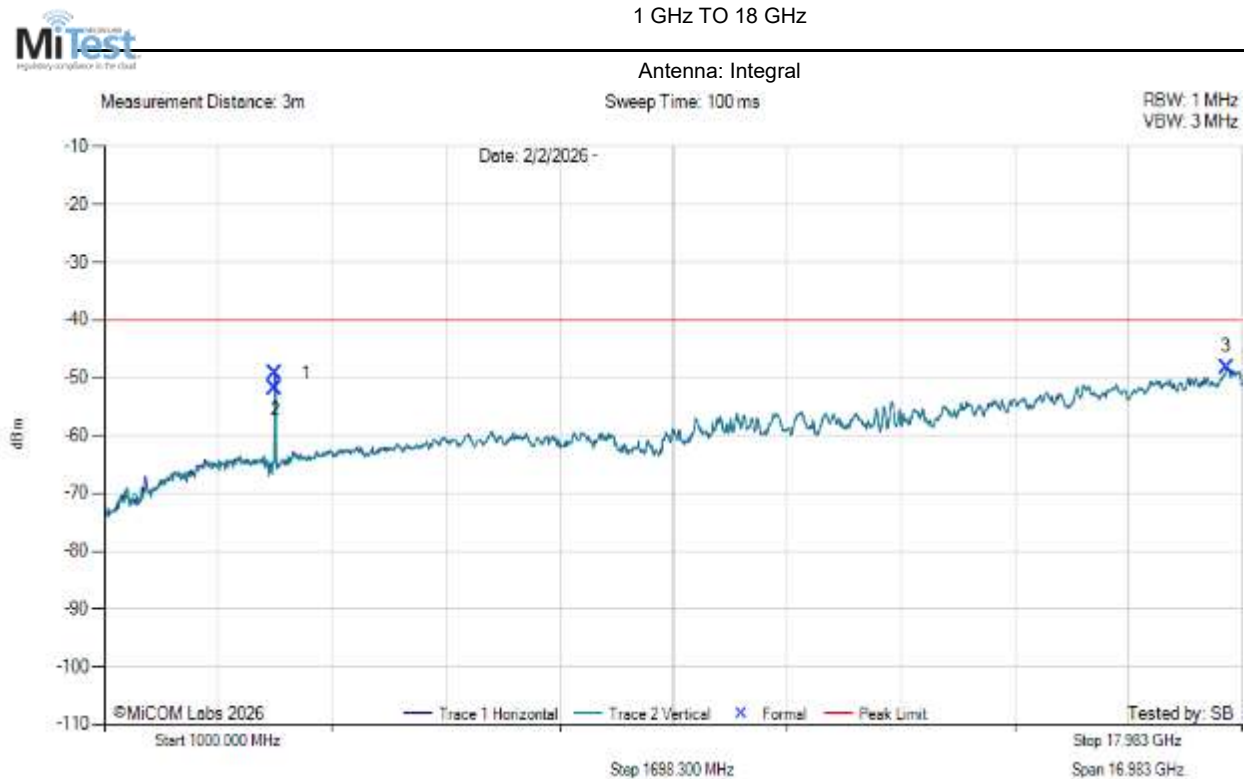


Integral Antenna XCOM ANT 1

Equipment Configuration for 1 GHz TO 18 GHz

Antenna:	XCOM ANT 1	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3555.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3550.00	-52.70	-3.33	52.91	-49.22	AVG	Horizontal	99	30	-40.0	-9.2	Pass
2	3550.00	-50.00	-3.33	52.91	-51.92	AVG	Vertical	99	50	-40.0	-11.9	Pass
3	17745.00	-69.02	-8.12	54.22	-48.16	AVG	Vertical	99	61	-40.0	-8.2	Pass

Test Notes: 10 MHz BW 3555 MHz Low Channel

Traceability to Industry Recognized Test Methodologies

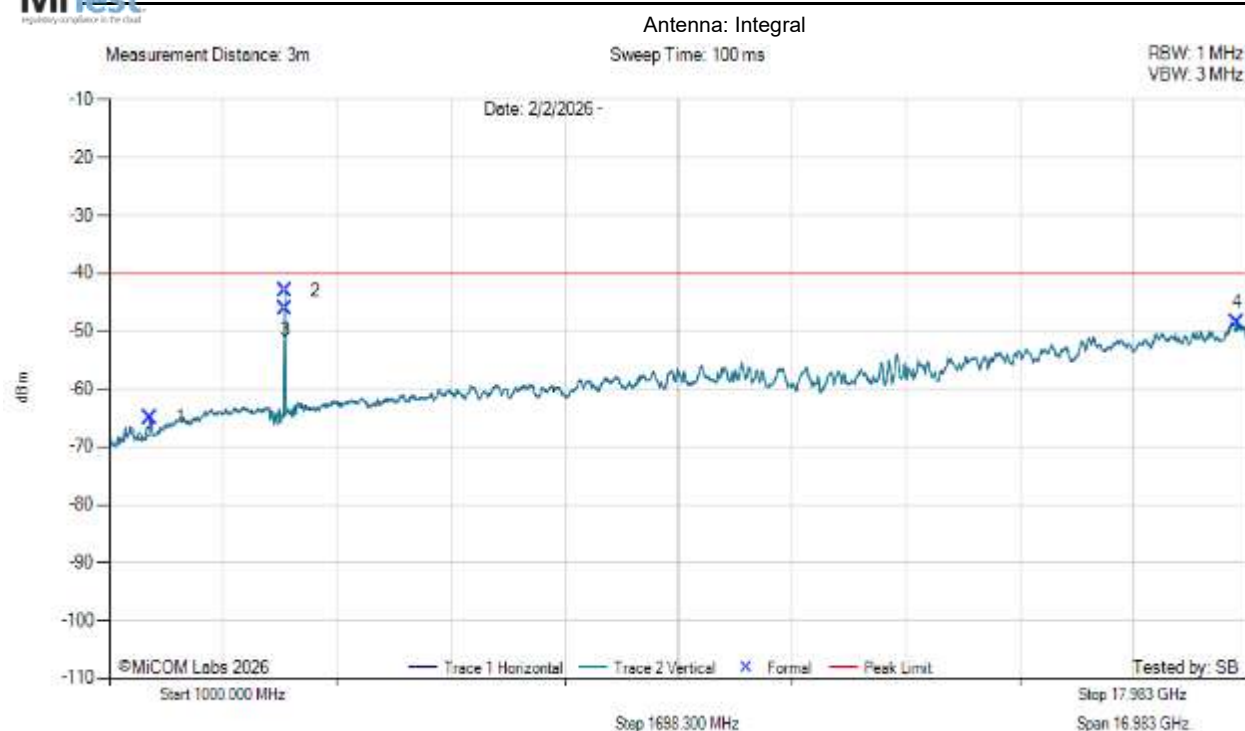
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

Equipment Configuration for 1 GHz TO 18 GHz

Antenna:	XCOM ANT 1	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3625.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz TO 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	1612.00	-62.87	-2.49	50.74	-64.93	AVG	Horizontal	149	0	-40.0	-24.9	Pass
2	3618.00	-46.34	-3.37	53.22	-42.98	AVG	Vertical	100	45	-40.0	-3.0	Pass
3	3618.00	-49.55	-3.37	53.22	-46.19	AVG	Horizontal	149	330	-40.0	-6.2	Pass
4	17830.00	-68.74	-8.12	54.28	-48.44	AVG	Horizontal	149	0	-40.0	-8.4	Pass

Test Notes: 10 MHz BW 3625 MHz Mid Channel

Traceability to Industry Recognized Test Methodologies

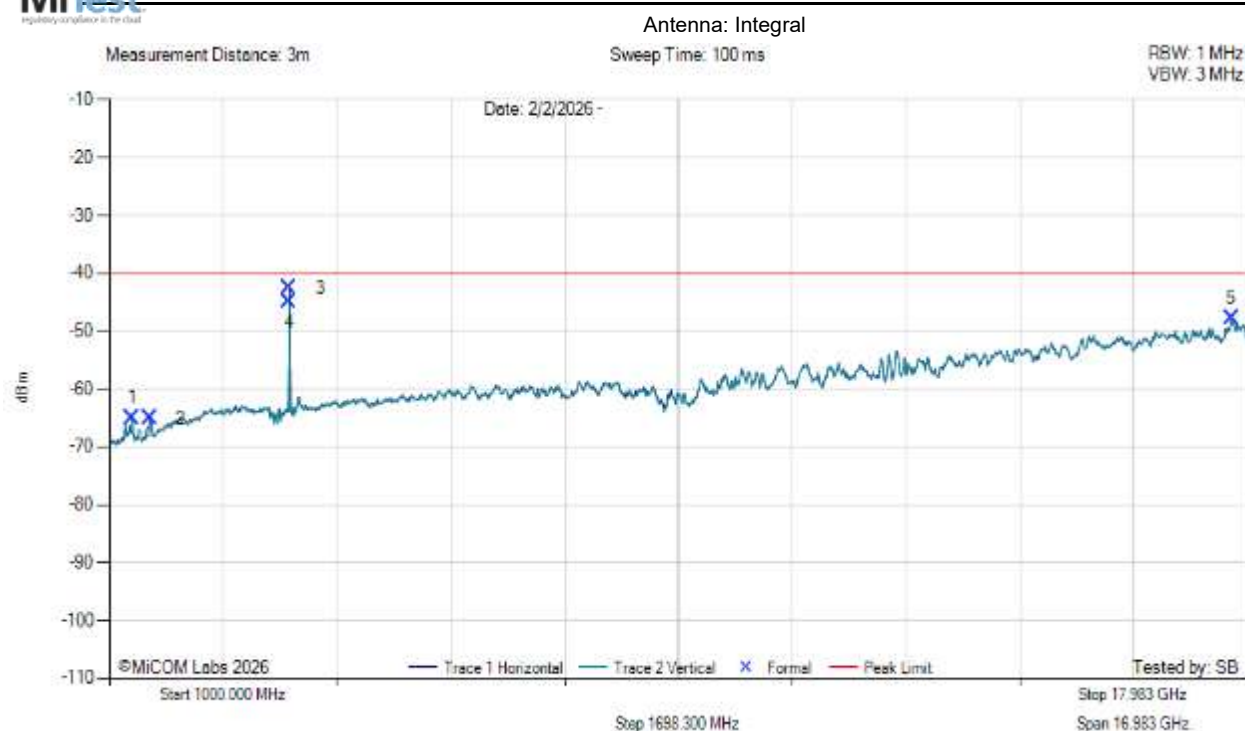
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

Equipment Configuration for 1 GHz TO 18 GHz

Antenna:	XCOM ANT 1	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3695.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz TO 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	1340.00	-62.94	-2.32	49.03	-65.06	AVG	Vertical	149	29	-40.0	-25.1	Pass
2	1612.00	-63.00	-2.49	50.74	-65.06	AVG	Horizontal	100	58	-40.0	-25.1	Pass
3	3686.00	-45.88	-3.35	53.38	-42.53	AVG	Horizontal	149	1	-40.0	-2.5	Pass
4	3686.00	-48.23	-3.35	53.38	-44.88	AVG	Vertical	149	0	-40.0	-4.9	Pass
5	17745.00	-68.07	-8.12	54.18	-47.77	AVG	--	--	--	-40.0	-7.8	--

Test Notes: 10 MHz BW 3695 MHz High Channel

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

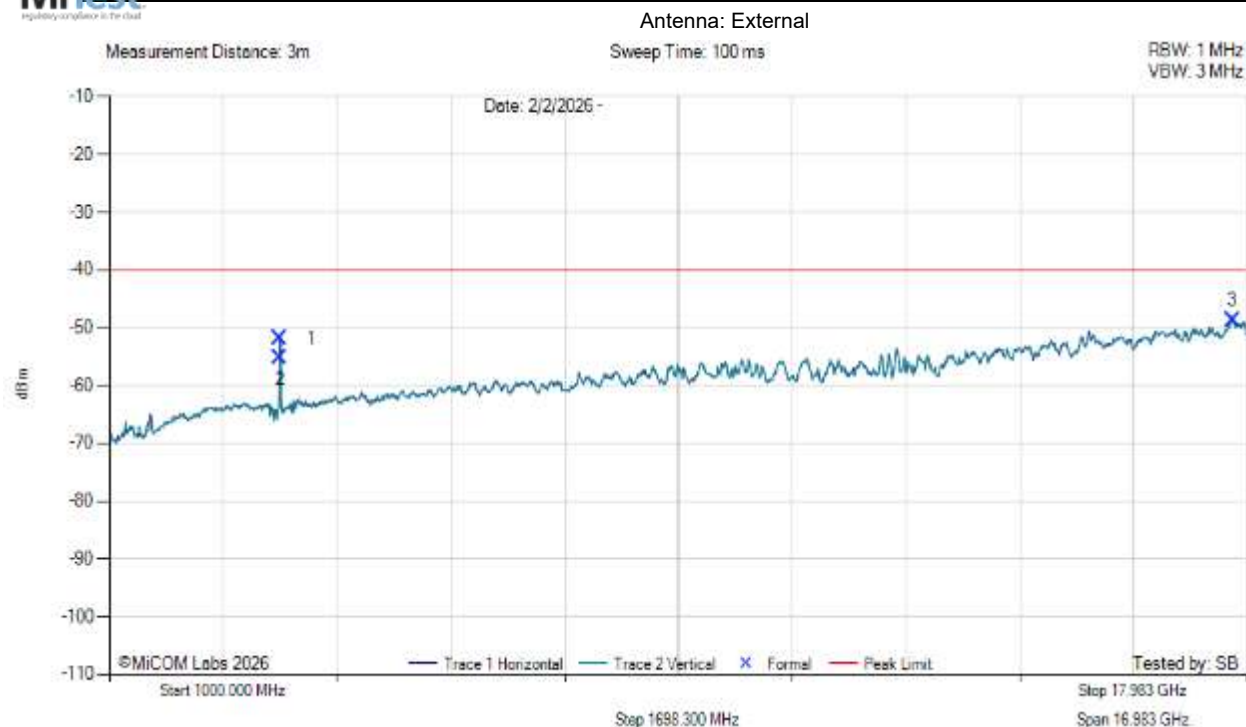
External Antenna Linx Ant 2

Equipment Configuration for 1 GHz to 18 GHz

Antenna:	Linx Ant 2	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3555.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz to 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3550.00	-55.39	-3.33	52.91	-51.92	AVG	Horizontal	101	210	-40.0	-11.9	Pass
2	3550.00	-52.08	-3.33	52.91	-55.23	AVG	Vertical	100	205	-40.0	-15.2	Pass
3	17762.00	-69.47	-7.87	54.18	-48.74	AVG	Horizontal	149	60	-40.0	-8.7	Pass

Test Notes: 10 MHz BW 3555 MHz Low Channel

Traceability to Industry Recognized Test Methodologies

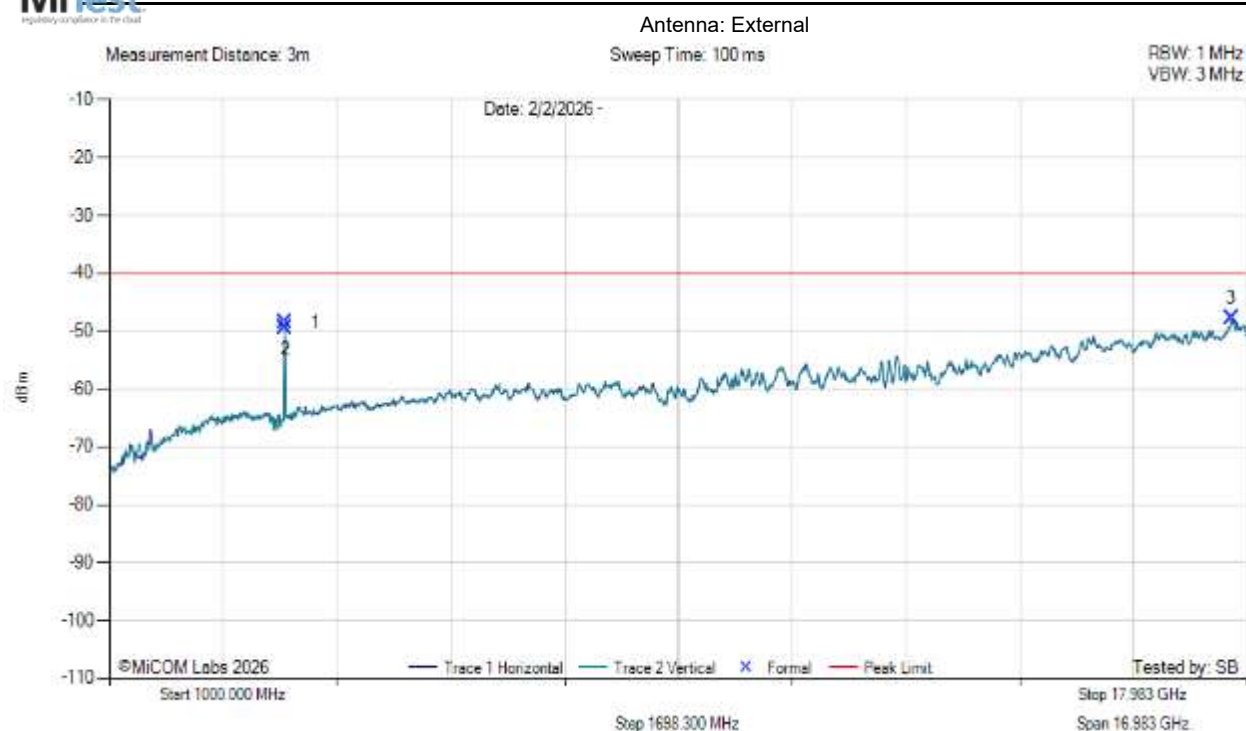
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB;

Equipment Configuration for 1 GHz to 18 GHz

Antenna:	Linx Ant 2	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3625.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz to 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3618.00	-51.90	-3.37	53.22	-48.54	AVG	Vertical	149	328	-40.0	-8.5	Pass
2	3618.00	-52.90	-3.37	53.22	-49.54	AVG	Horizontal	149	180	-40.0	-9.5	Pass
3	17745.00	-68.70	-8.12	54.28	-47.84	AVG	Vertical	149	119	-40.0	-7.8	Pass

Test Notes: 10 MHz BW 3625 MHz Mid Channel

Traceability to Industry Recognized Test Methodologies

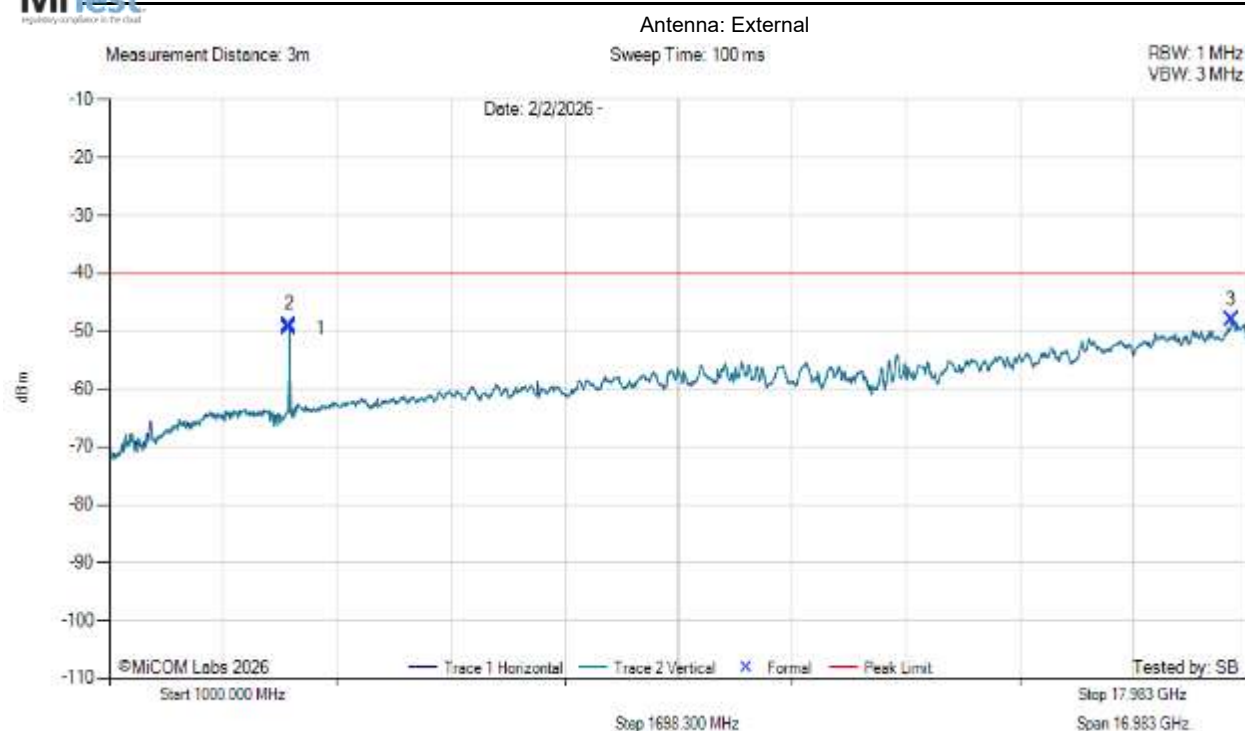
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

Equipment Configuration for 1 GHz to 18 GHz

Antenna:	Linx Ant 2	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3695.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz to 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3686.00	-52.90	-3.35	53.38	-49.55	AVG	Vertical	100	240	-40.0	-9.5	Pass
2	3686.00	-52.22	-3.35	53.38	-48.87	AVG	Horizontal	100	178	-40.0	-8.9	Pass
3	17745.00	-68.89	-8.12	54.28	-48.03	AVG	Vertical	100	239	-40.0	-8.0	Pass

Test Notes: 10 MHz BW 3695 MHz High Channel

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

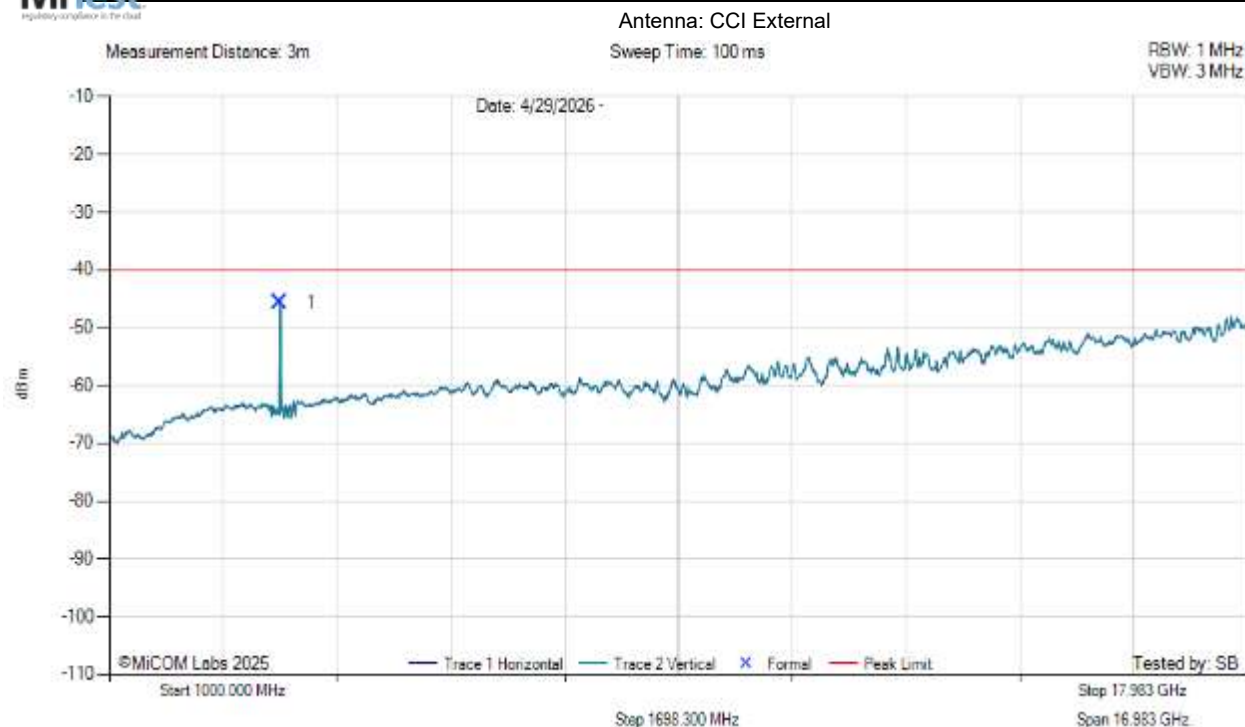
External Antenna CCI External

Equipment Configuration for 1 GHz TO 18 GHz

Antenna:	CCI External	Variant:	10 MHz
Antenna Gain (dBi):	18.3	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3555.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz to 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3550.00	-49.19	-3.33	52.91	-45.72	AVG	Vertical	149	119	-40.0	-5.7	Pass

Test Notes: 10 MHz BW 3555 MHz Low Channel, Max Power, CCI External Antenna

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

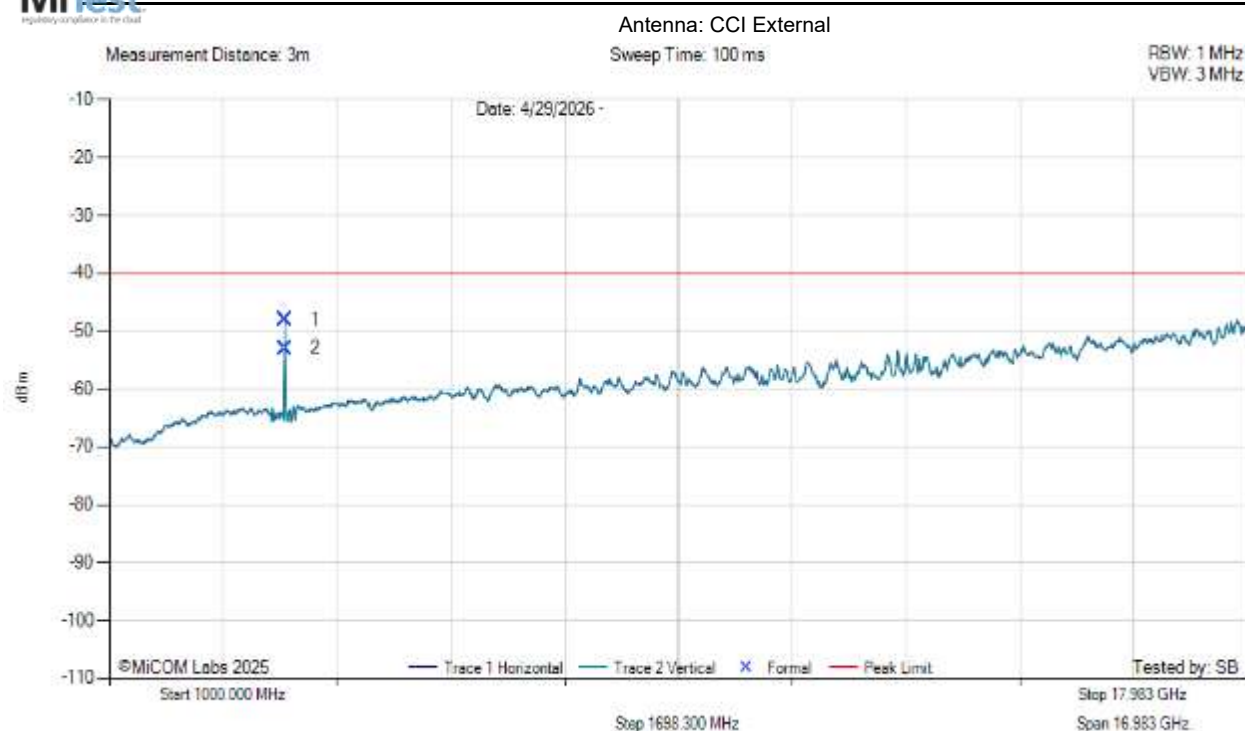
Equipment Configuration for 1 GHz TO 18 GHz

Antenna:	CCI External	Variant:	10 MHz
Antenna Gain (dBi):	18.3	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3625.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results



1 GHz to 18 GHz dBm



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3618.00	-51.33	-3.37	53.22	-47.98	AVG	Vertical	149	89	-40.0	-8.0	Pass
2	3618.00	-56.34	-3.37	53.22	-52.98	AVG	Horizontal	149	120	-40.0	-13.0	Pass

Test Notes: 10 MHz BW 3625 MHz Mid Channel

Traceability to Industry Recognized Test Methodologies

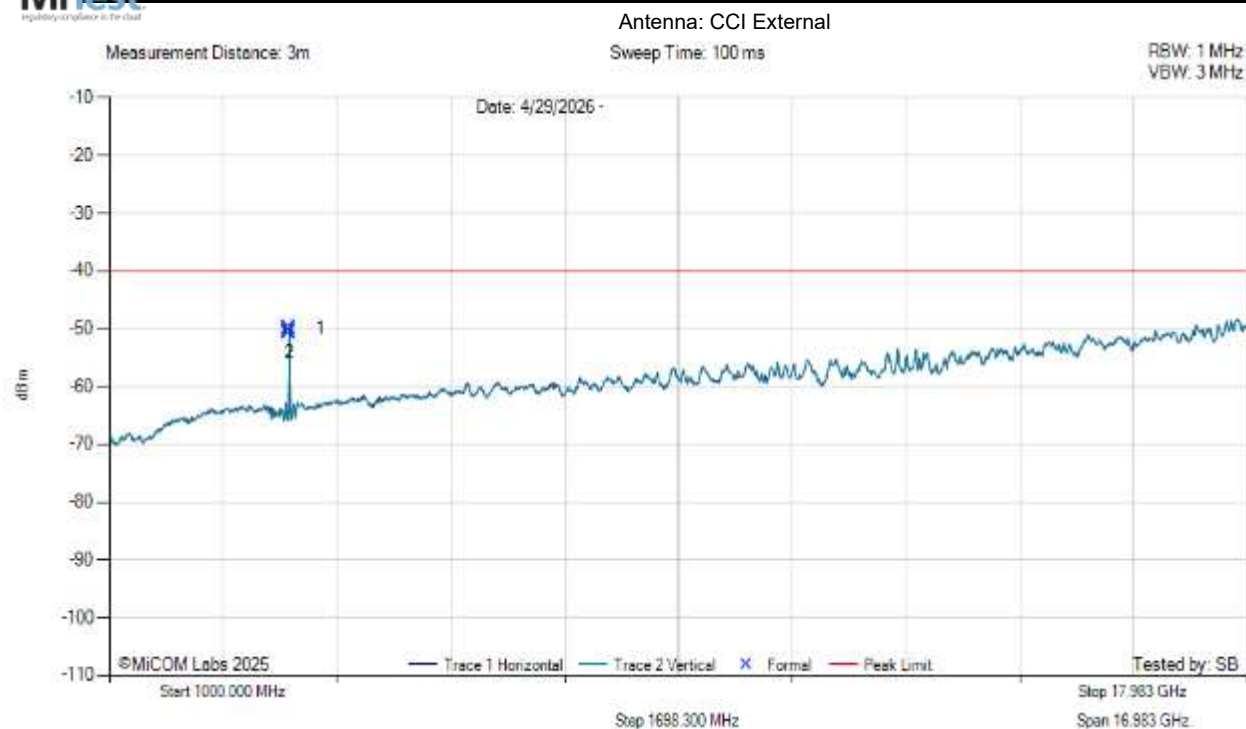
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

Equipment Configuration for 1 GHz TO 18 GHz

Antenna:	CCI External	Variant:	10 MHz
Antenna Gain (dBi):	18.3	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3695.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

1 GHz to 18 GHz



1000.00 - 17983.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	3686.00	-53.27	-3.35	53.38	-49.92	AVG	Horizontal	149	58	-40.0	-9.9	Pass
2	3686.00	-53.89	-3.35	53.38	-50.54	AVG	Vertical	149	119	-40.0	-10.5	Pass

Test Notes: 10 MHz BW 3695 MHz High Channel

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB;

Radiated Emissions 30MHz – 1GHz

Equipment Configuration for 30 MHz TO 1 GHz

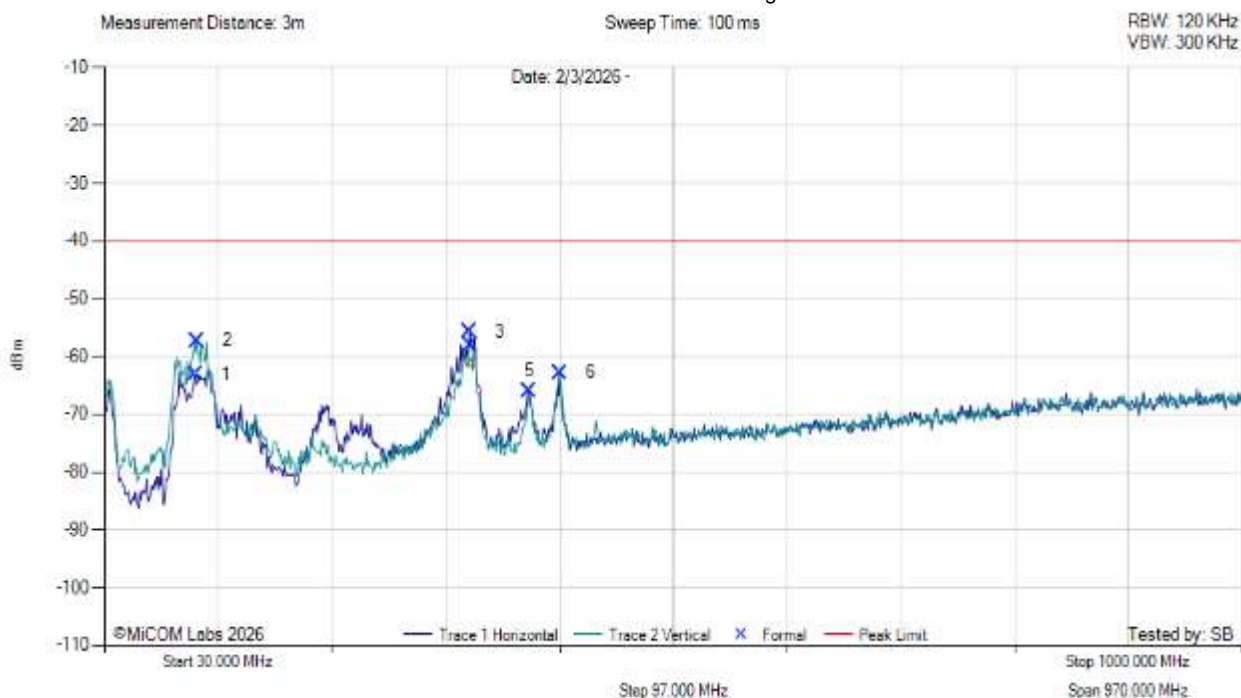
Antenna:	XCOM ANT 1	Variant:	10 MHz
Antenna Gain (dBi):	6.0	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3555.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results



30 MHz TO 1 GHz

Antenna: Integral



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	107.60	-67.08	4.35	23.03	-63.08	AVG	Horizontal	149	120	-40.0	-23.1	Pass
2	108.57	-61.47	4.36	22.86	-57.22	AVG	Vertical	100	29	-40.0	-17.2	Pass
3	341.37	-63.08	5.31	30.59	-55.64	AVG	Horizontal	100	180	-40.0	-15.6	Pass
4	342.34	-64.77	5.32	31.26	-57.99	AVG	Vertical	149	59	-40.0	-18.0	Pass
5	391.81	-74.05	5.50	31.28	-65.92	AVG	Horizontal	100	30	-40.0	-25.9	Pass
6	418.00	-72.52	5.59	30.33	-62.79	AVG	Vertical	149	179	-40.0	-22.8	Pass
Test Notes: 10 MHz BW 3555 MHz Low Channel												

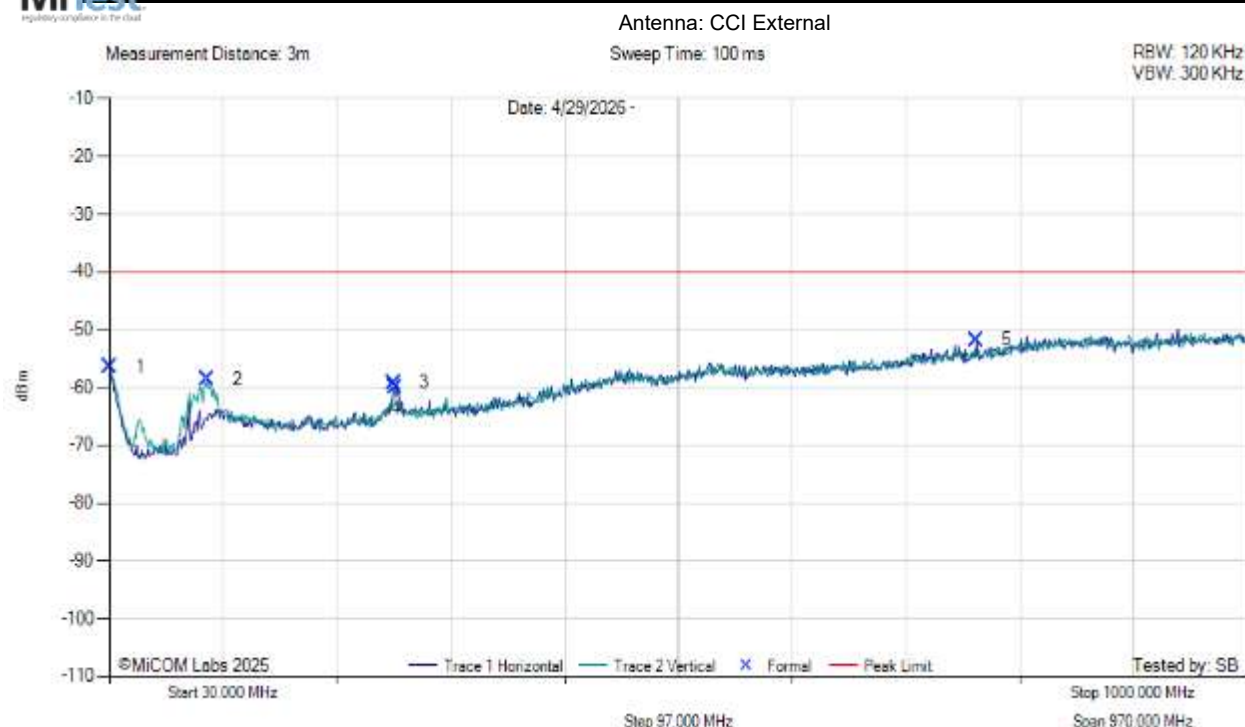
Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

Equipment Configuration for 30 MHz TO 1 GHZ

Antenna:	CCI External	Variant:	10 MHz
Antenna Gain (dBi):	18.3	Modulation:	256QAM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	75
Channel Frequency (MHz):	3555.00	Data Rate:	--
Power Setting:	Max	Tested By:	SB

Test Measurement Results

30 MHz to 1 GHz



30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBm	Cable Loss dB	AF dB/m	Level dBm	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBm	Margin dB	Pass /Fail
1	30.00	-100.47	3.74	-28.67	-56.47	AVG	Vertical	99	270	-40.0	-16.5	Pass
2	113.42	-95.03	4.40	-8.89	-58.60	AVG	Vertical	99	119	-40.0	-18.6	Pass
3	272.50	-96.07	5.07	-1.09	-59.17	AVG	Horizontal	149	240	-40.0	-19.2	Pass
4	273.47	-96.87	5.06	-1.07	-59.96	AVG	Vertical	149	179	-40.0	-20.0	Pass
5	769.14	-97.62	6.90	0.81	-51.77	AVG	Horizontal	149	30	-40.0	-11.8	Pass

Test Notes: 10 MHz BW 3555 MHz Low Channel

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS;
Measurement Uncertainty:	<=40 GHz ± 2.37 dB, > 40 GHz ± 4.6 dB;

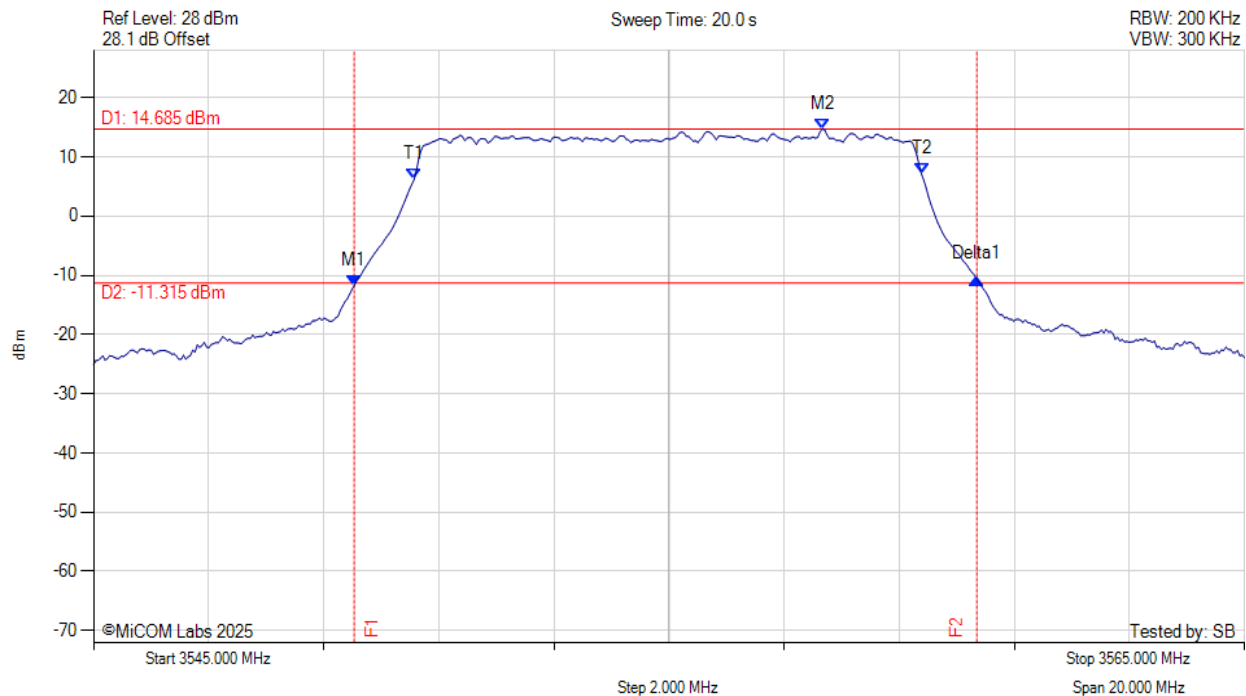
APPENDIX A - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth

26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3555.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



