

Test of Ubiquiti Networks AF-11FX

To: FCC 47 CFR Part 101, Part 15B

Test Report Serial No.: UBIQ01-U2 Rev A



TEST REPORT

FROM



Test of: Ubiquiti Networks AF-11FX

To: FCC 47 CFR Part 101, Part 15B

Test Report Serial No.: UBIQ01-U2 Rev A

This report supersedes: NONE

Applicant: Ubiquiti Networks
1250 S. Grove Ave. Ste. 100
Barrington, Illinois 60010
USA

Product Function: Microwave Fixed Link

Copy No: pdf Issue Date: 17th August 2016

This Test Report is Issued Under the Authority of;

MiCOM Labs, Inc.

575 Boulder Court,
Pleasanton, CA 94566 USA
Phone: +1 (925) 462-0304
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TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory



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MiCOM Labs, 575 Boulder Court, Pleasanton, CA 94566 USA, Phone: 925.462.0304, Fax: 925.462.0306, www.micomlabs.com



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ACCREDITATION, LISTINGS & RECOGNITION

ACCREDITATION - TESTING

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025. 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>



Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 4th day of February 2016.



Senior Director of Quality & Communications
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2017

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.



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RECOGNITION

MiCOM Labs, Inc has widely recognized Electrical testing capabilities. Our international recognition includes Conformity Assessment Body designation by APEC MRA** countries. Our test reports are widely accepted for global type approvals.

Country	Recognition Body	Status	Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Listing #: 102167
Canada	Industry Canada (IC)	FCB	APEC MRA 2	US0159 Listing #: 4143A-2 4143A-3
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	APEC MRA 2	RCB 210
	VCCI	--	--	A-0012
Europe	European Commission	NB	EU MRA	NB 2280
Australia	Australian Communications and Media Authority (ACMA)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)	CAB	APEC MRA 1	
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)	CAB	APEC MRA 1	
Singapore	Infocomm Development Authority (IDA)	CAB	APEC MRA 1	
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)	CAB	APEC MRA 1	
Vietnam	Ministry of Communication (MIC)	CAB	APEC MRA 1	

**APEC MRA – Asia Pacific Economic Community Mutual Recognition Agreement.

Is a recognition agreement under which test lab is accredited to regulatory standards of the APEC member countries.

Phase I - recognition for product testing

Phase II – recognition for both product testing and certification

N/A – Not Applicable

**EU MRA – European Union Mutual Recognition Agreement.

Is a recognition agreement under which test lab is accredited to regulatory standards of the EU member countries.

**NB – Notified Body

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PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065. 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)

TCB Identifier – US0159

Industry Canada – Certification Body

CAB Identifier – US0159

Europe – Notified Body

Notified Body Identifier - 2280

Japan – Recognized Certification Body (RCB)

RCB Identifier - 210

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DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	5 th July 2016	
Rev A	17 th August 2016	Initial Release

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1. TEST RESULT SUMMARY

Applicant: Ubiquiti Networks 1250 S. Grove Ave. Ste. 100 Barrington, Illinois 60010 USA	Tested by: MiCOM Labs, Inc. 575 Boulder Court Pleasanton California, 94566 USA
EUT: Microwave Fixed Link	Tel: +1 925 462 0304
Model: AF-11FX	Fax: +1 925 462 0306
S/N: UBIQ01-01, UBIQ01-02	
Test Date(s): 20th to 24th June 2016	Website: www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC 47 CFR Part 101	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.

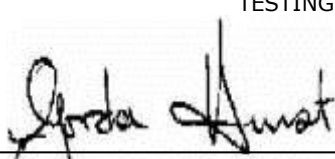
Approved & Released for MiCOM Labs, Inc. by:



TESTING CERT #2381.01



Graeme Grieve
Quality Manager MiCOM Labs,



Gordon Hurst
President & CEO MiCOM Labs, Inc.

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2. REFERENCES AND MEASUREMENT UNCERTAINTY

2.1. Normative References

Ref.	Publication	Year	Title
(i)	FCC 47 CFR 101	2016	Code of Federal Regulations
(ii)	ANSI C63.4	2014	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
(iii)	CISPR 22/ EN 55022	2008 2006+A1:20 07	Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment
(iv)	M 3003	Edition 3 Nov. 2012	Expression of Uncertainty and Confidence in Measurements
(v)	LAB34	Edition 1 Aug 2002	The expression of uncertainty in EMC Testing
(vi)	ETSI TR 100 028	2001	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
(vii)	A2LA	June 2015	Reference to A2LA Accreditation Status – A2LA Advertising Policy

2.2. Test and Uncertainty Procedures

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.



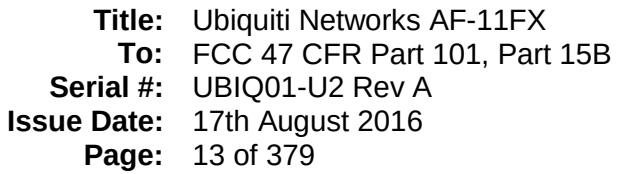
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3. PRODUCT DETAILS AND TEST CONFIGURATIONS

3.1. Technical Details

Details	Description
Purpose:	Test of the Ubiquiti Networks AF-11FX in the frequency range 10.7 – 11.7 GHz to FCC Part 101 regulations.
Applicant:	Ubiquiti Networks 1250 S. Grove Ave. Ste. 100 Barrington, Illinois 60010 USA
Manufacturer:	As Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court, Pleasanton, 94566 California USA
Test report reference number:	UBIQ01-U2 Rev A
Date EUT received:	20 th June 2016
Standard(s) applied:	FCC 47 CFR Part 101
Dates of test (from - to):	20th to 24th June 2016
No of Units Tested:	Two
Type of Equipment:	Microwave Fixed Link
Model(s):	AF-11FX
Location for use:	Outdoor only
Declared Frequency Range(s):	10.7 – 11.7 GHz
Hardware Rev	Final
Software Rev	AF09.v3.5-dev.29294, AF09.v3.5-dev.29320
EUT Modes of Operation:	3.75, 5, 10, 30, 40, 80 MHz Channel Spacing
Type of Modulation:	QPSK, 16 QAM, 64 QAM, 128 QAM, 256 QAM, 1024QAM
Transmit/Receive Operation:	Full Duplex
System Beam Forming:	Antenna beam forming is not implemented in this device
Rated Input Voltage and Current:	Nominal: 50 Vdc, 0.8 A Maximum 60.0 Vdc Minimum 35.0 Vdc
Operating Temperature Range:	Declared range -40 to +55°C
Equipment Dimensions:	13.0" x 5.0" x 3.0"
Weight:	51.0 lbs
Primary function of equipment:	Microwave Fixed Link
ITU Emission Designator:	QPSK: 3M72GXX 4M45GXX 9M98GXX 28M8GXX 39M9GXX 74M2GXX 79M6GXX

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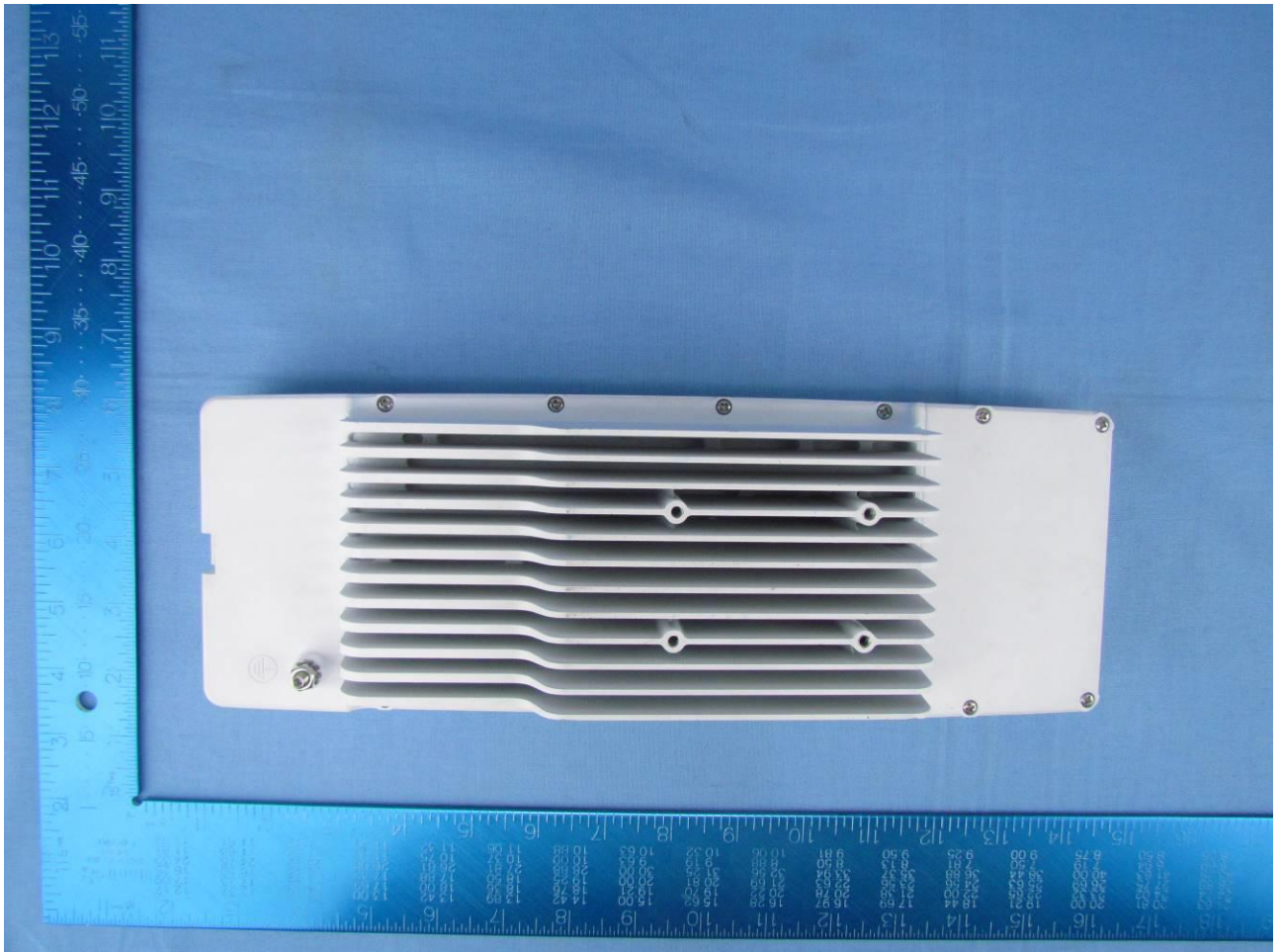
3.2. Scope of Test Program

Ubiquiti Networks AF-11FX RF Testing

The scope of the test program was to test the Ubiquiti Networks AF-11FX, in the frequency range 10.7 – 11.7 GHz for compliance against FCC 47 CFR Part 101 specification.

FCC CFR 47 Part 101 10.7 – 11.7 GHz Fixed Microwave Services

Ubiquiti Networks AF-11FX



Bottom View

Ubiquiti Networks AF-11FX



Top View



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

Type (EUT/ Support)	Equipment Description (Including Brand Name)	Manufacture	Model No.	Serial No.
EUT	Microwave Fixed Link	Ubiquiti Network	AF-11FX	UBIQ01-01, UBIQ01-02
Support	Laptop PC	IBM	Unknown	None

3.4. Cabling and I/O Ports

Number and type of I/O ports

Port Type	Max Cable Length	# Of Ports	Screened	Conn Type	Data Type
Ethernet	100m	2	Y	RJ-45	Packet

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3.5. Antenna Details

Type	Manufacturer	Model Number	Azimuth/Elevation	Frequency (GHz)	Antenna Gain (dBi)
Parabolic	Ubiquiti	AF-11G35	2.5	10.7-11.7	35 dBi
Parabolic	Jirous	JRMA-380-10/11	6.0/6.0	10.7	28 dBi
			5.2/5.2	11.7	29 dBi
Parabolic	Jirous	JRMA-650-10/11	3.4/3.4	10.7	34,1 dBi
			2.9/2.9	11.7	35.5 dBi
Parabolic	Jirous	JRM-680-10/11	3.0 ± 0.5	10.7	34.1 ± 0.6 dBi
				11.7	36.0 ± 0.6 dBi
Parabolic	Jirous	JRM-900-10/11	2.3 ± 0.5	10.7	37.0 dBi
				11.7	37.5 dBi
Parabolic	Jirous	JRMA-1200-10/11	1.5 ± 0.5	10.7	40.0 ± 0.5 dBi
				11.7	41.0 ± 0.5 dBi
Parabolic	Radiowaves	HPC2-11FX	3.3 / 3.3	10.7-11.7	34.5 dBi
Parabolic	Radiowaves	HPC3-11FX	2.1 / 2.1	10.7-11.7	37.9 dBi
Parabolic	Radiowaves	HPC4-11FX	1.5 / 1.5	10.7-11.7	40.4 dBi
Parabolic	Radiowaves	HP6-11FX	1.1 / 1.1	10.7 – 11.7	43.8 dBi
Parabolic	Radiowaves	HP-2	3.4 / 3.4	10.7-11.7	34.4 dBi
Parabolic	Radiowaves	HP-3	2.6 / 2.6	10.7-11.7	37.1 dBi
Parabolic	Radiowaves	HP-4	1.7/ 1.7	10.7-11.7	40.4 dBi
Parabolic	Radiowaves	HP-6	1.1 / 1.1	10.7-11.7	43.8 dBi



3.6. Test Configurations

Matrix of test configurations

Operational Mode(s) (MHz)	Variant	Test Frequencies (MHz)
3.75	QPSK + 1024 QAM	11133.125 11643.125 11698.125
5.00		11132.500 11622.500 11697.500
10.00		10705.000 11205.000 11695.000
30.00		10715.000 11215.000 11685.000
40.00		10735.000 11225.000 11665.000
50.00		10755.000 11215.000 11645.000
56.00		10755.000 11215.000 11645.000

3.7. Equipment Modifications

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

1. NONE

3.8. Deviations from the Test Standard

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

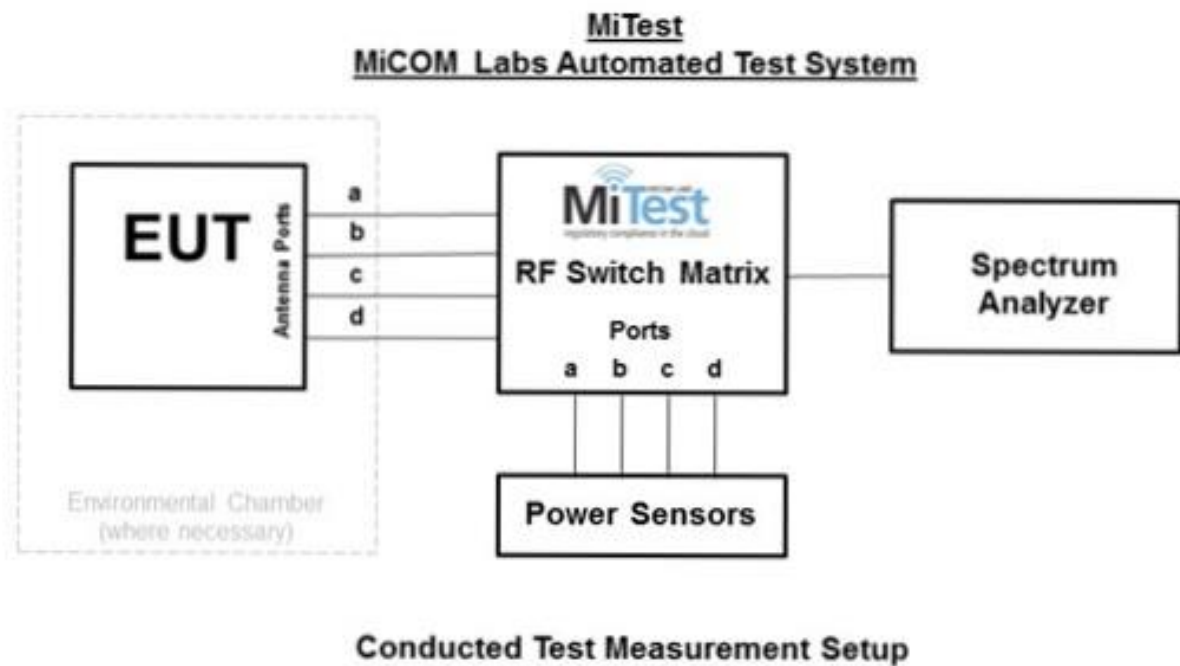
1. NONE

4. TESTING EQUIPMENT CONFIGURATION(S)

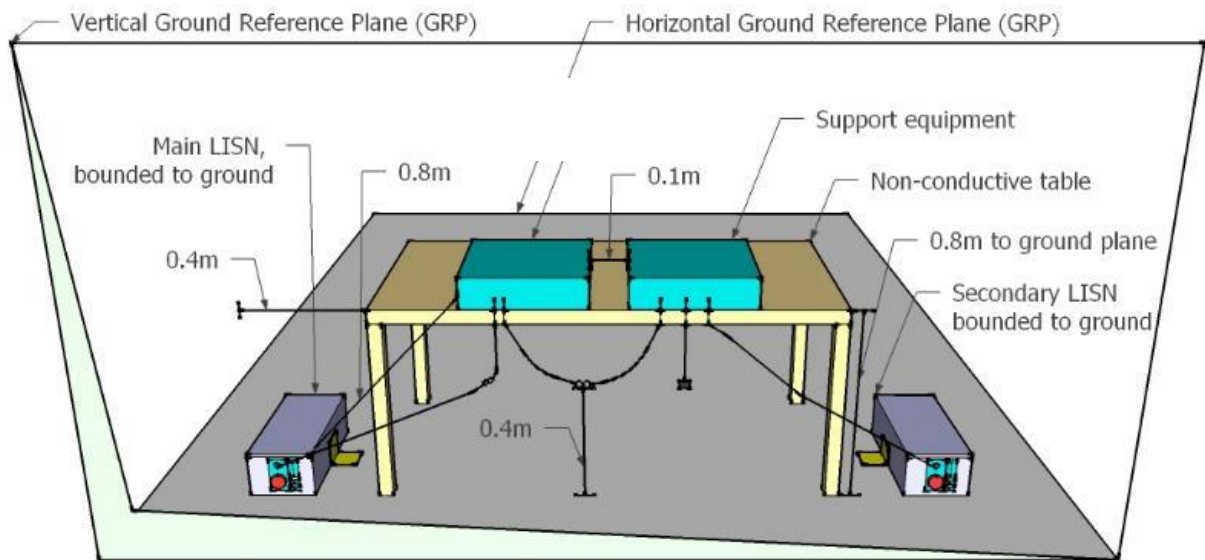
4.1. Conducted RF Emission Test Set-up

The following tests were performed using the conducted test set-up shown in the diagram below.

1. Section 6.1.1.1 Bandwidth
2. Section 6.1.1.2 Frequency Tolerance
3. Section 6.1.13. Output Power
4. Section 6.1.1.4.2 Conducted Band-Edge Spurious Emissions



4.2. AC Mains Power Emissions



Test Setup – Power Input / Output Port

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
127	Power Supply	HP	6674A	US36370530	Cal when used
158	Barometer/Thermometer	Control Company	4196	E2846	01 Dec 2016
248	Resistance Thermometer	Thermotronics	GR2105-02	9340 #1	21 Oct 2016
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
376	USB 10MHz - 18GHz Average Power Sensor	Agilent	U2000A	MY51440005	23 Oct 2016
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	04 Aug 2016
381	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC002	18 Nov 2016
419	Laptop with Labview Software	Lenova	W520	TS02	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
435	USB Wideband Power	Boonton	55006	8730	31 Jul 2016

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	Sensor				
440	USB Wideband Power Sensor	Boonton	55006	9178	25 Sep 2016
441	USB Wideband Power Sensor	Boonton	55006	9179	25 Sep 2016
442	USB Wideband Power Sensor	Boonton	55006	9181	25 Sep 2016
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
460	Dell Computer with installation of MiTest executable.	Dell	Optiplex330	BC944G1	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	13 Aug 2016
74	Environmental Chamber Chamber 3	Tenney	TTC	12808-1	30 Sep 2016
RF#2 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#2 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	18 Nov 2016
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	18 Nov 2016
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	18 Nov 2016
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	18 Nov 2016
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	18 Nov 2016
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

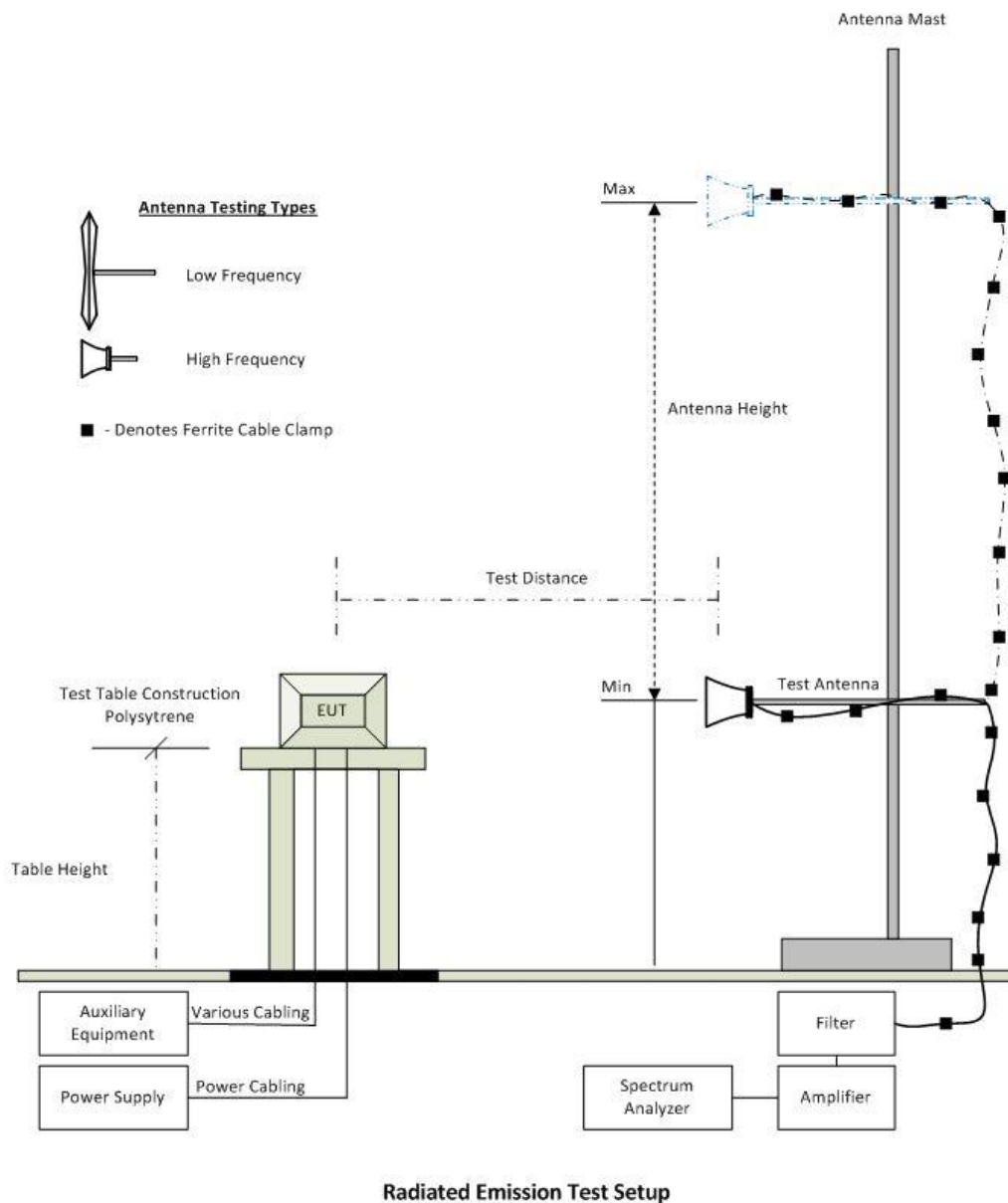
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4.3. Radiated Spurious Emission Test Set-up

The following tests were performed using the test set-up shown in the diagram below.

1. Digital Emissions

Radiated Emission Measurement Setup – Below and Above 1 GHz



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.



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Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	01 Dec 2016
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CY101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	15 Aug 2016
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	15 Aug 2016
341	900MHz Notch Filter	EWT	EWT-14-0199	H1	18 Aug 2016
342	2.4 GHz Notch Filter	EWT	EWT-14-0203	H1	18 Aug 2016
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	18 Aug 2016
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	09 June 2017
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	10 Oct 2016
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	09 June 2017
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
414	DC Power Supply 0-60V	HP	6274	1029A01285	Cal when used
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
447	Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0.73	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	31 May 2017
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	31 May 2017
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	31 May 2017
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	18 Aug 2016
480	Cable - Bulkhead to Amp	SRC Haverhill	157-157-3050360	480	11 Aug 2016
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-151-3050787	481	11 Aug 2016
482	Cable - Amp to Antenna	SRC Haverhill	157-157-3051574	482	11 Aug 2016

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5. TEST SUMMARY

List of Measurements

The following table represents the list of measurements required under the **FCC CFR47 Part 101**

Section(s)	Test Items	Description	Condition	Result	Test Report Section
101.109	Bandwidth	99% Emission bandwidth	Conducted	Complies	6.1.1.1
101.107	Frequency Tolerance	Frequency contained within band of interest	Conducted	Complies	6.1.1.2
101.113	Transmitter Power Limitations	Power Measurement	Conducted	Complies	6.1.1.3
101.113	Emission Limitations	Transmitter Mask & Spurious Emissions	Conducted	Complies	6.1.1.4
Part 15B	Digital Emissions	Digital Emissions	Radiated	Complies Class A	6.1.2
Part 15B	ac Wireline Emissions	Powerline Emissions	Conducted	Complies Class A	6.1.3

* - Device is powered by 50 Vdc

Note 1: Test results reported in this document relate only to the items tested

Note 2: The required tests demonstrated compliance as per client declaration of test configuration, monitoring methodology and associated pass/fail criteria

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6. TEST RESULTS

6.1. Device Characteristics

6.1.1. Conducted Testing

6.1.1.1. Occupied Bandwidth

Conducted Test Conditions for Occupied Bandwidth			
Standard:	FCC CFR 47:Part 101	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Occupied Bandwidth	Rel. Humidity (%):	32 - 45
Standard Section(s):	101.109	Pressure (mBars):	999 - 1001
Reference Document(s):			
Test Procedure for Channel Bandwidth Measurement The 99 % channel bandwidth 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. Limits The channel bandwidth shall be equal to or greater than 1 MHz and shall be reported by the certification applicant. Based on the channel bandwidth, the channel edge shall be used as reference point in the measurement of the transmitter unwanted emission power.			

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Measurement Results for 99 % Operational Bandwidth

Equipment Configuration for 99% Occupied Bandwidth			
Variant:	3.75 MHz	Duty Cycle (%):	100
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
11133.125	3.72	--	--	--				
11643.125	3.58	--	--	--				
11698.125	3.61	--	--	--				

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

Equipment Configuration for 99% Occupied Bandwidth			
Variant:	3.75 MHz	Duty Cycle (%):	100
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
11133.125	3.63	--	--	--				
11643.125	3.45	--	--	--				
11698.125	3.58	--	--	--				

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

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Title: Ubiquiti Networks AF-11FX
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Equipment Configuration for 99% Occupied Bandwidth

Variant:	5.00 MHz	Duty Cycle (%):	100
Data Rate:	6.08 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
11132.5	4.45	--	--	--				
11622.5	4.45	--	--	--				
11697.5	4.45	--	--	--				

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for 99% Occupied Bandwidth

Variant:	5.00 MHz	Duty Cycle (%):	100
Data Rate:	6.08 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
11132.5	4.48	--	--	--				
11622.5	4.45	--	--	--				
11697.5	4.48	--	--	--				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for 99% Occupied Bandwidth

Variant:	10.00 MHz	Duty Cycle (%):	100
Data Rate:	12.80 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10705	9.68	--	--	--				
11205	9.98	--	--	--				
11695	9.50	--	--	--				

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for 99% Occupied Bandwidth

Variant:	10.00 MHz	Duty Cycle (%):	100
Data Rate:	12.80 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10705	9.56	--	--	--				
11205	9.86	--	--	--				
11695	9.50	--	--	--				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for 99% Occupied Bandwidth			
Variant:	30.00 MHz	Duty Cycle (%):	100
Data Rate:	38.08 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10715	29.22	--	--	--				
11215	29.58	--	--	--				
11685	28.86	--	--	--				

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

Equipment Configuration for 99% Occupied Bandwidth			
Variant:	30.00 MHz	Duty Cycle (%):	100
Data Rate:	38.08 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10715	29.03	--	--	--				
11215	29.94	--	--	--				
11685	28.86	--	--	--				

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

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Equipment Configuration for 99% Occupied Bandwidth

Variant:	40.00 MHz	Duty Cycle (%):	100
Data Rate:	49.92 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10735	39.68	--	--	--				
11225	39.68	--	--	--				
11665	39.91	--	--	--				

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

Equipment Configuration for 99% Occupied Bandwidth

Variant:	40.00 MHz	Duty Cycle (%):	100
Data Rate:	49.92 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10735	39.67	--	--	--				
11225	39.43	--	--	--				
11665	39.92	--	--	--				

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

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Equipment Configuration for 99% Occupied Bandwidth

Variant:	50.00 MHz	Duty Cycle (%):	100
Data Rate:	61.12 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10755	64.63	--	--	--				
11215	71.54	--	--	--				
11645	74.25	--	--	--				

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for 99% Occupied Bandwidth

Variant:	50.00 MHz	Duty Cycle (%):	100
Data Rate:	61.12 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10755	64.63	--	--	--				
11215	70.04	--	--	--				
11645	72.44	--	--	--				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for 99% Occupied Bandwidth

Variant:	56.00 MHz	Duty Cycle (%):	100
Data Rate:	68.16 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10755	73.41	--	--	--				
11215	79.03	--	--	--				
11645	79.68	--	--	--				

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

Equipment Configuration for 99% Occupied Bandwidth

Variant:	56.00 MHz	Duty Cycle (%):	100
Data Rate:	68.16 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

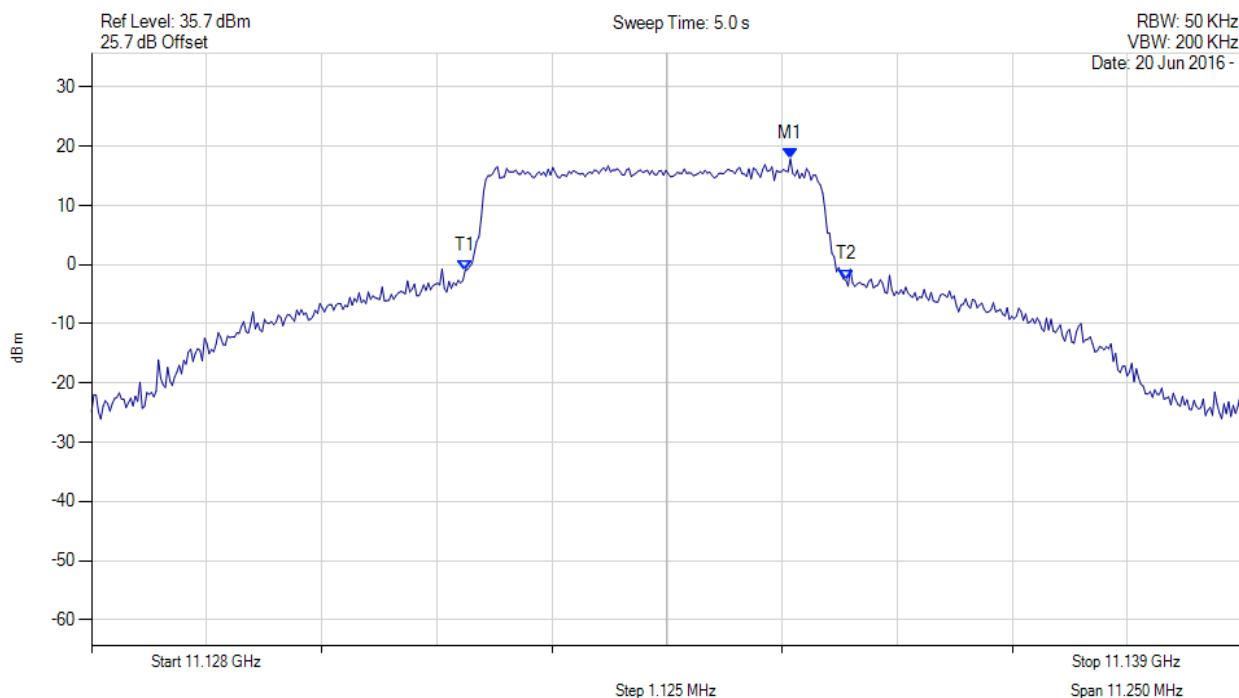
Test Measurement Results								
Test Frequency	Measured 99% Bandwidth (MHz)							
	Port(s)							
MHz	a	b	c	d				
10755	65.47	--	--	--				
11215	79.36	--	--	--				
11645	78.04	--	--	--				

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

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Occupied Bandwidth

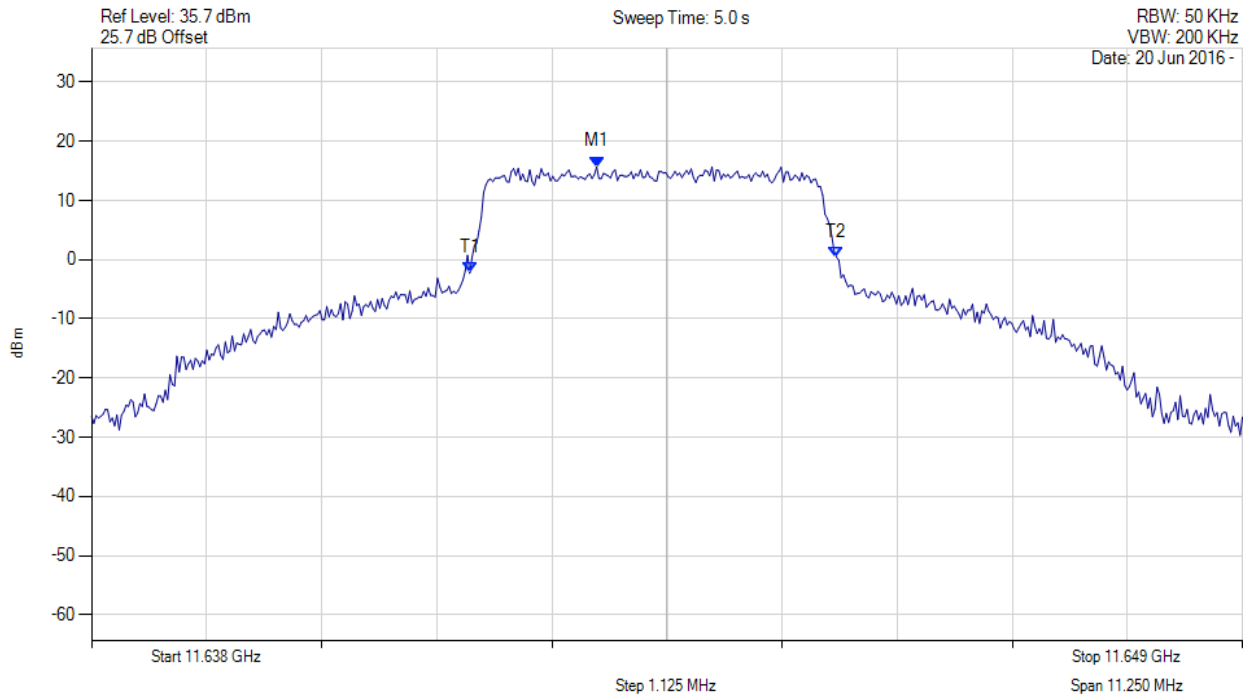
Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.134 GHz : 17.876 dBm T1 : 11.131 GHz : -0.940 dBm T2 : 11.135 GHz : -2.536 dBm OBW : 3.720 MHz	Channel Frequency: 11.13 GHz Limit: 3.75 MHz

Occupied Bandwidth

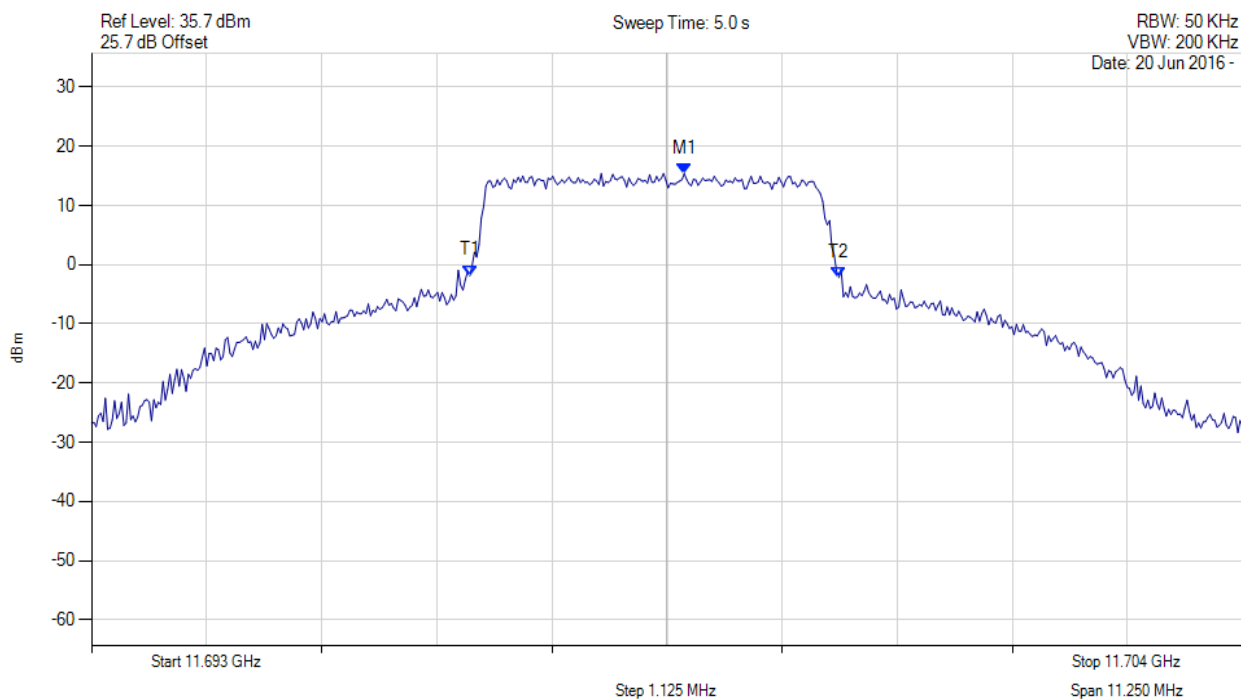
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.642 GHz : 15.686 dBm T1 : 11.641 GHz : -2.254 dBm T2 : 11.645 GHz : 0.455 dBm OBW : 3.585 MHz	Channel Frequency: 11.64 GHz Limit: 3.75 MHz

Occupied Bandwidth

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

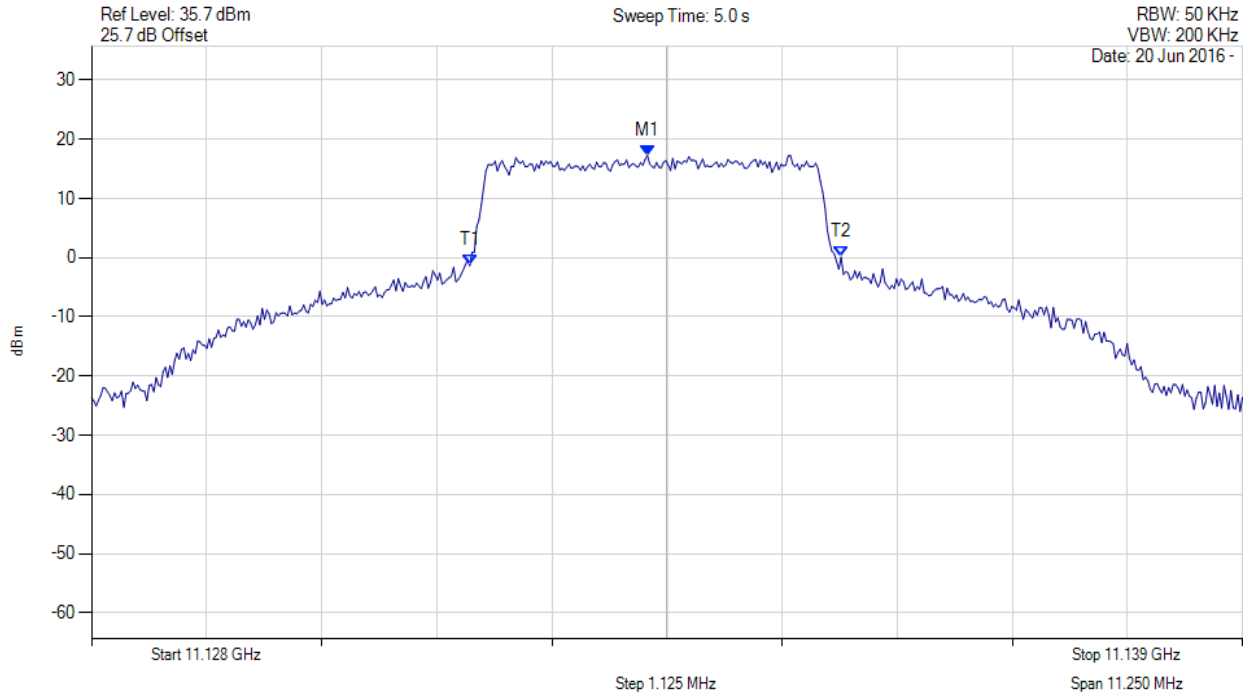


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.698 GHz : 15.383 dBm T1 : 11.696 GHz : -1.837 dBm T2 : 11.700 GHz : -2.091 dBm OBW : 3.607 MHz	Channel Frequency: 11.70 GHz Limit: 3.75 MHz

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Occupied Bandwidth

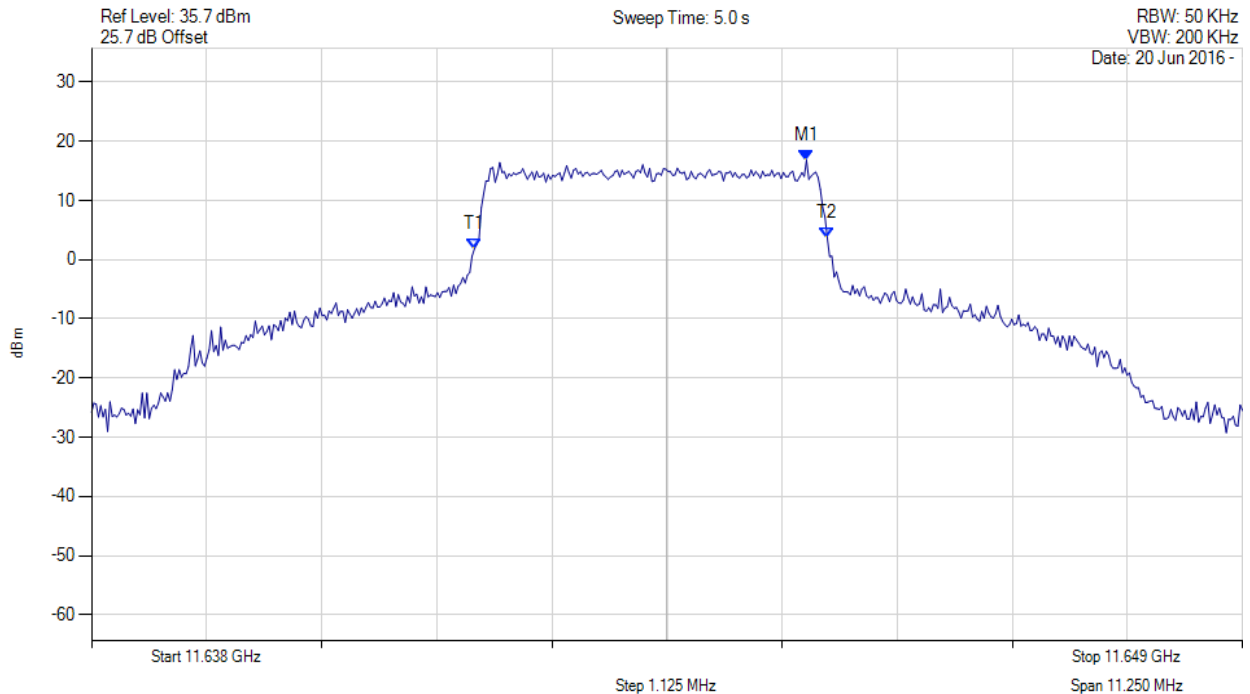
Variant: 3.75MHz 1024QAM, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.133 GHz : 17.284 dBm T1 : 11.131 GHz : -1.343 dBm T2 : 11.135 GHz : 0.101 dBm OBW : 3.630 MHz	Channel Frequency: 11.13 GHz Limit: 3.75 MHz

Occupied Bandwidth

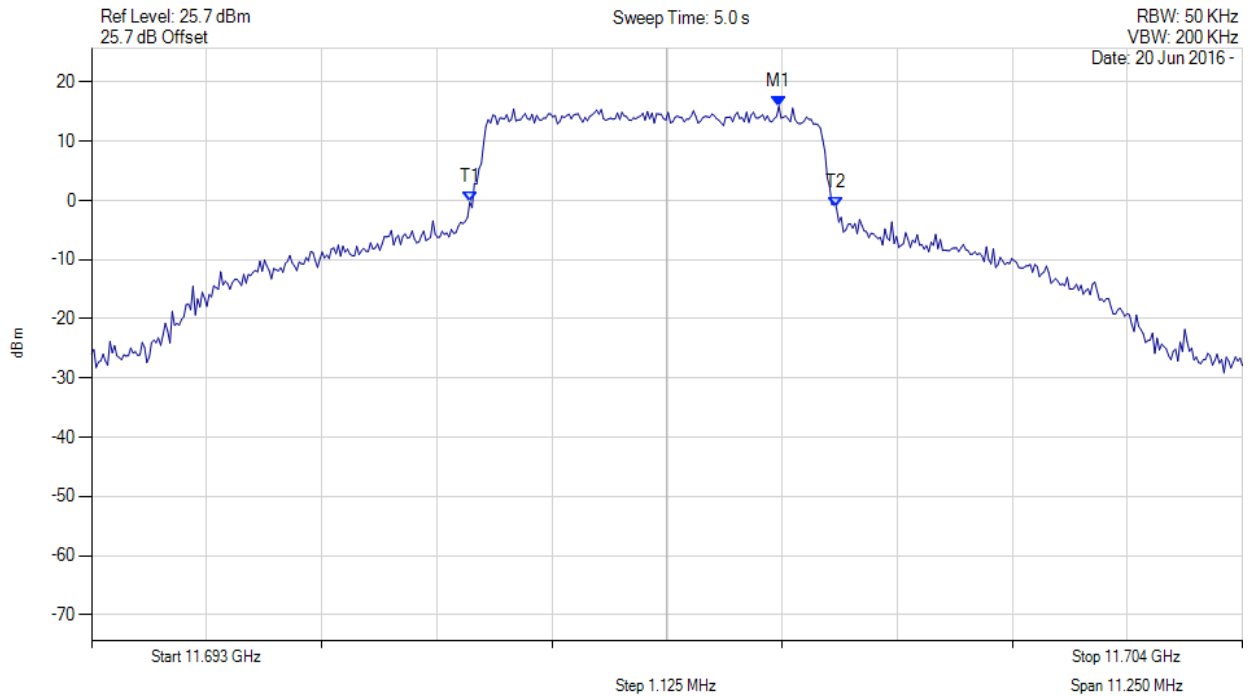
Variant: 3.75MHz 1024QAM, Channel: 11.64 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.644 GHz : 16.804 dBm T1 : 11.641 GHz : 1.816 dBm T2 : 11.645 GHz : 3.630 dBm OBW : 3.449 MHz	Channel Frequency: 11.64 GHz Limit: 3.75 MHz

Occupied Bandwidth

Variant: 3.75MHz 1024QAM, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

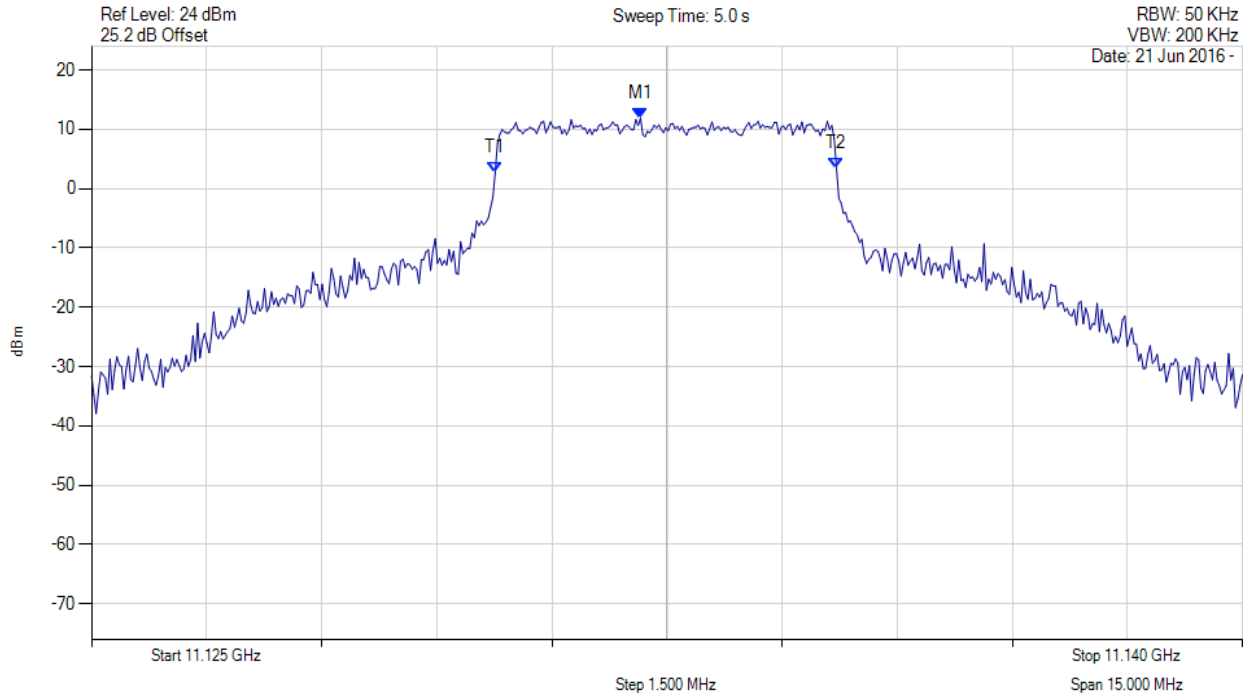


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.699 GHz : 15.899 dBm T1 : 11.696 GHz : -0.257 dBm T2 : 11.700 GHz : -1.294 dBm OBW : 3.585 MHz	Channel Frequency: 11.70 GHz Limit: 3.75 MHz

