Test Report - FCC Part 87
Applicant: HENSOLDT UK, a trading name of Kelvin Hughes Limited

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1. Applicant Information

Applicant: HENSOLDT UK, a trading name of Kelvin Hughes Limited
Address: Voltage, Mollison Avenue
Enfield, ESSEX, EN3 7XQ
United Kingdom

1.1 Part 87 Test Result Summary

The following test procedure and guidance were used for measuring FCC PART 87 known as Licensed Maritime Radiotelephone; ANSI C63.26-2015. Full test results are available in this report.

Applicable Clauses from Part 2		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
2.202	Bandwidth & Emission	Pass
2.1033 (c)(8)	Power at the Final Amplifier	Reported
2.1046 (a)	RF Output Power	Pass
2.1047	Modulation characteristics	Pass
2.1049	Occupied Bandwidth	Pass
2.1051	Spurious emissions at antenna terminals	Pass
2.1053	Field strength of spurious radiation	Pass
2.1055	Frequency stability	Pass

Applicable Clauses from Part 87		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
87.135	Bandwidths & Emission designator	Reported
87.133	Transmitter Frequency Tolerance	Pass
87.139	Emission Limitations, In-band	Pass
87.139	Emission Limitations, Out-of-band	Pass
87.131	Transmitter Power	Pass

No additions to the test methods were needed. There were no deviations, or exclusions from the test methods. No test results are from external providers or from the customer. The test results relate only to the items tested. Timco does not offer opinions and interpretations, only a pass/fail statement.

2. Location of Testing

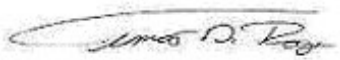
2.1 Test Laboratory

Timco Engineering Inc. is a subsidiary of Industrial Inspection & Analysis, Inc. ("IIA").
Testing was performed at Timco's permanent laboratory located at 13146 NW 86th Drive, Suite 400, Alachua, FL 32669
FCC test firm # 578780
FCC Designation # US1070
FCC site registration is under A2LA certificate # 0955.01
ISED Canada test site registration # 2056A
EU Notified Body # 1177
For all designations see A2LA scope # 0955.01

2.2 Testing was performed, reviewed by

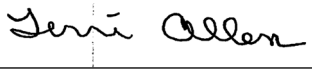
Dates of Testing: 01/16/2023 – 03/23/2023

Sr. EMC Engineer
EMC-003838-NE

Signature: 

Name & Title: Tim Royer, EMC Engineer

Date of Signature 04/26/2023

Signature: 

Name & Title: Terri Allen, Project Specialist

Date of Signature 04/26/2023

3. Test Sample(s) (EUT/DUT)

The test sample was received: 01/16/2023

3.1 Description of the EUT

A description as well as unambiguous identification of the EUT(s) tested. Where more than one sample is required for technical reasons (such as the use of connected units for the purpose of conducted output power testing where the product units will have integral antennas), each specific test shall identify which unit was tested.

Identification	
FCC ID:	CICPCV-A1
Brief Description	Mk5 Sharp Eye Radar
Model(s) #	Mk5 Sharp Eye
Firmware version	n/a
Software version	ZM-2924 Version 1.3

Technical Characteristics	
Frequency Range	9.1 – 9.5 GHz
RF O/P Power (Max.)	58.21 W / Nominal peak output power into the antenna of 80 W
Modulation	FM Pulse/FM Chirp
Bandwidth & Emission Class	53M5PON
Number of Channels	14
Duty Cycle	6NM 4.26%, 12NM 7.90%, 24NM 7.59%
Antenna Connector	Flange
Voltage Rating (AC or Batt.)	28V DC

Antenna Characteristics			
Antenna	Frequency Range	Mode / BW	Antenna Gain
1	n/a	n/a	0 dBi

- Note: Information such as antenna gain, firmware/software numbers are provided by manufacturer and cannot be validated by the test lab.

3.2 Configuration of EUT

There are 3 different range modes:

P0N Emission, 6NM (SR) mode

P0N Emission, 12NM (MR) mode

P0N Emission, 24NM (LR) mode

Operating conditions during Testing:

The device was operated without the provided antenna(s).

No other modifications of the device under test (including firmware, specific software settings, and input/output signal levels to the EUT) were made.

Peripherals used during Testing:

A laptop provided was used to program the EUT.

3.3 Test Setup of EUT

Equipment, antenna, and cable arrangement. The setup of the equipment and cable or wire placement on the test site that produces the highest radiated and the highest ac power line conducted emissions shall be shown clearly and described. Information on the orientation of portable equipment during testing shall be included. Drawings or photographs may be used for this purpose.

Test Setups are included in the test report.

4. Test methods & Applicable Regulatory Limits

4.1 Test methods/Standards/Guidance:

Test procedures and guidance for measuring Licensed Part 80, 87, & 90 Licensed device:

1) ANSI C63.26-2015
2) ITU-R M.1177-3

4.2 Applied Limits and Regulatory Limits:

1) FCC CFR 47 Part 87

5. Measurement Uncertainty

Parameter	Uncertainty (dB)
Conducted Emissions	± 3.14 dB
Radiated Emissions (9kHz – 30 MHz)	± 3.08 dB
Radiated Emissions (30 – 200 MHz)	± 2.16 dB
Radiated Emissions (200 – 1000 MHz)	± 2.15 dB
Radiated Emissions (1 GHz – 18 GHz)	± 2.14 dB
Radiated Emissions (18 GHz – 40 GHz)	± 2.31 dB
Note: The uncertainties provided in this table represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of K=2.	

6. Environmental Conditions

6.1 Temperature & Humidity

Measurements performed at the test site did not exceed the following:

Parameter	Measurement
Temperature	23 C +/- 5%
Humidity	55% +/- 5%
Barometric Pressure	30.05 in Hg
Note: Specific environmental conditions that are applicable to a specific test are available in the test result section.	

7. List of Test Equipment and Test Facility

The test equipment used identified by type, manufacturer, serial number, or other identification and the date on which the next calibration or service check is due.

Description of the firmware or software used to operate EUT for testing purposes.

A complete list of all test equipment used shall be included with the test report. The manufacturer's model and serial numbers, and date of last calibration, and calibration interval shall be included. Measurement cable loss, measuring instrument bandwidth and detector function, video bandwidth, if appropriate, and antenna factors shall also be included where applicable.

7.1 List of Test Equipment

Type	Device	Manufacturer	Model	SN#	Current Cal	Cal Due
Antenna	Biconical 1057	Eaton	94455-1	1057	10/16/20	10/16/2023
Antenna, NSA	Log-Periodic 1243	Eaton	96005	1243	05/04/21	05/3/2024
Antenna	Double-Ridged Horn/ETS Horn 1	ETS-Lindgren	3117	00035923	04/25/20	04/25/2023
CHAMBER	CHAMBER	Panashield	3M	N/A	03/12/19	12/21/2023
Pre-amp	Pre-amp	RF-LAMBDA	RLNA00M45GA	NA	02/27/19	07/26/2025
Receiver	EMI Test Receiver R&S ESU 40	Rohde & Schwarz	ESU 40	100320	05/27/21	05/26/2024
Function Generator	Function Generator	Standford	DS340	25200	01/13/21	01/13/2024
Signal Generator	Signal Generator HP 8648C	HP	8648C	35537A01679	03/29/19	8/03/2025
Thermometer	Type K J Thermometer	Martel	303	080504494	01/16/23	01/15/2026

Software			
Software	Author	Version	Validation on
ESU Firmware	Rohde & Schwarz	4.43 SP3; BIOS v5.1-24-3	2018
RSCommander	Rohde & Schwarz	1.6.4	2014
ScopeExplorer	LeCroy	v2.25.0.0	2009
Field Strength	Timco	v4.10.7.0	2016

8. Test Results

The results of the test are usually indicated in the form of tables, spectrum analyzer plots, charts, sample calculations, as appropriate for each test procedure.

A description and/or a block diagram of the test setup is usually provided.

The measurement results, along with the appropriate limits for comparison, may be presented in tabular or graphical form. In addition, any variation in the measurement environment may be reported if applicable (e.g., a significant change of temperature that could affect the cable loss and amplifier response).

Unless noted otherwise in the referenced standard, the measurements of **ac power-line conducted emissions and conducted power output** will be reported in units of dBµV. Unless noted otherwise in the referenced standard, the measurements of **radiated emissions** will be reported in units of decibels, referenced to one microvolt per meter (dBµV/m) for electric fields, or to one ampere per meter (dBA/m) for magnetic fields, at the distance specified in the appropriate standards or requirements. The measurements of antenna-conducted power for receivers may be reported in units of dBµV if the impedance of the measuring instrument is also reported. Otherwise, antenna-conducted power will be reported in units of decibels referenced to one milliwatt (dBm). All formulas for data conversions and conversion factors, if used, will be included in this measurement report.

Example:

Freq (MHz)	Meter Reading	+ ACF	+CL	= FS
33	20 dBµV	+ 10.36 dB/m	+0.40 dB	=30.36 dBµV/m @ 3m

EIRP = Pcond (dBm) + dBi

8.1 Power at the Final Amplifier

Limits from FCC Part 2.1033 (c)(8).

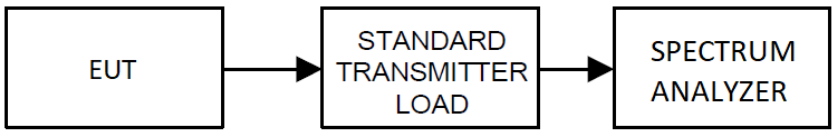
No method of measurement is specified. The result has been calculated based on all available information.

Test Results		
EUT Operating Voltage (V)	EUT Current (A)	Power at the Final Amplifier
24	10	240

8.2 RF Output Power

Limits from FCC Parts 2.1046(a), 87.131 and test procedure from ANSI C63.26-2015.

Test Setup

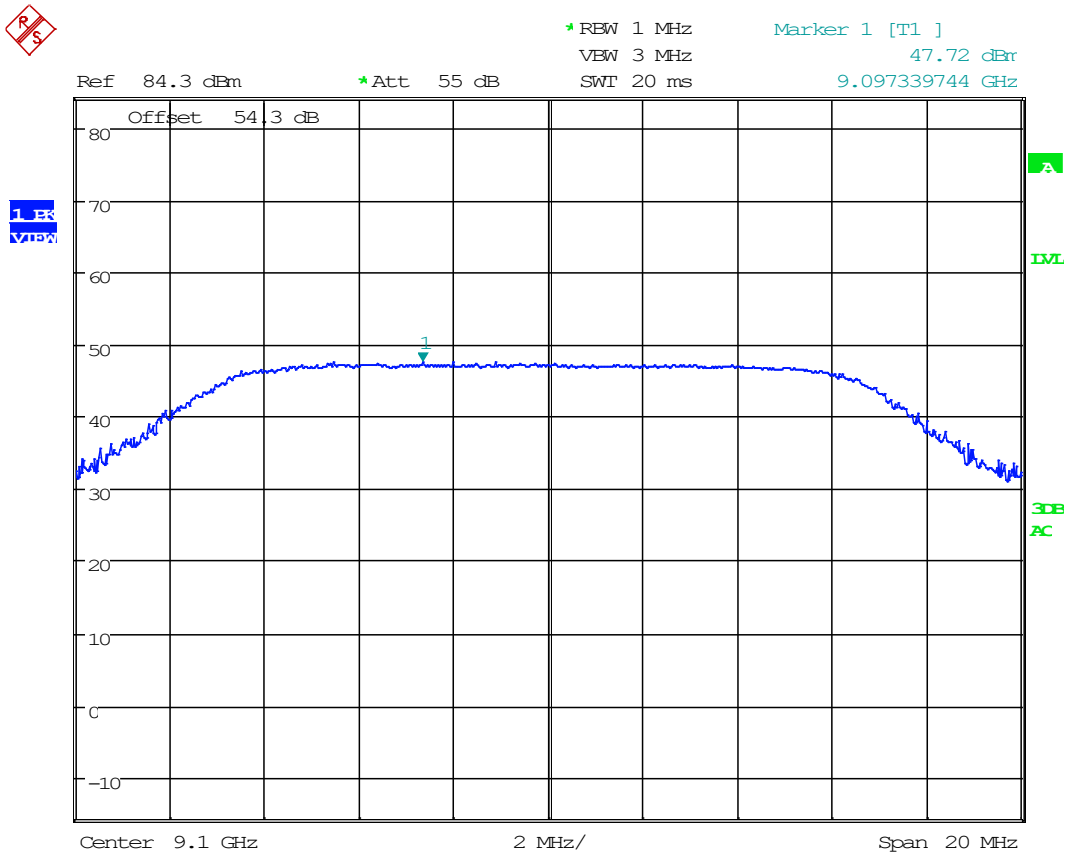


Test Results						
Tuned Frequency (MHz)	Method	Measured Peak Power Output (dBm)	Measured Peak Power Output (W)	Duty Cycle Correction	Average Power Output (dBm)	Average Power Output (W)
9100	Conducted	47.72	59.16	7.214	36.3	4.268
9100	Conducted	40.87	12.22	7.214	29.45	0.882
9180	Conducted	47.89	61.52	7.214	36.47	4.438
9180	Conducted	41.08	12.82	7.214	29.66	0.925
9340	Conducted	47.57	57.15	7.214	36.75	4.12
9340	Conducted	40.35	10.83	7.214	28.92	0.78
9440	Conducted	47.35	58.21	7.214	36.23	4.20
9440	Conducted	40.77	11.99	7.214	29.34	0.86

Note: The mean power was calculated based on formula:
Pa = Pm*DC

Maximum Average Power: 4.2 W
Maximum Peak Power: 58.21 W

8.2.1 RF Power Output Plot, 9100 MHz, High Power



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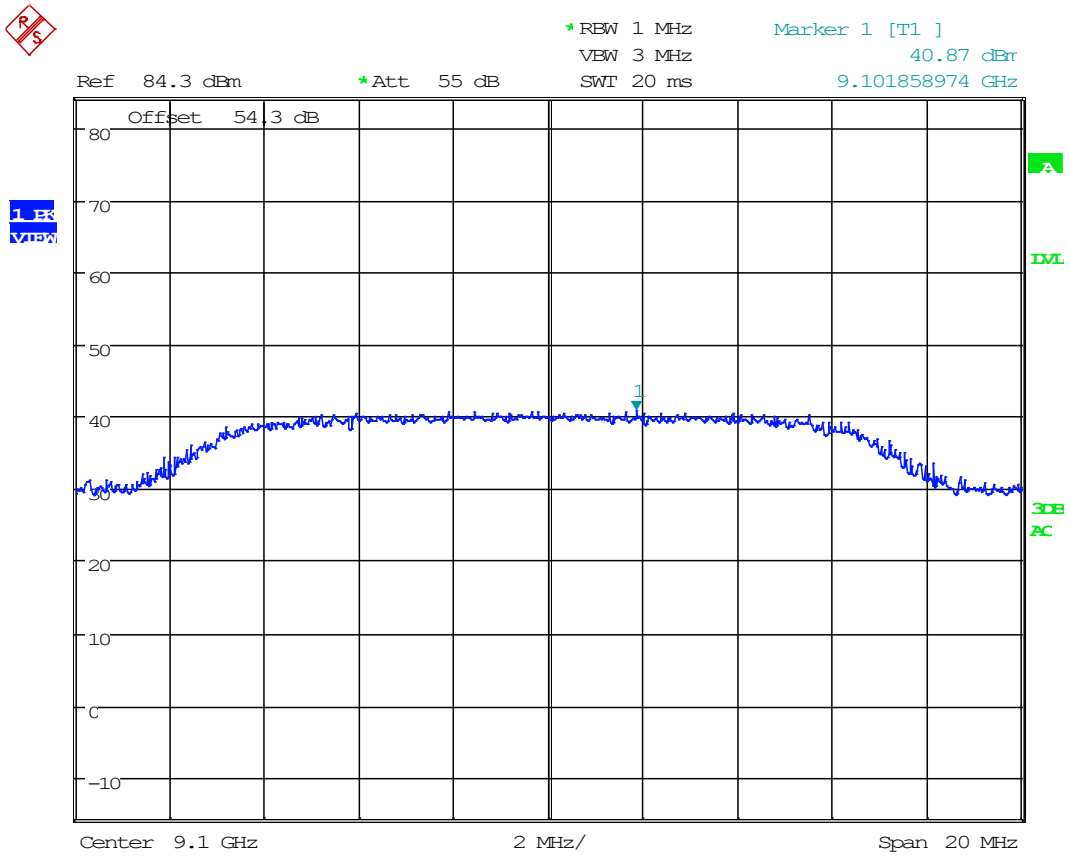
8.2.1 RF Power Output Plot, 9100 MHz, Low Power



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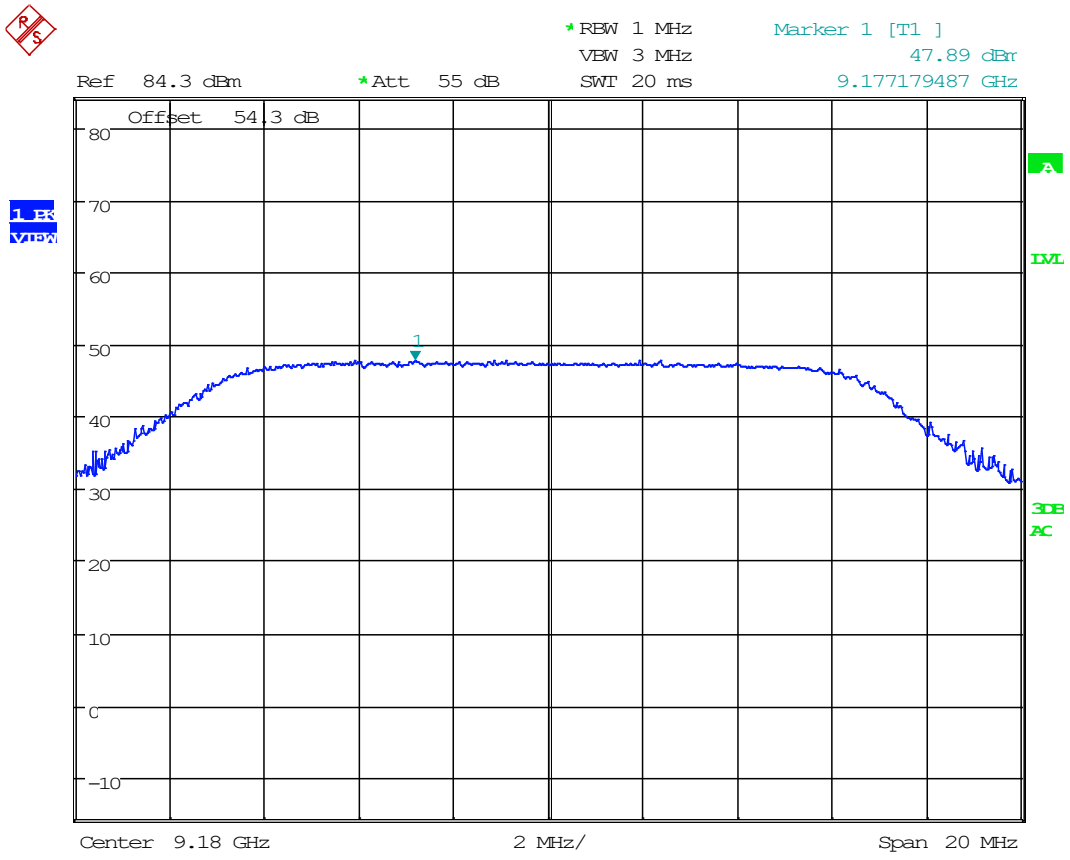
8.2.1 RF Power Output Plot, 9180 MHz, High Power



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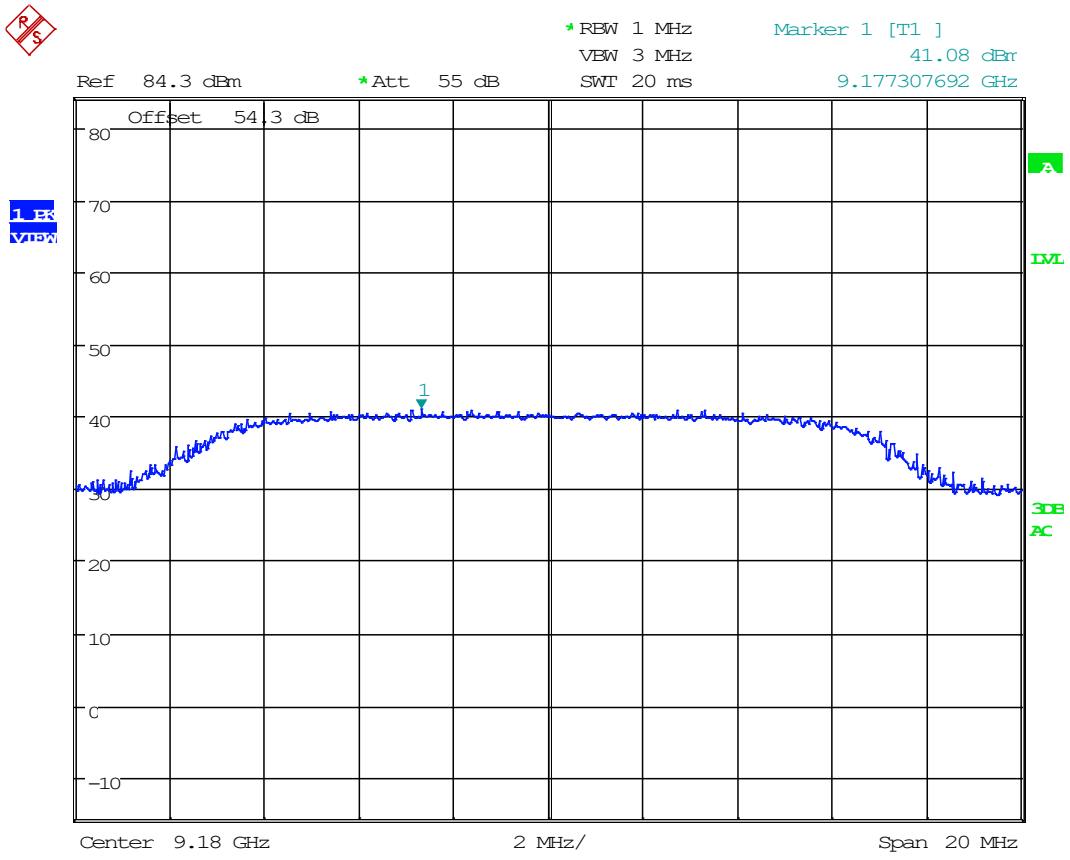
8.2.2 RF Power Output Plot, 9180 MHz, Low Power