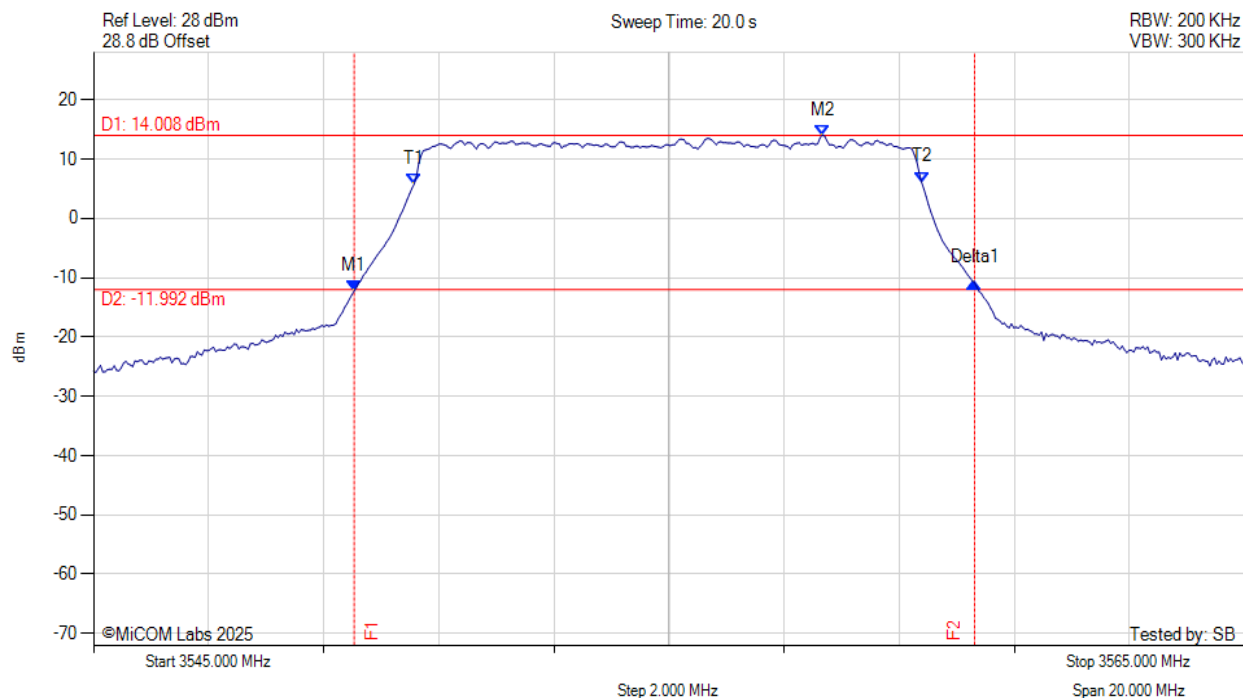
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.529 MHz : -11.760 dBm M2 : 3557.665 MHz : 14.685 dBm Delta1 : 10.822 MHz : 1.094 dB T1 : 3550.571 MHz : 6.196 dBm T2 : 3559.389 MHz : 7.083 dBm OBW : 8.818 MHz	Measured 6 dB Bandwidth: 10.822 MHz Limit: ≥ -46.0 kHz Margin: -10.87 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3555.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



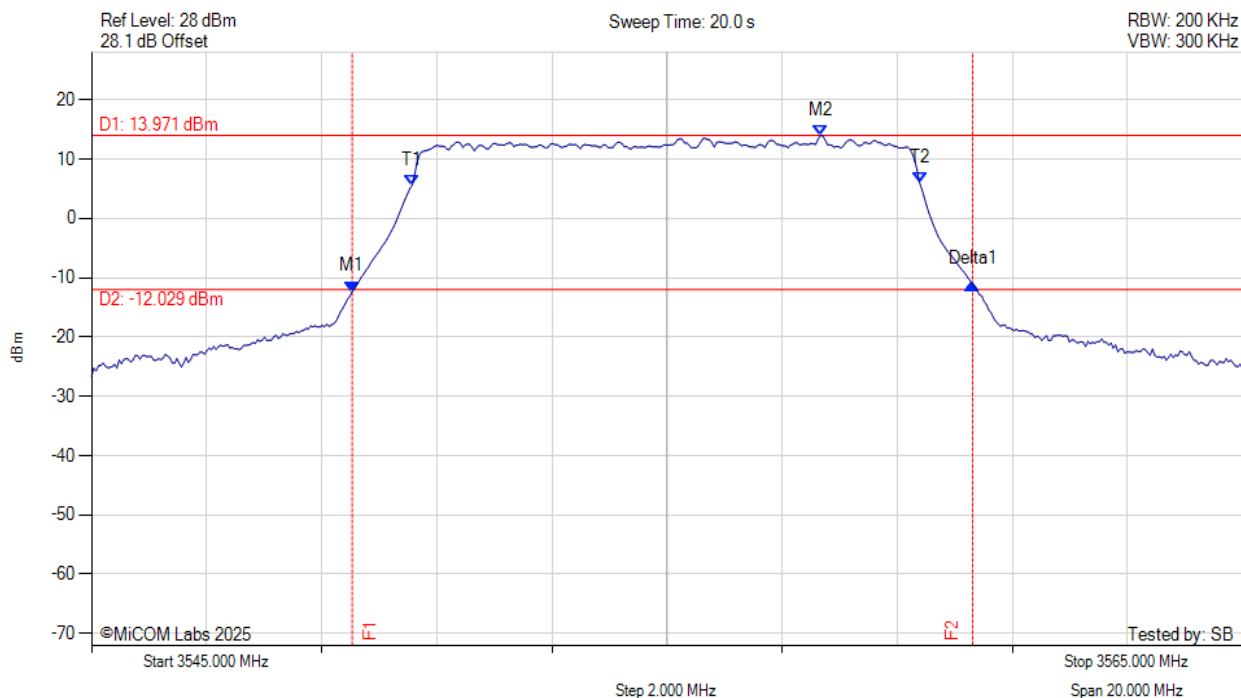
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.529 MHz : -12.230 dBm M2 : 3557.665 MHz : 14.008 dBm Delta1 : 10.782 MHz : 1.401 dB T1 : 3550.571 MHz : 5.785 dBm T2 : 3559.389 MHz : 6.113 dBm OBW : 8.818 MHz	Measured 6 dB Bandwidth: 10.782 MHz Limit: ≥-46.0 kHz Margin: -10.83 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3555.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



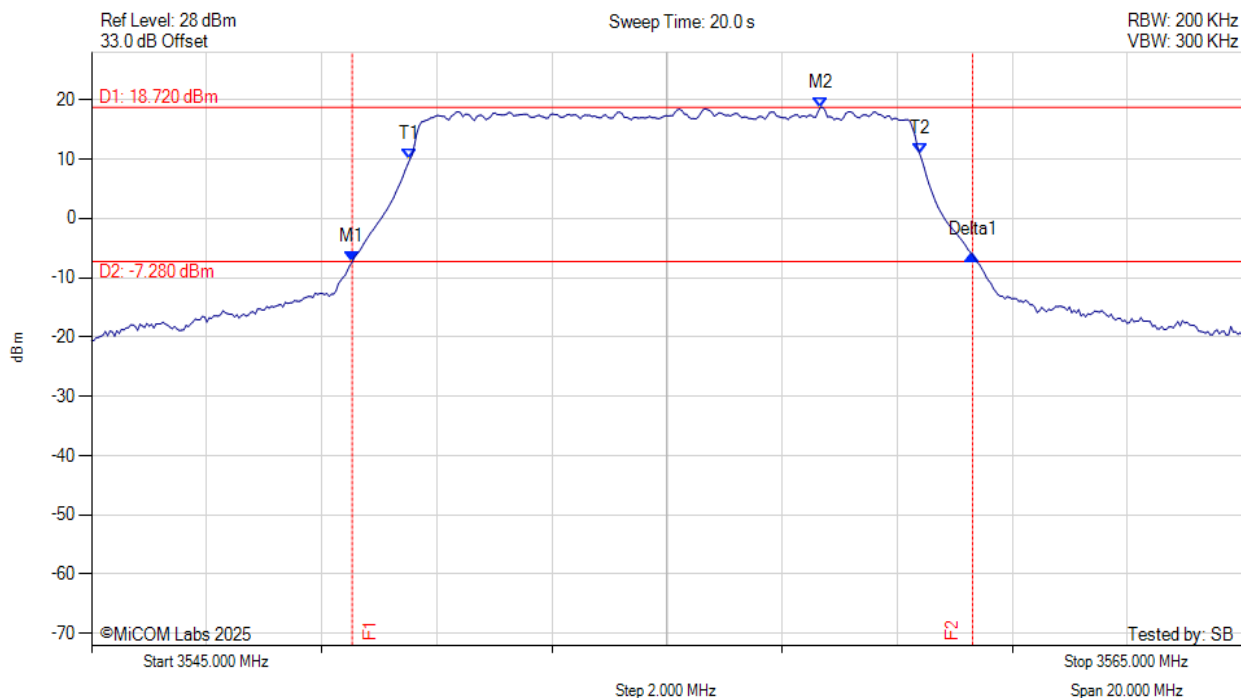
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.529 MHz : -12.333 dBm M2 : 3557.665 MHz : 13.971 dBm Delta1 : 10.782 MHz : 1.232 dB T1 : 3550.571 MHz : 5.590 dBm T2 : 3559.389 MHz : 6.036 dBm OBW : 8.818 MHz	Measured 6 dB Bandwidth: 10.782 MHz Limit: ≥ -46.0 kHz Margin: -10.83 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3555.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



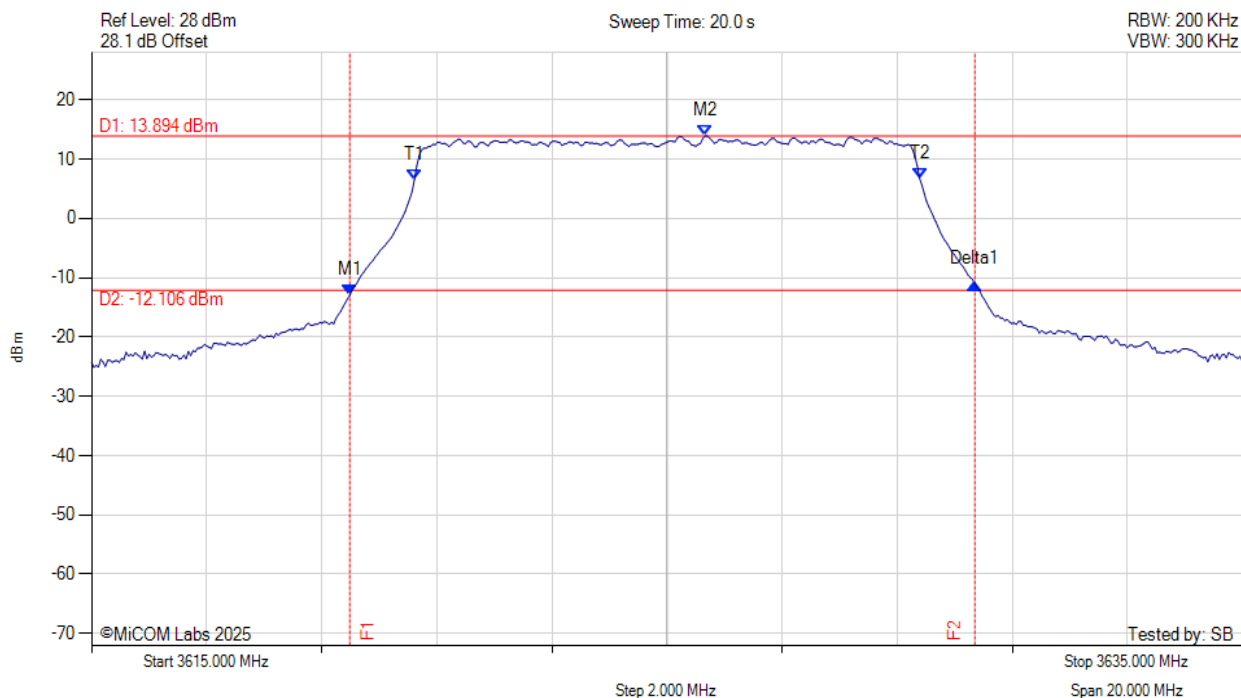
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.529 MHz : -7.383 dBm M2 : 3557.665 MHz : 18.720 dBm Delta1 : 10.782 MHz : 1.230 dB T1 : 3550.531 MHz : 9.940 dBm T2 : 3559.389 MHz : 10.978 dBm OBW : 8.858 MHz	Measured 6 dB Bandwidth: 10.782 MHz Limit: ≥ -46.0 kHz Margin: -10.83 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3625.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



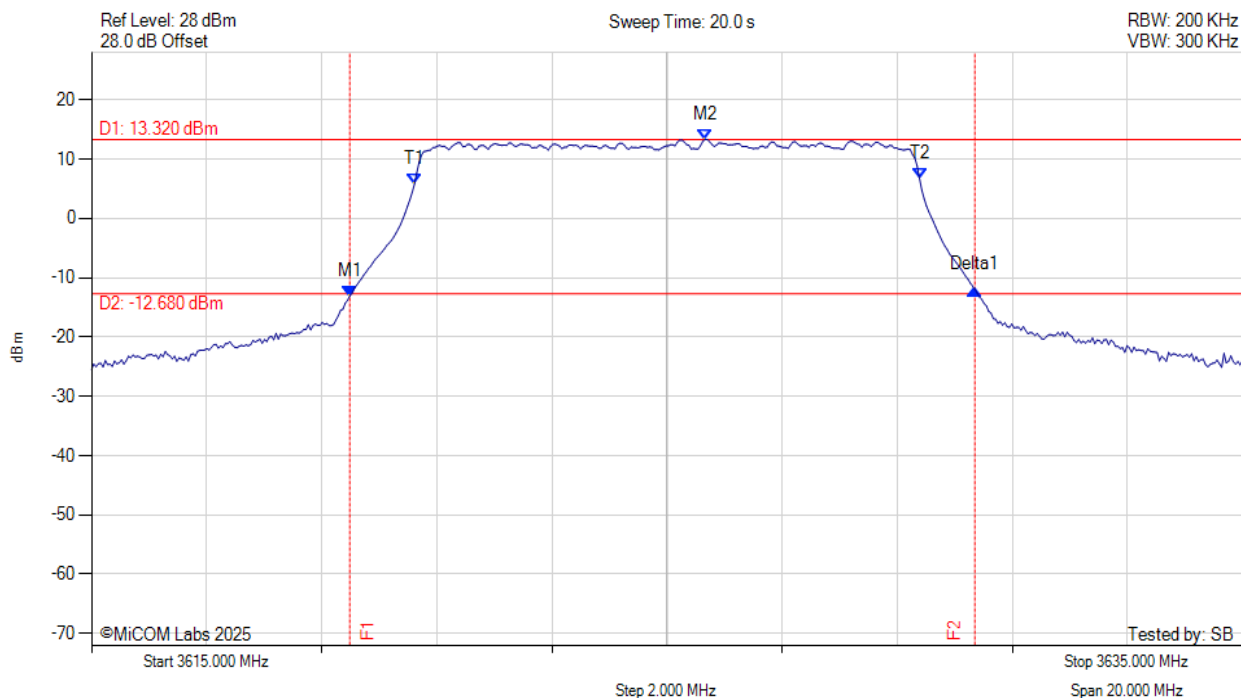
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3619.489 MHz : -12.994 dBm M2 : 3625.661 MHz : 13.894 dBm Delta1 : 10.862 MHz : 1.975 dB T1 : 3620.611 MHz : 6.568 dBm T2 : 3629.389 MHz : 6.768 dBm OBW : 8.778 MHz	Measured 6 dB Bandwidth: 10.862 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3625.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



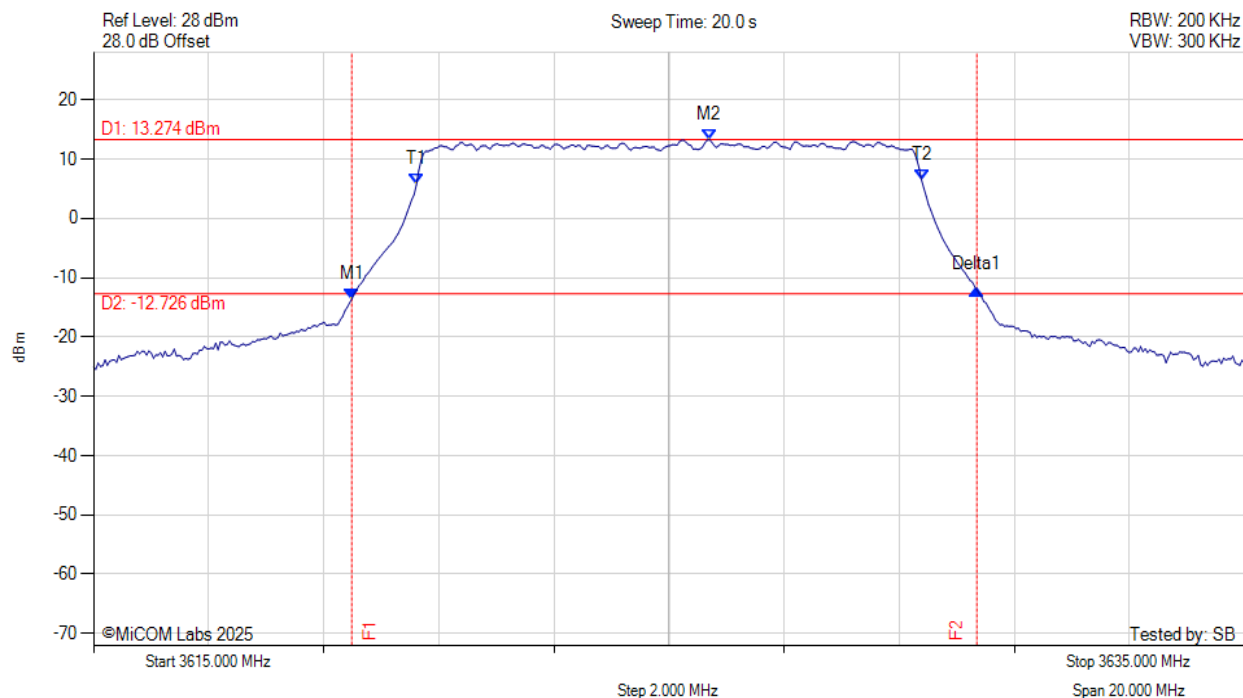
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3619.489 MHz : -13.074 dBm M2 : 3625.661 MHz : 13.320 dBm Delta1 : 10.862 MHz : 1.117 dB T1 : 3620.611 MHz : 5.767 dBm T2 : 3629.389 MHz : 6.690 dBm OBW : 8.778 MHz	Measured 6 dB Bandwidth: 10.862 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3625.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



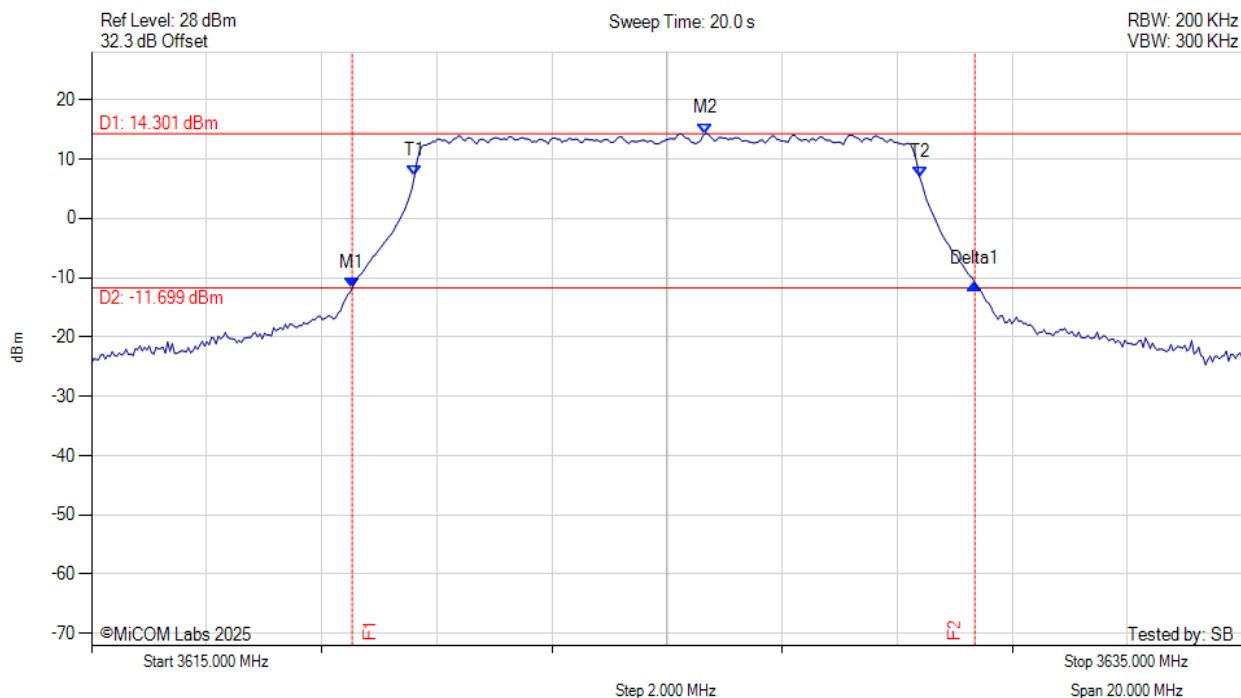
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3619.489 MHz : -13.586 dBm M2 : 3625.701 MHz : 13.274 dBm Delta1 : 10.862 MHz : 1.527 dB T1 : 3620.611 MHz : 5.698 dBm T2 : 3629.389 MHz : 6.446 dBm OBW : 8.778 MHz	Measured 6 dB Bandwidth: 10.862 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3625.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



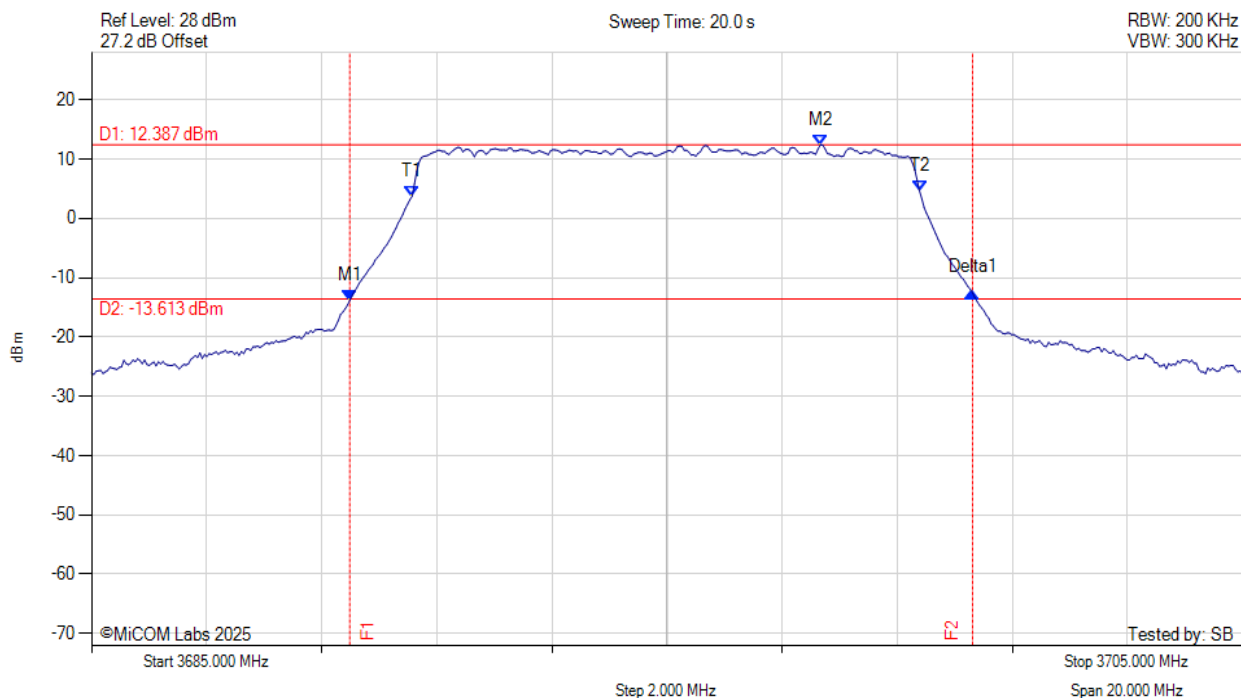
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3619.529 MHz : -11.770 dBm M2 : 3625.661 MHz : 14.301 dBm Delta1 : 10.822 MHz : 0.775 dB T1 : 3620.611 MHz : 7.105 dBm T2 : 3629.389 MHz : 7.022 dBm OBW : 8.778 MHz	Measured 6 dB Bandwidth: 10.822 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3695.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



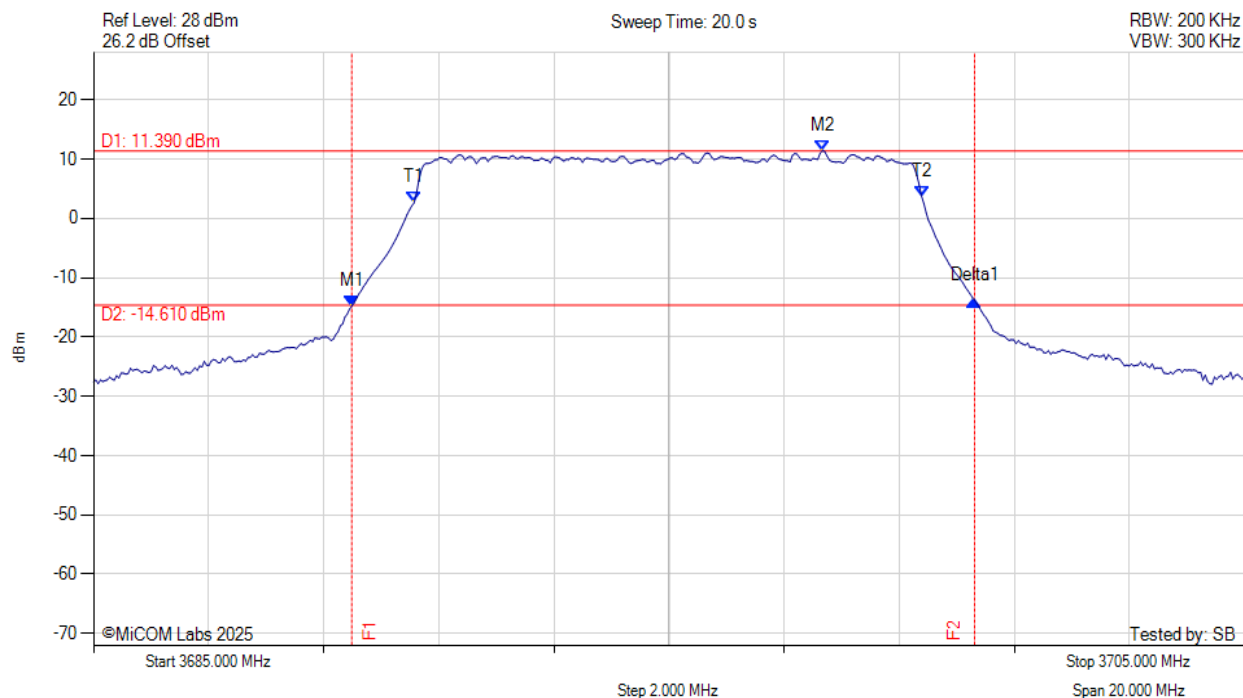
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3689.489 MHz : -13.818 dBm M2 : 3697.665 MHz : 12.387 dBm Delta1 : 10.822 MHz : 1.275 dB T1 : 3690.571 MHz : 3.744 dBm T2 : 3699.389 MHz : 4.614 dBm OBW : 8.818 MHz	Measured 6 dB Bandwidth: 10.822 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3695.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



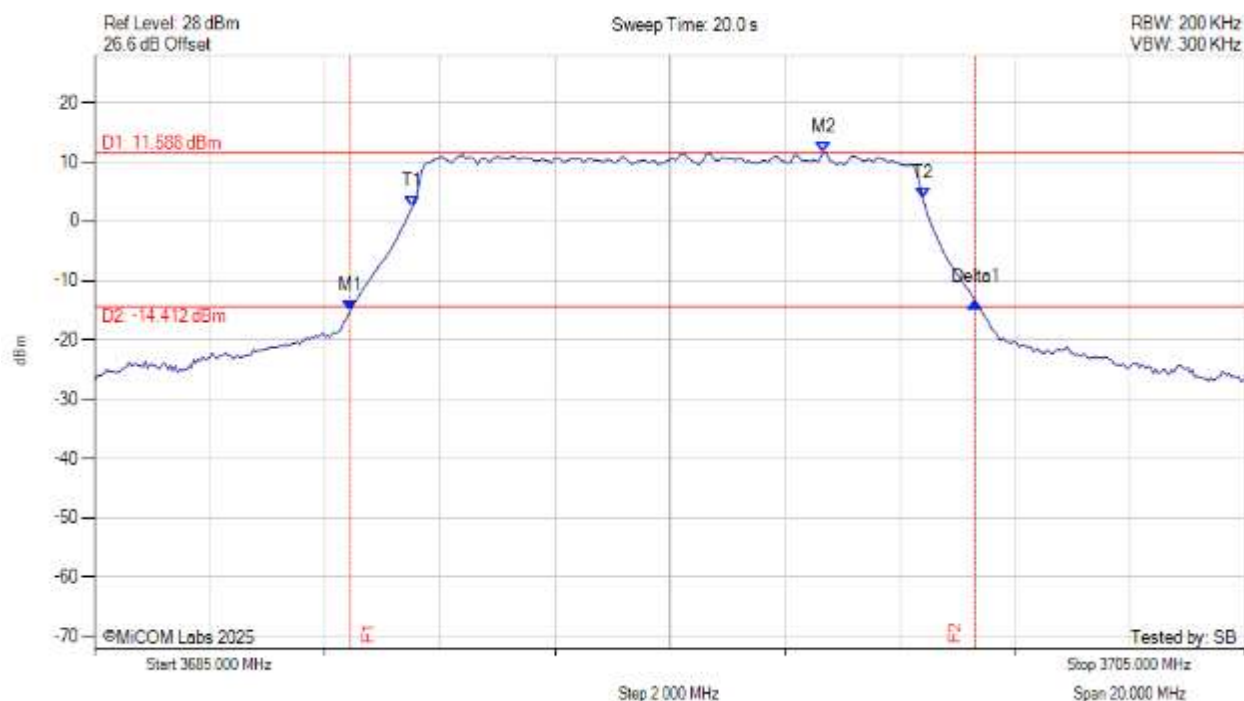
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3689.489 MHz : -14.762 dBm M2 : 3697.665 MHz : 11.390 dBm Delta1 : 10.822 MHz : 0.995 dB T1 : 3690.571 MHz : 2.649 dBm T2 : 3699.389 MHz : 3.756 dBm OBW : 8.818 MHz	Measured 6 dB Bandwidth: 10.822 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3695.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



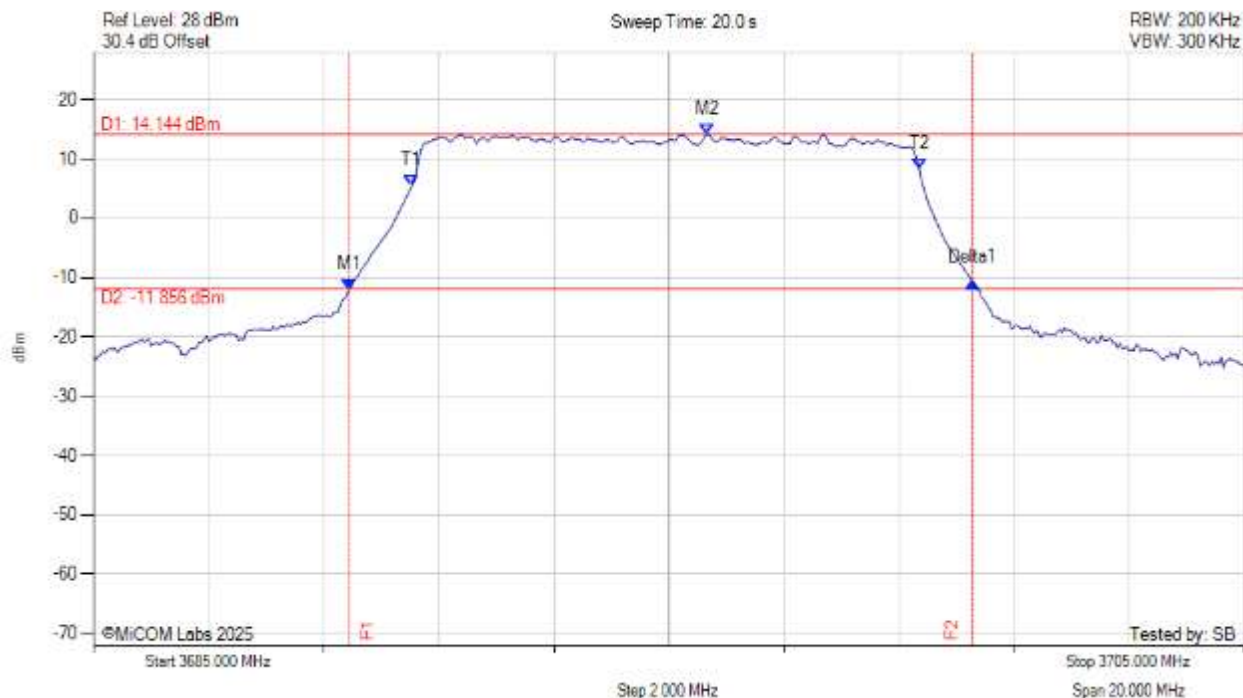
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3689.449 MHz : -15.103 dBm M2 : 3697.665 MHz : 11.588 dBm Delta1 : 10.862 MHz : 1.527 dB T1 : 3690.531 MHz : 2.517 dBm T2 : 3699.389 MHz : 4.000 dBm OBW : 8.858 MHz	Measured 6 dB Bandwidth: 10.862 MHz

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26 dB & 99% BANDWIDTH



Variant: 10MHz, Channel: 3695.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



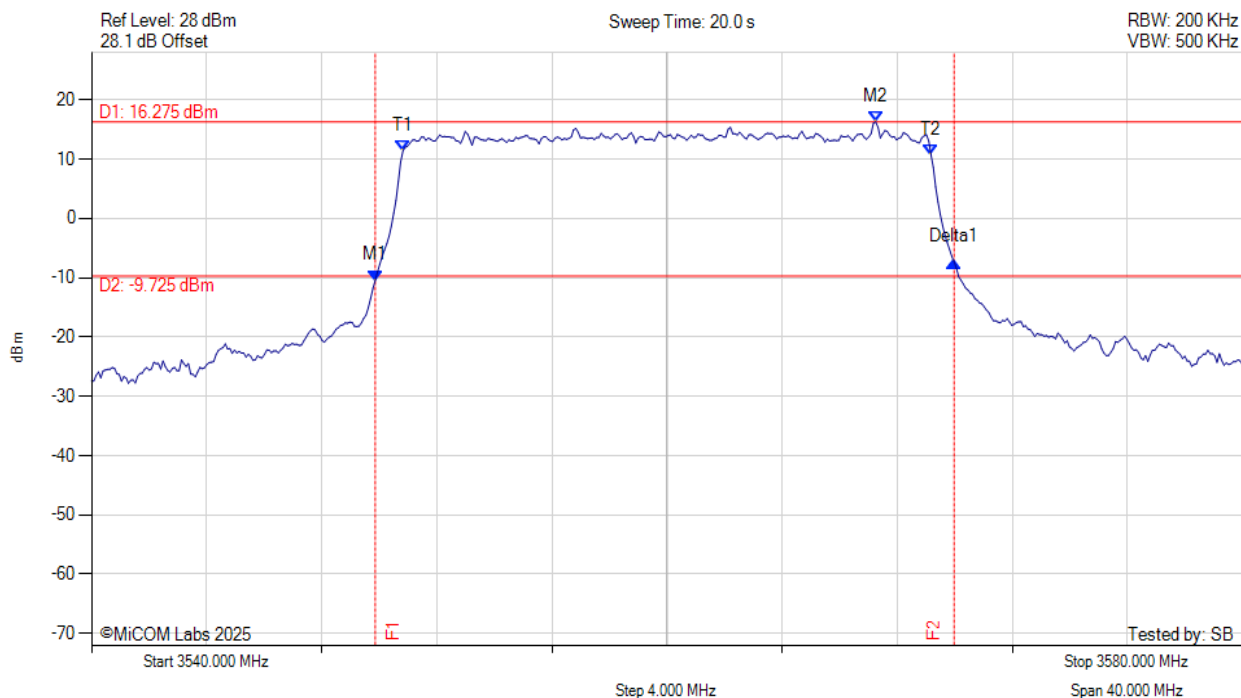
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3689.449 MHz : -11.910 dBm M2 : 3695.661 MHz : 14.144 dBm Delta1 : 10.822 MHz : 1.178 dB T1 : 3690.531 MHz : 5.464 dBm T2 : 3699.349 MHz : 8.277 dBm OBW : 8.818 MHz	Measured 6 dB Bandwidth: 10.822 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3560.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



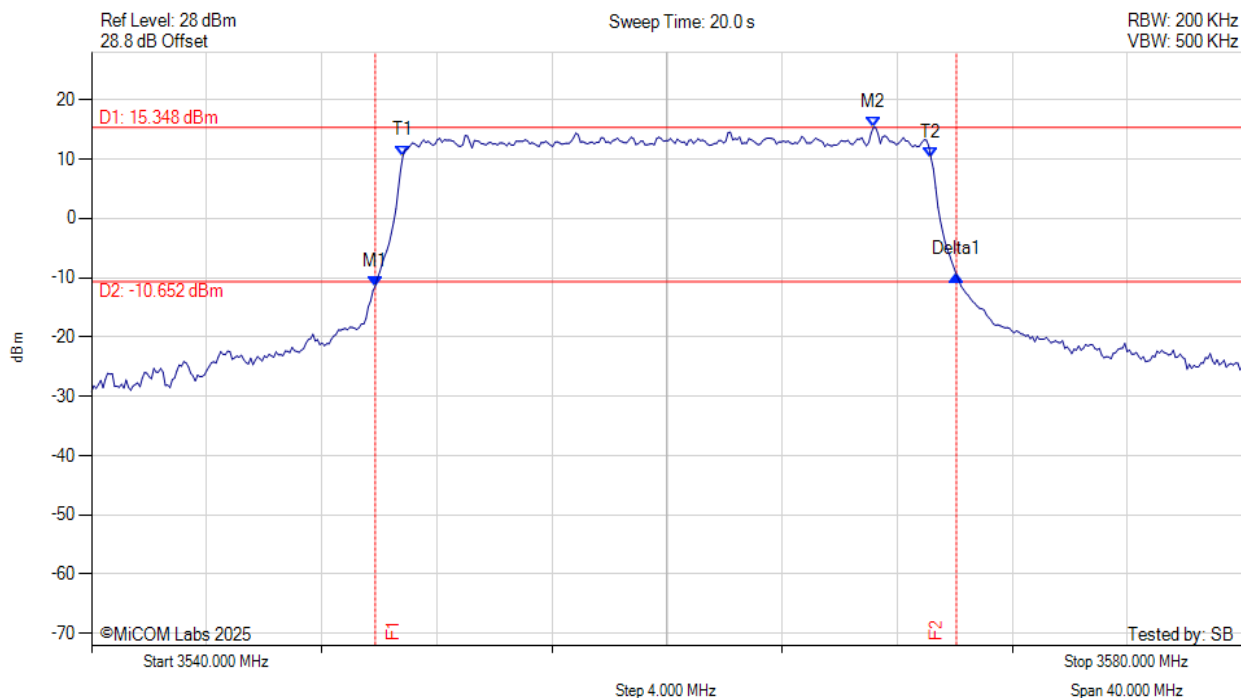
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.860 MHz : -10.460 dBm M2 : 3567.255 MHz : 16.275 dBm Delta1 : 20.120 MHz : 3.106 dB T1 : 3550.822 MHz : 11.372 dBm T2 : 3569.178 MHz : 10.640 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.120 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3560.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



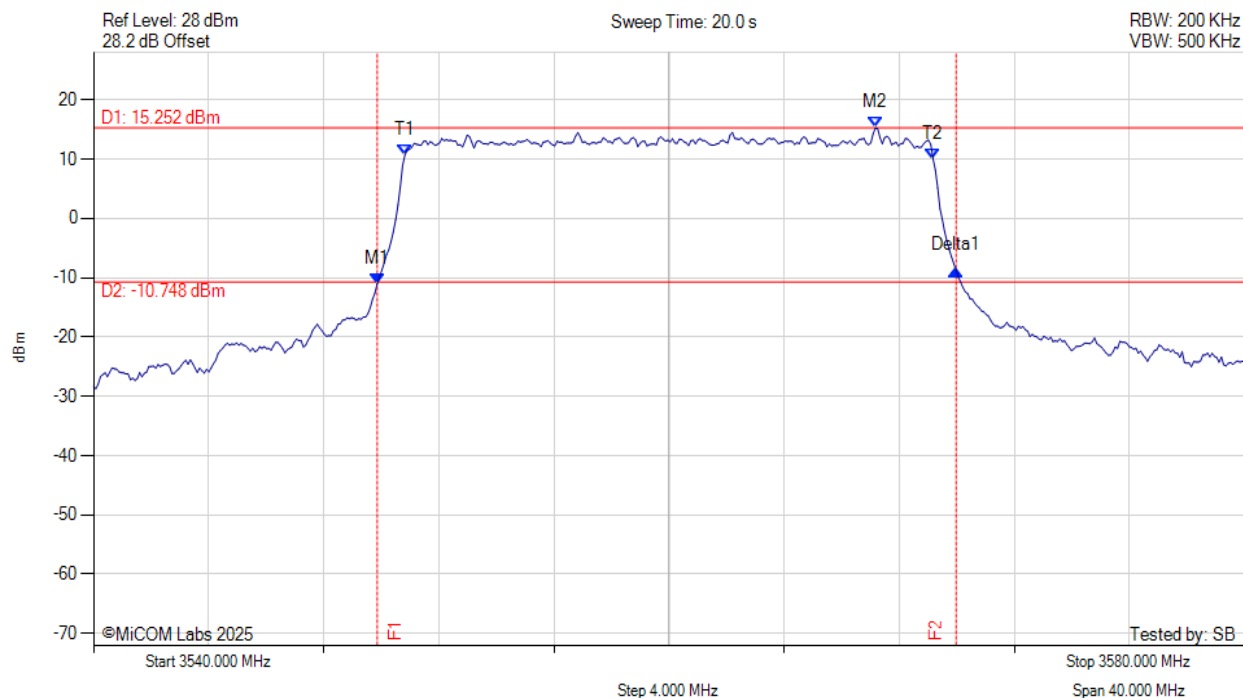
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.860 MHz : -11.428 dBm M2 : 3567.174 MHz : 15.348 dBm Delta1 : 20.200 MHz : 1.900 dB T1 : 3550.822 MHz : 10.561 dBm T2 : 3569.178 MHz : 10.119 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.200 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3560.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