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Occupied Bandwidth

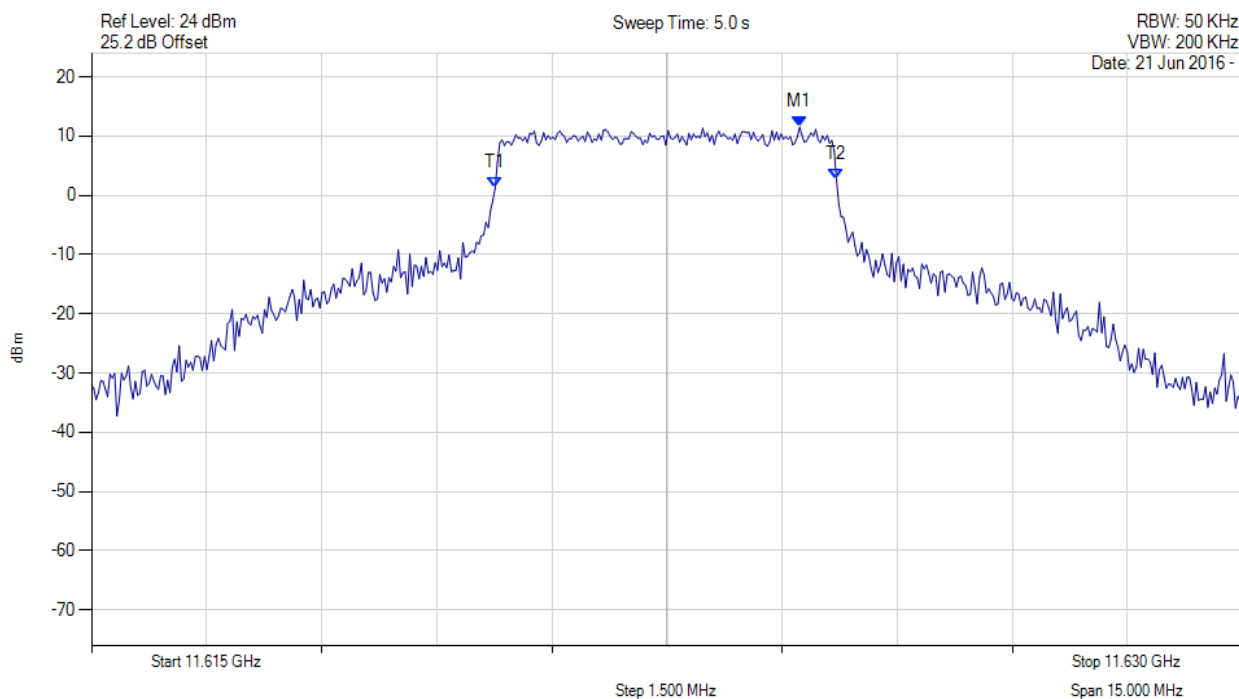
Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.132 GHz : 11.885 dBm T1 : 11.130 GHz : 2.654 dBm T2 : 11.135 GHz : 3.486 dBm OBW : 4.449 MHz	Channel Frequency: 11.13 GHz Limit:5.00 MHz

Occupied Bandwidth

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

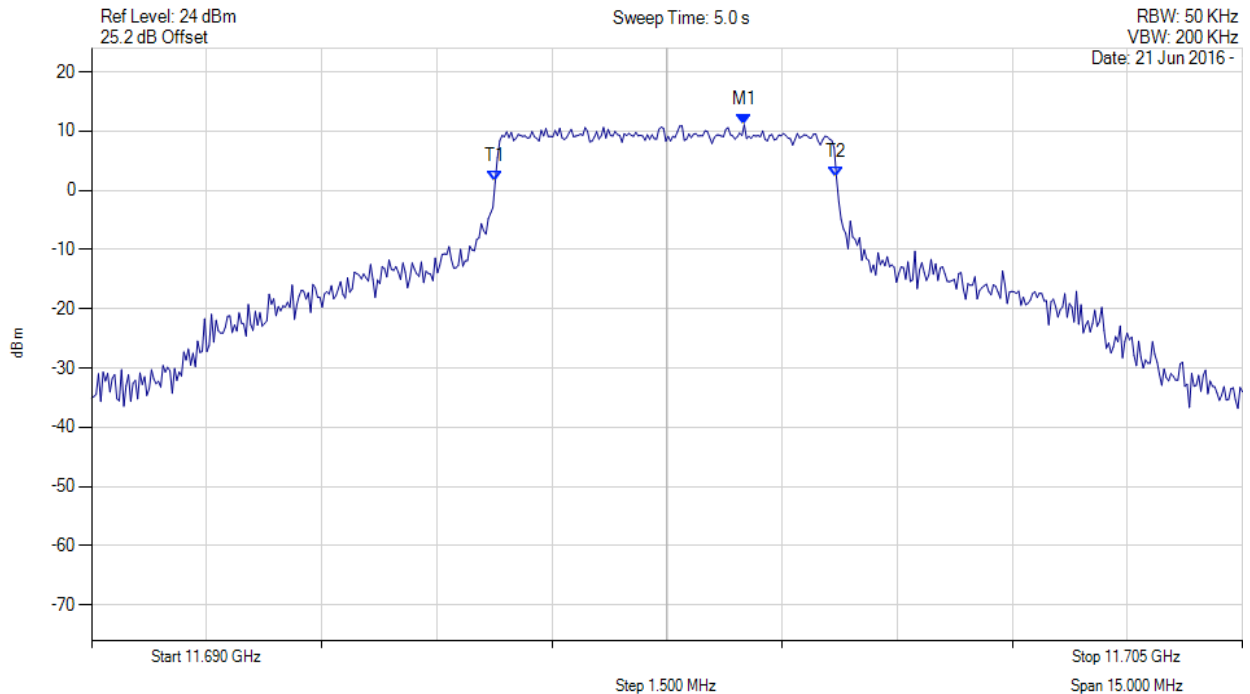


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.624 GHz : 11.517 dBm T1 : 11.620 GHz : 1.208 dBm T2 : 11.625 GHz : 2.603 dBm OBW : 4.449 MHz	Channel Frequency: 11.62 GHz Limit:5.00 MHz

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Occupied Bandwidth

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

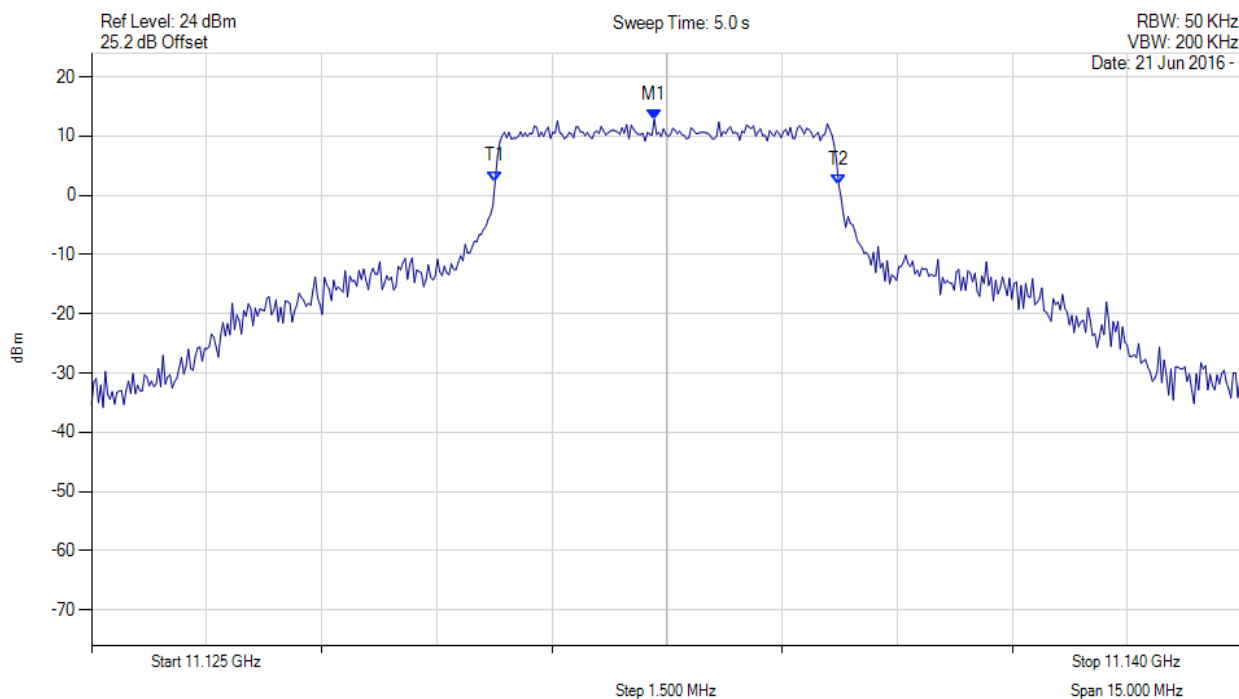


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.699 GHz : 11.092 dBm T1 : 11.695 GHz : 1.460 dBm T2 : 11.700 GHz : 2.143 dBm OBW : 4.449 MHz	Channel Frequency: 11.70 GHz Limit:5.00 MHz

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Occupied Bandwidth

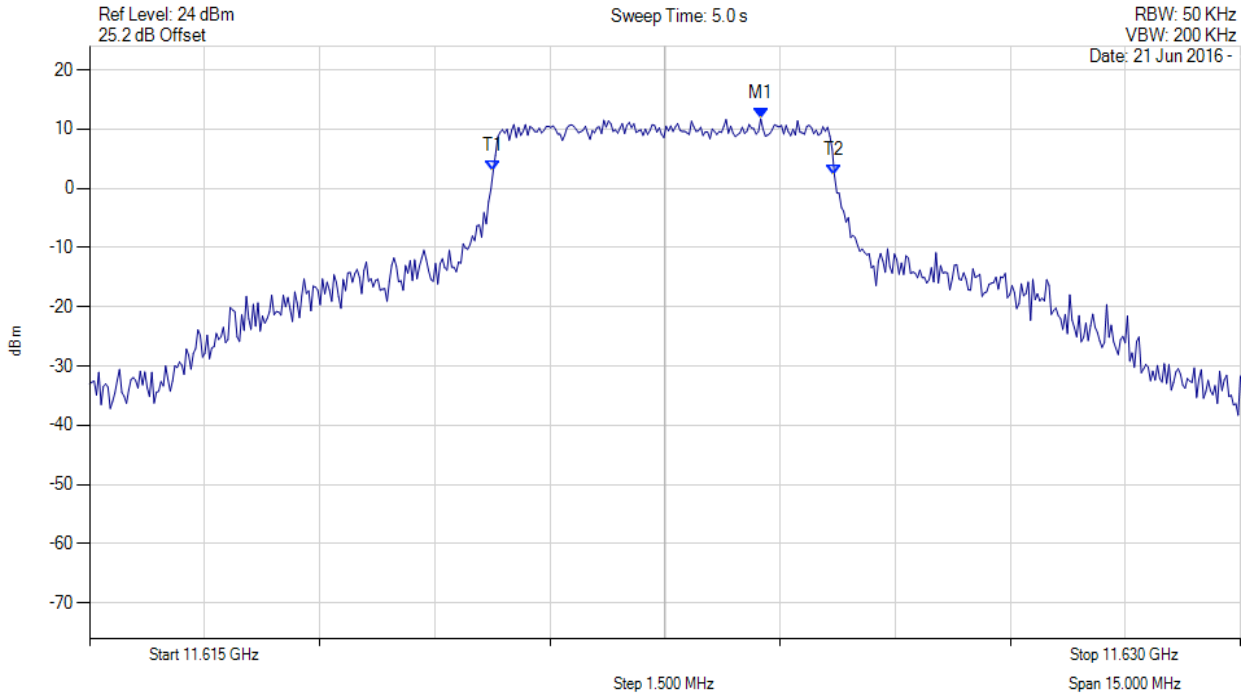
Variant: 5MHz 1024QAM, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.132 GHz : 12.853 dBm T1 : 11.130 GHz : 2.347 dBm T2 : 11.135 GHz : 1.676 dBm OBW : 4.479 MHz	Channel Frequency: 11.13 GHz Limit:5.00 MHz

Occupied Bandwidth

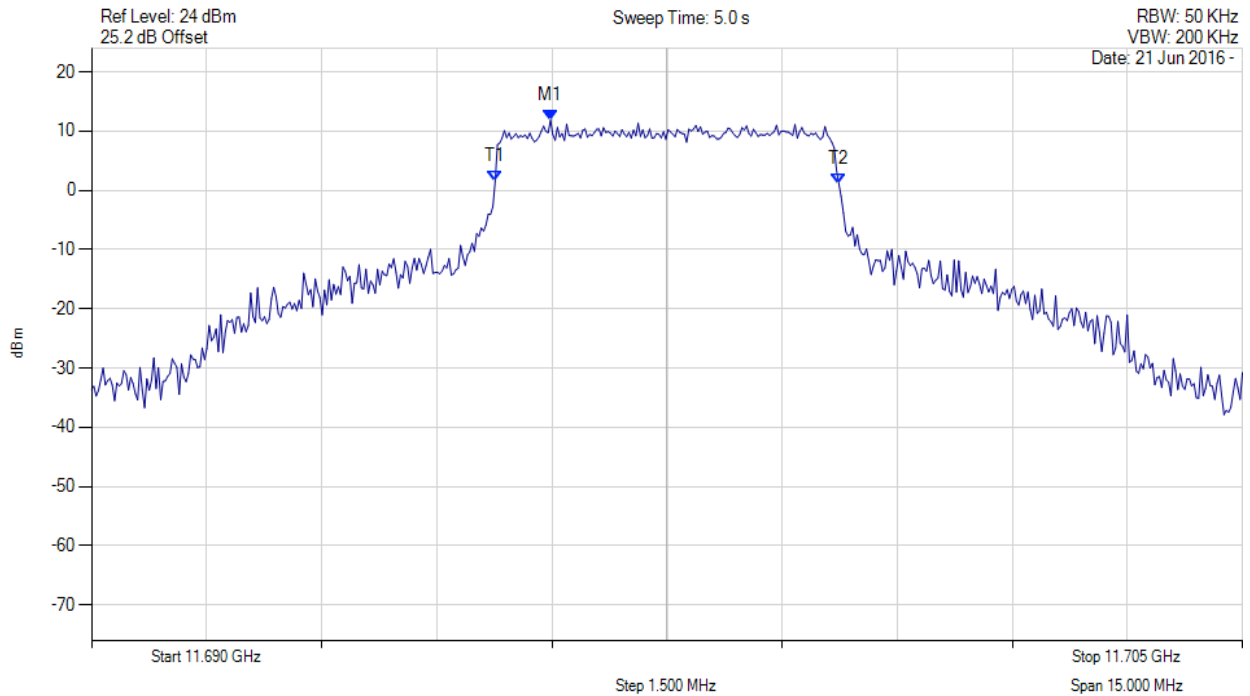
Variant: 5MHz 1024QAM, Channel: 11.62 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.624 GHz : 11.755 dBm T1 : 11.620 GHz : 2.920 dBm T2 : 11.625 GHz : 2.154 dBm OBW : 4.449 MHz	Channel Frequency: 11.62 GHz Limit:5.00 MHz

Occupied Bandwidth

Variant: 5MHz 1024QAM, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



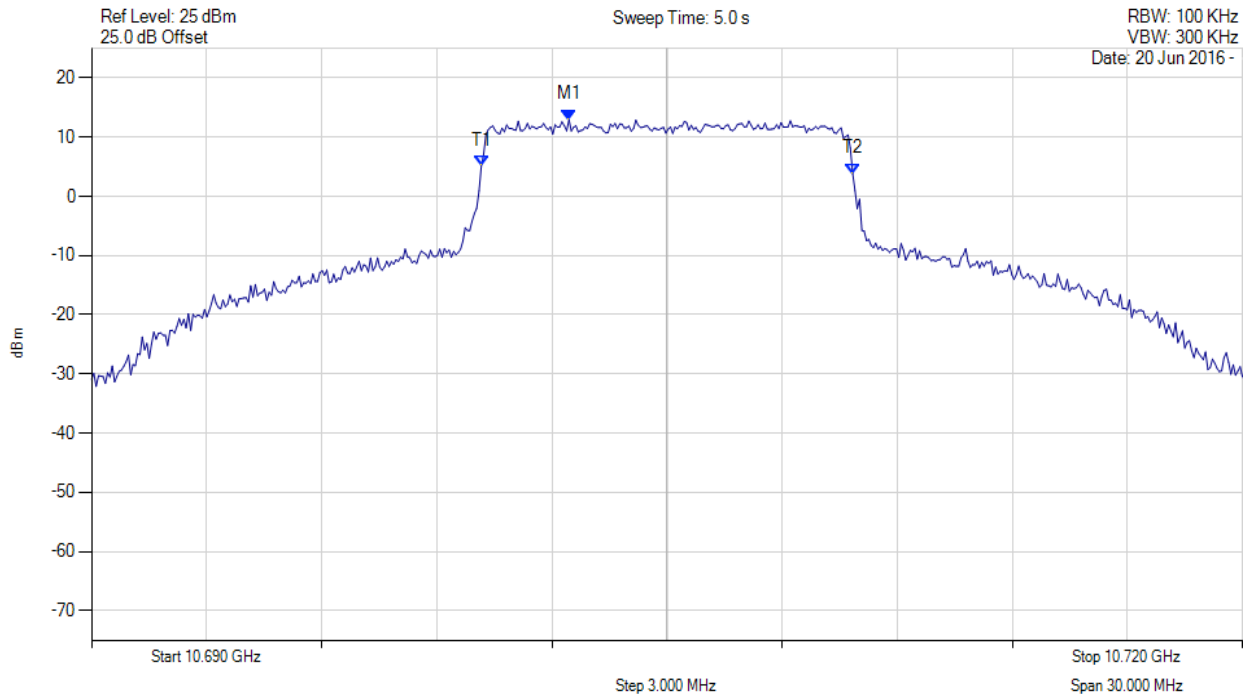
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.696 GHz : 11.861 dBm T1 : 11.695 GHz : 1.560 dBm T2 : 11.700 GHz : 1.124 dBm OBW : 4.479 MHz	Channel Frequency: 11.70 GHz Limit:5.00 MHz

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Occupied Bandwidth

Variant: 10MHz QPSK, Channel: 10.71 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

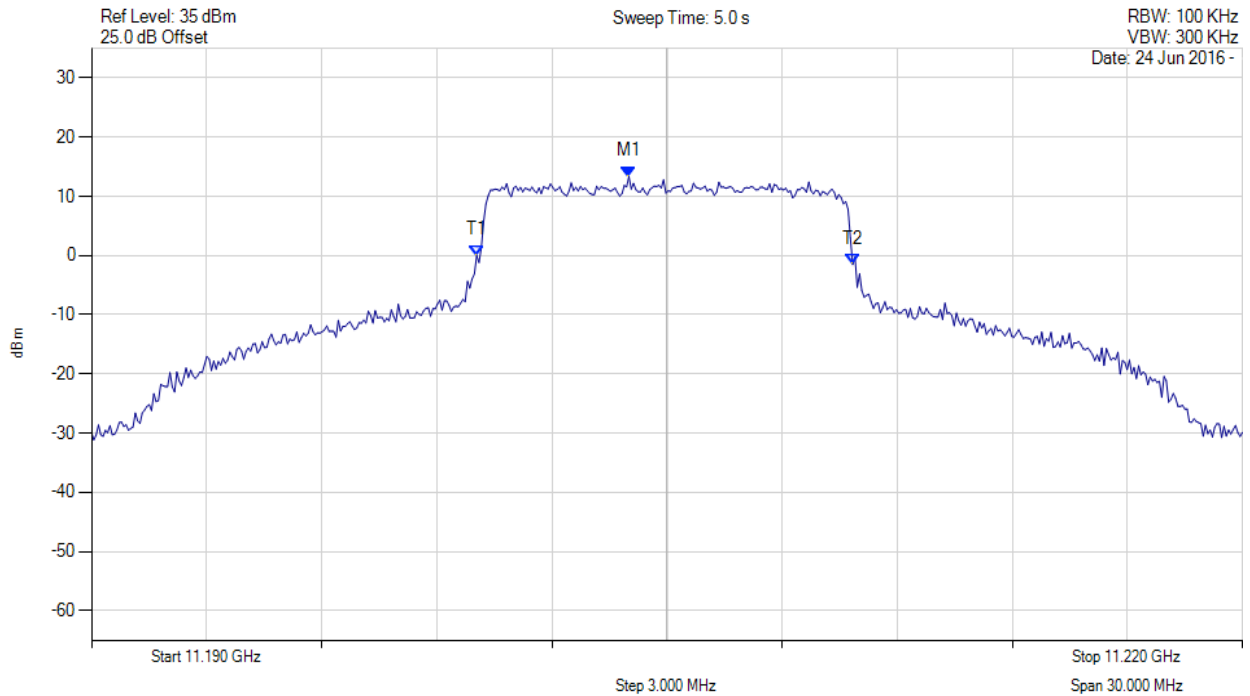


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.702 GHz : 12.940 dBm T1 : 10.700 GHz : 5.106 dBm T2 : 10.710 GHz : 3.812 dBm OBW : 9.679 MHz	Channel Frequency: 10.71 GHz Limit: 10 MHz

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Occupied Bandwidth

Variant: 10MHz QPSK, Channel: 11.21 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

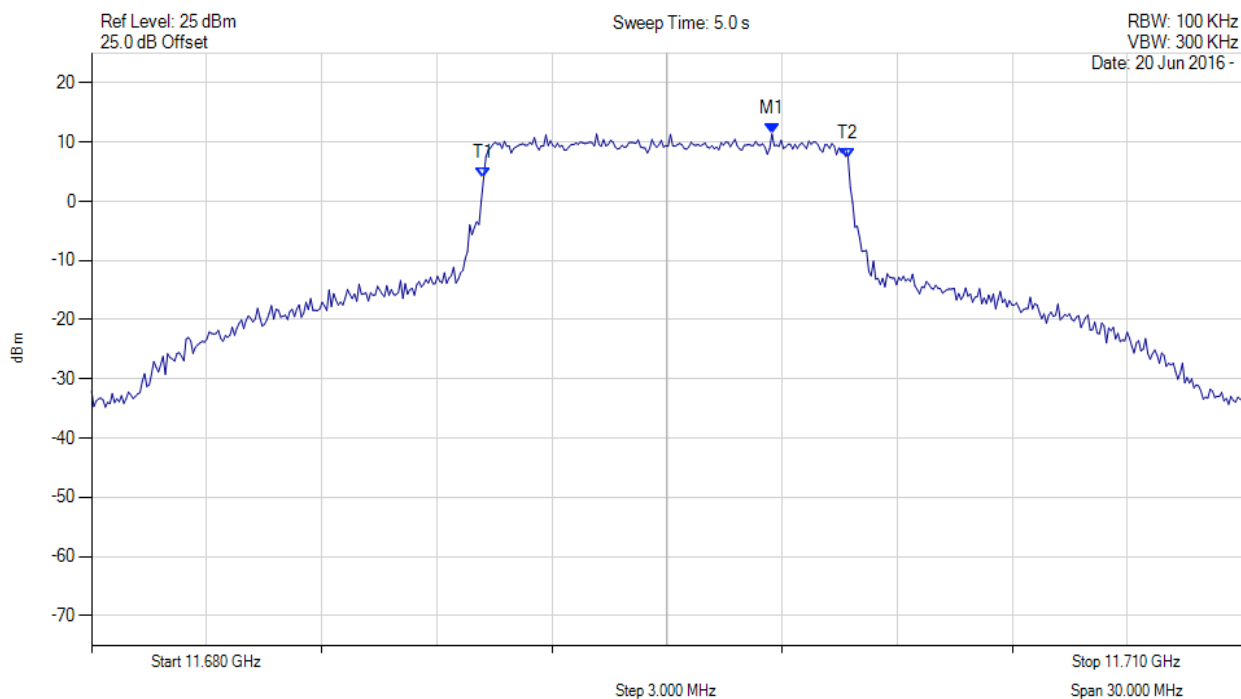


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.204 GHz : 13.365 dBm T1 : 11.200 GHz : 0.025 dBm T2 : 11.210 GHz : -1.539 dBm OBW : 9.800 MHz	Channel Frequency: 11.21 GHz Limit: 10 MHz

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Occupied Bandwidth

Variant: 10MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

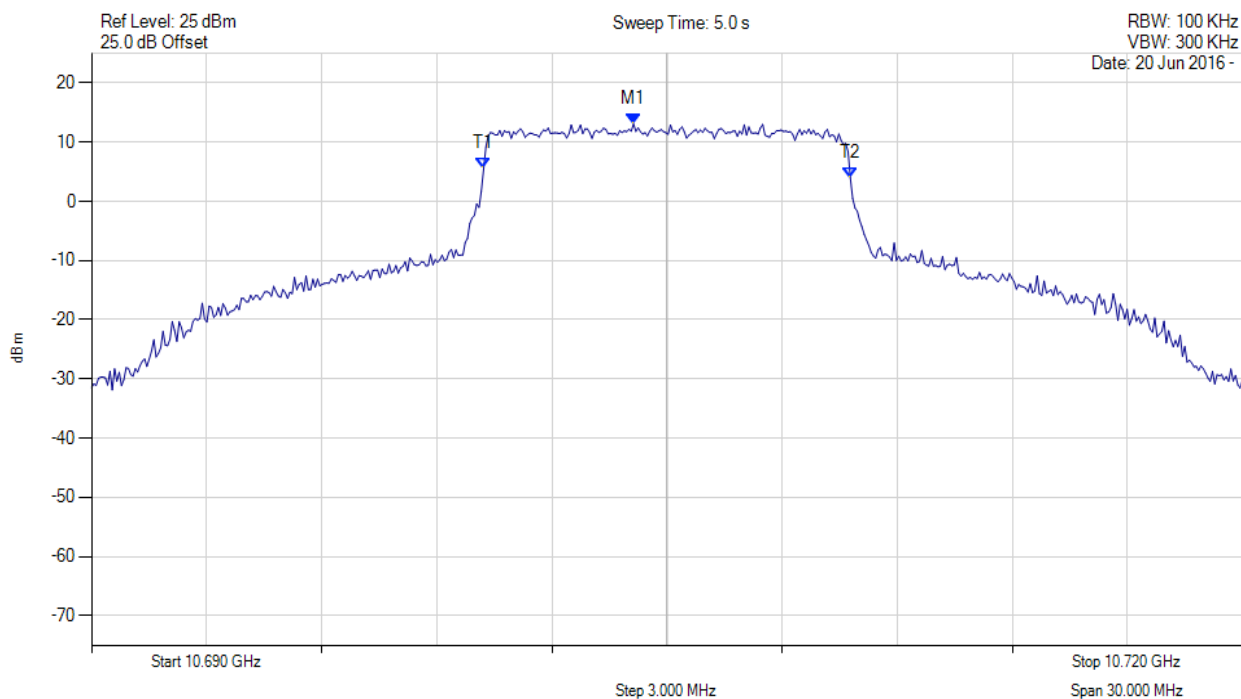


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.698 GHz : 11.406 dBm T1 : 11.690 GHz : 3.950 dBm T2 : 11.700 GHz : 7.260 dBm OBW : 9.499 MHz	Channel Frequency: 11.70 GHz Limit: 10 MHz

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Occupied Bandwidth

Variant: 10MHz 1024QAM, Channel: 10.71 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

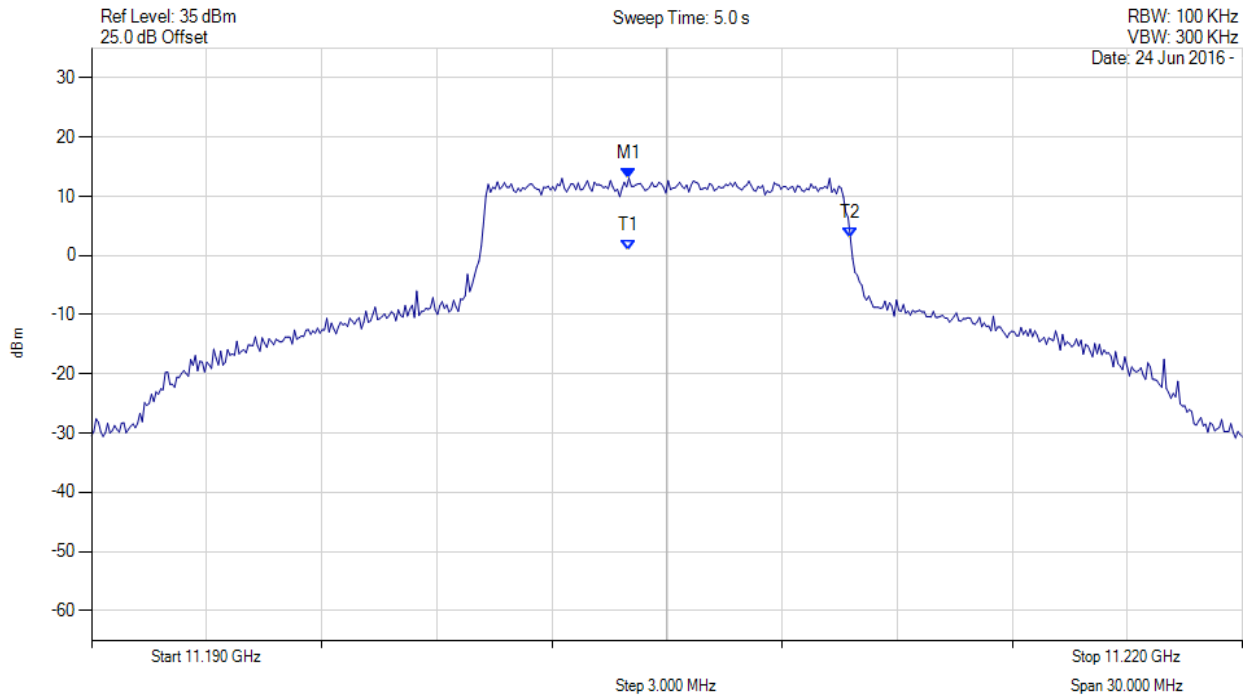


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.704 GHz : 13.072 dBm T1 : 10.700 GHz : 5.514 dBm T2 : 10.710 GHz : 3.912 dBm OBW : 9.559 MHz	Channel Frequency: 10.71 GHz Limit: 10 MHz

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Occupied Bandwidth

Variant: 10MHz 1024QAM, Channel: 11.21 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

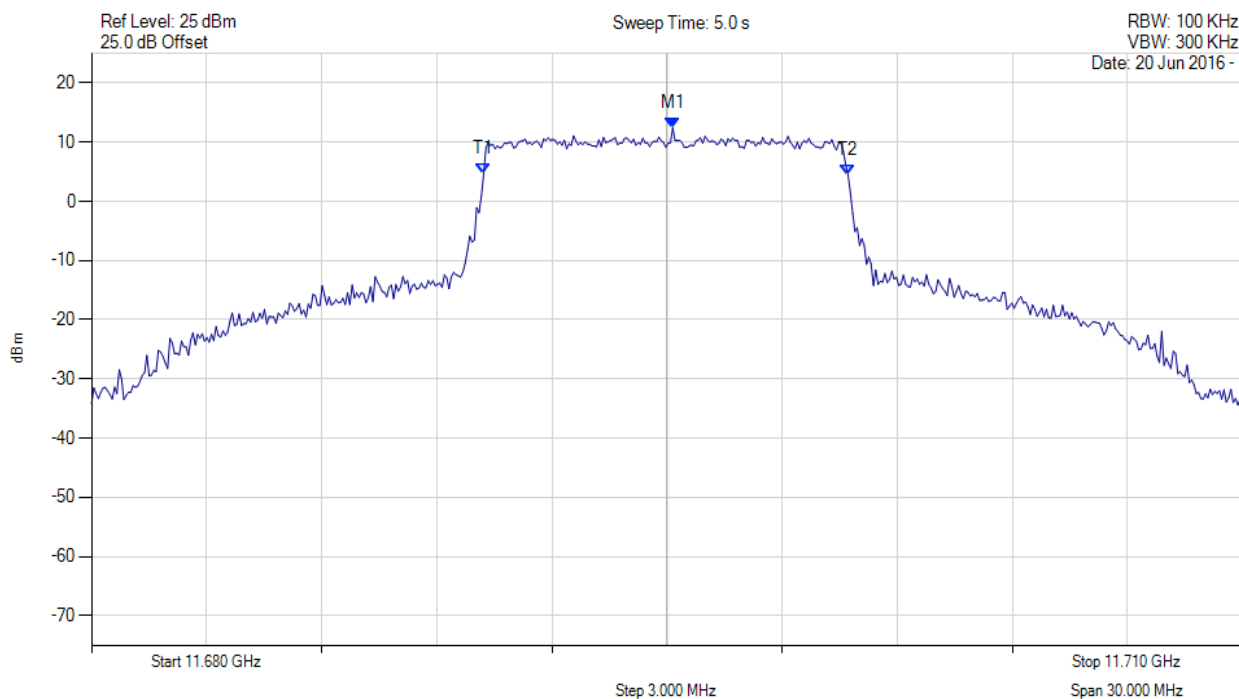


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.204 GHz : 13.056 dBm T1 : 11.204 GHz : 0.910 dBm T2 : 11.210 GHz : 3.010 dBm OBW : 9.679 MHz	Channel Frequency: 11.21 GHz Limit: 10 MHz

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Occupied Bandwidth

Variant: 10MHz 1024QAM, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

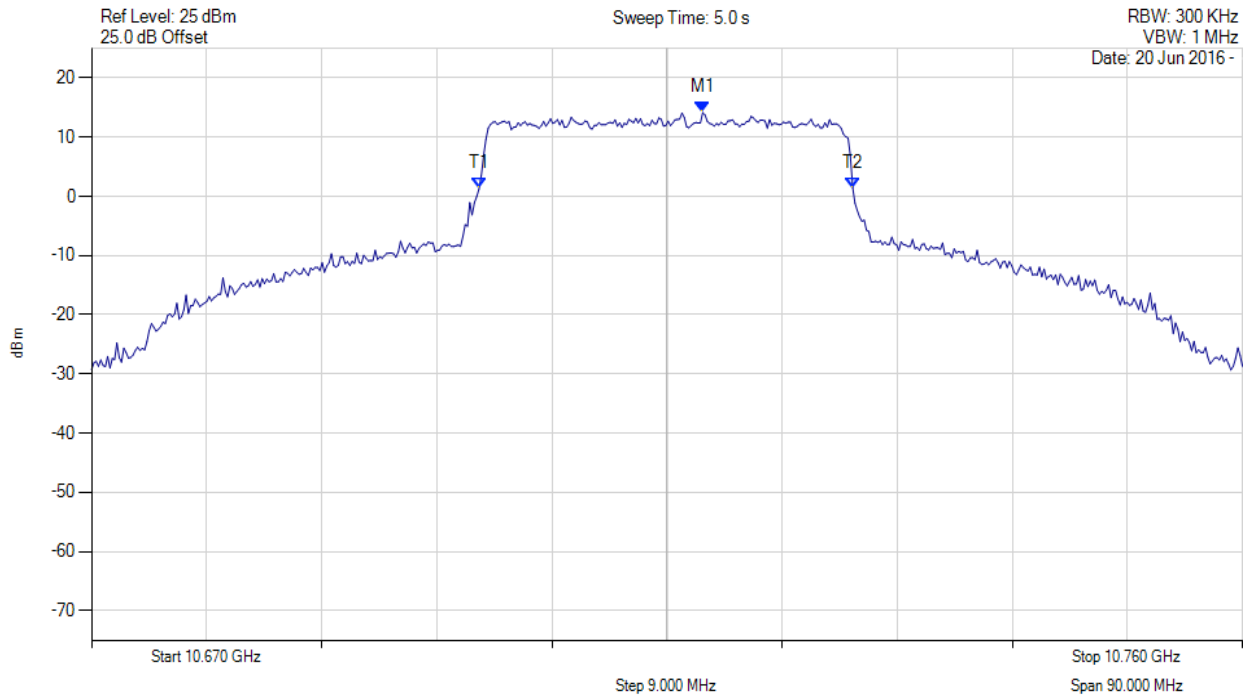


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.695 GHz : 12.447 dBm T1 : 11.690 GHz : 4.565 dBm T2 : 11.700 GHz : 4.404 dBm OBW : 9.499 MHz	Channel Frequency: 11.70 GHz Limit: 10 MHz

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Occupied Bandwidth

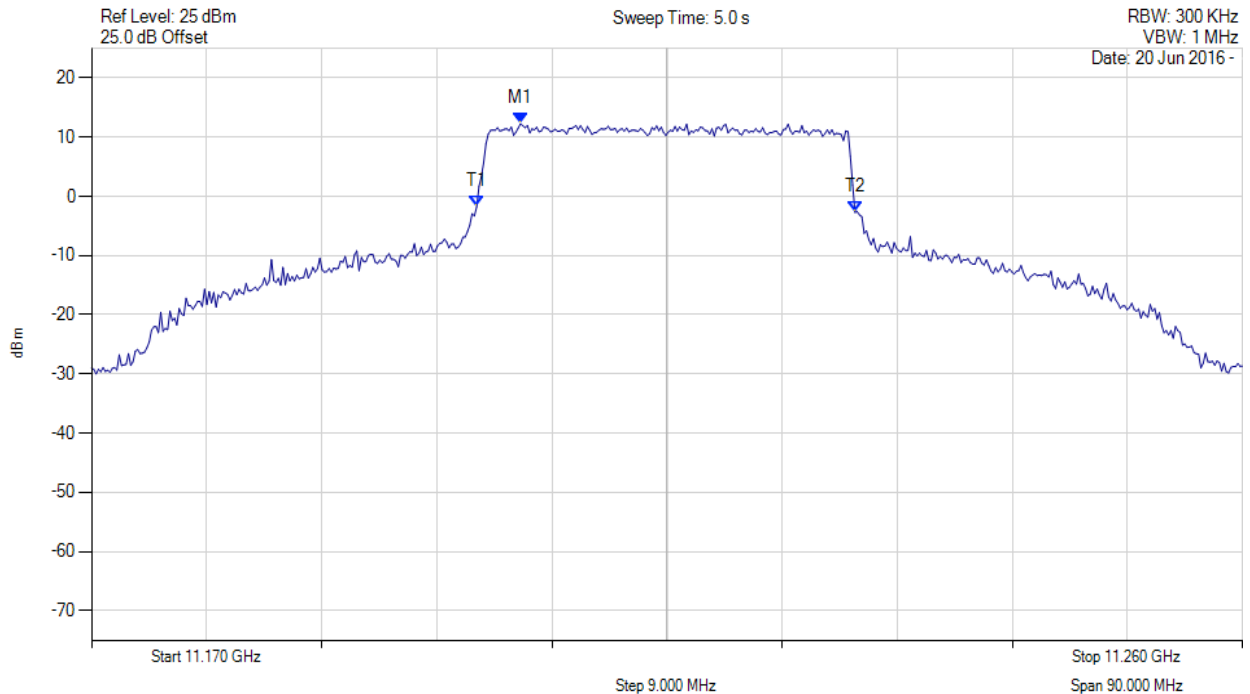
Variant: 30MHz QPSK, Channel: 10.72 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.718 GHz : 14.156 dBm T1 : 10.700 GHz : 1.276 dBm T2 : 10.730 GHz : 1.463 dBm OBW : 29.218 MHz	Channel Frequency: 10.72 GHz Limit: 30 MHz

Occupied Bandwidth

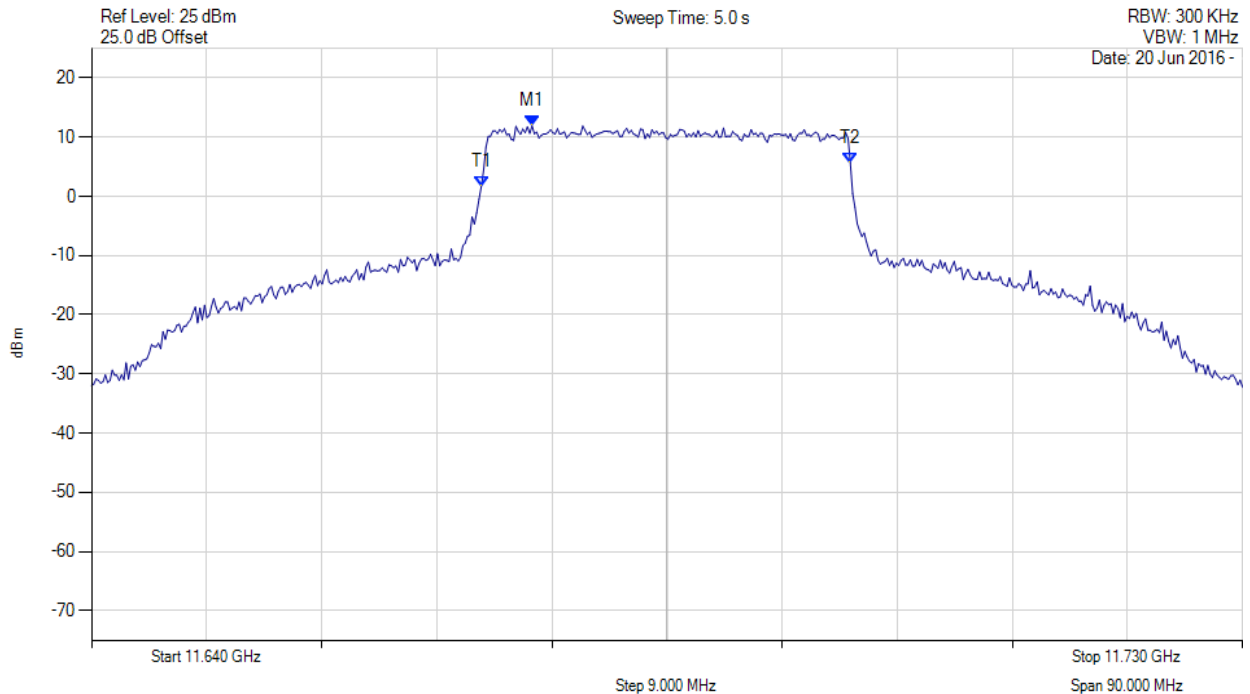
Variant: 30MHz QPSK, Channel: 11.22 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.204 GHz : 12.254 dBm T1 : 11.200 GHz : -1.740 dBm T2 : 11.230 GHz : -2.680 dBm OBW : 29.579 MHz	Channel Frequency: 11.22 GHz Limit: 30 MHz

Occupied Bandwidth

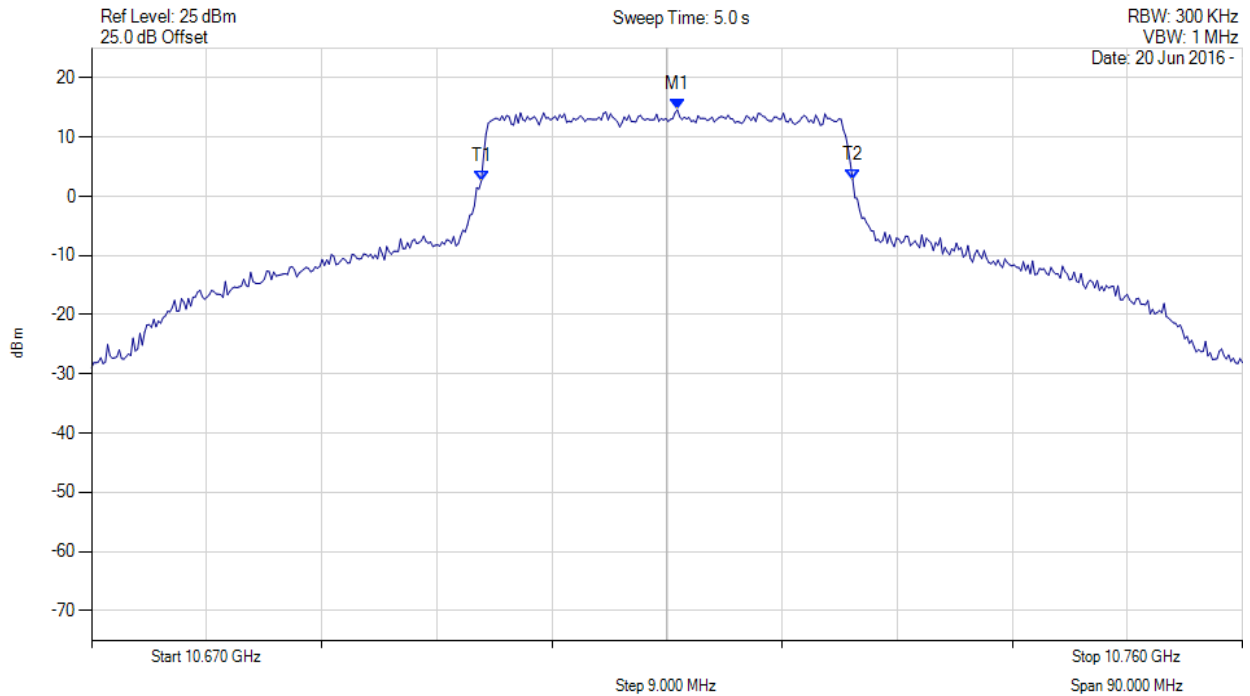
Variant: 30MHz QPSK, Channel: 11.69 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.674 GHz : 11.910 dBm T1 : 11.670 GHz : 1.681 dBm T2 : 11.699 GHz : 5.571 dBm OBW : 28.858 MHz	Channel Frequency: 11.69 GHz Limit: 30 MHz

Occupied Bandwidth

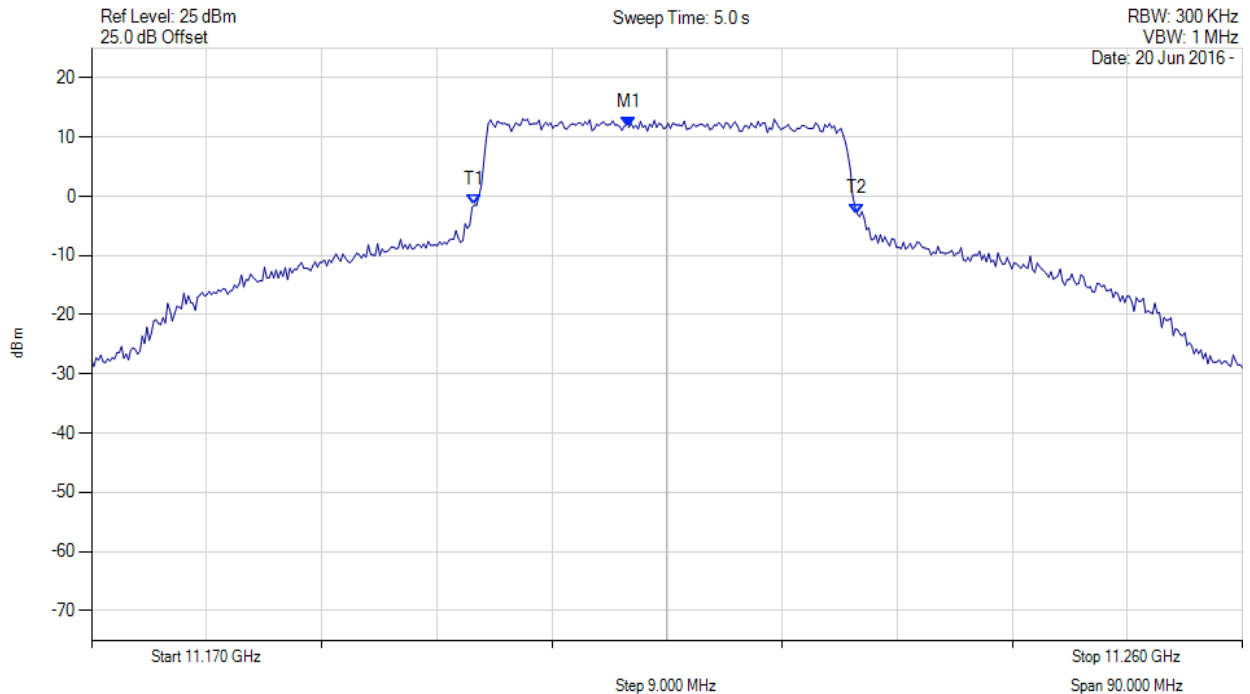
Variant: 30MHz 1024QAM, Channel: 10.72 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.716 GHz : 14.623 dBm T1 : 10.700 GHz : 2.586 dBm T2 : 10.730 GHz : 2.793 dBm OBW : 29.038 MHz	Channel Frequency: 10.72 GHz Limit: 30 MHz