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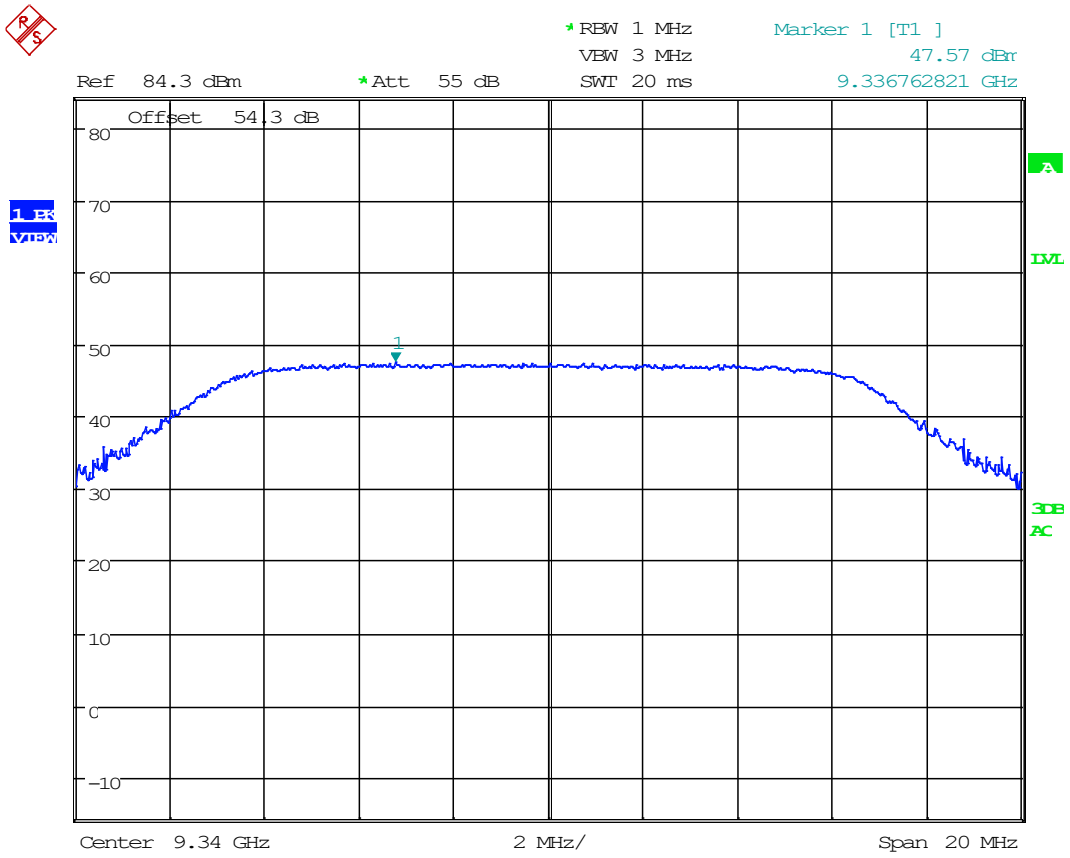
8.2.3 RF Power Output Plot, 9340 MHz, High Power



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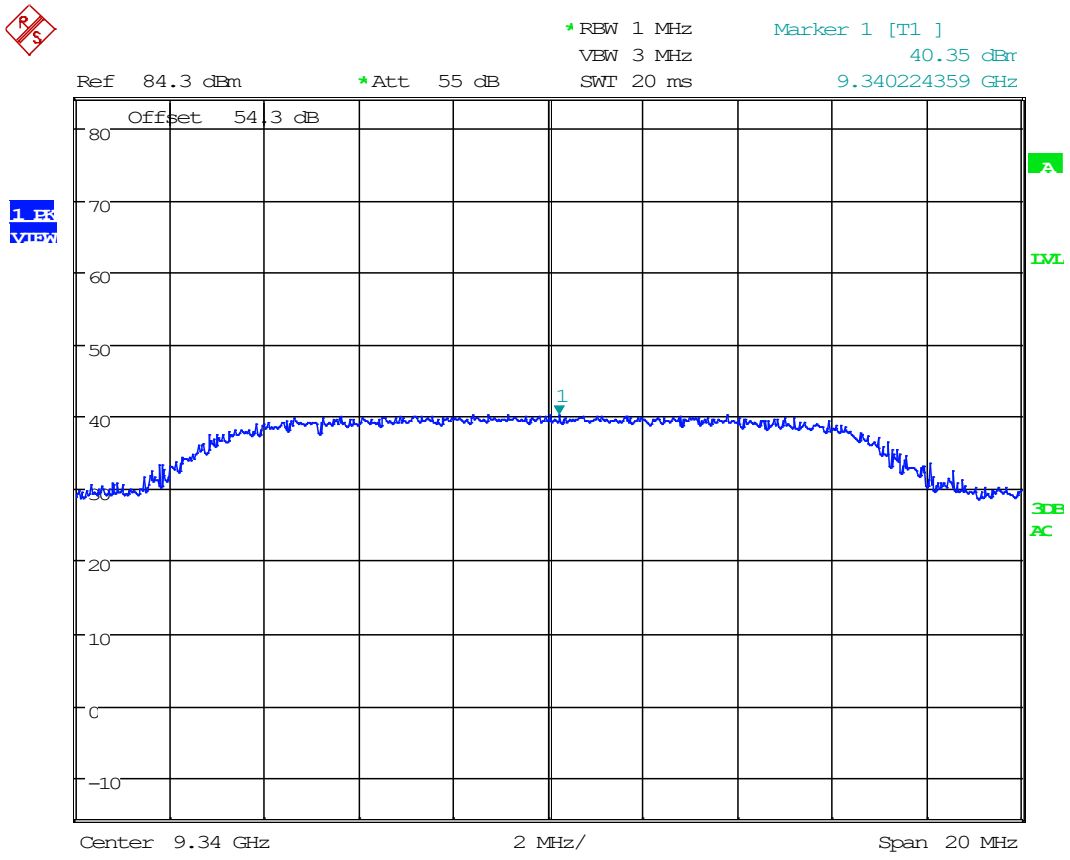
8.2.4 RF Power Output Plot, 9340 MHz, Low Power



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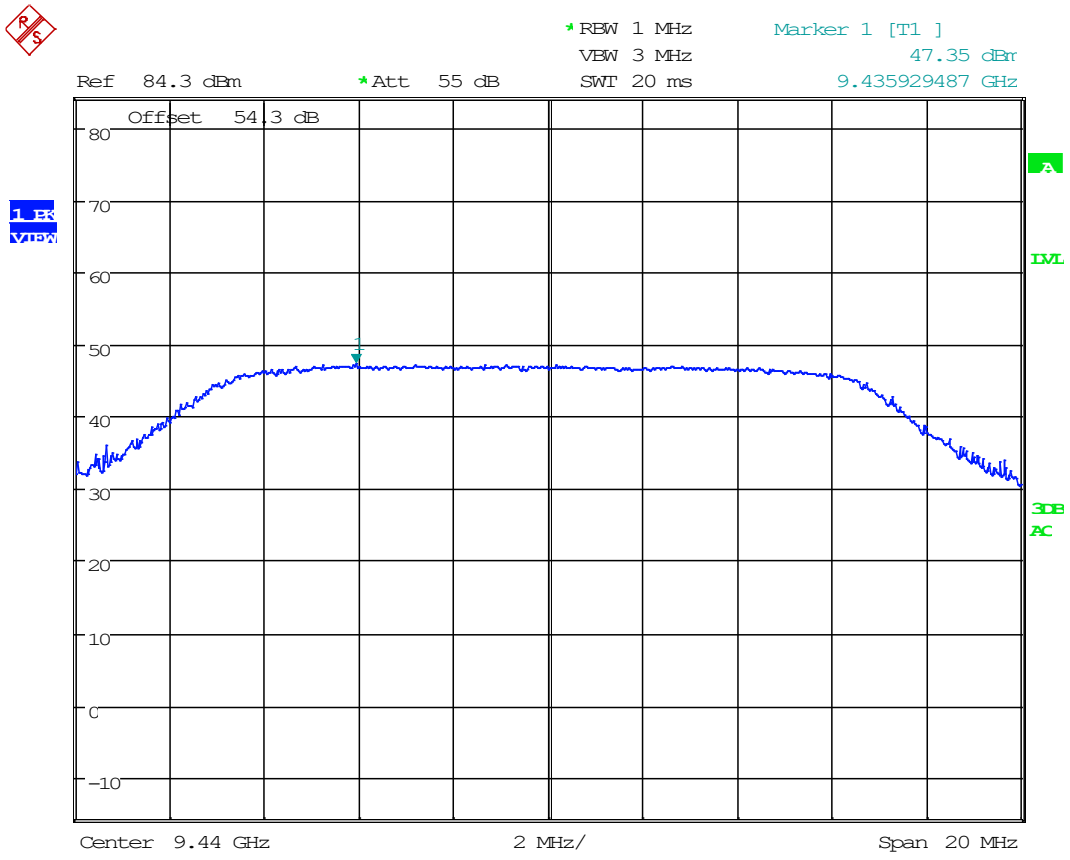
8.2.5 RF Power Output Plot, 9440 MHz, High Power



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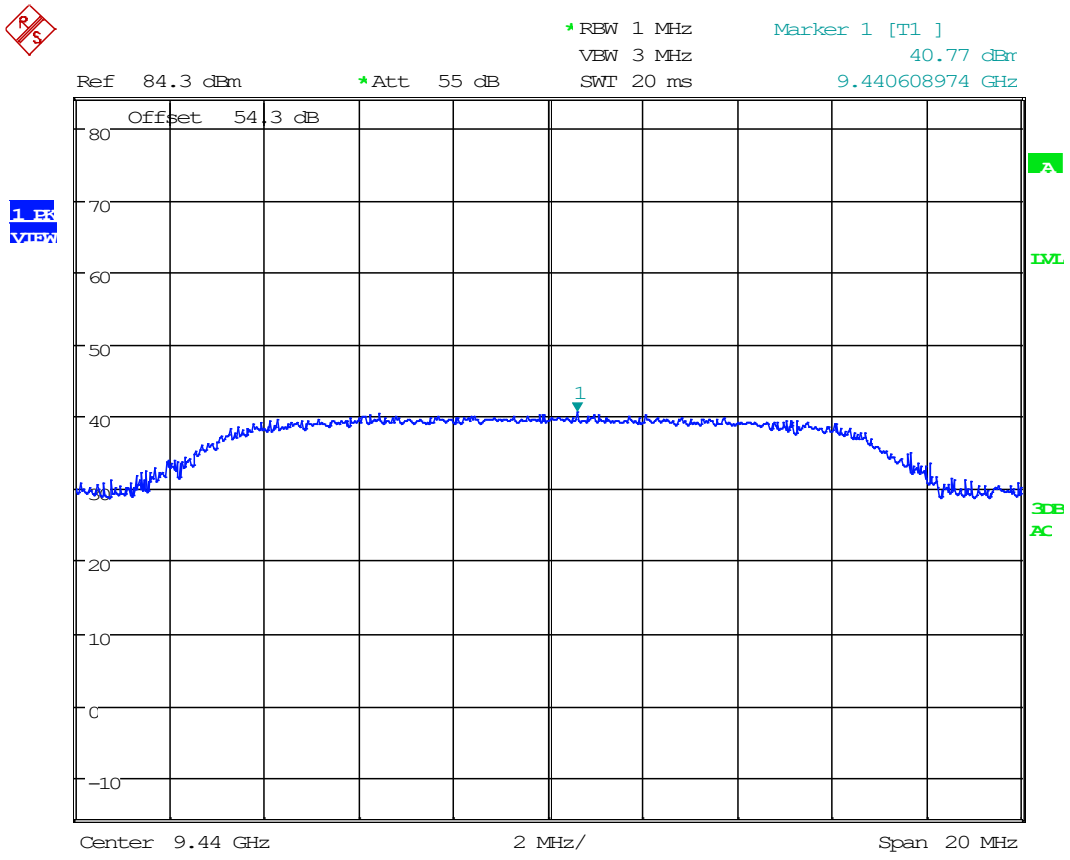
8.2.6 RF Power Output Plot, 9440 MHz, Low Power



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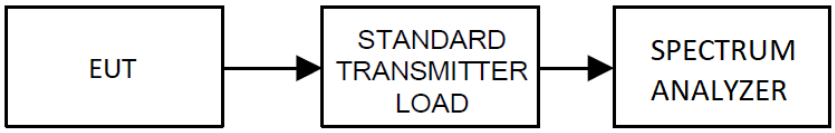
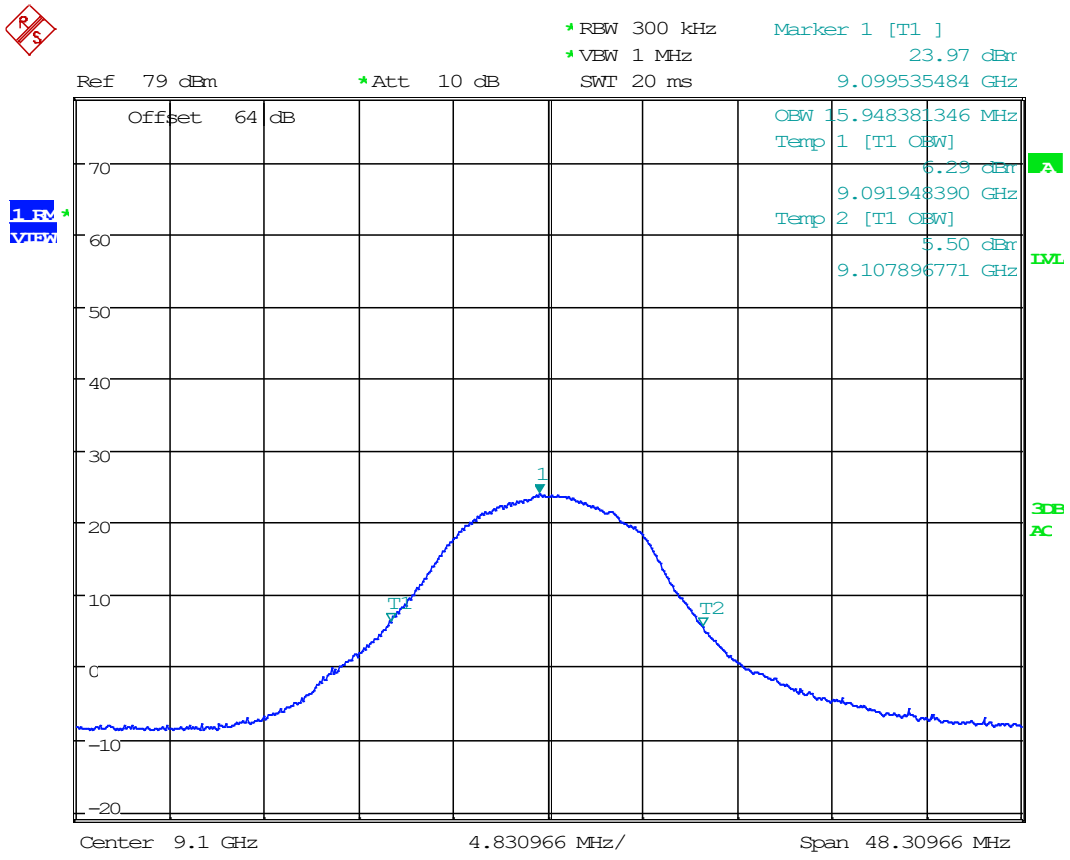
8.3 Bandwidth & Emission

Limits from FCC Parts 2.1049, 87.135 (a) and test procedure from ANSI C63.26-2015.

Test Setup


Occupied Bandwidth				
Mode (Type)	Test Frequency (MHz)	99% BW (nominal) (MHz)	40dB BW (nominal) (kHz)	Emission Designator
6nm	9100	15.94	43.75	PON
12 nm		13.97	32.81	PON
24 nm		13.7	29.79	PON
6nm	9180	16.12	40.62	PON
12 nm		14.04	32.81	PON
24 nm		13.76	30	PON
6nm	9260	15.95	53.54	PON
12 nm		13.89	32.05	PON
24 nm		13.7	30.1	PON
6nm	9340	15.93	41.14	PON
12 nm		13.87	32.05	PON
24 nm		13.73	29.68	PON
6nm	9440	16.08	41.14	PON
12 nm		13.88	32.91	PON
24 nm		13.73	29.8	PON

8.3.1 99% Bandwidth Plot, 9100 MHz, 6 nm



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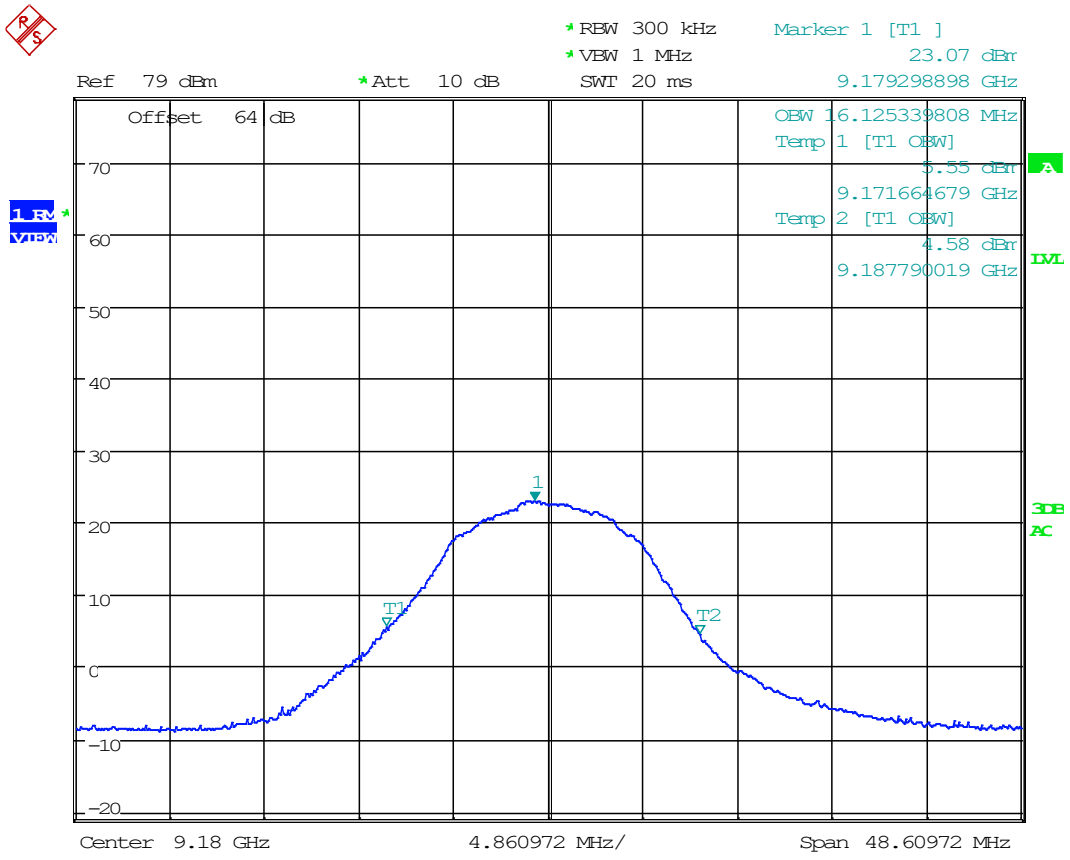
8.3.2 99% Bandwidth Plot, 9180 MHz, 6 nm