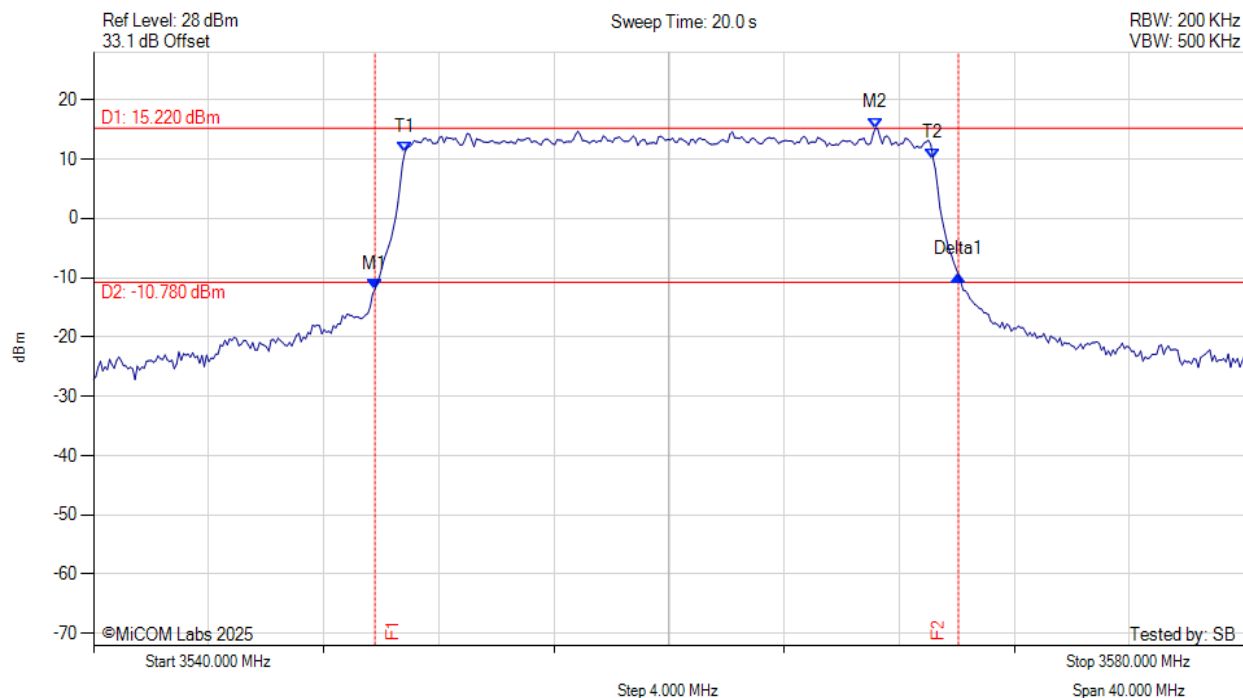
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.860 MHz : -11.005 dBm M2 : 3567.174 MHz : 15.252 dBm Delta1 : 20.120 MHz : 2.213 dB T1 : 3550.822 MHz : 10.707 dBm T2 : 3569.178 MHz : 9.997 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.120 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3560.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



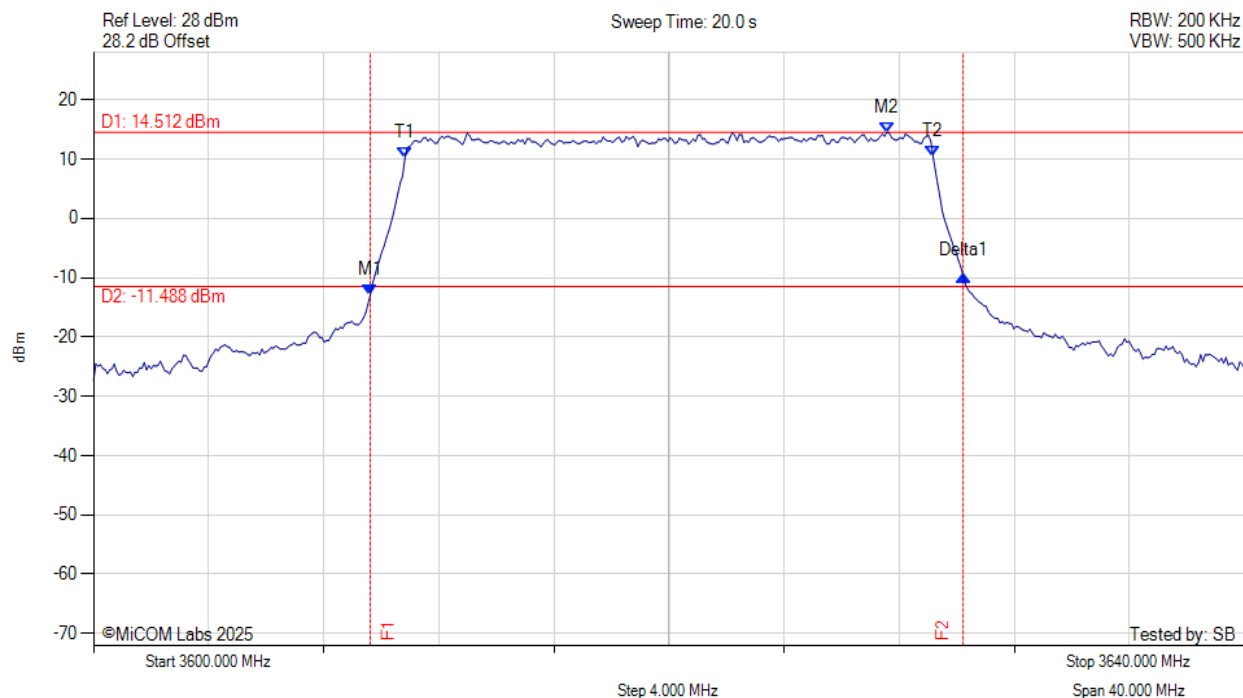
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.780 MHz : -11.951 dBm M2 : 3567.174 MHz : 15.220 dBm Delta1 : 20.281 MHz : 2.424 dB T1 : 3550.822 MHz : 11.197 dBm T2 : 3569.178 MHz : 10.091 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.281 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3620.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



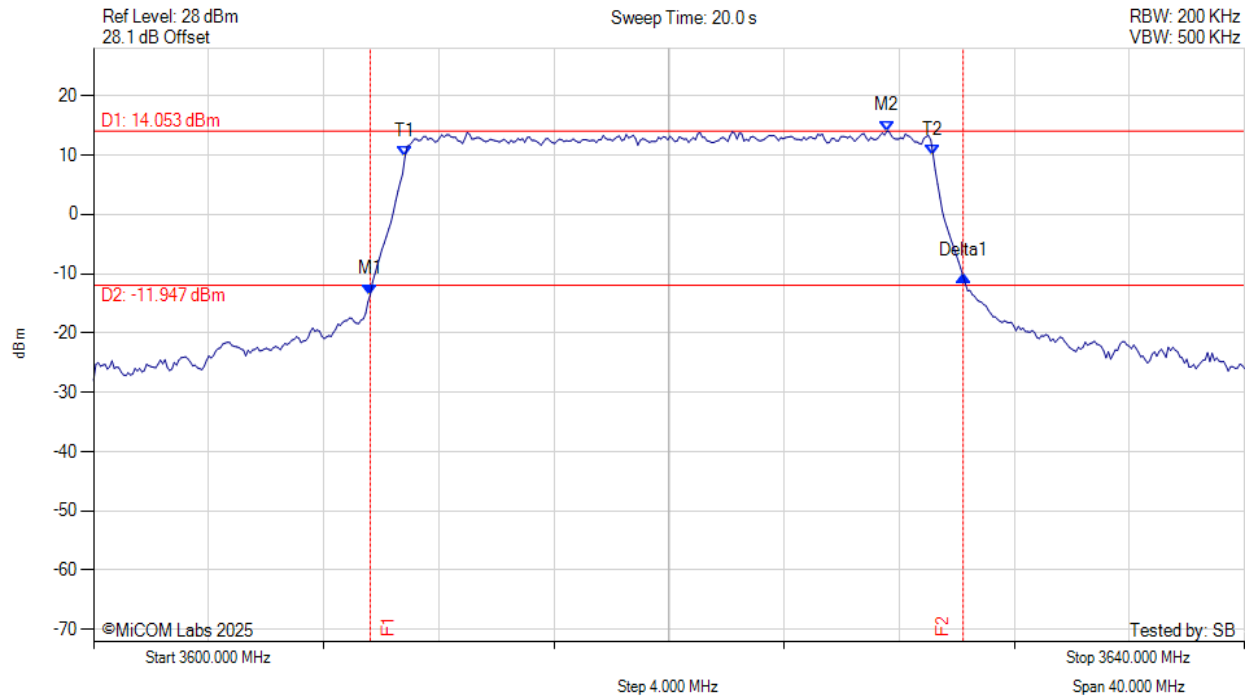
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3609.619 MHz : -12.901 dBm M2 : 3627.575 MHz : 14.512 dBm Delta1 : 20.601 MHz : 3.246 dB T1 : 3610.822 MHz : 10.158 dBm T2 : 3629.178 MHz : 10.439 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.601 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3620.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



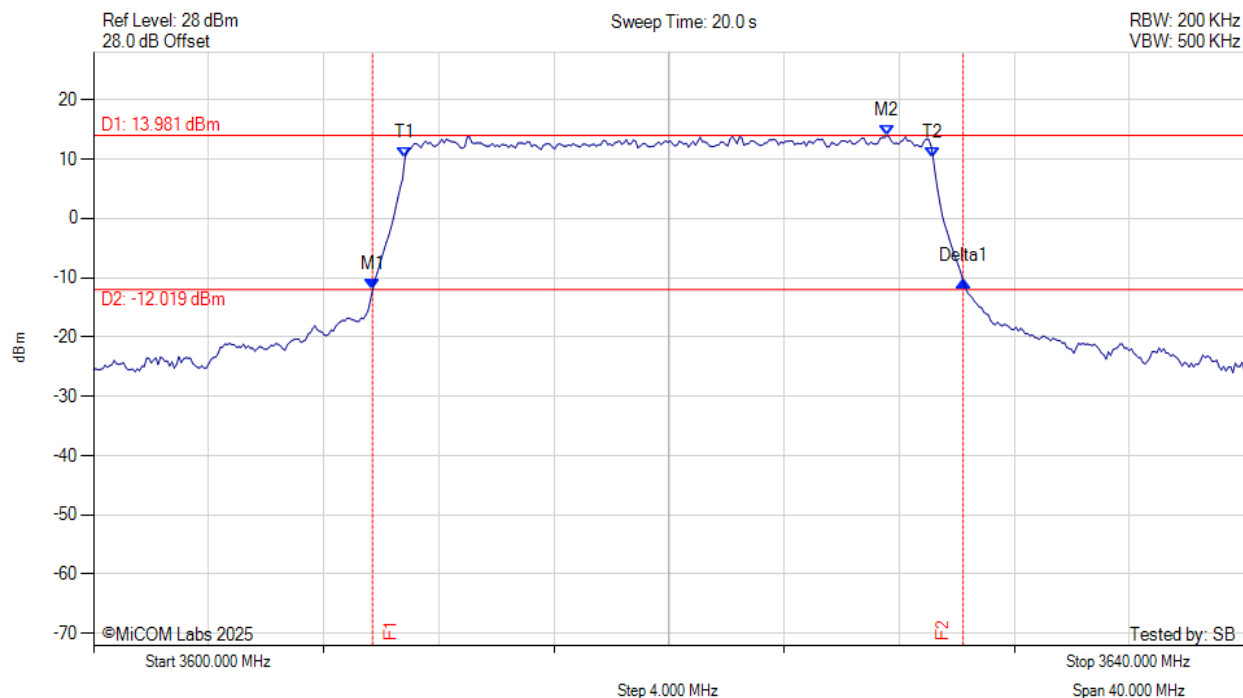
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3609.619 MHz : -13.509 dBm M2 : 3627.575 MHz : 14.053 dBm Delta1 : 20.601 MHz : 3.108 dB T1 : 3610.822 MHz : 9.672 dBm T2 : 3629.178 MHz : 10.062 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.601 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3620.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



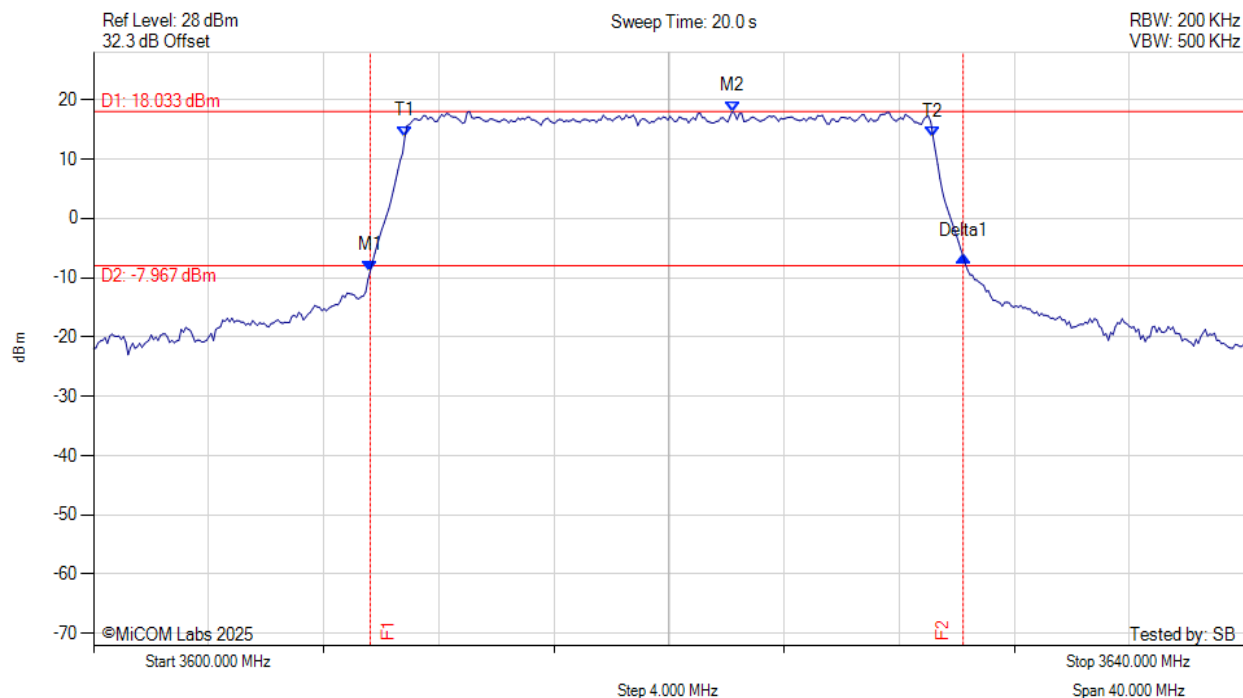
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3609.699 MHz : -12.046 dBm M2 : 3627.575 MHz : 13.981 dBm Delta1 : 20.521 MHz : 1.538 dB T1 : 3610.822 MHz : 10.152 dBm T2 : 3629.178 MHz : 10.274 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.521 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3620.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



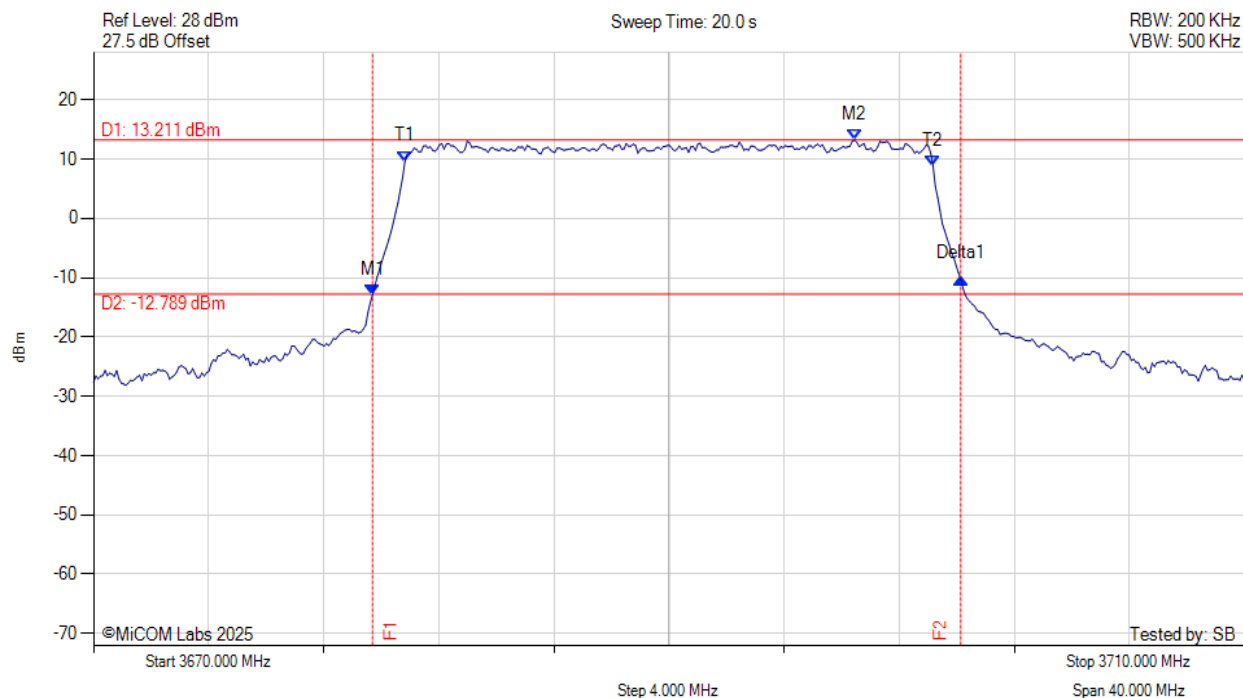
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3609.619 MHz : -8.843 dBm M2 : 3622.204 MHz : 18.033 dBm Delta1 : 20.601 MHz : 2.536 dB T1 : 3610.822 MHz : 13.827 dBm T2 : 3629.178 MHz : 13.709 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.601 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3690.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



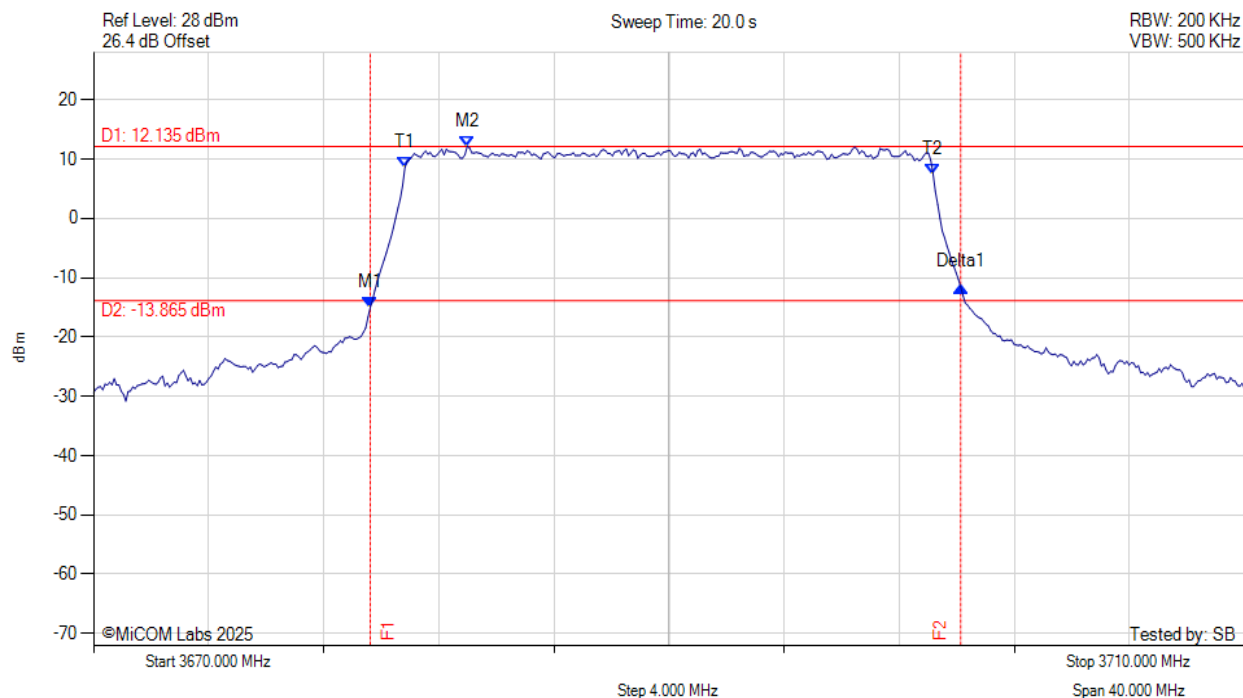
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3679.699 MHz : -12.829 dBm M2 : 3696.453 MHz : 13.211 dBm Delta1 : 20.441 MHz : 2.650 dB T1 : 3680.822 MHz : 9.629 dBm T2 : 3699.178 MHz : 8.783 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.441 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3690.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



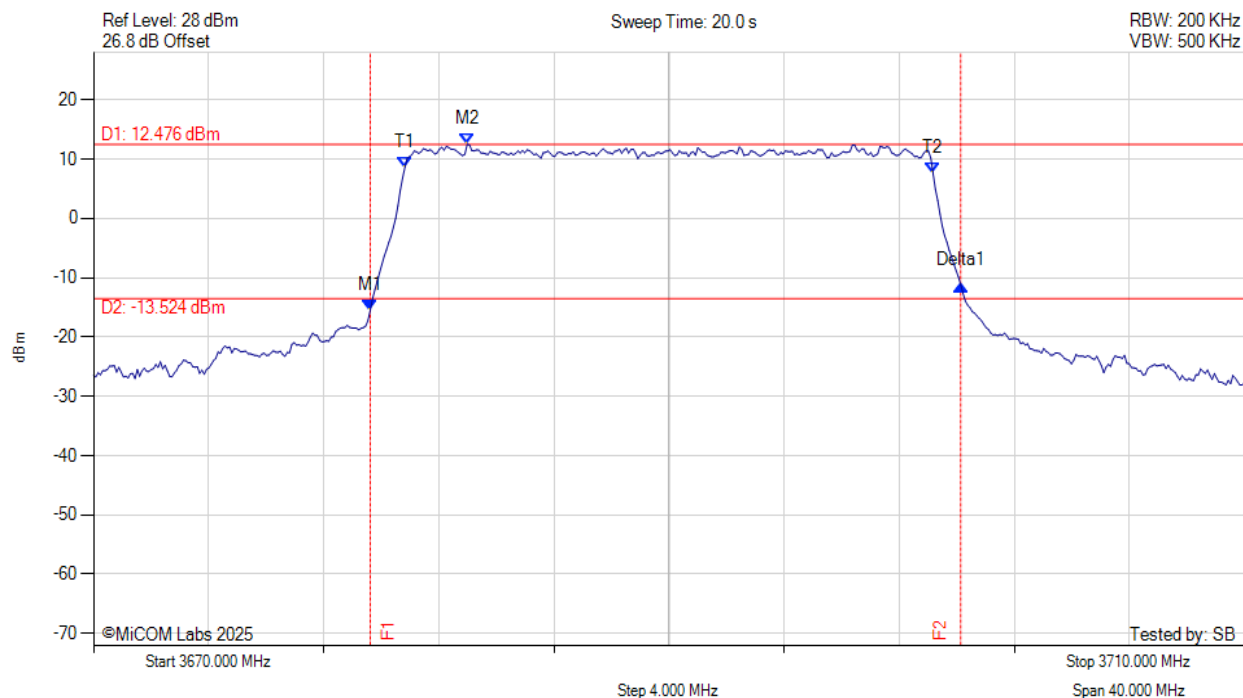
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3679.619 MHz : -14.999 dBm M2 : 3682.986 MHz : 12.135 dBm Delta1 : 20.521 MHz : 3.427 dB T1 : 3680.822 MHz : 8.598 dBm T2 : 3699.178 MHz : 7.486 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.521 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3690.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



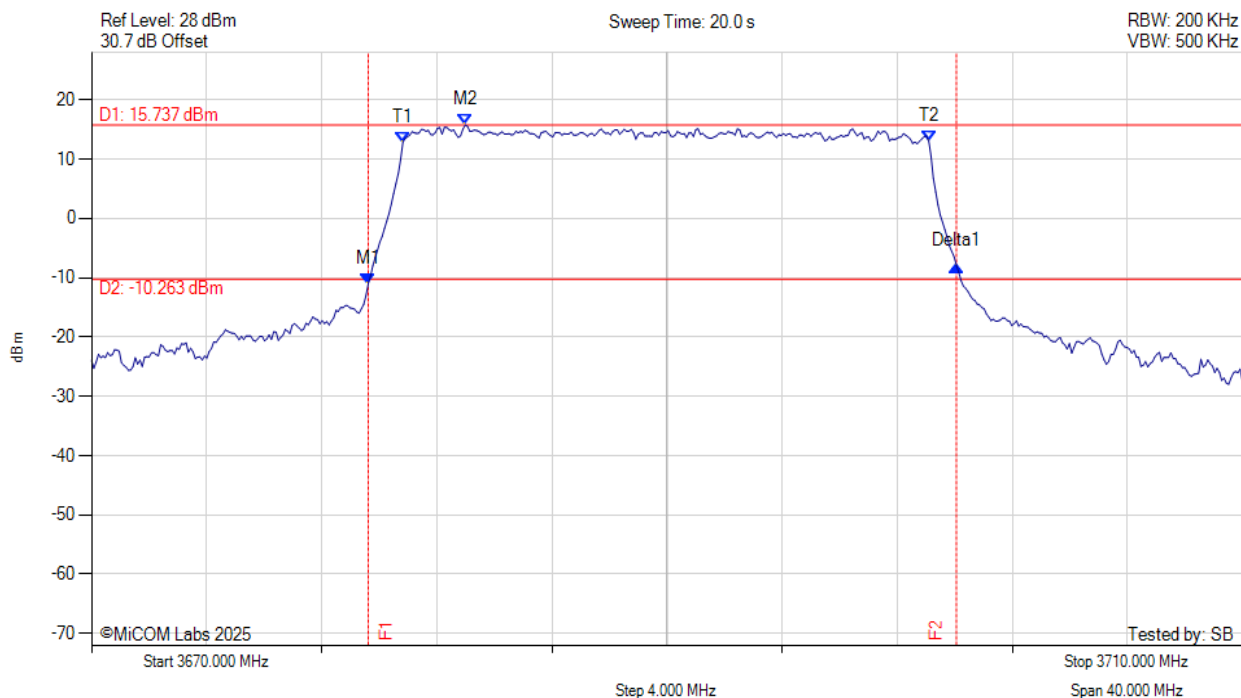
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3679.619 MHz : -15.439 dBm M2 : 3682.986 MHz : 12.476 dBm Delta1 : 20.521 MHz : 4.246 dB T1 : 3680.822 MHz : 8.629 dBm T2 : 3699.178 MHz : 7.575 dBm OBW : 18.357 MHz	Measured 6 dB Bandwidth: 20.521 MHz

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26 dB & 99% BANDWIDTH



Variant: 20MHz, Channel: 3690.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



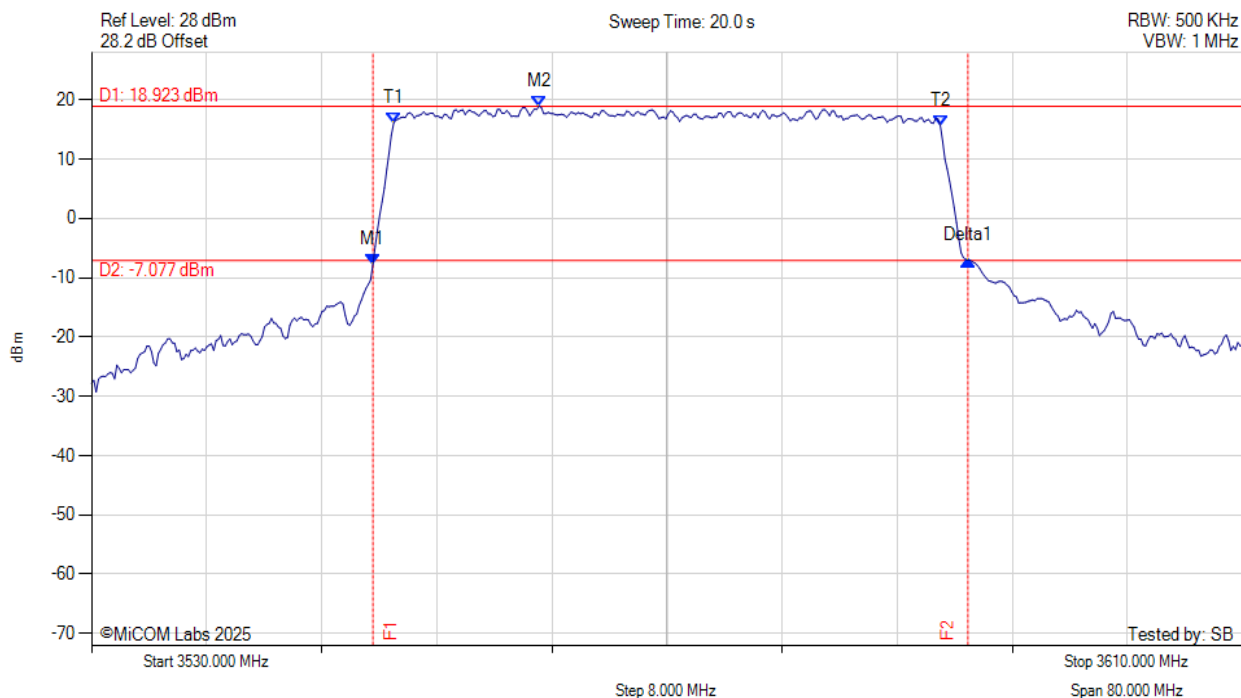
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3679.619 MHz : -10.973 dBm M2 : 3682.986 MHz : 15.737 dBm Delta1 : 20.441 MHz : 3.018 dB T1 : 3680.822 MHz : 12.879 dBm T2 : 3699.098 MHz : 13.005 dBm OBW : 18.277 MHz	Measured 6 dB Bandwidth: 20.441 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3570.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



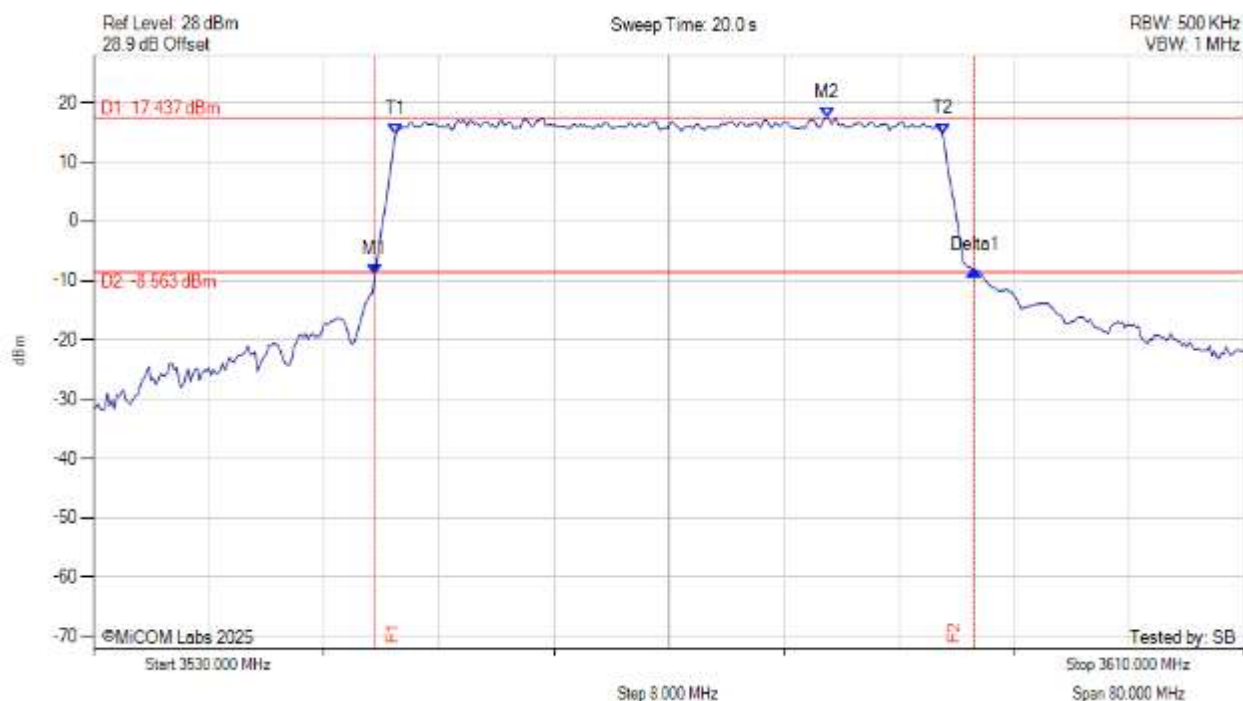
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.559 MHz : -7.715 dBm M2 : 3561.102 MHz : 18.923 dBm Delta1 : 41.363 MHz : 0.657 dB T1 : 3551.002 MHz : 16.054 dBm T2 : 3588.998 MHz : 15.633 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.363 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3570.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



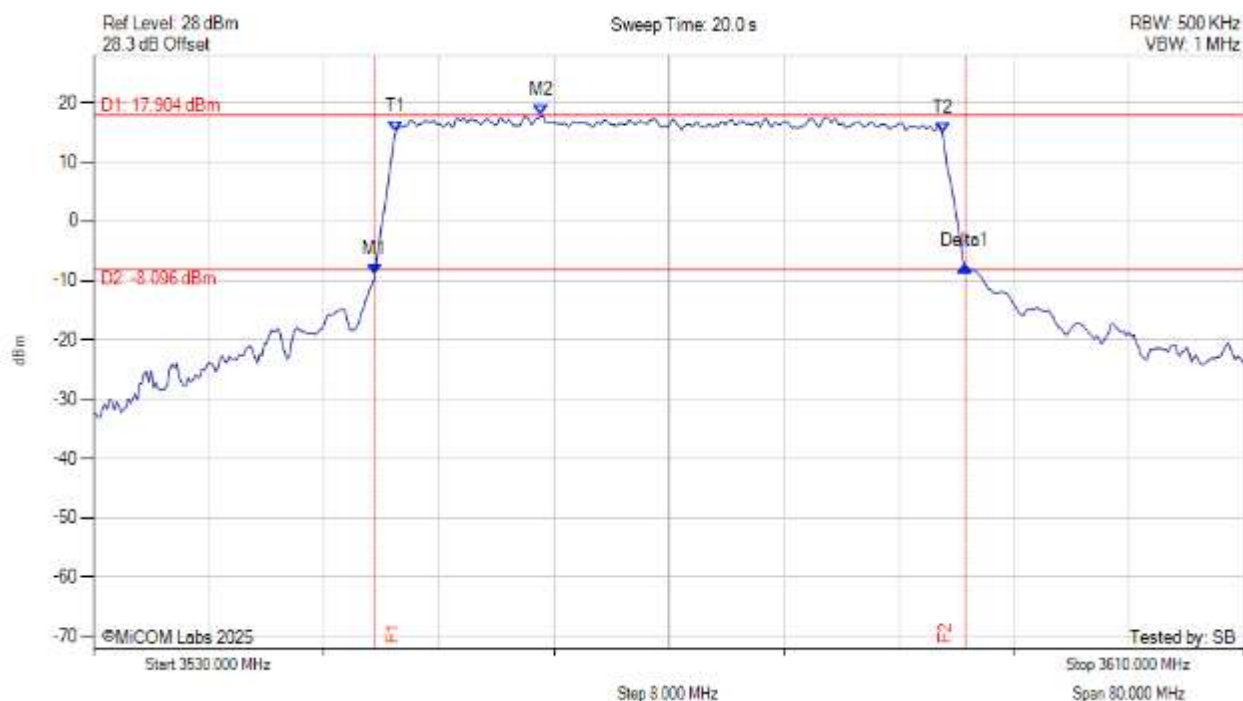
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.559 MHz : -8.953 dBm M2 : 3580.982 MHz : 17.437 dBm Delta1 : 41.683 MHz : 0.791 dB T1 : 3551.002 MHz : 14.663 dBm T2 : 3588.998 MHz : 14.758 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.683 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3570.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



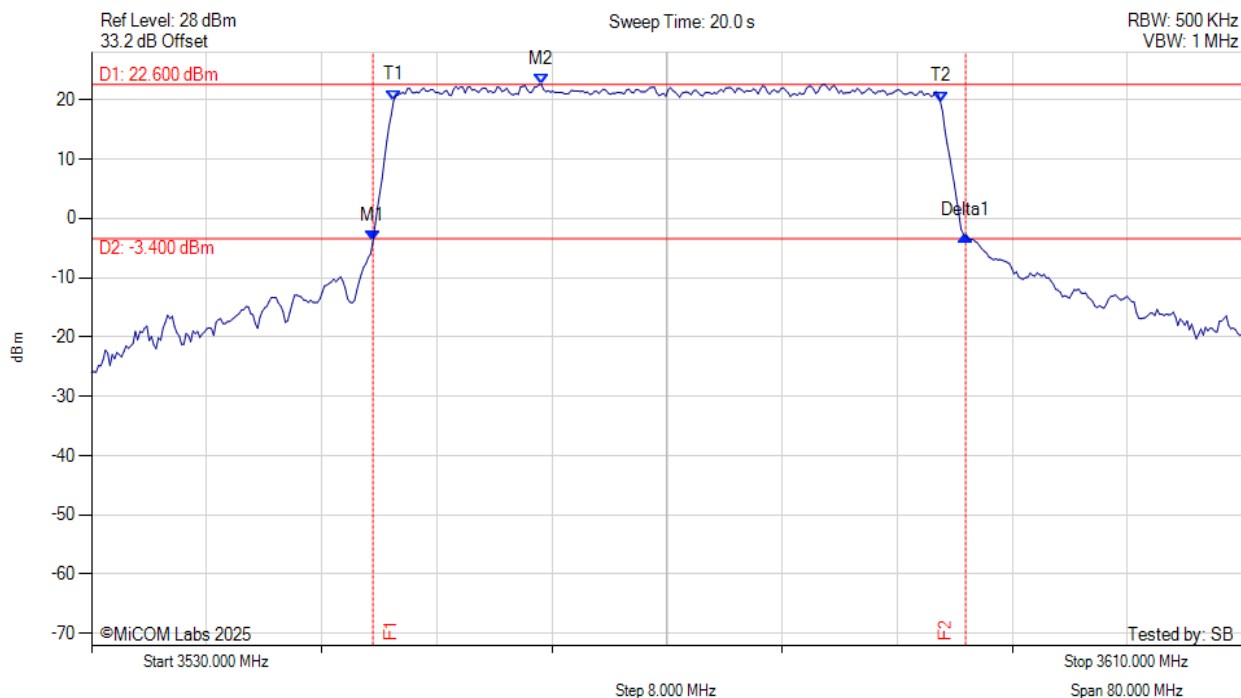
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.559 MHz : -9.030 dBm M2 : 3561.102 MHz : 17.904 dBm Delta1 : 41.042 MHz : 1.521 dB T1 : 3551.002 MHz : 15.104 dBm T2 : 3588.998 MHz : 14.899 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.042 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3570.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



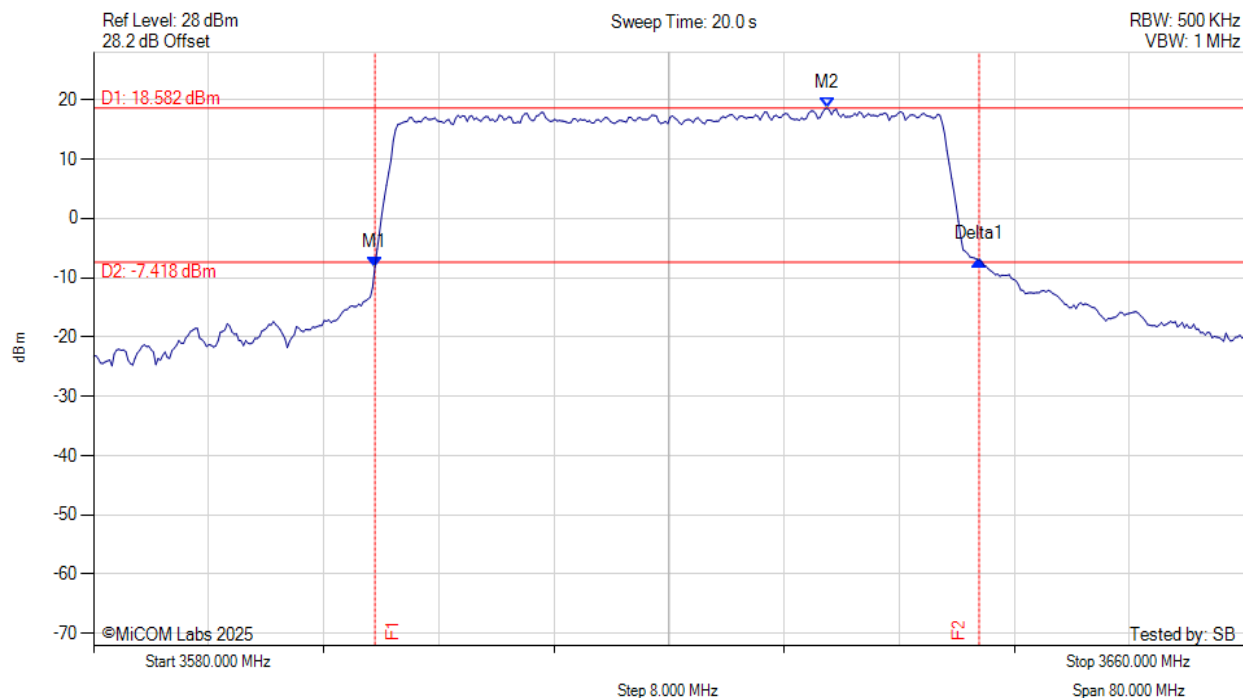
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3549.559 MHz : -3.897 dBm M2 : 3561.263 MHz : 22.600 dBm Delta1 : 41.202 MHz : 0.944 dB T1 : 3551.002 MHz : 19.902 dBm T2 : 3588.998 MHz : 19.670 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.202 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3620.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