Occupied Bandwidth

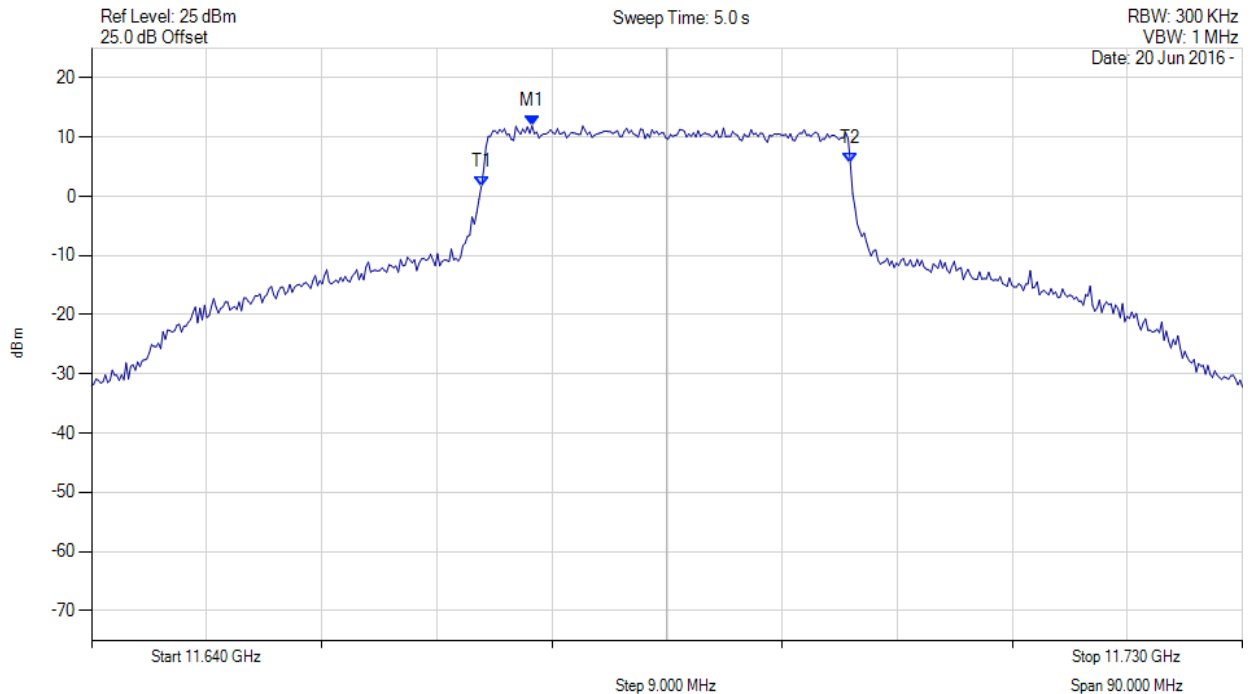
Variant: 30MHz 1024QAM, Channel: 11.22 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.212 GHz : 11.628 dBm T1 : 11.200 GHz : -1.472 dBm T2 : 11.230 GHz : -2.944 dBm OBW : 29.940 MHz	Channel Frequency: 11.22 GHz Limit: 30 MHz

Occupied Bandwidth

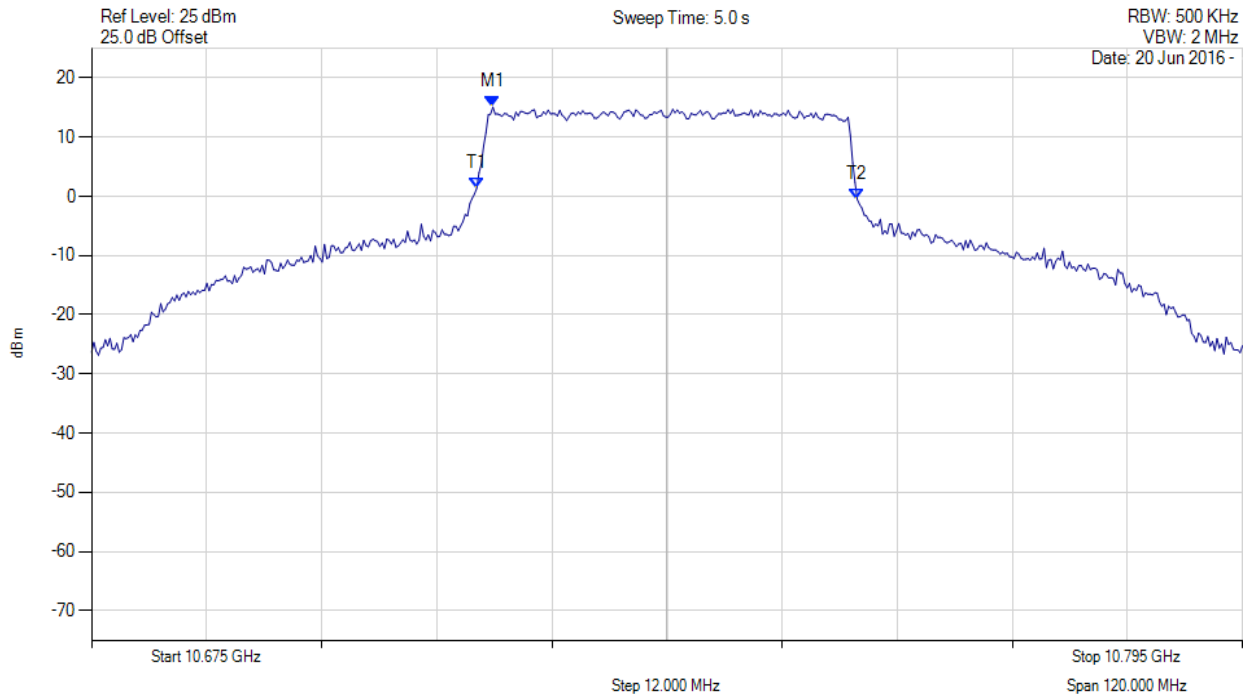
Variant: 30MHz 1024QAM, Channel: 11.69 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.674 GHz : 11.910 dBm T1 : 11.670 GHz : 1.681 dBm T2 : 11.699 GHz : 5.571 dBm OBW : 28.858 MHz	Channel Frequency: 11.69 GHz Limit: 30 MHz

Occupied Bandwidth

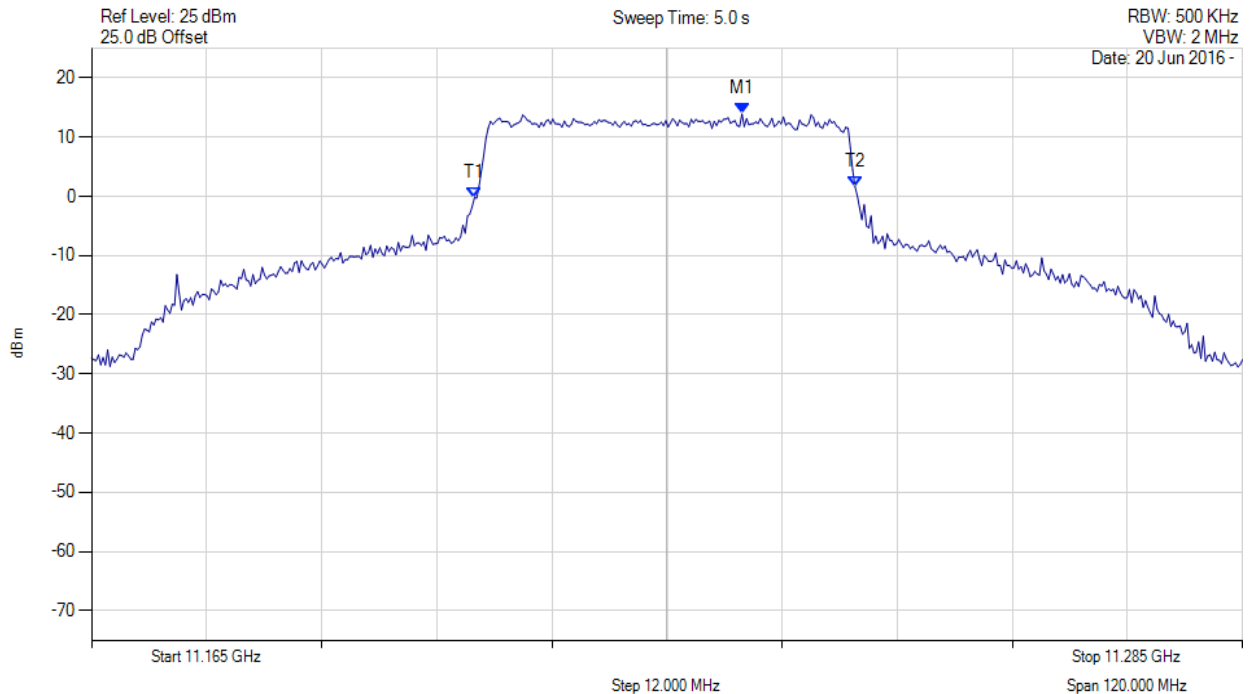
Variant: 40MHz QPSK, Channel: 10.74 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.717 GHz : 15.079 dBm T1 : 10.715 GHz : 1.337 dBm T2 : 10.755 GHz : -0.522 dBm OBW : 39.679 MHz	Channel Frequency: 10.74 GHz Limit: 40MHz

Occupied Bandwidth

Variant: 40MHz QPSK, Channel: 11.23 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

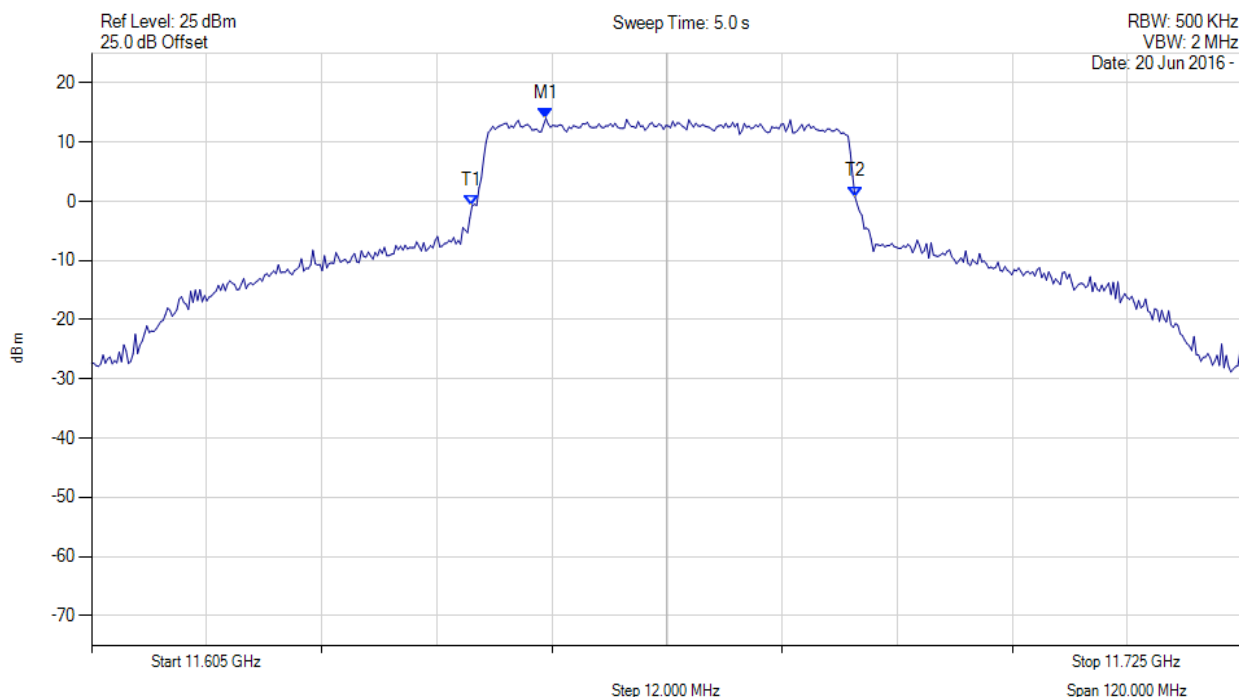


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.233 GHz : 13.924 dBm T1 : 11.205 GHz : -0.257 dBm T2 : 11.245 GHz : 1.687 dBm OBW : 39.679 MHz	Channel Frequency: 11.23 GHz Limit: 40MHz

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Occupied Bandwidth

Variant: 40MHz QPSK, Channel: 11.67 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



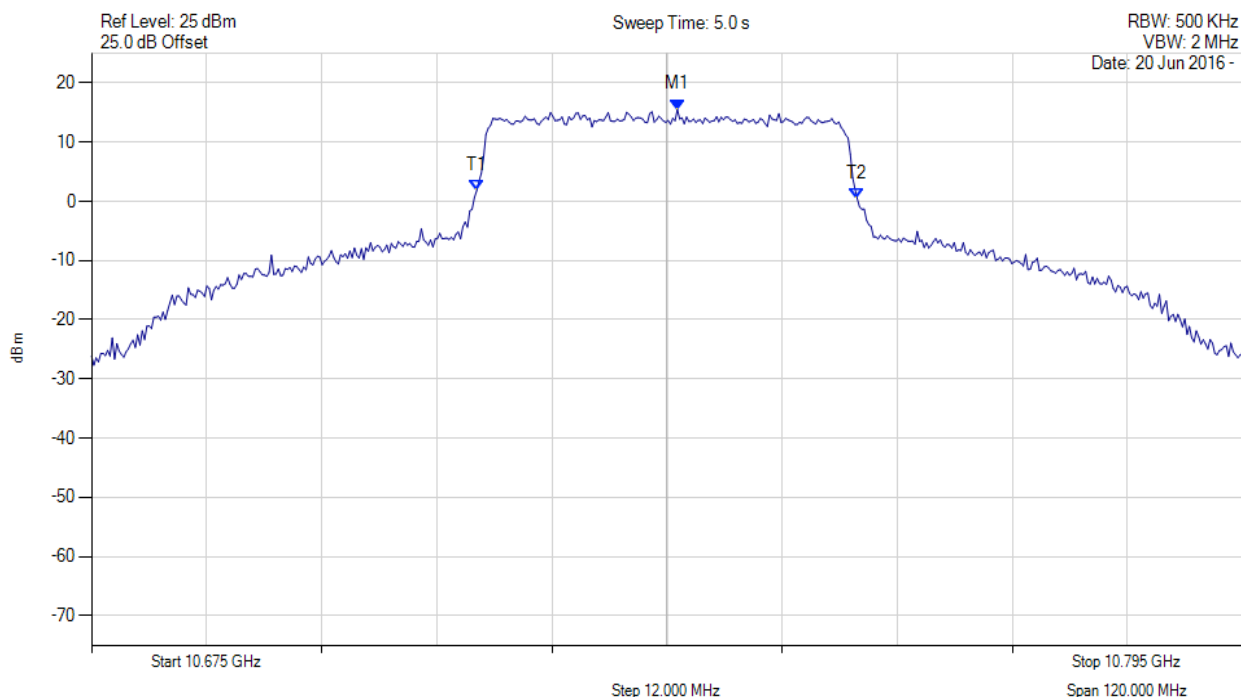
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.652 GHz : 14.007 dBm T1 : 11.645 GHz : -0.780 dBm T2 : 11.685 GHz : 0.794 dBm OBW : 39.920 MHz	Channel Frequency: 11.67 GHz Limit: 40MHz

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Occupied Bandwidth

Variant: 40MHz 1024QAM, Channel: 10.74 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

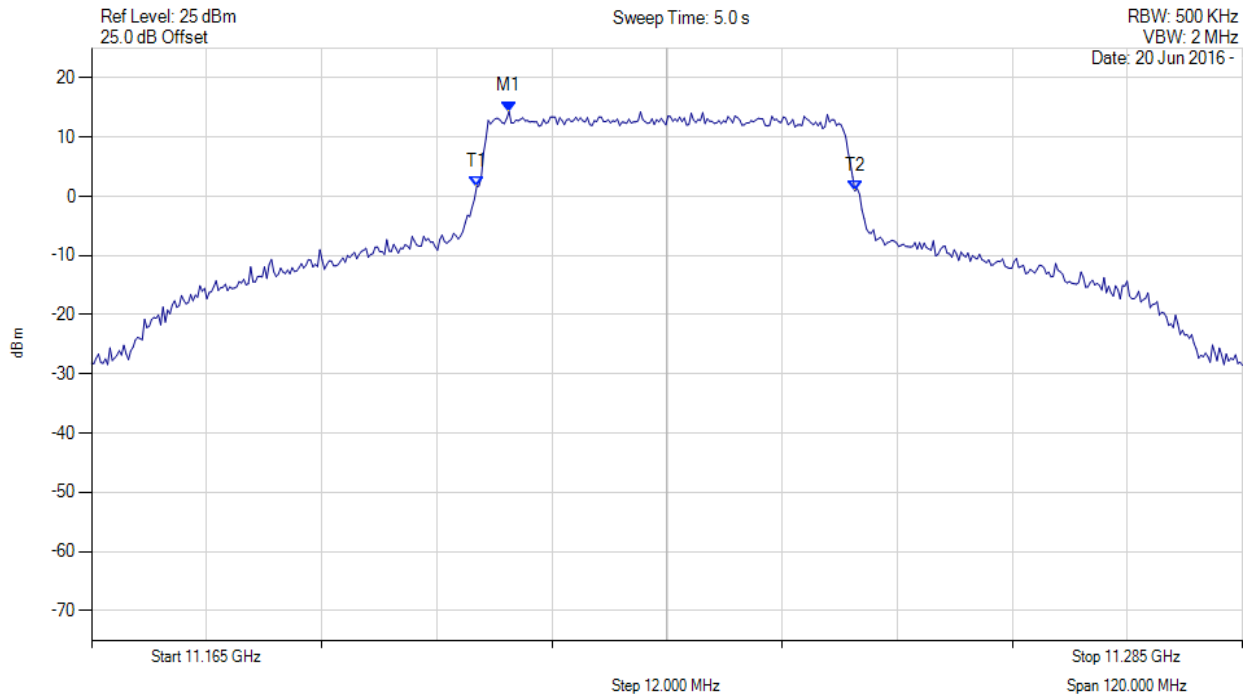


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.736 GHz : 15.498 dBm T1 : 10.715 GHz : 1.801 dBm T2 : 10.755 GHz : 0.454 dBm OBW : 39.679 MHz	Channel Frequency: 10.74 GHz Limit:40 MHz

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Occupied Bandwidth

Variant: 40MHz 1024QAM, Channel: 11.23 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

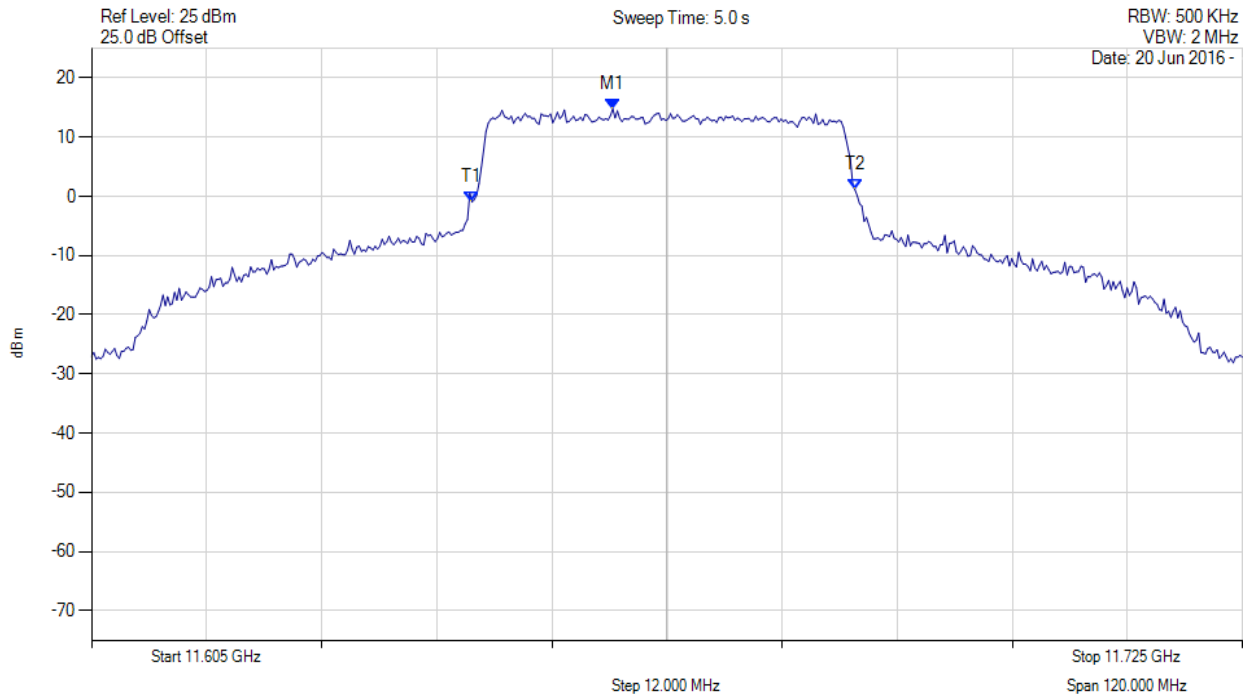


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.209 GHz : 14.329 dBm T1 : 11.205 GHz : 1.632 dBm T2 : 11.245 GHz : 0.900 dBm OBW : 39.439 MHz	Channel Frequency: 11.23 GHz Limit:40 MHz

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Occupied Bandwidth

Variant: 40MHz 1024QAM, Channel: 11.67 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

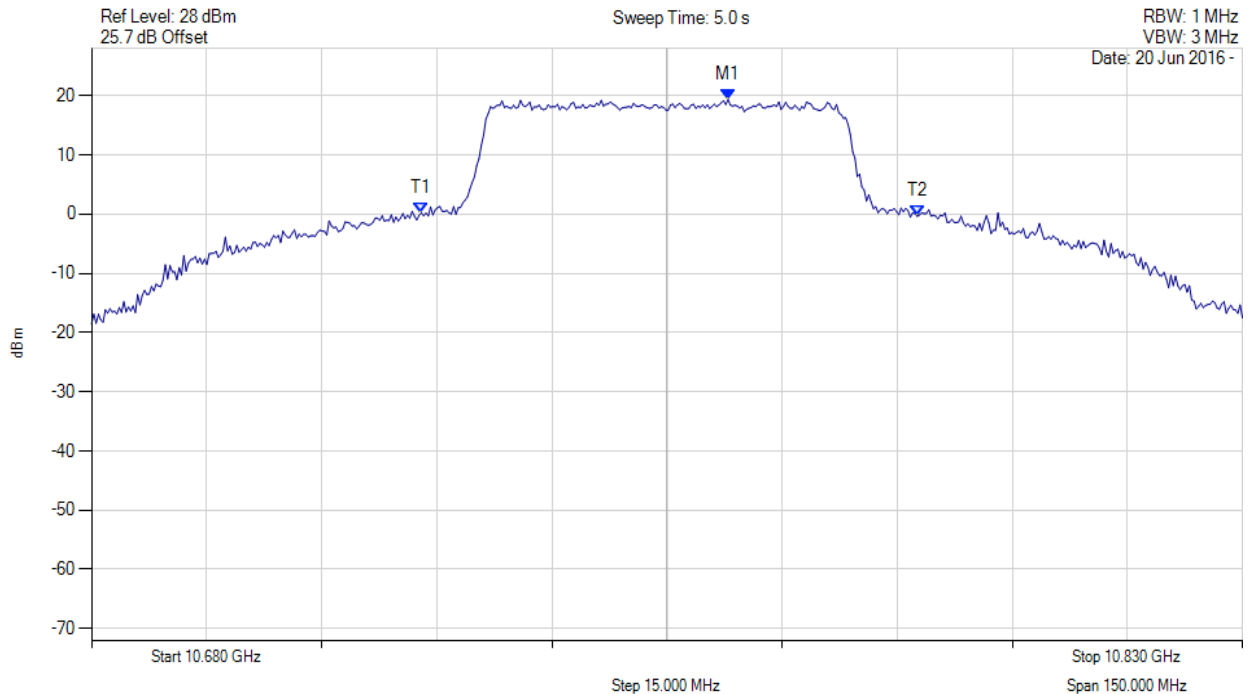


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.659 GHz : 14.750 dBm T1 : 11.645 GHz : -0.969 dBm T2 : 11.685 GHz : 1.105 dBm OBW : 39.920 MHz	Channel Frequency: 11.67 GHz Limit:40 MHz



Occupied Bandwidth

Variant: 50MHz QPSK, Channel: 10.76 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

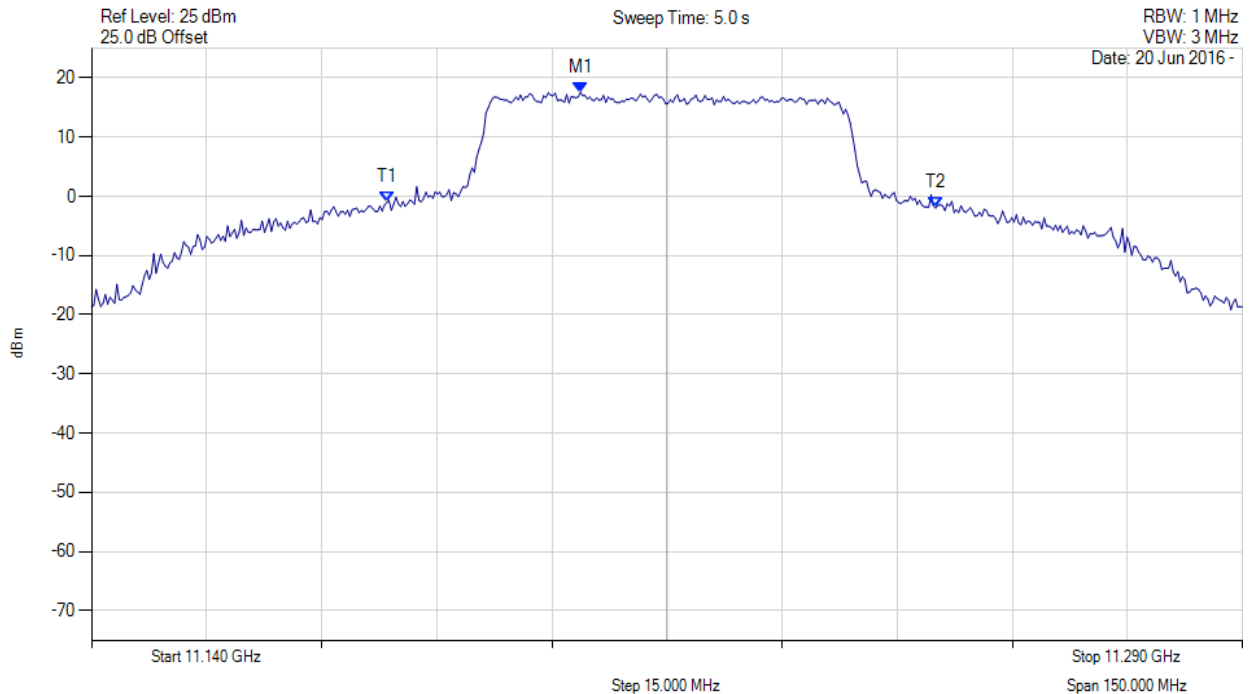


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.763 GHz : 19.350 dBm T1 : 10.723 GHz : 0.229 dBm T2 : 10.788 GHz : -0.379 dBm OBW : 64.629 MHz	Channel Frequency: 10.76 GHz Limit: 80MHz

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Occupied Bandwidth

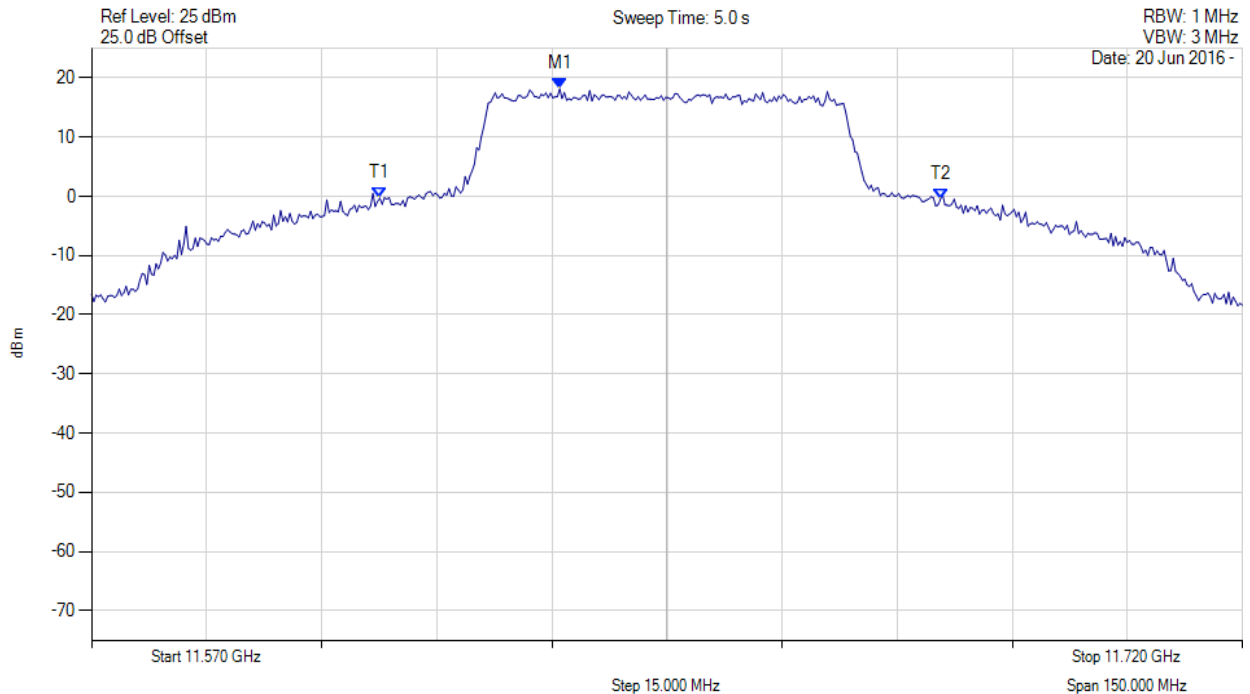
Variant: 50MHz QPSK, Channel: 11.22 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.204 GHz : 17.591 dBm T1 : 11.178 GHz : -1.040 dBm T2 : 11.250 GHz : -1.972 dBm OBW : 71.543 MHz	Channel Frequency: 11.22 GHz Limit: 80MHz

Occupied Bandwidth

Variant: 50MHz QPSK, Channel: 11.65 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

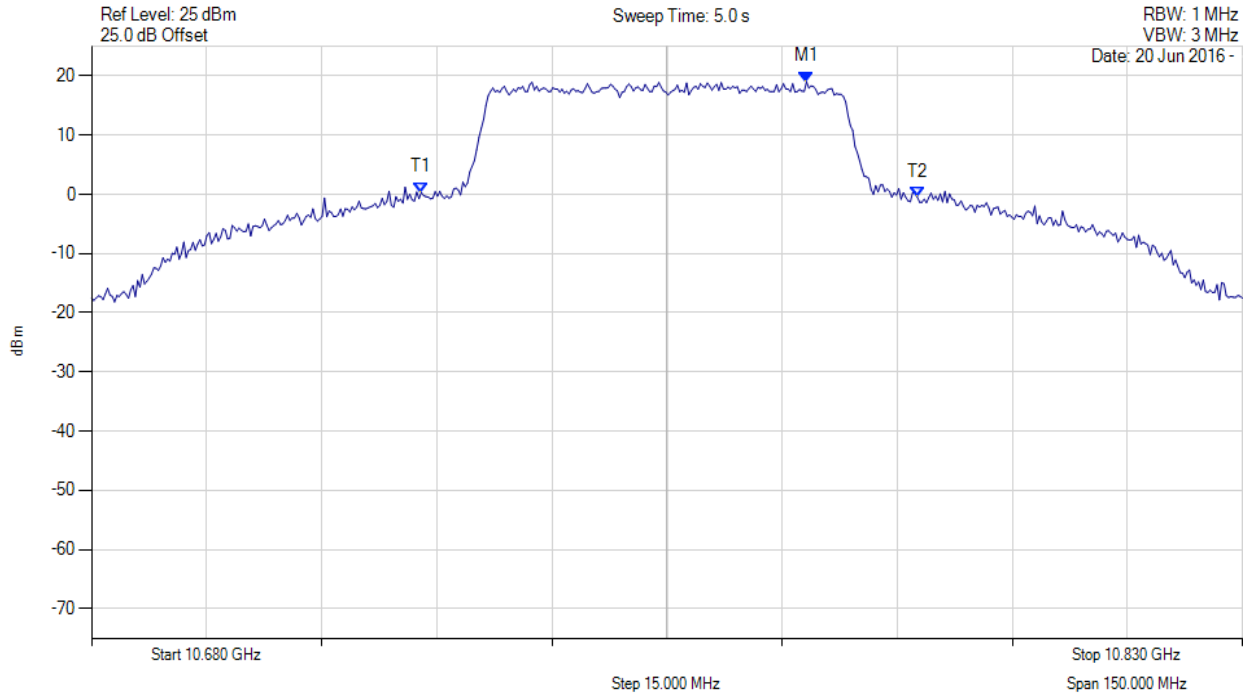


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.631 GHz : 18.154 dBm T1 : 11.608 GHz : -0.310 dBm T2 : 11.681 GHz : -0.556 dBm OBW : 73.046 MHz	Channel Frequency: 11.65 GHz Limit: 80MHz



Occupied Bandwidth

Variant: 50MHz 1024QAM, Channel: 10.76 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

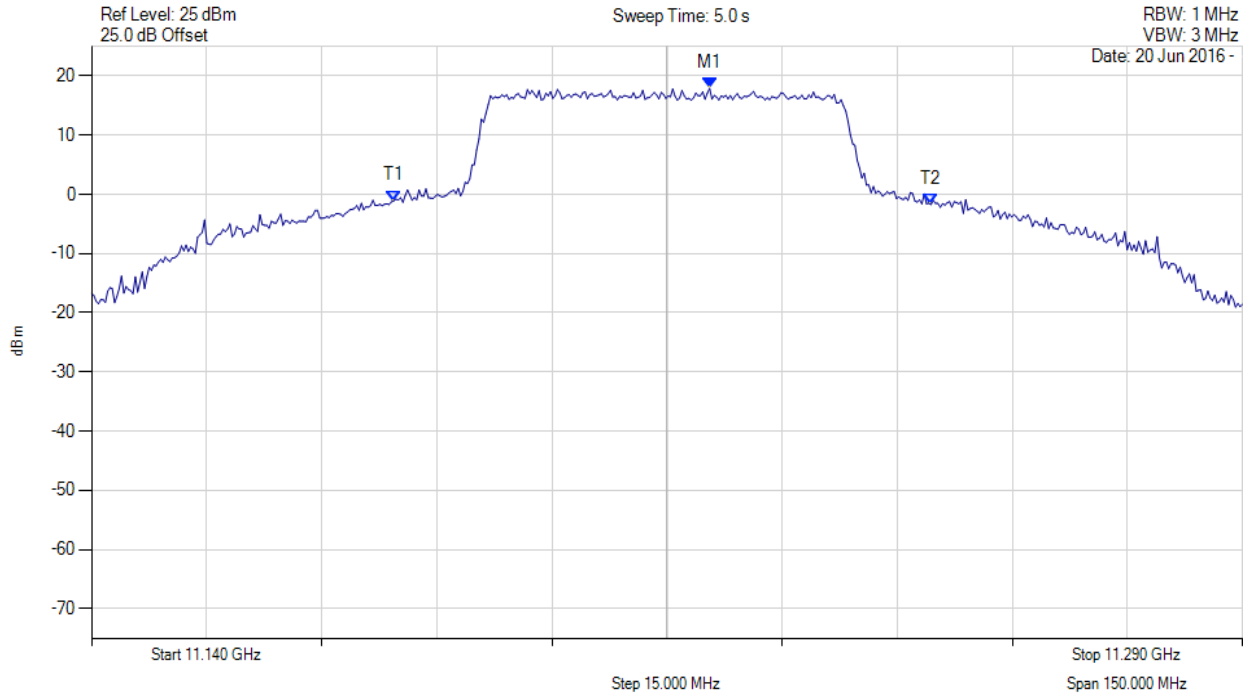


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.773 GHz : 19.022 dBm T1 : 10.723 GHz : 0.328 dBm T2 : 10.788 GHz : -0.473 dBm OBW : 64.629 MHz	Channel Frequency: 10.76 GHz Limit: 80MHz

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Occupied Bandwidth

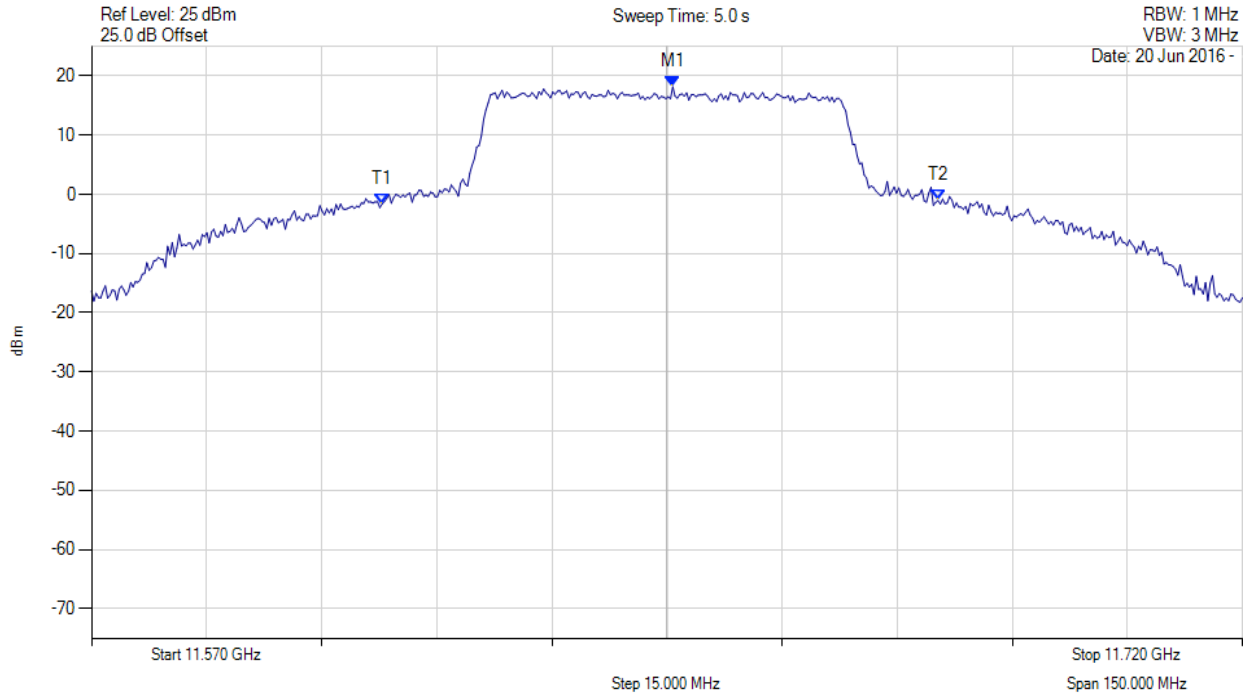
Variant: 50MHz 1024QAM, Channel: 11.22 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.221 GHz : 17.900 dBm T1 : 11.179 GHz : -1.077 dBm T2 : 11.249 GHz : -1.718 dBm OBW : 70.040 MHz	Channel Frequency: 11.22 GHz Limit: 80MHz

Occupied Bandwidth

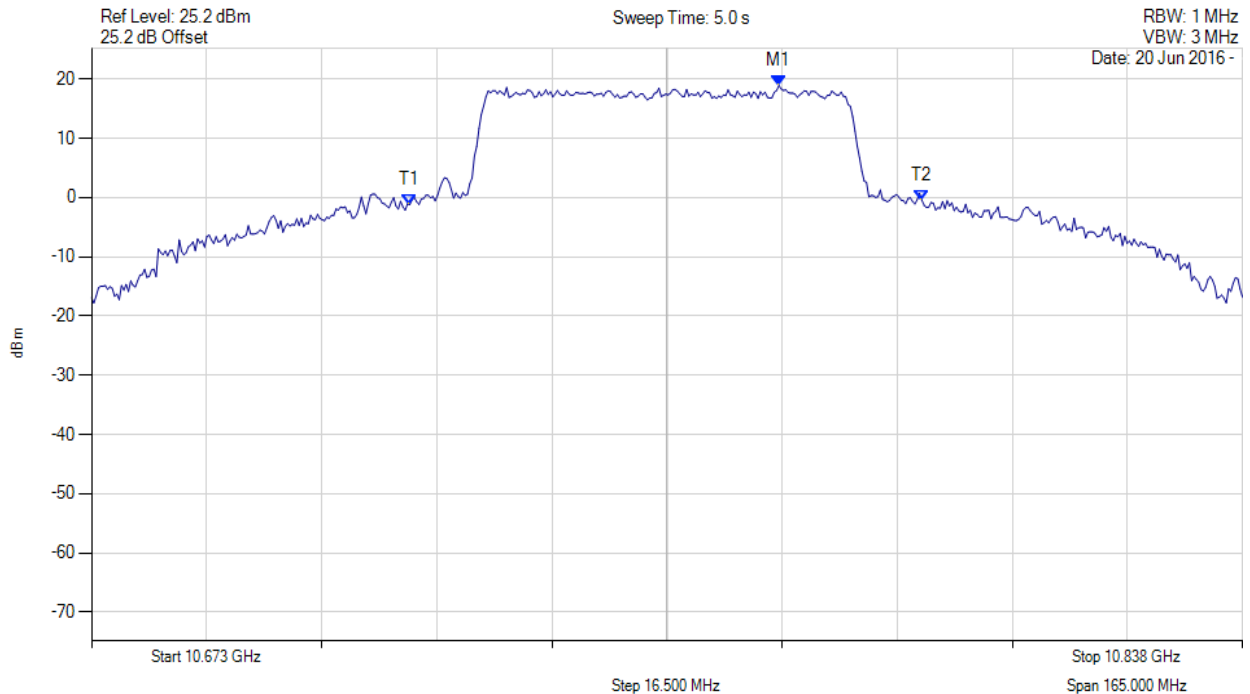
Variant: 50MHz 1024QAM, Channel: 11.65 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.646 GHz : 18.160 dBm T1 : 11.608 GHz : -1.612 dBm T2 : 11.680 GHz : -1.032 dBm OBW : 72.445 MHz	Channel Frequency: 11.65 GHz Limit: 80MHz

Occupied Bandwidth

Variant: 56MHz QPSK, Channel: 10.76 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

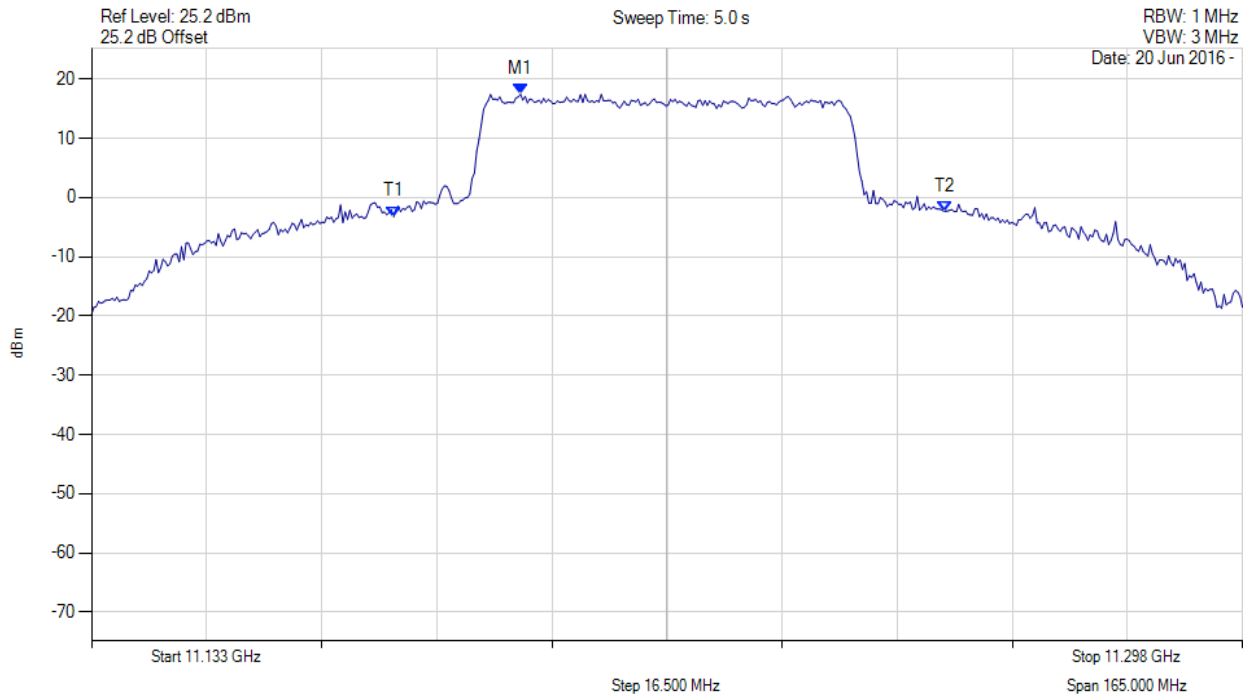


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.771 GHz : 18.910 dBm T1 : 10.718 GHz : -1.212 dBm T2 : 10.792 GHz : -0.474 dBm OBW : 73.407 MHz	Channel Frequency: 10.76 GHz Limit: 80MHz

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Occupied Bandwidth

Variant: 56MHz QPSK, Channel: 11.22 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

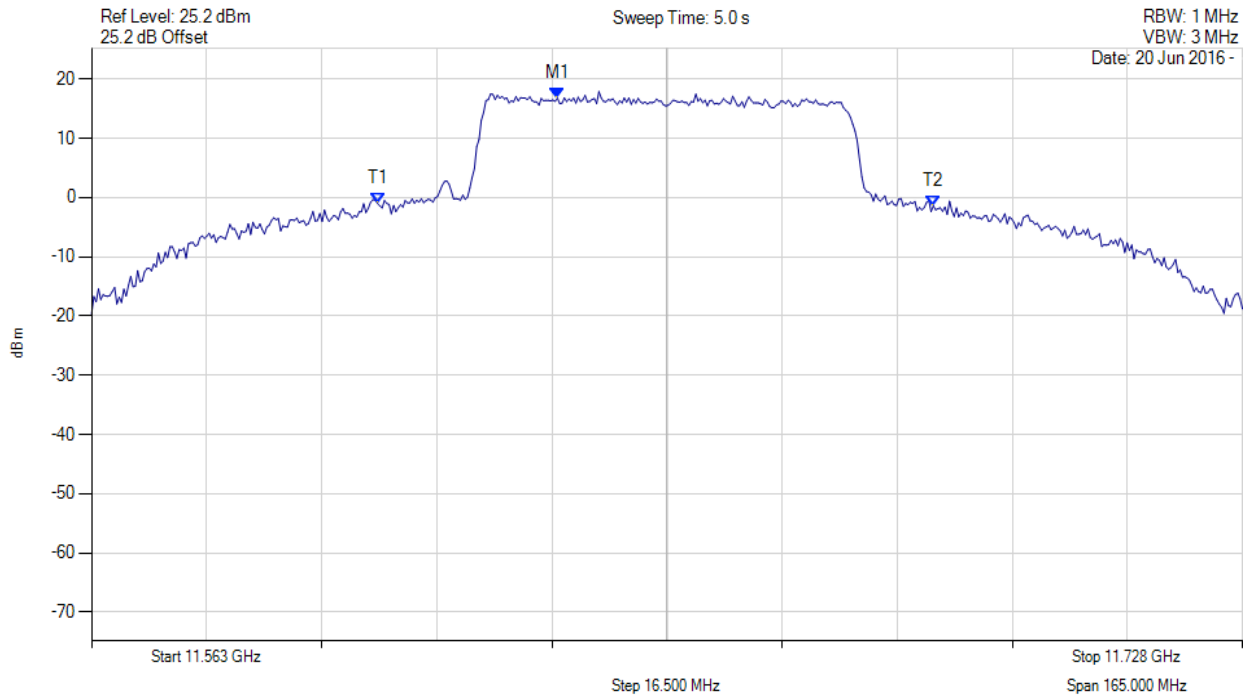


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.194 GHz : 17.440 dBm T1 : 11.176 GHz : -3.233 dBm T2 : 11.255 GHz : -2.304 dBm OBW : 79.028 MHz	Channel Frequency: 11.22 GHz Limit: 80MHz

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Occupied Bandwidth

Variant: 56MHz QPSK, Channel: 11.65 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