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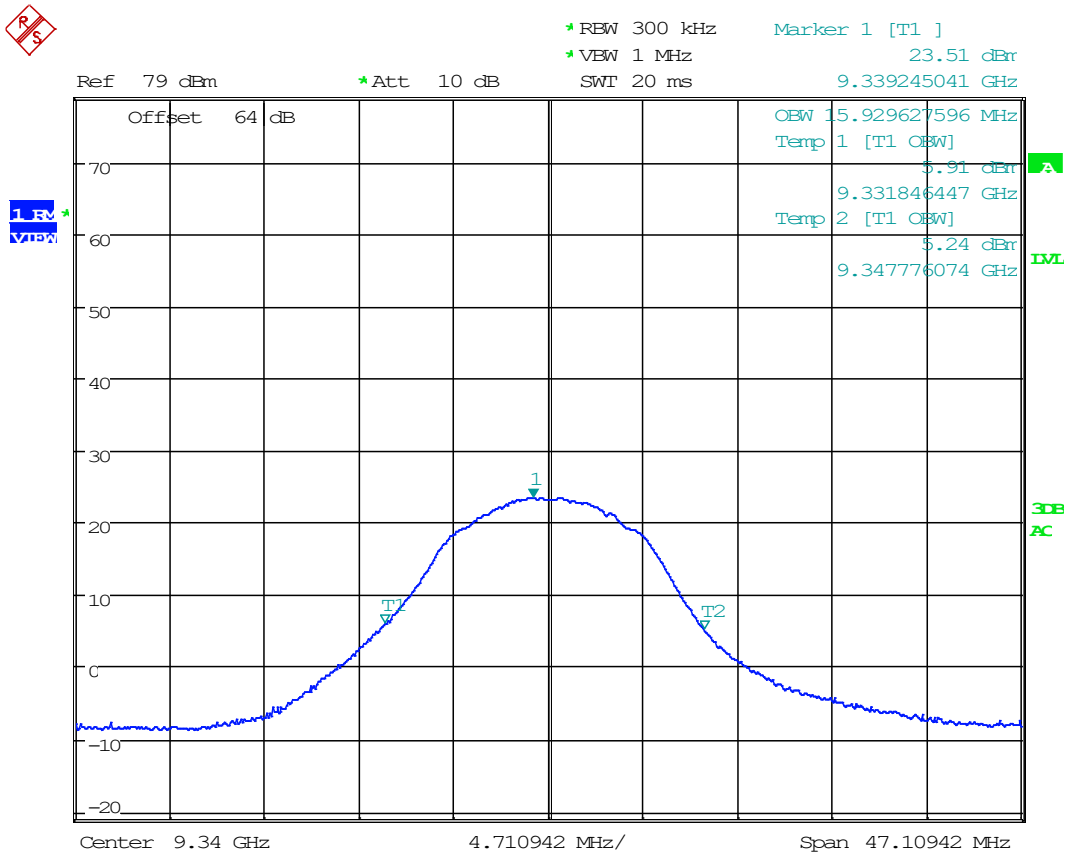
8.3.3 99% Bandwidth Plot, 9340 MHz, 6 nm



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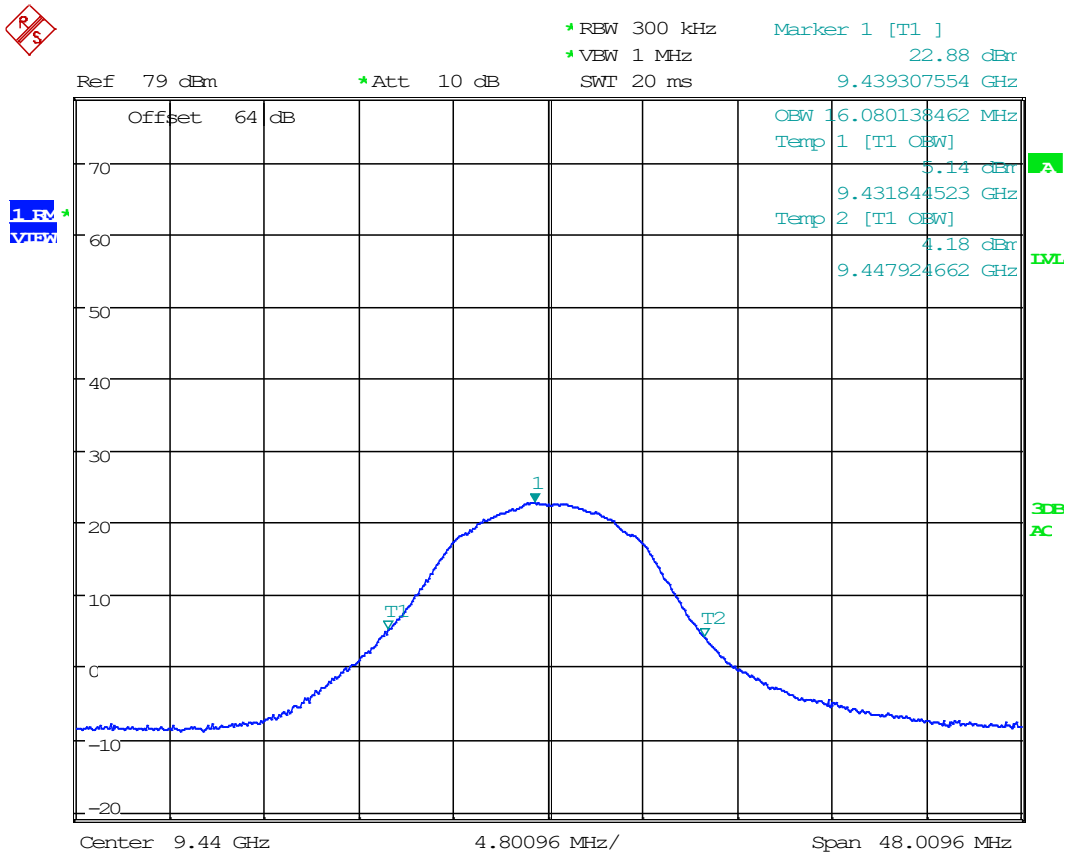
8.3.4 99% Bandwidth Plot, 9440 MHz, 6 nm



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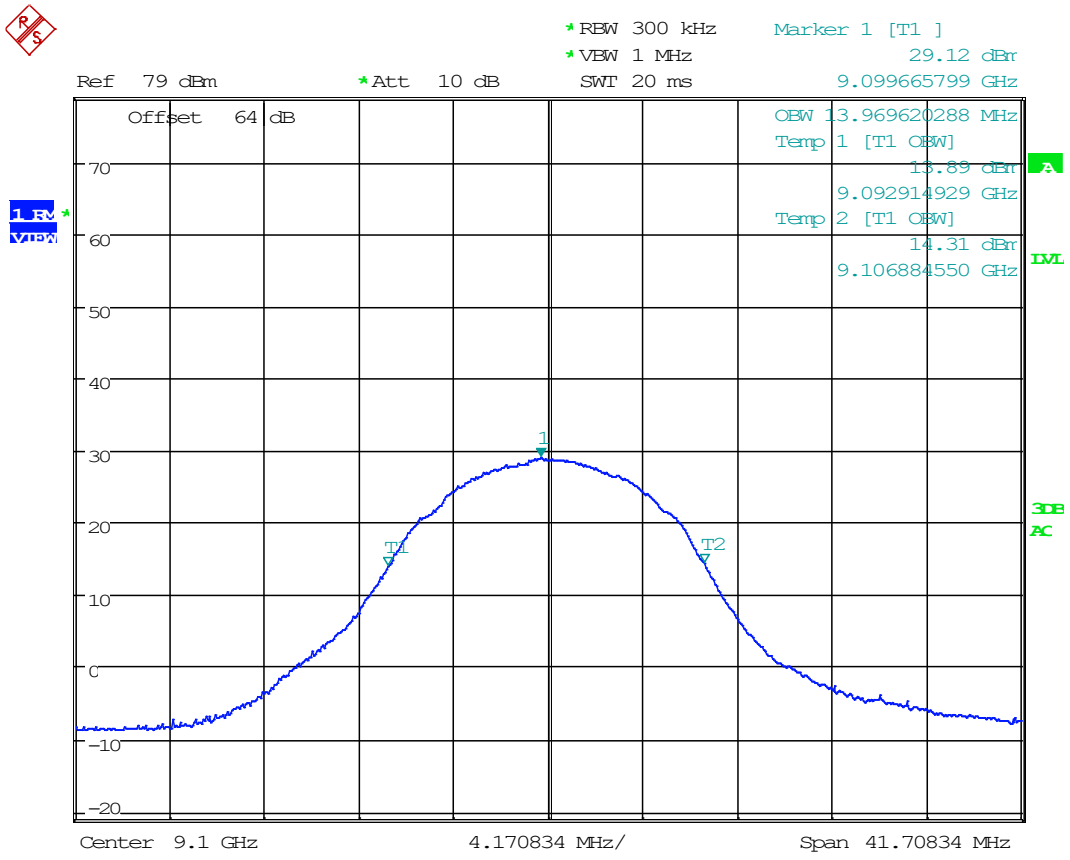
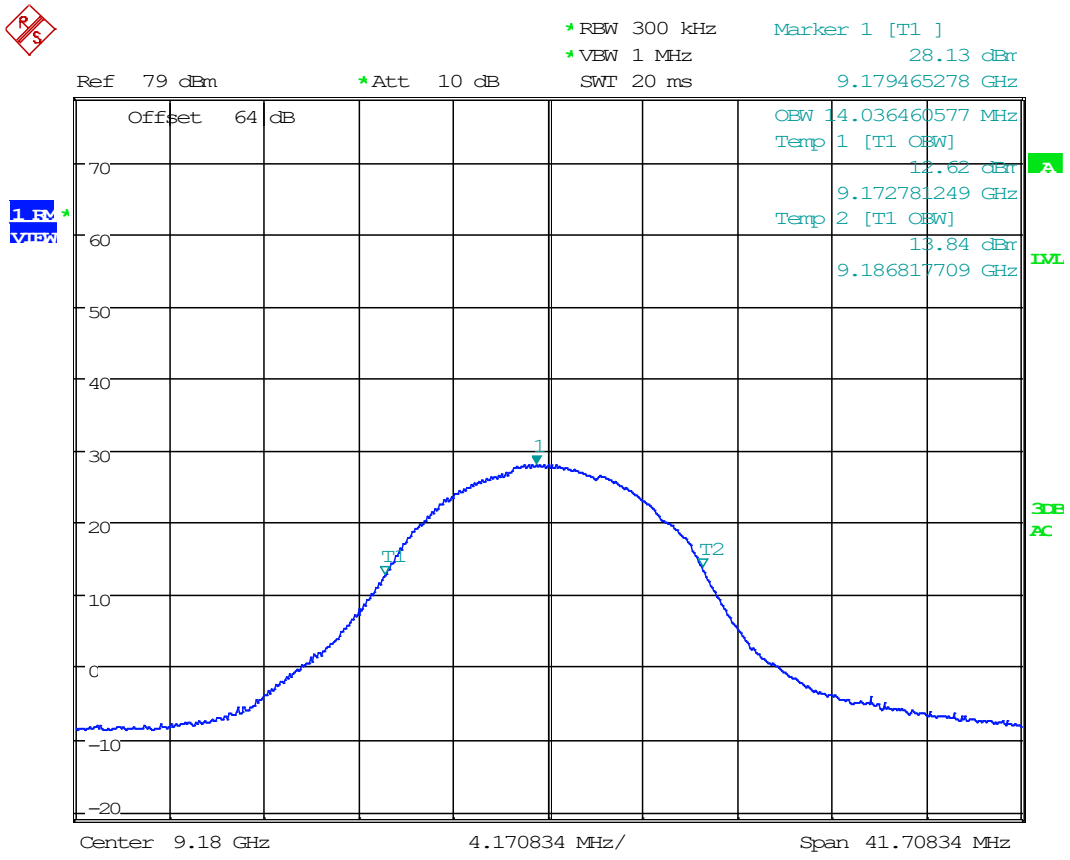
8.3.1 99% Bandwidth Plot, 9100 MHz, 12 nm



8.3.2 99% Bandwidth Plot, 9180 MHz, 12 nm



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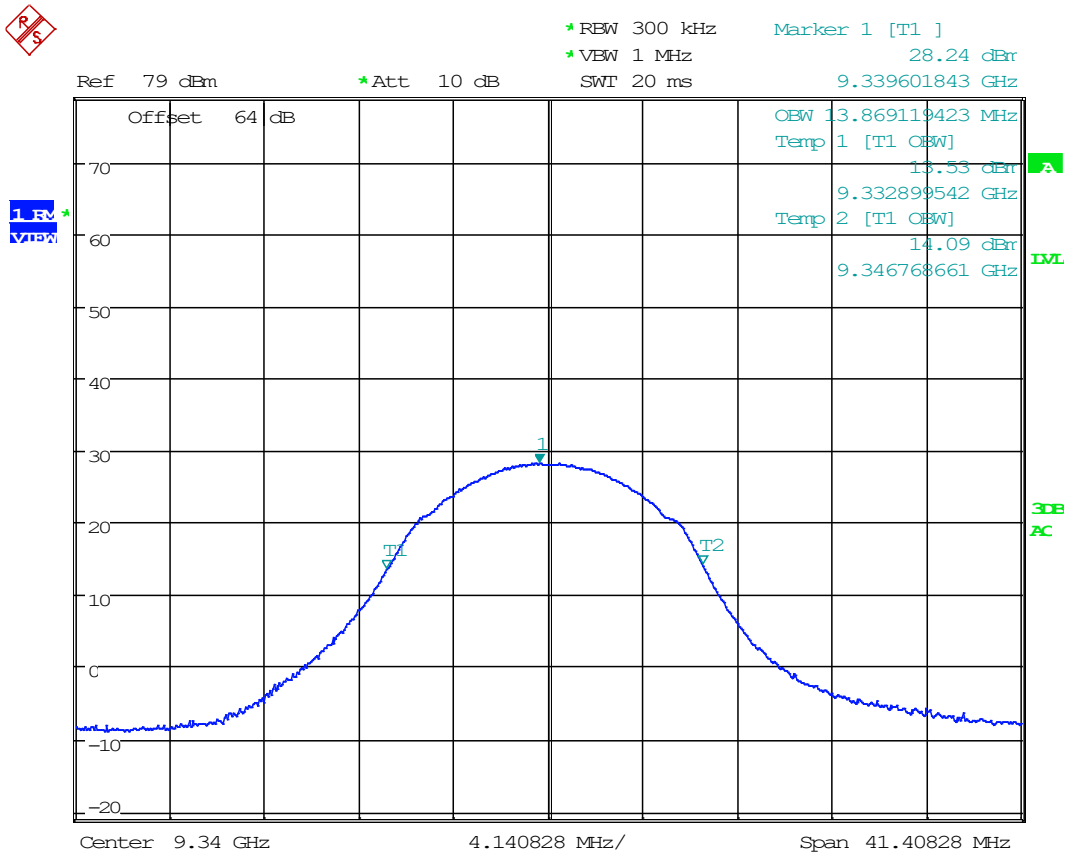

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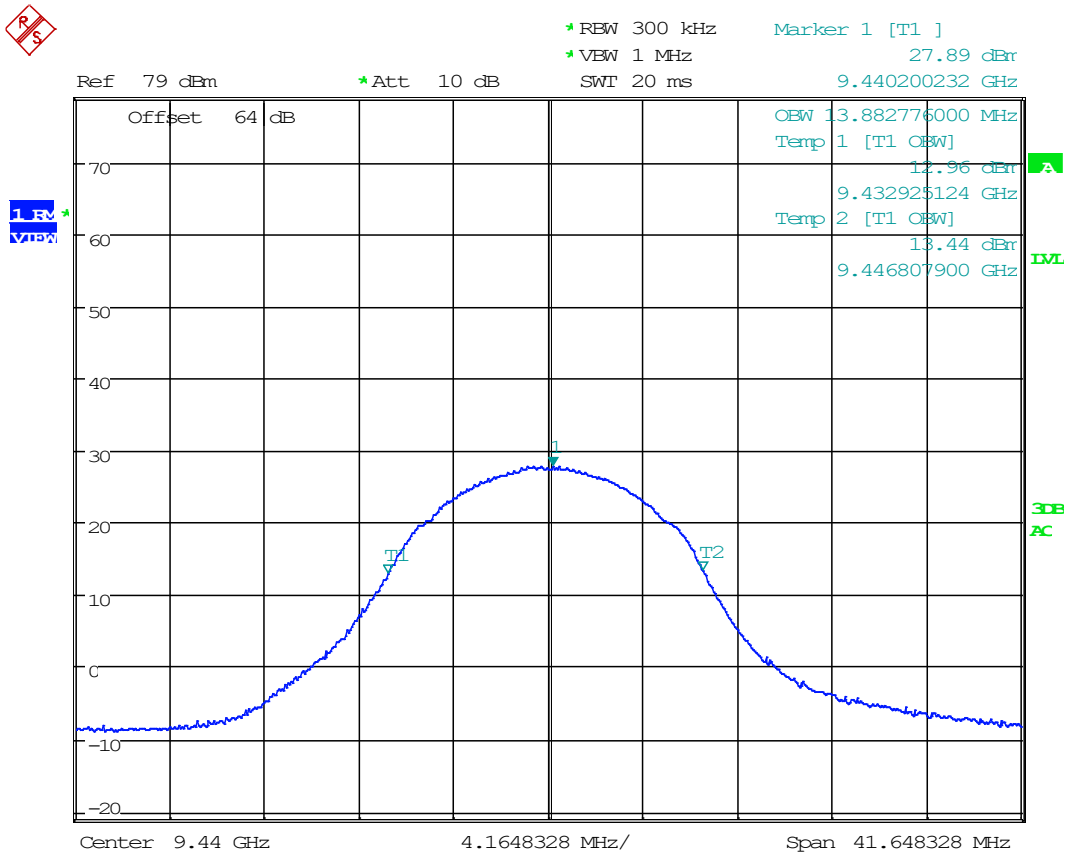
8.3.2 99% Bandwidth Plot, 9440 MHz, 12 nm



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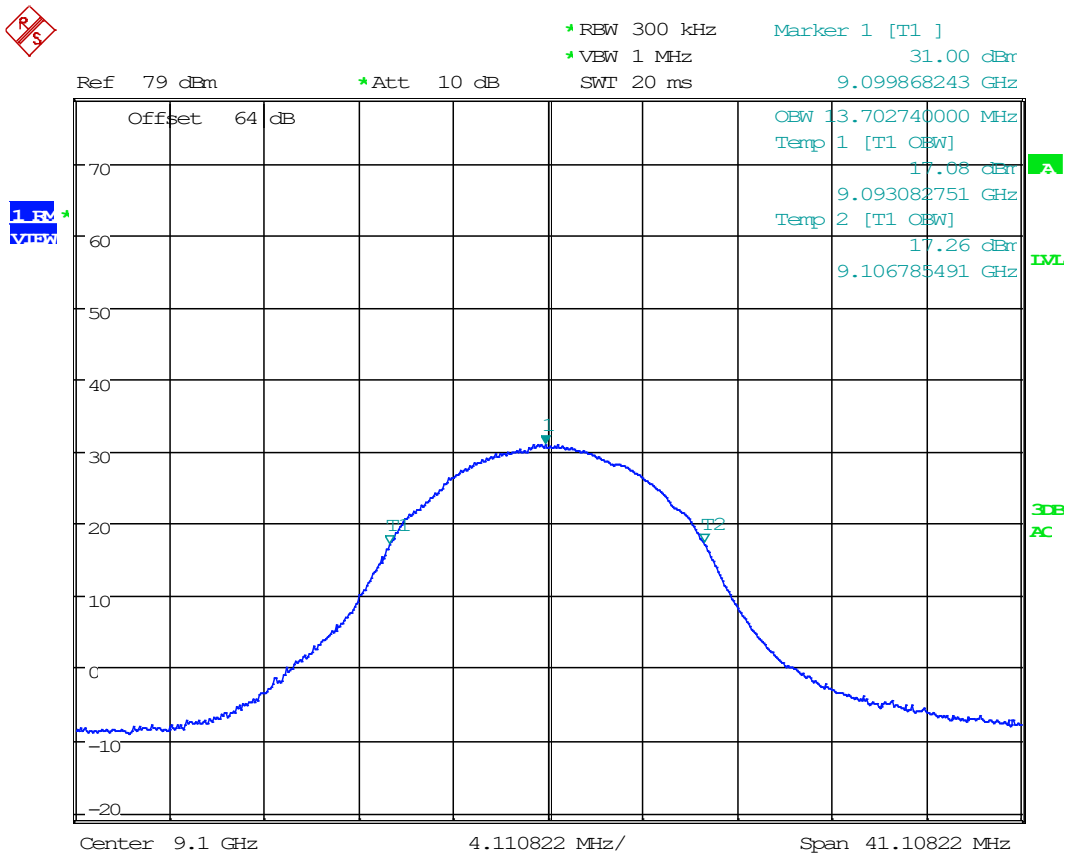
8.3.1 99% Bandwidth Plot, 9100 MHz, 24 nm