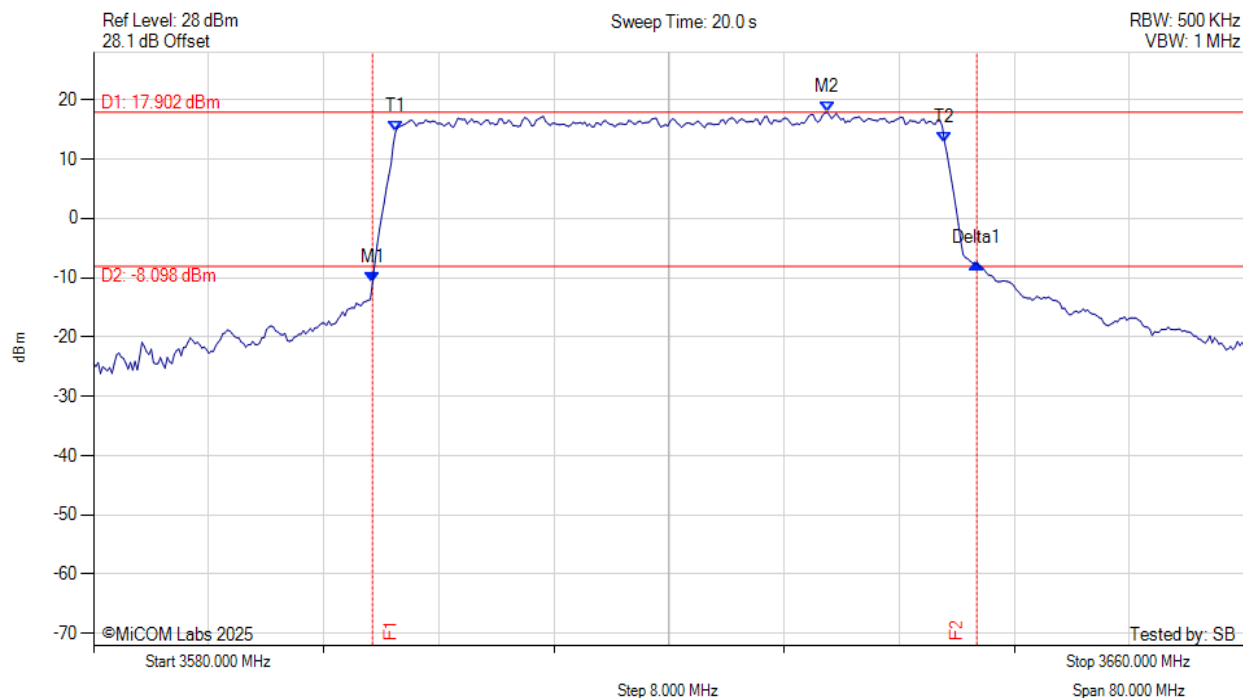
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3599.559 MHz : -8.162 dBm M2 : 3630.982 MHz : 18.582 dBm Delta1 : 42.004 MHz : 1.202 dB T1 : 0 Hz : 500.000 dBm T2 : 0 Hz : 500.000 dBm OBW : 38.156 MHz	Measured 6 dB Bandwidth: 42.004 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3620.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



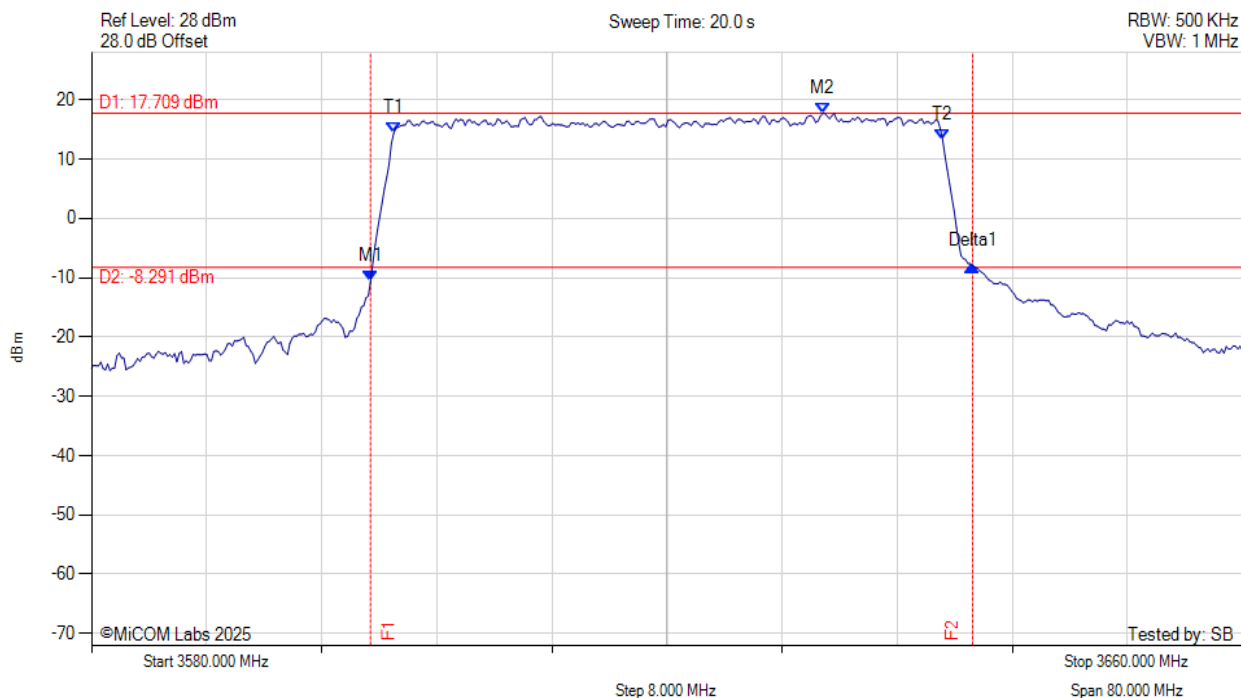
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3599.399 MHz : -10.812 dBm M2 : 3630.982 MHz : 17.902 dBm Delta1 : 42.004 MHz : 3.303 dB T1 : 3601.002 MHz : 14.701 dBm T2 : 3639.158 MHz : 12.847 dBm OBW : 38.156 MHz	Measured 6 dB Bandwidth: 42.004 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3620.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



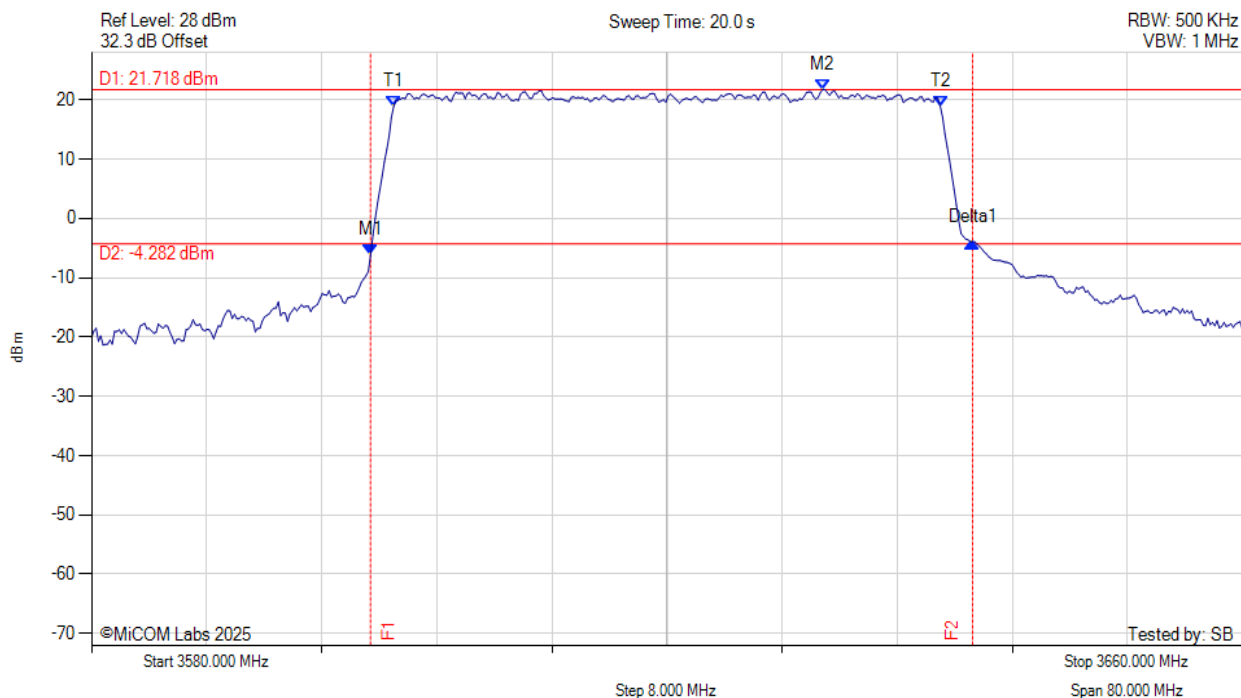
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3599.399 MHz : -10.651 dBm M2 : 3630.822 MHz : 17.709 dBm Delta1 : 41.844 MHz : 2.711 dB T1 : 3601.002 MHz : 14.343 dBm T2 : 3639.158 MHz : 13.341 dBm OBW : 38.156 MHz	Measured 6 dB Bandwidth: 41.844 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3620.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



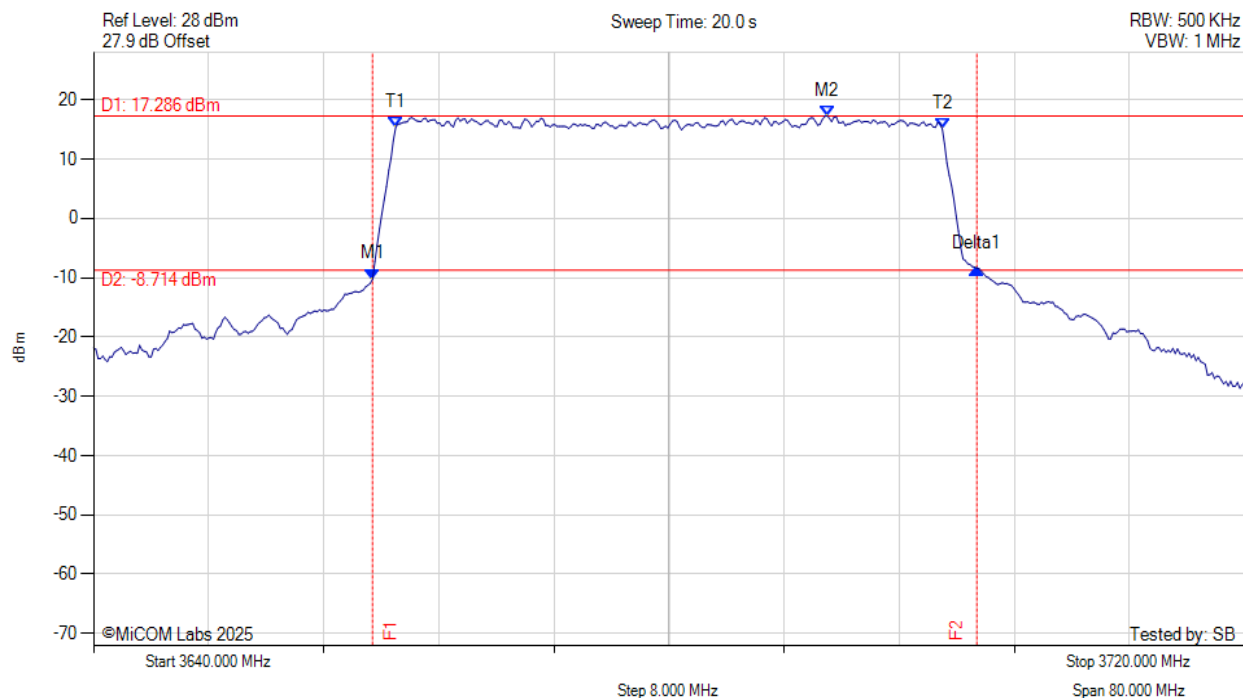
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3599.399 MHz : -6.240 dBm M2 : 3630.822 MHz : 21.718 dBm Delta1 : 41.844 MHz : 2.286 dB T1 : 3601.002 MHz : 18.875 dBm T2 : 3638.998 MHz : 18.828 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.844 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3680.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



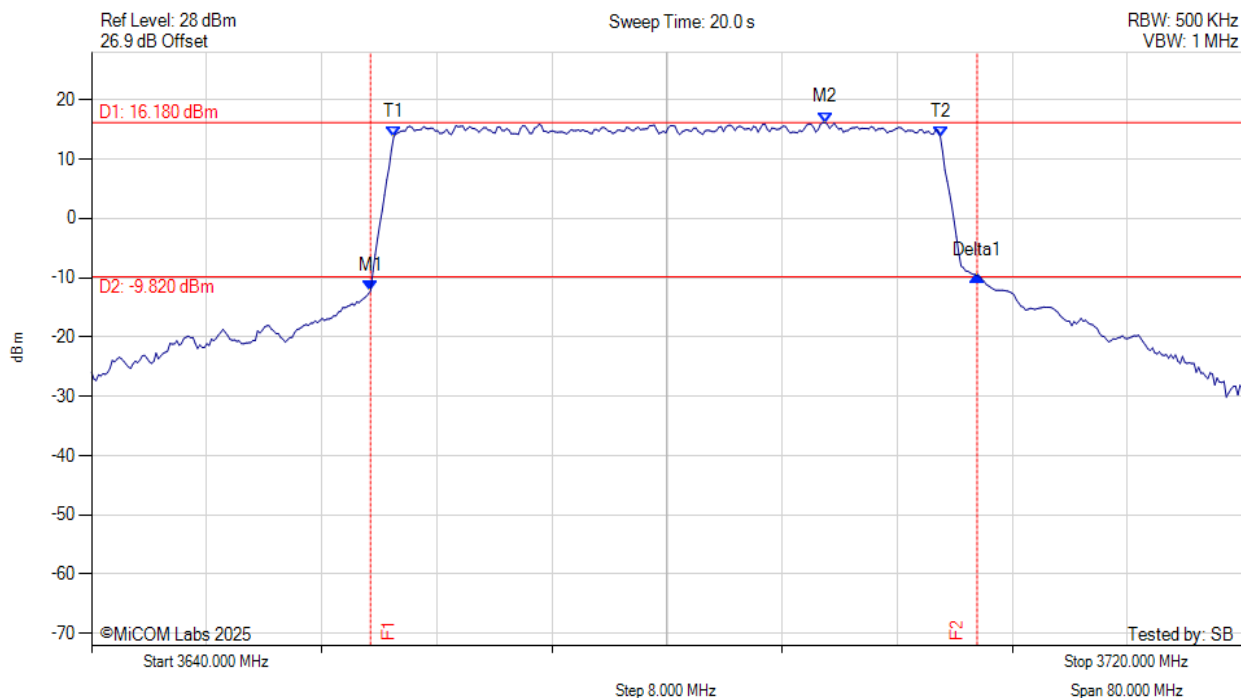
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3659.399 MHz : -10.253 dBm M2 : 3690.982 MHz : 17.286 dBm Delta1 : 42.004 MHz : 1.841 dB T1 : 3661.002 MHz : 15.332 dBm T2 : 3698.998 MHz : 15.061 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 42.004 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3680.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



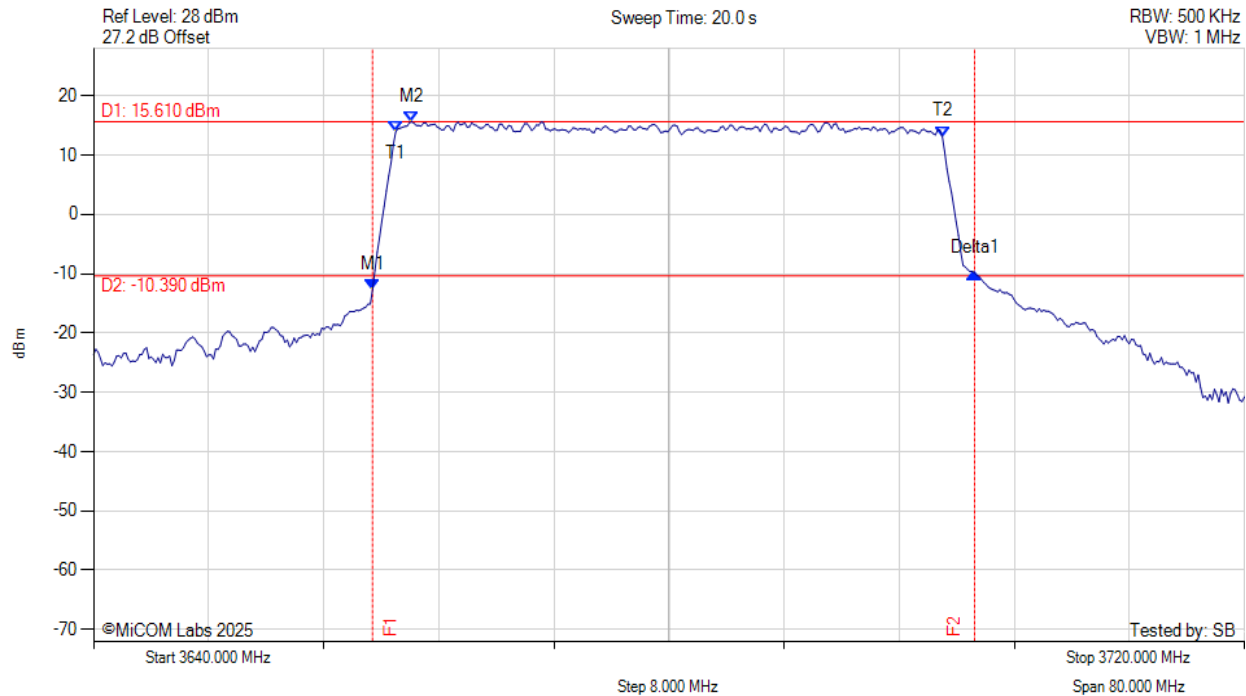
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3659.399 MHz : -12.258 dBm M2 : 3690.982 MHz : 16.180 dBm Delta1 : 42.164 MHz : 2.591 dB T1 : 3661.002 MHz : 13.731 dBm T2 : 3698.998 MHz : 13.772 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 42.164 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3680.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



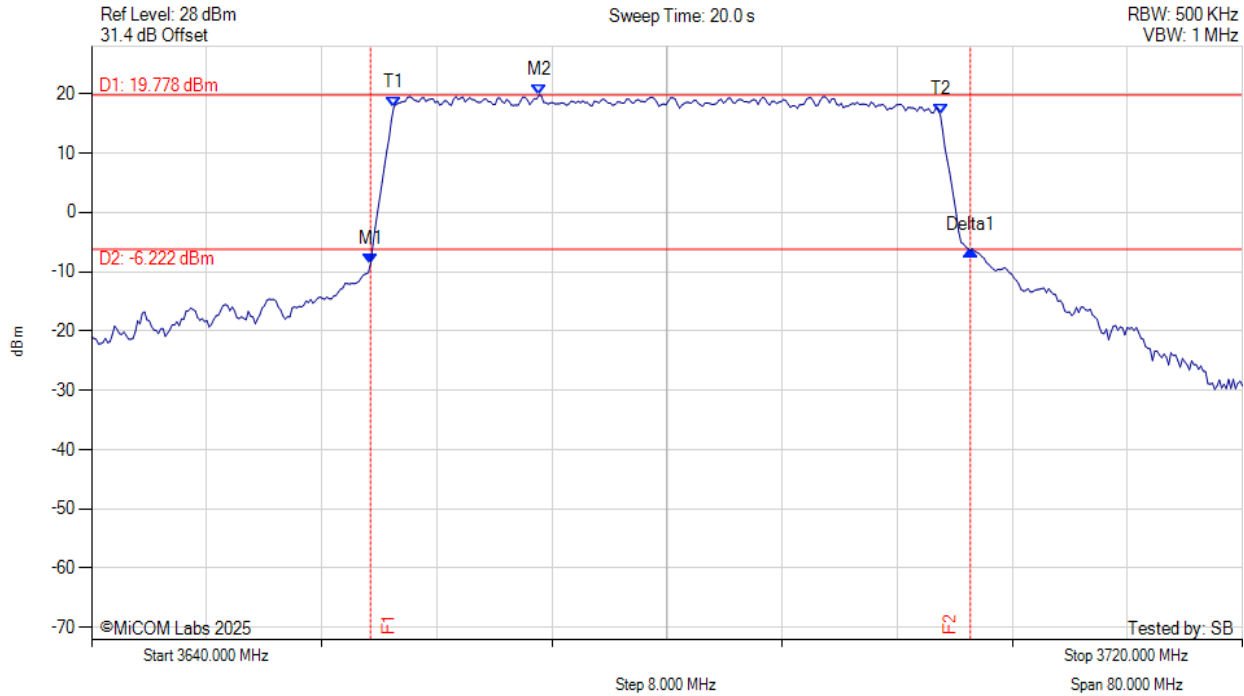
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3659.399 MHz : -12.628 dBm M2 : 3662.124 MHz : 15.610 dBm Delta1 : 41.844 MHz : 2.788 dB T1 : 3661.002 MHz : 13.908 dBm T2 : 3698.998 MHz : 13.143 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.844 MHz

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26 dB & 99% BANDWIDTH



Variant: 40MHz, Channel: 3680.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 3659.399 MHz : -8.689 dBm M2 : 3671.102 MHz : 19.778 dBm Delta1 : 41.683 MHz : 2.251 dB T1 : 3661.002 MHz : 17.658 dBm T2 : 3698.998 MHz : 16.420 dBm OBW : 37.996 MHz	Measured 6 dB Bandwidth: 41.683 MHz

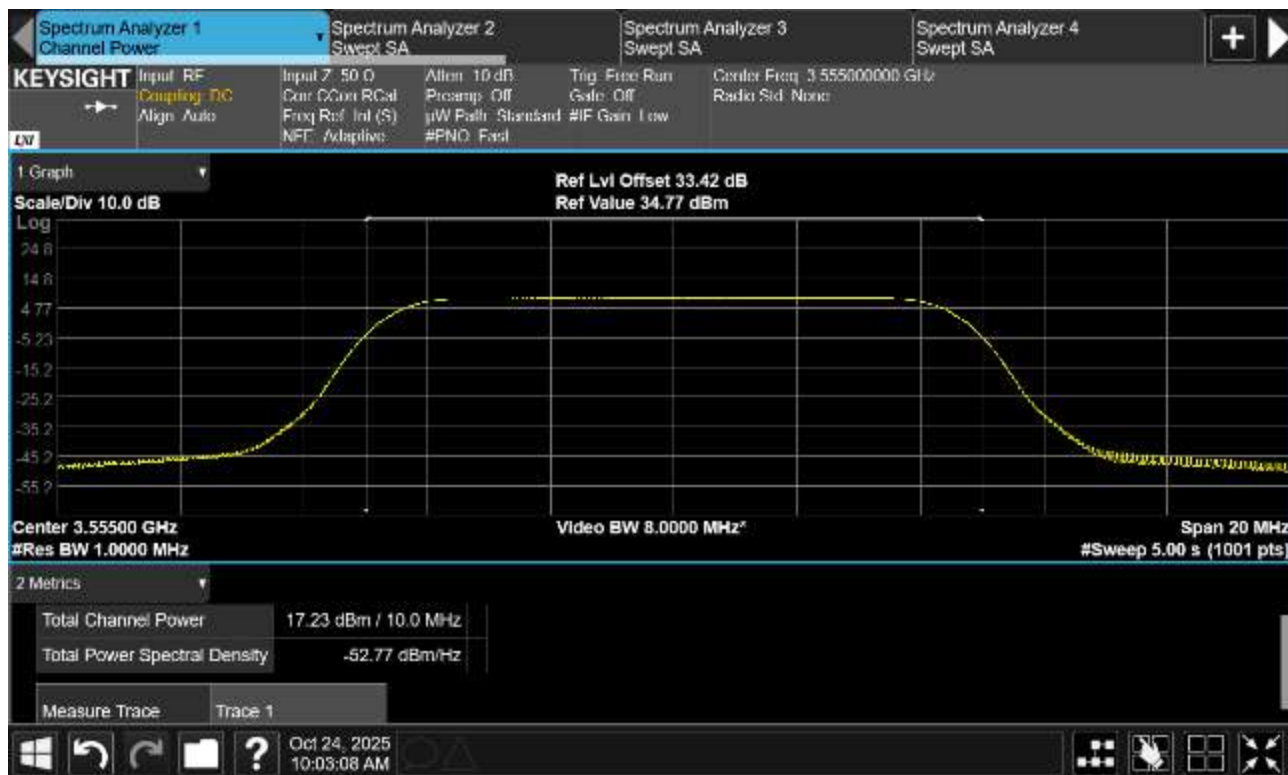
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A.2. Power Spectral Density

POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3555.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc

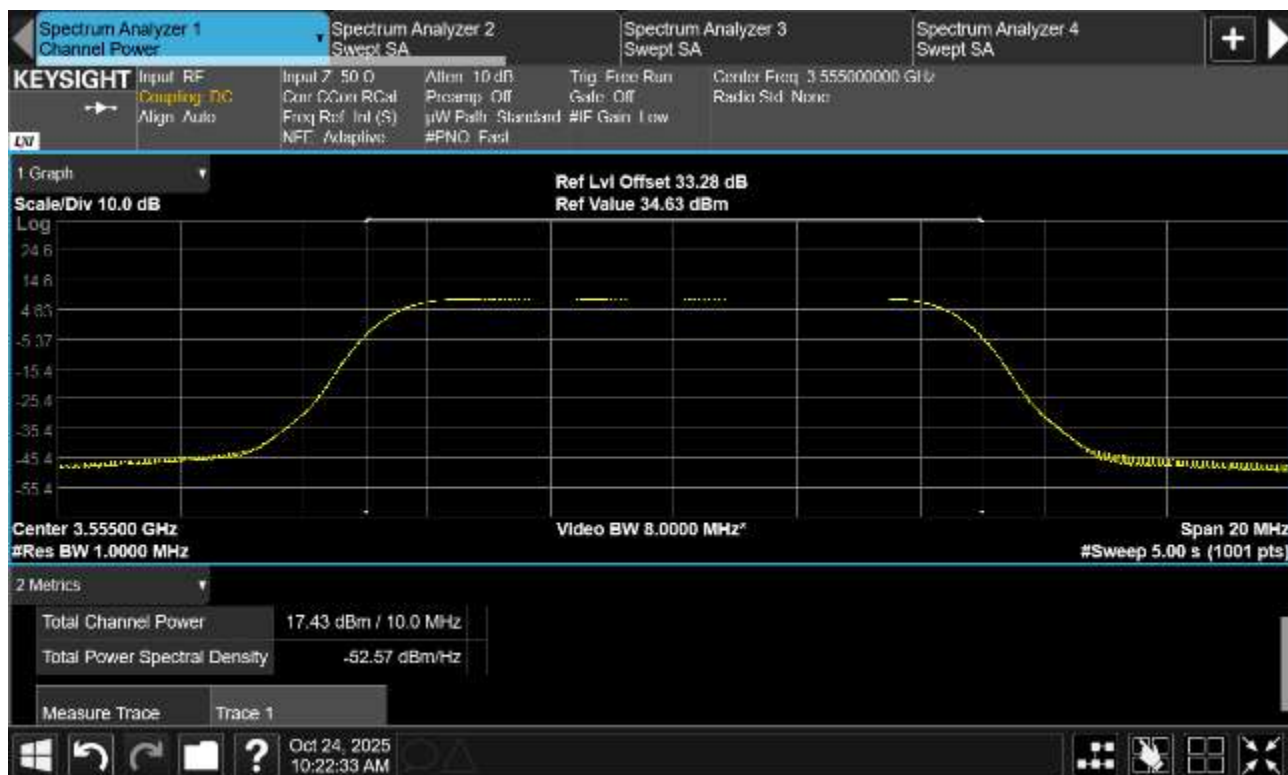


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3555.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc

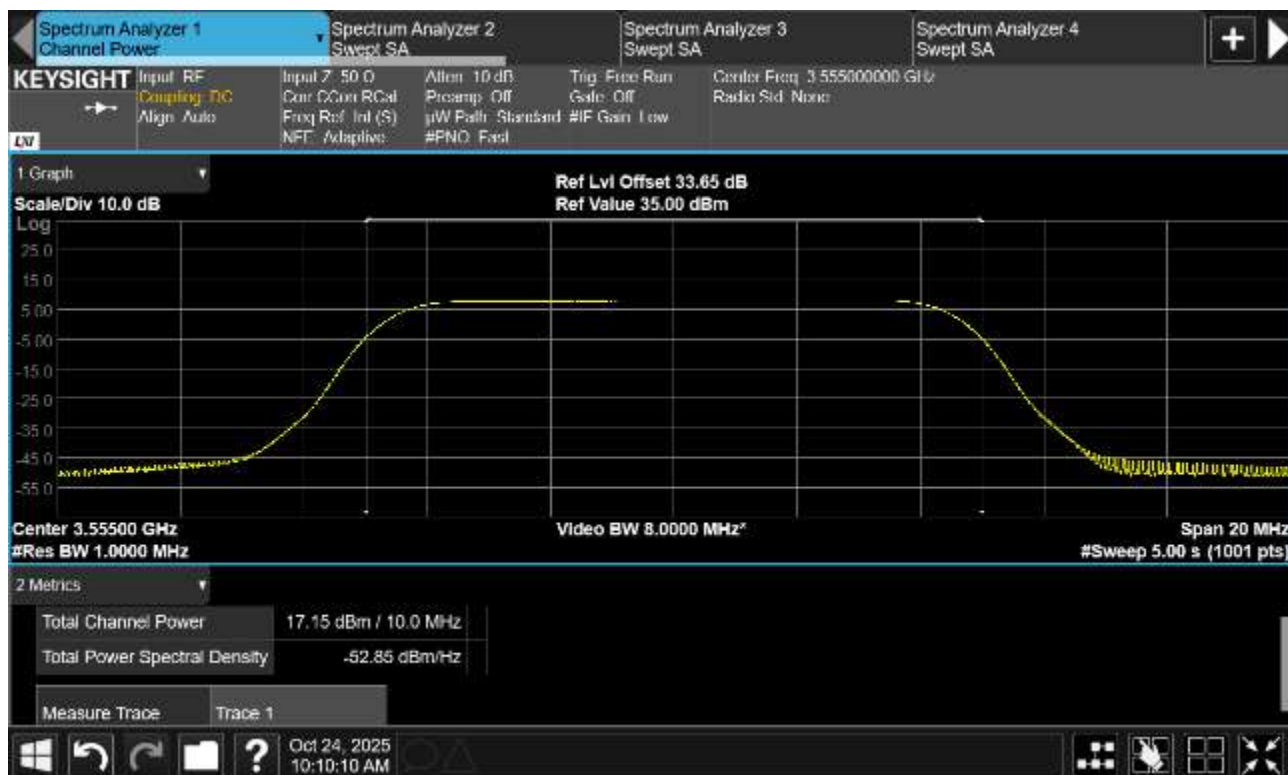


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3555.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc

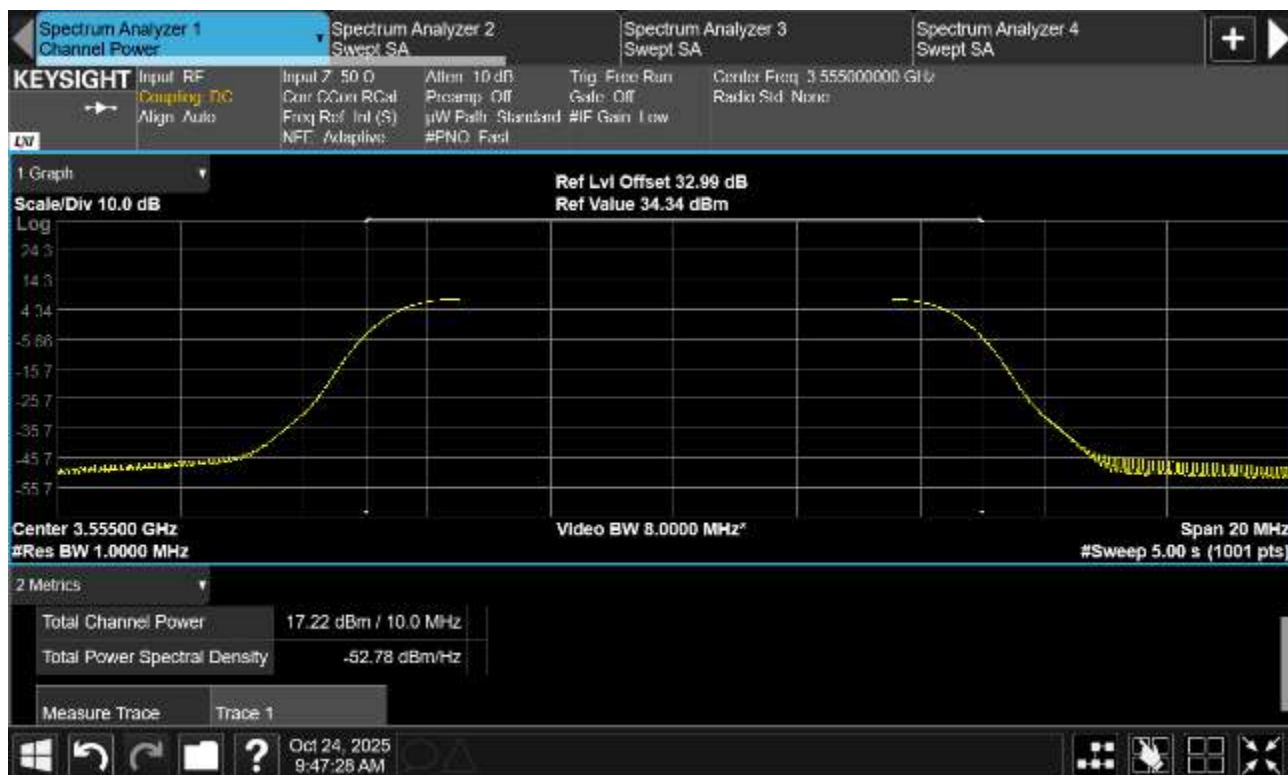


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3555.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc

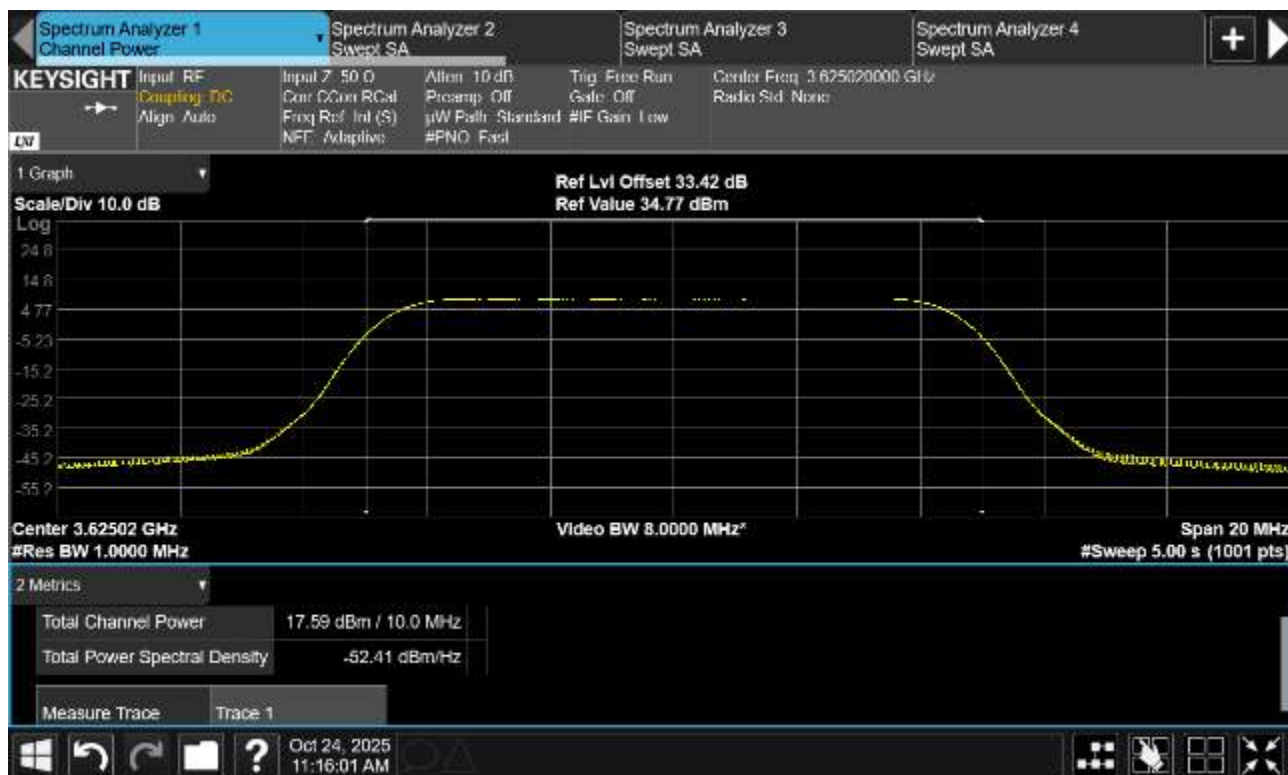


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3625.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc

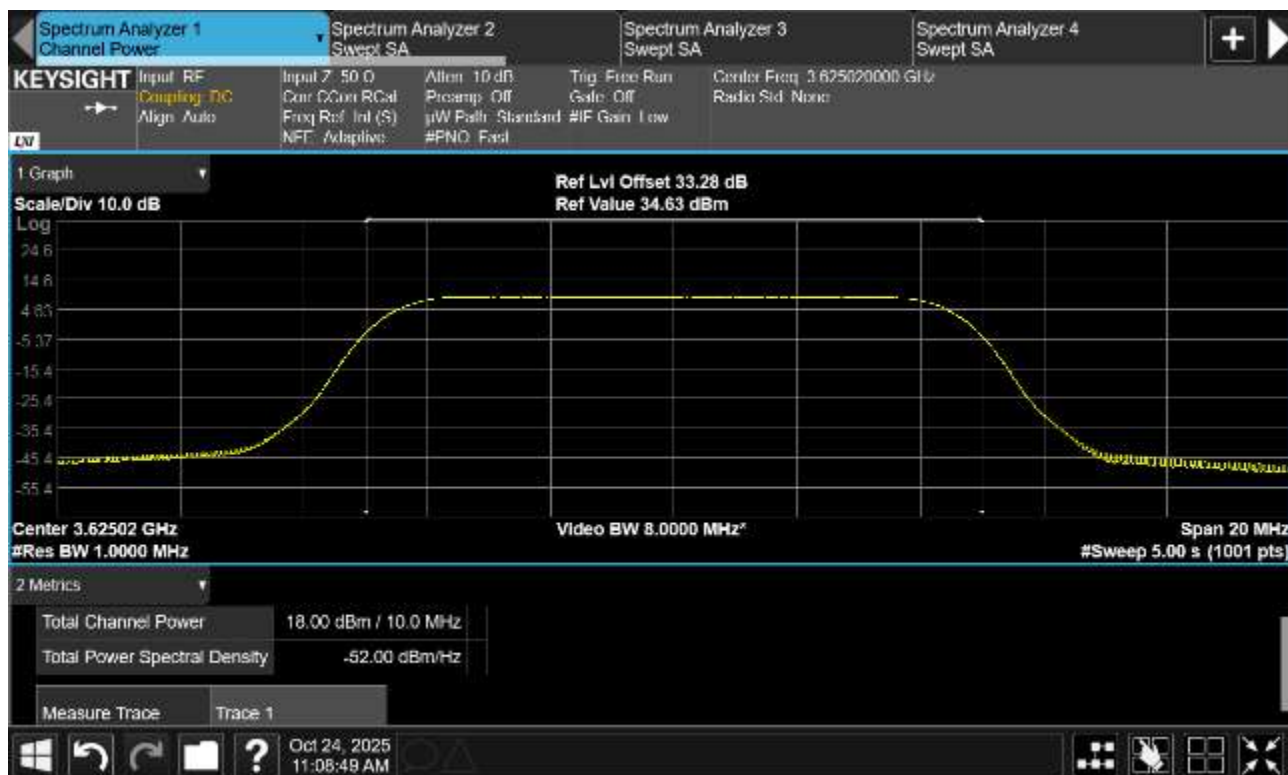


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3625.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc

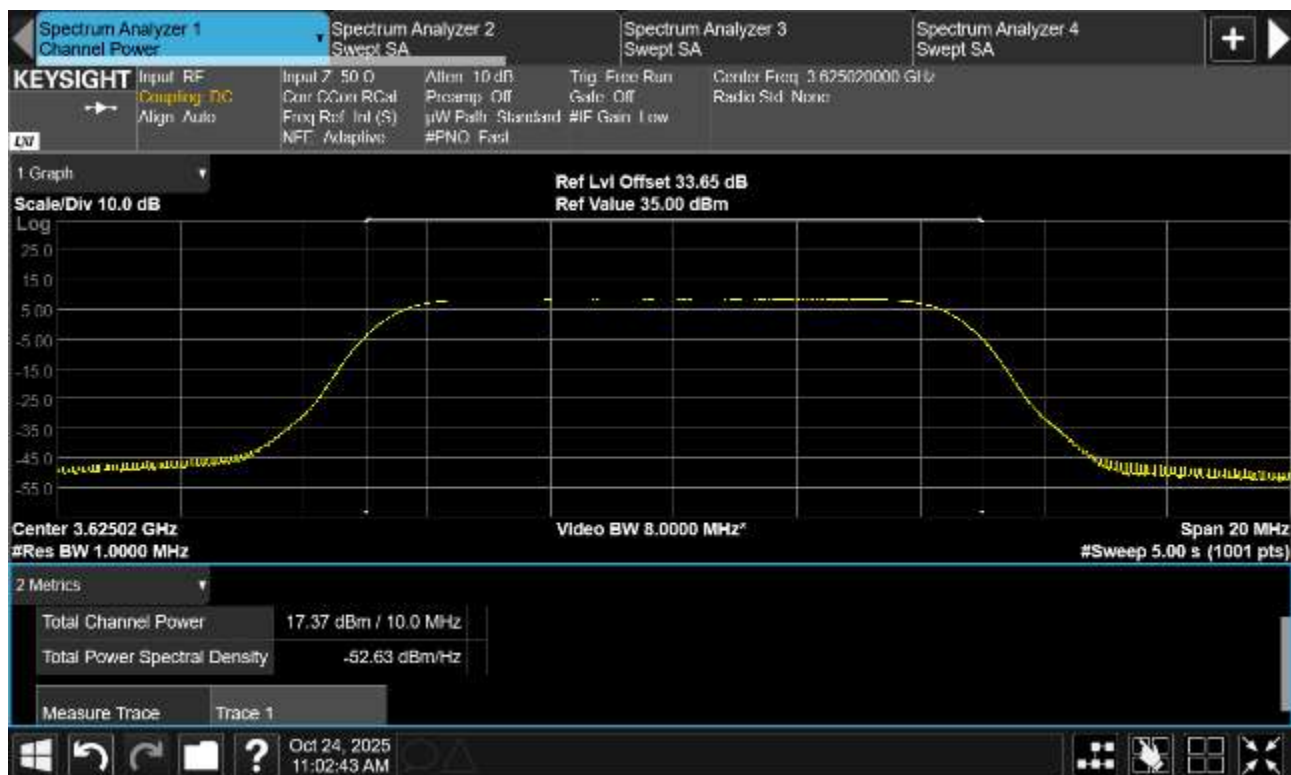


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3625.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3625.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc