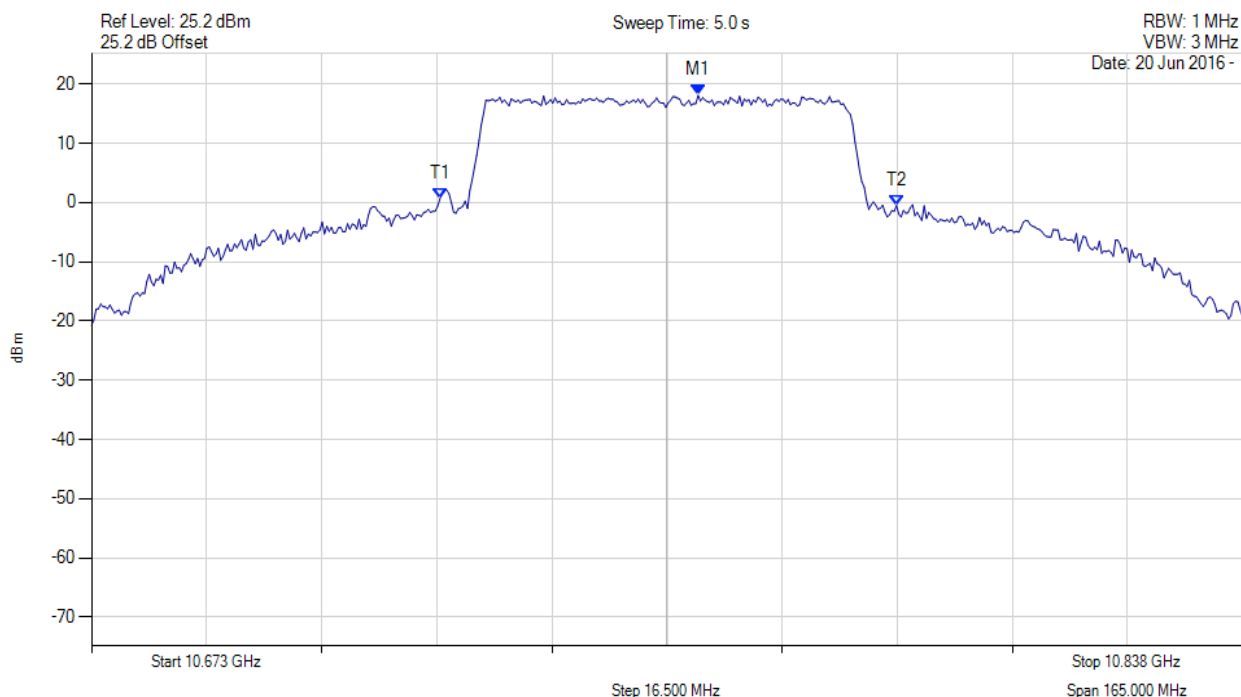


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.629 GHz : 16.773 dBm T1 : 11.604 GHz : -0.992 dBm T2 : 11.683 GHz : -1.403 dBm OBW : 79.689 MHz	Channel Frequency: 11.65 GHz Limit: 80MHz



Occupied Bandwidth

Variant: 56MHz 1024QAM, Channel: 10.76 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



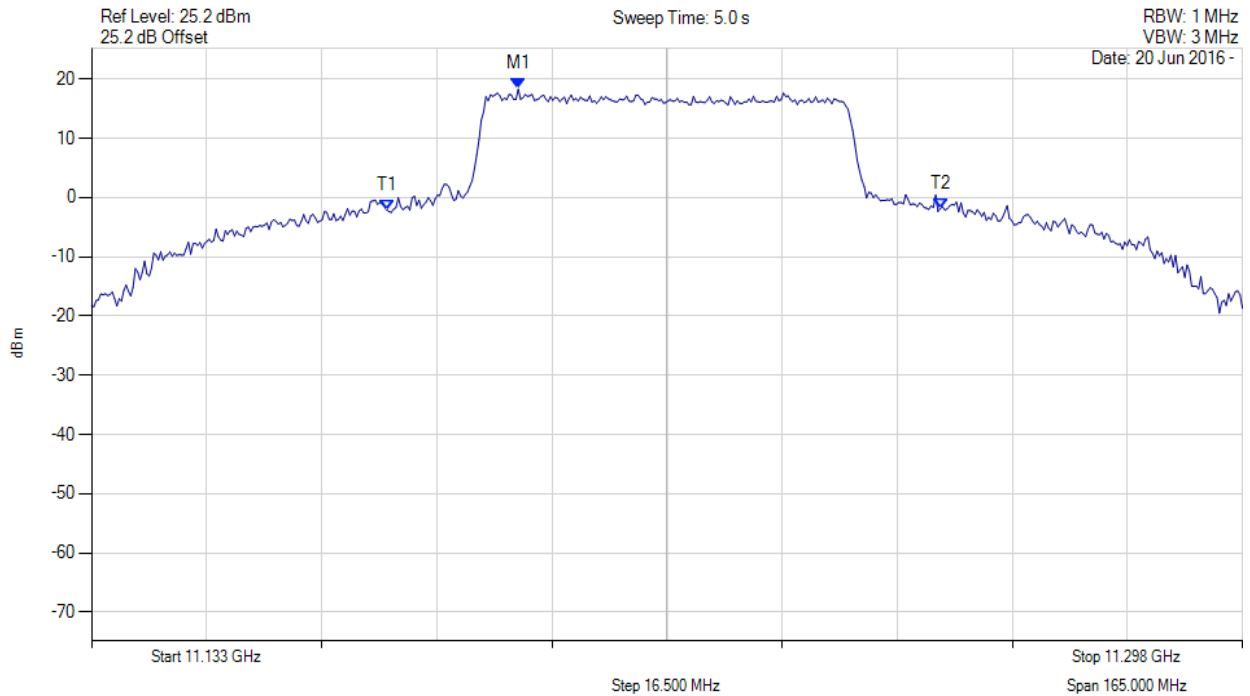
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 10.759 GHz : 18.089 dBm T1 : 10.722 GHz : 0.554 dBm T2 : 10.788 GHz : -0.512 dBm OBW : 65.471 MHz	Channel Frequency: 10.76 GHz Limit: 80MHz

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Occupied Bandwidth

Variant: 56MHz 1024QAM, Channel: 11.22 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

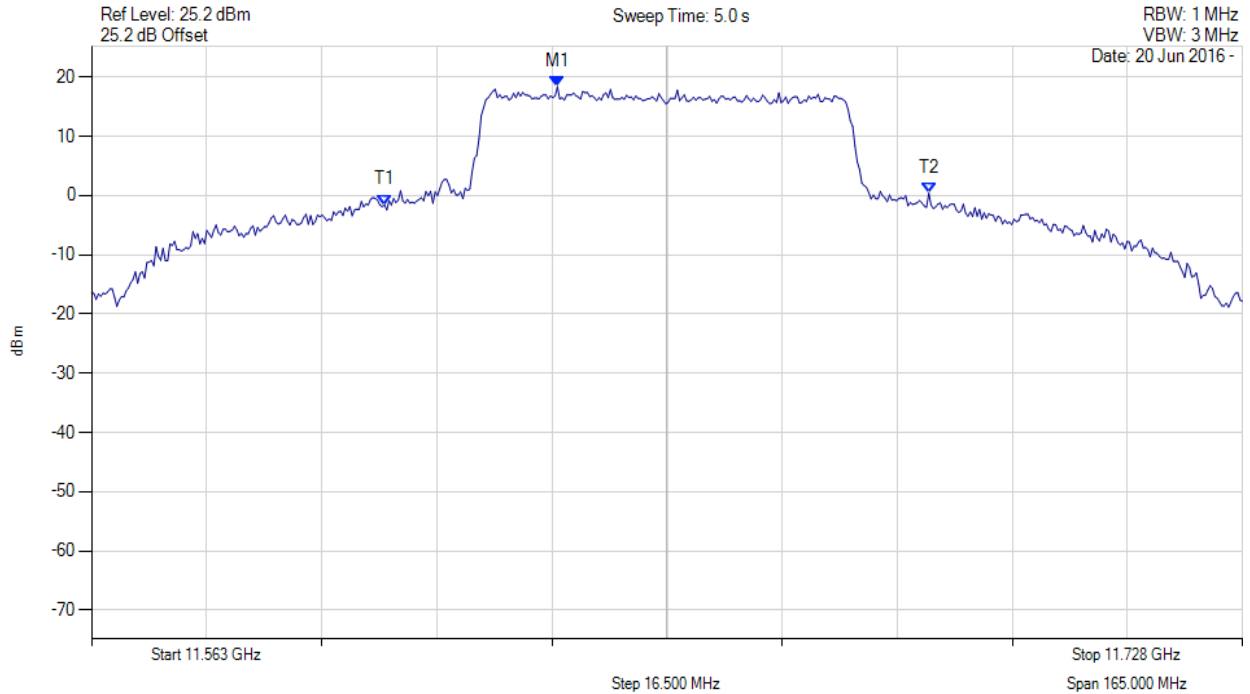


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.194 GHz : 18.324 dBm T1 : 11.175 GHz : -2.111 dBm T2 : 11.254 GHz : -1.854 dBm OBW : 79.359 MHz	Channel Frequency: 11.22 GHz Limit: 80MHz

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Occupied Bandwidth

Variant: 56MHz 1024QAM, Channel: 11.65 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.629 GHz : 18.371 dBm T1 : 11.604 GHz : -1.596 dBm T2 : 11.683 GHz : 0.395 dBm OBW : 78.036 MHz	Channel Frequency: 11.65 GHz Limit: 80MHz

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To: FCC 47 CFR Part 101, Part 15B
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6.1.1.2. Frequency Tolerance

Conducted Test Conditions for Frequency Stability			
Standard:	FCC CFR 47 Part 101	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Frequency Tolerance	Rel. Humidity (%):	32 - 45
Standard Section(s):	101.107	Pressure (mBars):	999 - 1001
Reference Document(s):			
Test Procedure for Transmitter Frequency Stability Transmitter Frequency Tolerance testing was performed over nominal voltage and ambient temperature and results reported are for a single antenna port (should the device have multiple ports i.e. MIMO device).			
Definition The center frequency is the center of the channel declared by the manufacturer as part of the declared channel plan(s).			
Limits The applicant shall ensure frequency stability by showing that fundamental emissions are maintained within the frequency band of operation when tested at the temperature and supply voltage variations specified in the relevant standard.			

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Equipment Configuration for Transmitter Frequency Stability

Variant:	3.75 MHz	Duty Cycle (%):	100
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	Not Applicable
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	CC
Engineering Test Notes:			

Test Measurement Results

Test frequency	11643.125 MHz	Measured Frequency	Frequency Tolerance	
Temperature	Voltage	Hz	%	Limit %
20 °C	35.0 VDC	11643113727.45	0.0000968	±0.005
20 °C	60.0 VDC	11643109969.94	0.0001291	
20 °C	50.0 Vdc	11643117484.97	0.0000645	
-40 °C		11643109969.94	0.0001291	
-30 °C		11643109969.94	0.0001291	
-20 °C		11643113727.45	0.0000968	
-10 °C		11643109969.94	0.0001291	
0 °C		11643109969.94	0.0001291	
+10 °C		11643109969.94	0.0001291	
+30 °C		11643109969.94	0.0001291	
+40 °C		11643109969.94	0.0001291	
+50 °C		11643109969.94	0.0001291	
+55 °C		11643109969.94	0.0001291	

Traceability to Industry Recognized Test Methodologies

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

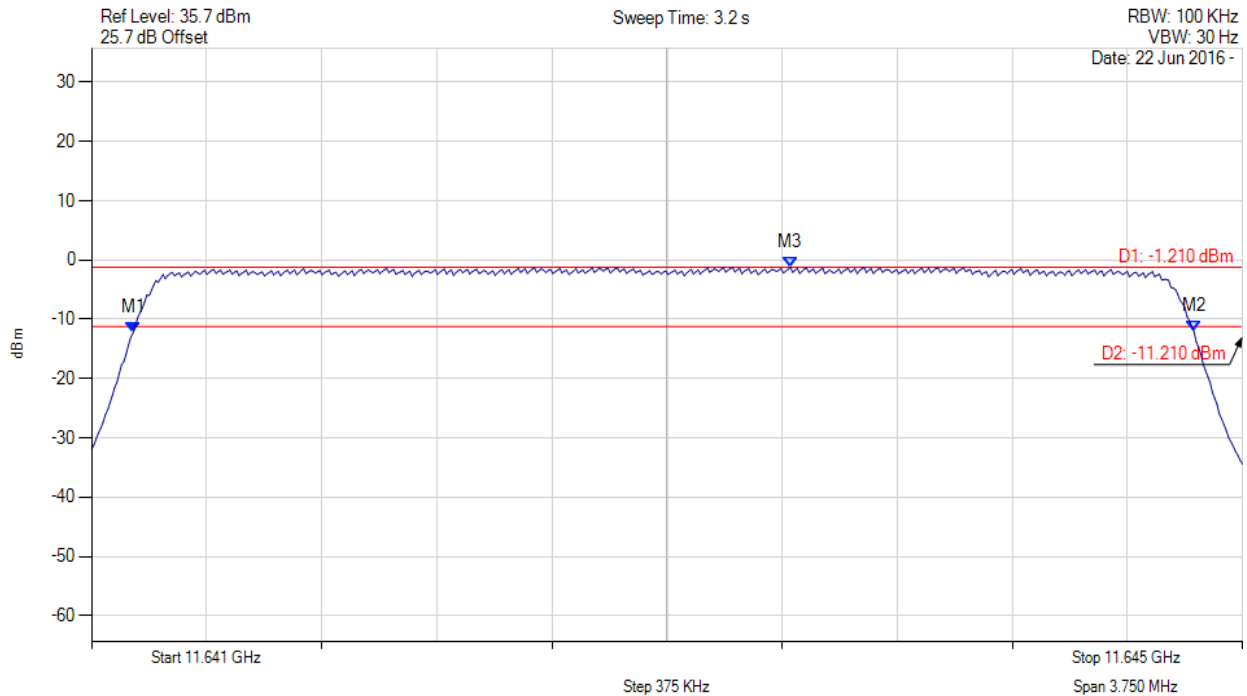
Note:

* Measured Frequency: (M1+M2)/2

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Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 20C, Voltage: 35 Vdc

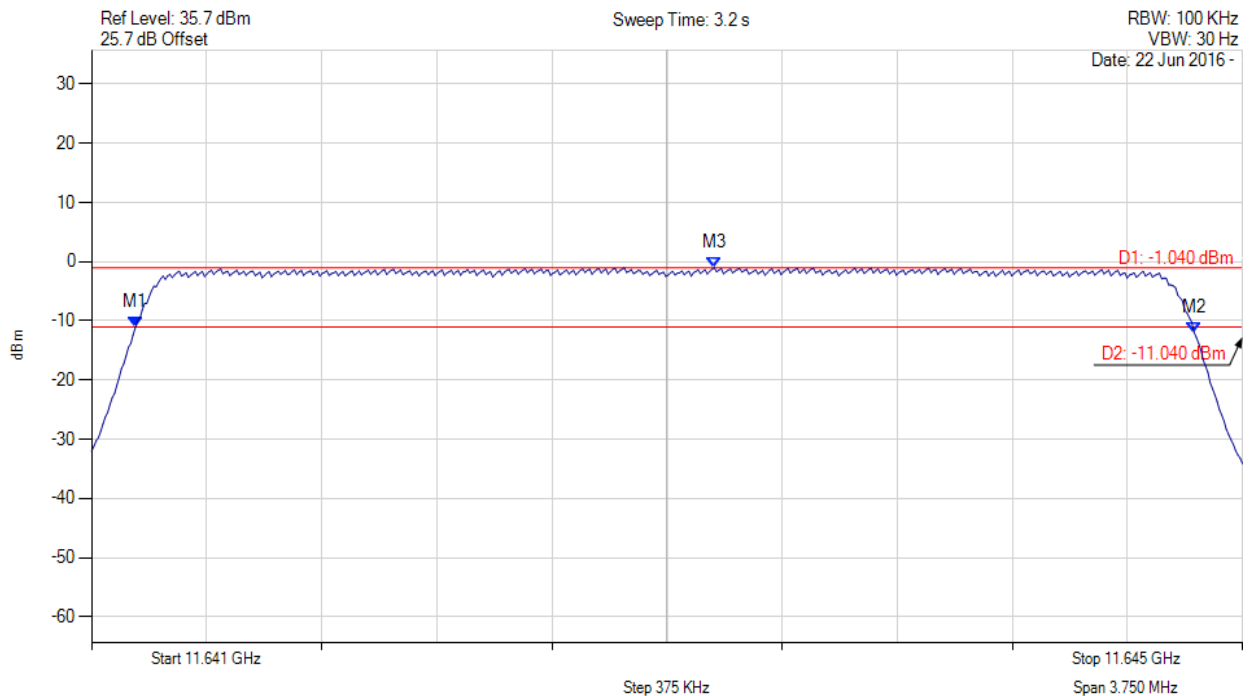


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = SAMPLE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -12.307 dBm M2 : 11.645 GHz : -12.105 dBm M3 : 11.644 GHz : -12.215 dBm	Channel Frequency: 11.64 GHz



Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 20C, Voltage: 50 Vdc

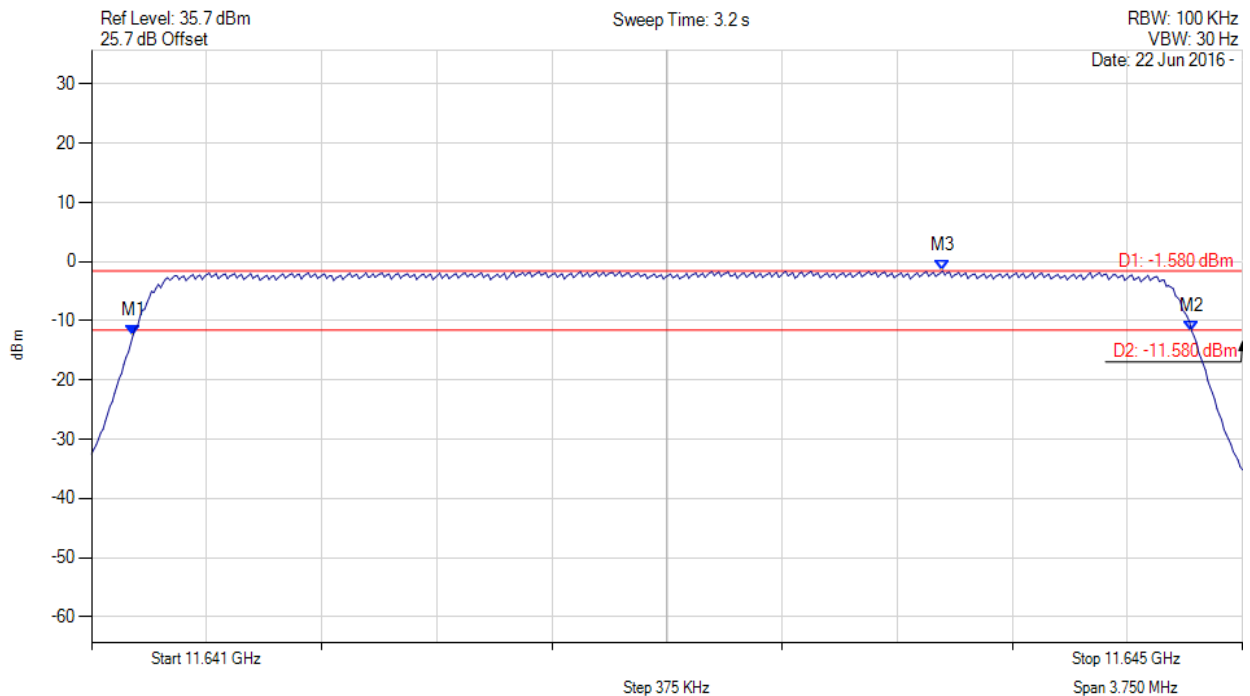


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = SAMPLE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = CLR/WRITE	M1 : 11.641 GHz : -11.121 dBm M2 : 11.645 GHz : -11.943 dBm M3 : 11.643 GHz : -1.038 dBm	Channel Frequency: 11.64 GHz

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Frequency Stability

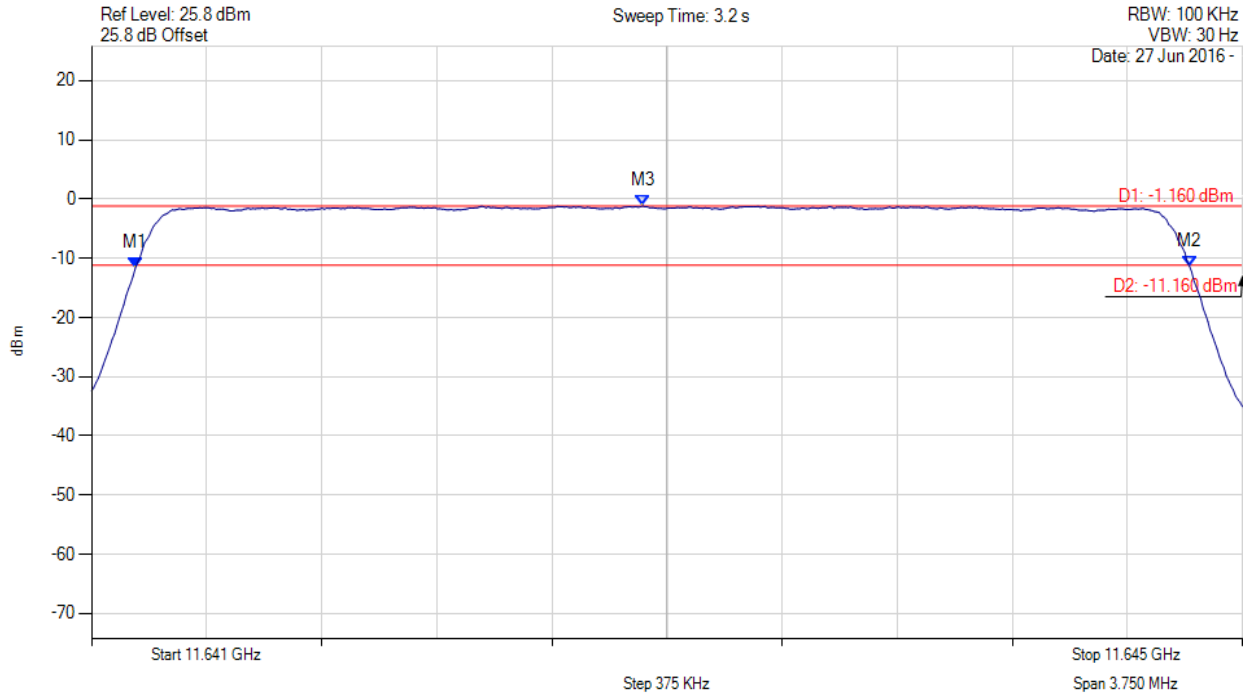
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 20C, Voltage: 60 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = SAMPLE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -12.429 dBm M2 : 11.645 GHz : -11.688 dBm M3 : 11.644 GHz : -1.583 dBm	Channel Frequency: 11.64 GHz

Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: -40C, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -11.643 dBm M2 : 11.645 GHz : -11.291 dBm M3 : 11.643 GHz : -1.163 dBm	Channel Frequency: 11.64 GHz

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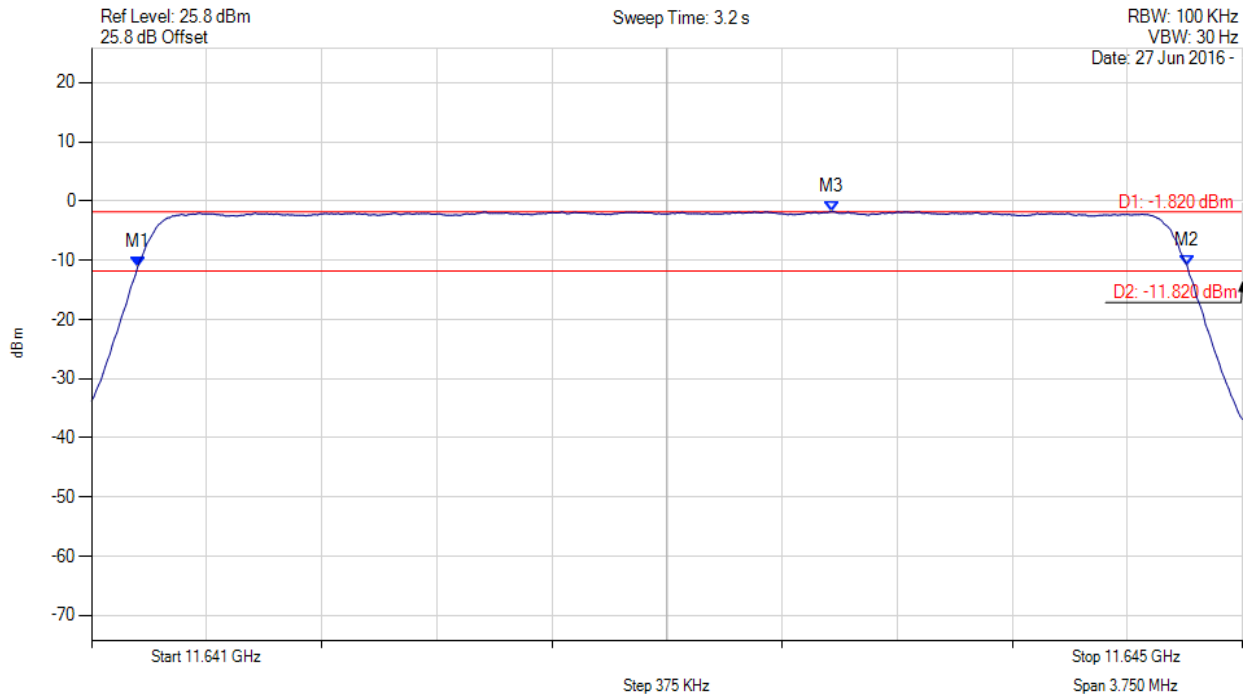


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Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: -30, Voltage: 50 Vdc

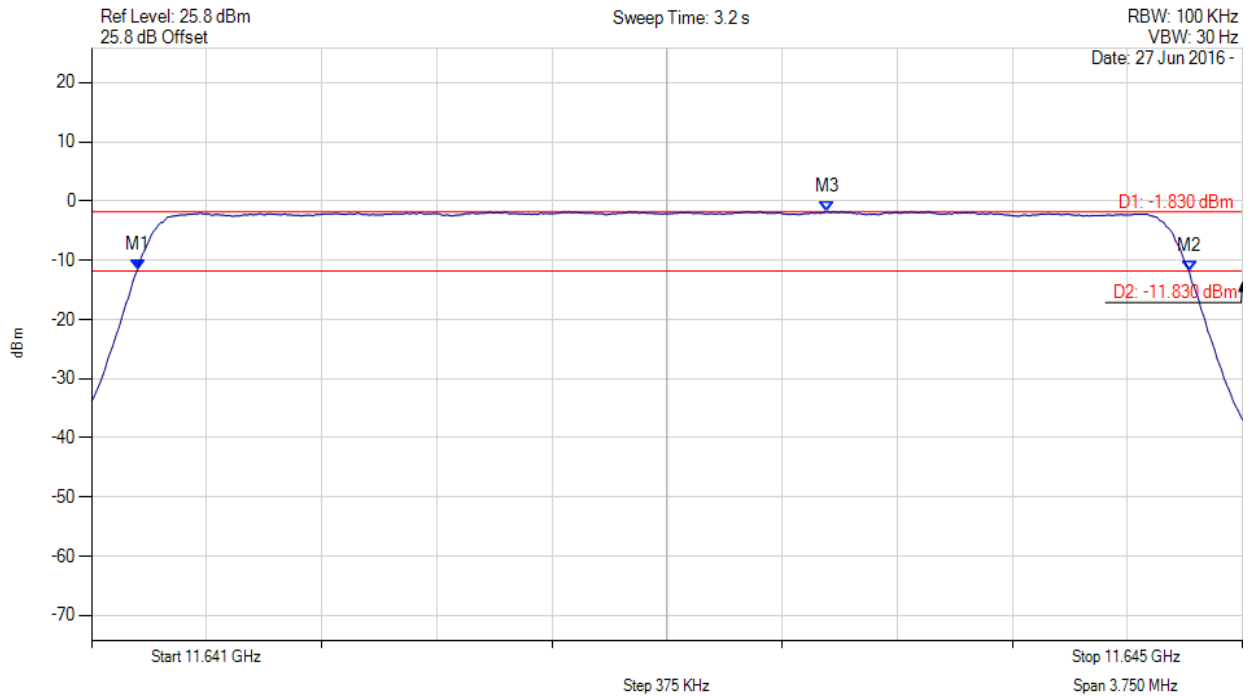


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -11.128 dBm M2 : 11.645 GHz : -10.876 dBm M3 : 11.644 GHz : -1.820 dBm	Channel Frequency: 11.64 GHz

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Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: -20, Voltage: 50 Vdc

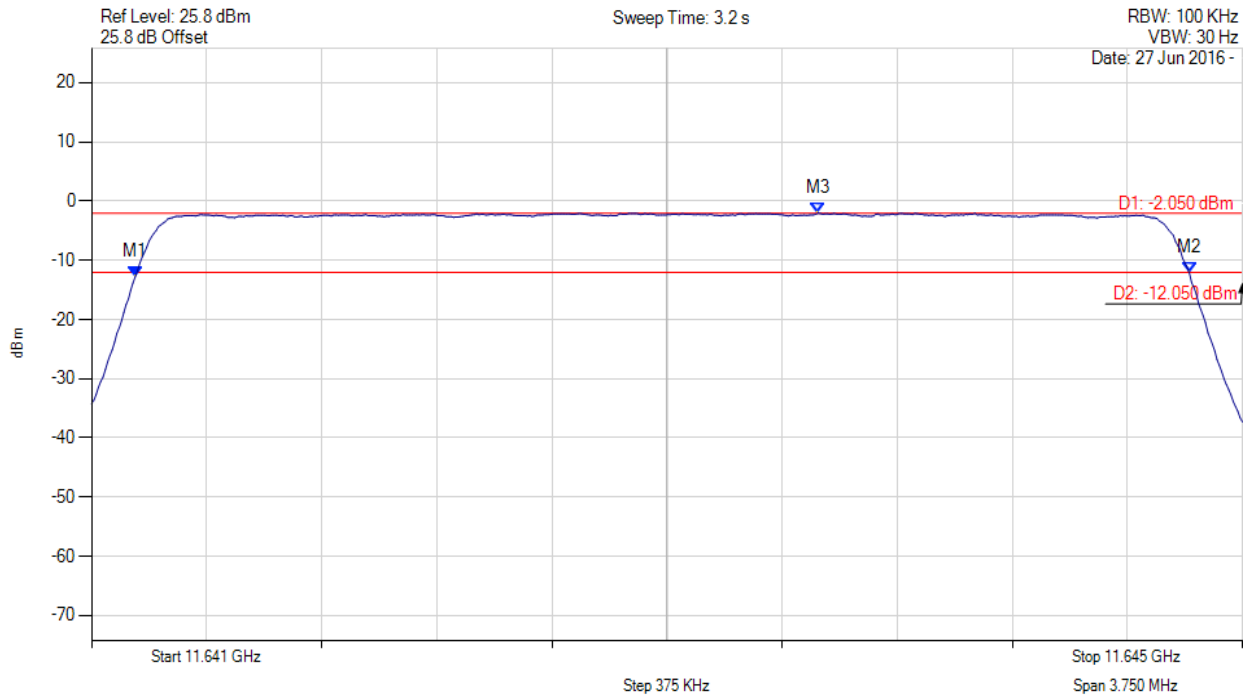


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -11.570 dBm M2 : 11.645 GHz : -11.934 dBm M3 : 11.644 GHz : -1.828 dBm	Channel Frequency: 11.64 GHz

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Frequency Stability

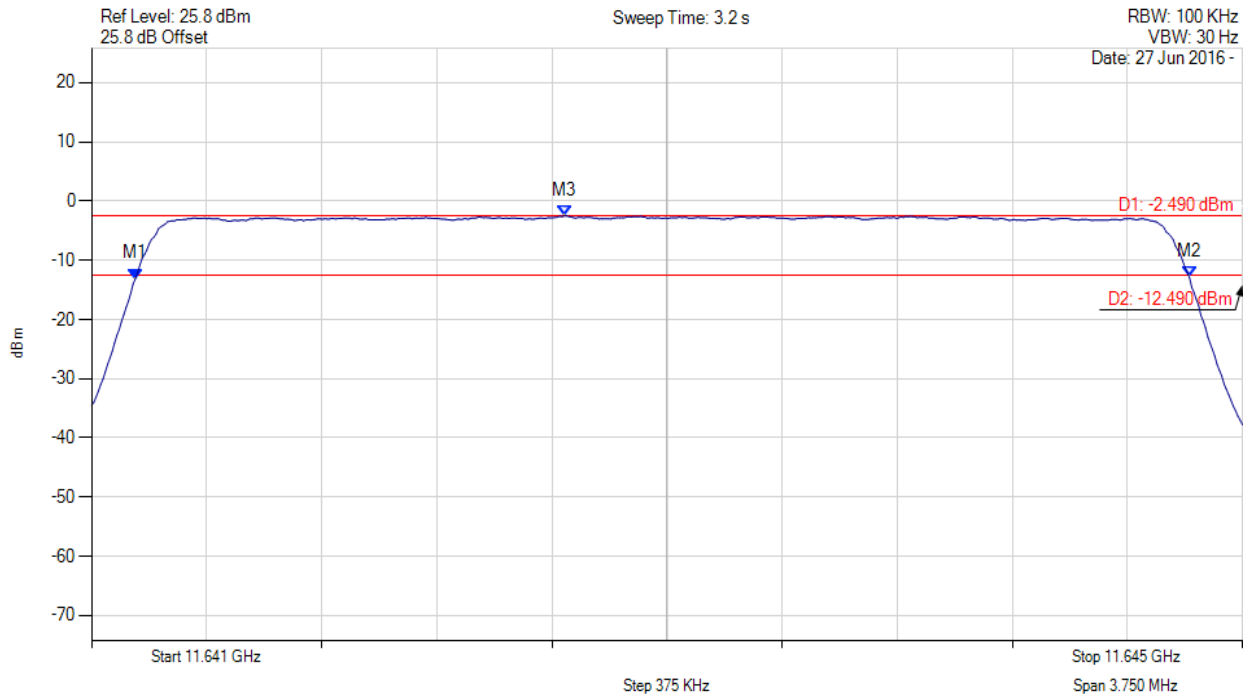
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: -10, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -12.721 dBm M2 : 11.645 GHz : -12.125 dBm M3 : 11.644 GHz : -2.052 dBm	Channel Frequency: 11.64 GHz

Frequency Stability

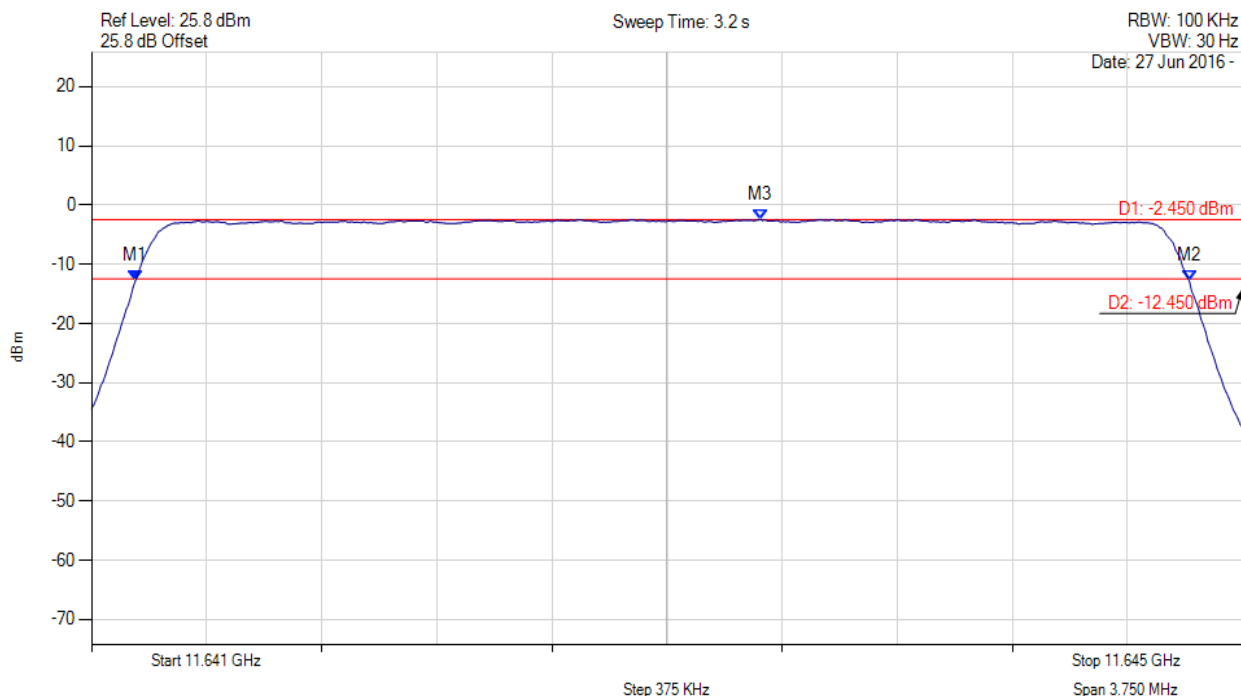
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: -0, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -13.146 dBm M2 : 11.645 GHz : -12.867 dBm M3 : 11.643 GHz : -2.489 dBm	Channel Frequency: 11.64 GHz

Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 10, Voltage: 50 Vdc

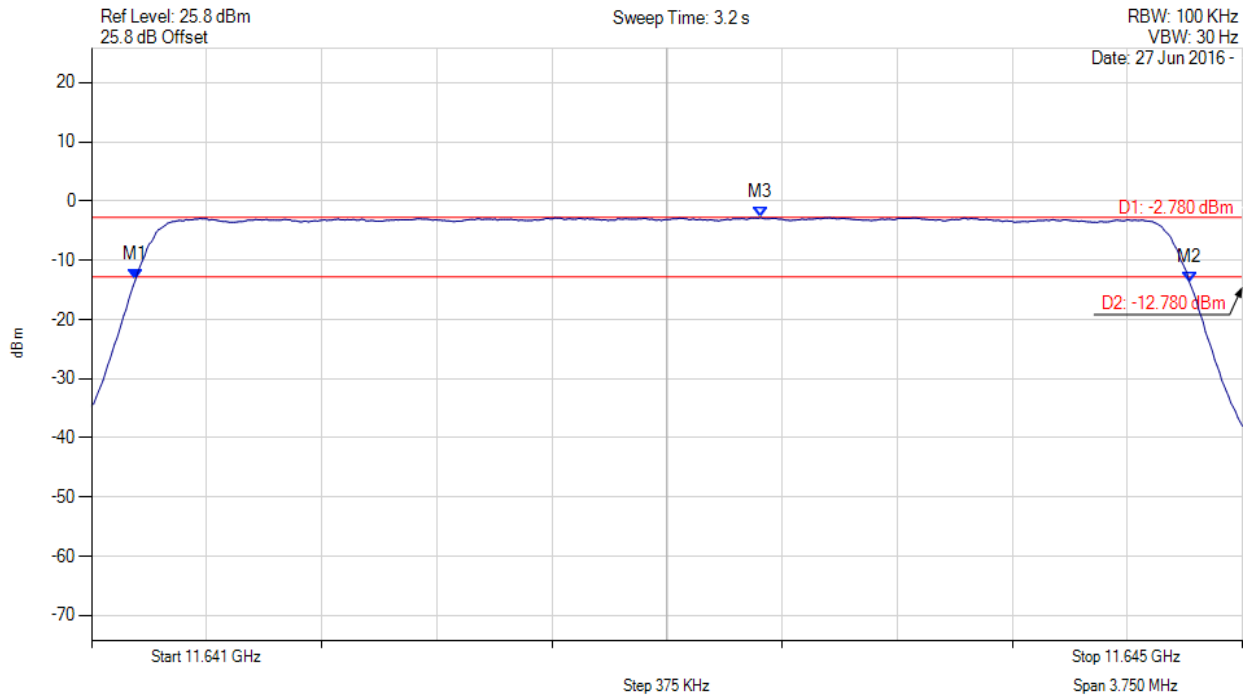


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -12.782 dBm M2 : 11.645 GHz : -12.871 dBm M3 : 11.643 GHz : -2.448 dBm	Channel Frequency: 11.64 GHz

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Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 30, Voltage: 50 Vdc

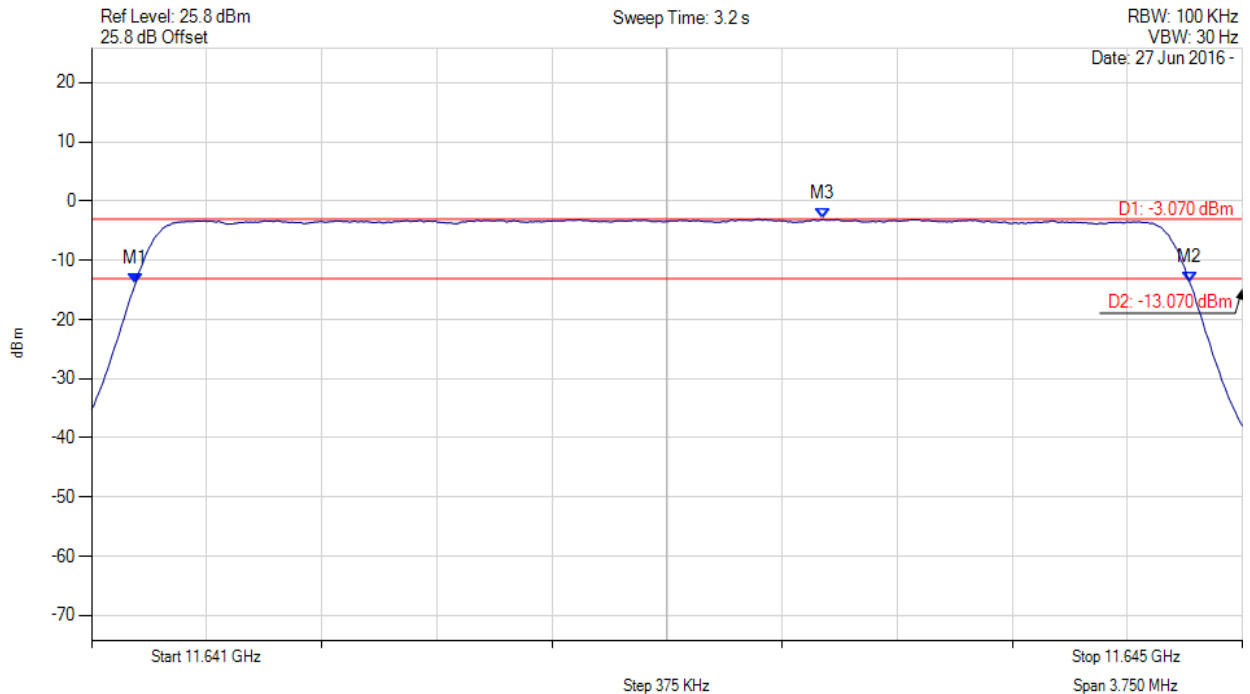


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -13.335 dBm M2 : 11.645 GHz : -13.721 dBm M3 : 11.643 GHz : -2.776 dBm	Channel Frequency: 11.64 GHz

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Frequency Stability

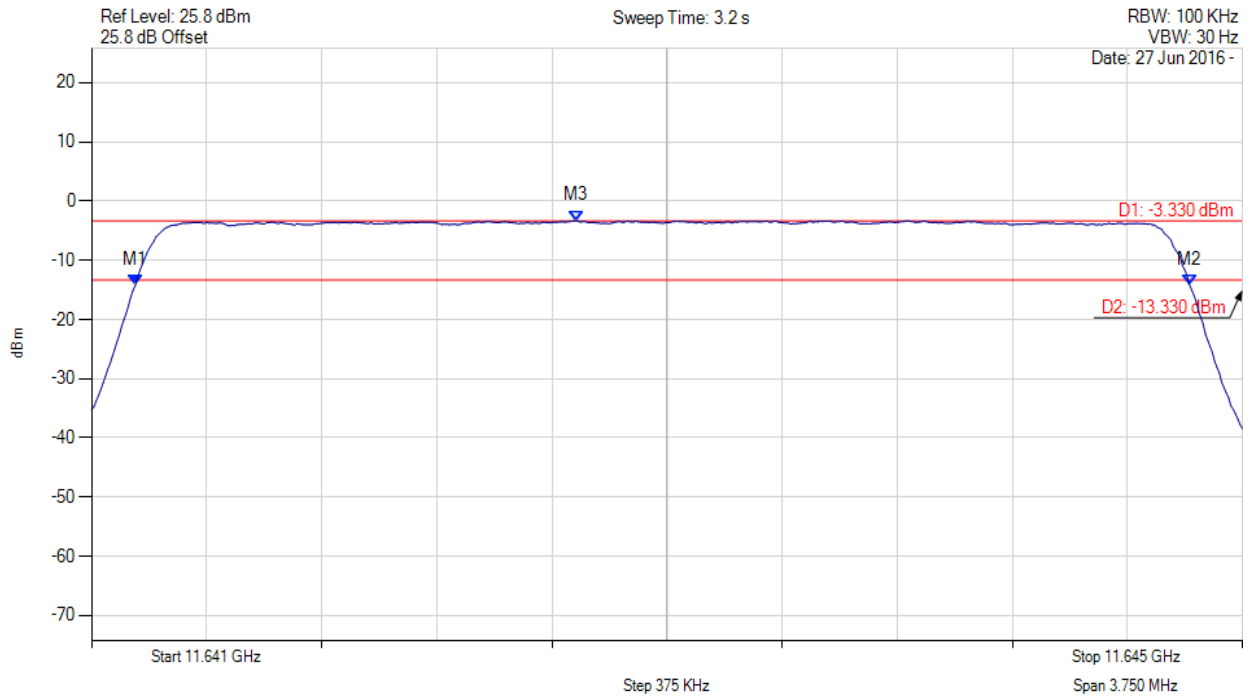
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 40, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -13.984 dBm M2 : 11.645 GHz : -13.628 dBm M3 : 11.644 GHz : -3.073 dBm	Channel Frequency: 11.64 GHz

Frequency Stability

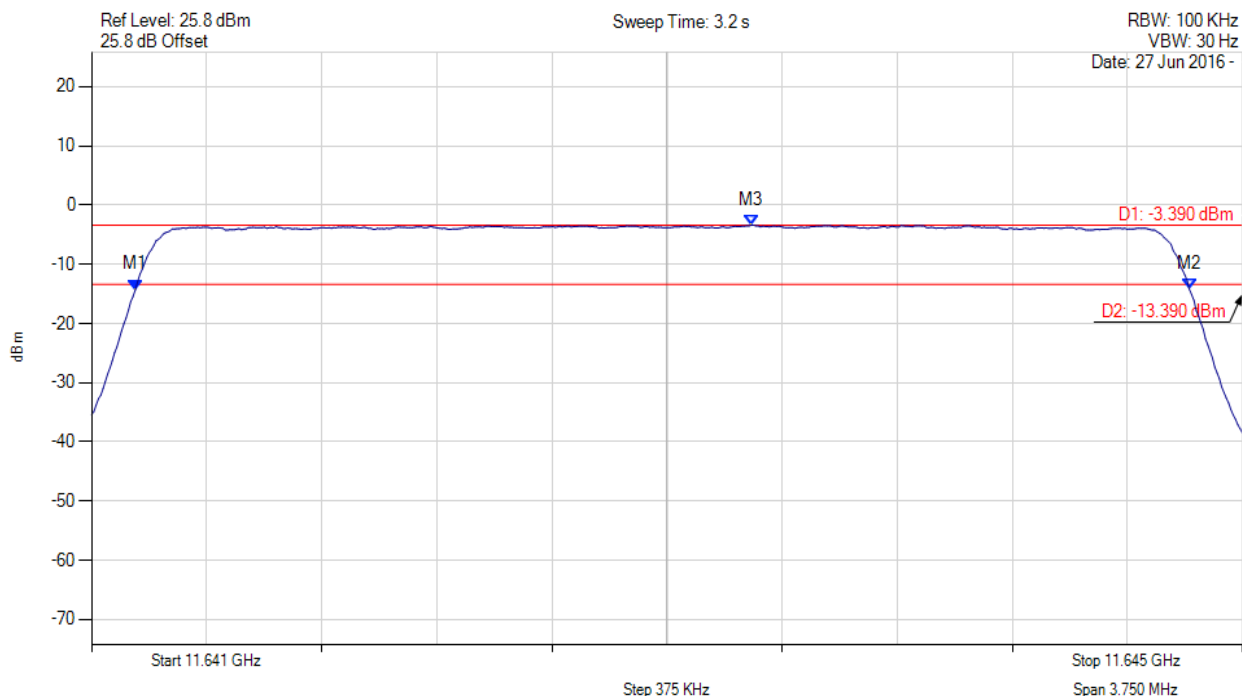
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 50, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -14.232 dBm M2 : 11.645 GHz : -14.159 dBm M3 : 11.643 GHz : -3.331 dBm	Channel Frequency: 11.64 GHz

Frequency Stability

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: 55, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AUTOPEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.641 GHz : -14.301 dBm M2 : 11.645 GHz : -14.224 dBm M3 : 11.643 GHz : -3.390 dBm	Channel Frequency: 11.64 GHz

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6.1.1.3. Output Power

Conducted Test Conditions for Maximum Conducted Output Power EIRP			
Standard:	FCC CFR 47 Part 101	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Output Power	Rel. Humidity (%):	32 - 45
Standard Section(s):	101.113	Pressure (mBars):	999 - 1001
Reference Document(s):			

Test Procedure for Maximum Conducted Output Power Measurement (EIRP)

Test methodology used a wideband average power meter. Measurements were made while the EUT was operating in a continuous transmission mode (100% duty cycle) at the appropriate centre frequency. All cable losses and offsets were taken into consideration in the measured result. All operational modes and frequency bands were measured independently and the resultant power calculated. For multiple outputs, the measurements were made simultaneously on each output port and summed in a linear fashion. This technique was used in order to prove compliance.

Power Settings

Power measurements were made from each antenna port and the power setting logged for each measurement.

Limits

Base stations are limited to less than 55 dBW (+85 dBm) maximum equivalent isotropically radiated power (e.i.r.p.).