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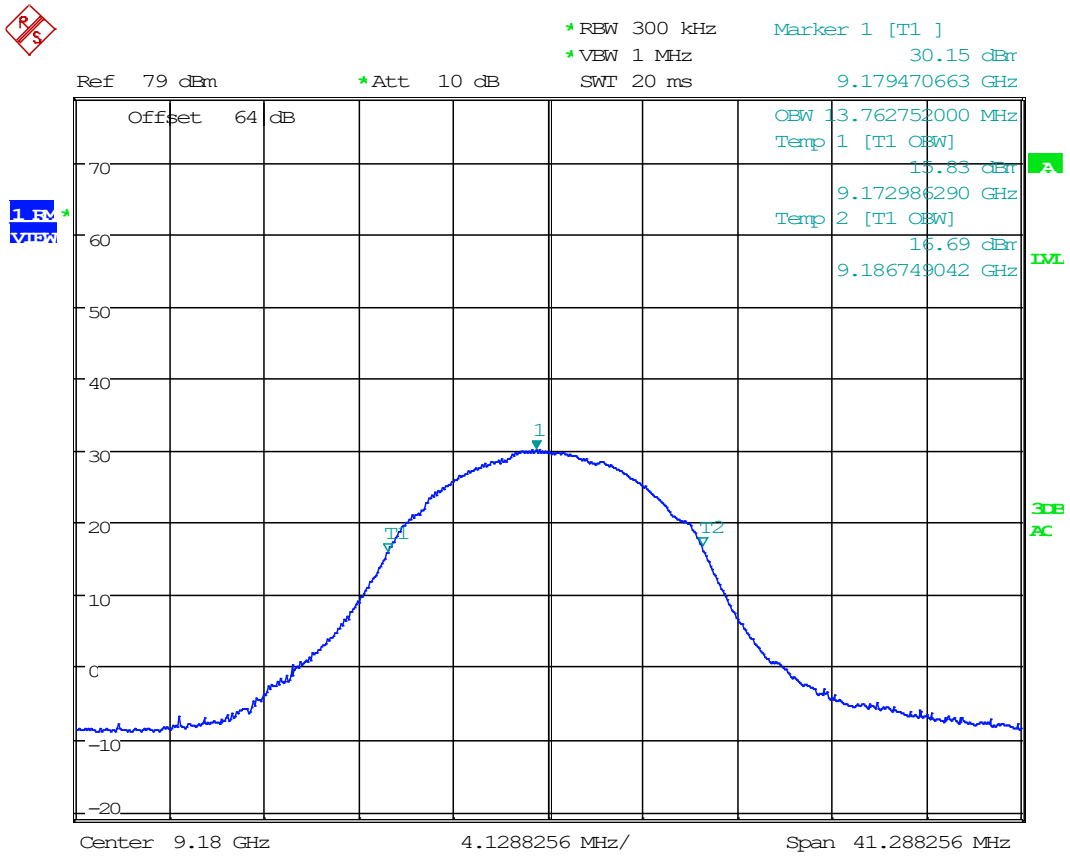
8.3.2 99% Bandwidth Plot, 9180 MHz, 24 nm



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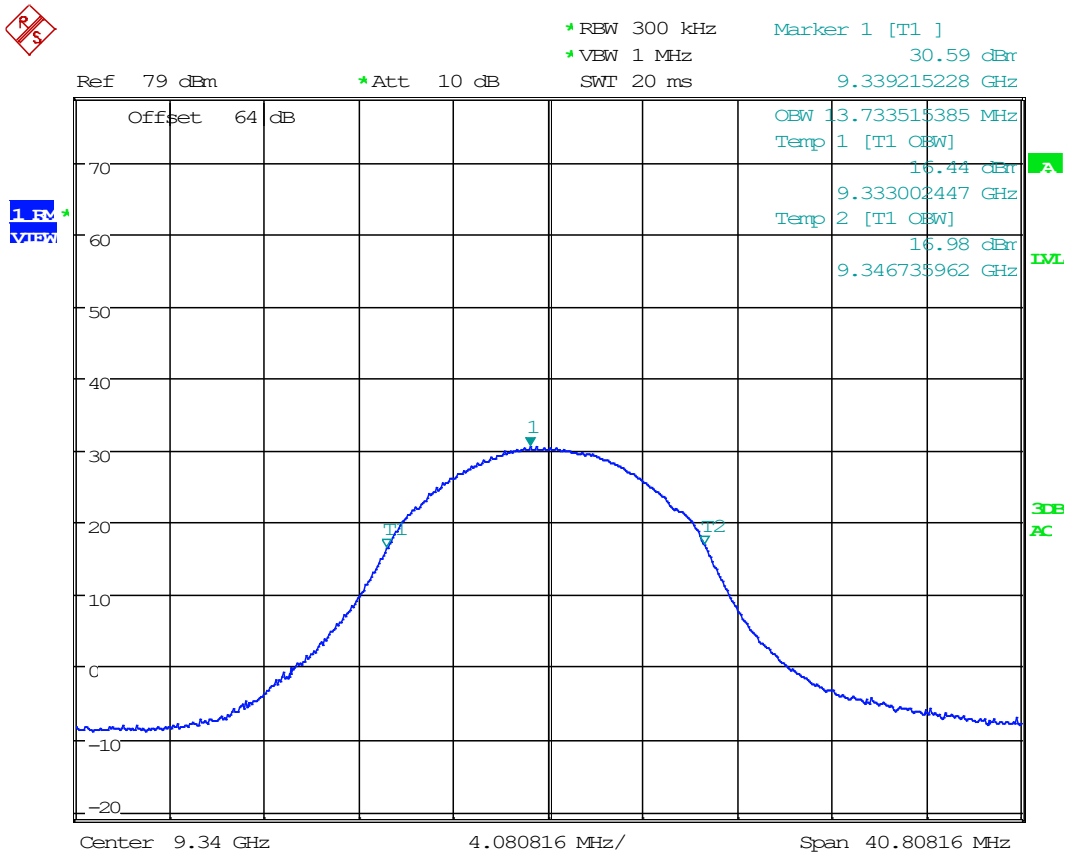
8.3.1 99% Bandwidth Plot, 9340 MHz, 24 nm



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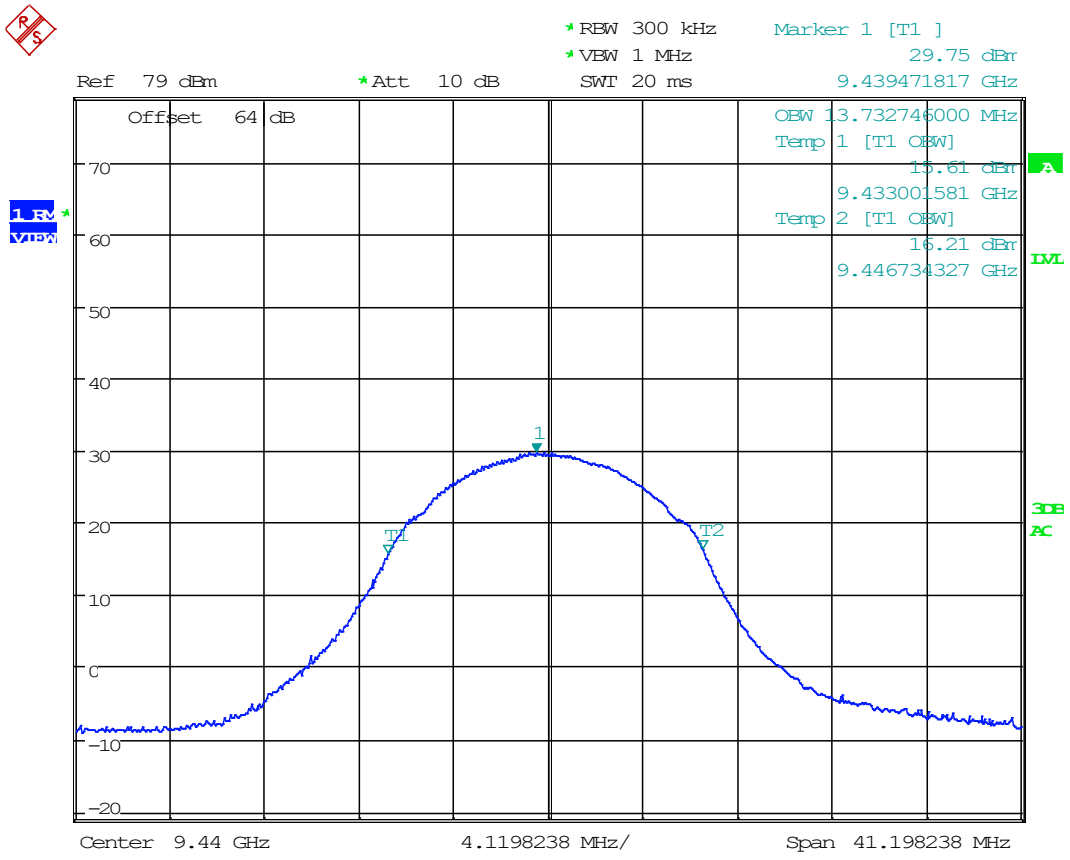
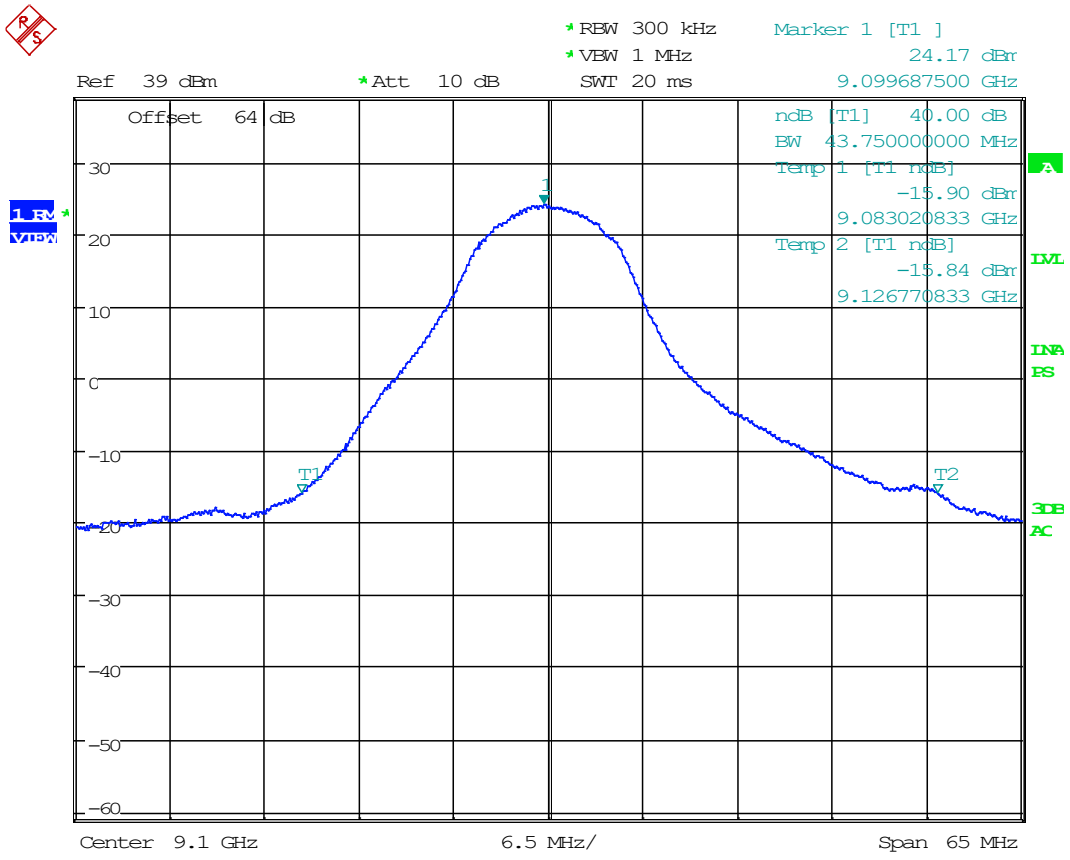
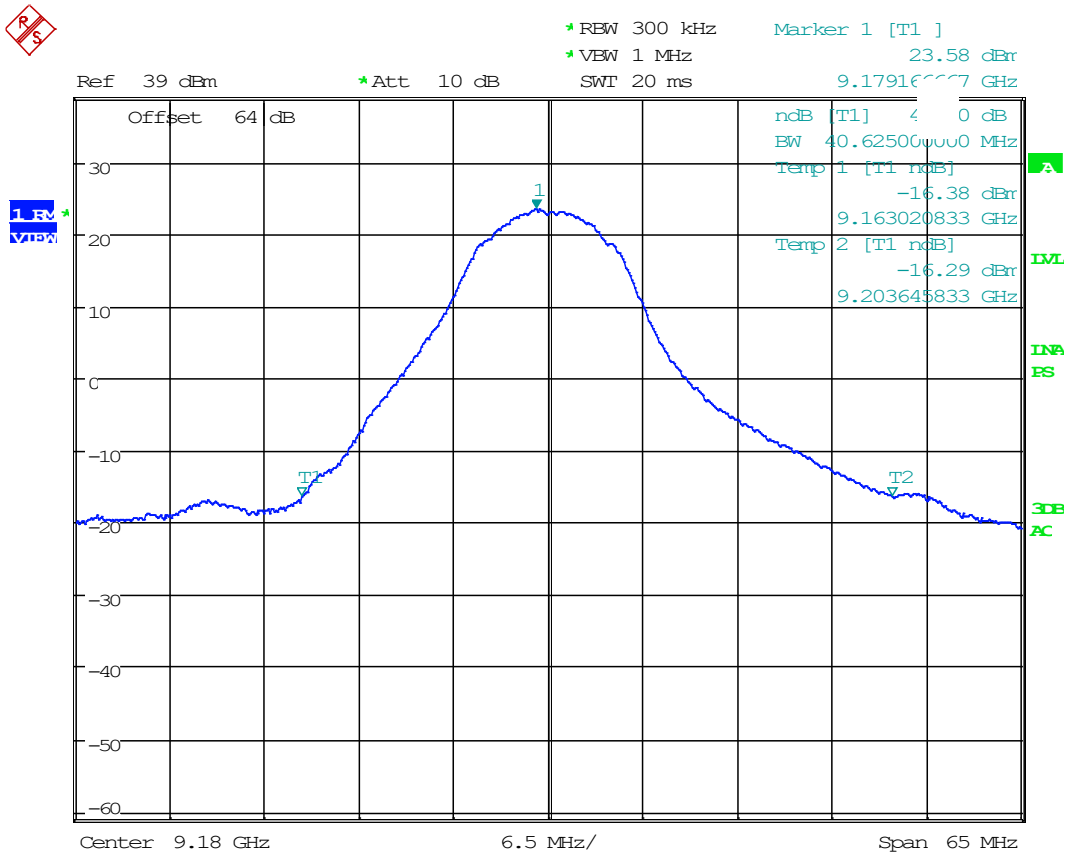
8.3.2 99% Bandwidth Plot, 9440 MHz, 24 nm



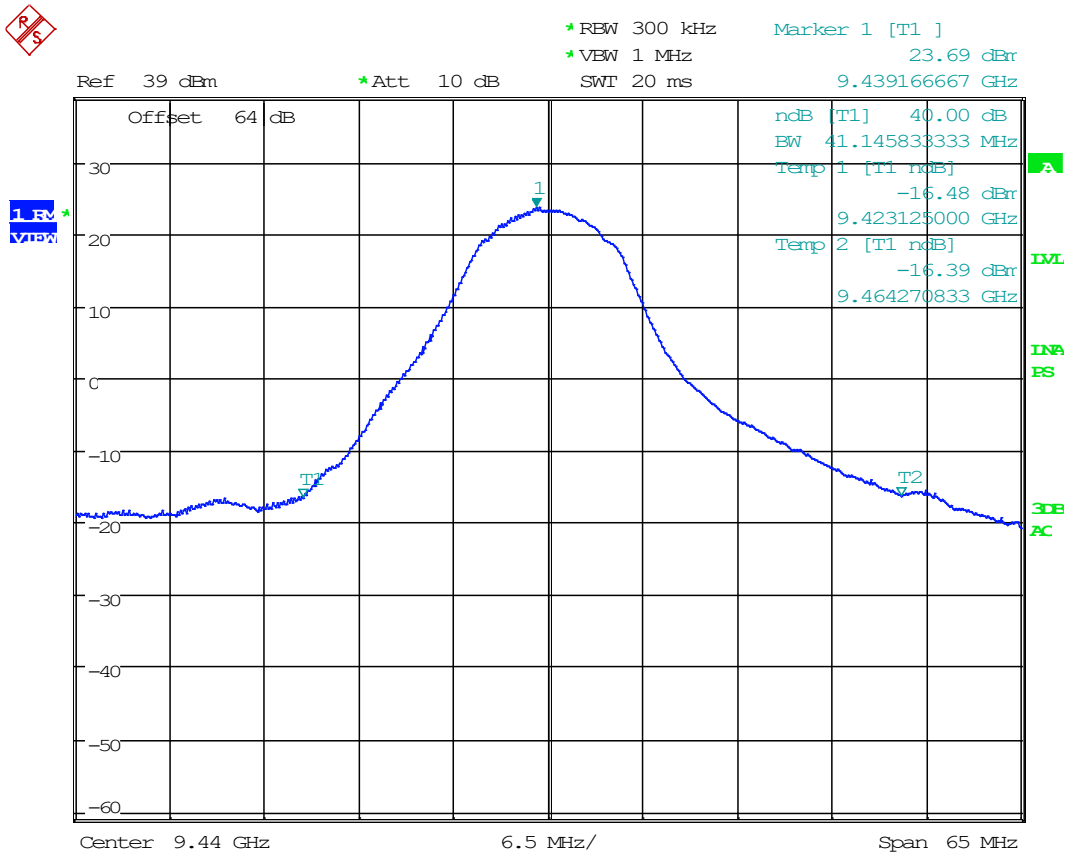
8.3.1 40dB Bandwidth Plot, 9100 MHz, 6 nm



8.3.2 40dB Bandwidth Plot, 9180 MHz, 6 nm



8.3.1 40dB Bandwidth Plot, 9340 MHz, 6 nm



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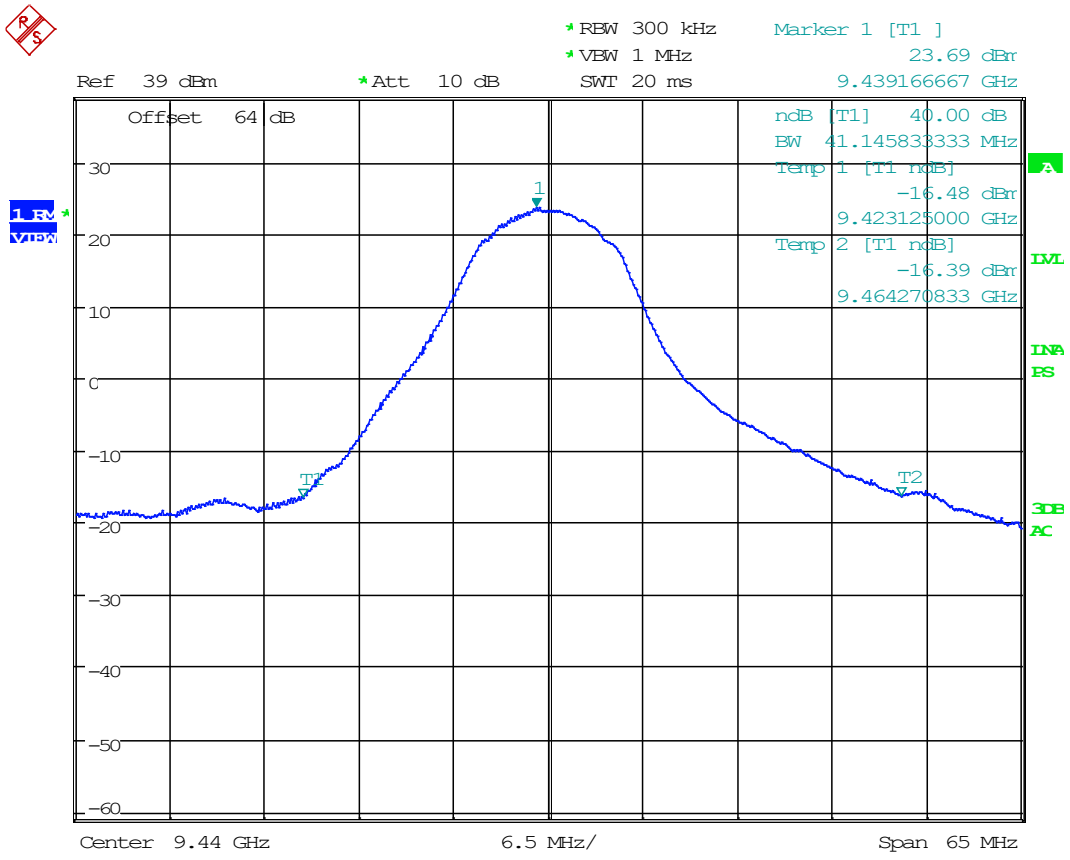
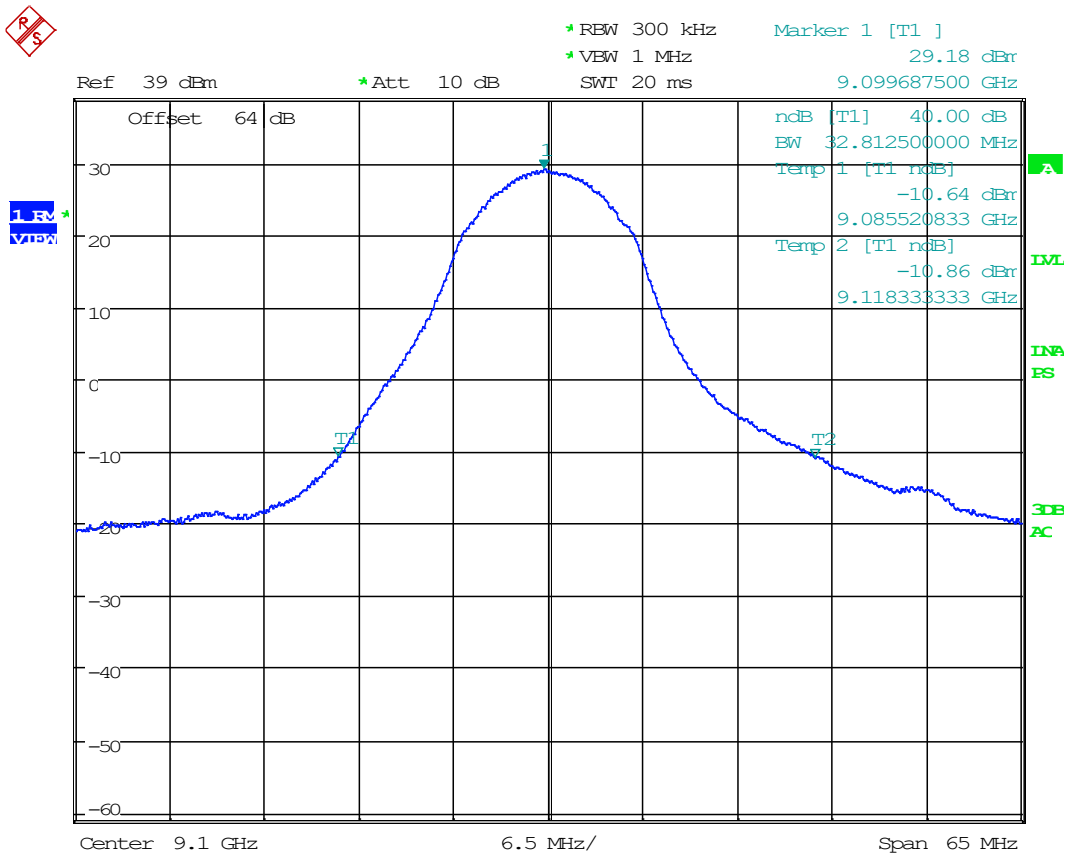
8.3.2 40dB Bandwidth Plot, 9440 MHz, 6 nm