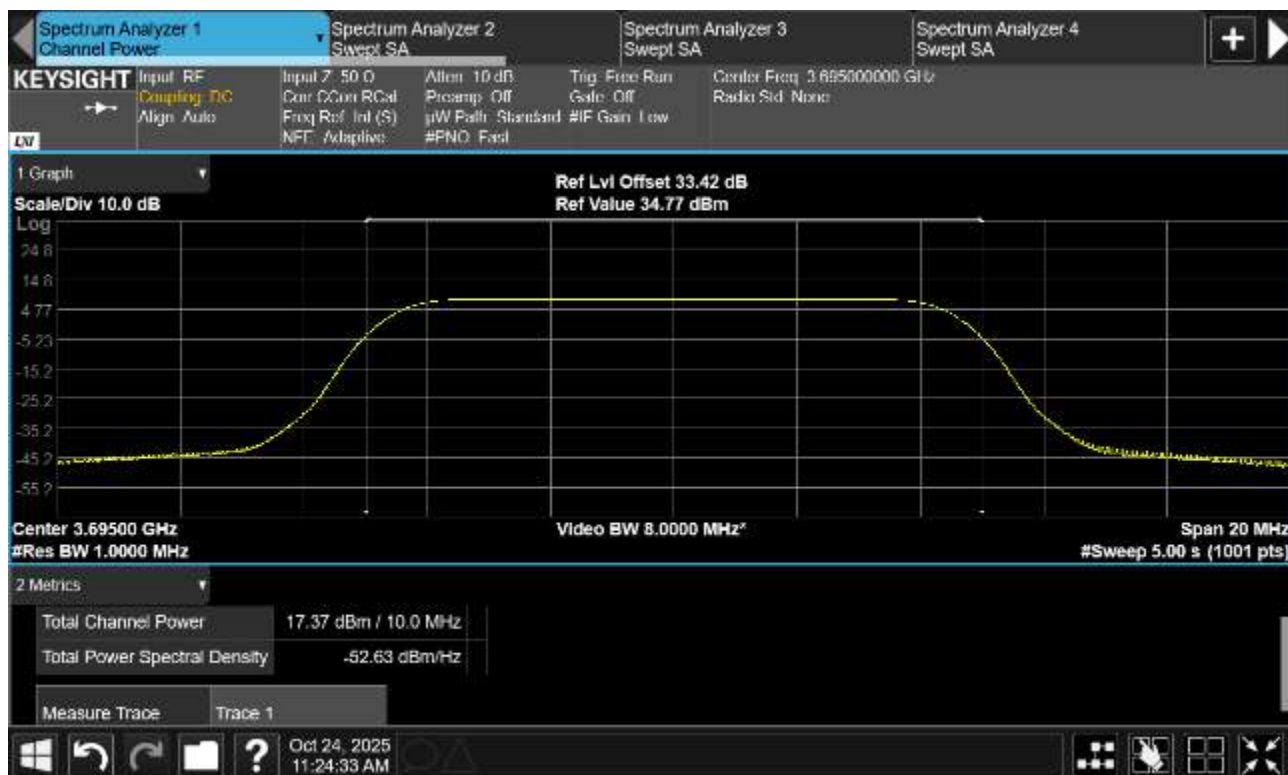


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3695.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc

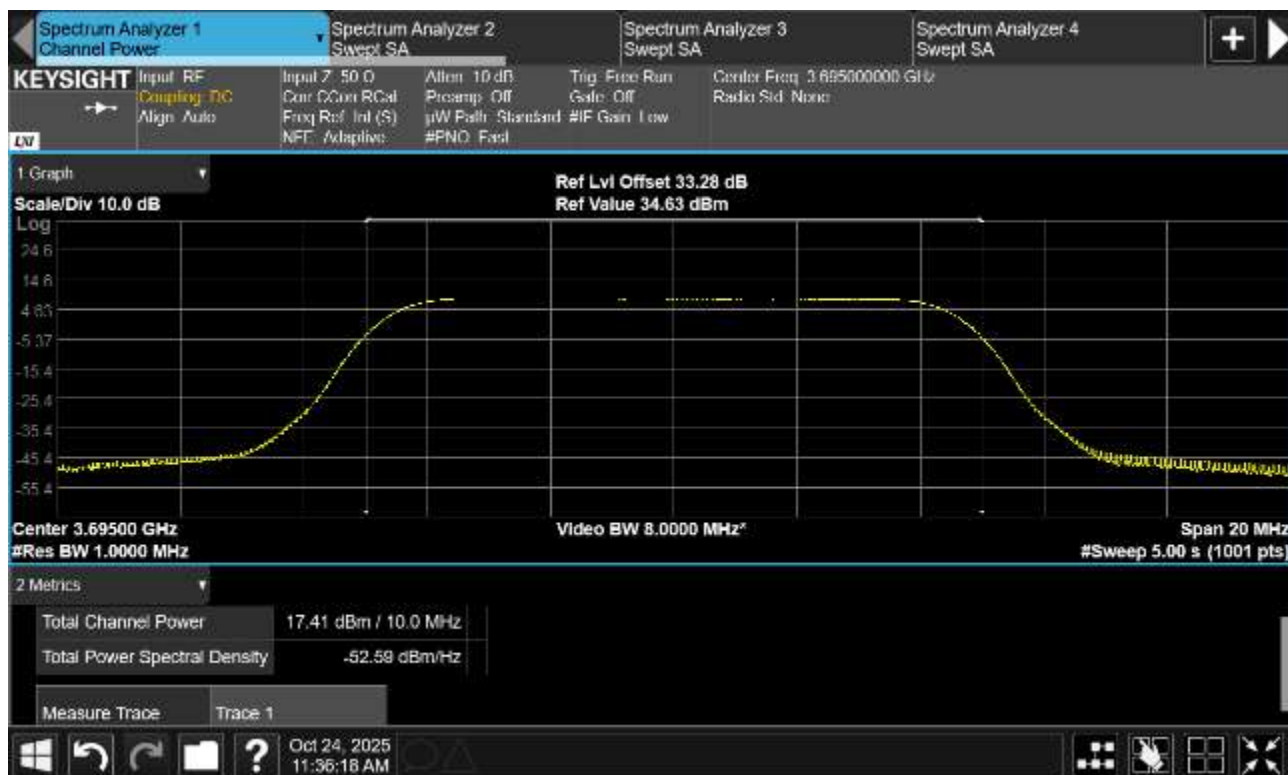


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3695.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc

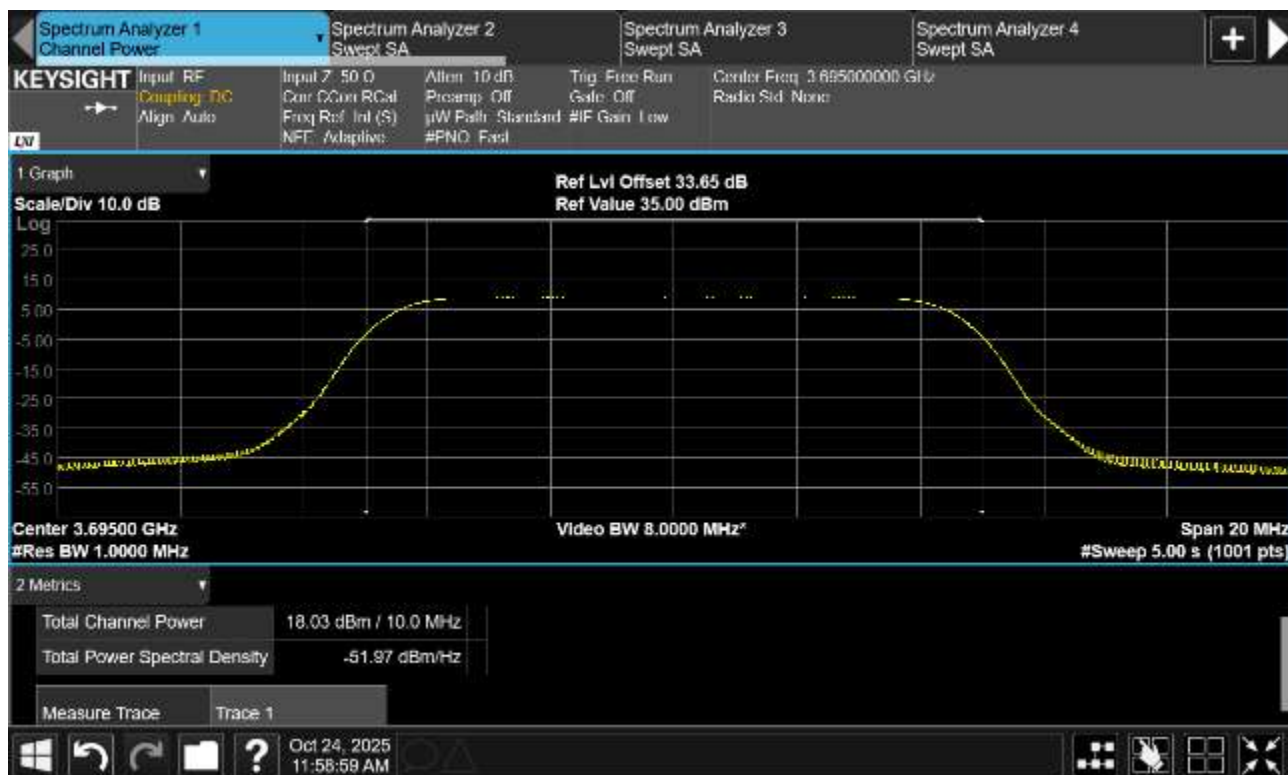


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3695.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc

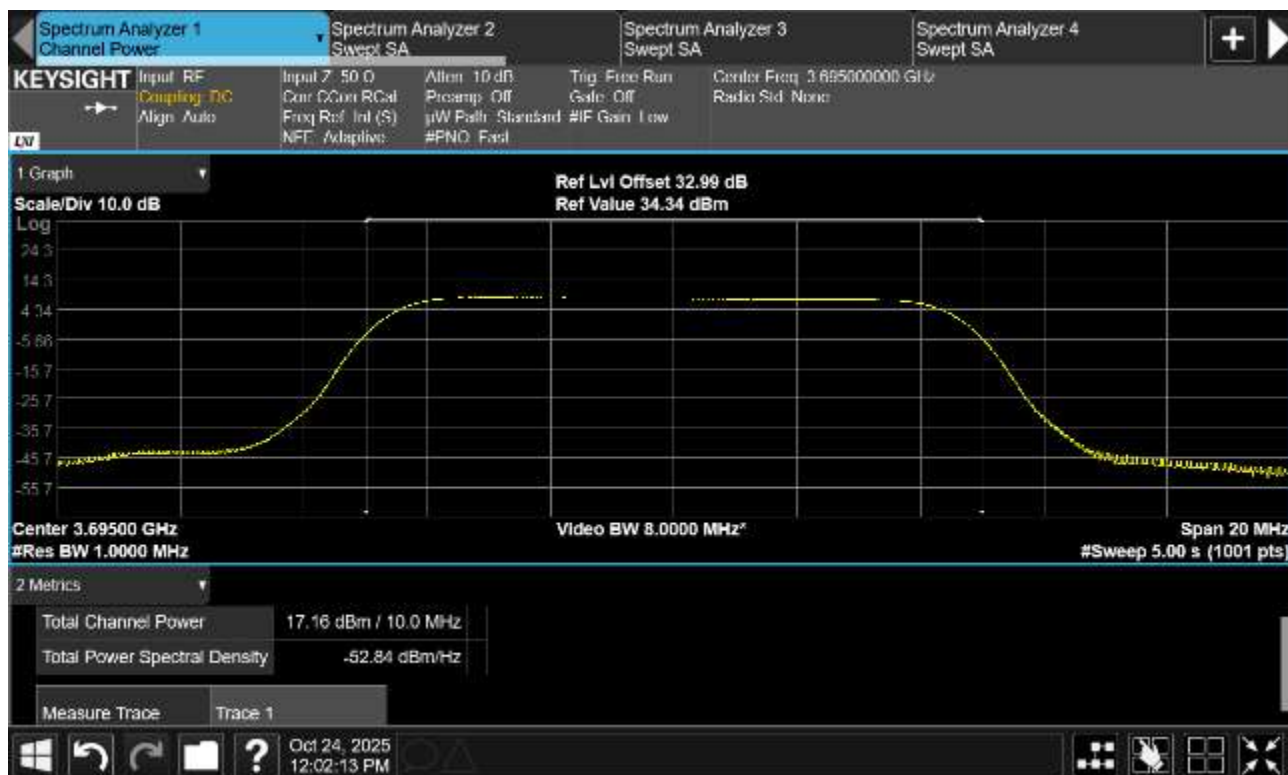


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 10 MHz, Channel: 3695.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc

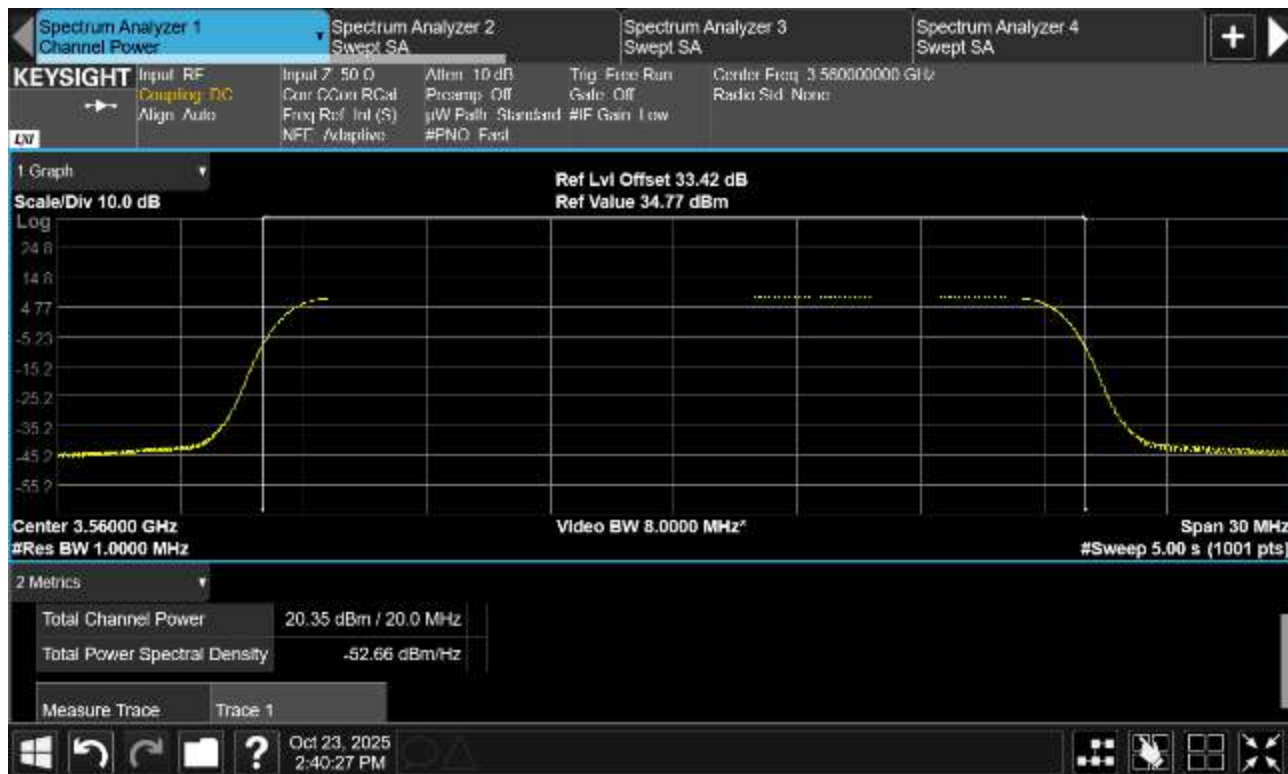


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3560.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3560.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3560.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3560.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3620.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3620.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3620.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc

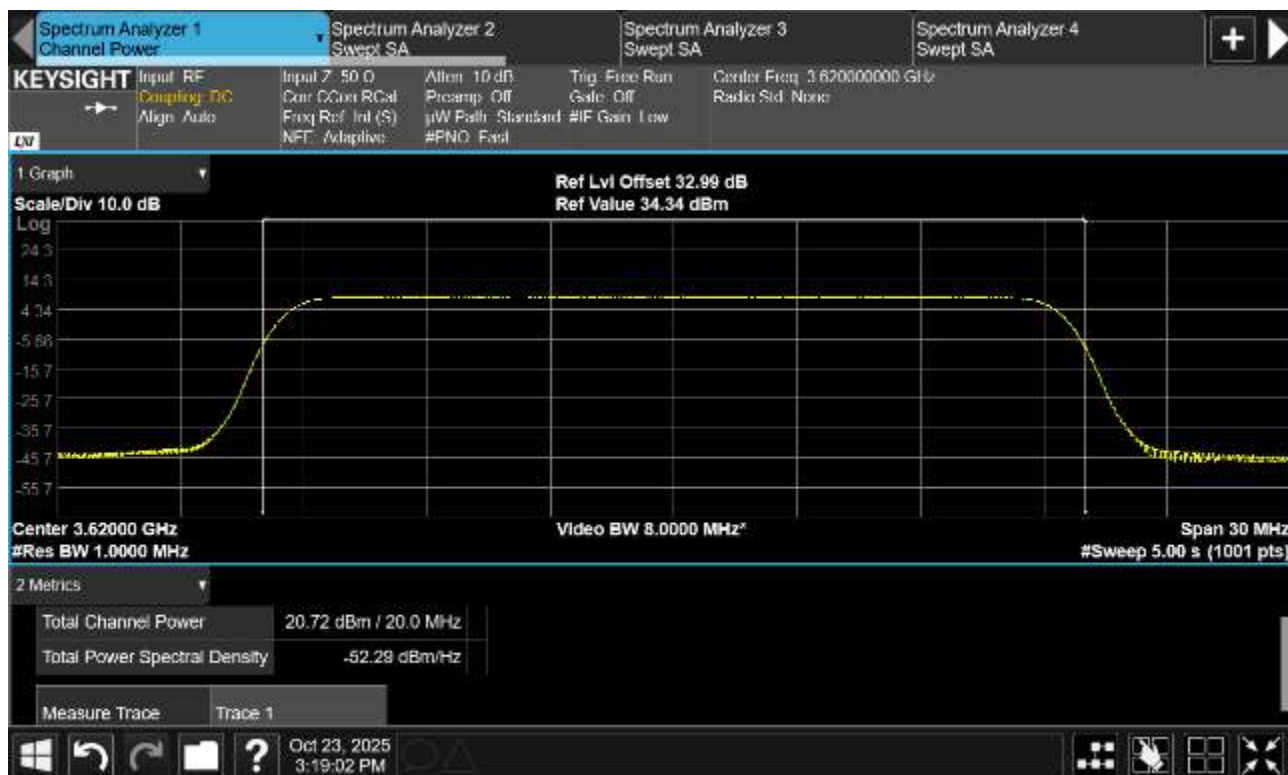


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3620.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3690.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc

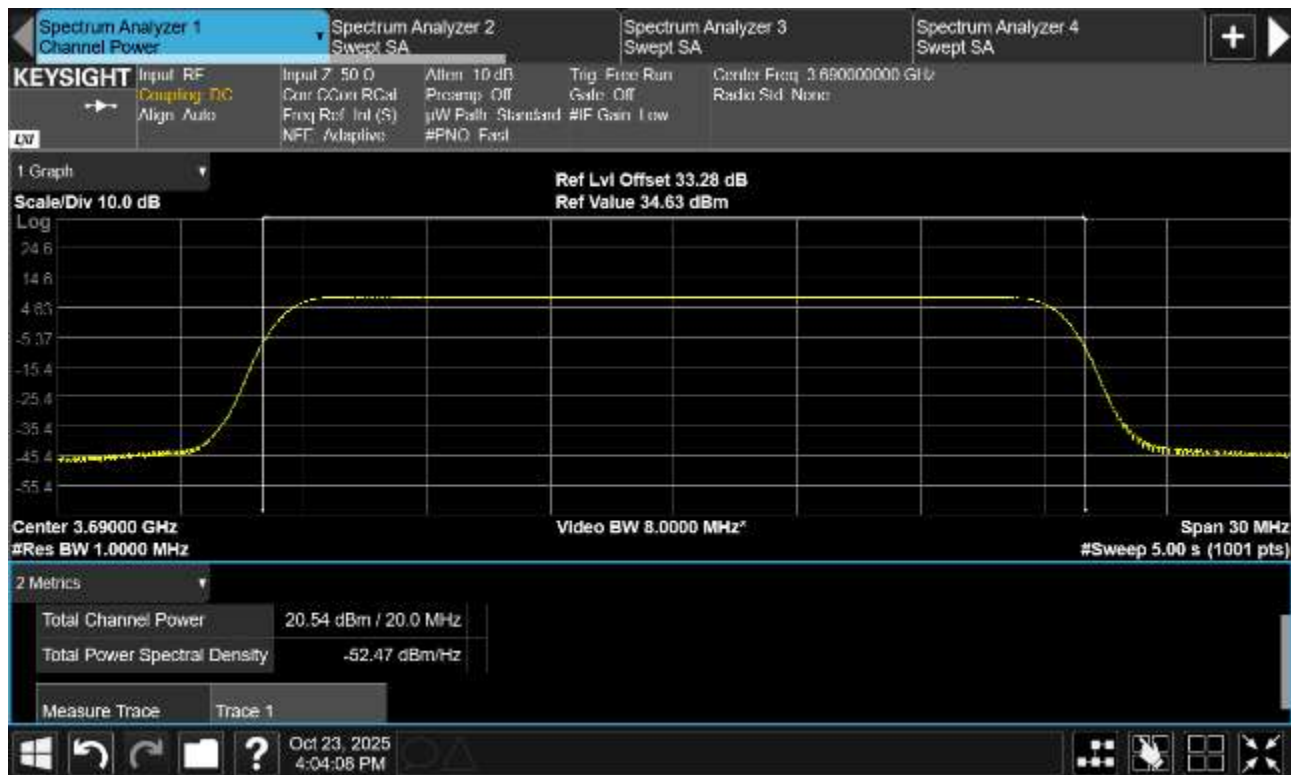


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3690.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3690.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 20 MHz, Channel: 3690.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc

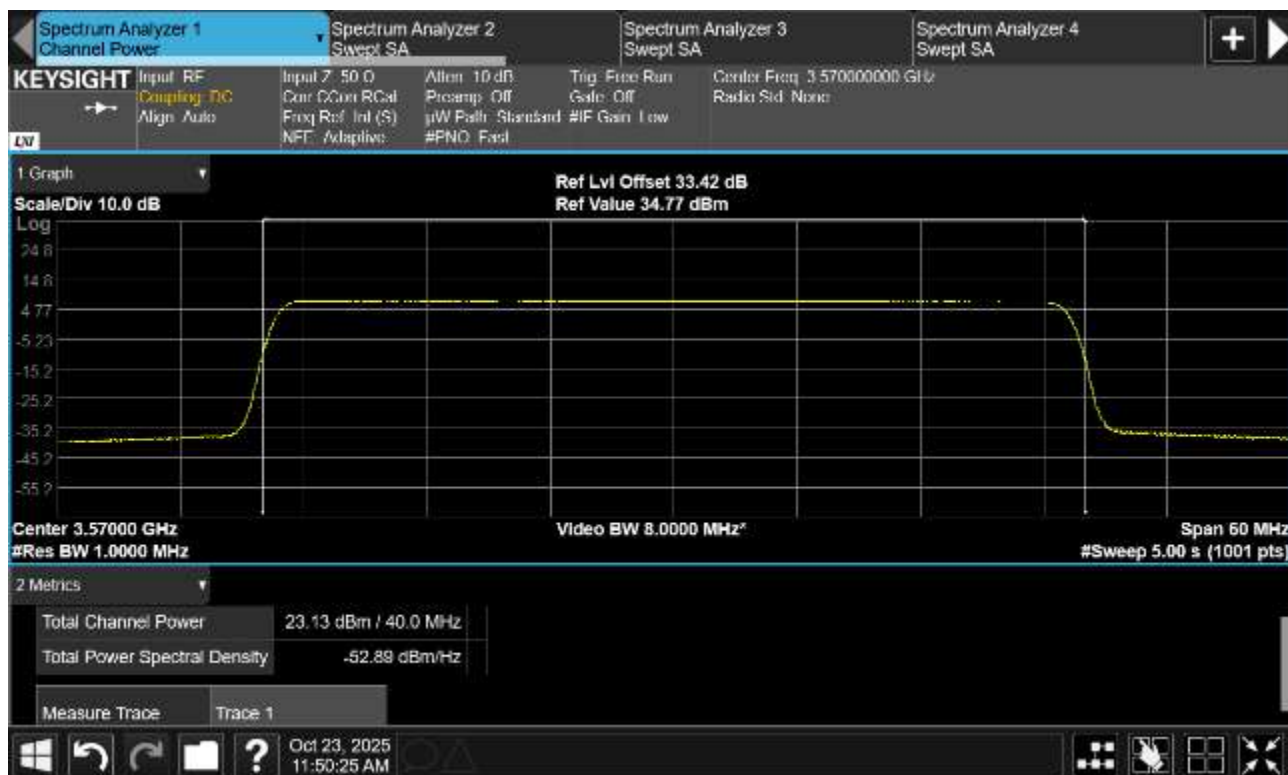


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3570.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc

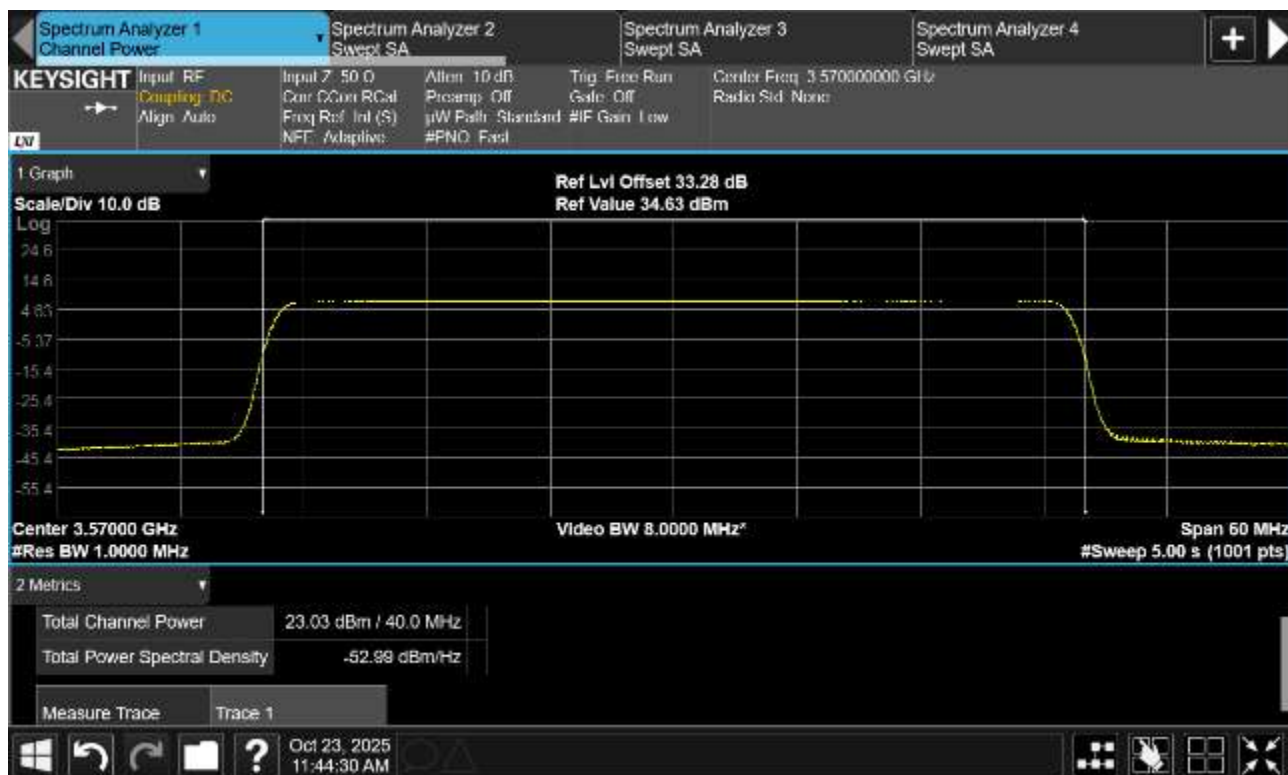


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3570.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc

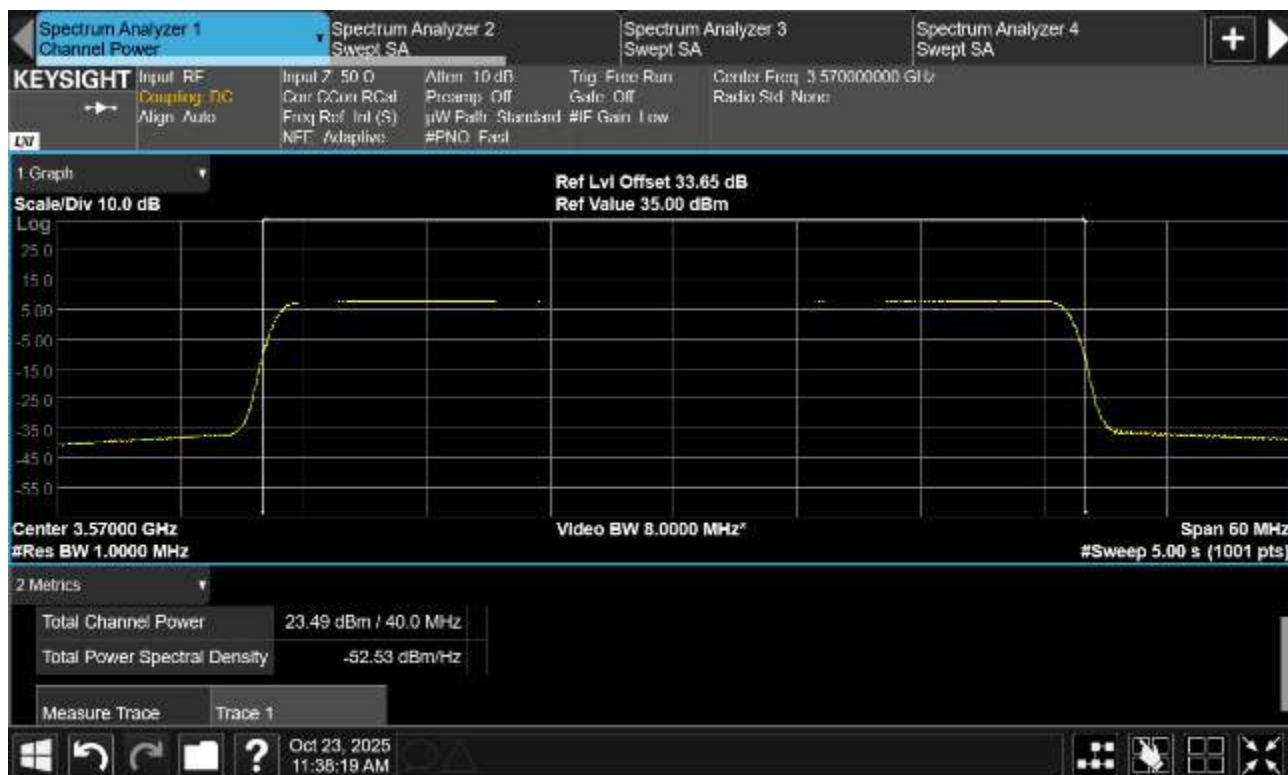


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3570.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc

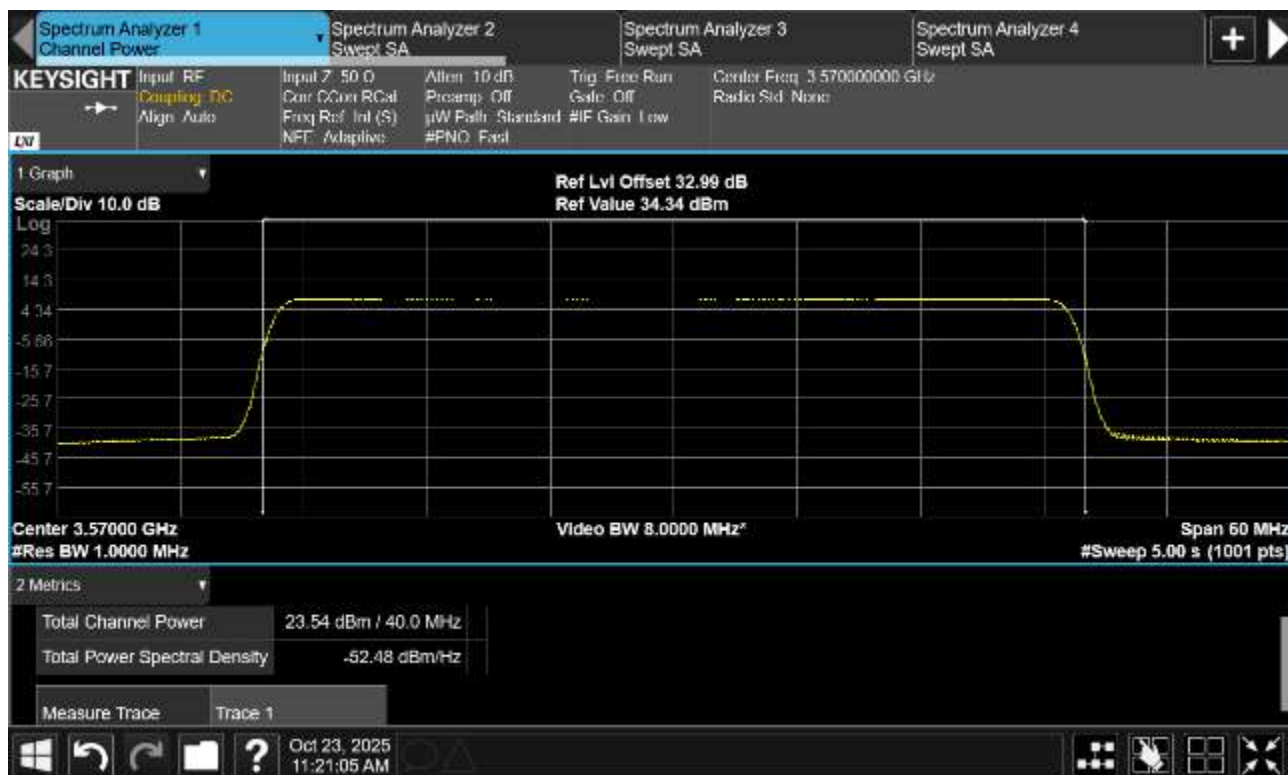


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3570.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc

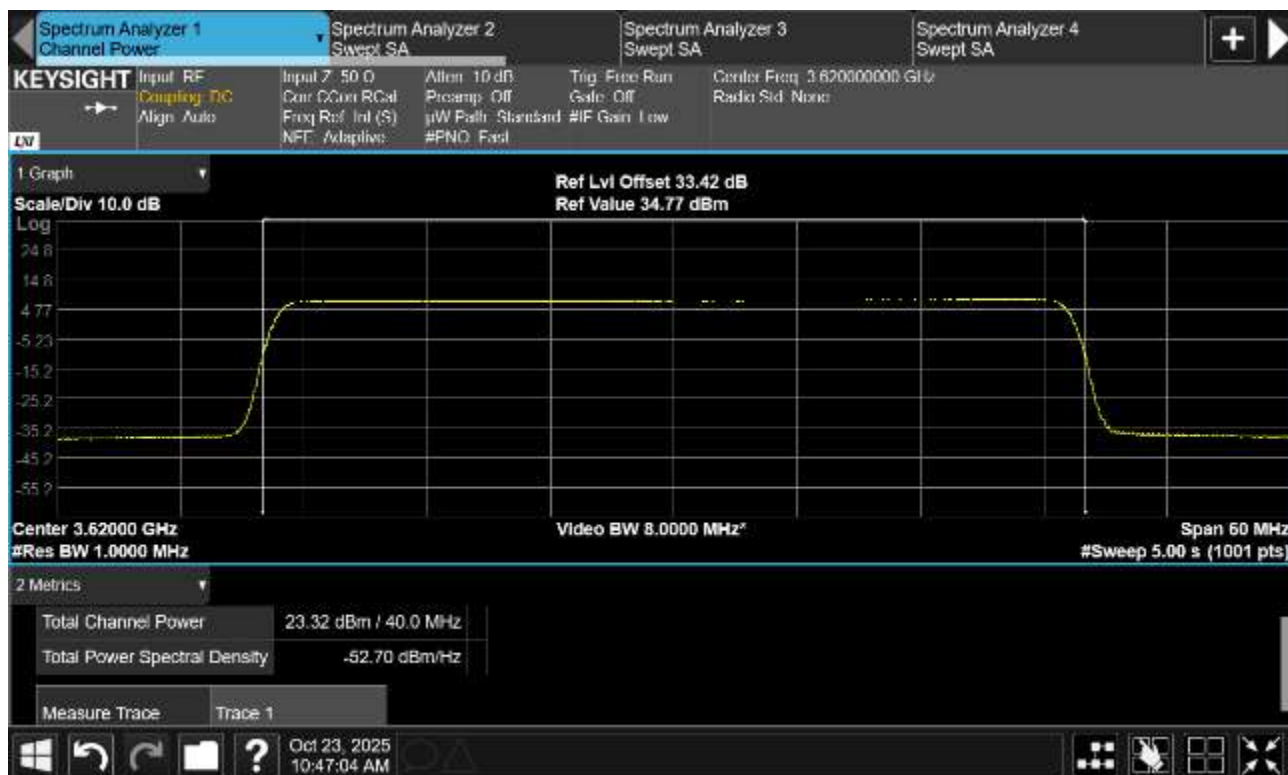


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3630.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3630.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3630.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3630.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3680.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc

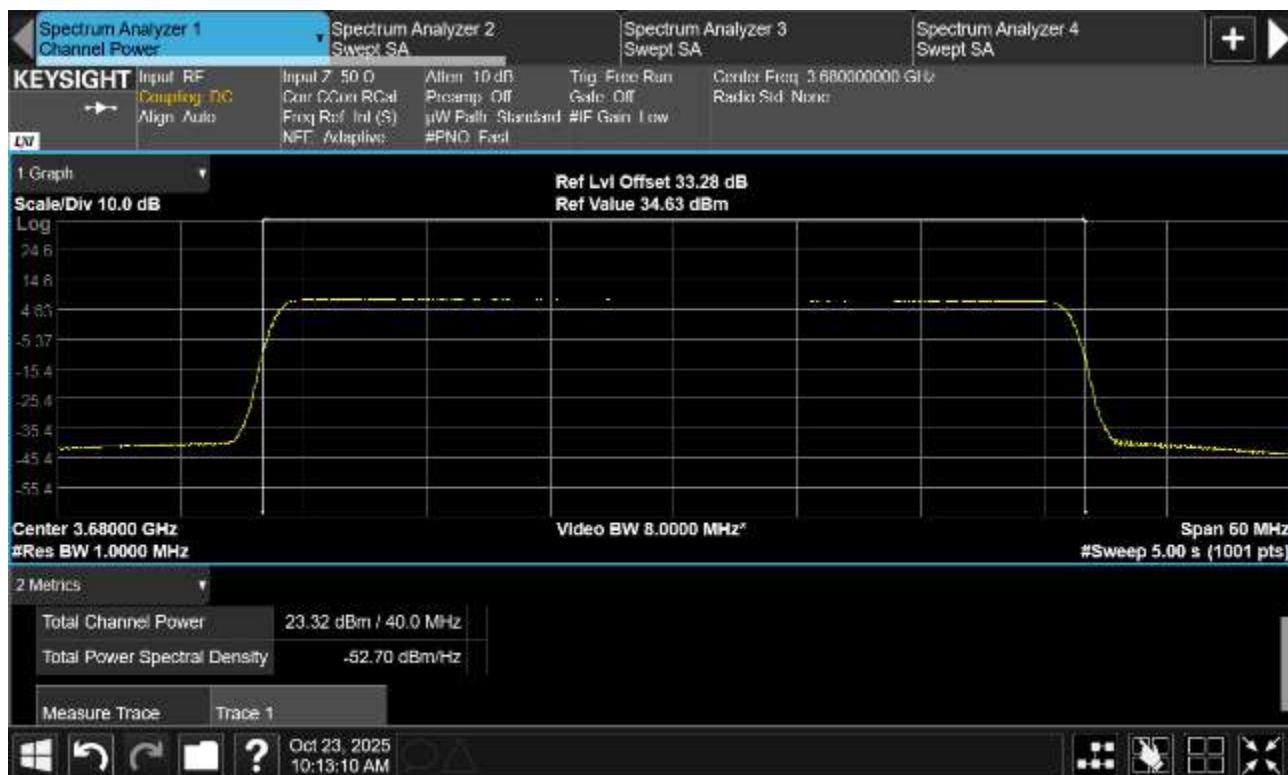


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3680.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3680.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc