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Equipment Configuration for Peak Transmit Power

Variant:	3.75 MHz	Antenna:	AF-11G35
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSk	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
11133.125	23.61	23.11	--	--	26.38	61.38	85.00	-23.62	
11643.125	22.75	21.96	--	--	25.38	60.38	85.00	-24.62	
11698.125	22.33	21.55	--	--	24.97	59.97	85.00	-25.03	

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	3.75 MHz	Antenna:	AF-11G35
Data Rate:	19.20 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
11133.125	23.52	23.30	--	--	26.38	61.38	85.00	-23.62	Unknown
11643.125	22.45	21.90	--	--	25.19	60.19	85.00	-24.81	Unknown
11698.125	22.21	21.54	--	--	24.96	59.96	85.00	-25.04	Unknown

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Peak Transmit Power

Variant:	5.00 MHz	Antenna:	AF-11G35
Data Rate:	6.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
11132.5	23.76	23.45	--	--	26.62	61.62	85.00	-23.38	Unknown
11622.5	22.81	21.96	--	--	25.42	60.42	85.00	-24.58	Unknown
11697.5	22.57	22.22	--	--	25.41	60.41	85.00	-24.59	Unknown

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	5.00 MHz	Antenna:	AF-11G35
Data Rate:	30.40 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
11132.5	23.75	23.40	--	--	26.62	61.62	85.00	-23.38	
11622.5	22.73	21.94	--	--	25.36	60.36	85.00	-24.64	
11697.5	22.58	22.02	--	--	25.31	60.31	85.00	-24.69	

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Peak Transmit Power

Variant:	10.00 MHz	Antenna:	AF-11G35
Data Rate:	12.80 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10705	25.64	25.13	--	--	28.40	63.4	85.00	-21.60	Unknown
11205	24.02	24.45	--	--	27.25	62.25	85.00	-22.75	Unknown
11695	22.72	23.56	--	--	26.17	61.17	85.00	-23.83	Unknown

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	10.00 MHz	Antenna:	AF-11G35
Data Rate:	64.00 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10705	25.43	25.12	--	--	28.40	63.40	85.00	-21.60	
11205	24.73	24.52	--	--	27.64	62.64	85.00	-22.36	
11695	22.72	23.52	--	--	26.15	61.15	85.00	-23.85	

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Peak Transmit Power

Variant:	30.00 MHz	Antenna:	AF-11G35
Data Rate:	38.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10715	25.74	25.50	--	--	28.63	63.63	85.00	-21.37	Unknown
11215	24.61	24.87	--	--	27.75	62.75	85.00	-22.25	Unknown
11685	22.77	22.73	--	--	25.76	60.76	85.00	-24.24	Unknown

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	30.00 MHz	Antenna:	AF-11G35
Data Rate:	190.40 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10715	25.84	25.47	--	--	28.63	63.63	85.00	-21.37	
11215	24.75	24.85	--	--	27.81	62.81	85.00	-22.19	
11685	22.78	22.72	--	--	25.76	60.76	85.00	-24.24	

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Peak Transmit Power

Variant:	40.00 MHz	Antenna:	AF-11G35
Data Rate:	49.92 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10735	25.96	25.62	--	--	28.80	63.80	85.00	-21.20	Unknown
11225	24.55	24.28	--	--	27.43	62.43	85.00	-22.57	Unknown
11665	23.49	23.42	--	--	26.47	61.47	85.00	-23.53	Unknown

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	40.00 MHz	Antenna:	AF-11G35
Data Rate:	249.60 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10735	25.97	25.61	--	--	28.80	63.80	85.00	-21.20	
11225	25.01	24.99	--	--	28.01	63.01	85.00	-21.99	
11665	23.70	23.40	--	--	26.46	61.46	85.00	-23.54	

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Peak Transmit Power

Variant:	50.00 MHz	Antenna:	AF-11G35
Data Rate:	61.12 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10755	27.45	26.36	--	--	29.95	64.95	85.00	-20.05	Unknown
11215	26.10	25.67	--	--	28.90	63.90	85.00	-21.10	Unknown
11645	25.84	25.06	--	--	28.48	63.48	85.00	-21.52	Unknown

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	50.00 MHz	Antenna:	AF-11G35
Data Rate:	305.60 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10755	26.61	26.35	--	--	29.95	64.95	85.00	-20.05	
11215	26.09	25.69	--	--	28.90	63.90	85.00	-21.10	
11645	25.85	25.03	--	--	28.46	63.46	85.00	-21.54	

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Peak Transmit Power

Variant:	56.00 MHz	Antenna:	AF-11G35
Data Rate:	68.16 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10755	27.60	27.05	--	--	30.34	65.34	85.00	-19.66	Unknown
11215	26.92	26.56	--	--	29.75	64.75	85.00	-20.25	Unknown
11645	25.88	25.06	--	--	28.50	63.50	85.00	-21.50	Unknown

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Peak Transmit Power

Variant:	56.00 MHz	Antenna:	AF-11G35
Data Rate:	340.80 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	1024QAM	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	EIRP	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	dBm	dBm	dBm	
10755	27.62	27.08	--	--	30.34	65.34	85.00	-19.66	
11215	26.92	26.58	--	--	29.76	64.76	85.00	-20.24	
11645	25.87	25.04	--	--	28.49	63.49	85.00	-21.51	

Traceability to Industry Recognized Test Methodologies

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

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6.1.1.4. Emission Limitations

Conducted Test Conditions for Transmitter Unwanted Emissions			
Standard:	FCC CFR 47: Part 101	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	Emission Limitations	Rel. Humidity (%):	32 - 45
Standard Section(s):	101.113	Pressure (mBars):	999 - 1001
Reference Document(s):			
Test Procedure for Emission Limitations			
The Transmitter Unwanted Emissions were measurement conductively. Testing was performed on individual antenna ports and limits applied to each plot respectively.			
Limits			
i) For operating frequencies below 15 GHz, in any 4 KHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:			
A = 35 + 0.8(P - 50) + 10 Log10 B. (Attenuation greater than 80 decibels or to an absolute power of less than -13 dBm/1MHz is not required.) where:			
A = Attenuation (in decibels) below the mean output power level.			
P = Percent removed from the center frequency of the transmitter bandwidth.			
B = Authorized bandwidth in MHz.			
Maximum chain output power found = (QPSK, Port A)			
NOTE: Each port on the device was tested individually to the worst case -13 dBm limit.			

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6.1.1.4.1 Conducted Spurious Emissions

Equipment Configuration for Conducted Spurious Emissions			
Variant:	3.75 MHz	Antenna:	AF-11G35
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A					
Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11133.125	30.0 – 1000.0	965010020.04	-44.13	-13.0	-31.13
	1000.0 – 10000.0	8989979960.00	-40.54		-27.54
	10000.0 – 20000.0	12705410820.00	-30.76		-17.76
	20000.0 – 30000.0	29298597190.00	-28.13		-15.13
	30000.0 – 40000.0	34108216430.00	-27.04		-14.04
	>40 GHz (not measured)*				

CHAIN B					
Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11133.125	30.0 – 1000.0	926132264.53	-43.51	-13.0	-30.51
	1000.0 – 10000.0	8989979996.00	-38.28		-25.28
	10000.0 – 20000.0	14128256510.00	-29.50		-16.50
	20000.0 – 30000.0	26973947900.00	-28.24		-15.24
	30000.0 – 40000.0	36533066130.00	-26.66		-13.66
	>40 GHz (not measured)*				

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	3.75 MHz	Antenna:	AF-11G35
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11643.125	30.0 – 1000.0	984448897.80	44.22	-13.0	-31.22
	1000.0 – 10000.0	9494989980.00	-35.37		-22.37
	10000.0 – 20000.0	13527054110.00	-30.59		-17.59
	20000.0 – 30000.0	27014028060.00	-29.09		-16.09
	30000.0 – 40000.0	35390781560.00	-27.35		-14.35
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11643.125	30.0 – 1000.0	959178656.71	-43.50	-13.0	-30.50
	1000.0 – 10000.0	9494989980.00	-36.66		-23.66
	10000.0 – 20000.0	14068136270.00	-29.87		-16.87
	20000.0 – 30000.0	26993987980.00	-28.39		-15.39
	30000.0 – 40000.0	35390781560.00	-26.49		-13.49
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	3.75 MHz	Antenna:	AF-11G35
Data Rate:	3.84 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11698.125	30.0 – 1000.0	984448897.80	44.22	-13.0	-31.22
	1000.0 – 10000.0	9494989980.00	-35.37		-22.37
	10000.0 – 20000.0	13527054110.00	-30.59		-17.59
	20000.0 – 30000.0	27014028060.00	-29.09		-16.09
	30000.0 – 40000.0	35390781560.00	-27.35		-14.35
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11698.125	30.0 – 1000.0	959178656.71	-43.50	-13.0	-30.54
	1000.0 – 10000.0	9549098200.00	-33.70		-20.70
	10000.0 – 20000.0	14088176350.00	-30.62		-17.62
	20000.0 – 30000.0	29098196390.00	-28.22		-15.22
	30000.0 – 40000.0	35370741480.00	-26.66		-13.66
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	5.00 MHz	Antenna:	AF-11G35
Data Rate:	6.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11132.5	30.0 – 1000.0	731743486.97	-52.73	-13.0	-39.73
	1000.0 – 10000.0	8989979960.00	-39.73		-26.73
	10000.0 – 20000.0	14048096190.00	-30.32		-17.32
	20000.0 – 30000.0	29338677350.00	-28.5		-15.50
	30000.0 – 40000.0	35410821640.00	-26.26		-13.26
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11132.5	30.0 – 1000.0	924188376.75	-52.03	-13.0	-39.03
	1000.0 – 10000.0	8989979960.00	-39.94		-26.94
	10000.0 – 20000.0	14929859720.00	-30.18		-17.18
	20000.0 – 30000.0	29559118240.00	-29.26		-16.26
	30000.0 – 40000.0	36793587170.00	-26.44		-13.44
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	5.00 MHz	Antenna:	AF-11G35
Data Rate:	6.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11622.5	30.0 – 1000.0	961122244.49	-52.69	-13.0	-39.69
	1000.0 – 10000.0	9513026050.00	-37.97		-24.97
	10000.0 – 20000.0	13266533070.00	-30.19		-17.19
	20000.0 – 30000.0	27014028060.00	-28.50		-15.50
	30000.0 – 40000.0	35511022040.00	-26.68		-13.68
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11622.5	30.0 – 1000.0	951402805.61	-52.11	-13.0	-39.11
	1000.0 – 10000.0	9513026050.00	-35.24		-22.24
	10000.0 – 20000.0	14769539080.00	-30.57		-17.57
	20000.0 – 30000.0	29298597190.00	-28.69		-15.69
	30000.0 – 40000.0	36492987970.00	-27.30		-14.30
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	5.00 MHz	Antenna:	AF-11G35
Data Rate:	6.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11697.5	30.0 – 1000.0	957234468.94	-52.78	-13.0	-39.78
	1000.0 – 10000.0	9549098200.00	-33.58		-20.58
	10000.0 – 20000.0	13386773550.00	-30.03		-17.03
	20000.0 – 30000.0	29438877760.00	-29.28		-16.28
	30000.0 – 40000.0	34308617230.00	-26.51		-13.51
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11697.5	30.0 – 1000.0	904749499.00	-52.81	-13.0	-39.81
	1000.0 – 10000.0	9549098200.00	-36.15		-23.15
	10000.0 – 20000.0	13406813630.00	-30.00		-17.00
	20000.0 – 30000.0	29138276550.00	-29.09		-16.09
	30000.0 – 40000.0	35531062120.00	-26.43		-13.43
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	10.00 MHz	Antenna:	AF-11G35
Data Rate:	12.80 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
10705	30.0 – 1000.0	978617234.47	-44.46	-13.0	-31.46
	1000.0 – 10000.0	8557114230.00	-32.38		-19.38
	10000.0 – 20000.0	13286573150.00	-40.78		-27.78
	20000.0 – 30000.0	26933867740.00	-29.03		-16.03
	30000.0 – 40000.0	35270541080.00	-27.05		-14.05
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
10705	30.0 – 1000.0	926132264.53	-44.17	-13.0	-31.17
	1000.0 – 10000.0	8557114230.00	-34.31		-21.31
	10000.0 – 20000.0	13486973950.00	-40.84		-27.84
	20000.0 – 30000.0	28136272550.00	-28.49		-15.49
	30000.0 – 40000.0	35390781560.00	-27.06		-14.06
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	10.00 MHz	Antenna:	AF-11G35
Data Rate:	12.80 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11205	30.0 – 1000.0	963066132.26	-44.34	-13.0	-31.34
	1000.0 – 10000.0	6915831660.00	-40.68		-27.68
	10000.0 – 20000.0	12424849700.00	-40.80		-27.80
	20000.0 – 30000.0	28196392790.00	-28.65		-15.65
	30000.0 – 40000.0	35210420840.00	-25.58		-12.58
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11205	30.0 – 1000.0	953346693.39	-43.38	-13.0	-30.38
	1000.0 – 10000.0	9062124250.00	-40.23		-27.23
	10000.0 – 20000.0	13286573150.00	-40.35		-27.35
	20000.0 – 30000.0	28016032060.00	-28.85		-15.85
	30000.0 – 40000.0	35350701400.00	-26.77		-13.77
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	10.00 MHz	Antenna:	AF-11G35
Data Rate:	12.80 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11695	30.0 – 1000.0	922244488.98	-44.46	-13.0	-31.46
	1000.0 – 10000.0	9549098200.00	-33.55		-20.55
	10000.0 – 20000.0	13106212420.00	-40.01		-27.01
	20000.0 – 30000.0	26973947900.00	-28.68		-15.68
	30000.0 – 40000.0	35450901800.00	-26.59		-13.59
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11695	30.0 – 1000.0	961122244.49	-44.55	-13.0	-31.55
	1000.0 – 10000.0	9549098200.00	-37.59		-24.59
	10000.0 – 20000.0	13306613230.00	-40.29		-27.29
	20000.0 – 30000.0	29519038080.00	-28.95		-15.95
	30000.0 – 40000.0	35430861720.00	-25.97		-12.97
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	30.00 MHz	Antenna:	AF-11G35
Data Rate:	38.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
10715	30.0 – 1000.0	951402085.61	-43.67	-13.0	-30.67
	1000.0 – 10000.0	8575150030.00	-34.52		-21.52
	10000.0 – 20000.0	12785571140.00	-40.10		-27.10
	20000.0 – 30000.0	26973947900.00	-28.33		-15.33
	30000.0 – 40000.0	35190380760.00	-25.85		-12.85
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
10715	30.0 – 1000.0	972785571.14	-43.87	-13.0	-30.87
	1000.0 – 10000.0	8575150030.00	-32.15		-19.15
	10000.0 – 20000.0	13547094190.00	-40.47		-27.47
	20000.0 – 30000.0	28176352710.00	-28.62		-15.62
	30000.0 – 40000.0	35170340680.00	-26.8		-13.80
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	30.00 MHz	Antenna:	AF-11G35
Data Rate:	38.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11215	30.0 – 1000.0	965010020.04	-44.59	-13.0	-31.59
	1000.0 – 10000.0	9080160320.00	-40.56		-27.56
	10000.0 – 20000.0	13286573150.00	-40.61		-27.61
	20000.0 – 30000.0	26713426850.00	-29.12		-16.12
	30000.0 – 40000.0	35390781560.00	-26.89		-13.89
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11215	30.0 – 1000.0	918356713.43	-44.36	-13.0	-31.36
	1000.0 – 10000.0	8989979960.00	-40.25		-27.25
	10000.0 – 20000.0	14088176350.00	-40.40		-27.40
	20000.0 – 30000.0	29118236470.00	-28.72		-15.72
	30000.0 – 40000.0	35430861720.00	-26.83		-13.83
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	30.00 MHz	Antenna:	AF-11G35
Data Rate:	38.08 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11685	30.0 – 1000.0	906693386.77	-44.35	-13.0	-31.35
	1000.0 – 10000.0	9549098200.00	-35.22		-22.22
	10000.0 – 20000.0	14068136270.00	-40.28		-27.28
	20000.0 – 30000.0	26953907820.00	-28.99		-15.99
	30000.0 – 40000.0	35330661320.00	-26.96		-13.96
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11685	30.0 – 1000.0	984448897.80	-44.50	-13.0	-31.50
	1000.0 – 10000.0	9549098200.00	-37.87		-24.87
	10000.0 – 20000.0	14068136270.00	-40.70		-27.70
	20000.0 – 30000.0	28036072140.00	-28.68		-15.68
	30000.0 – 40000.0	35490981960.00	-26.27		-13.27
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	40.00 MHz	Antenna:	AF-11G35
Data Rate:	49.92 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
10735	30.0 – 1000.0	931.96	-44.31	-13.0	-31.31
	1000.0 – 10000.0	8593186370.00	-34.66		-21.66
	10000.0 – 20000.0	11202404810.00	-39.97		-26.97
	20000.0 – 30000.0	26973947900.00	-28.43		-15.43
	30000.0 – 40000.0	35370741480.00	-26.86		-13.86
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
10735	30.0 – 1000.0	972.79	-44.07	-13.0	-31.07
	1000.0 – 10000.0	8593186370.00	-32.38		-19.38
	10000.0 – 20000.0	14048096190.00	-40.46		-27.46
	20000.0 – 30000.0	26993987980.00	-28.87		-15.87
	30000.0 – 40000.0	35490981960.00	-27.13		-14.13
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	40.00 MHz	Antenna:	AF-11G35
Data Rate:	49.92 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11225	30.0 – 1000.0	930020040.08	-43.88	-13.0	-30.88
	1000.0 – 10000.0	7474949900.00	-40.75		-27.75
	10000.0 – 20000.0	13547094190.00	-40.29		-27.29
	20000.0 – 30000.0	29058116230.00	-28.50		-15.50
	30000.0 – 40000.0	35490981960.00	-26.70		-13.70
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11225	30.0 – 1000.0	976673346.69	-44.20	-13.0	-31.20
	1000.0 – 10000.0	6789579160.00	-40.34		-27.34
	10000.0 – 20000.0	12044088180.00	-40.52		-27.52
	20000.0 – 30000.0	29158316630.00	-28.34		-15.34
	30000.0 – 40000.0	35410821640.00	-26.86		-13.86
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	40.00 MHz	Antenna:	AF-11G35
Data Rate:	49.92 Mbit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11665	30.0 – 1000.0	918356713.43	-43.93	-13.0	-30.93
	1000.0 – 10000.0	6717434870.00	-40.41		-27.41
	10000.0 – 20000.0	13366733470.00	-40.76		-27.76
	20000.0 – 30000.0	28158312630.00	-28.43		-15.43
	30000.0 – 40000.0	31643286570.00	-27.03		-14.03
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11665	30.0 – 1000.0	928076152.30	-43.47	-13.0	-30.47
	1000.0 – 10000.0	9080160320.00	-40.63		-27.63
	10000.0 – 20000.0	14088176350.00	-39.87		-26.87
	20000.0 – 30000.0	27014028060.00	-29.44		-16.44
	30000.0 – 40000.0	35511022040.00	-26.81		-13.81
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	50.00 MHz	Antenna:	AF-11G35
Data Rate:	61.12 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
10755	30.0 – 1000.0	918356713.43	-43.68	-13.0	-30.68
	1000.0 – 10000.0	8611222440.00	-33.63		-20.63
	10000.0 – 20000.0	13547094190.00	-40.30		-27.30
	20000.0 – 30000.0	270541108220.00	-29.04		-16.04
	30000.0 – 40000.0	35430861720.00	-26.64		-13.64
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
10755	30.0 – 1000.0	939739478.96	-44.23	-13.0	-31.23
	1000.0 – 10000.0	8611222440.00	-32.22		-19.22
	10000.0 – 20000.0	14068136270.00	-40.70		-27.70
	20000.0 – 30000.0	27014028060.00	-28.70		-15.70
	30000.0 – 40000.0	36653306610.00	-26.56		-27.70
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	50.00 MHz	Antenna:	AF-11G35
Data Rate:	61.12 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11215	30.0 – 1000.0	930020040.08	-44.24	-13.0	-31.24
	1000.0 – 10000.0	6969939880.00	-41.01		-28.01
	10000.0 – 20000.0	12865731460.00	-40.73		-27.73
	20000.0 – 30000.0	26993987980.00	-28.64		-15.64
	30000.0 – 40000.0	35170340680.00	-26.48		-13.48
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11215	30.0 – 1000.0	947515030.06	-43.34	-13.0	-30.34
	1000.0 – 10000.0	9080160320.00	-40.57		-27.57
	10000.0 – 20000.0	12705410820.00	-40.88		-27.88
	20000.0 – 30000.0	27875751500.00	-28.59		-15.59
	30000.0 – 40000.0	35511022040.00	-26.79		-13.79
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	50.00 MHz	Antenna:	AF-11G35
Data Rate:	61.12 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11645	30.0 – 1000.0	918356713.43	-43.26	-13.0	-30.26
	1000.0 – 10000.0	9494989980.00	-37.20		-24.20
	10000.0 – 20000.0	14188376750.00	-39.72		-26.72
	20000.0 – 30000.0	27134268540.00	-28.63		-15.63
	30000.0 – 40000.0	35511022040.00	-26.73		-13.73
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11645	30.0 – 1000.0	931963927.86	-44.72	-13.0	-31.72
	1000.0 – 10000.0	9494989980.00	-38.98		-25.98
	10000.0 – 20000.0	14248496990.00	-40.81		-27.81
	20000.0 – 30000.0	27034068140.00	-28.41		-15.41
	30000.0 – 40000.0	36513026050.00	-26.76		-13.76
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	56.00 MHz	Antenna:	AF-11G35
Data Rate:	68.16 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
10755	30.0 – 1000.0	949458917.84	-44.29	-13.0	-31.29
	1000.0 – 10000.0	8611222440.00	-36.42		-23.42
	10000.0 – 20000.0	11603206410.00	-41.22		-28.22
	20000.0 – 30000.0	27995991980.00	-28.33		-15.33
	30000.0 – 40000.0	35230460920.00	-26.18		-13.18
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
10755	30.0 – 1000.0	988336673.35	-43.95	-13.0	-30.95
	1000.0 – 10000.0	8611222440.00	-33.62		-20.62
	10000.0 – 20000.0	12685370740.00	-40.38		-27.38
	20000.0 – 30000.0	26993987980.00	-28.95		-15.95
	30000.0 – 40000.0	35310621240.00	-26.91		-13.91
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	56.00 MHz	Antenna:	AF-11G35
Data Rate:	68.16 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11215	30.0 – 1000.0	813386773.55	-44.46	-13.0	-31.46
	1000.0 – 10000.0	6987975950.00	-40.94		-27.94
	10000.0 – 20000.0	11963927860.00	-40.84		-27.84
	20000.0 – 30000.0	26893787580.00	-28.98		-15.98
	30000.0 – 40000.0	35490981960.00	-26.86		-13.86
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11215	30.0 – 1000.0	943627254.51	-43.99	-13.0	-30.99
	1000.0 – 10000.0	8124248500.00	-40.40		-27.40
	10000.0 – 20000.0	11983967940.00	-41.14		-28.14
	20000.0 – 30000.0	29258717430.00	-28.57		-15.57
	30000.0 – 40000.0	35270541080.00	-26.74		-13.74
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for Conducted Spurious Emissions

Variant:	56.00 MHz	Antenna:	AF-11G35
Data Rate:	68.16 MBit/s	Antenna Gain (dBi):	35.00
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
Duty Cycle:	100.00	Tested By:	CC
Engineering Test Notes:	None		

Test Measurement Results

CHAIN A

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range (MHz)	Hz	dBm	dBm	dB
11645	30.0 – 1000.0	99222448.90	-43.03	-13.0	-30.03
	1000.0 – 10000.0	9494989980.00	-38.14		-25.14
	10000.0 – 20000.0	12585170340.00	-40.82		-27.82
	20000.0 – 30000.0	26993987980.00	-29.50		-16.50
	30000.0 – 40000.0	35390781560.00	-26.65		-13.65
	>40 GHz (not measured)*				

CHAIN B

Temperature	20.0 °C	Maximum Observed Spurious Emission		Limit	Margin
Voltage	48.00 Vdc	Amplitude	Emission Frequency		
Test Frequency	Frequency Range	Hz	dBm	dBm	dB
11645	30.0 – 1000.0	984448897.80	-43.75	-13.0	-30.75
	1000.0 – 10000.0	9494989980.00	-38.49		-25.49
	10000.0 – 20000.0	12785571140.00	-41.59		-28.59
	20000.0 – 30000.0	26953907820.00	-28.95		-15.95
	30000.0 – 40000.0	34328756310.00	-26.84		-13.84
	>40 GHz (not measured)*				

Traceability to Industry Recognized Test Methodologies

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

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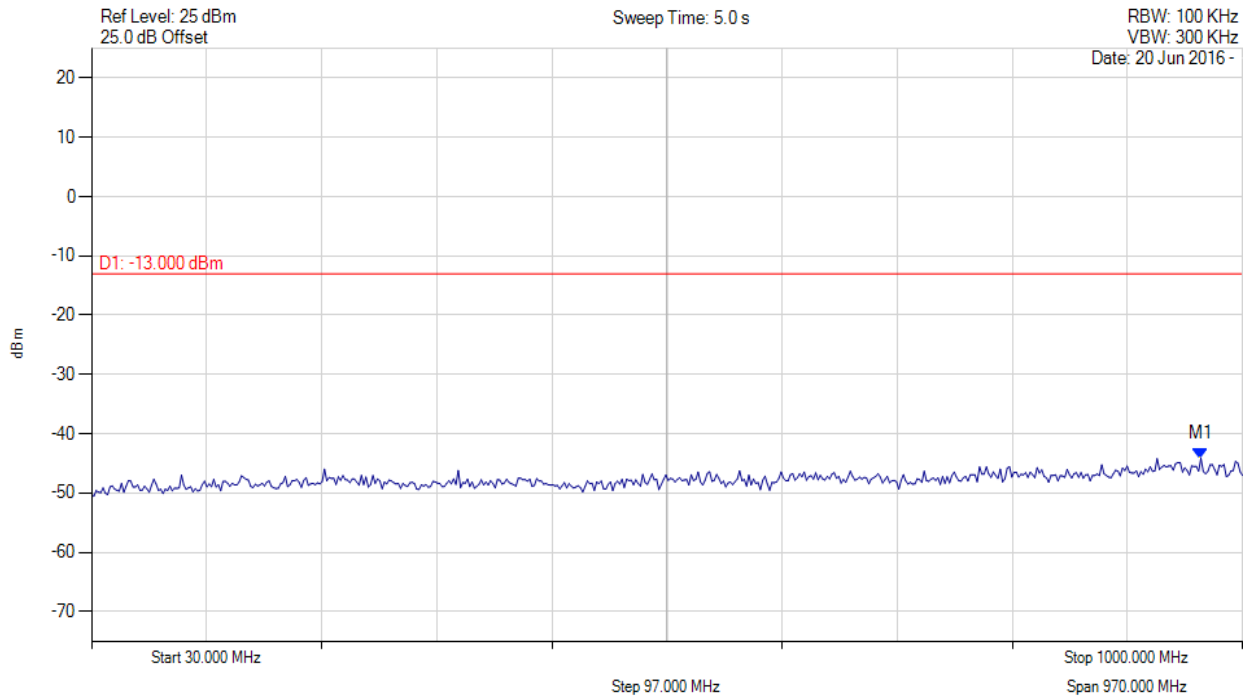


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Unwanted Emissions 30-1000MHz

Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 965.010 MHz : -44.131 dBm	Channel Frequency: 10.72 GHz

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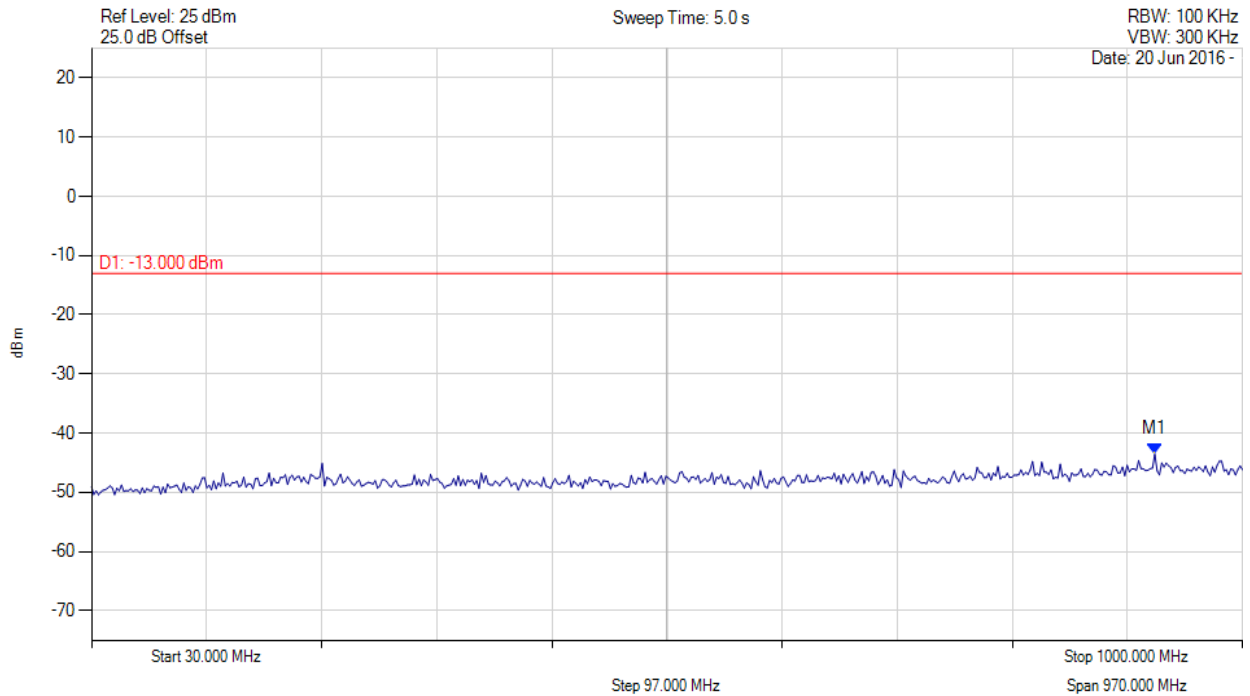


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Unwanted Emissions 30-1000MHz

Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 926.132 MHz : -43.509 dBm	Channel Frequency: 10.72 GHz

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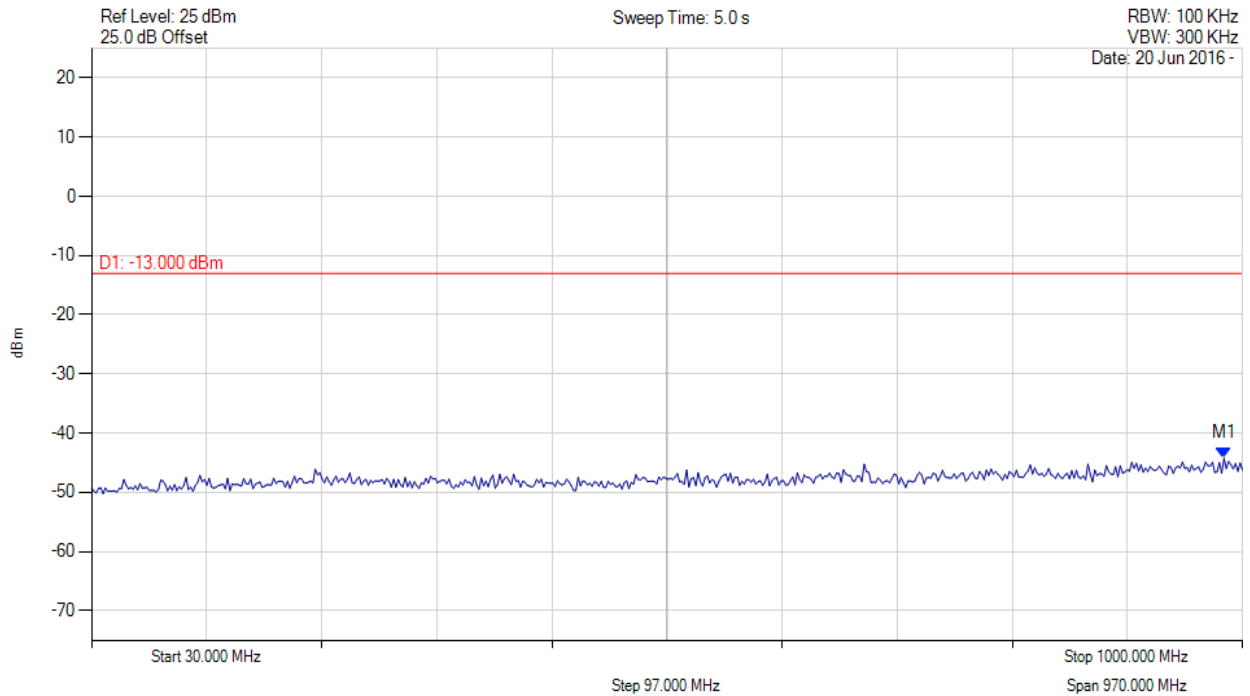


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Unwanted Emissions 30-1000MHz

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 984.449 MHz : -44.225 dBm	Channel Frequency: 11.25 GHz

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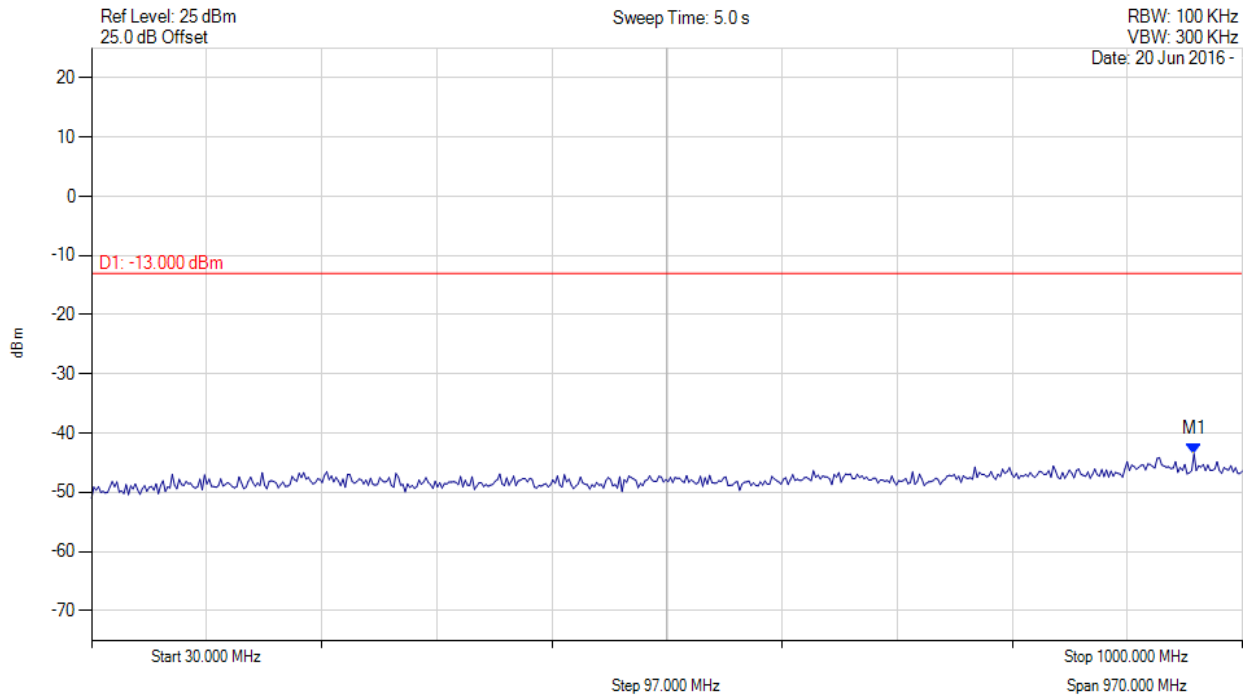


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Unwanted Emissions 30-1000MHz

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 959.178 MHz : -43.503 dBm	Channel Frequency: 11.25 GHz

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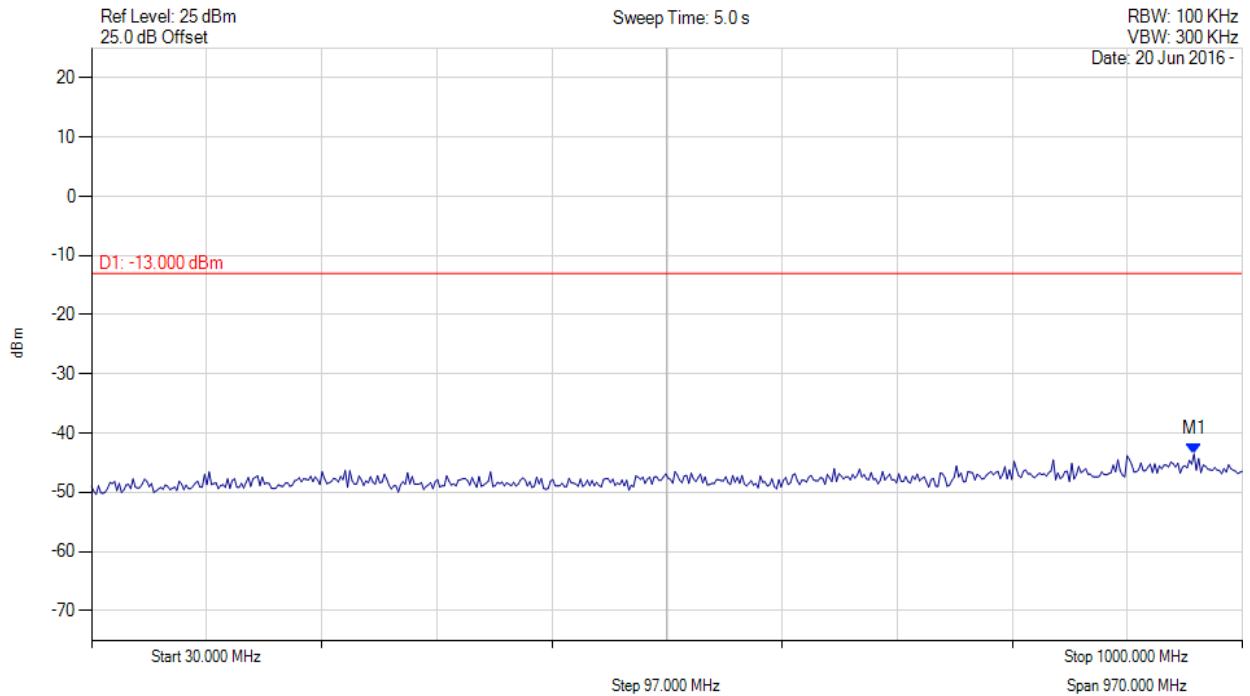


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Unwanted Emissions 30-1000MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 959.178 MHz : -43.540 dBm	Channel Frequency: 11.69 GHz

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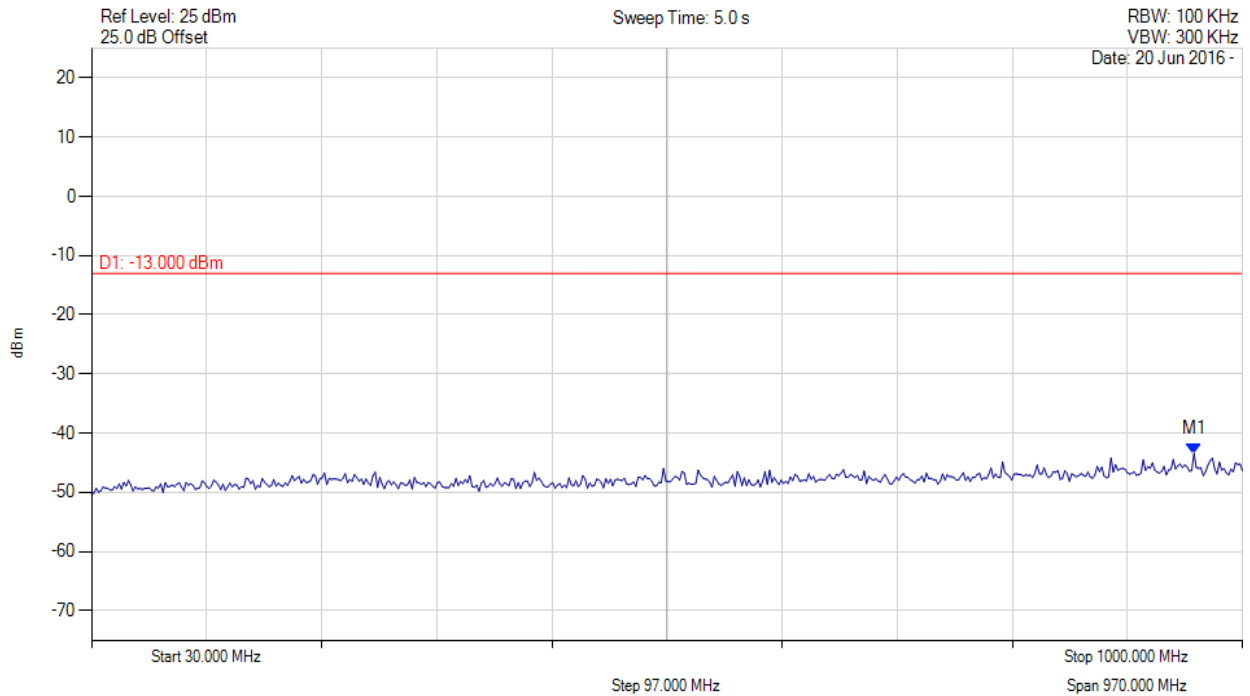


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Unwanted Emissions 30-1000MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 959.178 MHz : -43.430 dBm	Channel Frequency: 11.69 GHz

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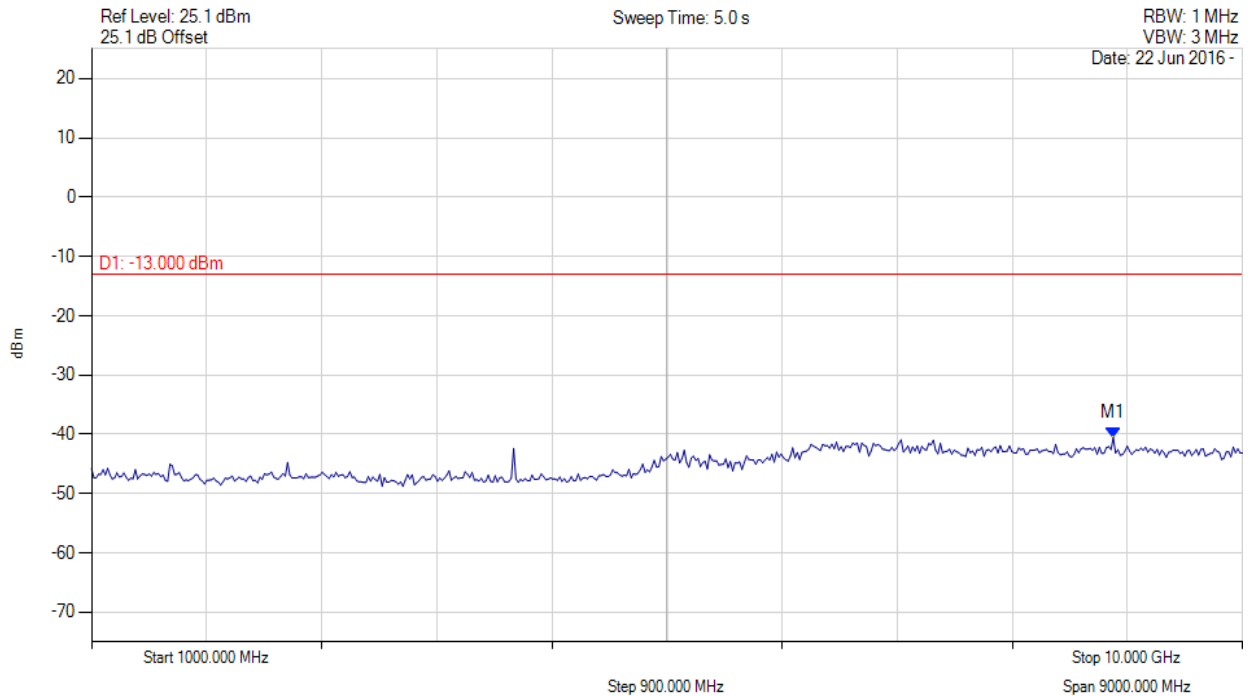


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Unwanted Emissions 1000-10000 MHz

Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

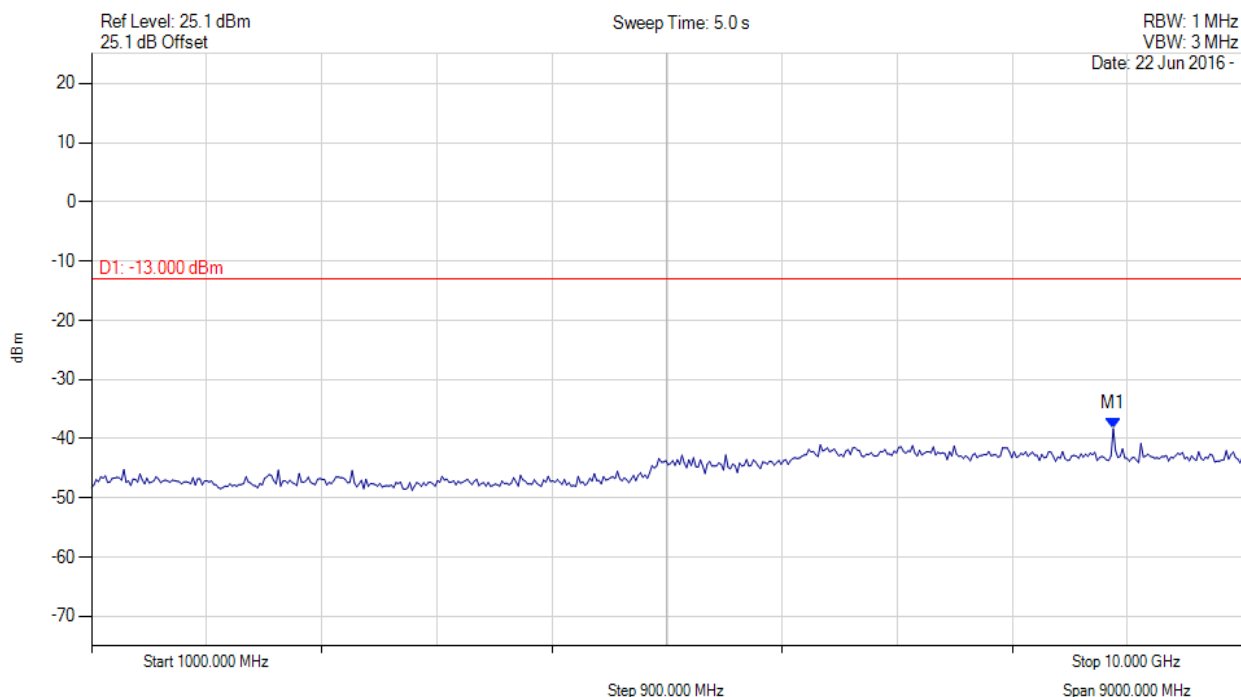


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 8989.980 MHz : -40.541 dBm	Channel Frequency: 11.13 GHz

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Unwanted Emissions 1000-10000 MHz

Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 8989.980 MHz : -38.282 dBm	Channel Frequency: 11.13 GHz

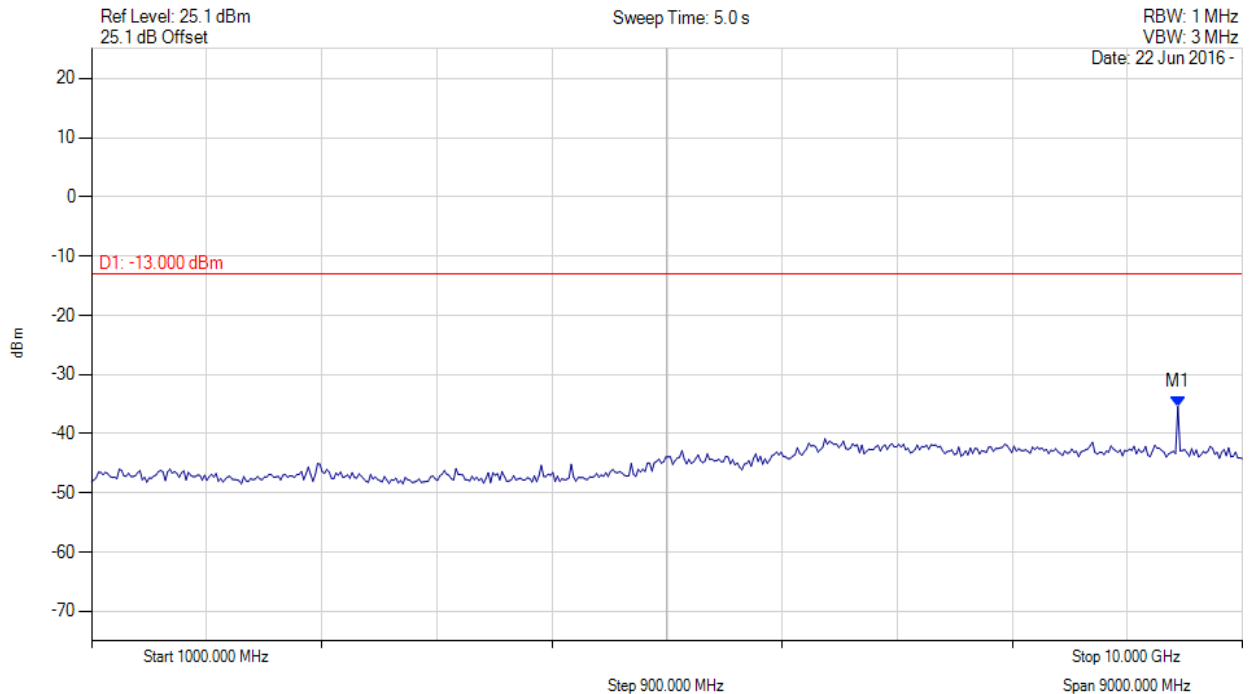


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Unwanted Emissions 1000-10000 MHz