8.3.1 40dB Bandwidth Plot, 9100 MHz, 12 nm



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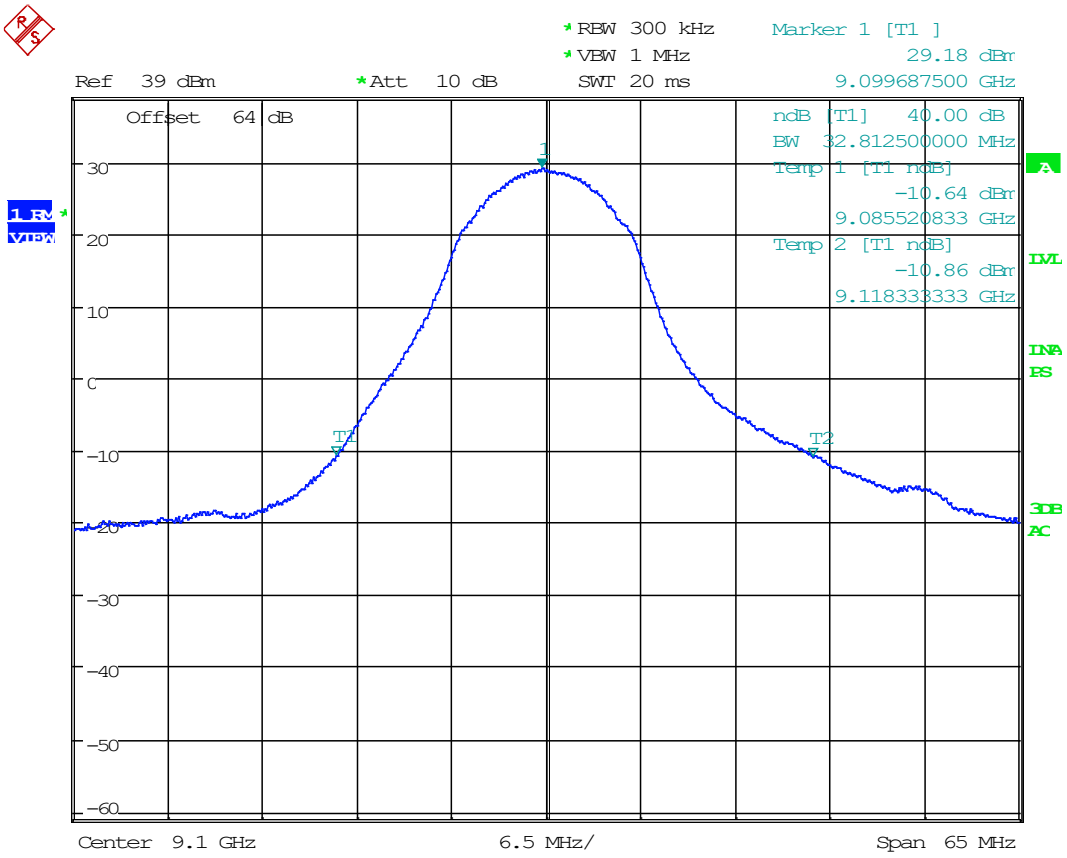
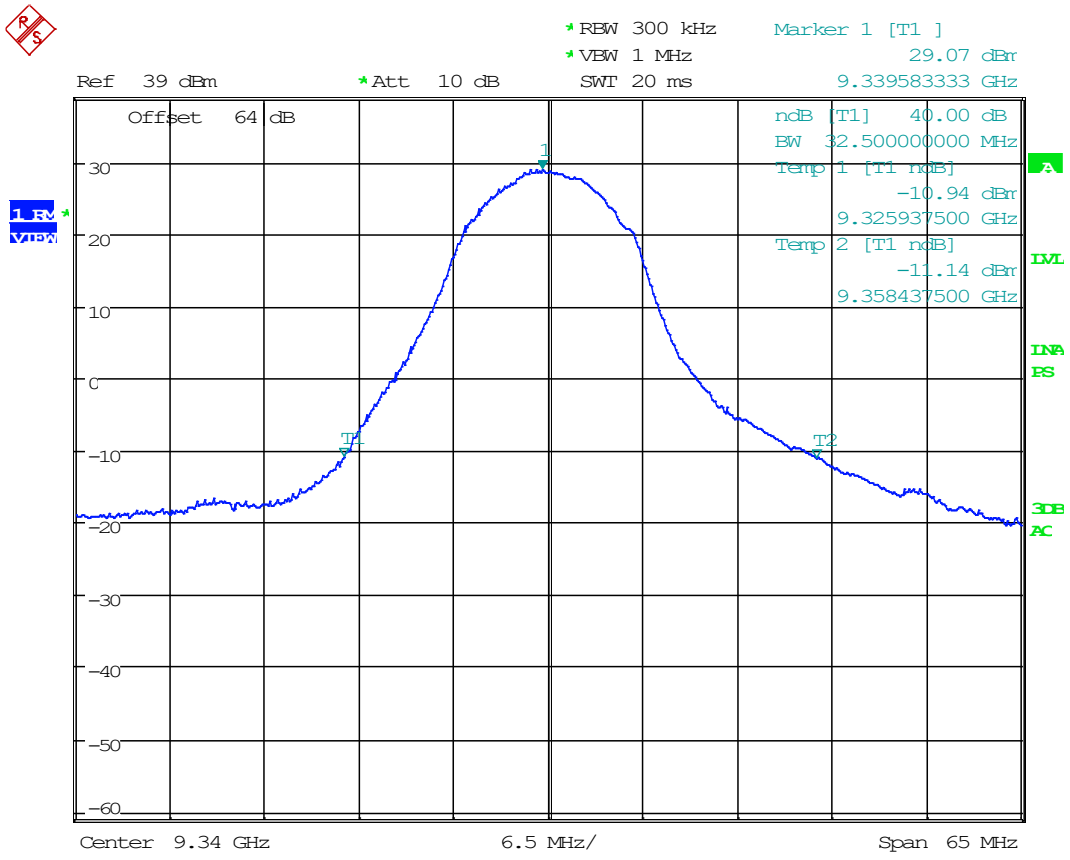
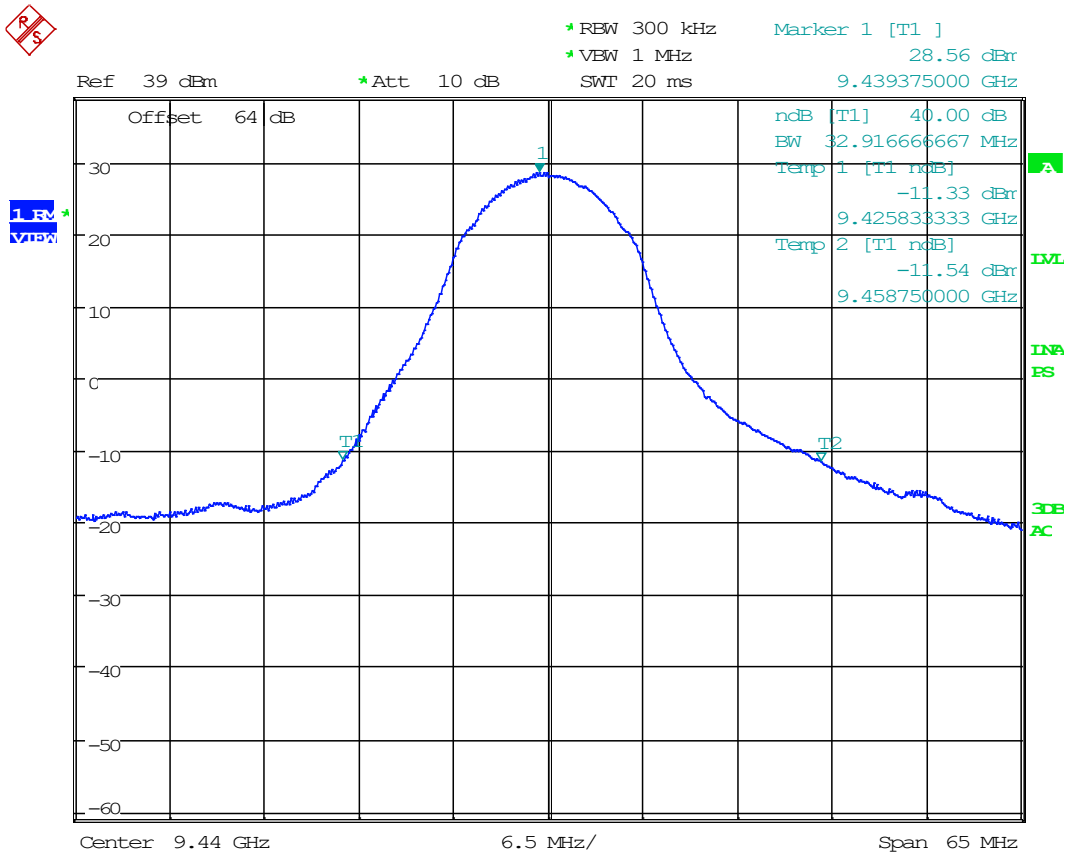
8.3.2 40dB Bandwidth Plot, 9180 MHz, 12 nm



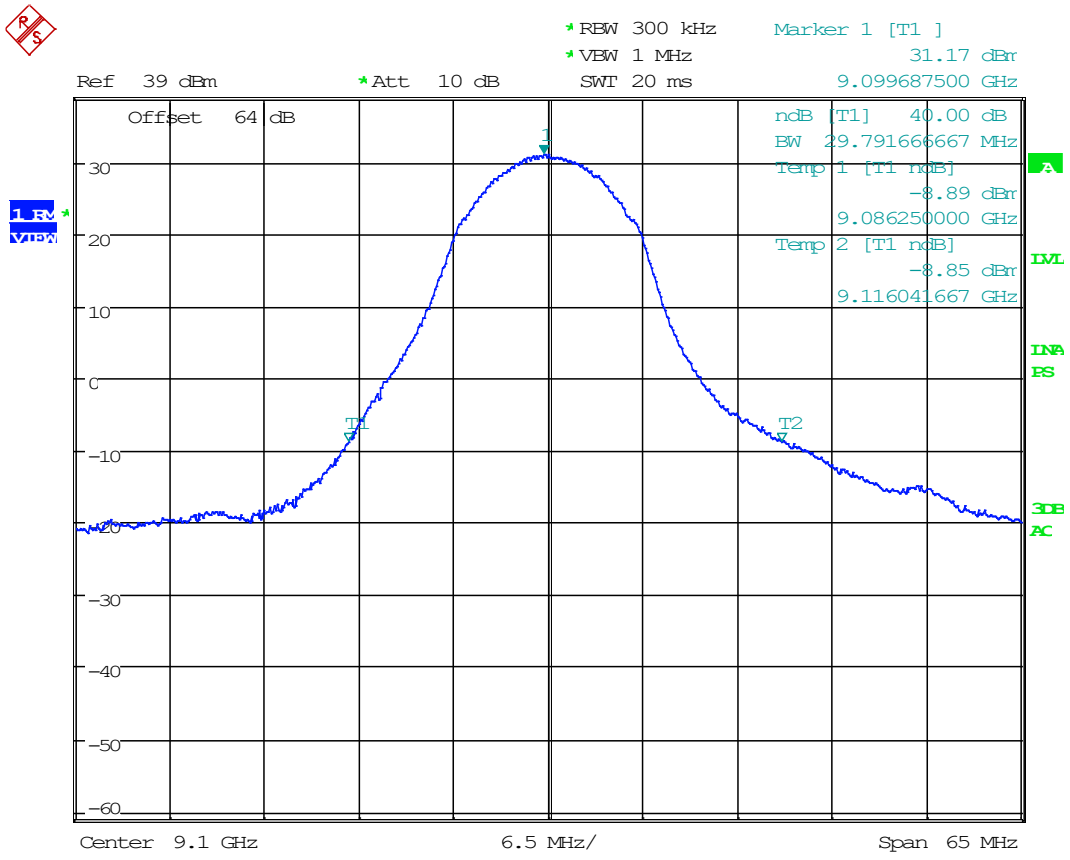
8.3.1 40dB Bandwidth Plot, 9340 MHz, 12 nm



8.3.2 40dB Bandwidth Plot, 9440 MHz, 12 nm

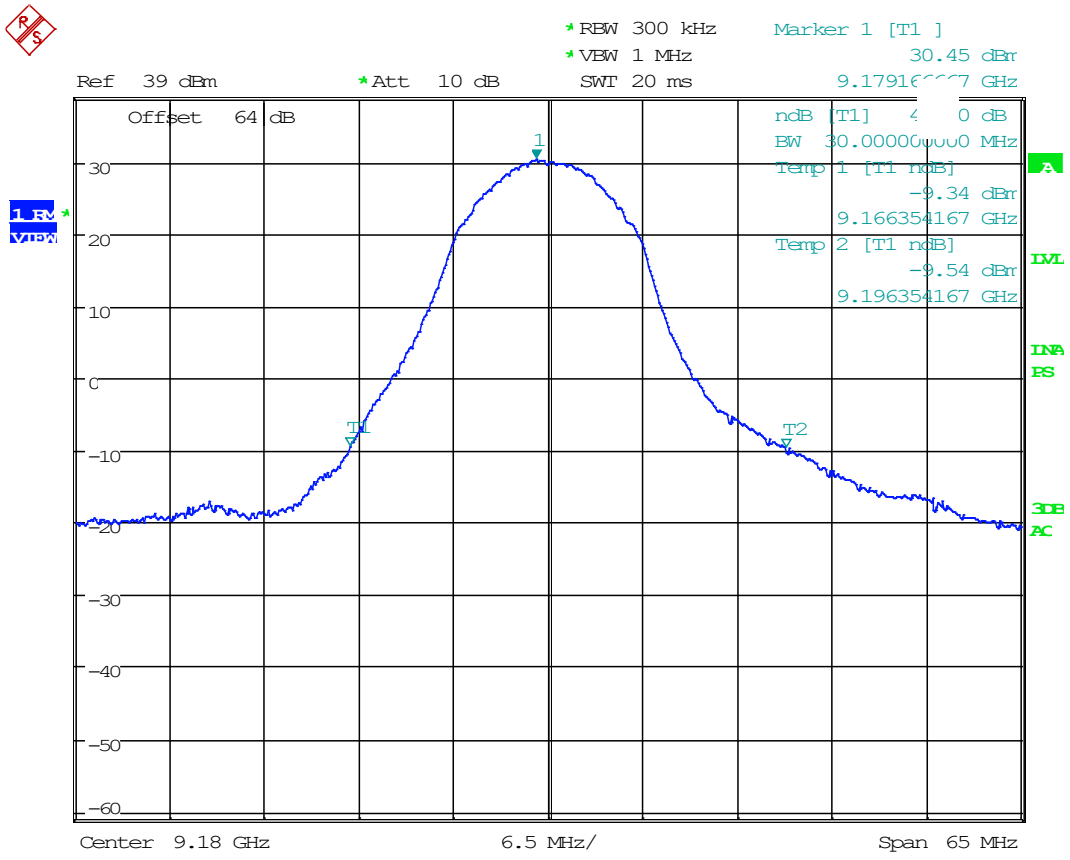


8.3.1 40dB Bandwidth Plot, 9100 MHz, 24 nm



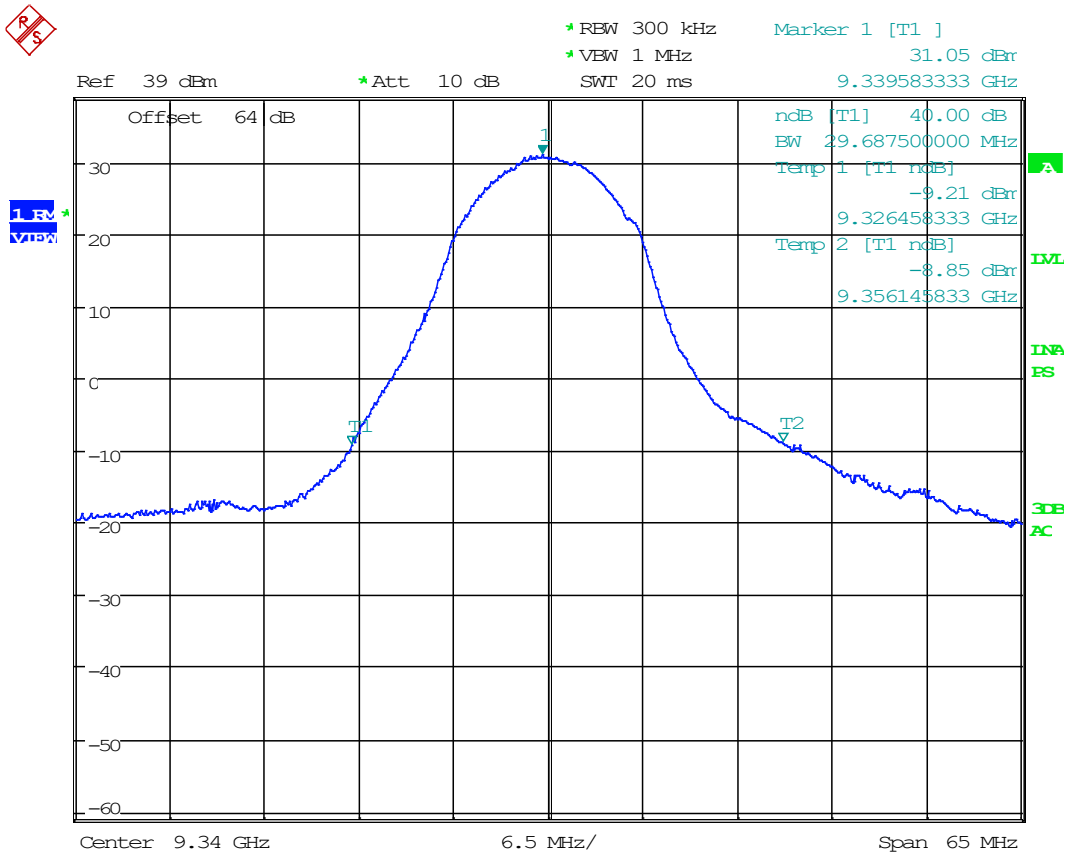
Date: 23.JAN.2023 16:33:49

8.3.2 40dB Bandwidth Plot, 9180 MHz, 24 nm



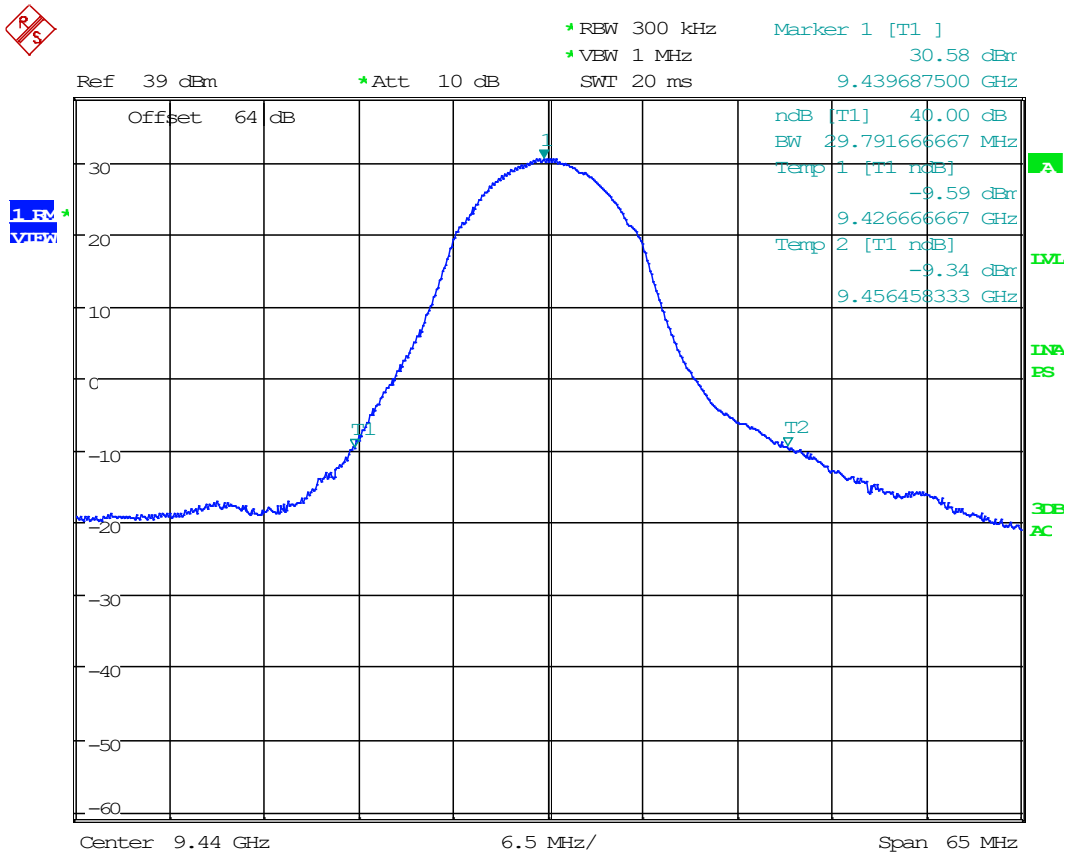
Date: 23.JAN.2023 16:34:37

8.3.1 40dB Bandwidth Plot, 9340 MHz, 24 nm



Date: 23.JAN.2023 16:35:48

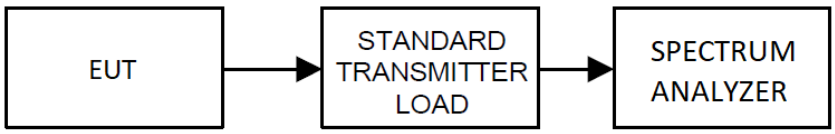
8.3.2 40dB Bandwidth Plot, 9440 MHz, 24 nm