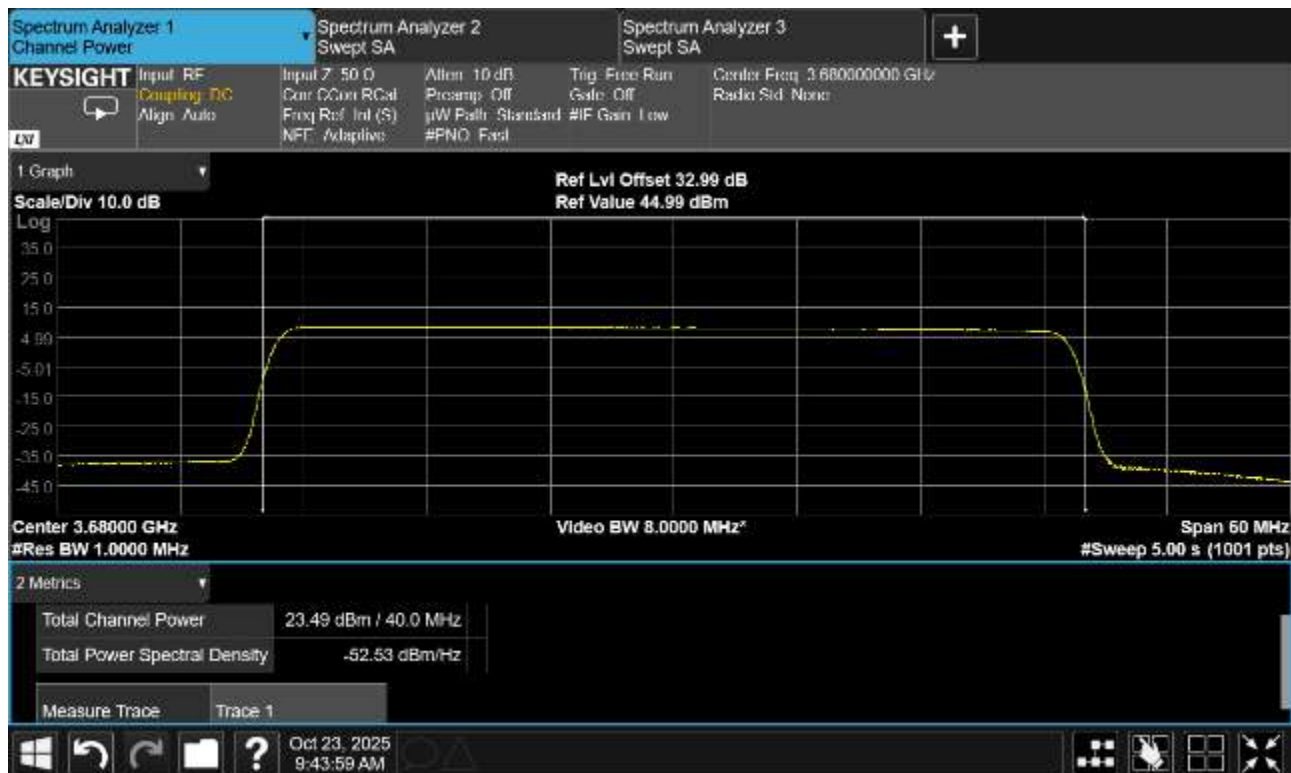


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POWER SPECTRAL DENSITY - AVERAGE



Variant: 40 MHz, Channel: 3680.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



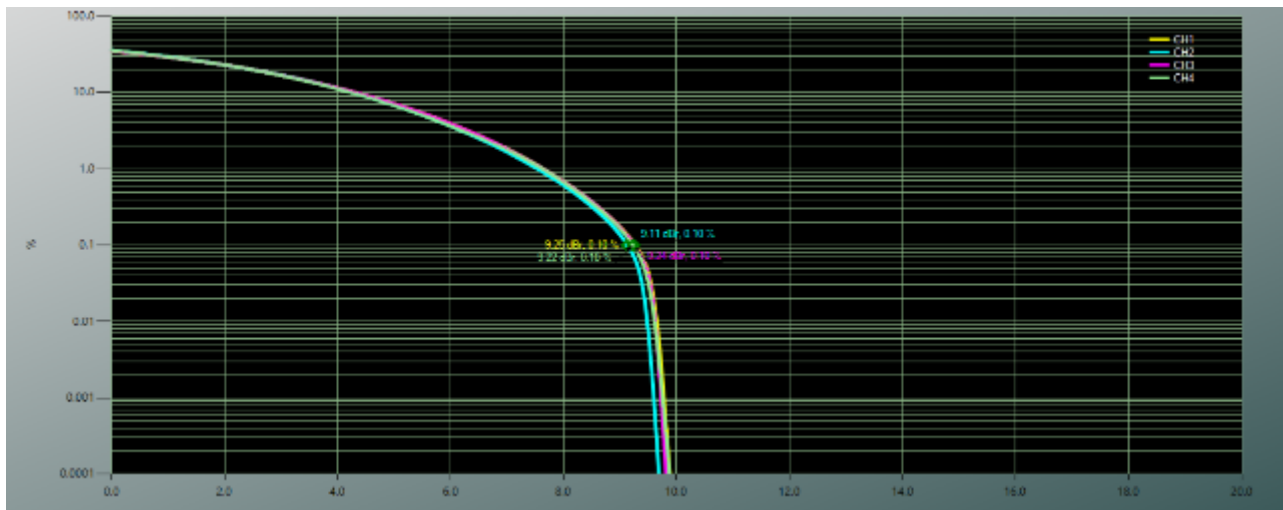
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A.3. Peak to Average Power Ratio

PEAK TO AVERAGE POWER RATIO



Variant: 10 MHz, Channel: 3555.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

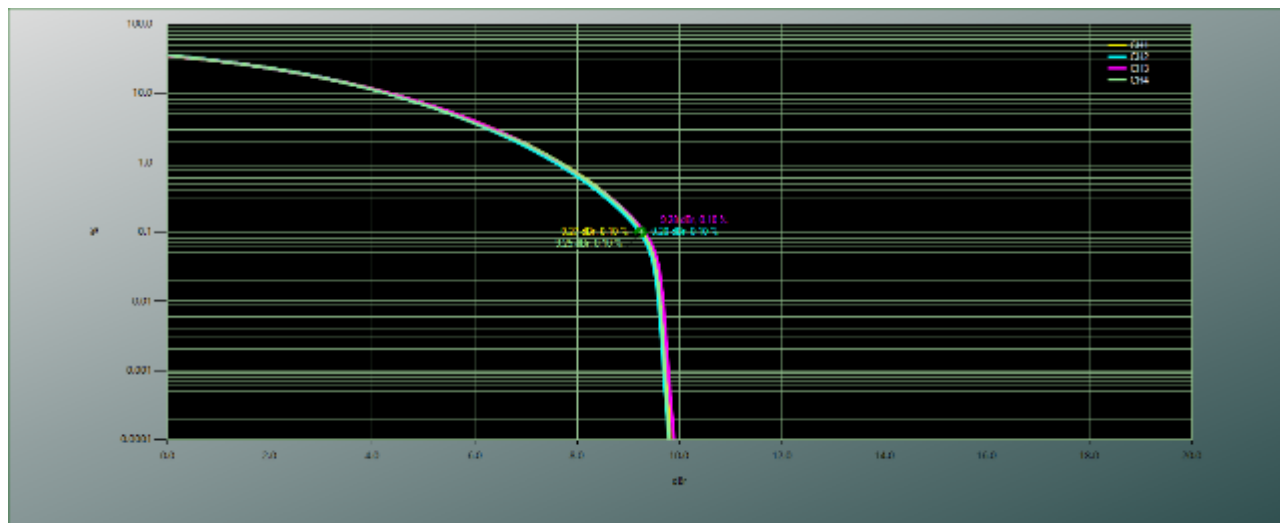


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PEAK TO AVERAGE POWER RATIO



Variant: 10 MHz, Channel: 3625.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

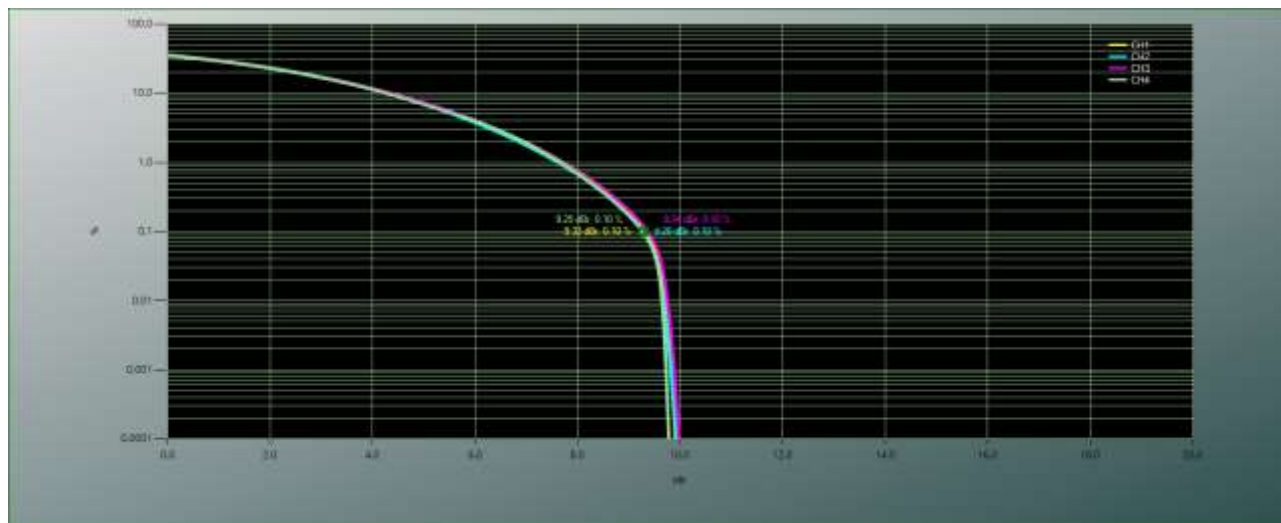


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PEAK TO AVERAGE POWER RATIO



Variant: 10 MHz, Channel: 3695.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

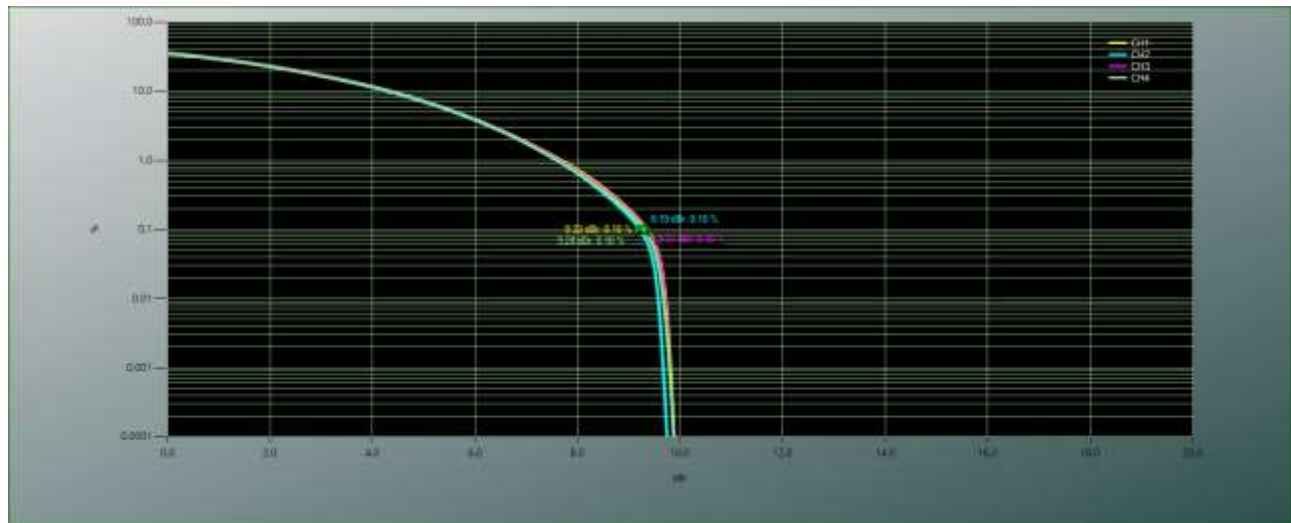


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PEAK TO AVERAGE POWER RATIO



Variant: 20 MHz, Channel: 3560.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

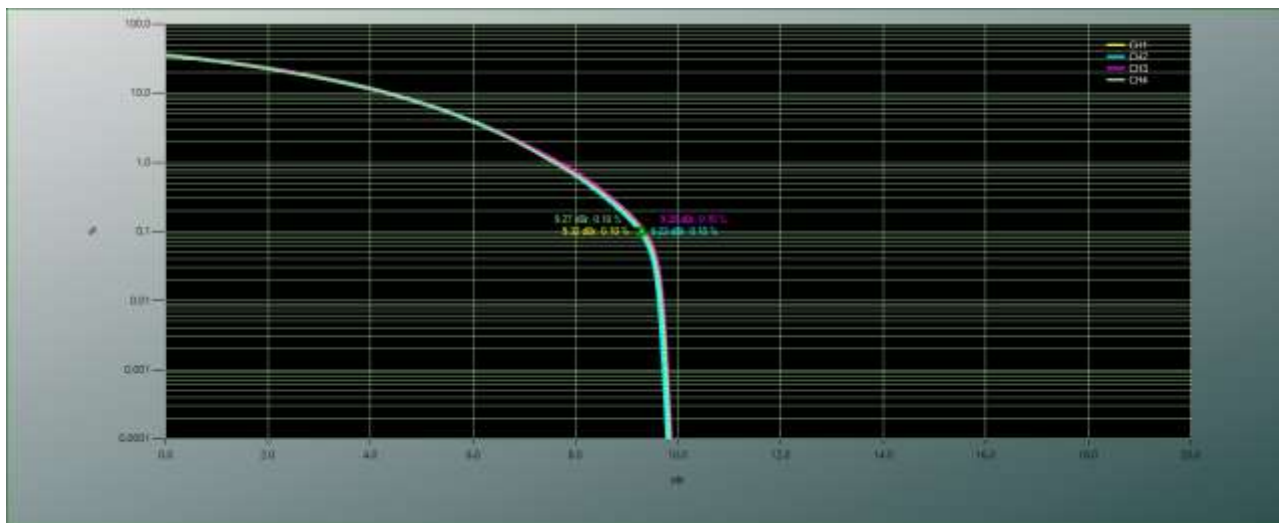


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PEAK TO AVERAGE POWER RATIO



Variant: 20 MHz, Channel: 3620.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

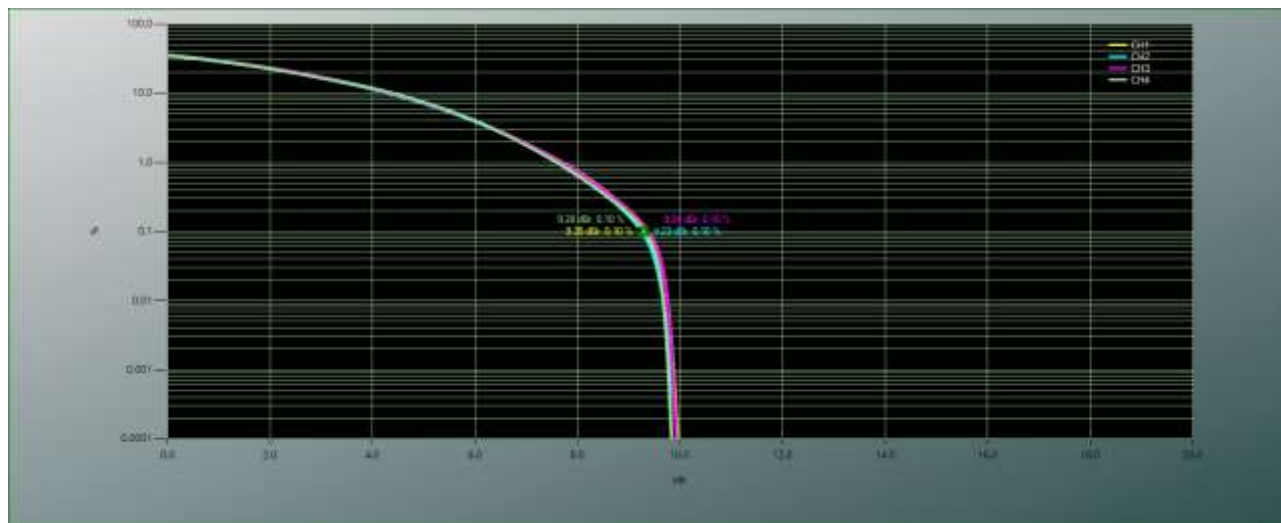


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PEAK TO AVERAGE POWER RATIO



Variant: 20 MHz, Channel: 3690.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

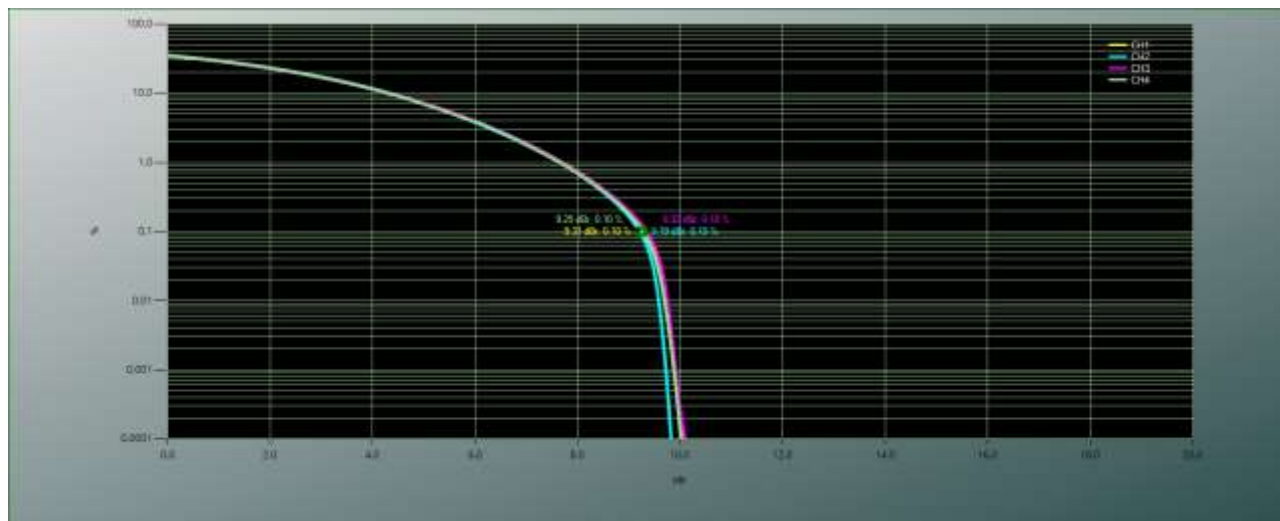


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PEAK TO AVERAGE POWER RATIO



Variant: 40 MHz, Channel: 3570.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

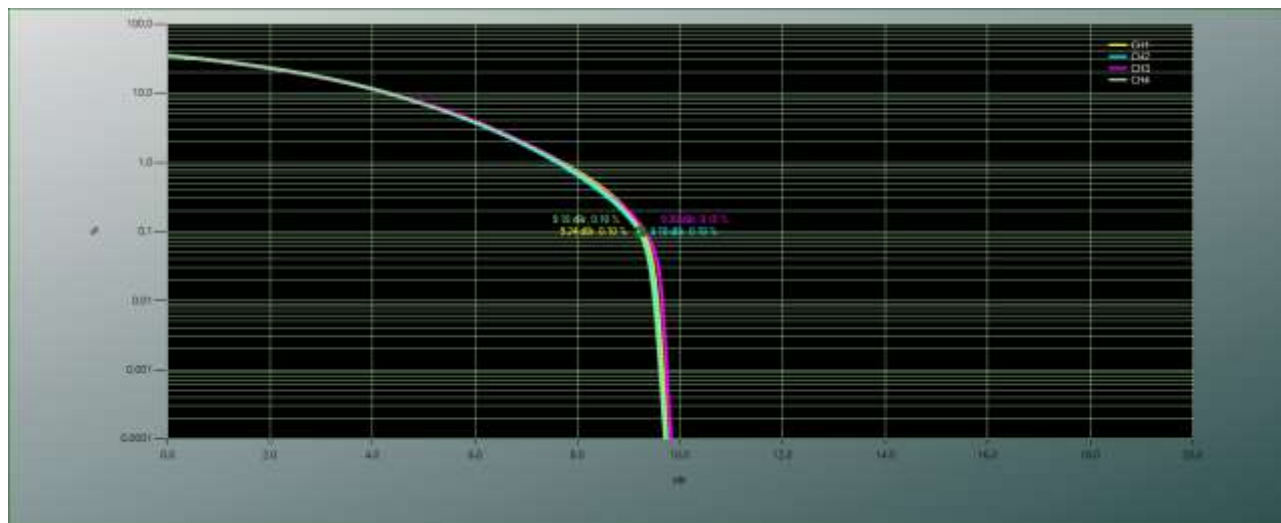


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PEAK TO AVERAGE POWER RATIO



Variant: 40 MHz, Channel: 3630.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc

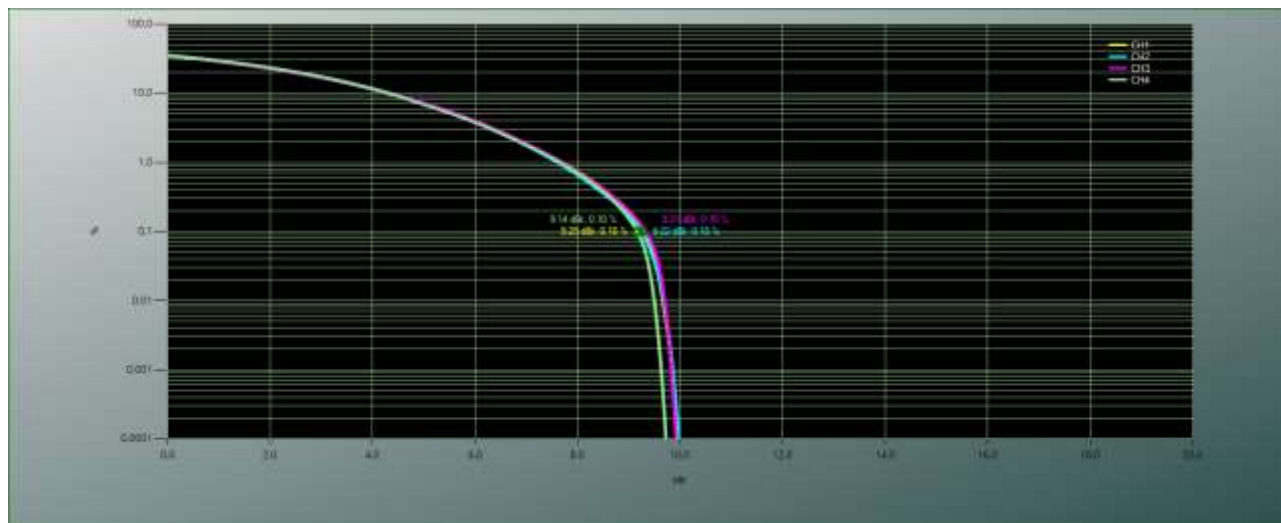


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PEAK TO AVERAGE POWER RATIO



Variant: 40 MHz, Channel: 3680.00 MHz, Chain Combined, Temp: 20, Voltage: 48 Vdc



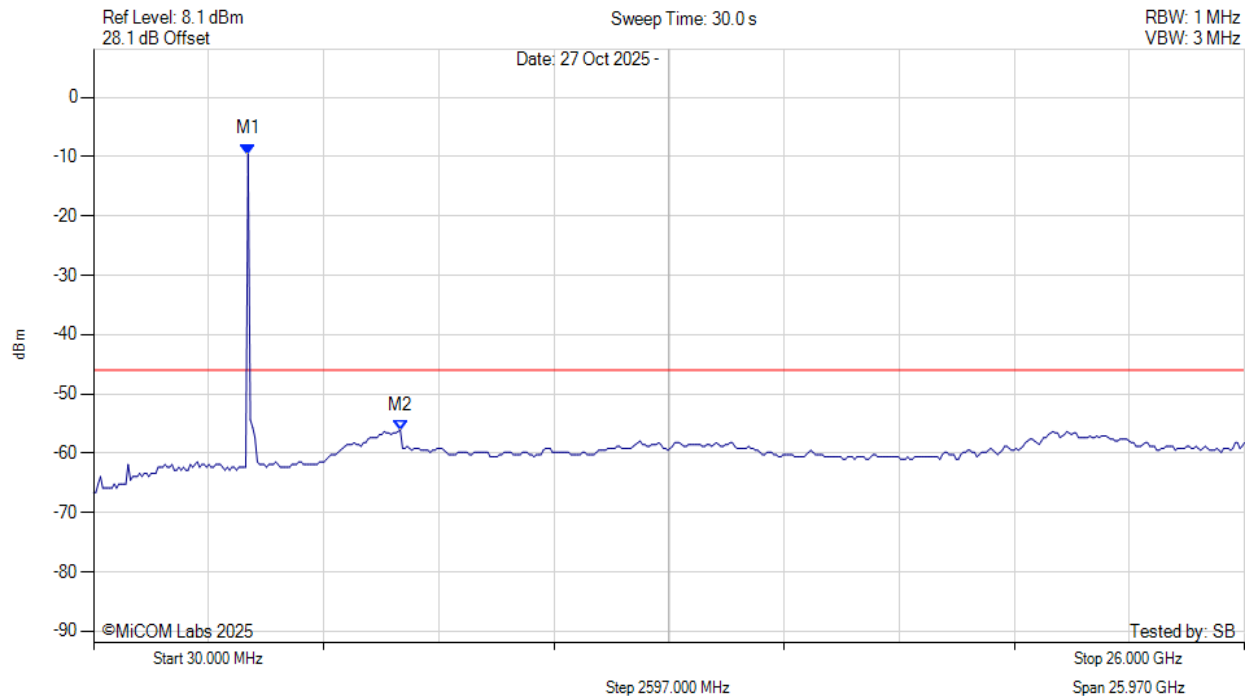
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A.4. Conducted Spurious Emissions

CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3555.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3516.954 MHz : -9.567 dBm M2 : 6951.864 MHz : -56.101 dBm	Limit: -46 dBm

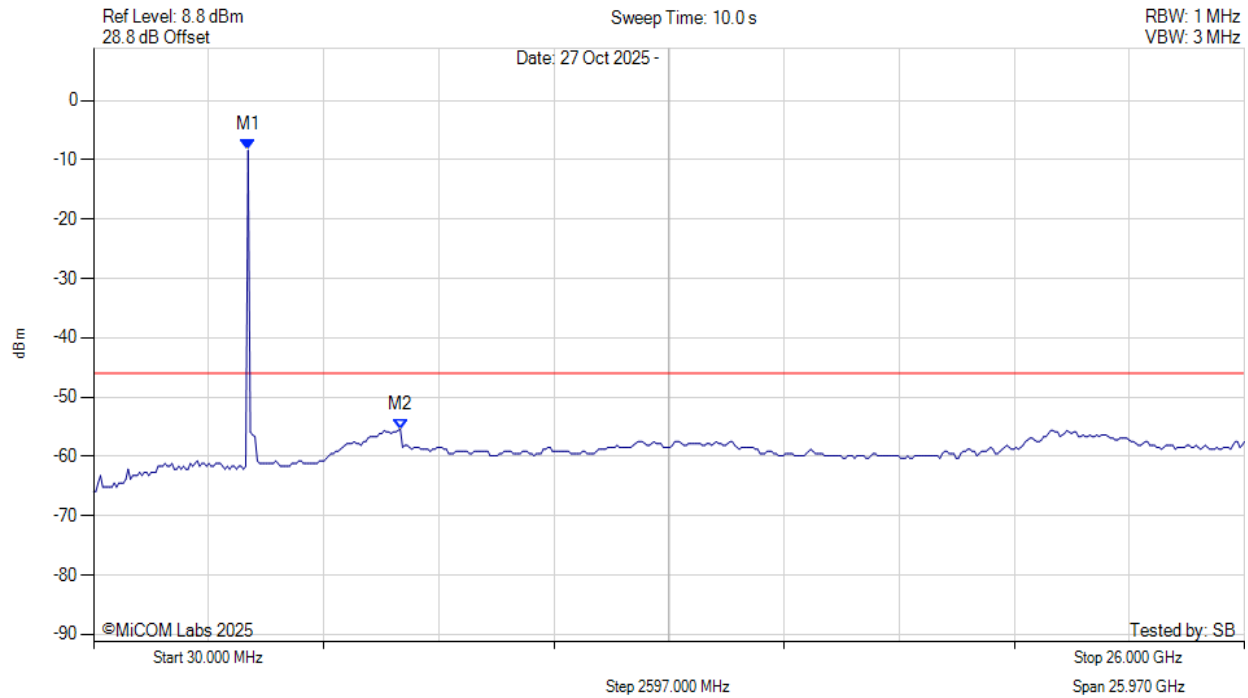
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3555.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	M1 : 3516.954 MHz : -8.372 dBm M2 : 6951.864 MHz : -55.401 dBm	Limit: -46 dBm

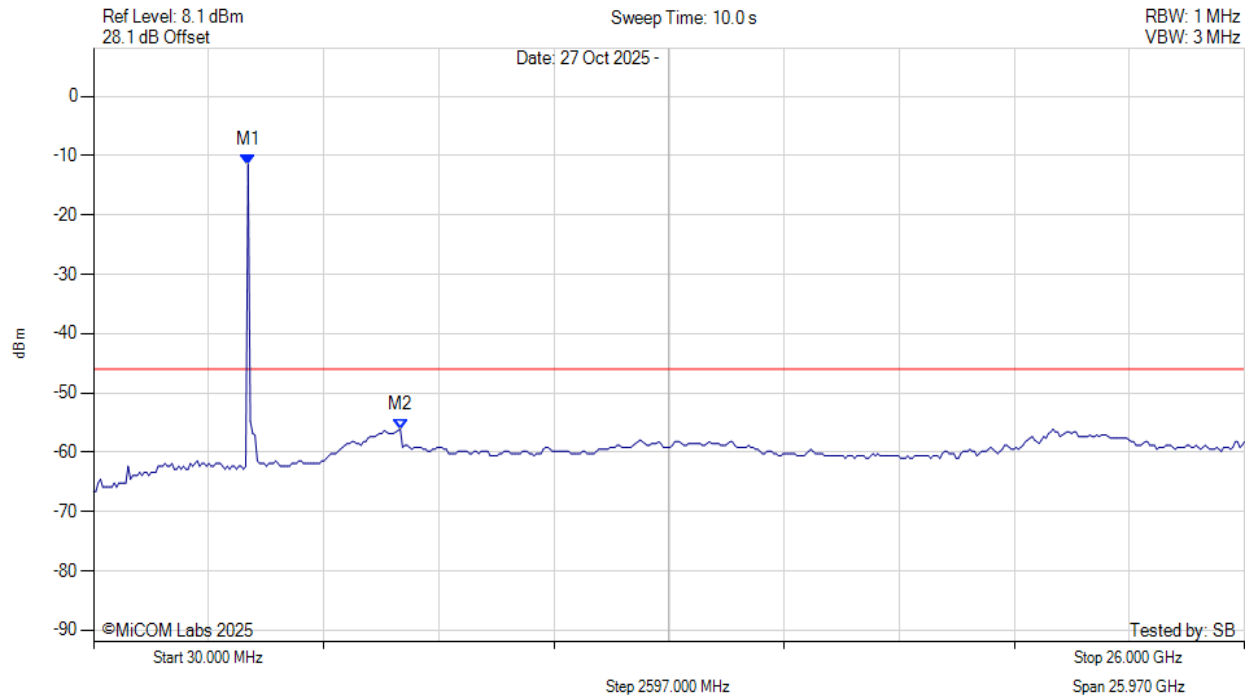
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3555.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3516.954 MHz : -11.459 dBm M2 : 6951.864 MHz : -56.101 dBm	Limit: -46 dBm

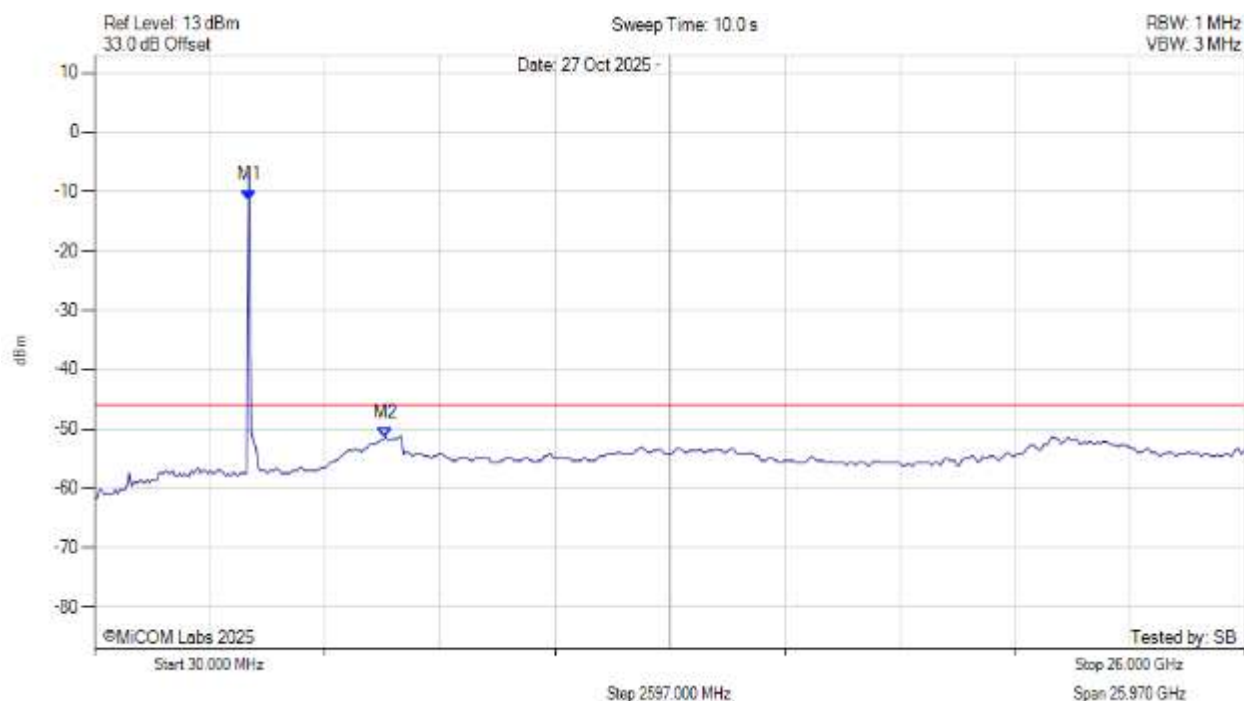
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3555.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3516.954 MHz : -11.459 dBm M2 : 6587.555 MHz : -51.439 dBm	Limit: -46 dBm

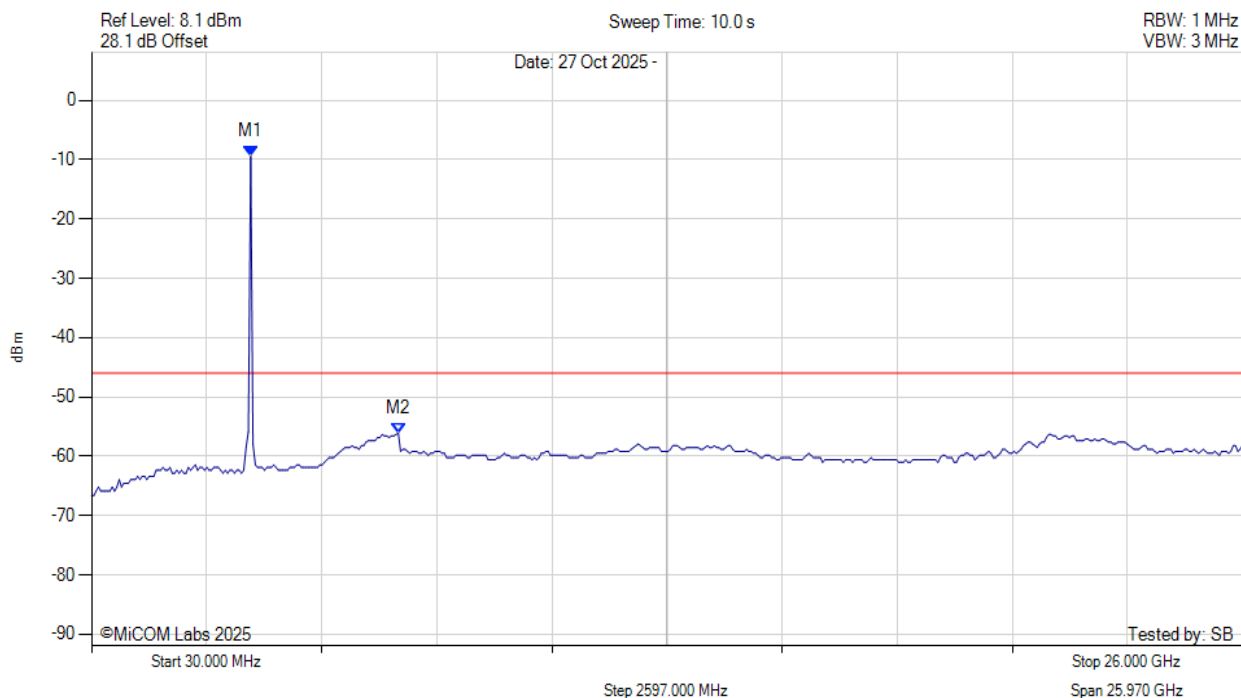
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3625.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -9.413 dBm M2 : 6951.864 MHz : -56.101 dBm	Limit: -46 dBm

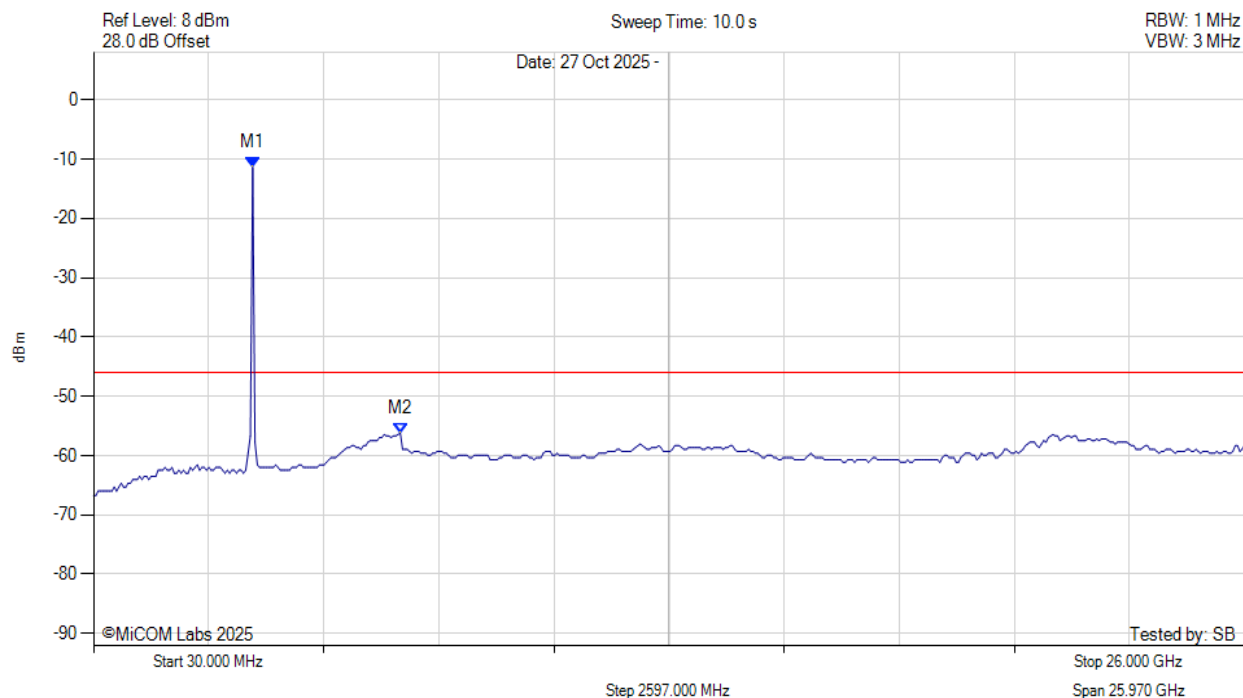
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3625.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -11.382 dBm M2 : 6951.864 MHz : -56.201 dBm	Limit: -46 dBm

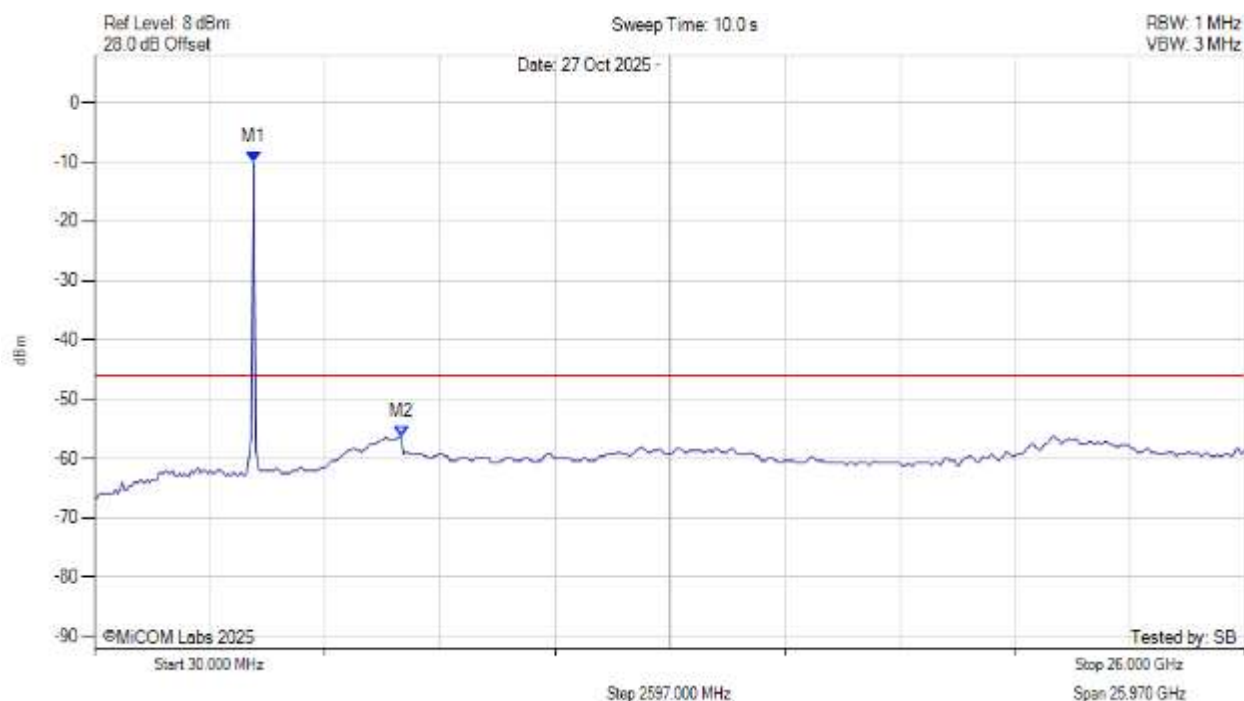
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3625.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -10.064 dBm M2 : 6951.864 MHz : -56.201 dBm	Limit: -46 dBm