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

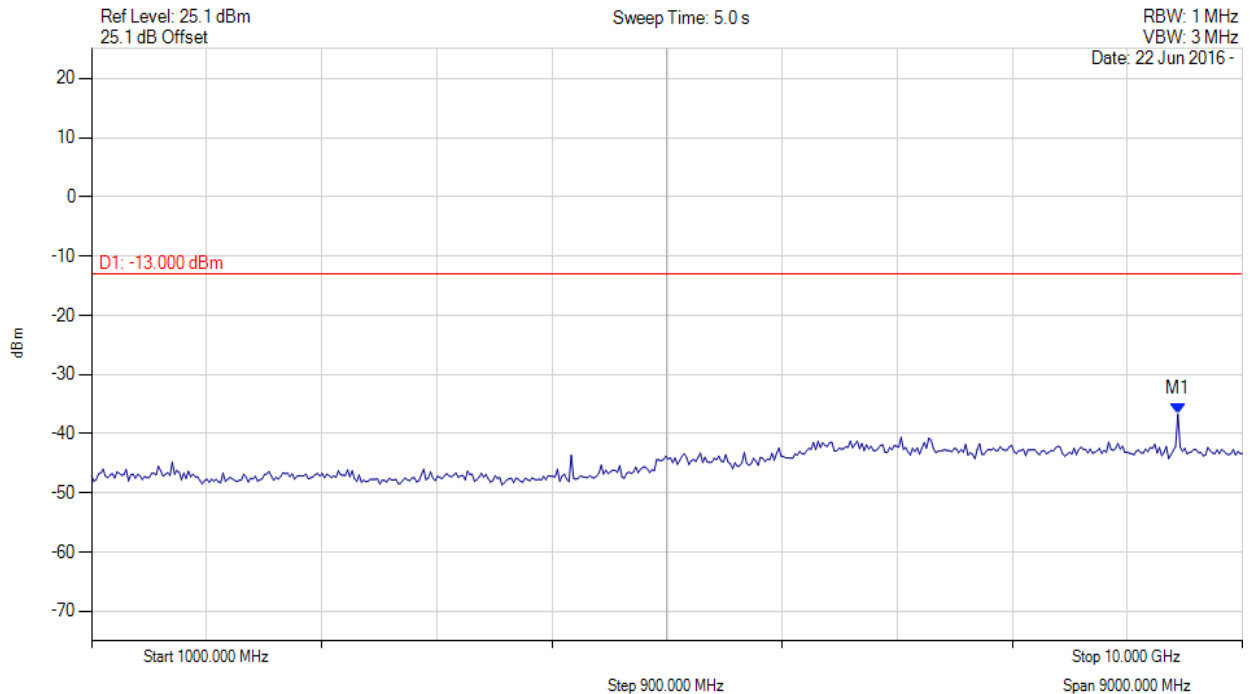


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9494.990 MHz : -35.367 dBm	Channel Frequency: 11.64 GHz

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Unwanted Emissions 1000-10000 MHz

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9494.990 MHz : -36.661 dBm	Channel Frequency: 11.64 GHz

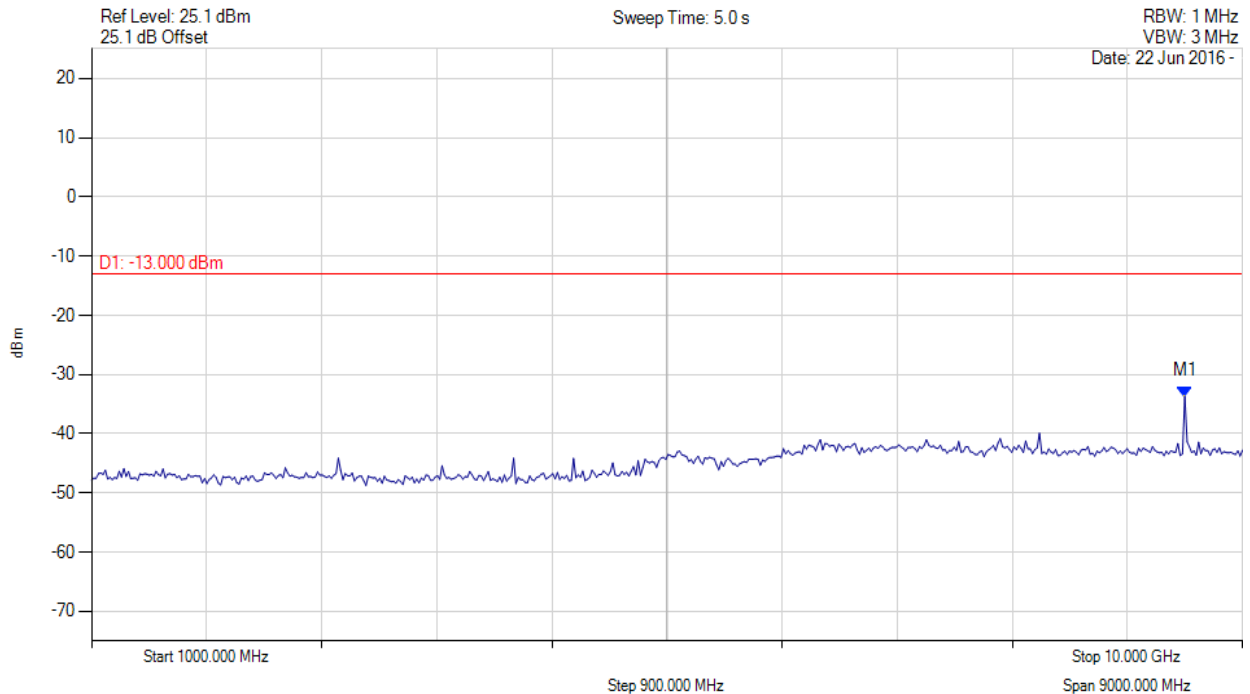


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Unwanted Emissions 1000-10000 MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9549.098 MHz : -33.704 dBm	Channel Frequency: 11.70 GHz

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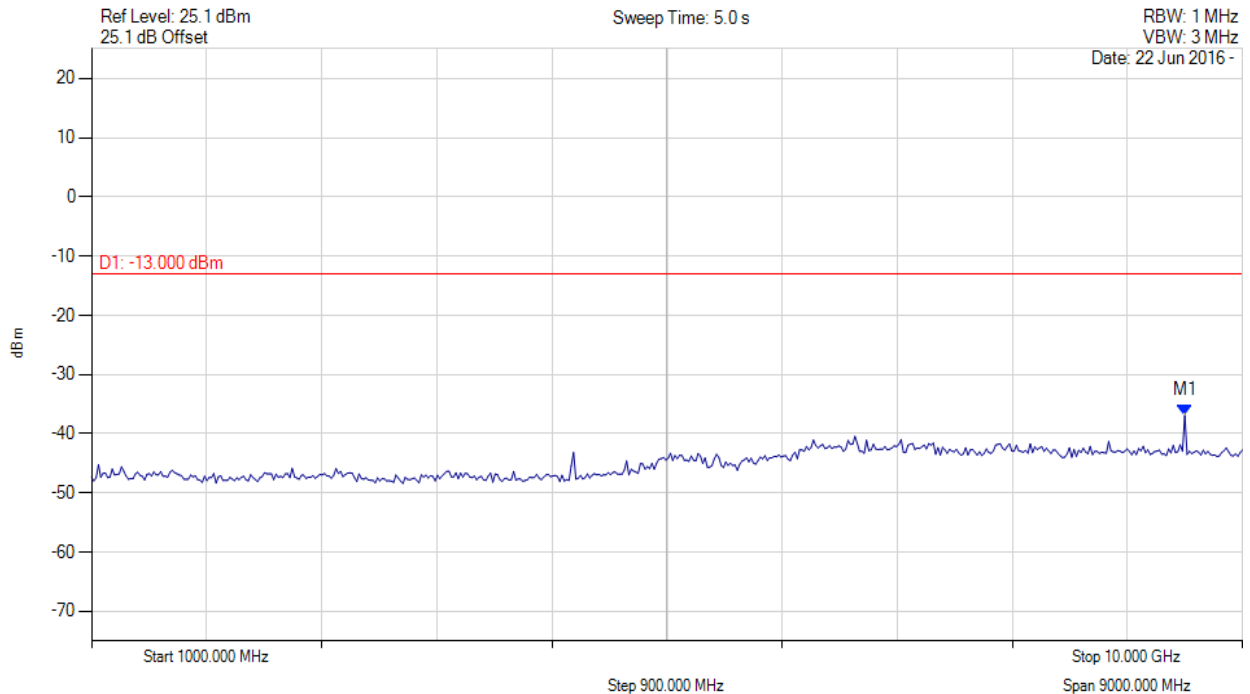


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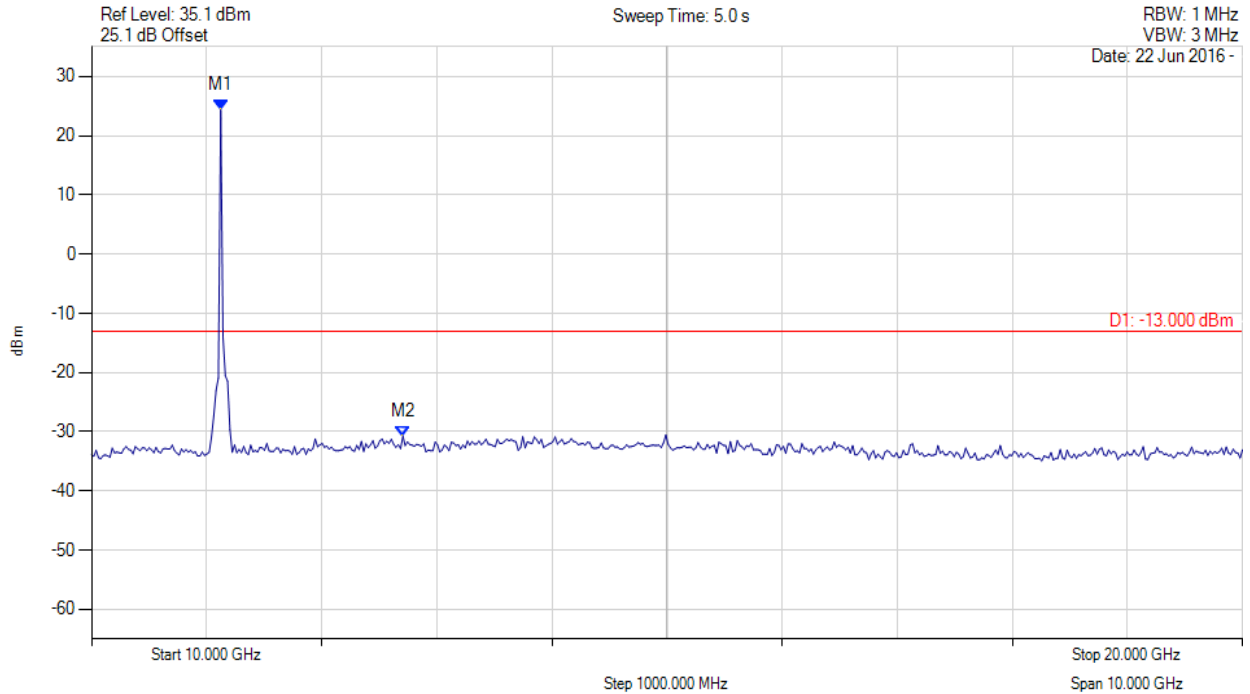
Unwanted Emissions 1000-10000 MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc

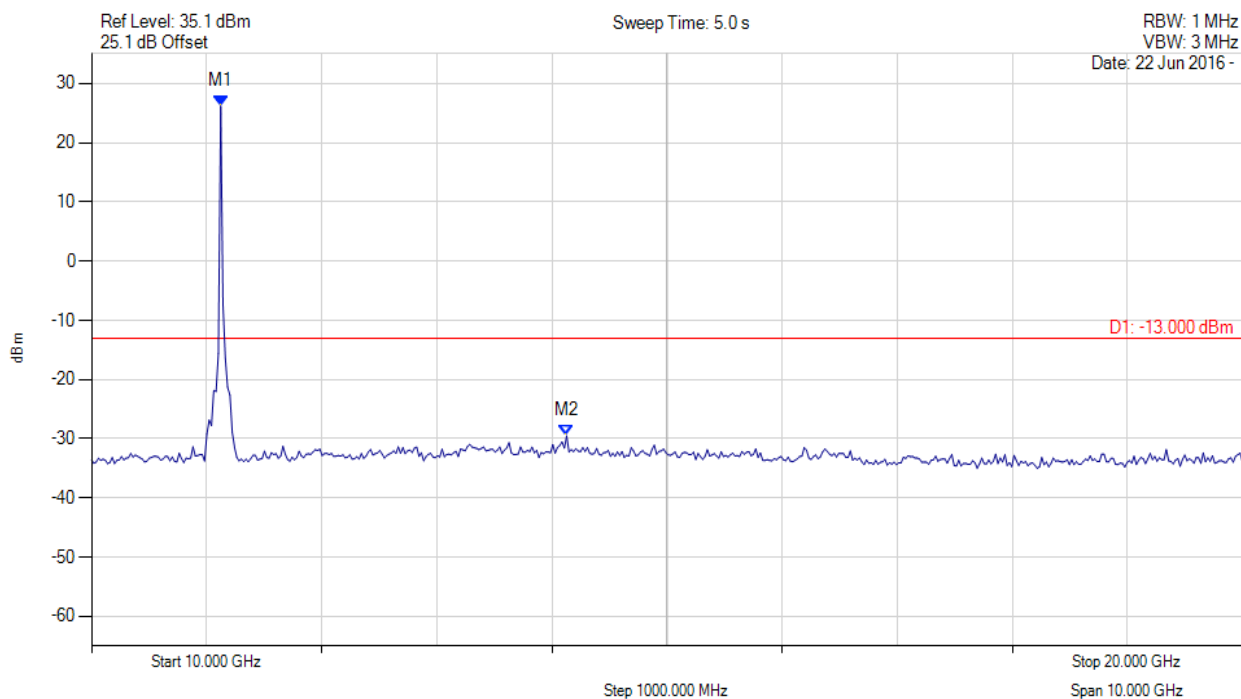


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9549.098 MHz : -36.882 dBm	Channel Frequency: 11.70 GHz

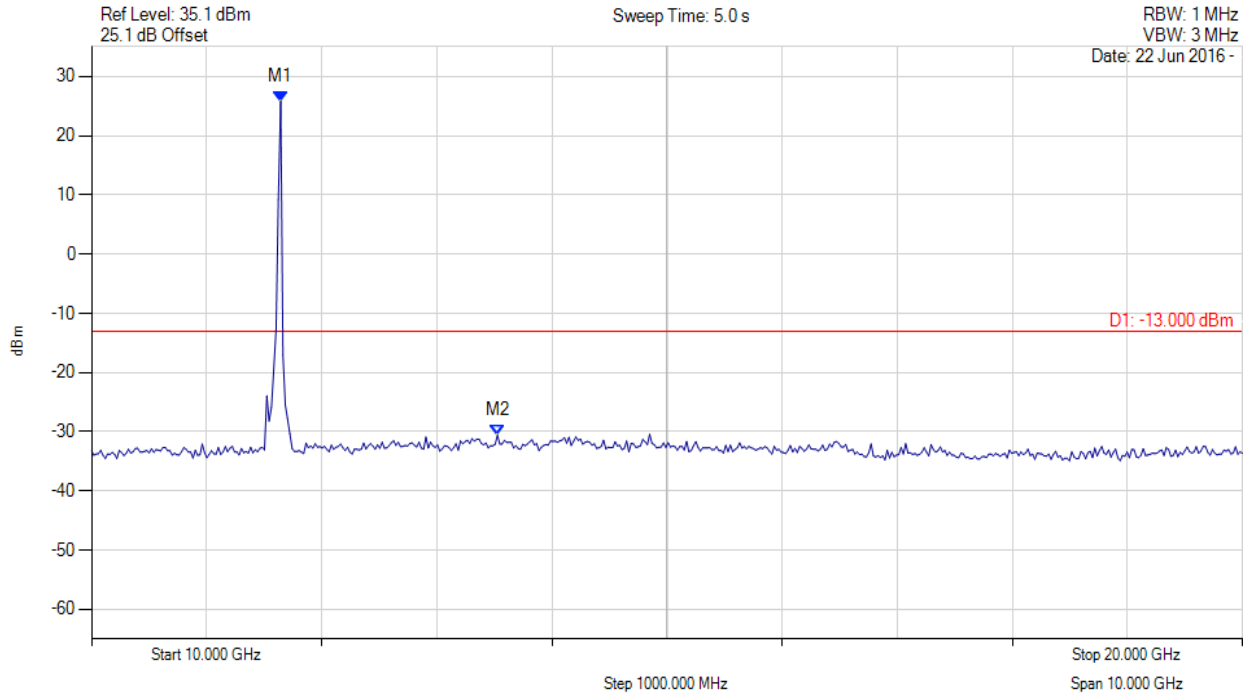
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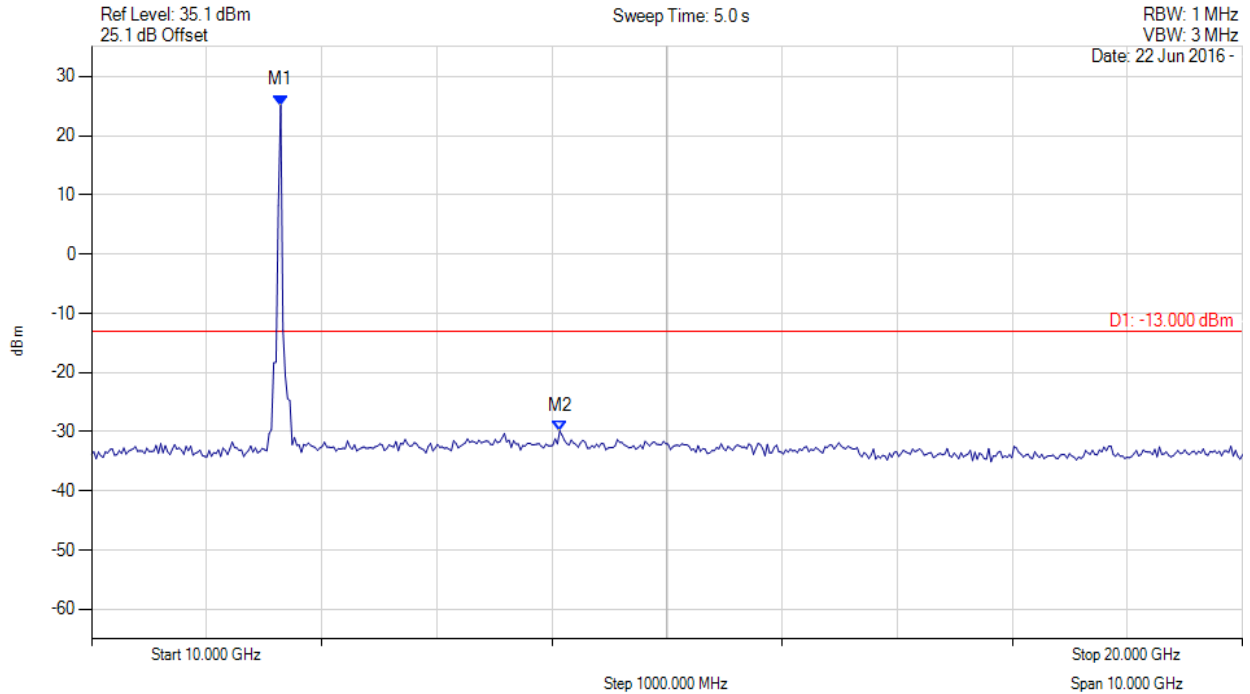
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.122 GHz : 24.370 dBm M2 : 12.705 GHz : -30.765 dBm	Channel Frequency: 11.13 GHz



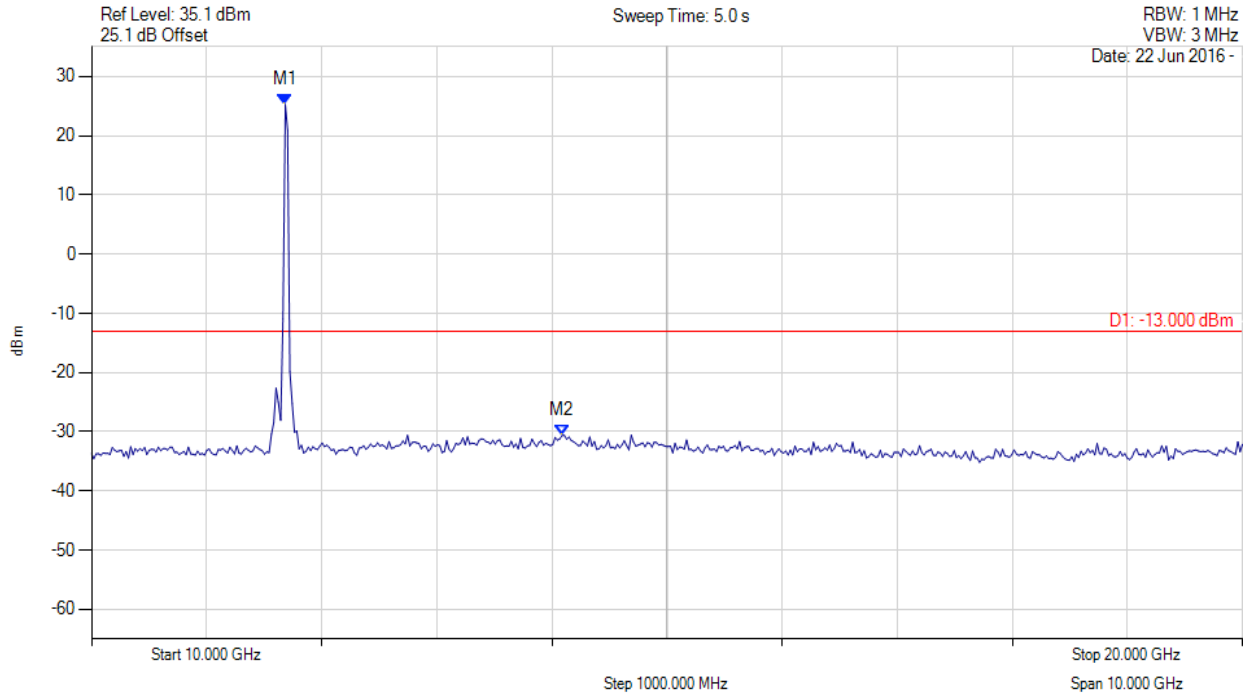
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.122 GHz : 26.200 dBm M2 : 14.128 GHz : -29.502 dBm	Channel Frequency: 11.13 GHz



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.643 GHz : 25.822 dBm M2 : 13.527 GHz : -30.594 dBm	Channel Frequency: 11.64 GHz



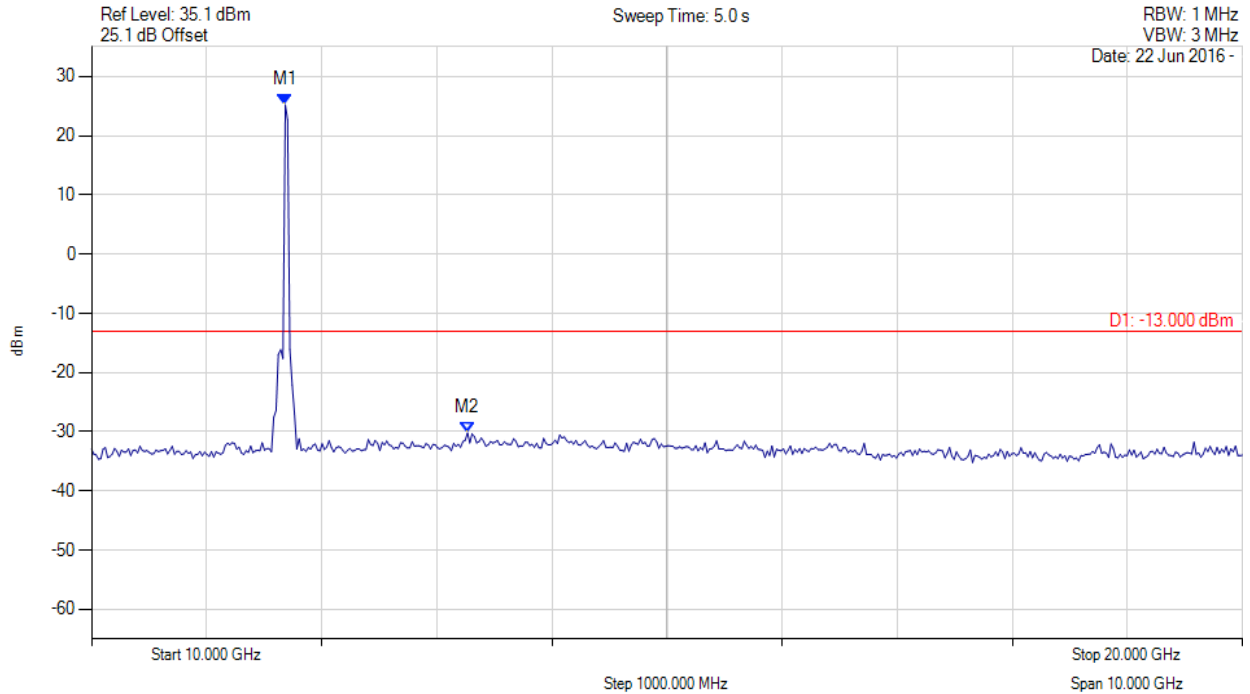
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.643 GHz : 25.143 dBm M2 : 14.068 GHz : -29.868 dBm	Channel Frequency: 11.64 GHz



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.683 GHz : 25.265 dBm M2 : 14.088 GHz : -30.625 dBm	Channel Frequency: 11.70 GHz

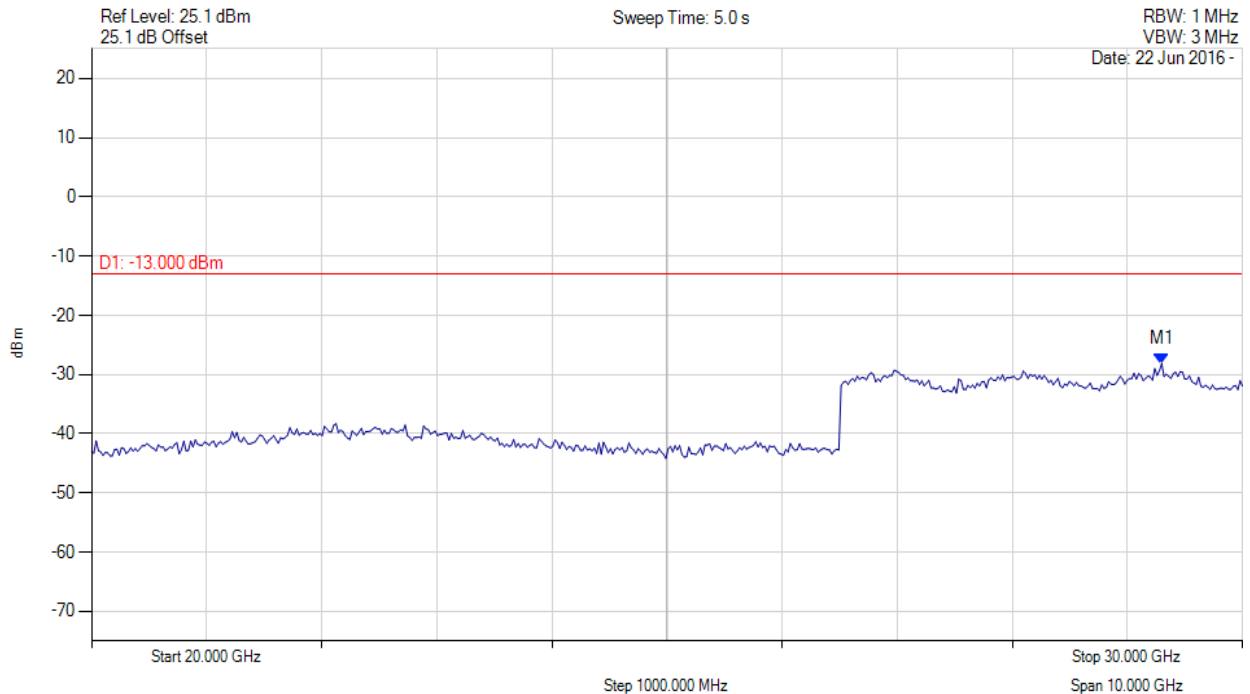
Unwanted Emissions 10000-20000 MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.683 GHz : 25.210 dBm M2 : 13.267 GHz : -30.177 dBm	Channel Frequency: 11.70 GHz

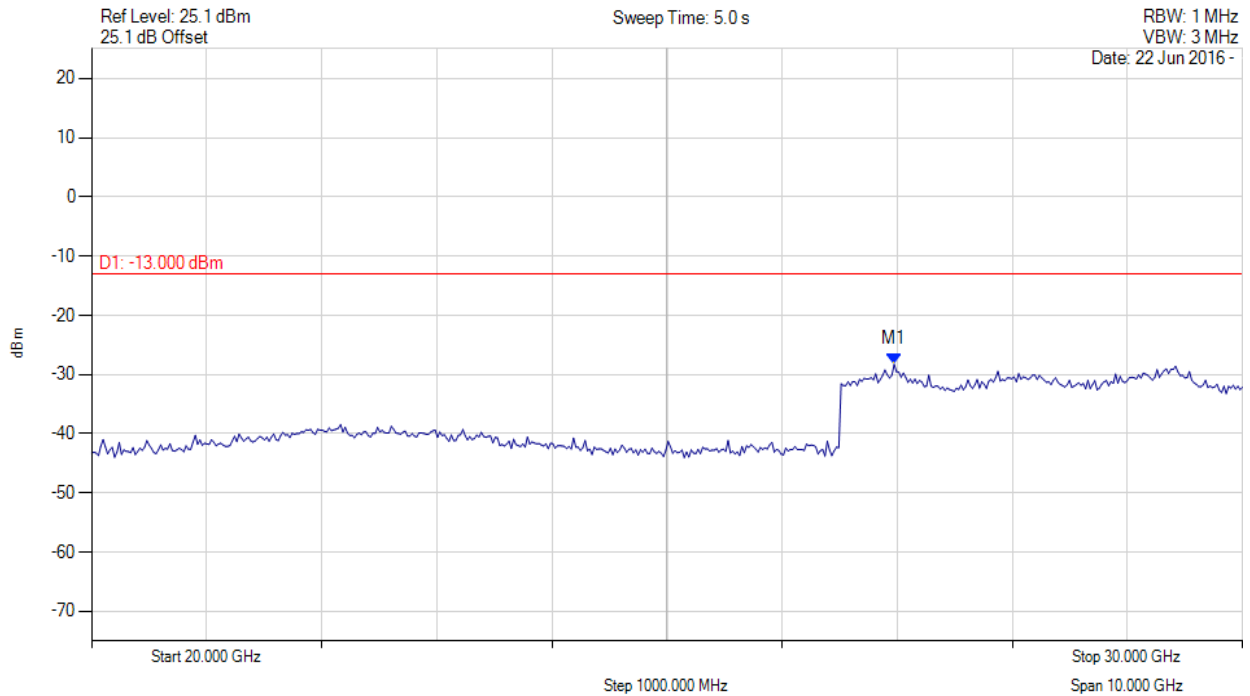
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Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.299 GHz : -28.133 dBm	Channel Frequency: 11.13 GHz

Unwanted Emissions 20000-30000 MHz

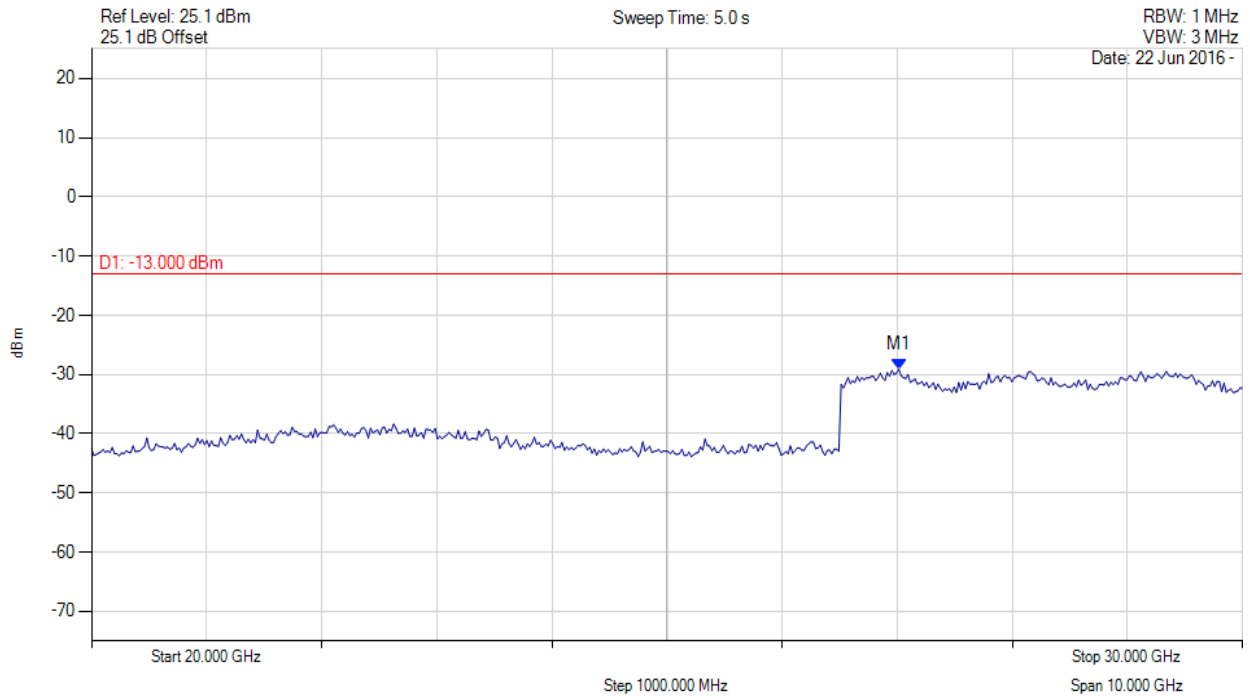
Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 26.974 GHz : -28.243 dBm	Channel Frequency: 11.13 GHz

Unwanted Emissions 20000-30000 MHz

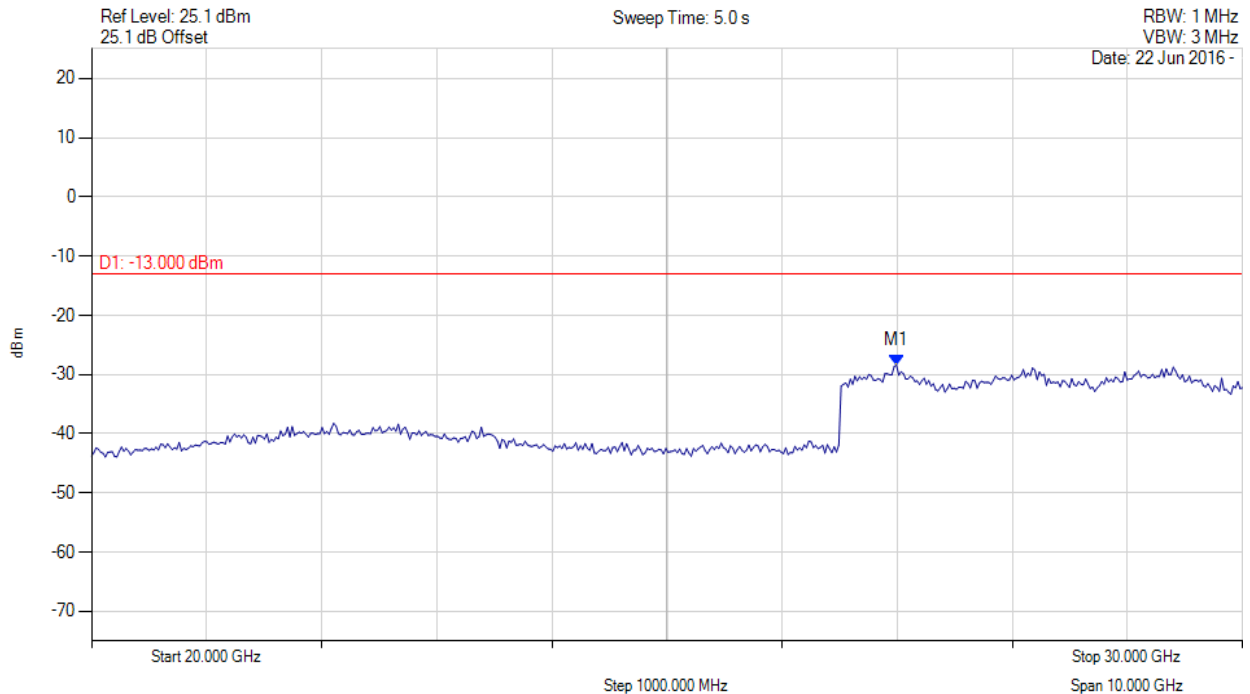
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 27.014 GHz : -29.091 dBm	Channel Frequency: 11.64 GHz

Unwanted Emissions 20000-30000 MHz

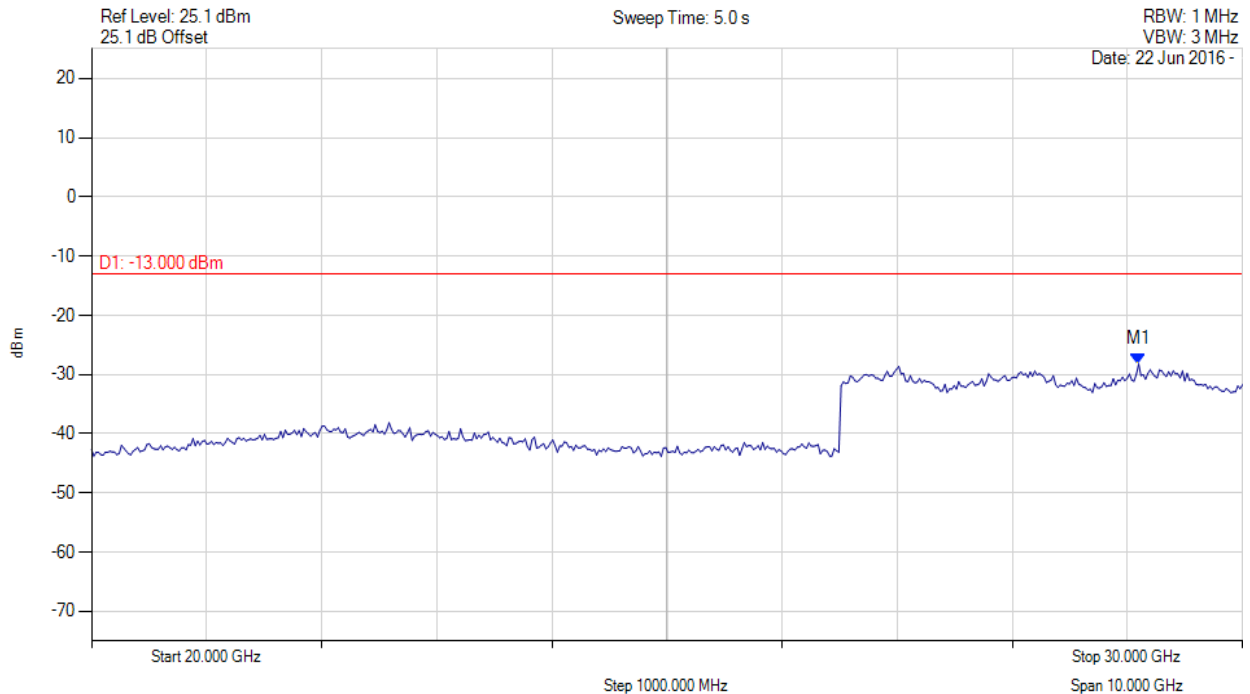
Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 26.994 GHz : -28.390 dBm	Channel Frequency: 11.64 GHz

Unwanted Emissions 20000-30000 MHz

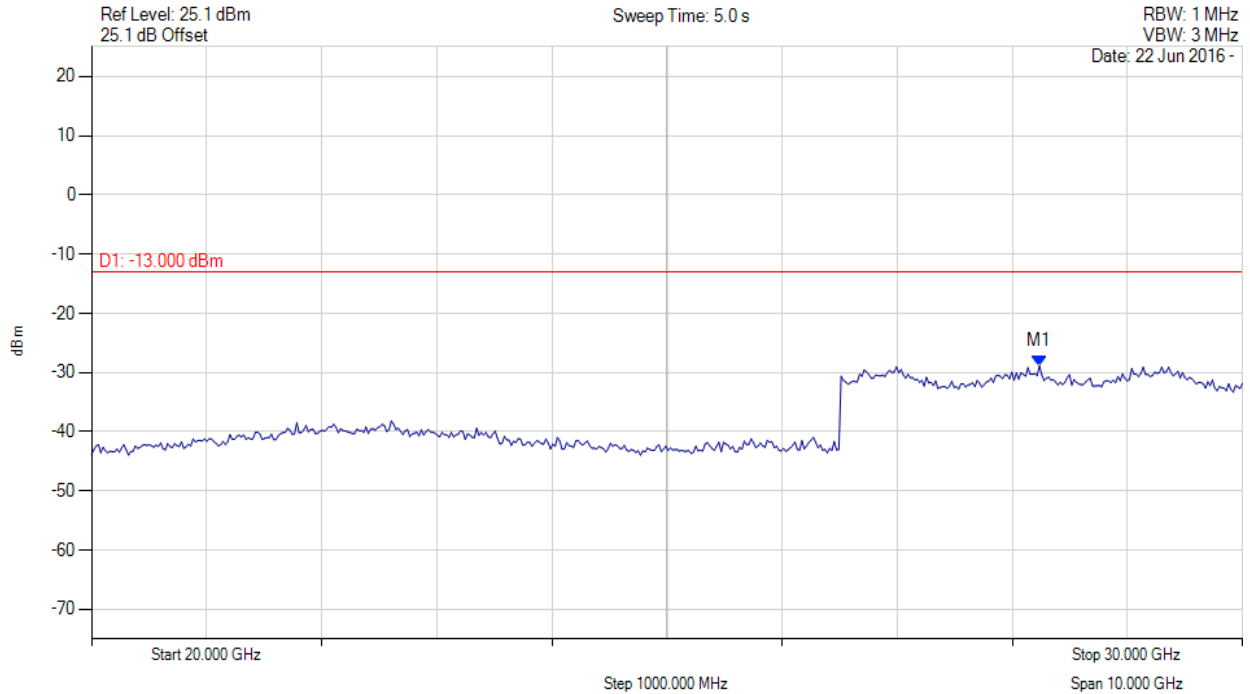
Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.098 GHz : -28.221 dBm	Channel Frequency: 11.70 GHz

Unwanted Emissions 20000-30000 MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 28.236 GHz : -28.863 dBm	Channel Frequency: 11.70 GHz

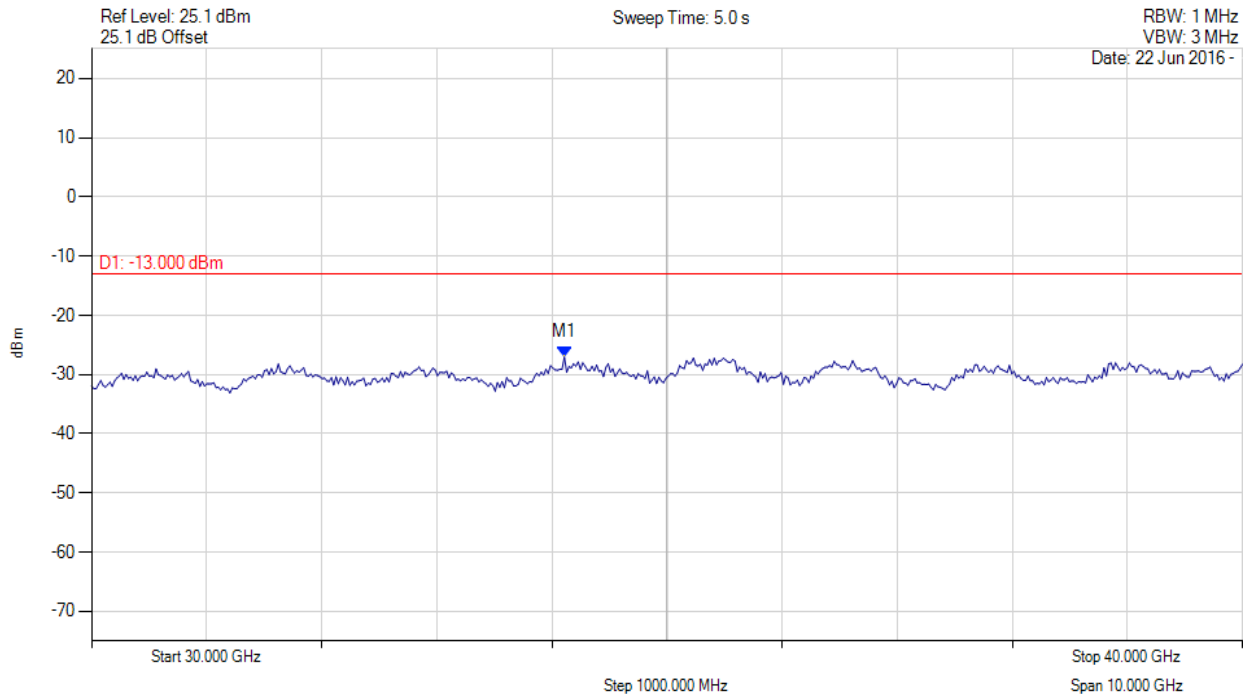


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Unwanted Emissions 30000-40000 MHz

Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

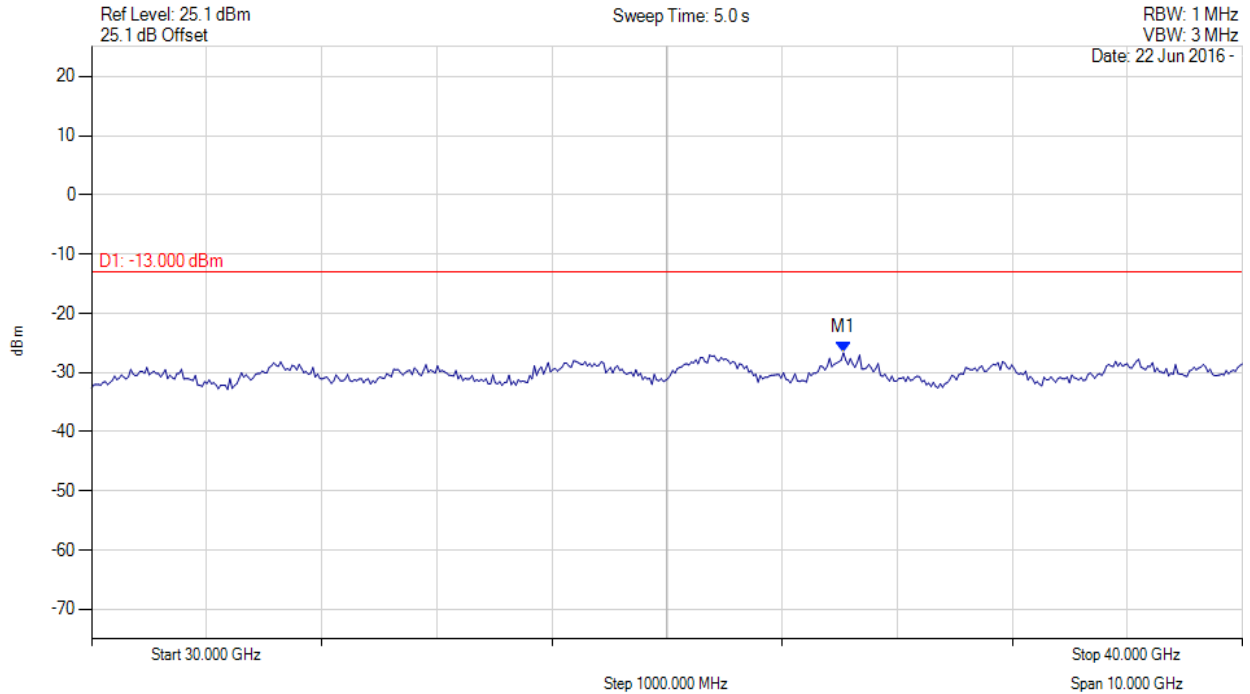


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 34.108 GHz : -27.039 dBm	Channel Frequency: 11.13 GHz

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Unwanted Emissions 30000-40000 MHz

Variant: 3.75MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 36.533 GHz : -26.665 dBm	Channel Frequency: 11.13 GHz