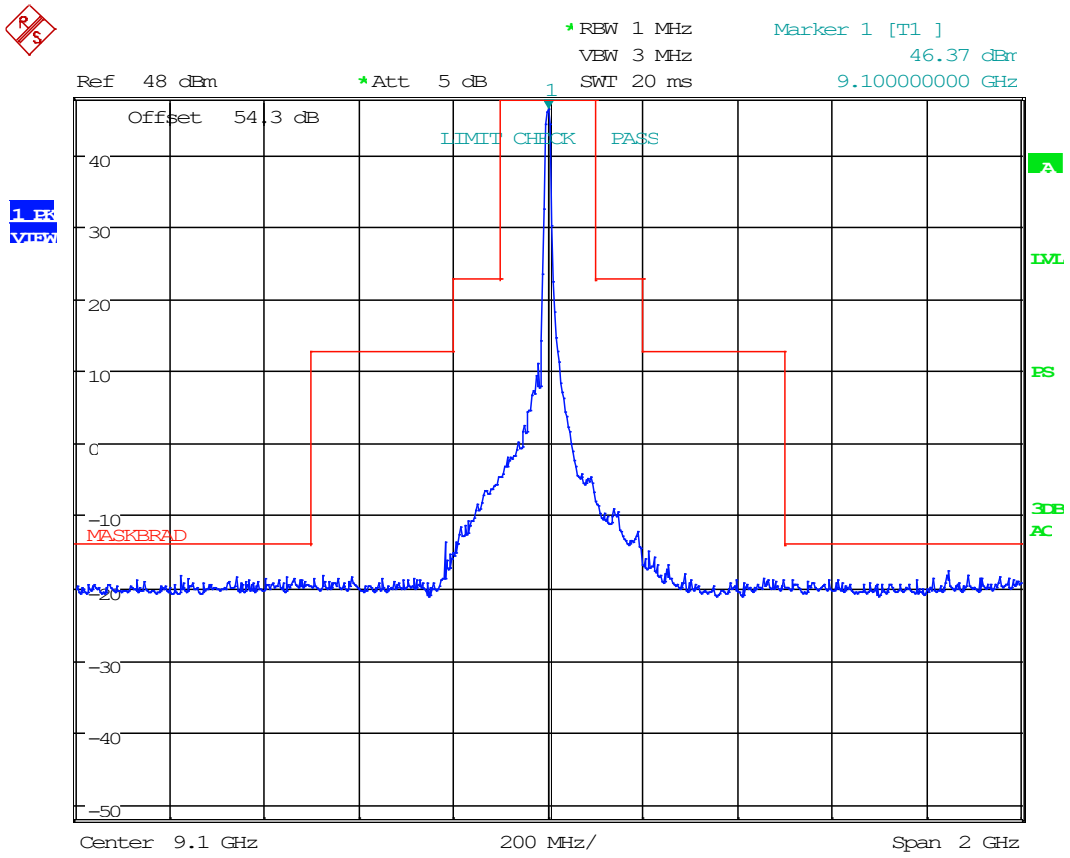
Date: 23.JAN.2023 16:36:26

8.4 Emission Limitations, In-Band

Limits from FCC Parts 87.139 (a)(1),(2) and test procedure from ANSI C63.26-2015.