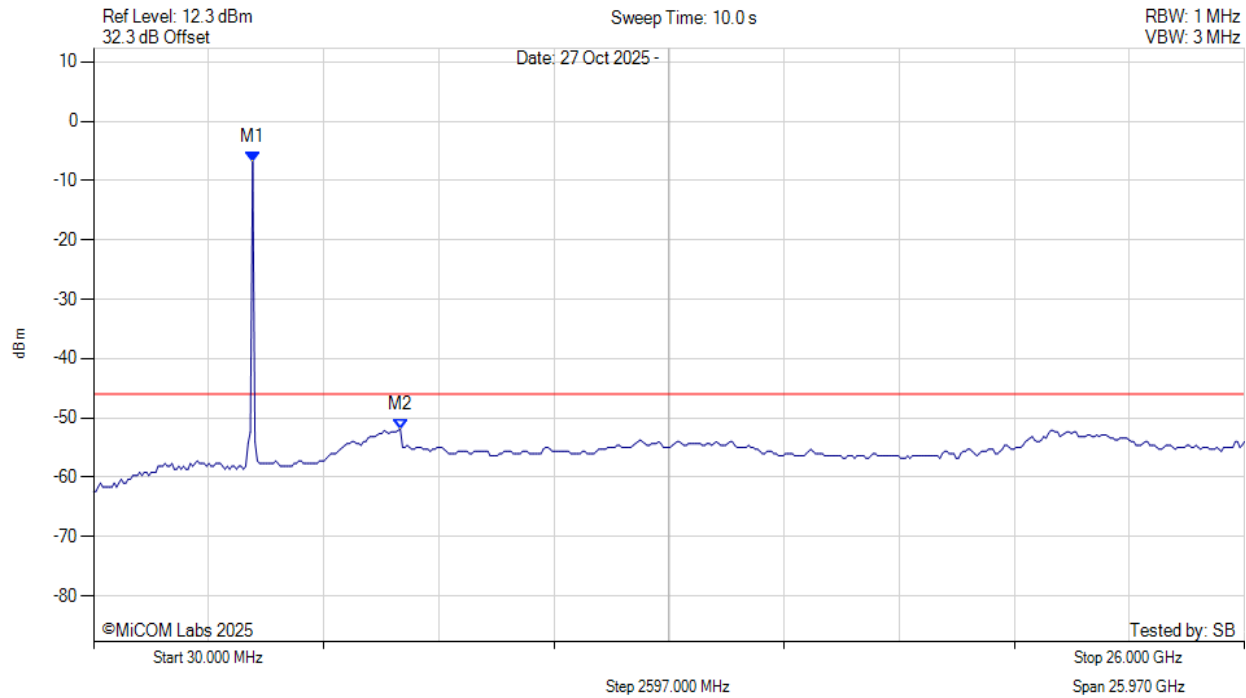
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3625.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -6.804 dBm M2 : 6951.864 MHz : -51.901 dBm	Limit: -46 dBm

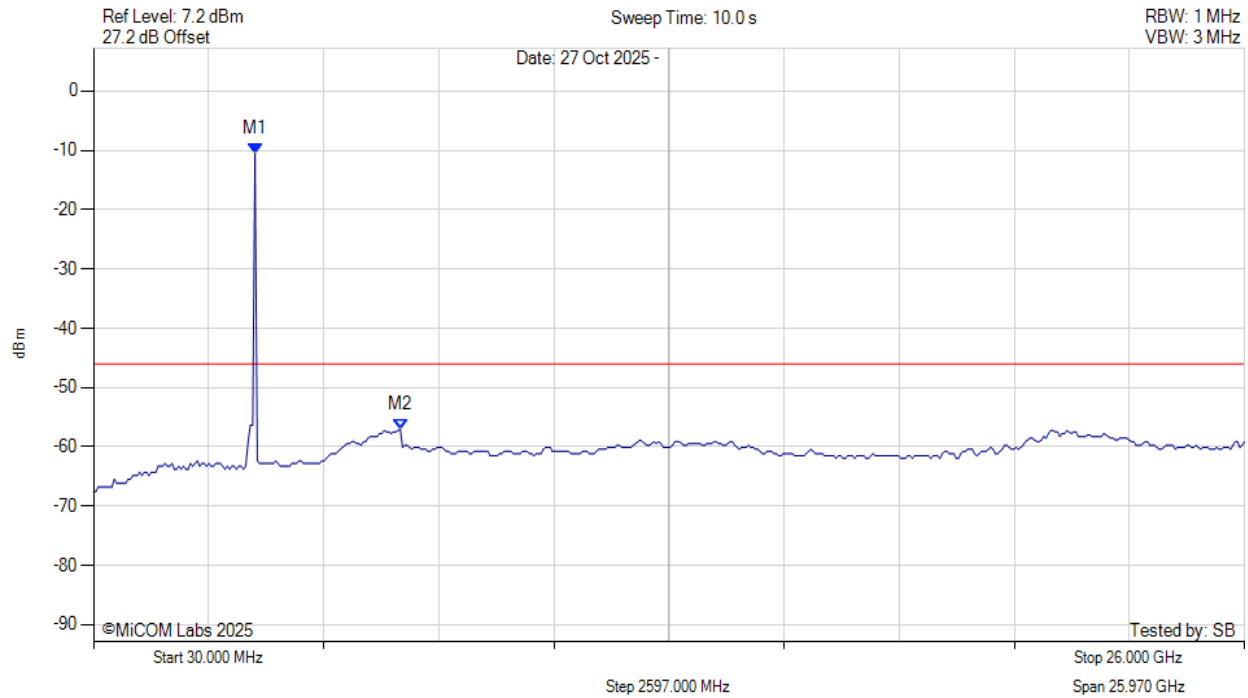
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3695.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -10.512 dBm M2 : 6951.864 MHz : -57.001 dBm	Limit: -46 dBm

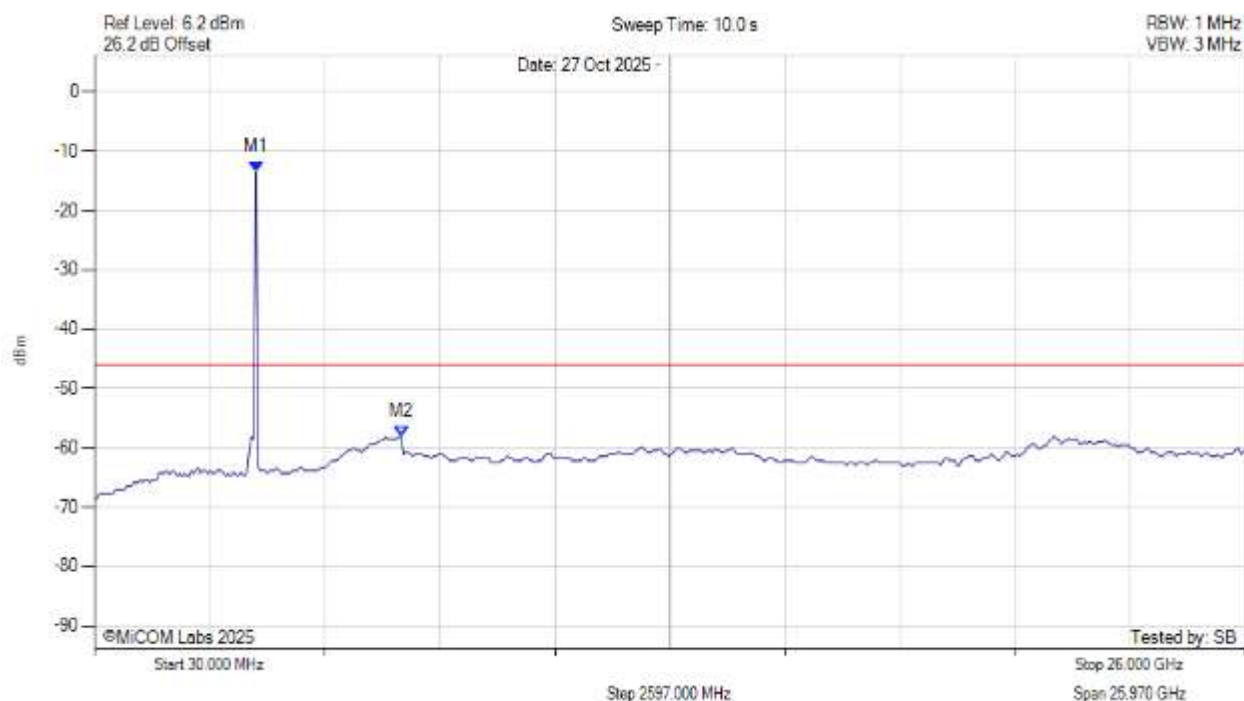
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3695.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -13.426 dBm M2 : 6951.864 MHz : -58.001 dBm	Limit: -46 dBm

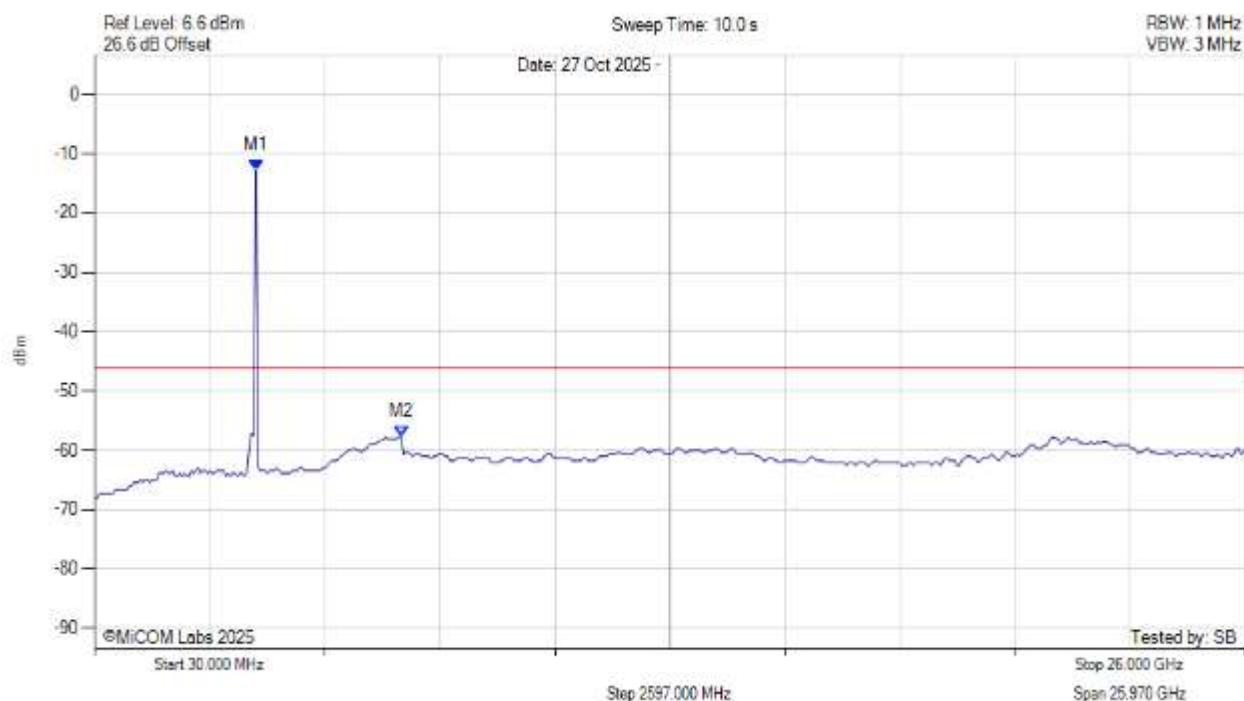
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3695.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -12.788 dBm M2 : 6951.864 MHz : -57.601 dBm	Limit: -46 dBm

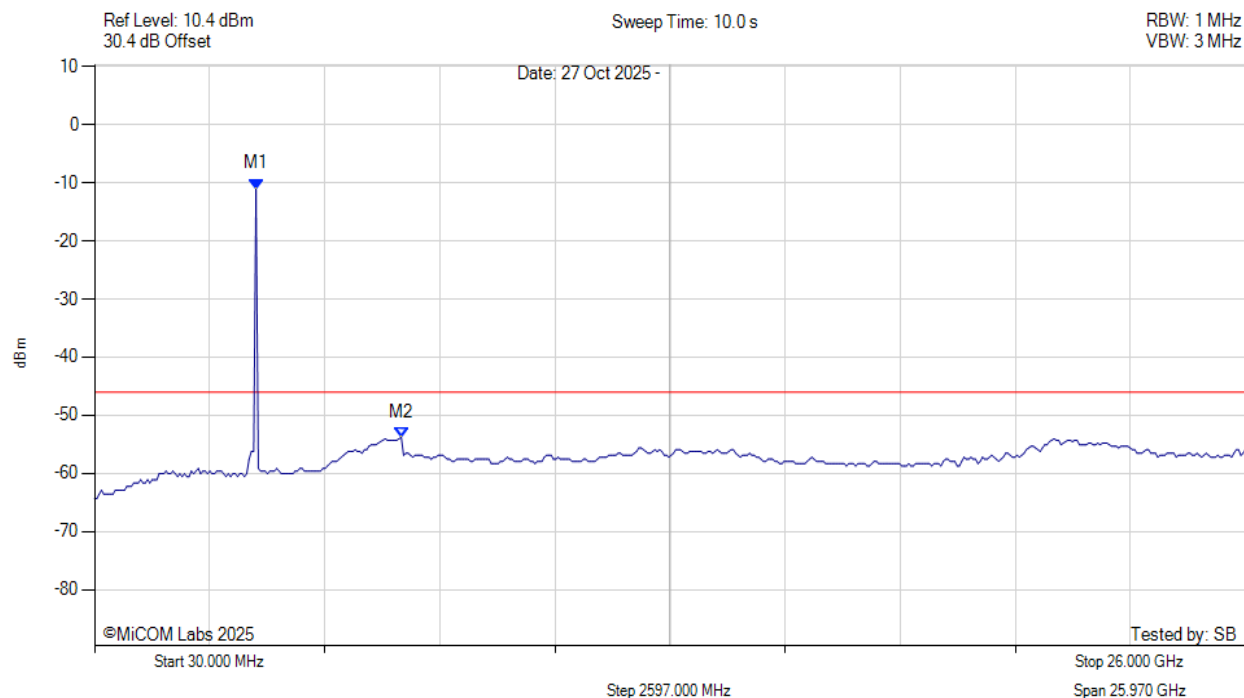
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 010MHz, Channel: 3695.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -11.070 dBm M2 : 6951.864 MHz : -53.801 dBm	Limit: -46 dBm

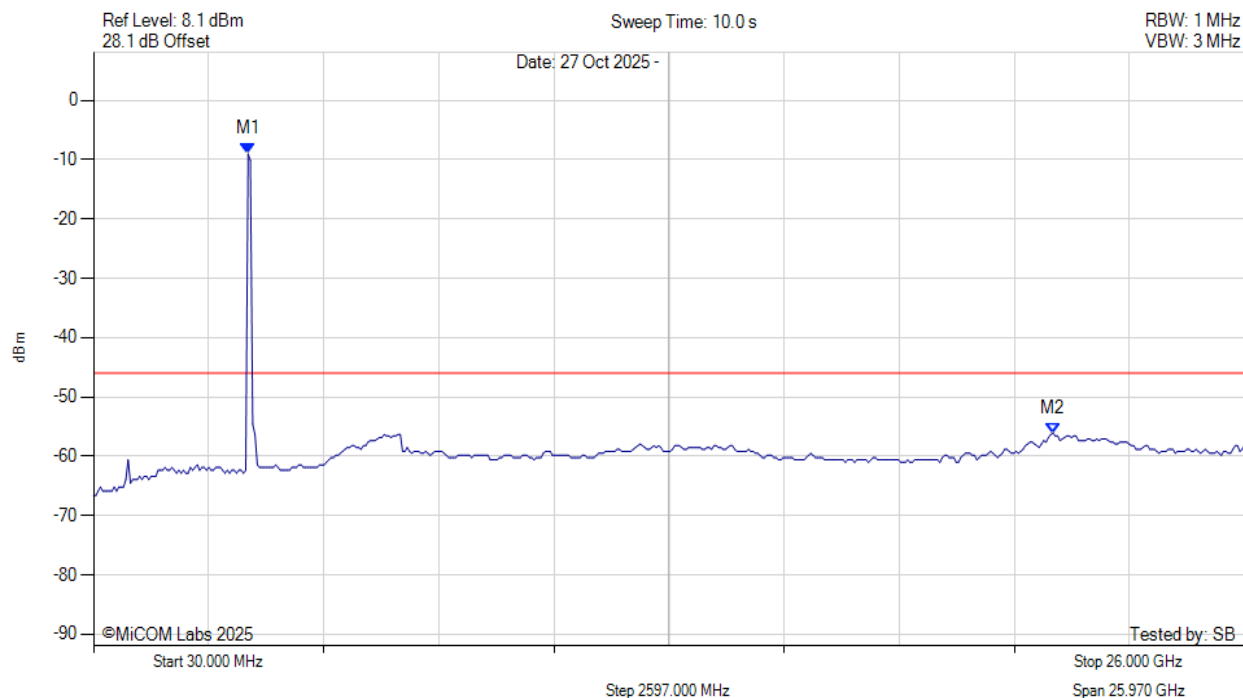
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3560.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3516.954 MHz : -9.020 dBm M2 : 21.680 GHz : -56.101 dBm	Limit: -46 dBm

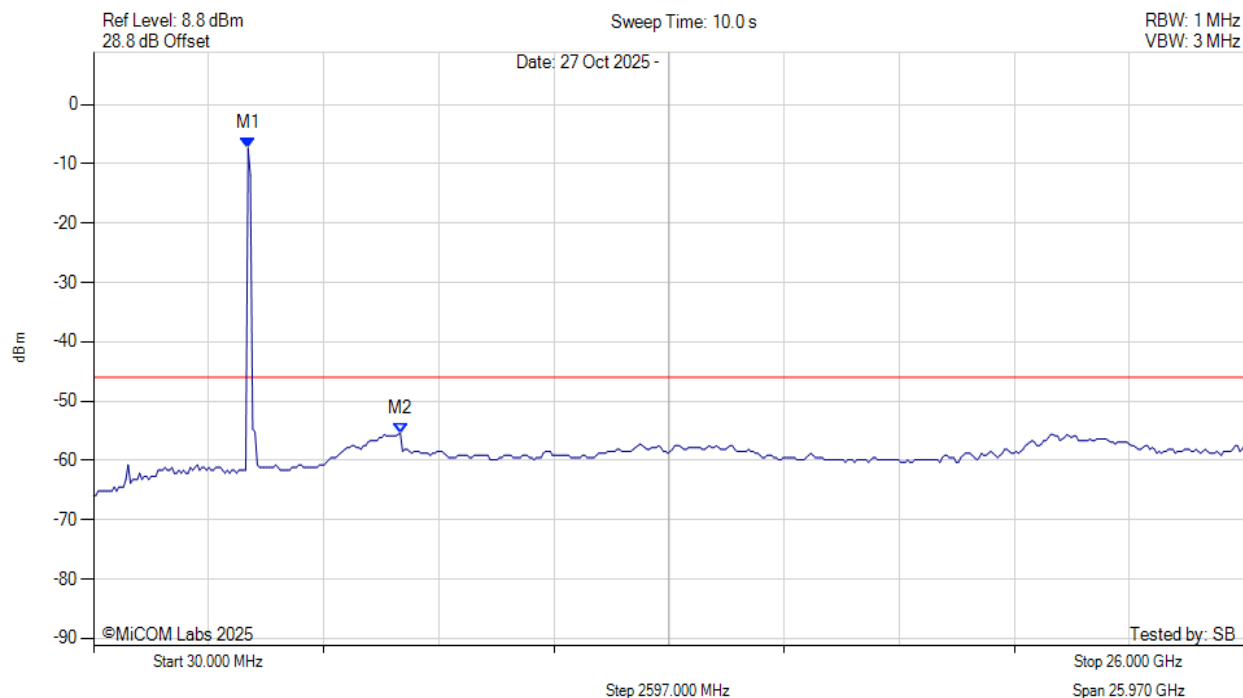
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3560.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = CLR/WRITE	M1 : 3516.954 MHz : -7.359 dBm M2 : 6951.864 MHz : -55.401 dBm	Limit: -46 dBm

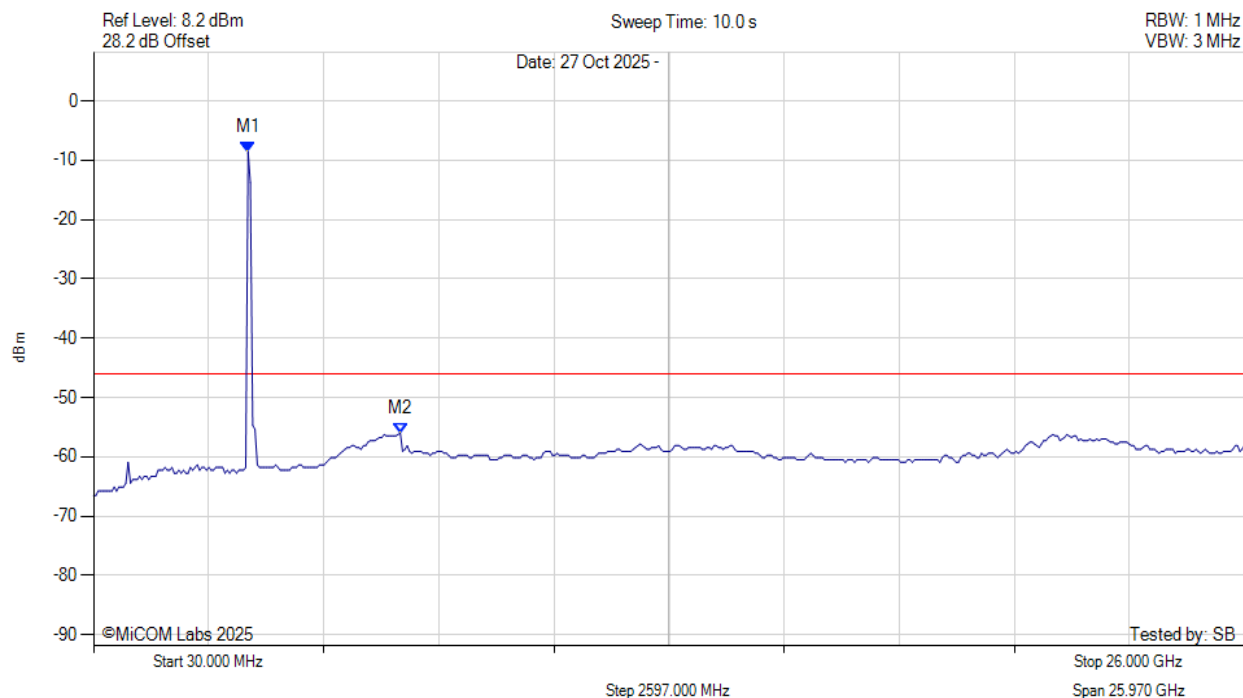
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3560.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3516.954 MHz : -8.558 dBm M2 : 6951.864 MHz : -56.001 dBm	Limit: -46 dBm

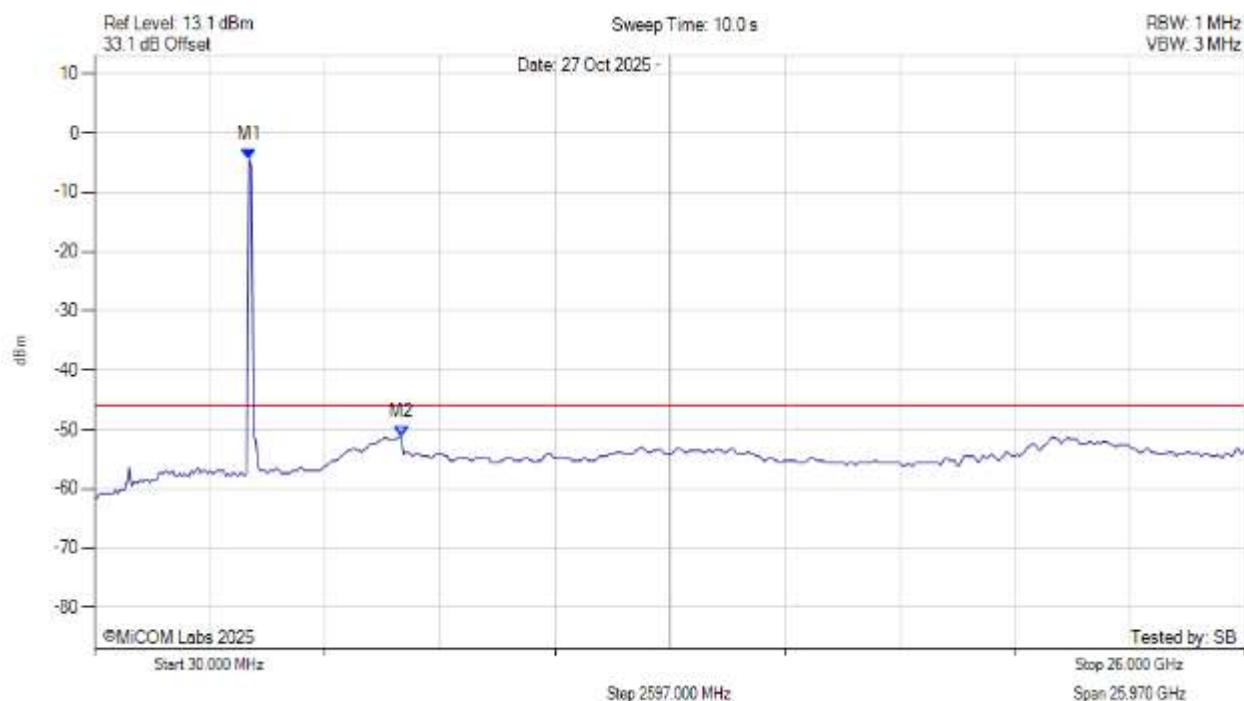
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3560.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3516.954 MHz : -4.500 dBm M2 : 6951.864 MHz : -51.101 dBm	Limit: -46 dBm

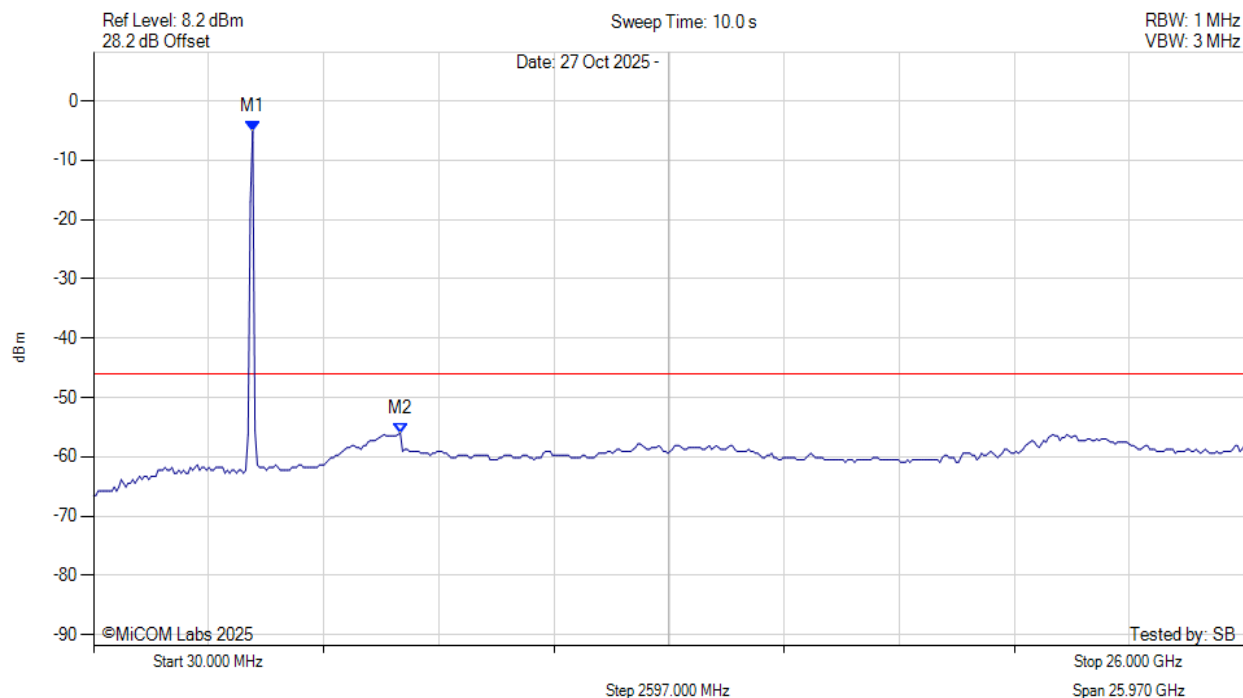
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3620.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -5.068 dBm M2 : 6951.864 MHz : -56.001 dBm	Limit: -46 dBm

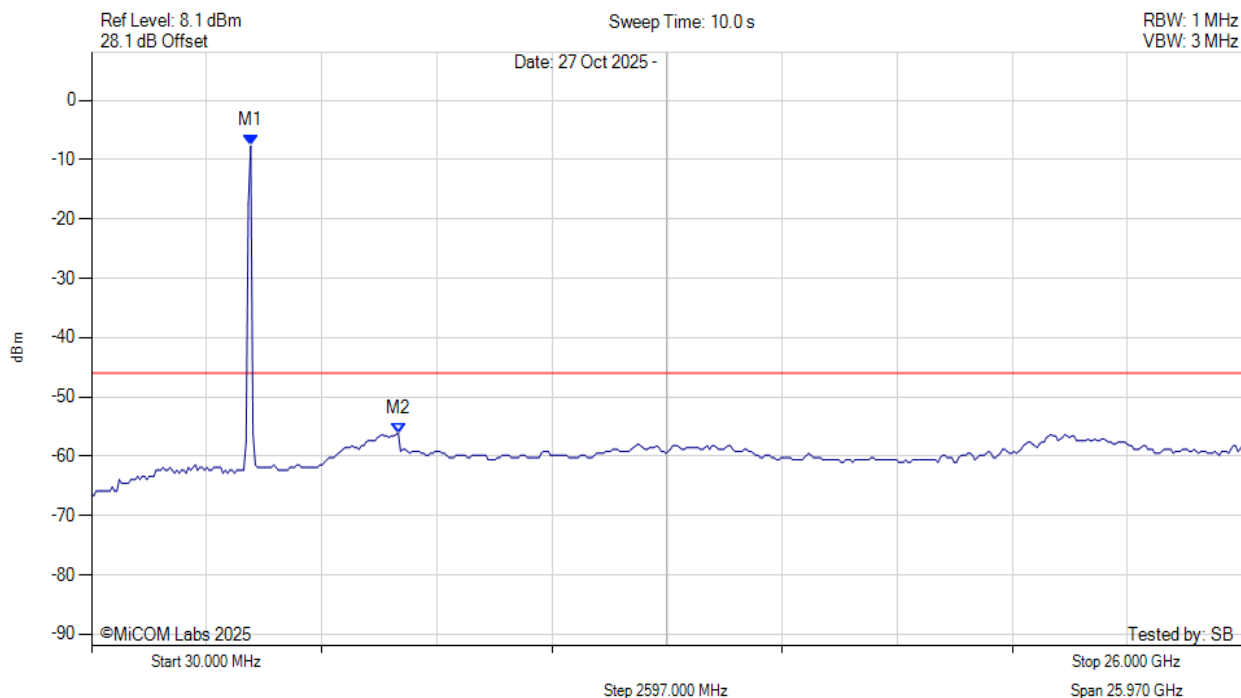
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3620.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -7.675 dBm M2 : 6951.864 MHz : -56.101 dBm	Limit: -46 dBm

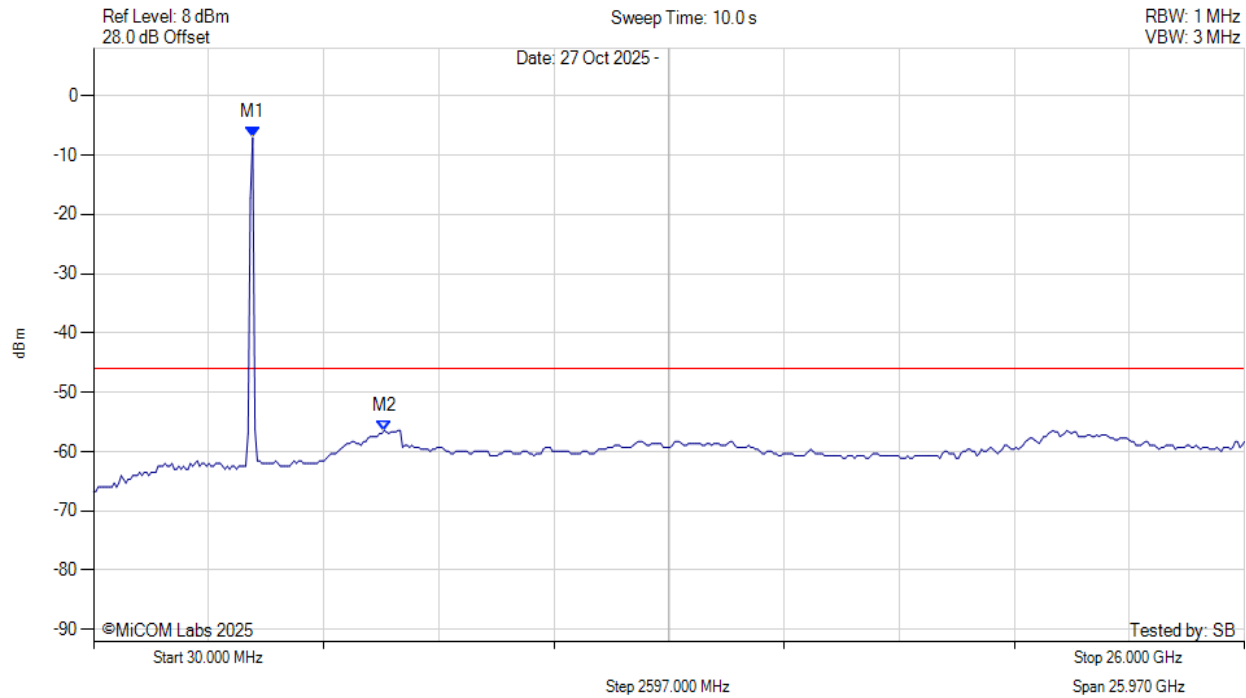
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3620.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -7.057 dBm M2 : 6587.555 MHz : -56.439 dBm	Limit: -46 dBm

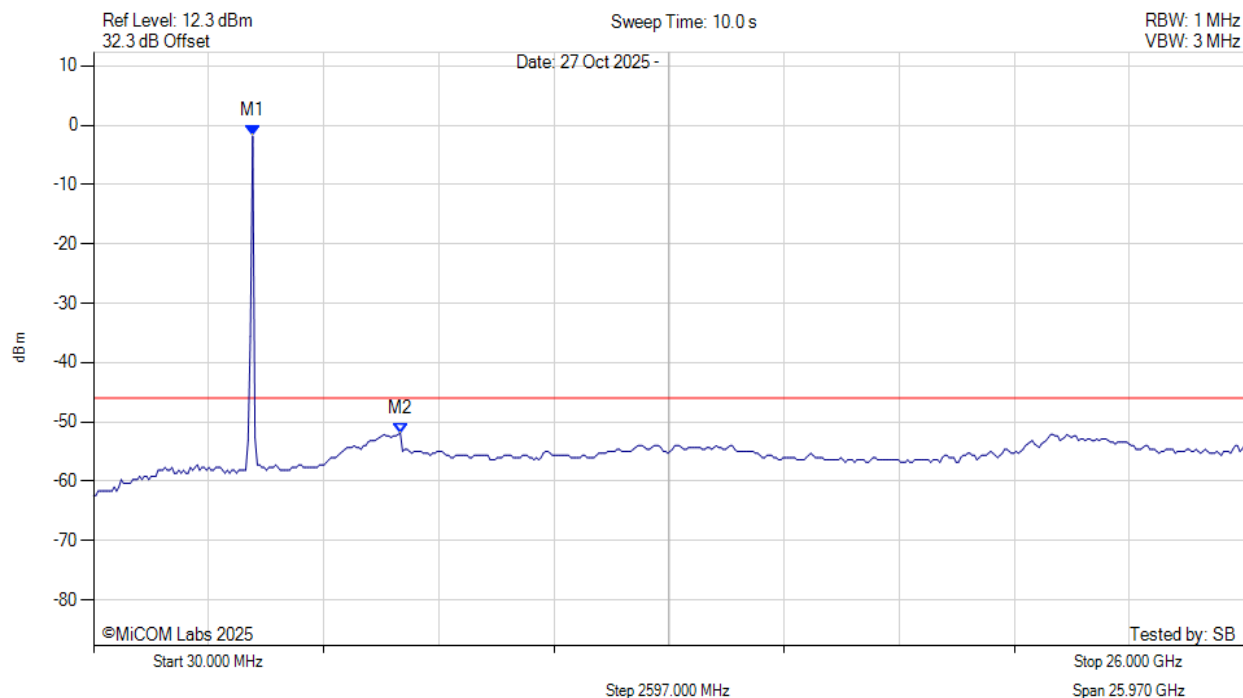
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3620.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -1.798 dBm M2 : 6951.864 MHz : -51.901 dBm	Limit: -46 dBm

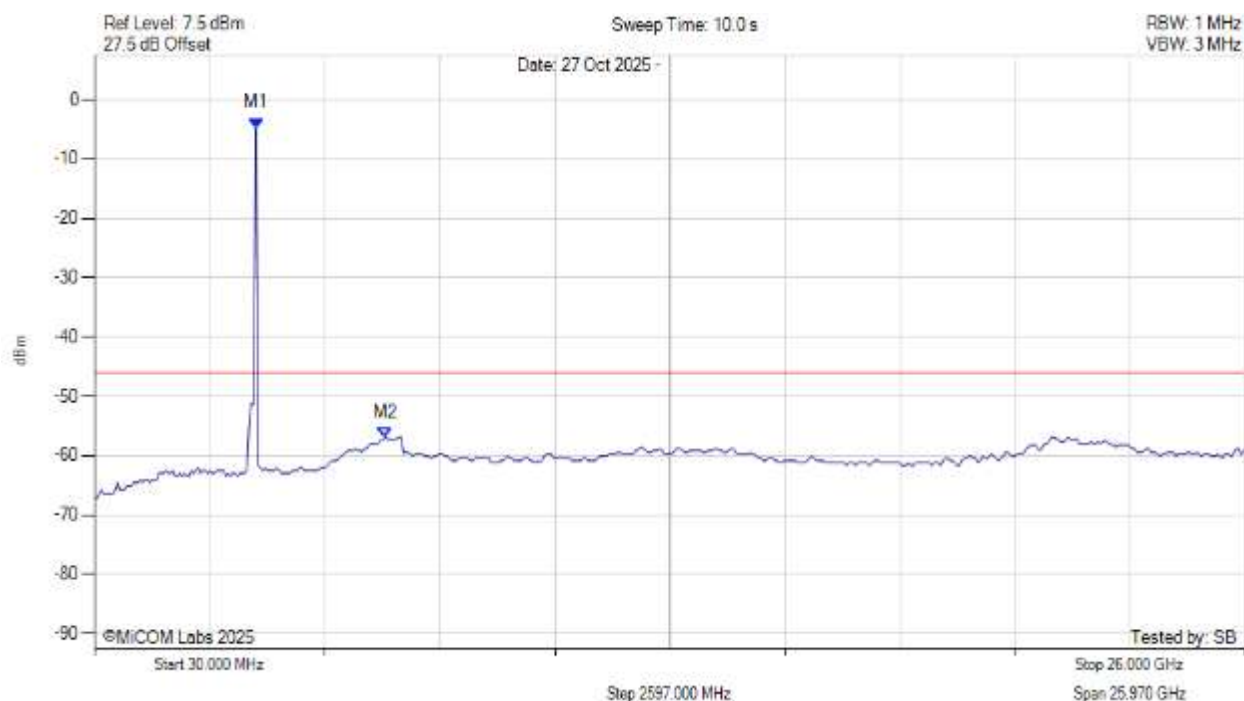
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3690.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -4.788 dBm M2 : 6587.555 MHz : -56.939 dBm	Limit: -46 dBm

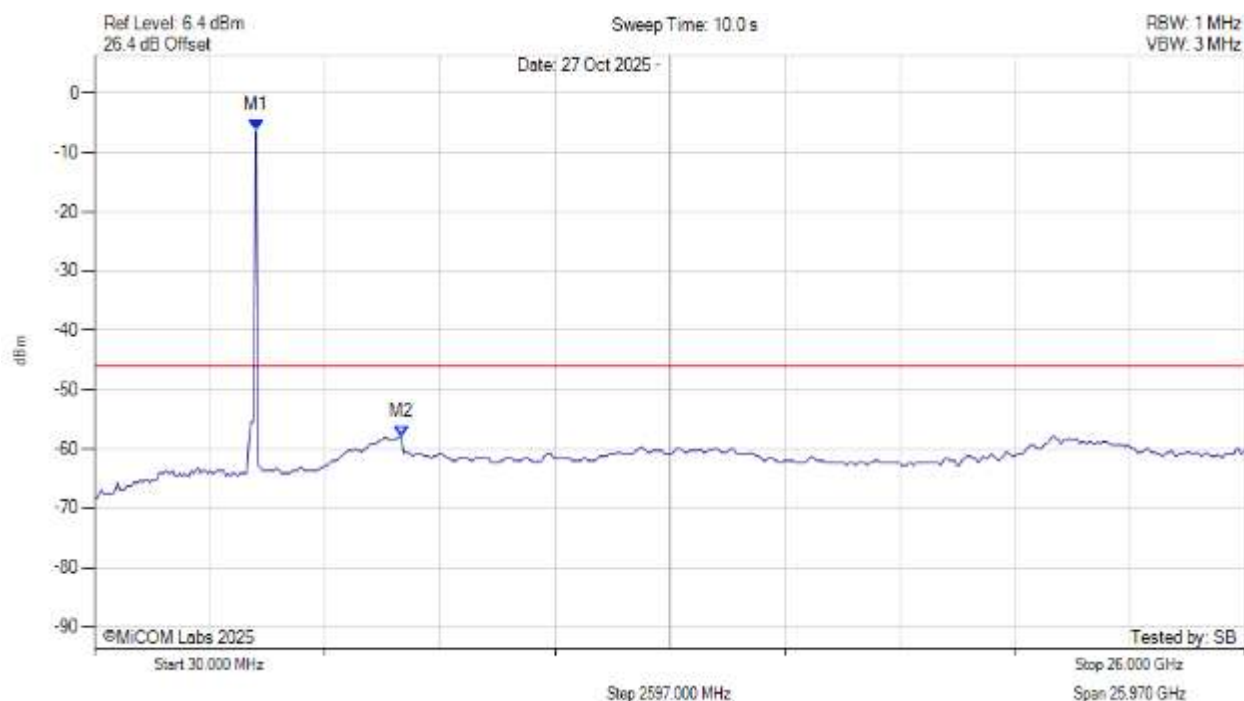
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3690.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -6.282 dBm M2 : 6951.864 MHz : -57.801 dBm	Limit: -46 dBm