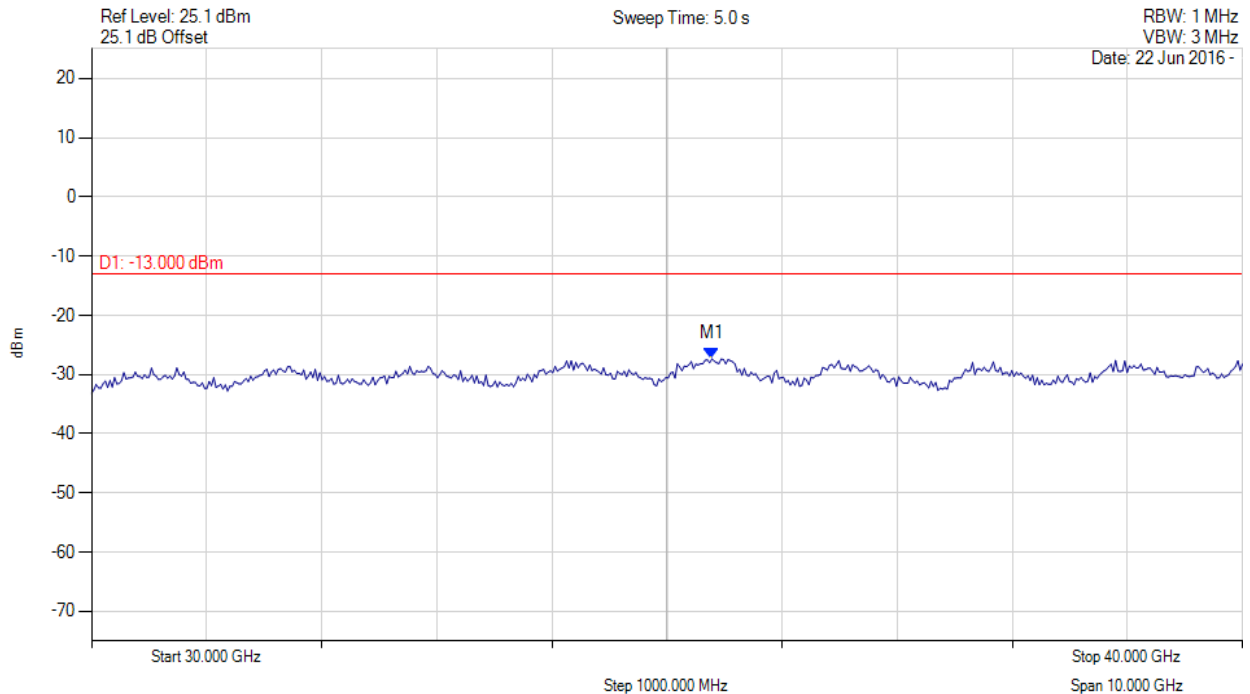


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Unwanted Emissions 30000-40000 MHz

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.391 GHz : -27.346 dBm	Channel Frequency: 11.64 GHz

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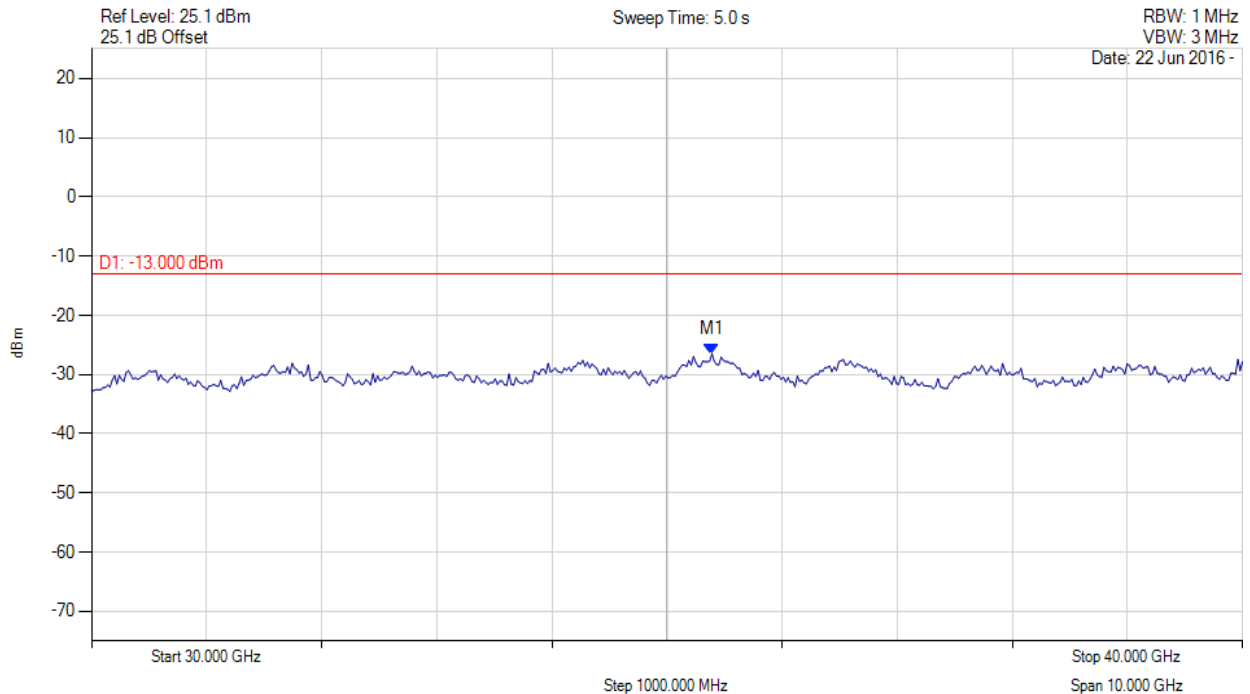


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Unwanted Emissions 30000-40000 MHz

Variant: 3.75MHz QPSK, Channel: 11.64 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc

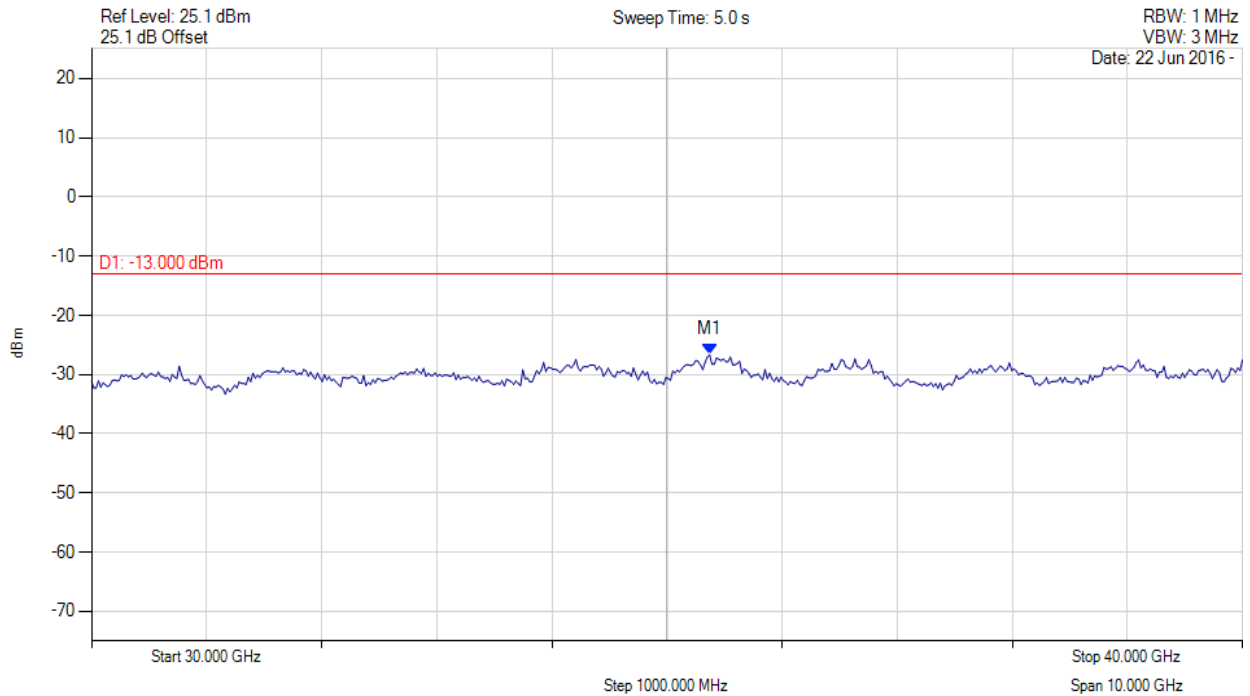


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.391 GHz : -26.486 dBm	Channel Frequency: 11.64 GHz

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Unwanted Emissions 30000-40000 MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.371 GHz : -26.661 dBm	Channel Frequency: 11.70 GHz

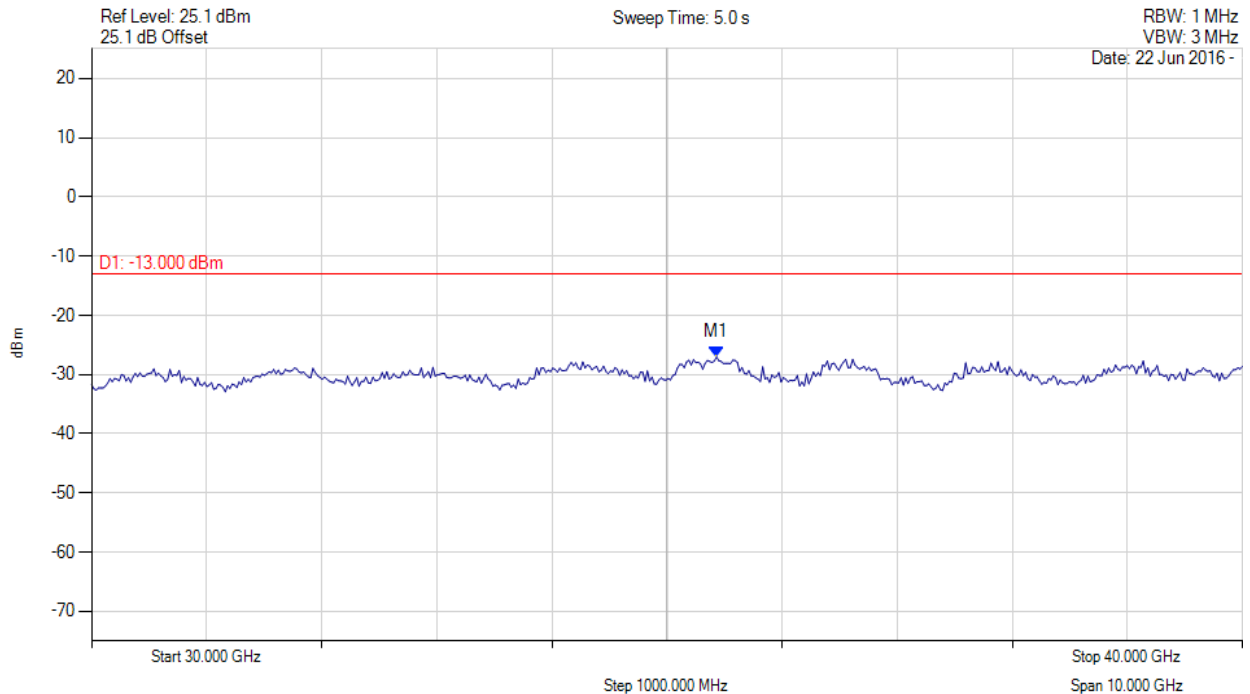


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Unwanted Emissions 30000-40000 MHz

Variant: 3.75MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.431 GHz : -27.031 dBm	Channel Frequency: 11.70 GHz

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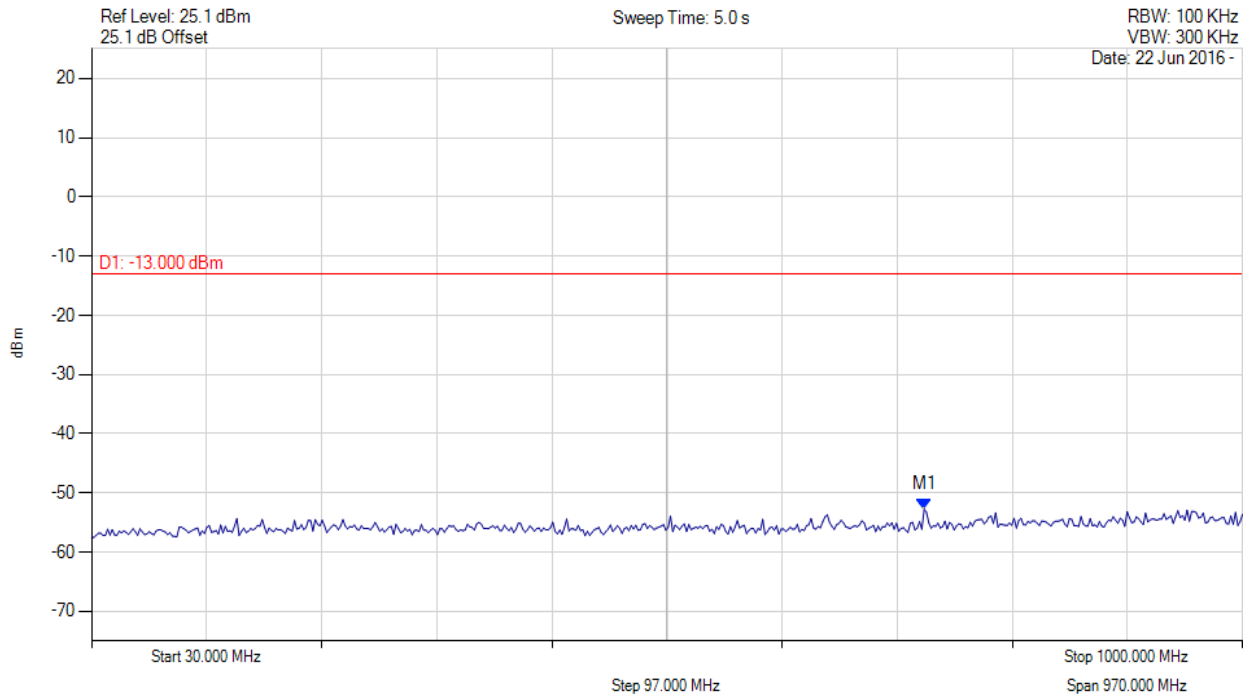


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Unwanted Emissions 30-1000 MHz

Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 731.743 MHz : -52.727 dBm	Channel Frequency: 11.13 GHz

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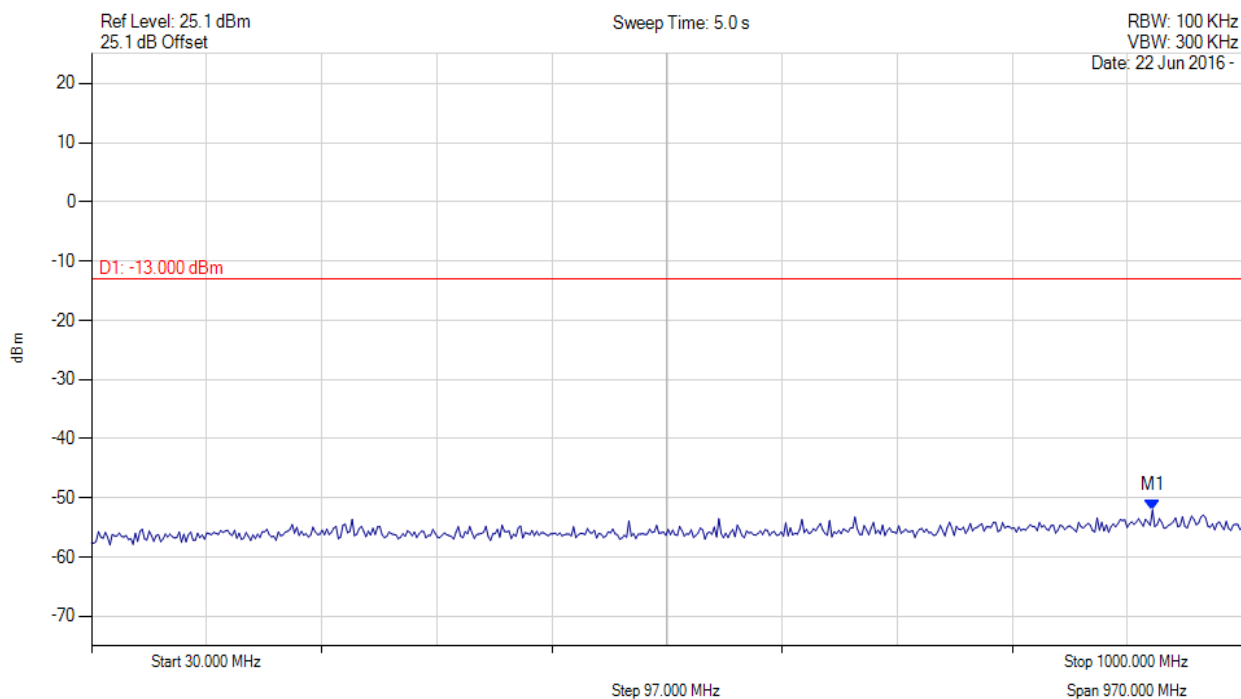


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Unwanted Emissions 30-1000 MHz

Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 924.188 MHz : -52.028 dBm	Channel Frequency: 11.13 GHz

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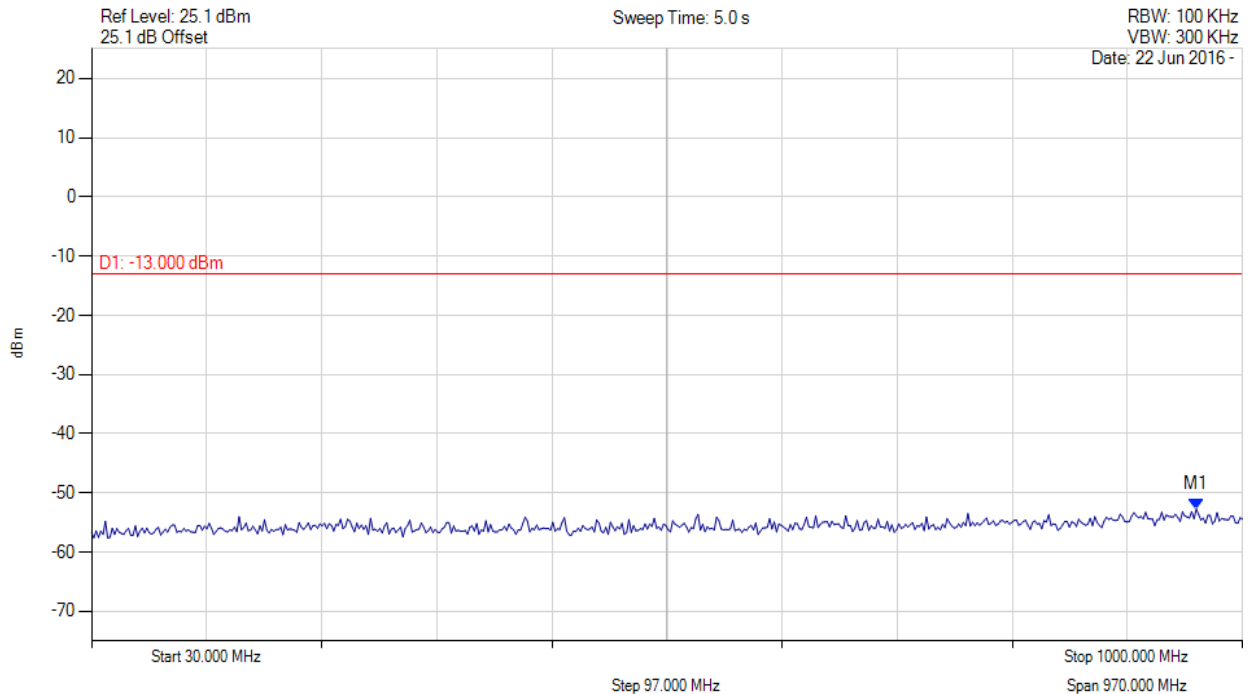


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Unwanted Emissions 30-1000 MHz

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 961.122 MHz : -52.695 dBm	Channel Frequency: 11.62 GHz

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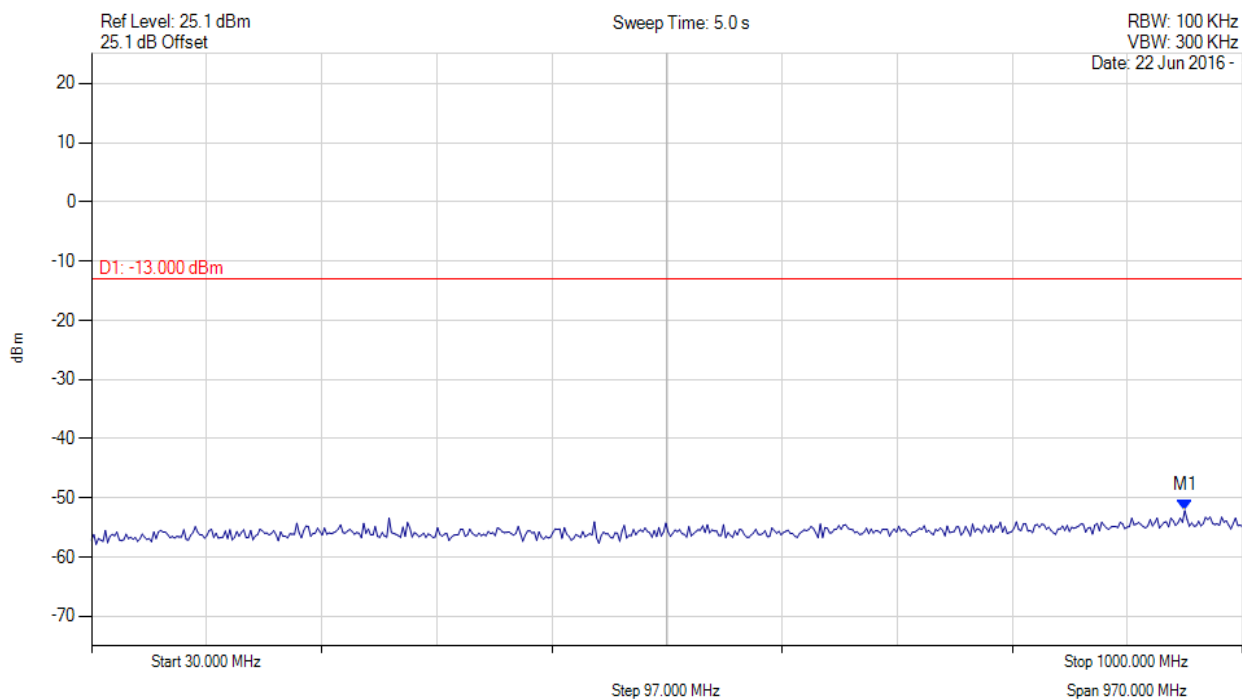


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Unwanted Emissions 30-1000 MHz

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 951.403 MHz : -52.111 dBm	Channel Frequency: 11.62 GHz

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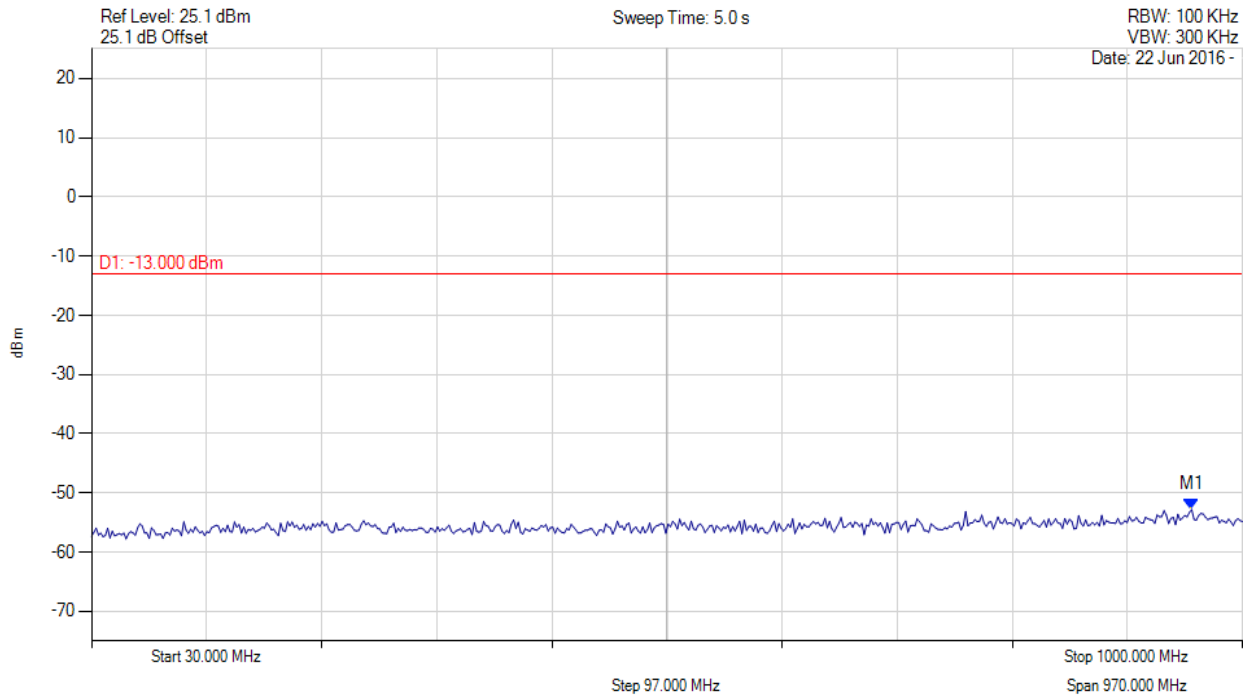


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Unwanted Emissions 30-1000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 957.234 MHz : -52.782 dBm	Channel Frequency: 11.70 GHz

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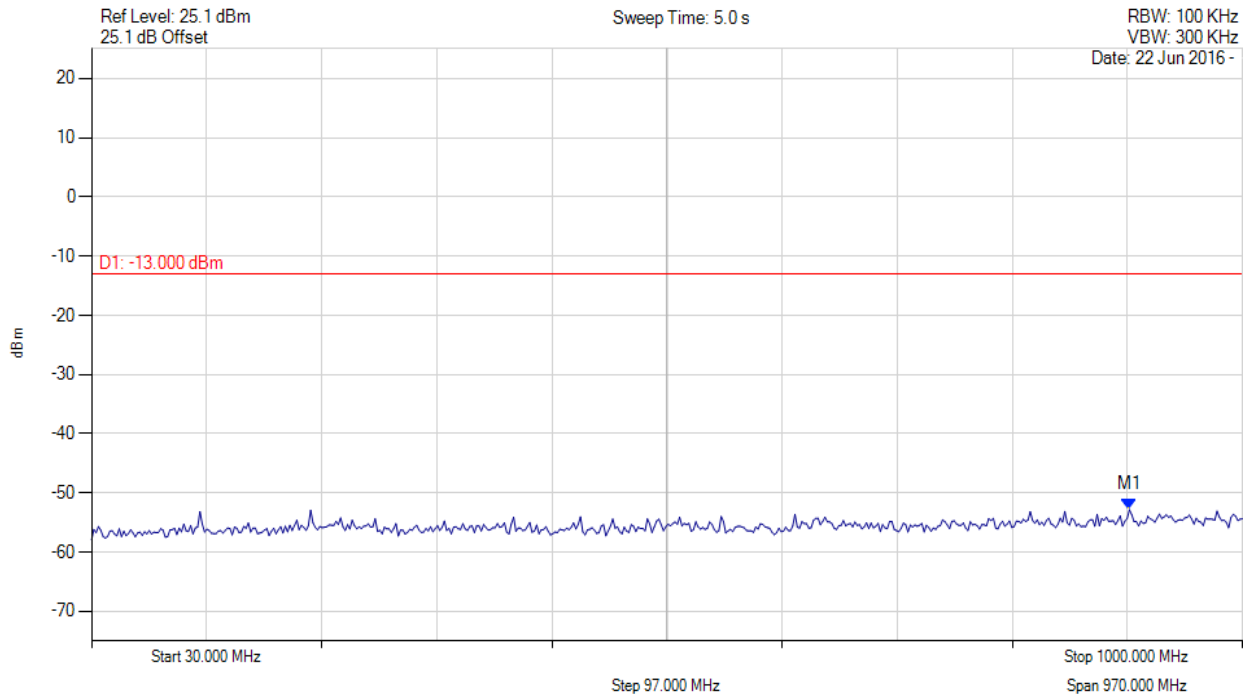


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Unwanted Emissions 30-1000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 904.749 MHz : -52.807 dBm	Channel Frequency: 11.70 GHz

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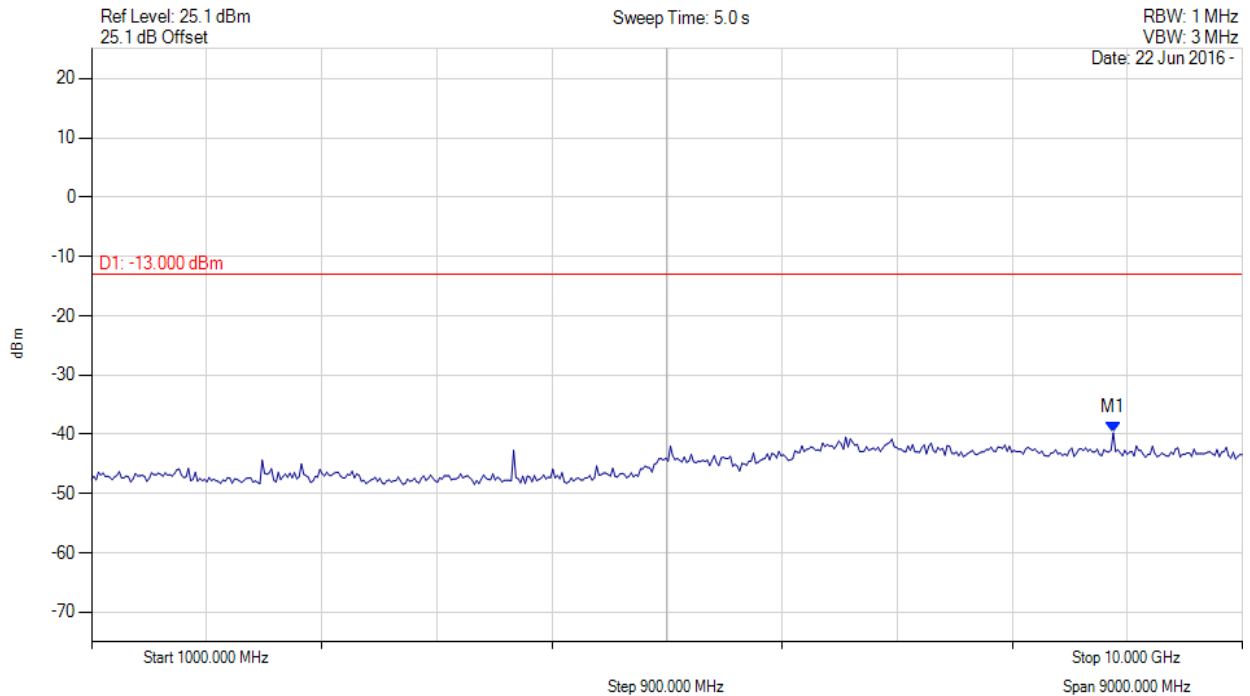


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Unwanted Emissions 1000-10000 MHz

Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

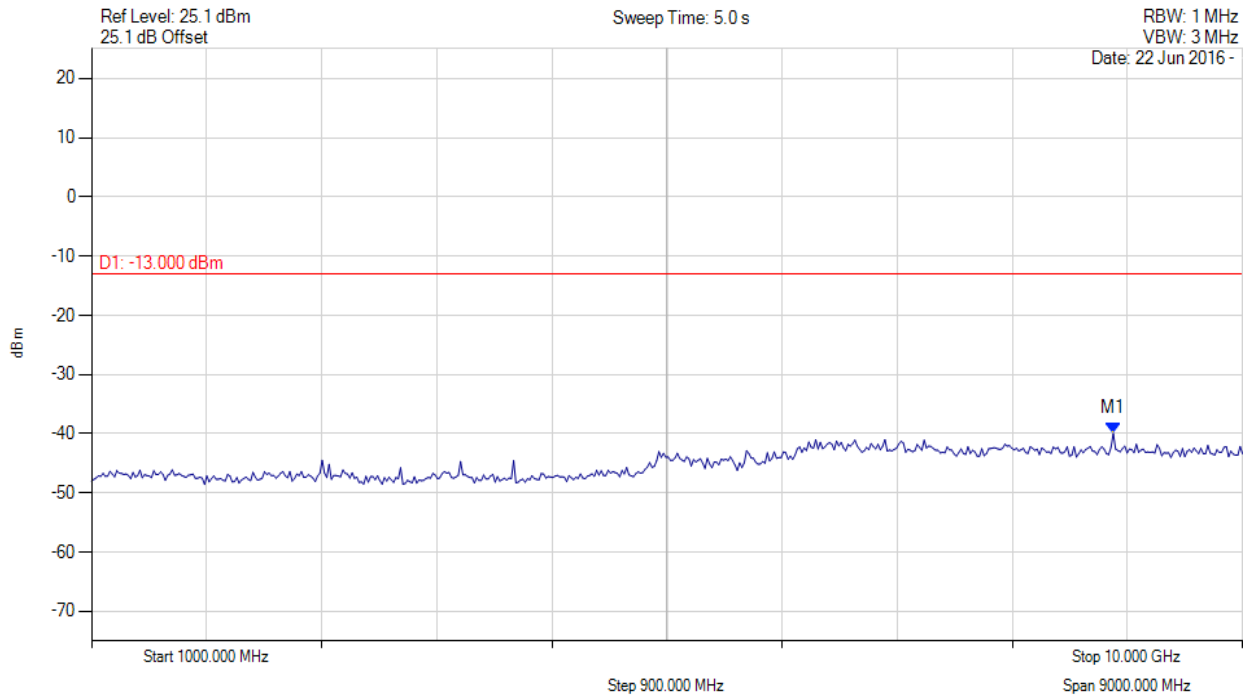


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 8989.980 MHz : -39.734 dBm	Channel Frequency: 11.13 GHz

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Unwanted Emissions 1000-10000 MHz

Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 8989.980 MHz : -39.935 dBm	Channel Frequency: 11.13 GHz

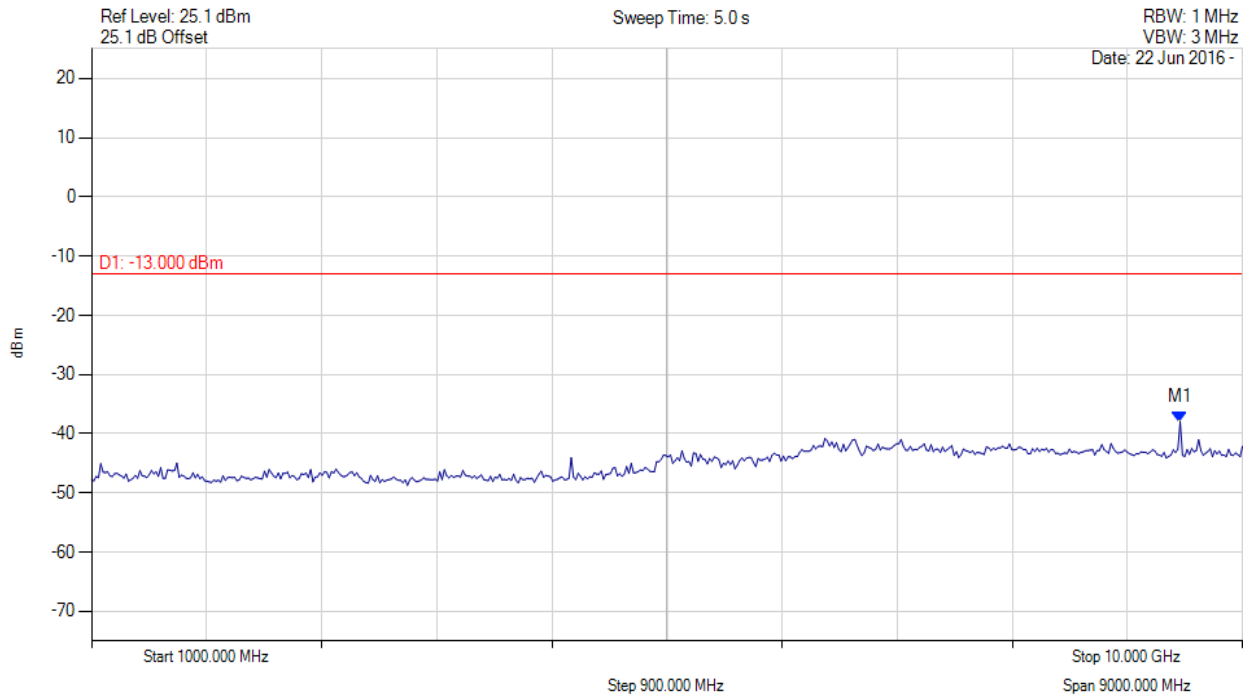


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Unwanted Emissions 1000-10000 MHz

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9513.026 MHz : -37.973 dBm	Channel Frequency: 11.62 GHz

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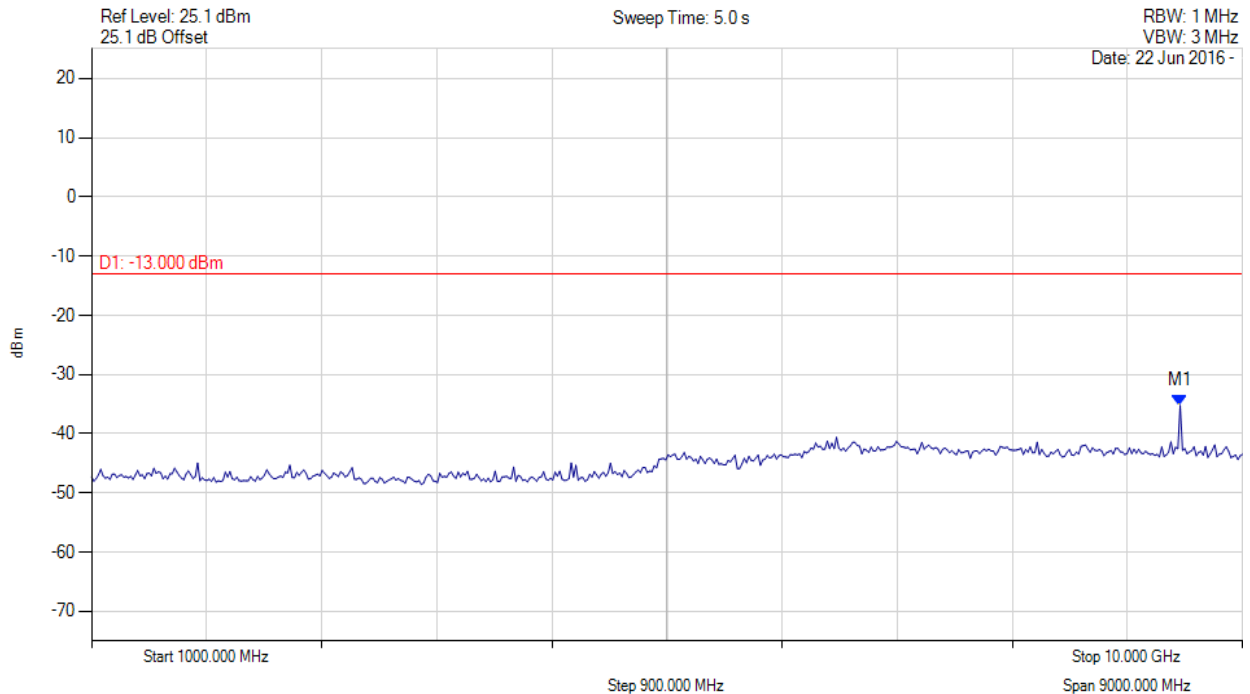


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Unwanted Emissions 1000-10000 MHz

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc

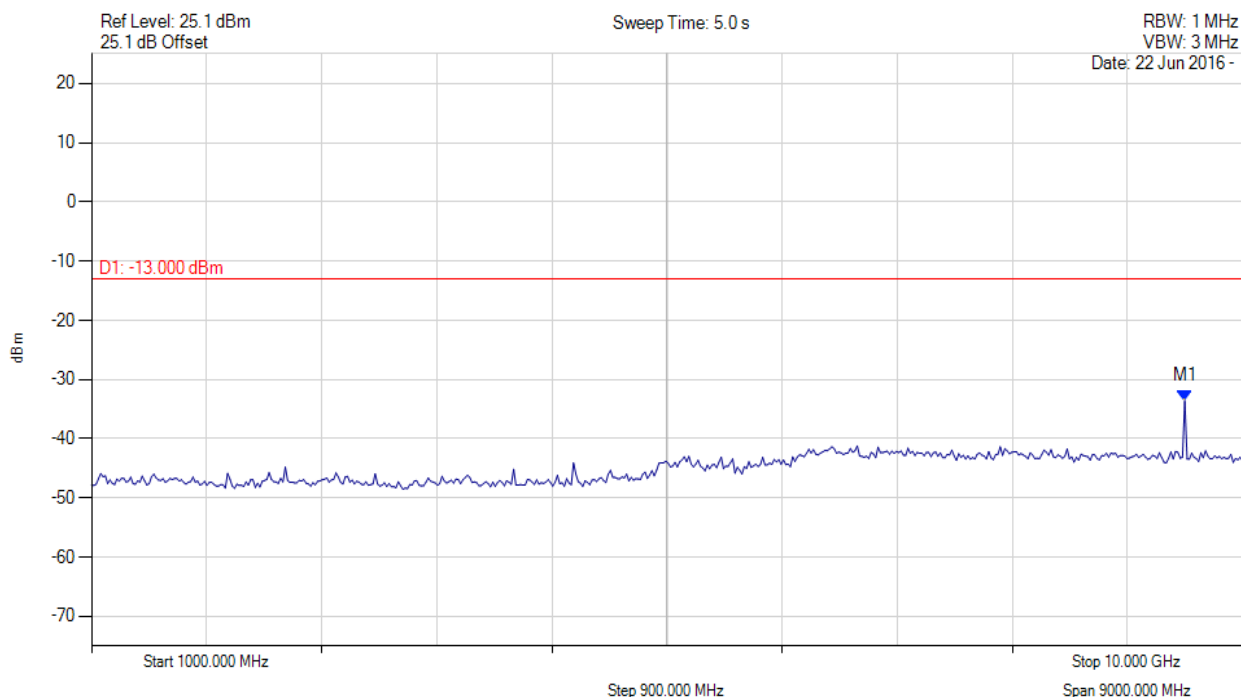


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9513.026 MHz : -35.235 dBm	Channel Frequency: 11.62 GHz

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Unwanted Emissions 1000-10000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9549.098 MHz : -33.580 dBm	Channel Frequency: 11.70 GHz

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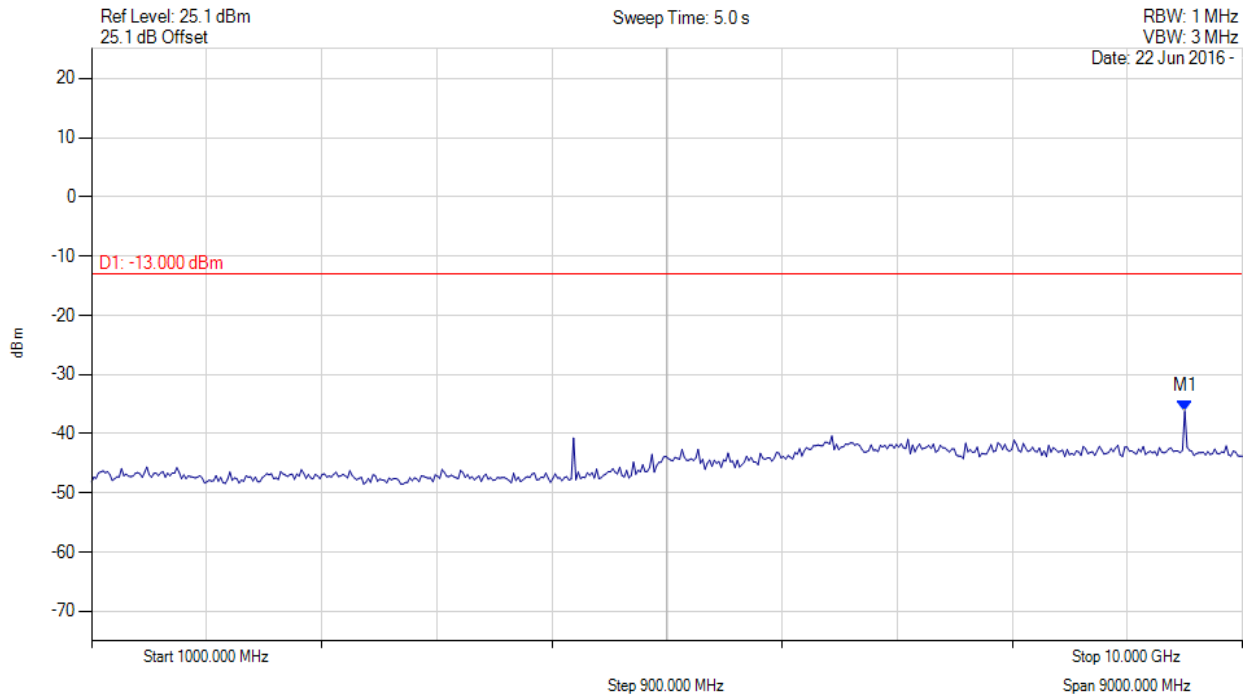


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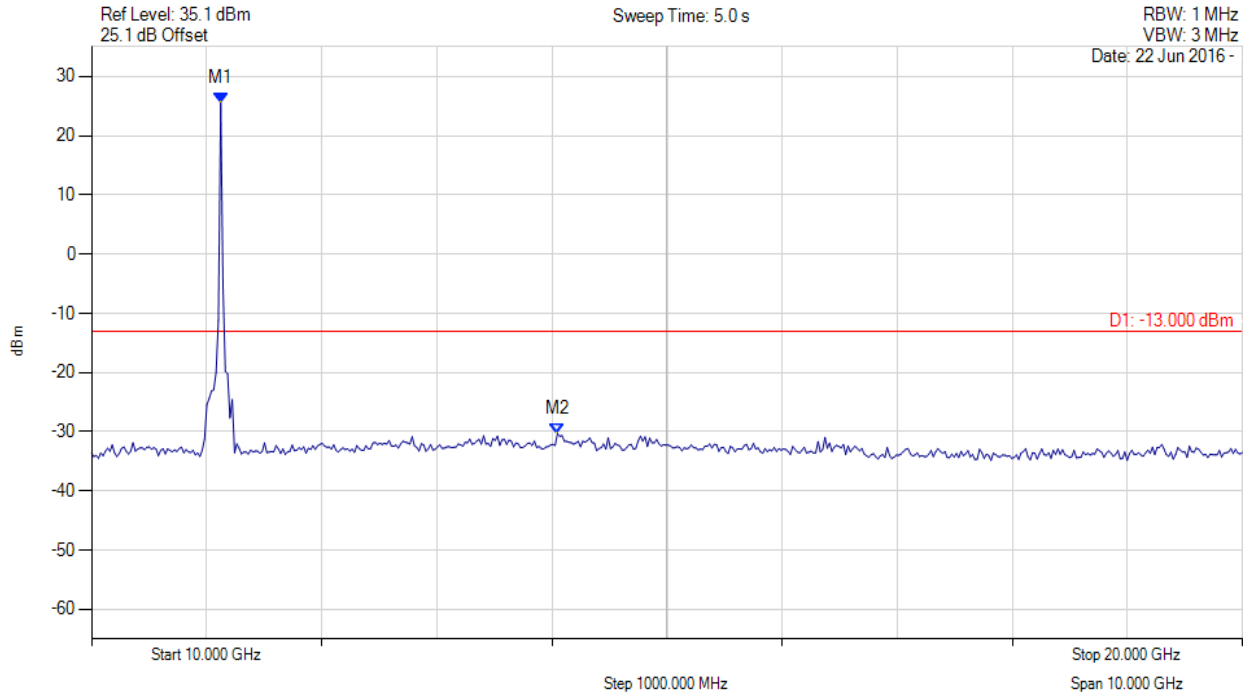
Unwanted Emissions 1000-10000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc

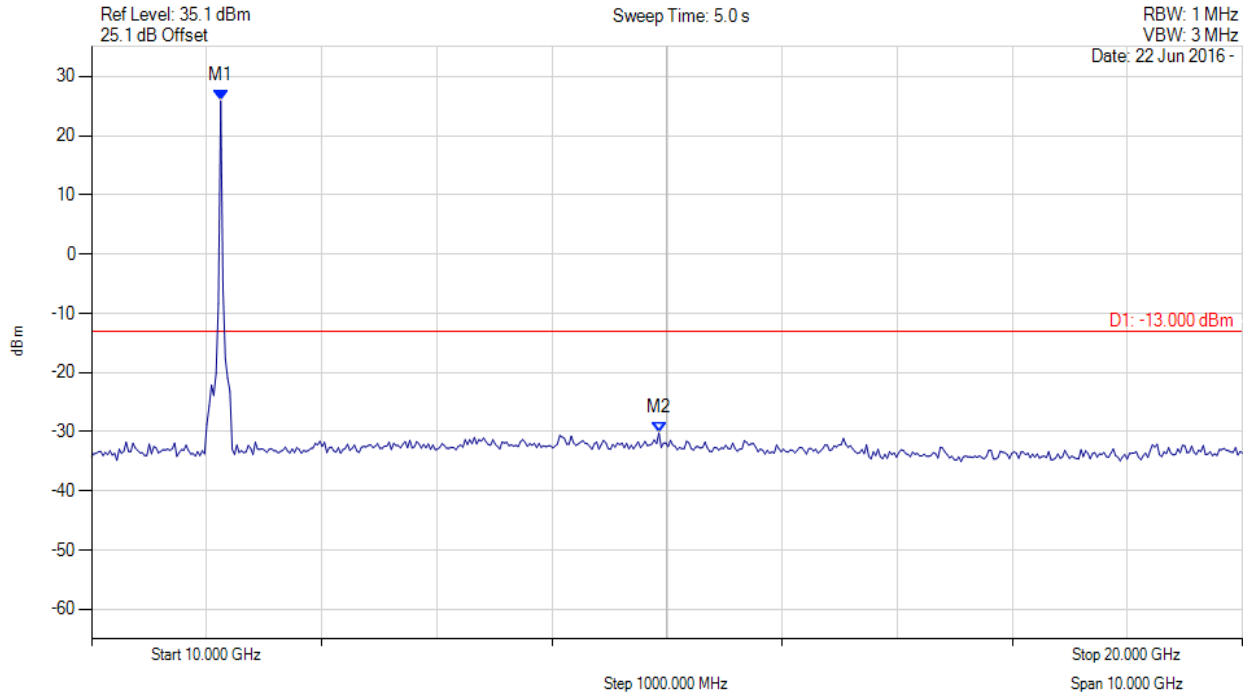


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 9549.098 MHz : -36.152 dBm	Channel Frequency: 11.70 GHz