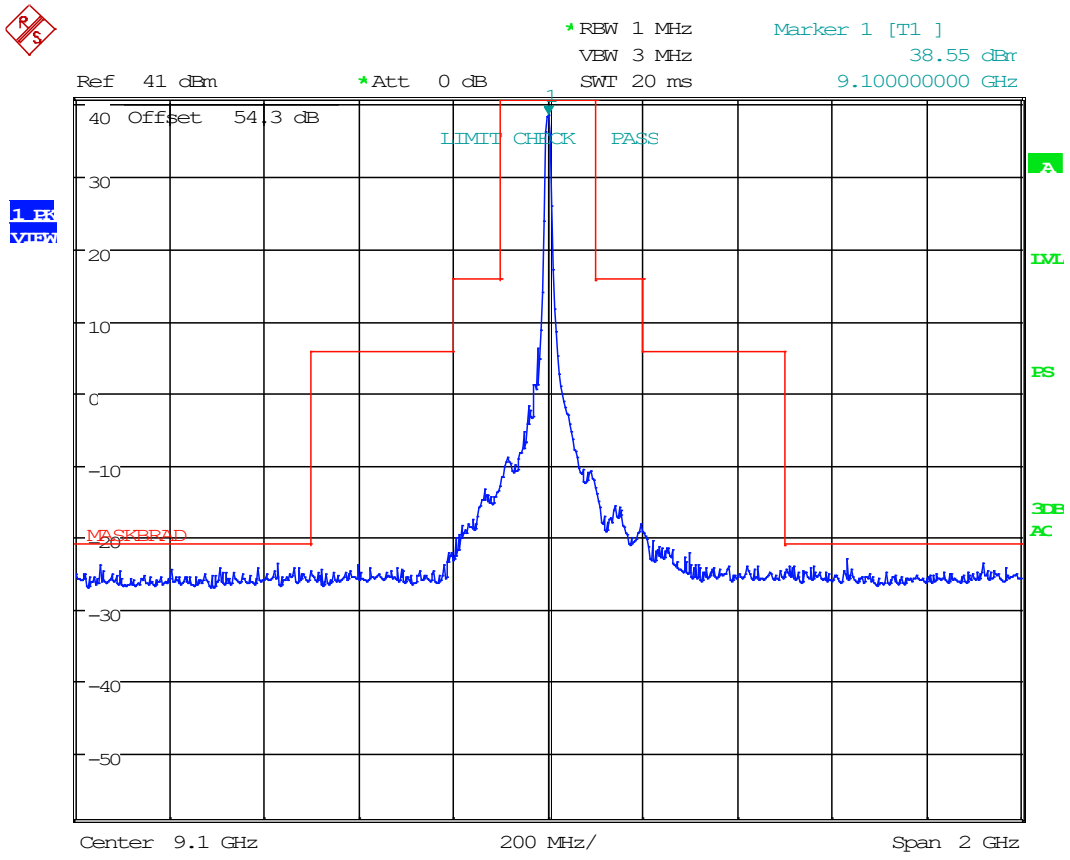
Conducted Test Setup


8.4.1 Emission Mask, 9100 MHz, 6 nm, High Power



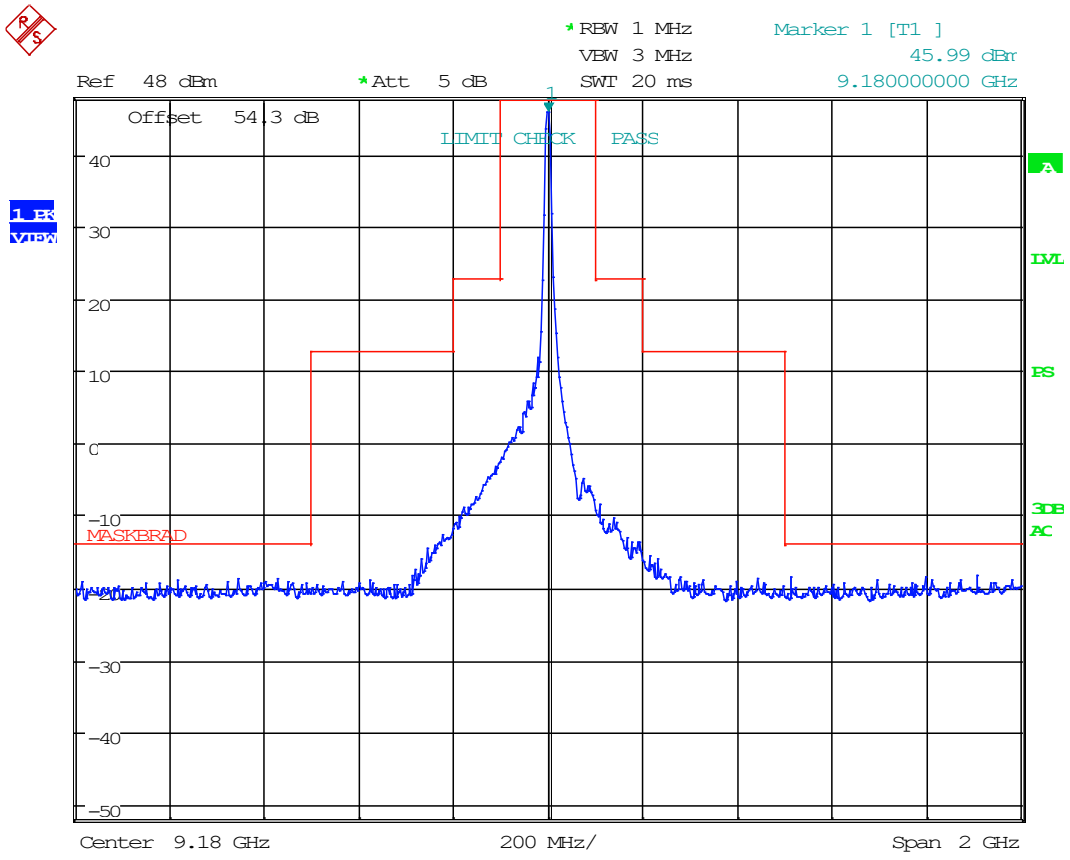
Date: 17.MAR.2023 11:15:20

8.4.2 Emission Mask, 9100 MHz, 6 nm, Low Power



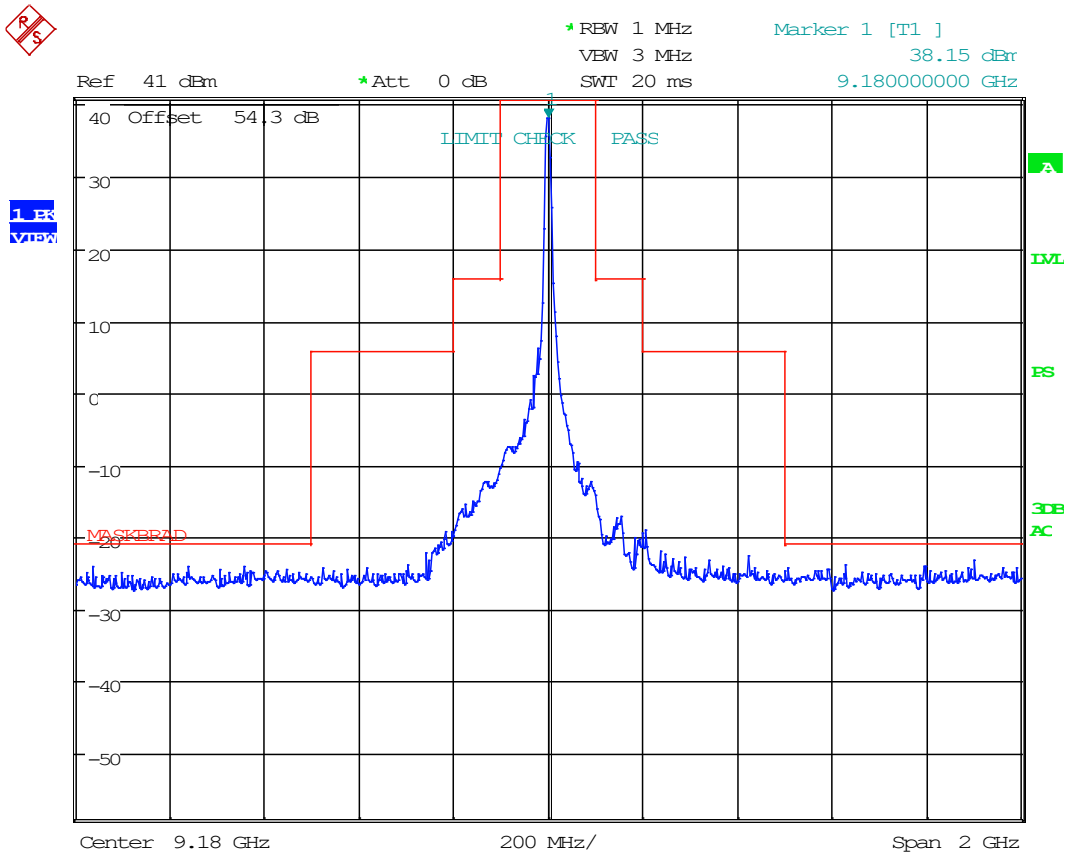
Date: 17.MAR.2023 11:31:36

8.4.3 Emission Mask, 9180 MHz, 6 nm, High Power



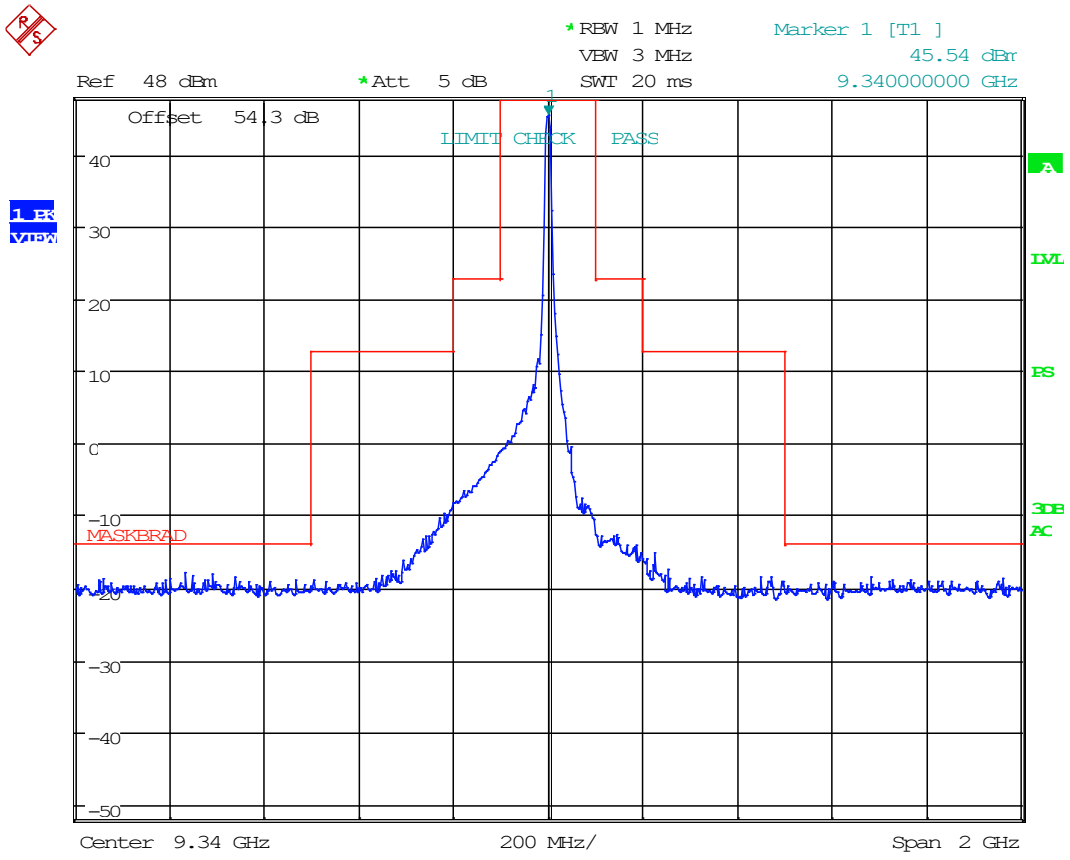
Date: 17.MAR.2023 11:18:08

8.4.4 Emission Mask, 9180 MHz, 6 nm, Low Power



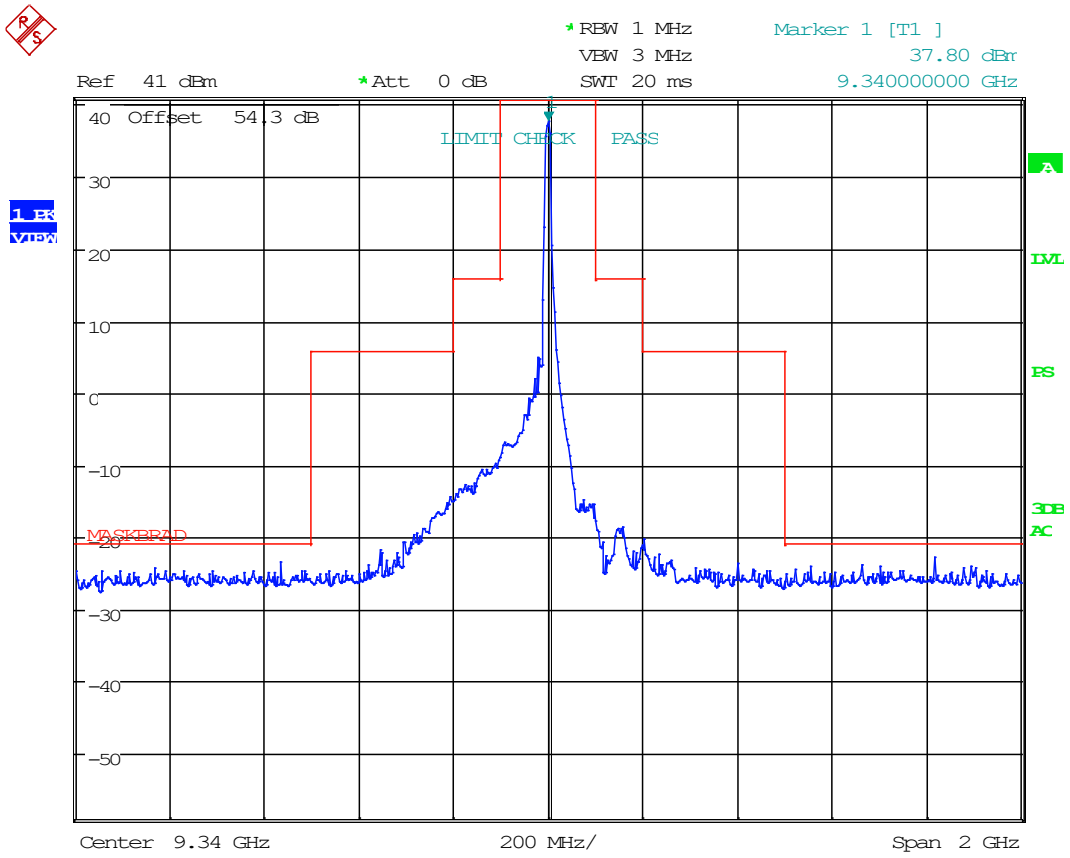
Date: 17.MAR.2023 11:28:42

8.4.5 Emission Mask, 9340 MHz, 6 nm, High Power

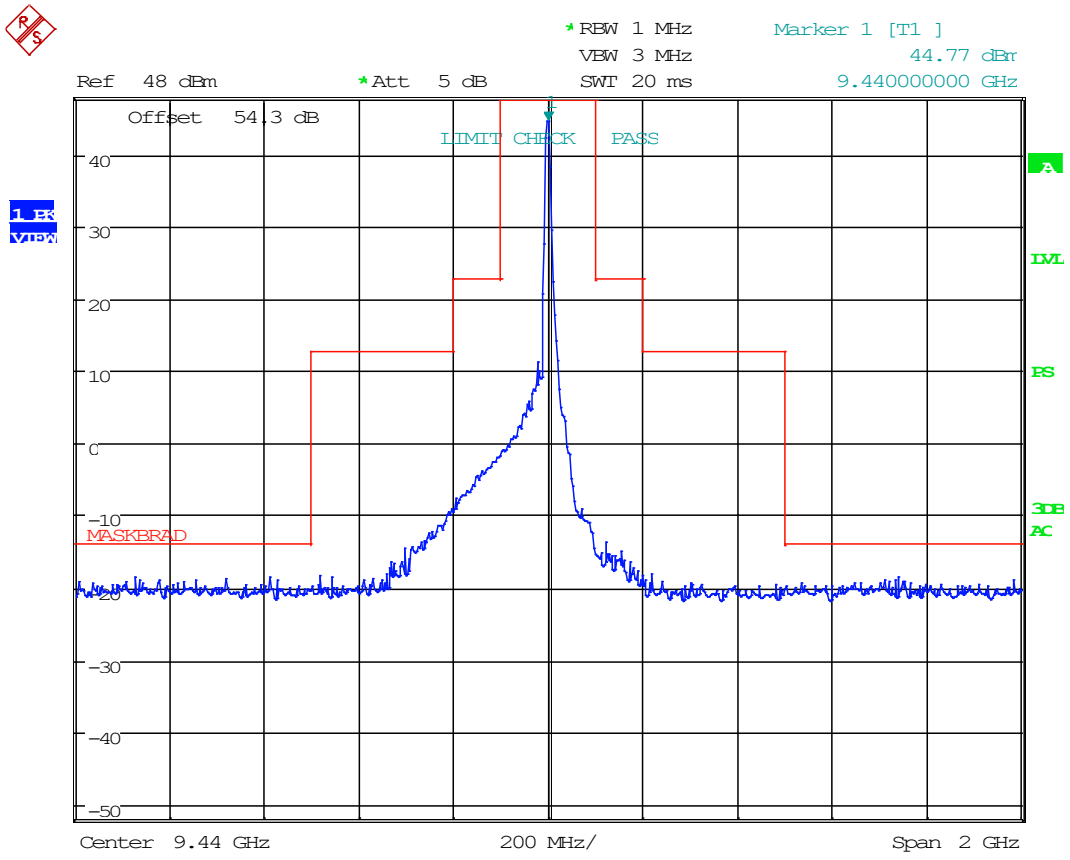


Date: 17.MAR.2023 11:21:42

8.4.6 Emission Mask, 9340 MHz, 6 nm Low Power

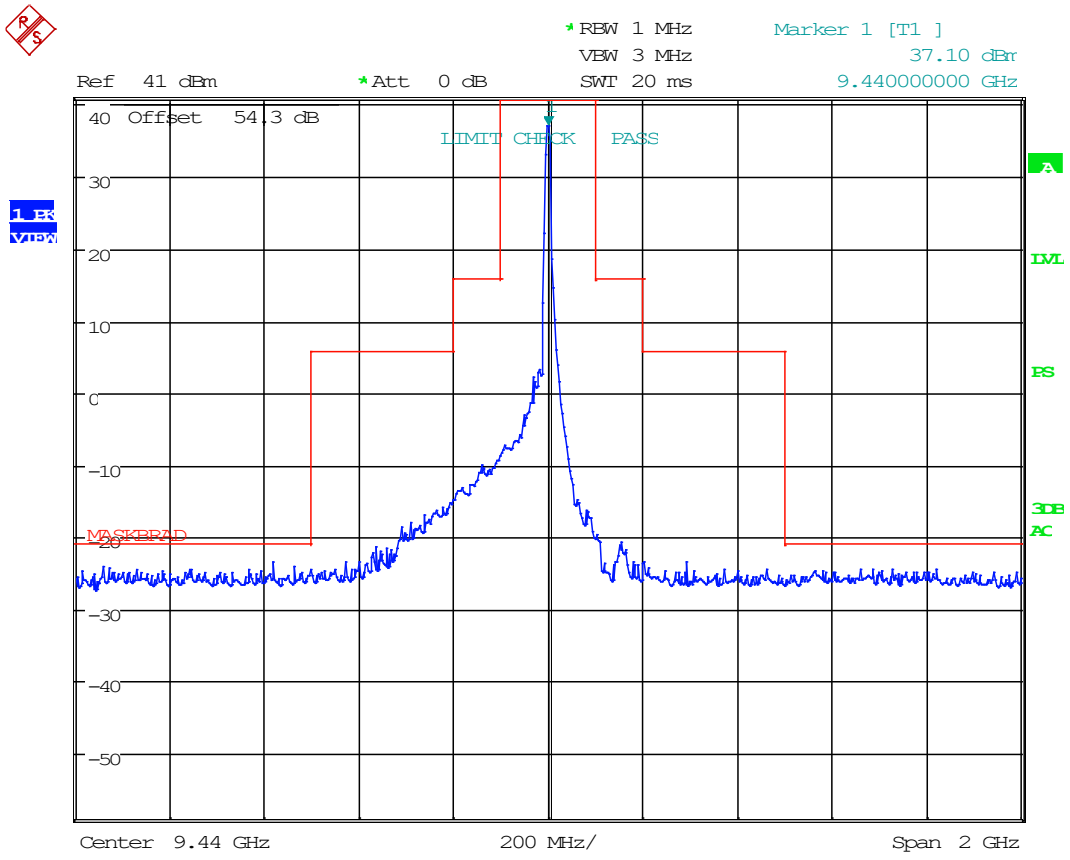


8.4.7 Emission Mask, 9440 MHz, 6 nm, High Power



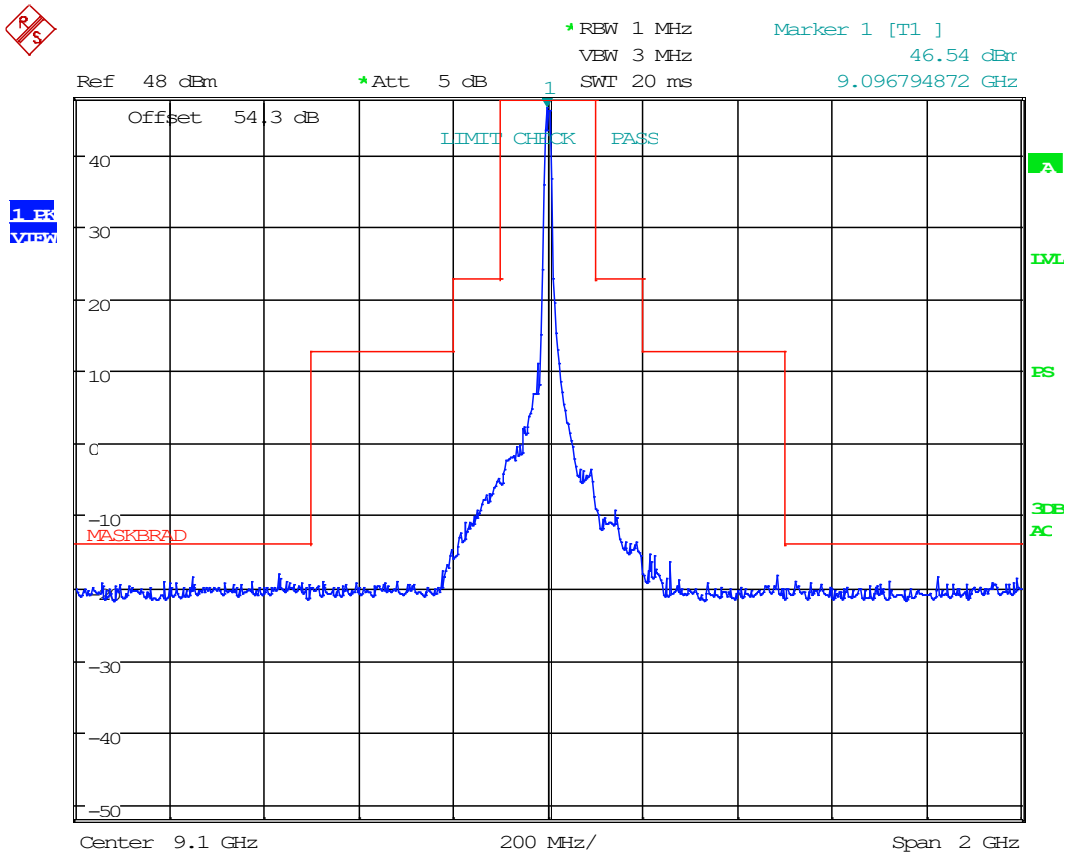
Date: 17.MAR.2023 11:22:19

8.4.8 Emission Mask, 9440 MHz, 6 nm, Low Power



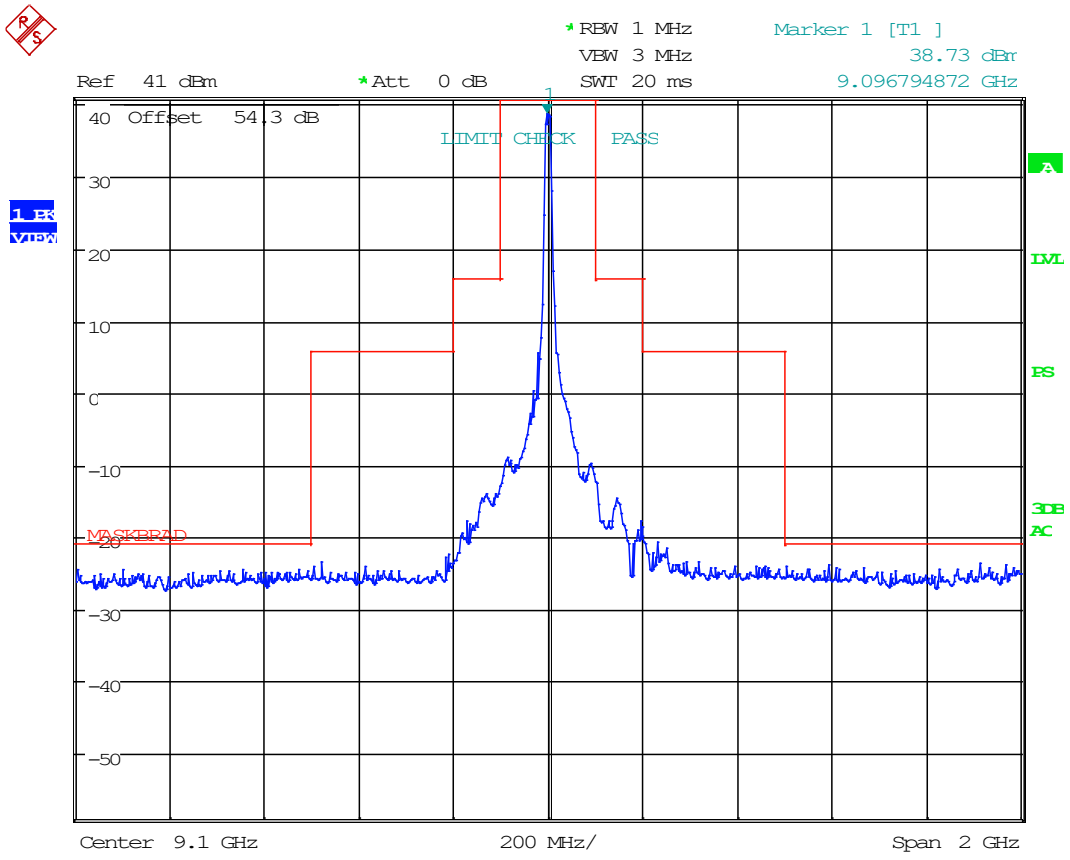
Date: 17.MAR.2023 11:25:37

8.4.1 Emission Mask, 9100 MHz, 12 nm, High Power

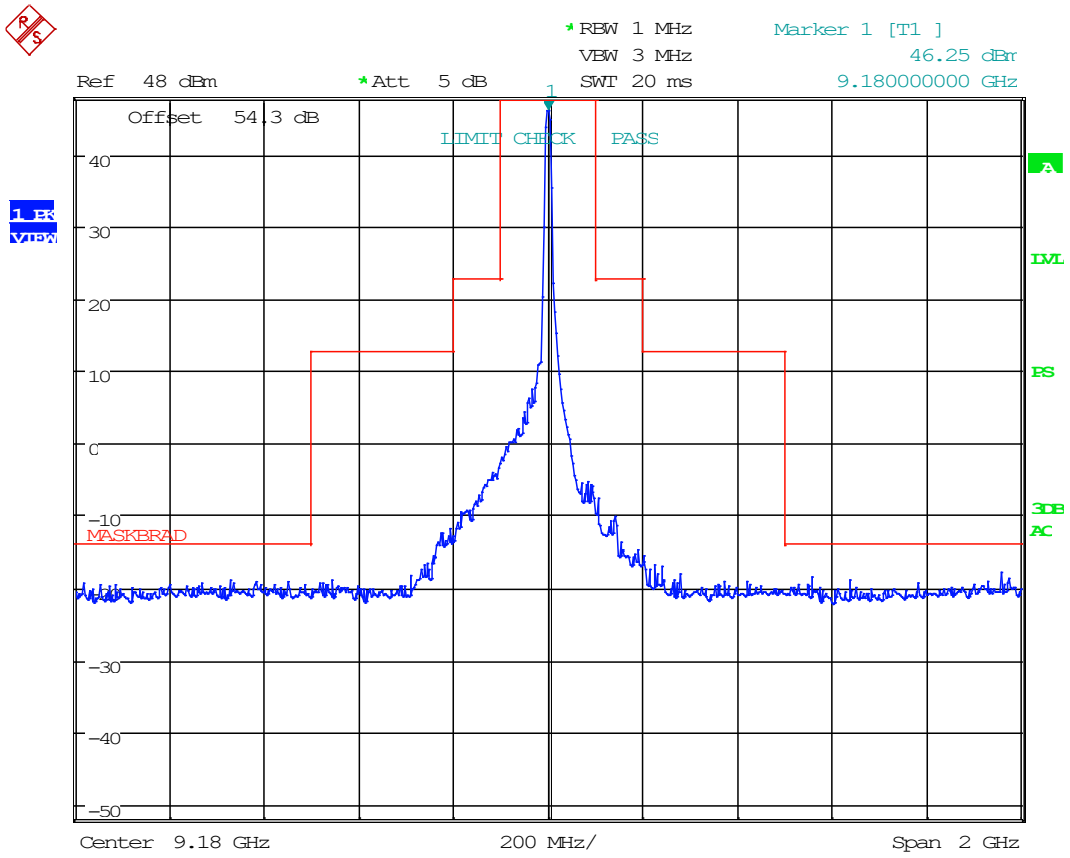