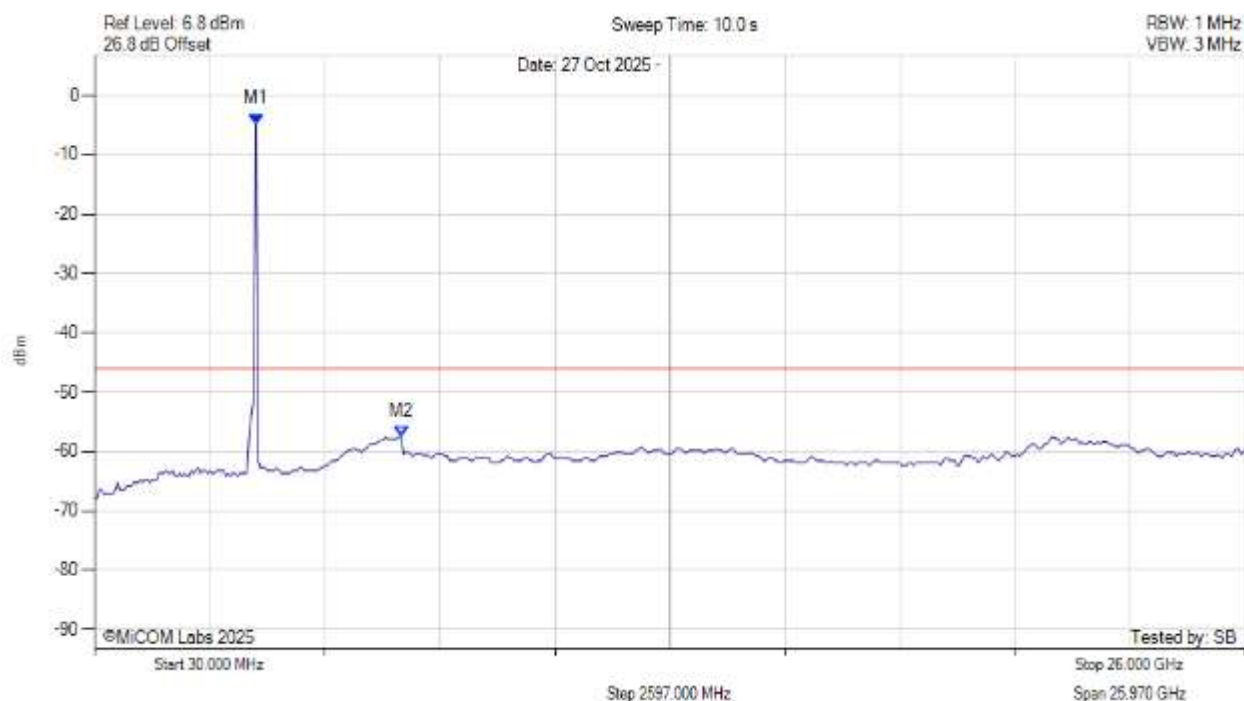
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3690.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -4.789 dBm M2 : 6951.864 MHz : -57.401 dBm	Limit: -46 dBm

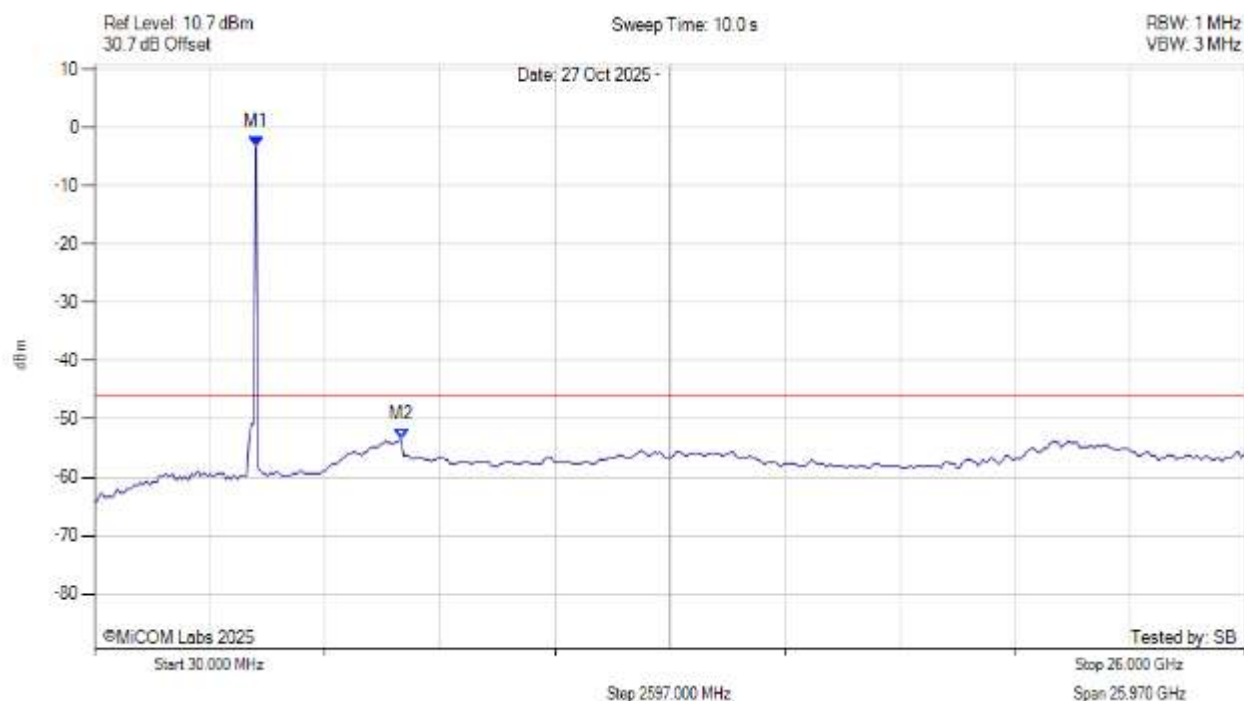
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 020MHz, Channel: 3690.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -3.293 dBm M2 : 6951.864 MHz : -53.501 dBm	Limit: -46 dBm

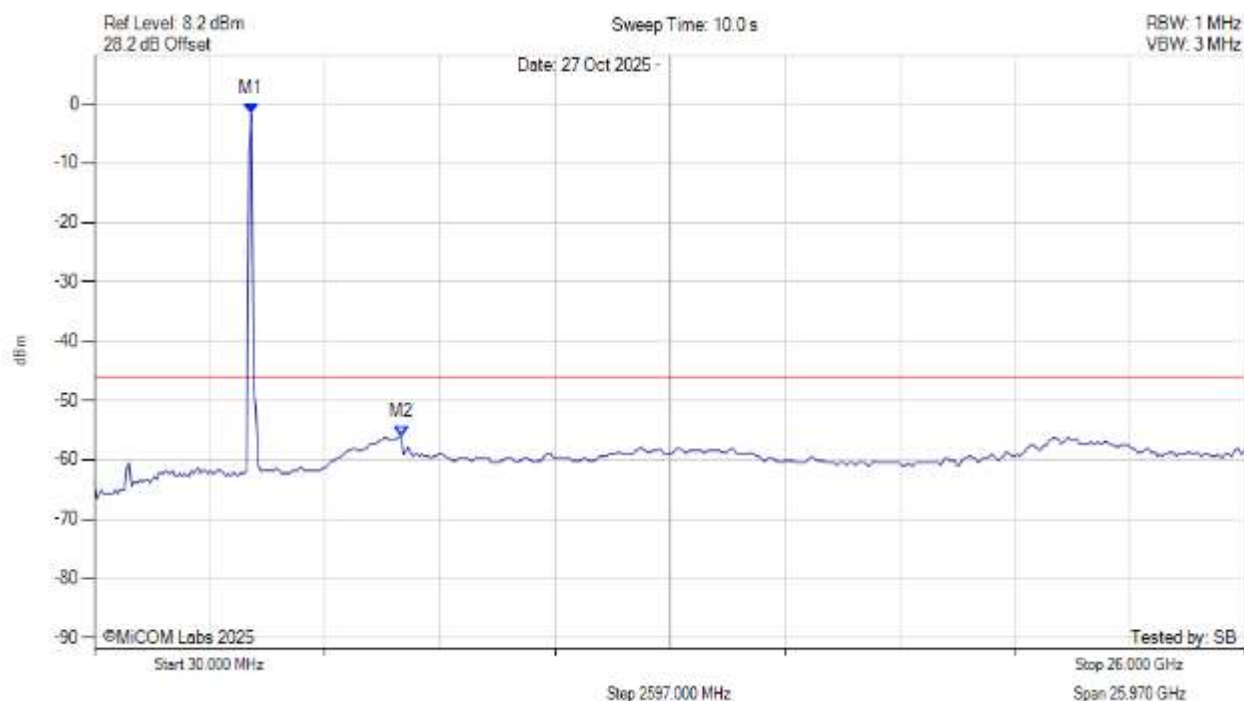
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3570.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3568.998 MHz : -1.574 dBm M2 : 6951.864 MHz : -56.001 dBm	Limit: -46 dBm

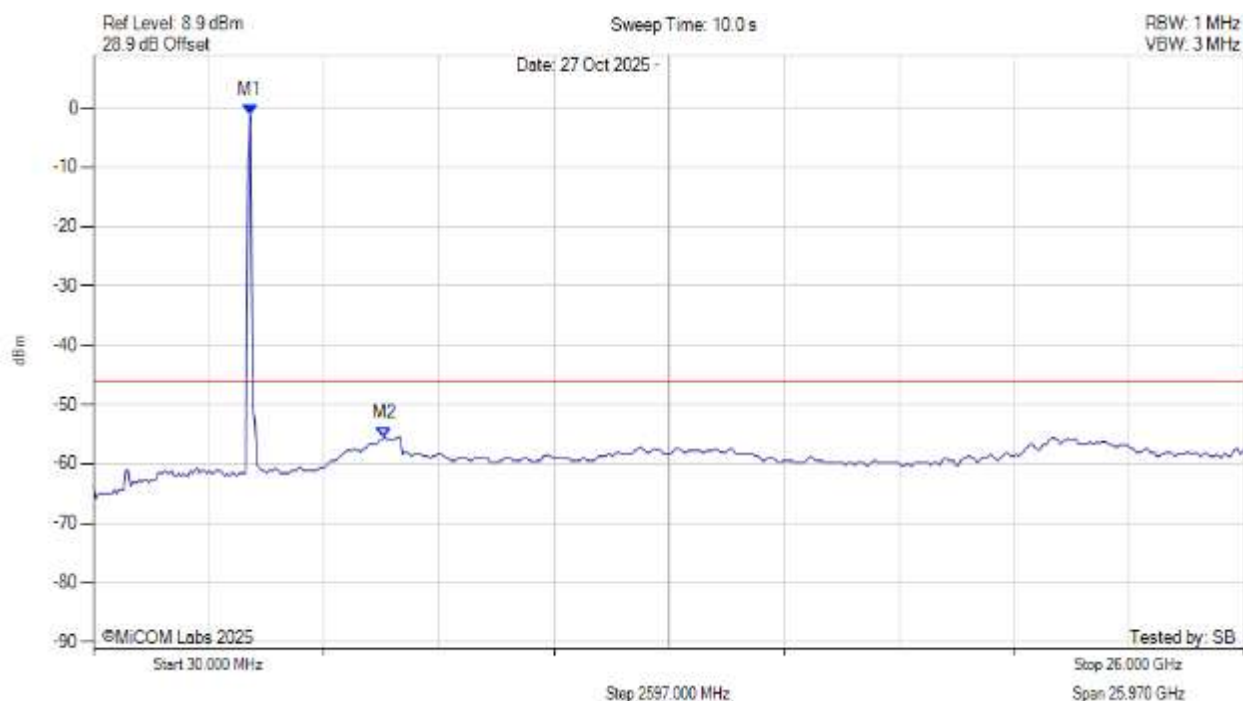
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3570.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3568.998 MHz : -1.192 dBm M2 : 6587.555 MHz : -55.539 dBm	Limit: -46 dBm

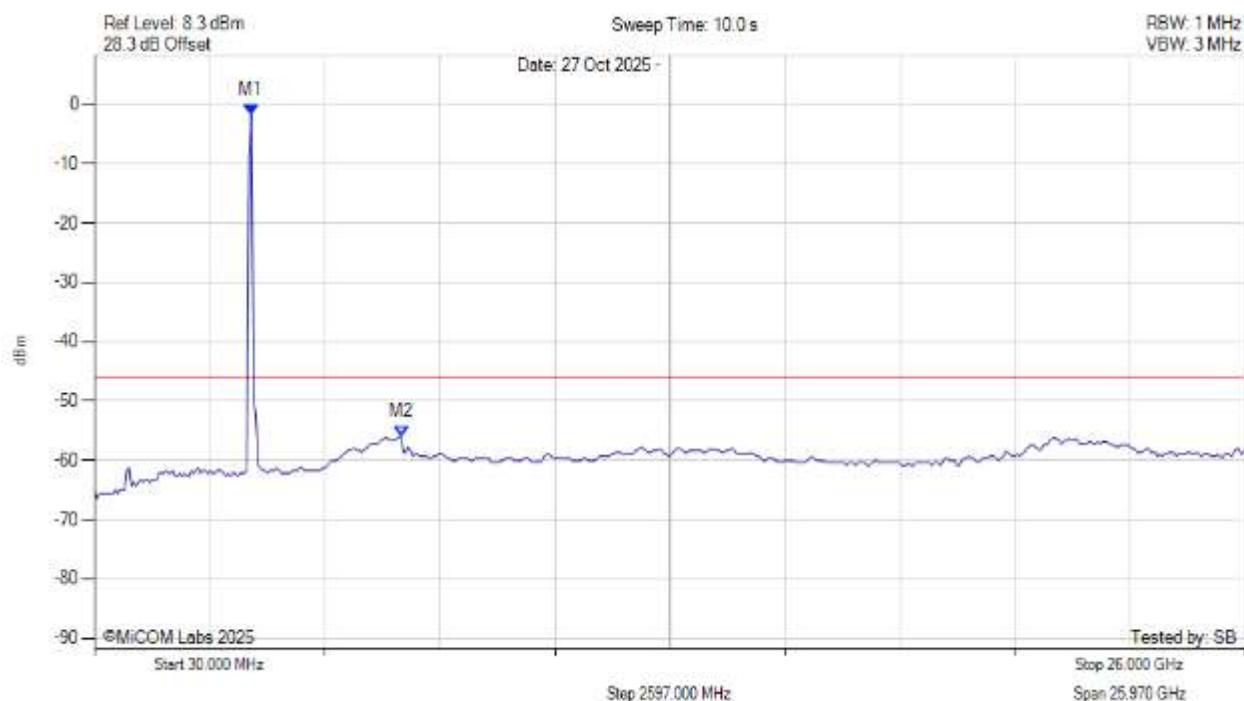
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3570.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3568.998 MHz : -1.676 dBm M2 : 6951.864 MHz : -55.901 dBm	Limit: -46 dBm

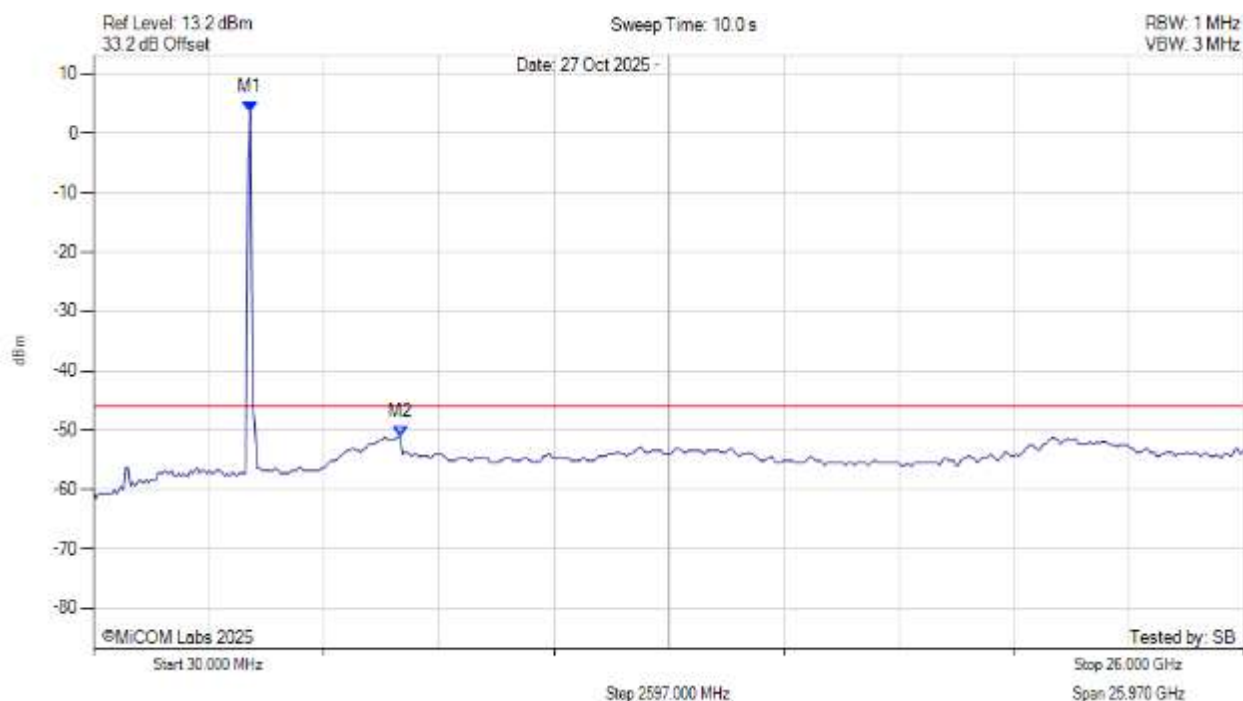
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3570.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3568.998 MHz : 3.667 dBm M2 : 6951.864 MHz : -51.001 dBm	Limit: -46 dBm

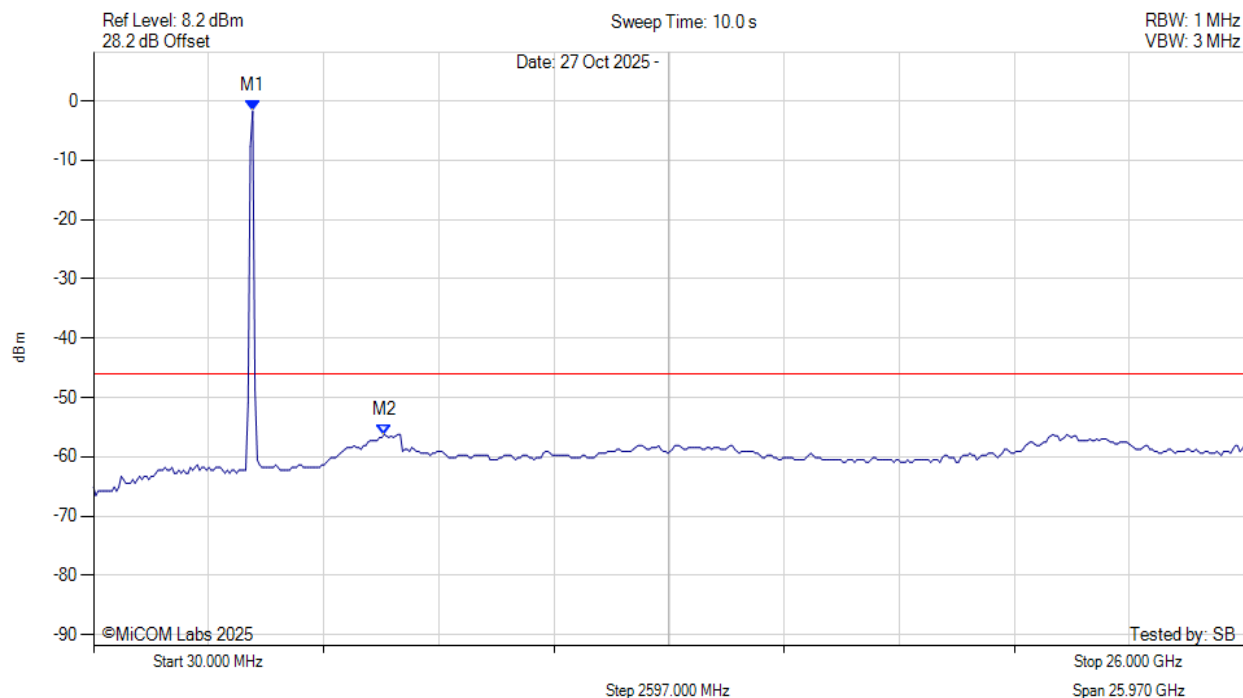
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3620.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -1.688 dBm M2 : 6587.555 MHz : -56.239 dBm	Limit: -46 dBm

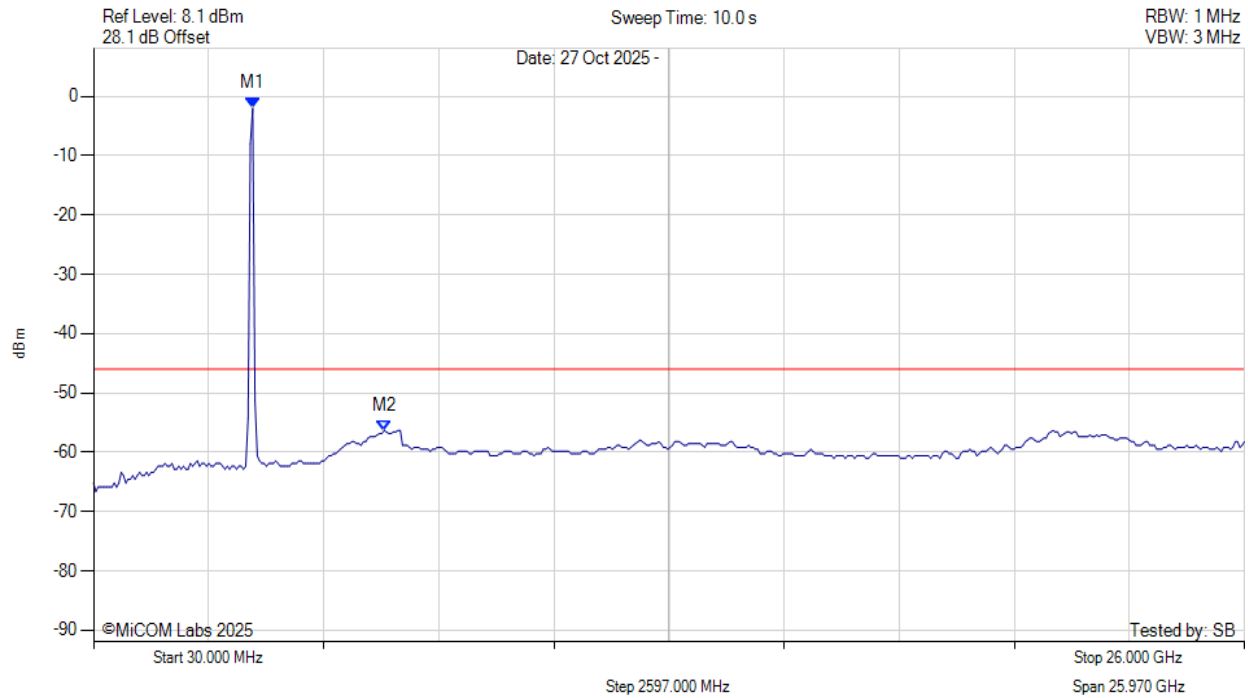
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3620.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -1.995 dBm M2 : 6587.555 MHz : -56.339 dBm	Limit: -46 dBm

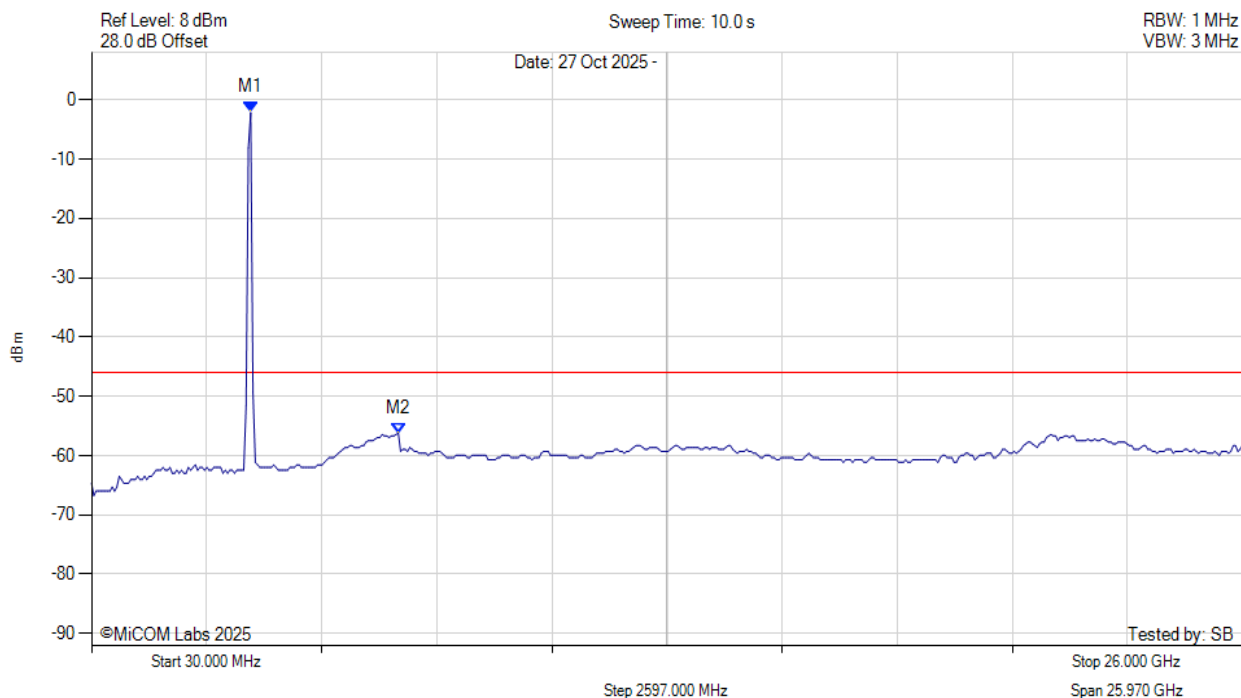
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3620.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : -2.147 dBm M2 : 6951.864 MHz : -56.201 dBm	Limit: -46 dBm

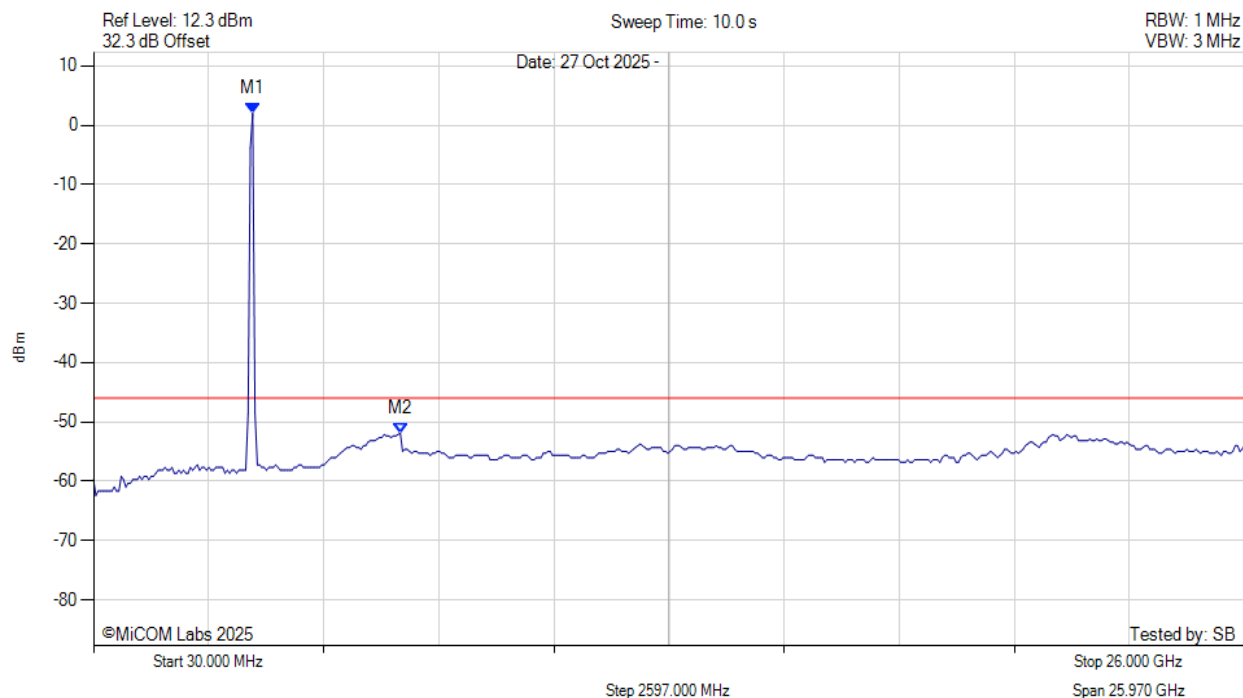
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3620.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3621.042 MHz : 2.059 dBm M2 : 6951.864 MHz : -51.901 dBm	Limit: -46 dBm

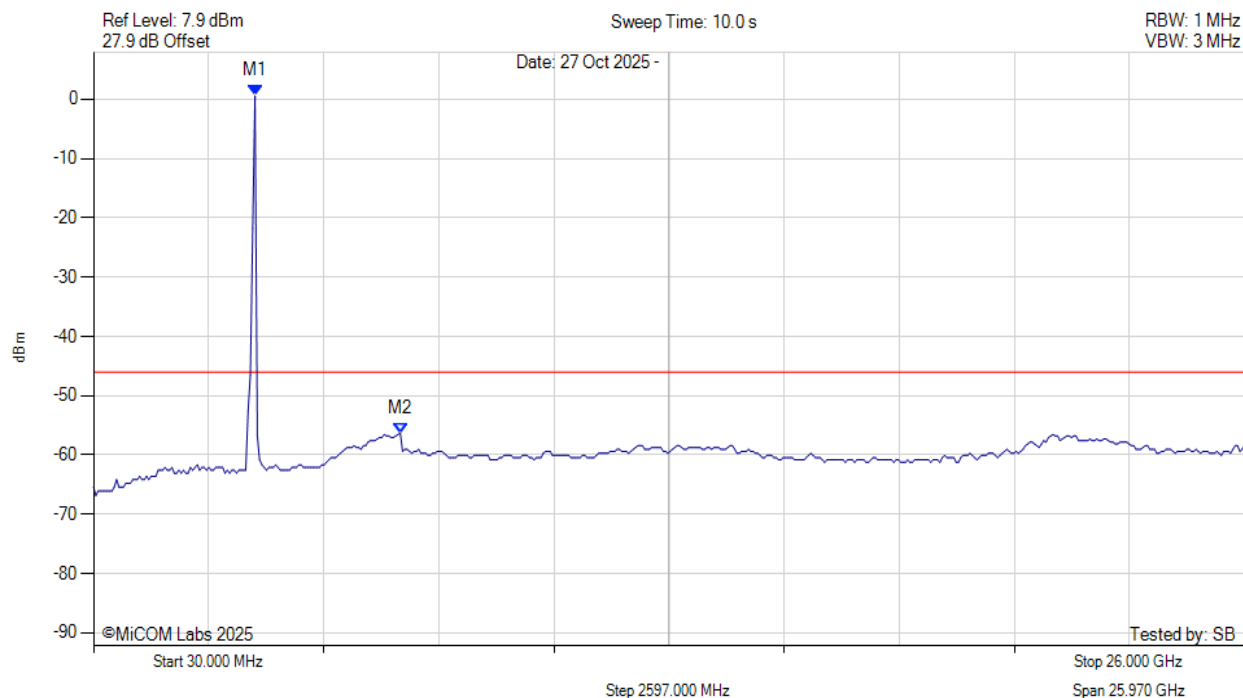
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3680.00 MHz, Chain a, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : 0.542 dBm M2 : 6951.864 MHz : -56.301 dBm	Limit: -46 dBm

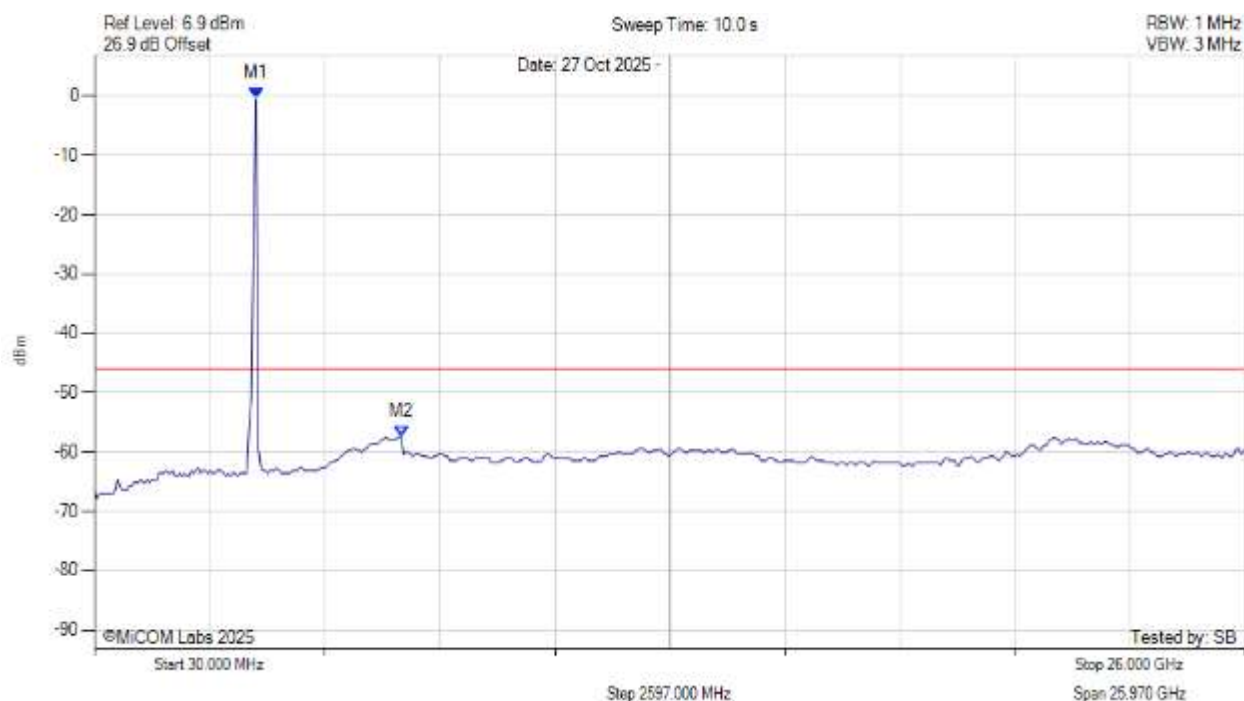
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3680.00 MHz, Chain b, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -0.452 dBm M2 : 6951.864 MHz : -57.301 dBm	Limit: -46 dBm

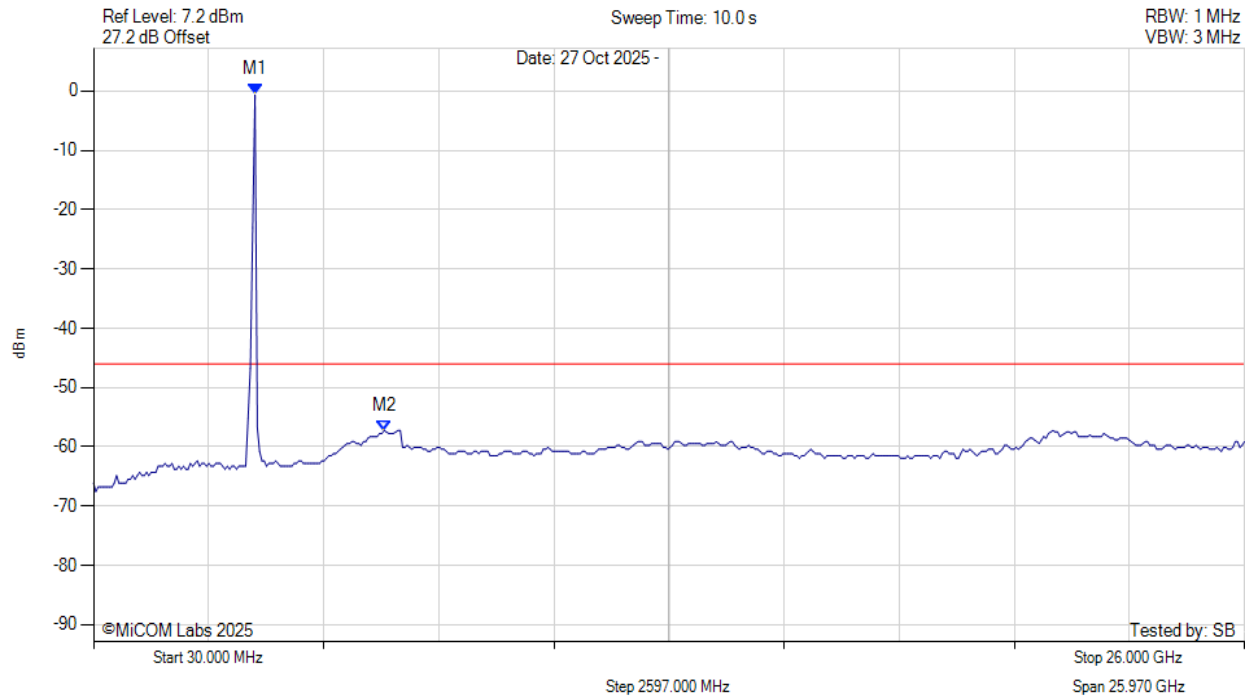
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3680.00 MHz, Chain c, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : -0.644 dBm M2 : 6587.555 MHz : -57.239 dBm	Limit: -46 dBm

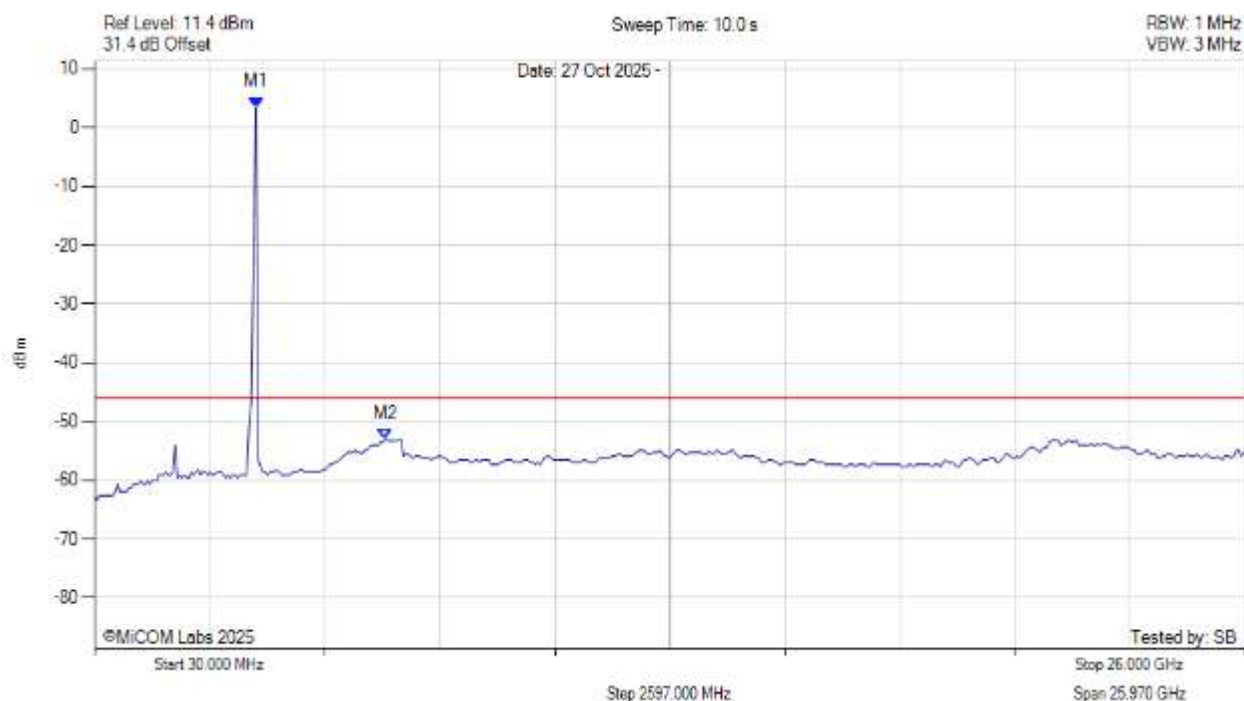
*Note Marker 1 represents the fundamental frequency emissions.

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE



Variant: 040MHz, Channel: 3680.00 MHz, Chain d, Temp: 20, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 3673.086 MHz : 3.453 dBm M2 : 6587.555 MHz : -53.039 dBm	Limit: -46 dBm

*Note Marker 1 represents the fundamental frequency emissions.

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B. APPENDIX – DECLARATION OF SIMILARITY (DoS)



Declaration of Similarity

Company name: Globalstar, Inc.
Address: 9450 Carroll Park Drive, San Diego, CA 92121, USA

Product Name: XRRU
FCC ID(s): 2BOSVXCOMRU30N48I
Model(s): XCOMRU30N48I

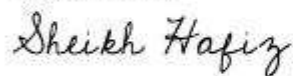
Product Name: XRRU
FCC ID(s): 2BOSVXCOMRU30N48O
Model(s): XCOMRU30N48O

We, Globalstar, Inc., hereby declare that the product model numbers XCOMRU30N48I and XCOMRU30N48O are electrically identical with the same RF power, electromagnetic emissions and electromagnetic compatibility characteristics.

A description of the differences between the tested models is as follows:

1. XCOMRU30N48I is configured for indoor deployments with IP20 compliance for environments like office buildings, warehouses, and covered facilities where there is no risk of water exposure.
2. XCOMRU30N48O is configured for both indoor and outdoor deployments with IP68 compliance for environments like industrial, mining, and seaport areas where both dust and water immersion have higher risks.
3. XCOMRU30N48O has a slightly larger enclosure shell with environmentally proofed electrical, fiber and antenna connectors however all the components and capabilities on the RF circuit boards are identical to those on XCOMRU30N48I.

Yours sincerely,



Name: Sheikh Hafiz

Date: 02/05/2026

Title: Project Manager
Company name: Globalstar, Inc.



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