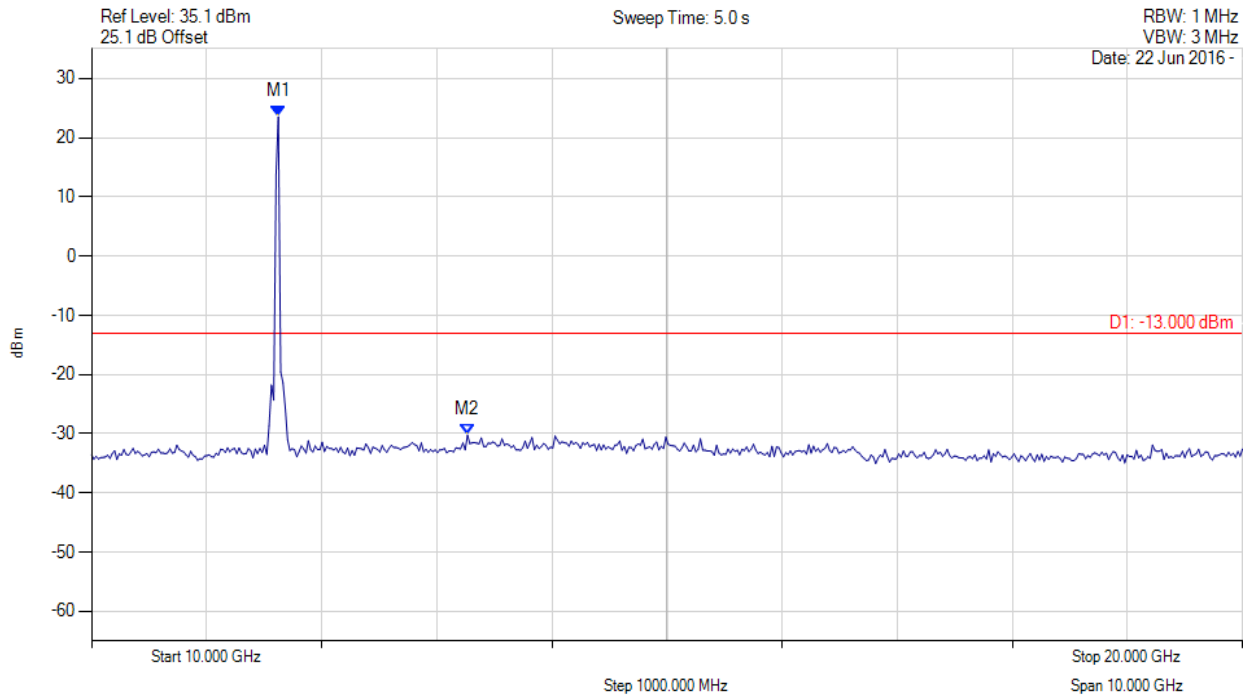
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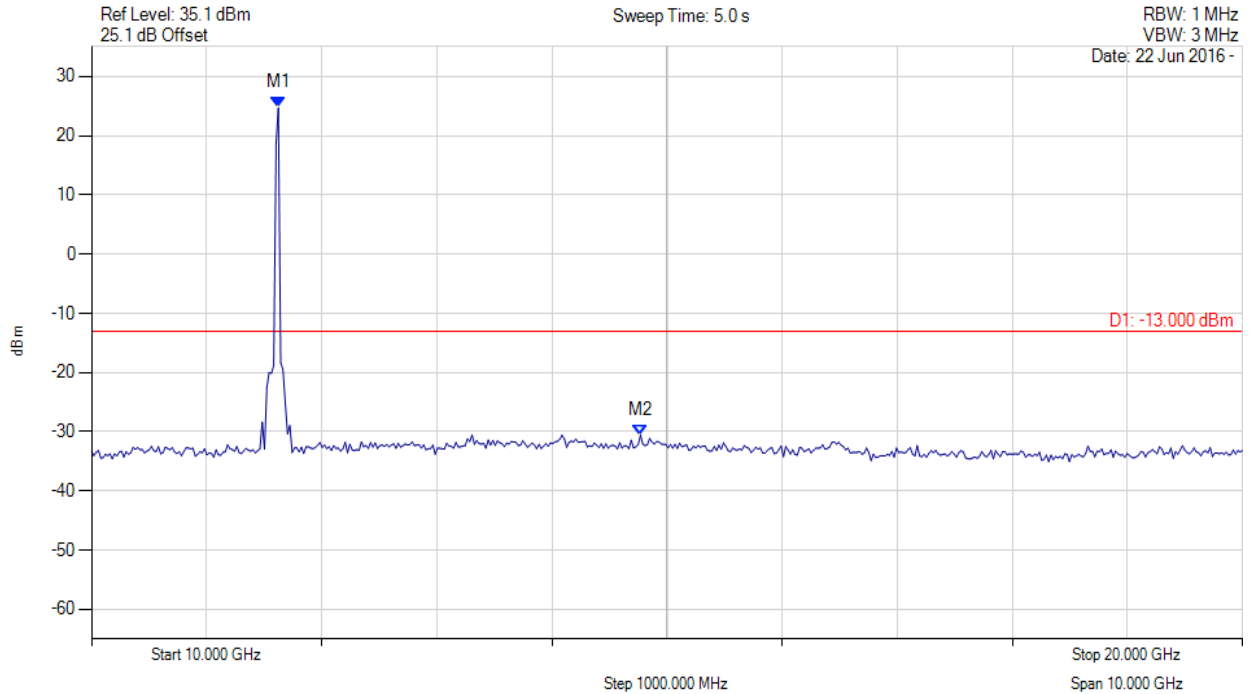
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.122 GHz : 25.572 dBm M2 : 14.048 GHz : -30.324 dBm	Channel Frequency: 11.13 GHz



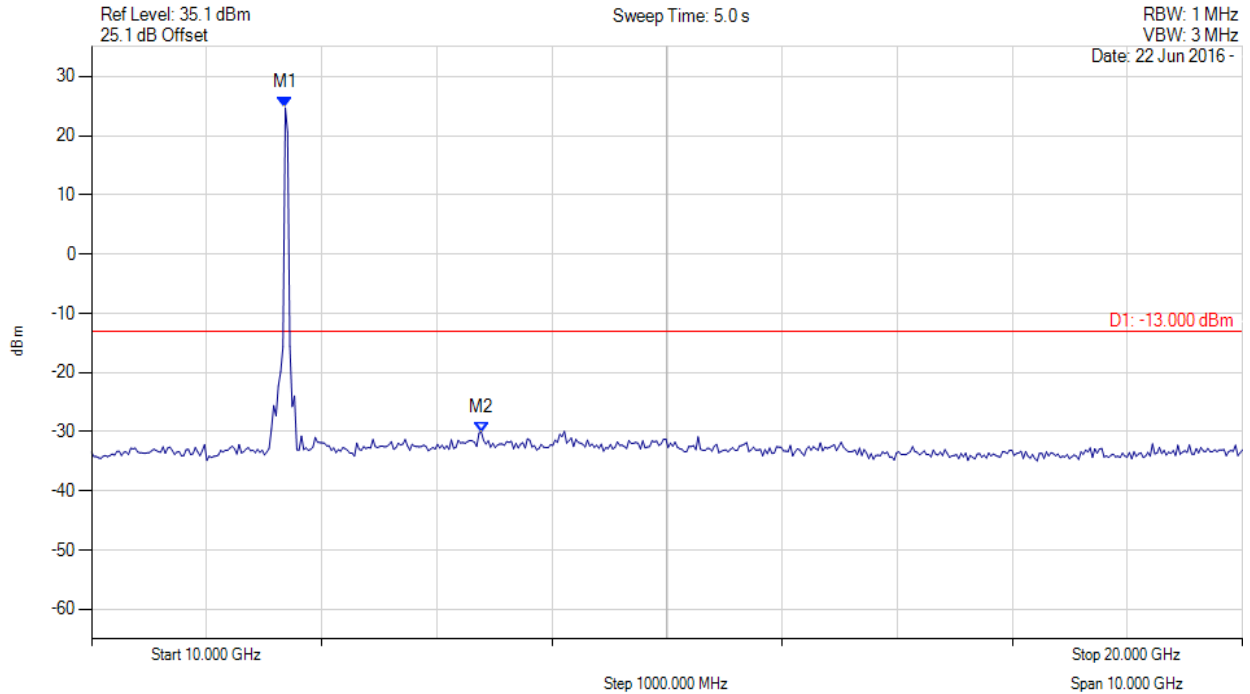
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.122 GHz : 25.887 dBm M2 : 14.930 GHz : -30.181 dBm	Channel Frequency: 11.13 GHz



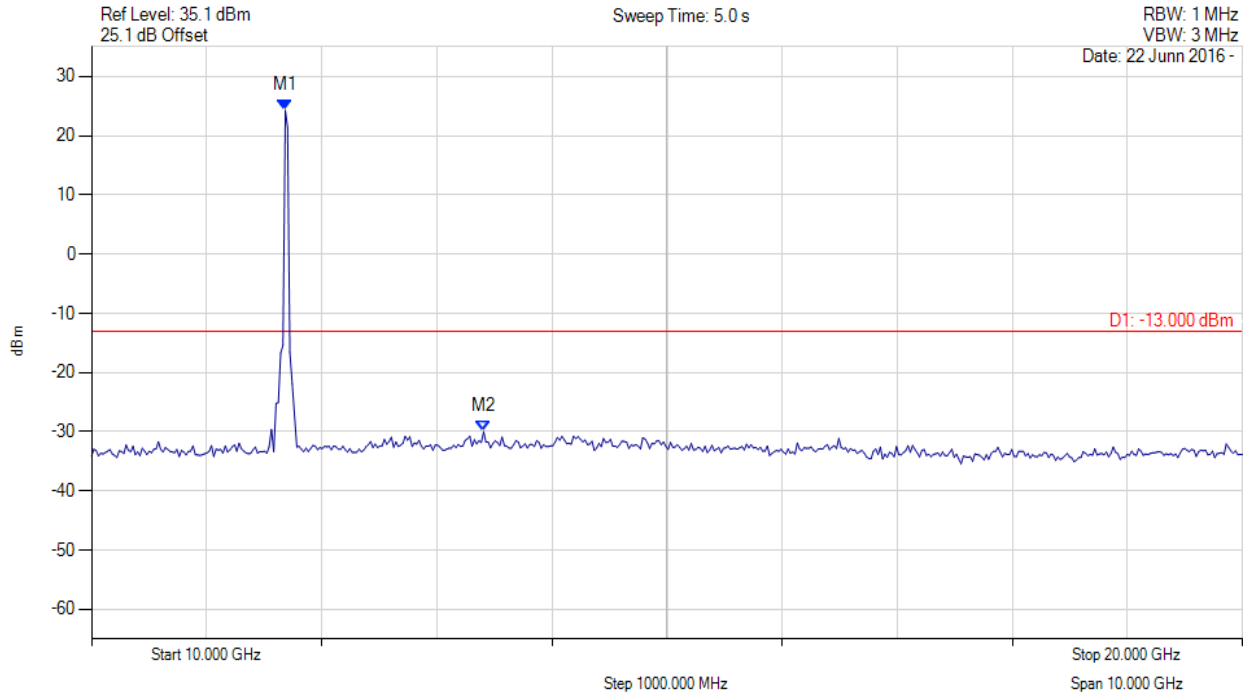
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.623 GHz : 23.536 dBm M2 : 13.267 GHz : -30.191 dBm	Channel Frequency: 11.62 GHz



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.623 GHz : 24.685 dBm M2 : 14.770 GHz : -30.568 dBm	Channel Frequency: 11.62 GHz



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.683 GHz : 24.708 dBm M2 : 13.387 GHz : -30.035 dBm	Channel Frequency: 11.70 GHz



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 11.683 GHz : 24.283 dBm M2 : 13.407 GHz : -29.996 dBm	Channel Frequency: 11.70 GHz

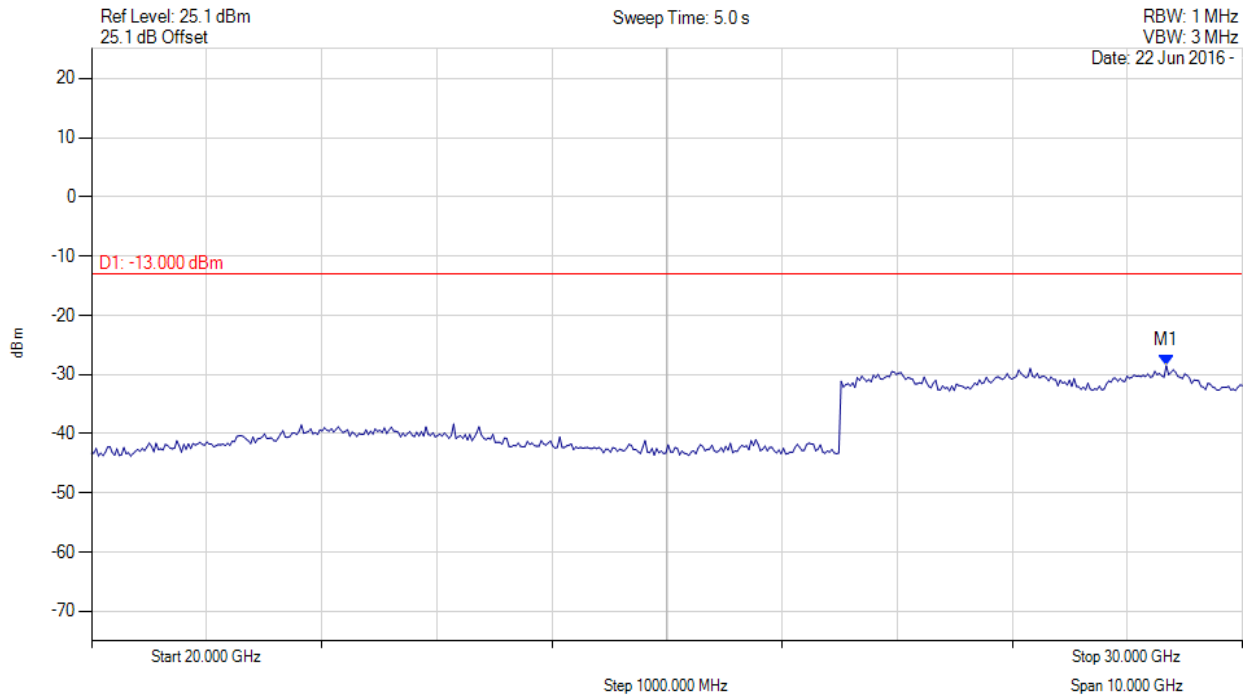


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Unwanted Emissions 20000-30000 MHz

Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc

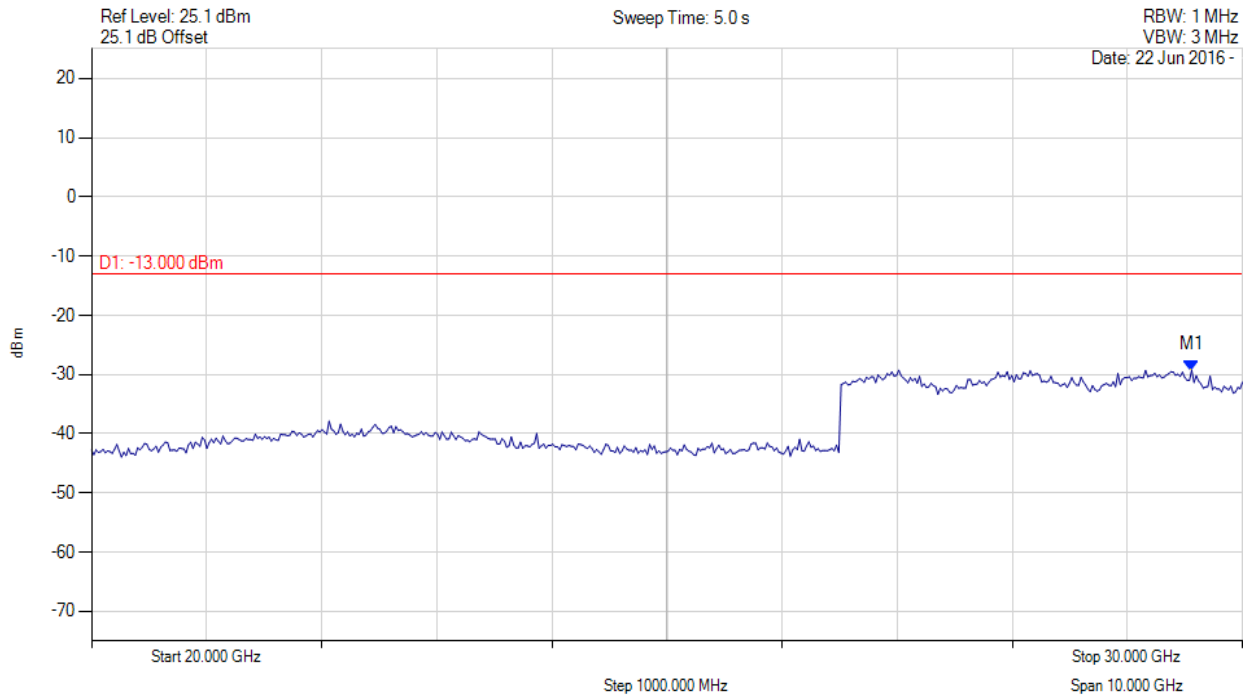


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.339 GHz : -28.499 dBm	Channel Frequency: 11.13 GHz

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Unwanted Emissions 20000-30000 MHz

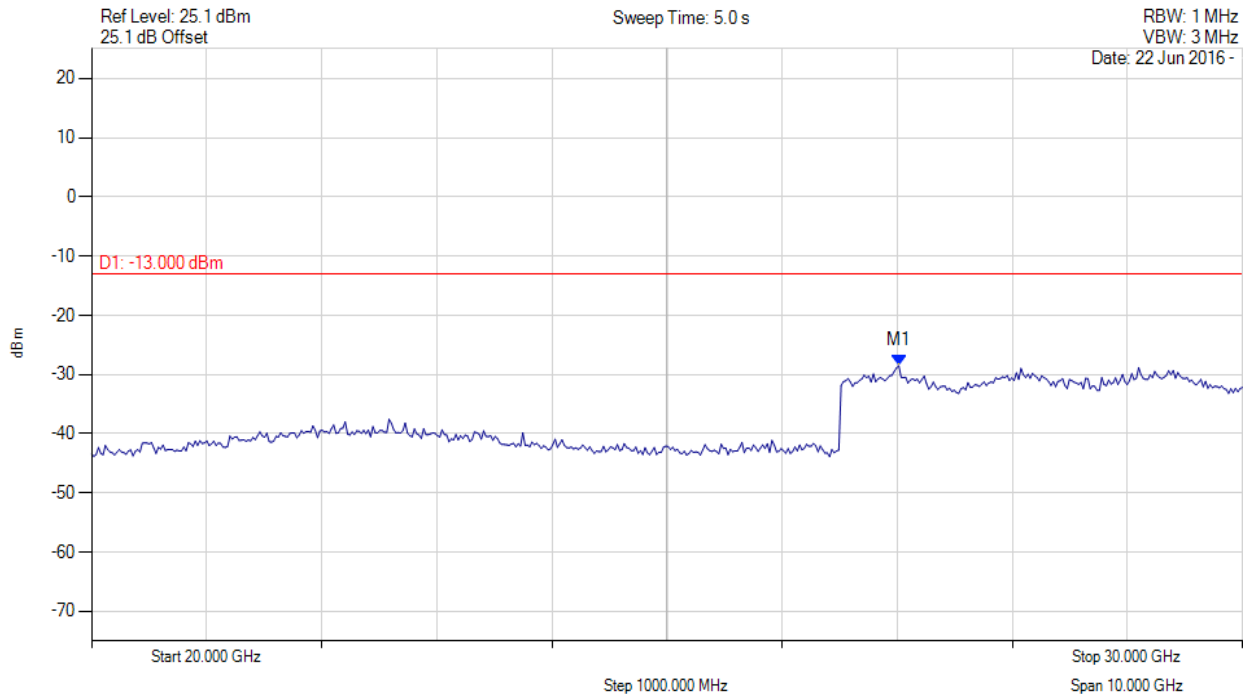
Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.559 GHz : -29.256 dBm	Channel Frequency: 11.13 GHz

Unwanted Emissions 20000-30000 MHz

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 27.014 GHz : -28.495 dBm	Channel Frequency: 11.62 GHz

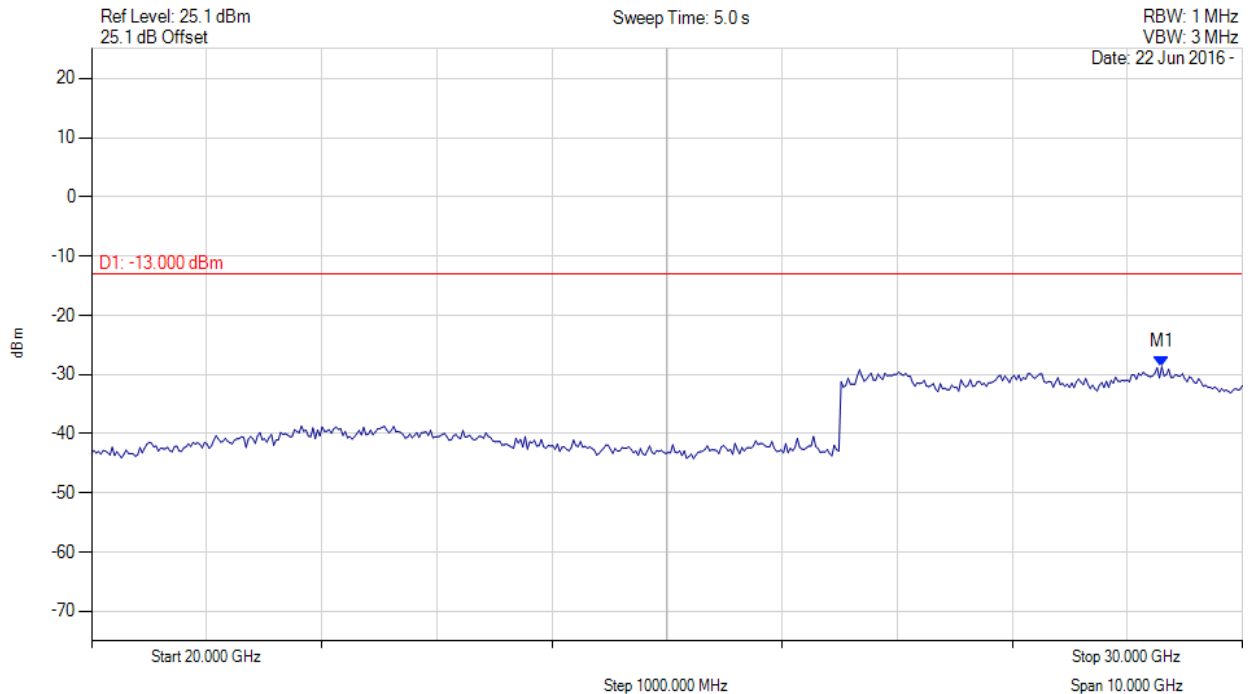


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Unwanted Emissions 20000-30000 MHz

Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.299 GHz : -28.686 dBm	Channel Frequency: 11.62 GHz

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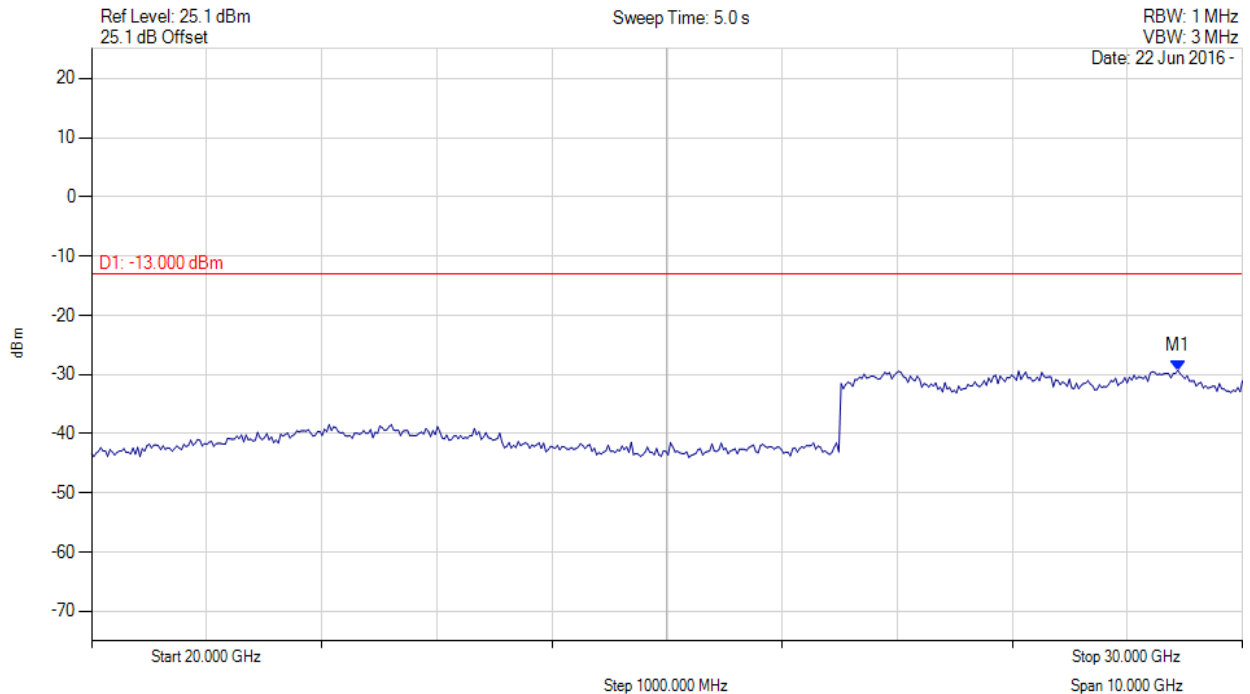


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Unwanted Emissions 20000-30000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.439 GHz : -29.284 dBm	Channel Frequency: 11.70 GHz

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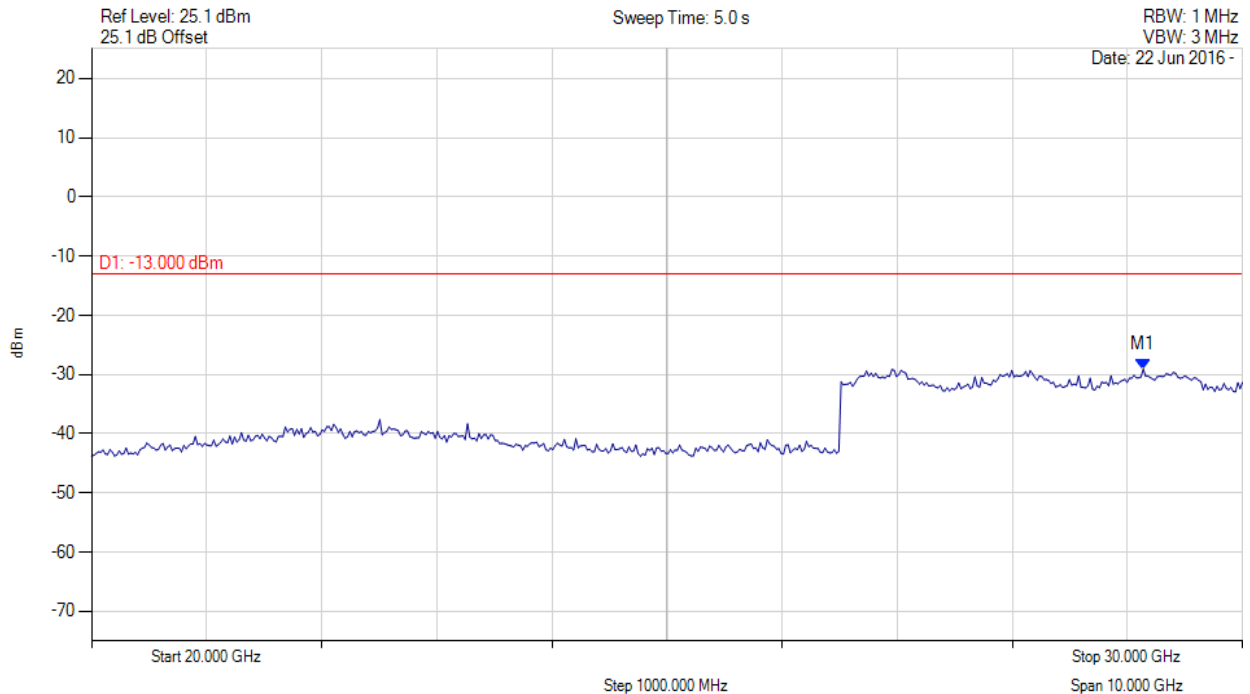


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Unwanted Emissions 20000-30000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc

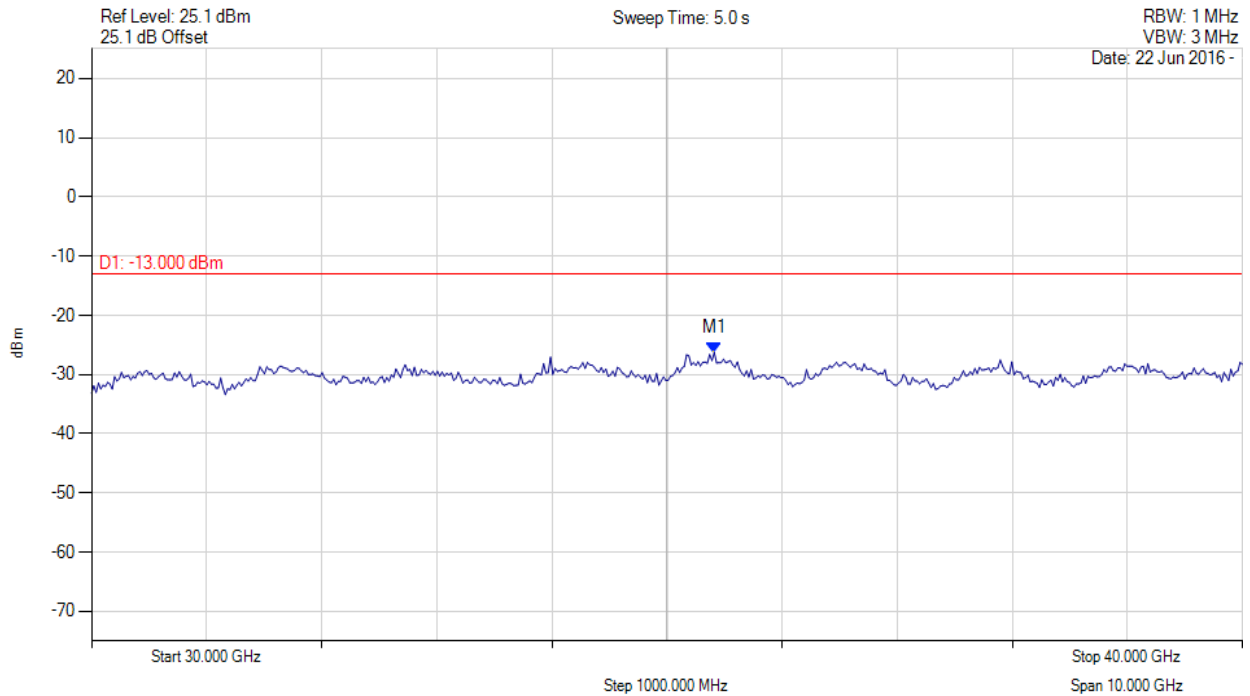


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 29.138 GHz : -29.091 dBm	Channel Frequency: 11.70 GHz

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Unwanted Emissions 30000-40000 MHz

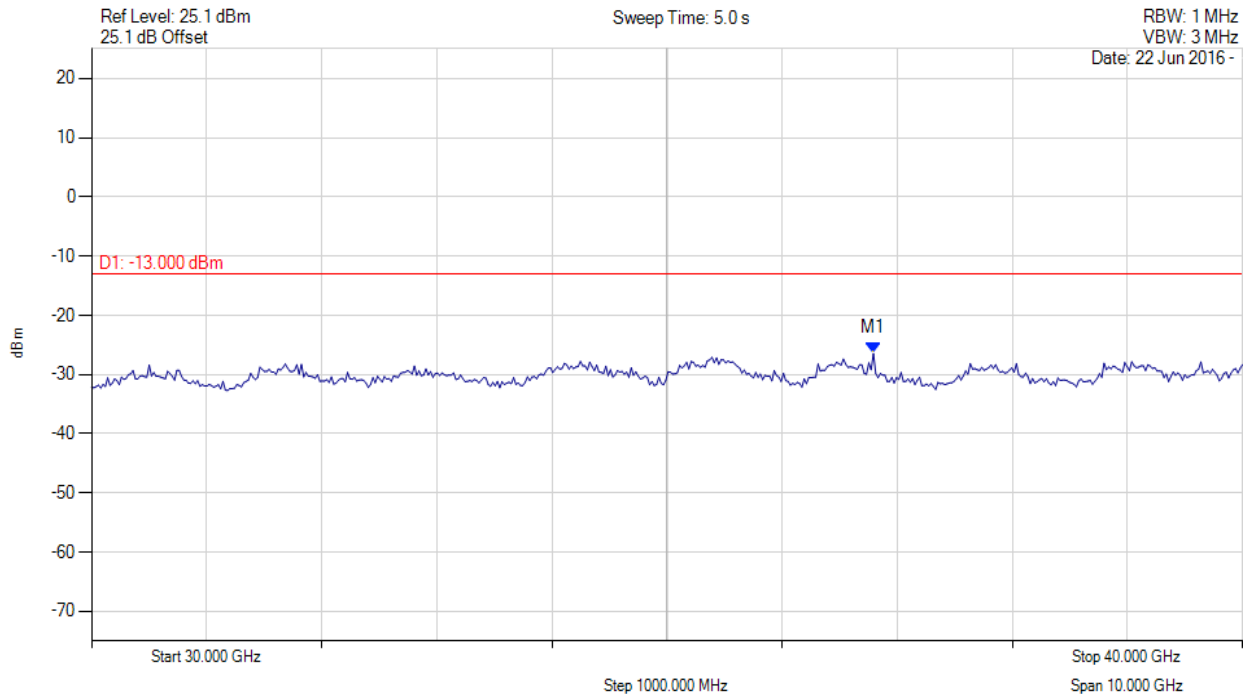
Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.411 GHz : -26.260 dBm	Channel Frequency: 11.13 GHz

Unwanted Emissions 30000-40000 MHz

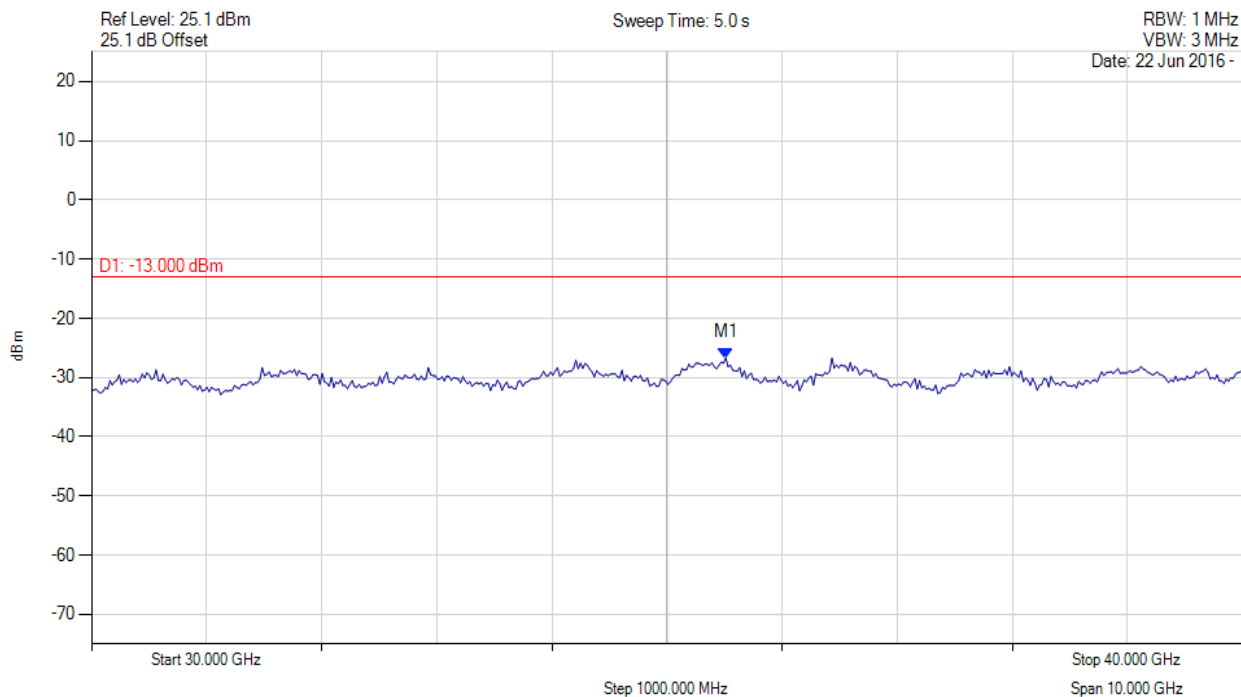
Variant: 5MHz QPSK, Channel: 11.13 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 36.794 GHz : -26.439 dBm	Channel Frequency: 11.13 GHz

Unwanted Emissions 30000-40000 MHz

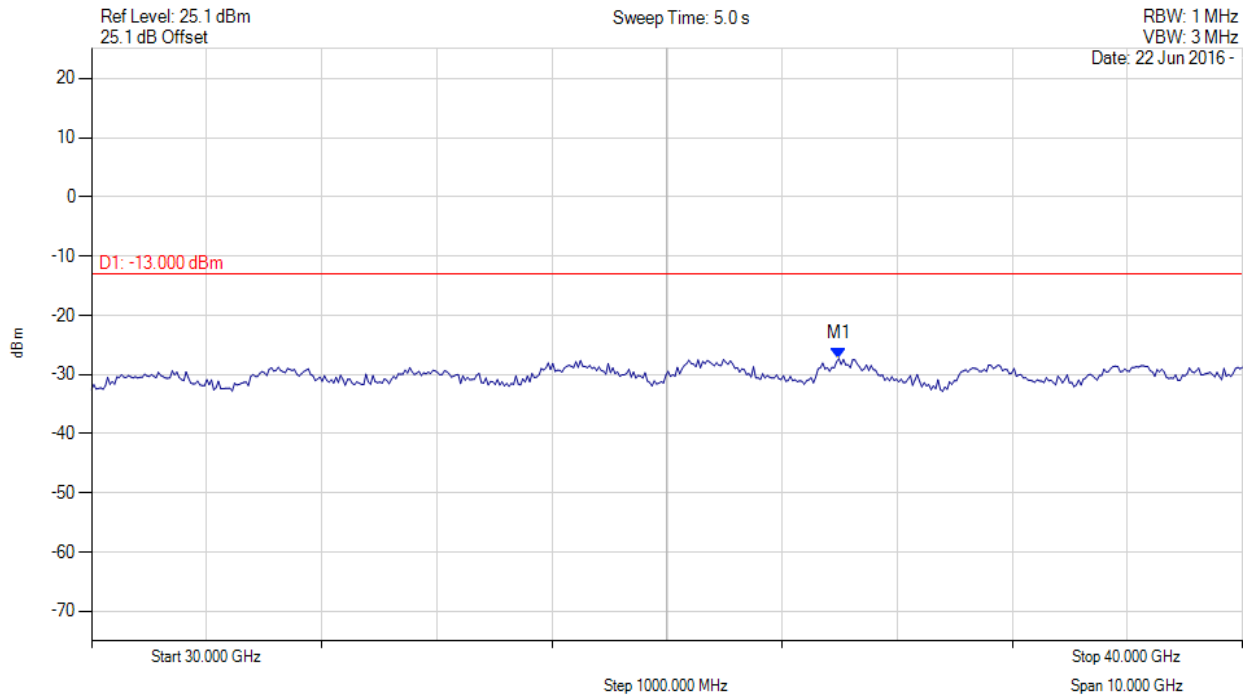
Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.511 GHz : -26.681 dBm	Channel Frequency: 11.62 GHz

Unwanted Emissions 30000-40000 MHz

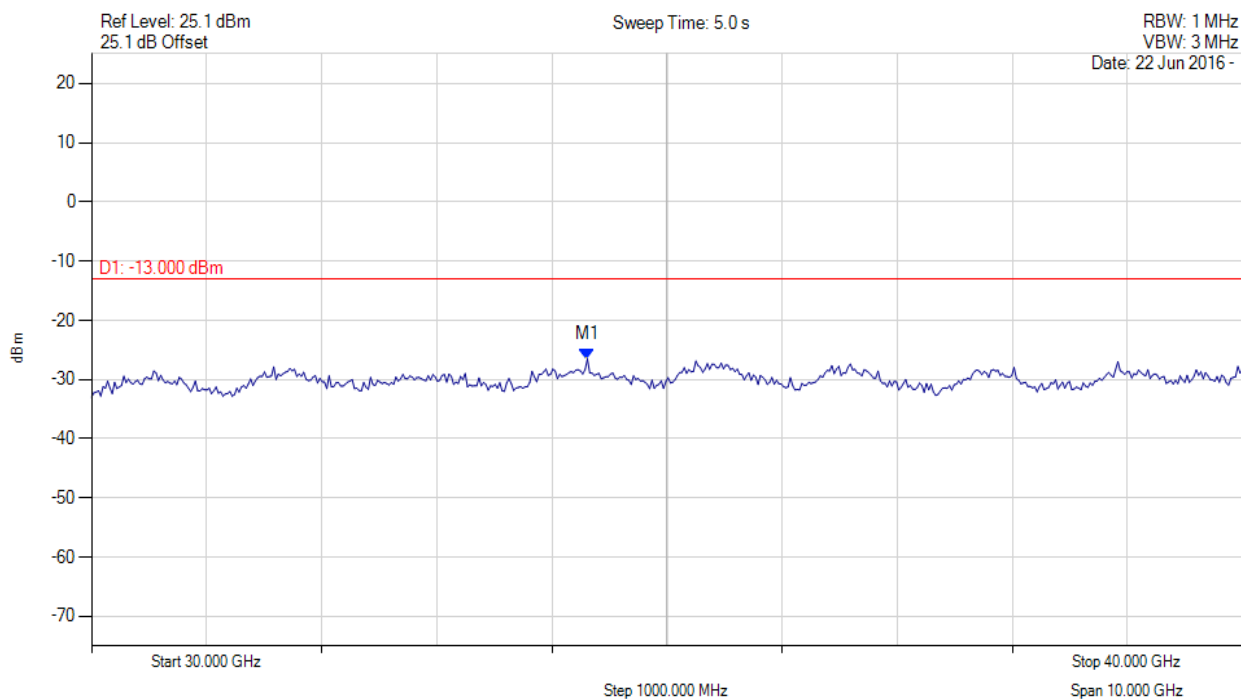
Variant: 5MHz QPSK, Channel: 11.62 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 36.493 GHz : -27.301 dBm	Channel Frequency: 11.62 GHz

Unwanted Emissions 30000-40000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 34.309 GHz : -26.508 dBm	Channel Frequency: 11.70 GHz

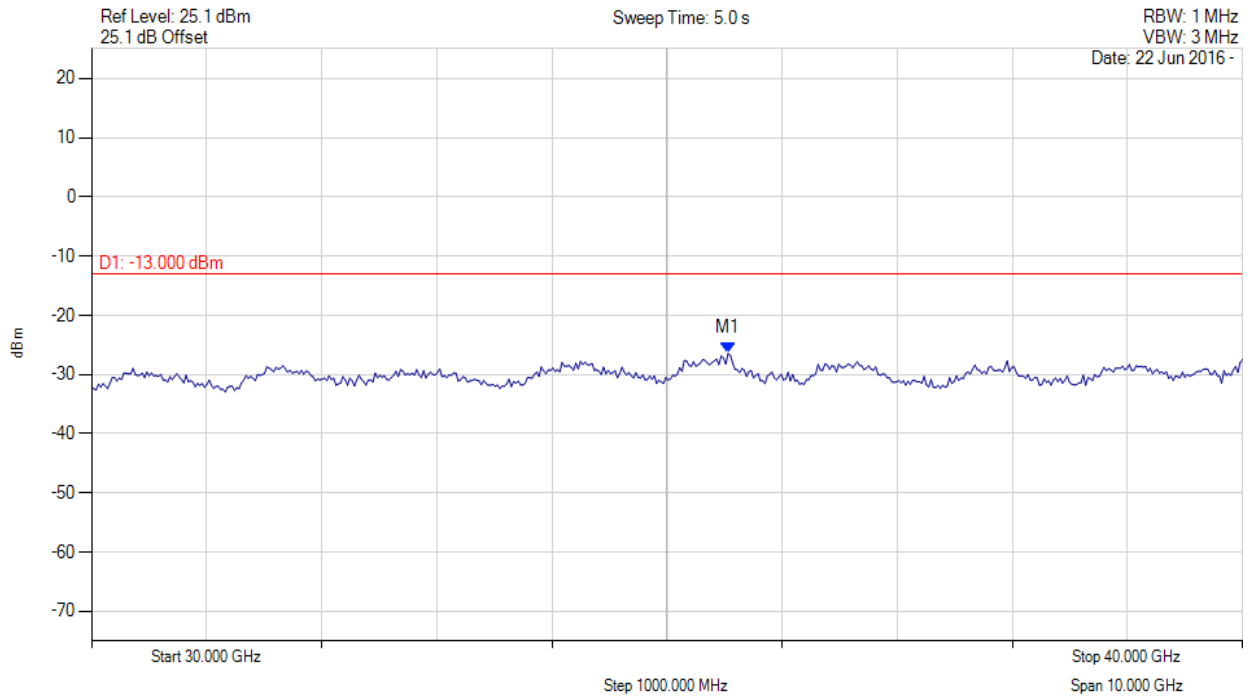


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Unwanted Emissions 30000-40000 MHz

Variant: 5MHz QPSK, Channel: 11.70 GHz, Chain b, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 35.531 GHz : -26.431 dBm	Channel Frequency: 11.70 GHz

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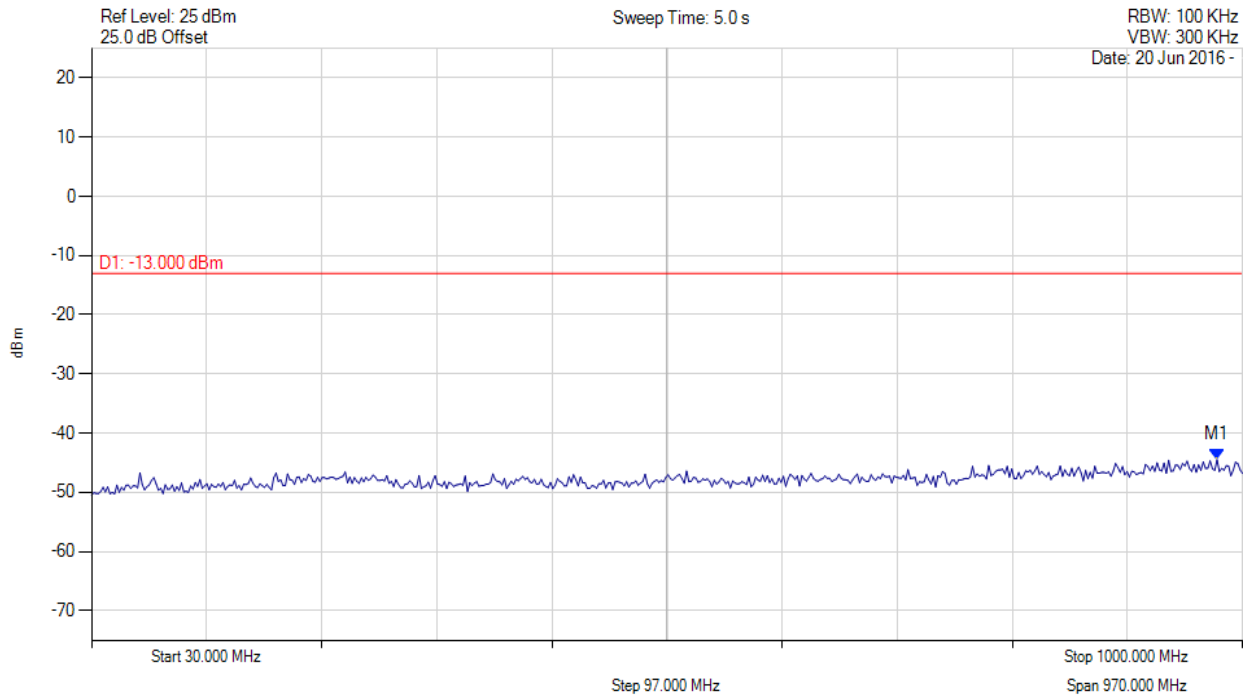


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Unwanted Emissions 30-1000MHz

Variant: 10MHz QPSK, Channel: 10.71 GHz, Chain a, Temp: ambient, Voltage: 50 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 978.617 MHz : -44.457 dBm	Channel Frequency: 10.71 GHz

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