Date: 17.MAR.2023 11:16:05

8.4.2 Emission Mask, 9100 MHz, 12 nm, Low Power

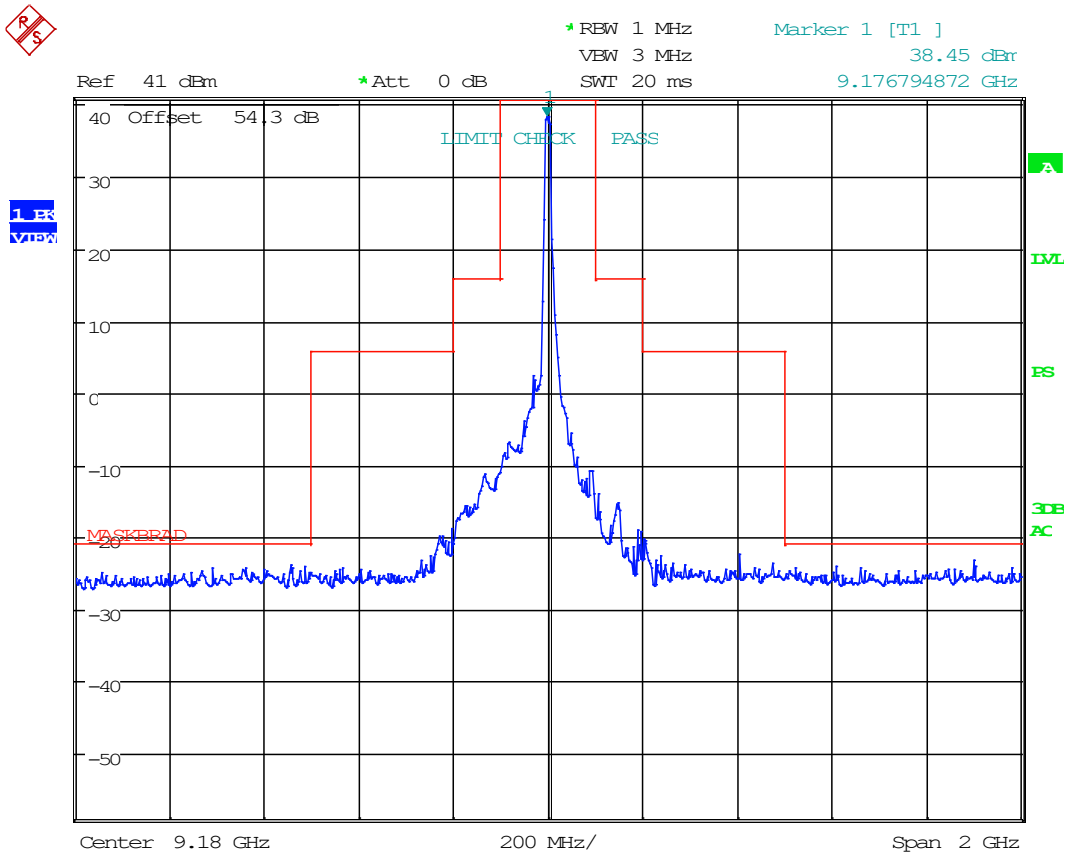


8.4.3 Emission Mask, 9180 MHz, 12 nm, High Power



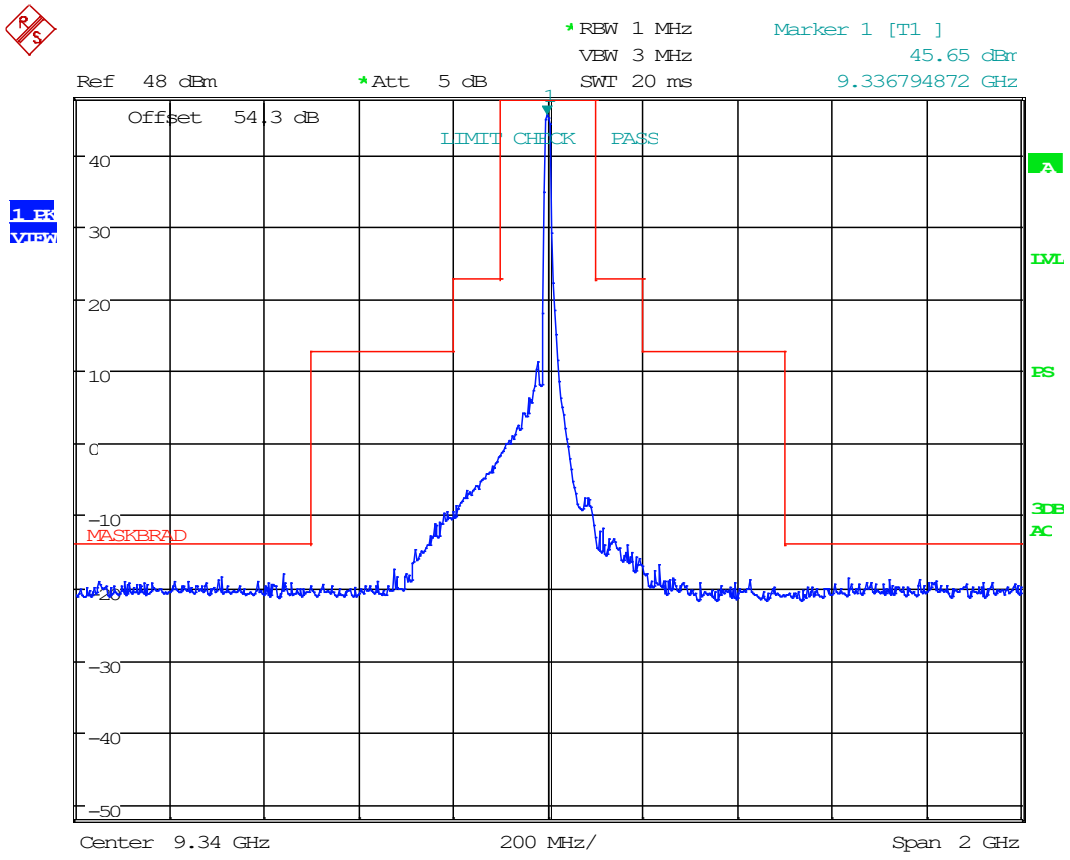
Date: 17.MAR.2023 11:17:35

8.4.4 Emission Mask, 9180 MHz, 12 nm, Low Power



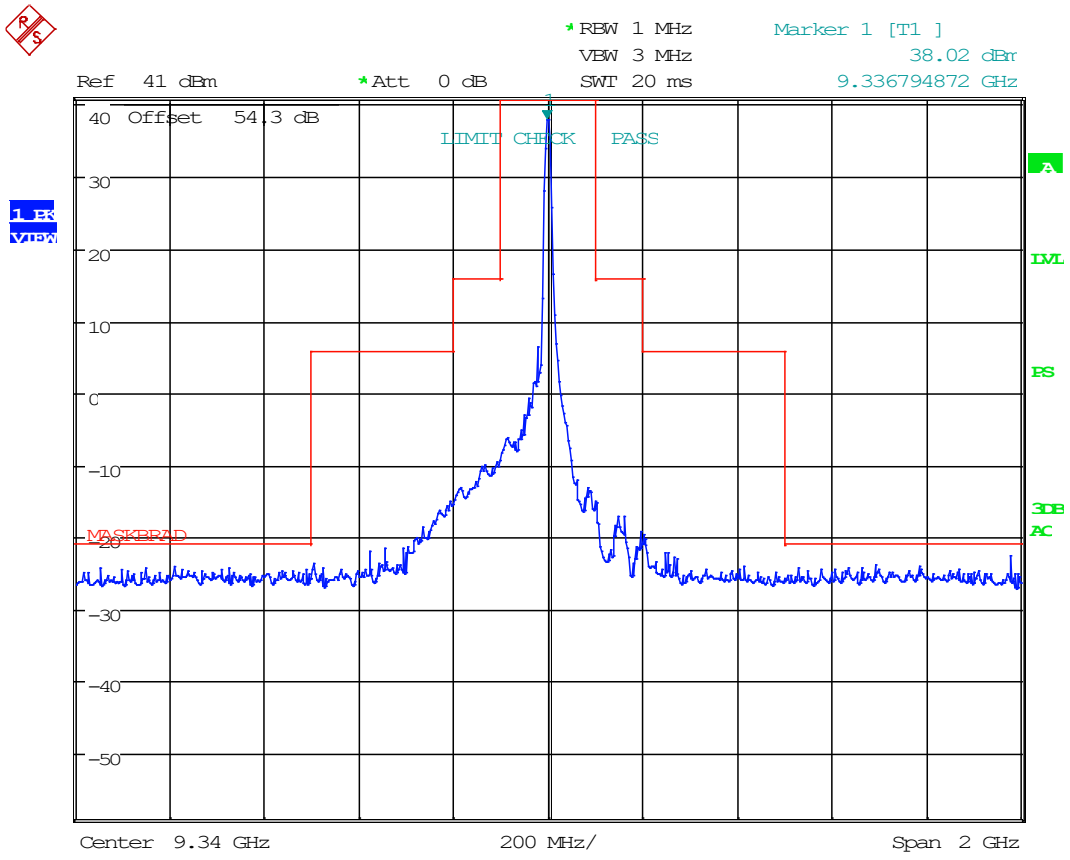
Date: 17.MAR.2023 11:29:06

8.4.5 Emission Mask, 9340 MHz, 12 nm, High Power

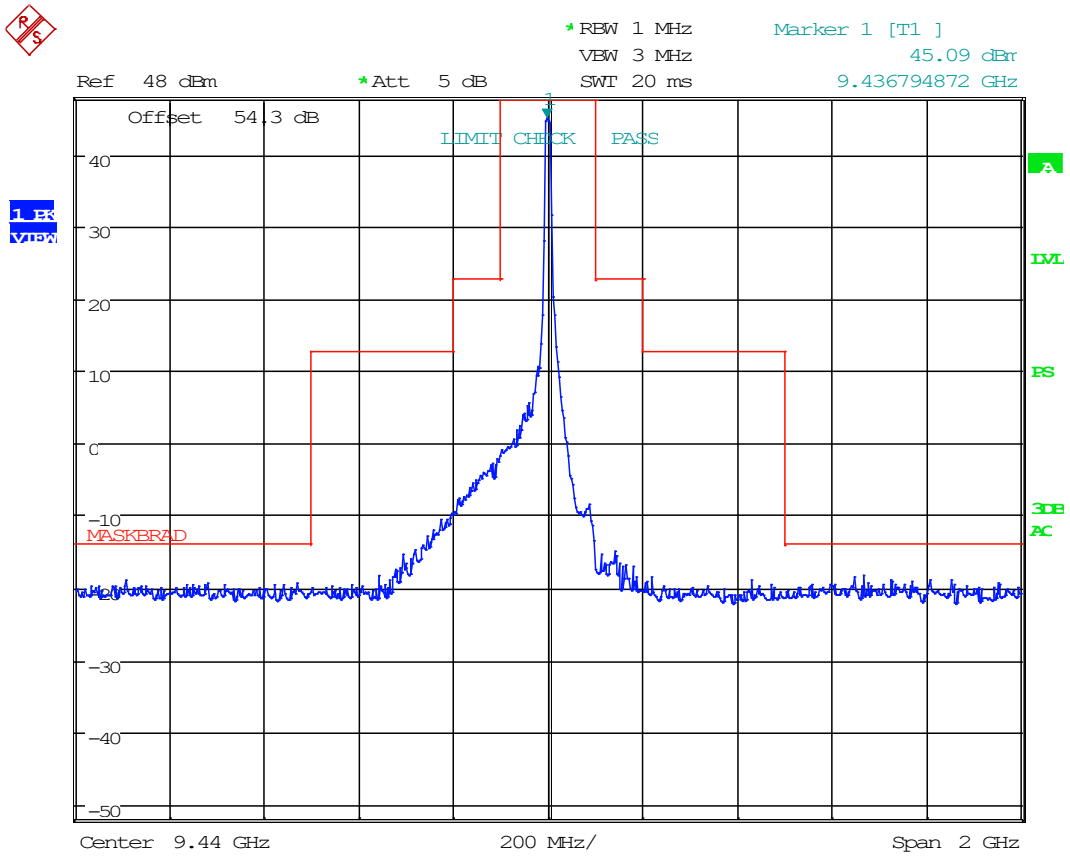


Date: 17.MAR.2023 11:21:09

8.4.6 Emission Mask, 9340 MHz, 12 nm Low Power

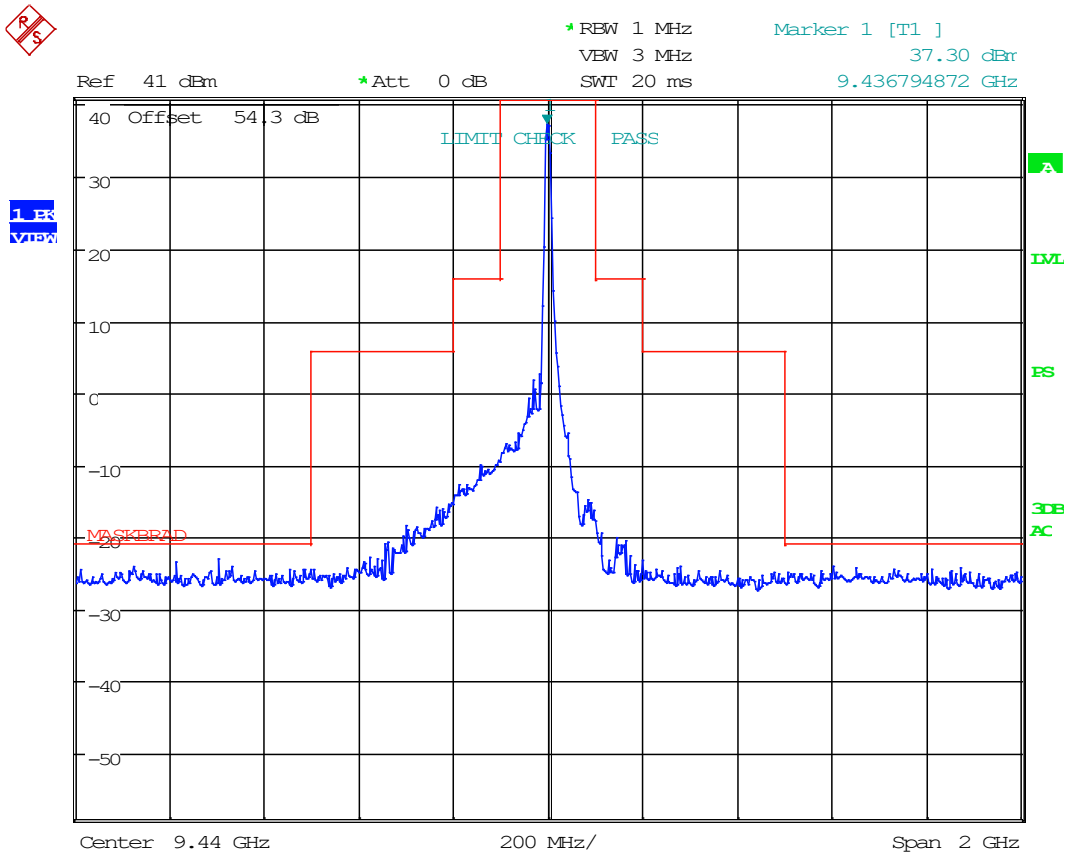


8.4.7 Emission Mask, 9440 MHz, 12 nm, High Power



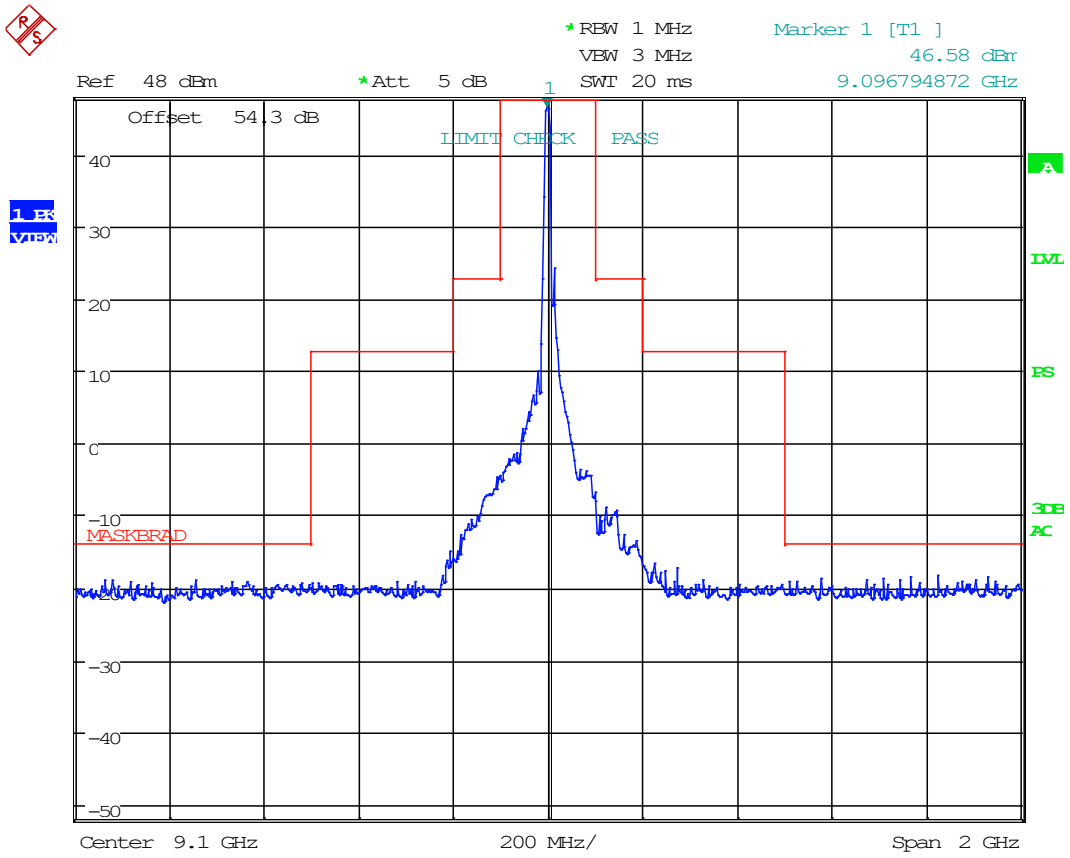
Date: 17.MAR.2023 11:22:44

8.4.8 Emission Mask, 9440 MHz, 12 nm, Low Power



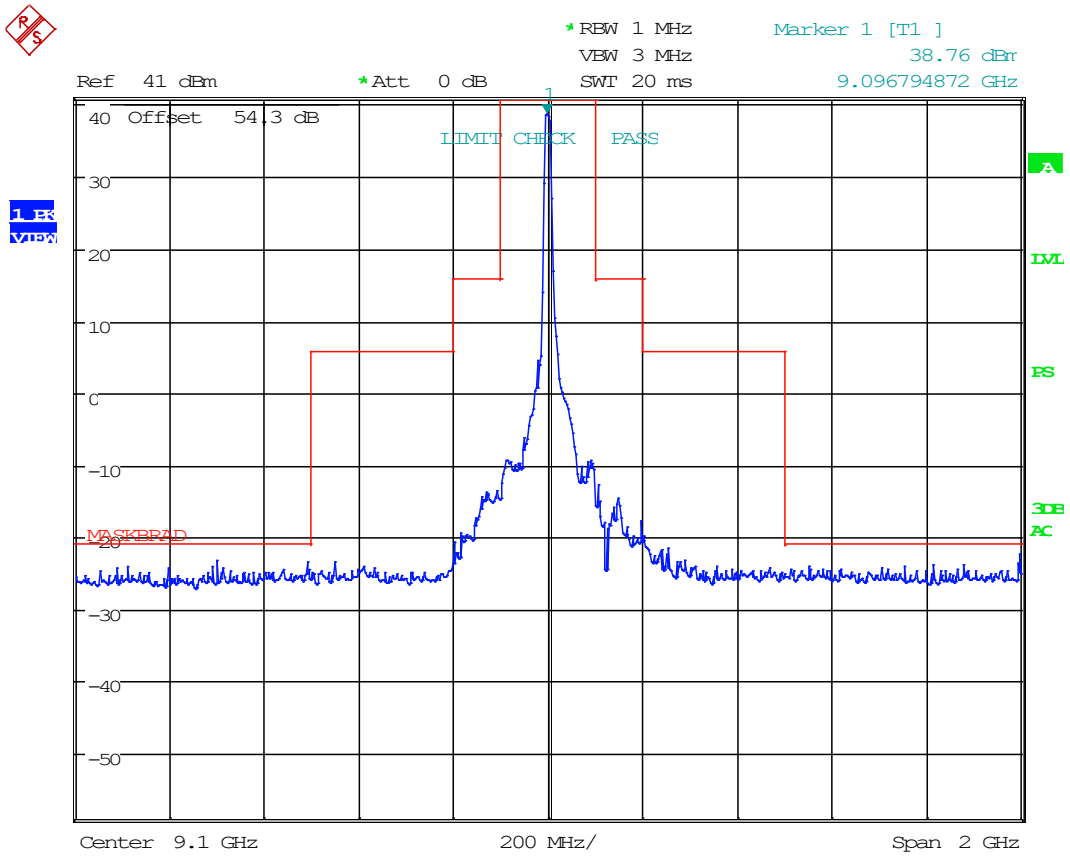
Date: 17.MAR.2023 11:25:07

8.4.1 Emission Mask, 9100 MHz, 24 nm, High Power



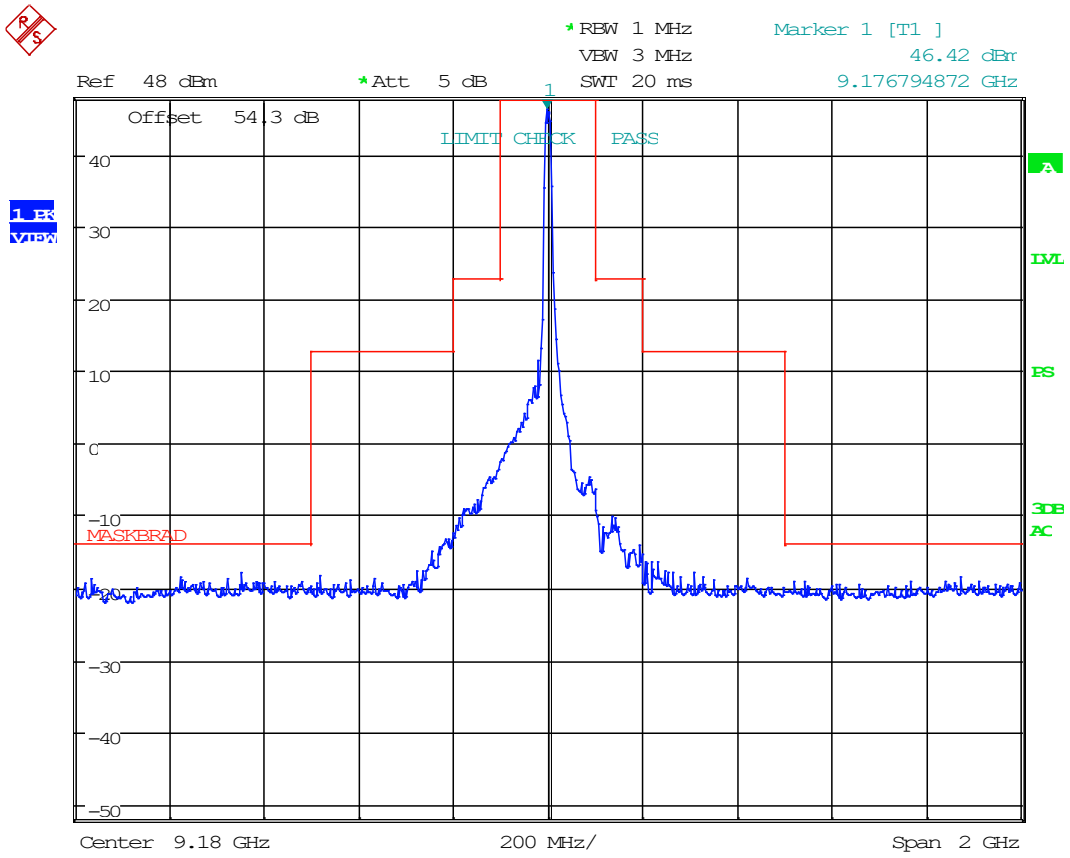
Date: 17.MAR.2023 11:16:35

8.4.2 Emission Mask, 9100 MHz, 24 nm, Low Power



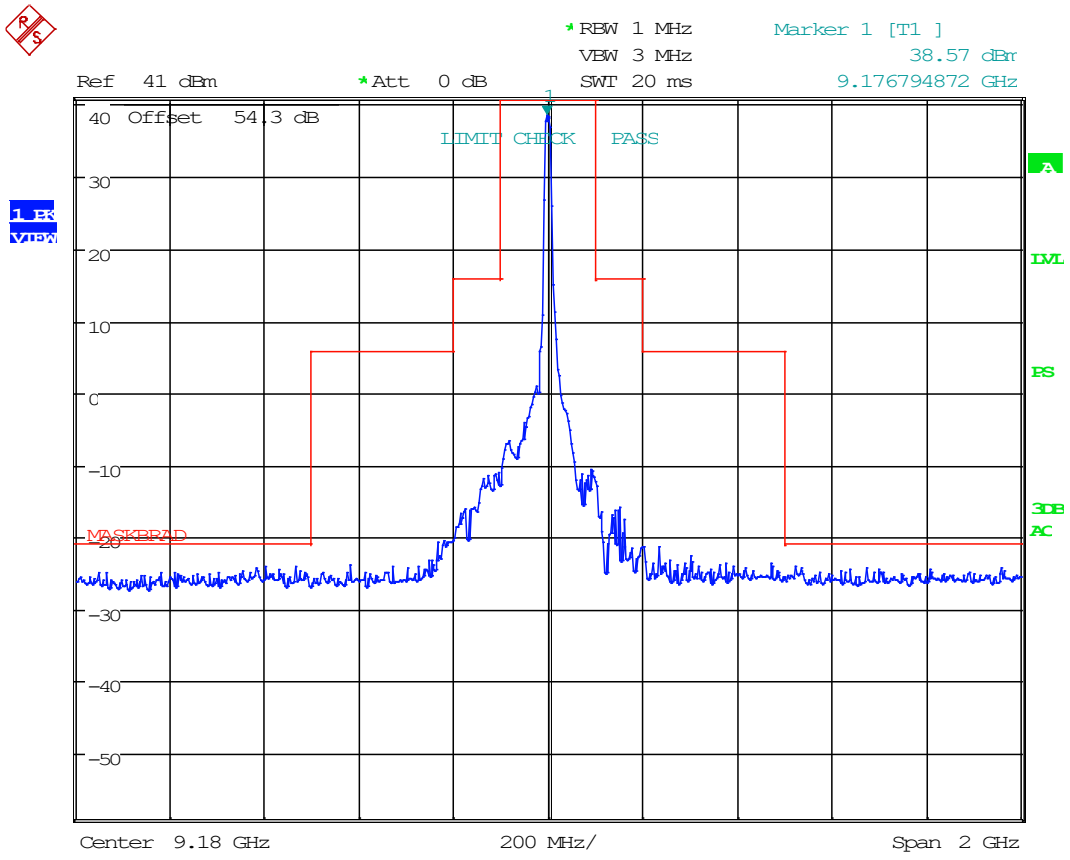
Date: 17.MAR.2023 11:30:12

8.4.3 Emission Mask, 9180 MHz, 24 nm, High Power



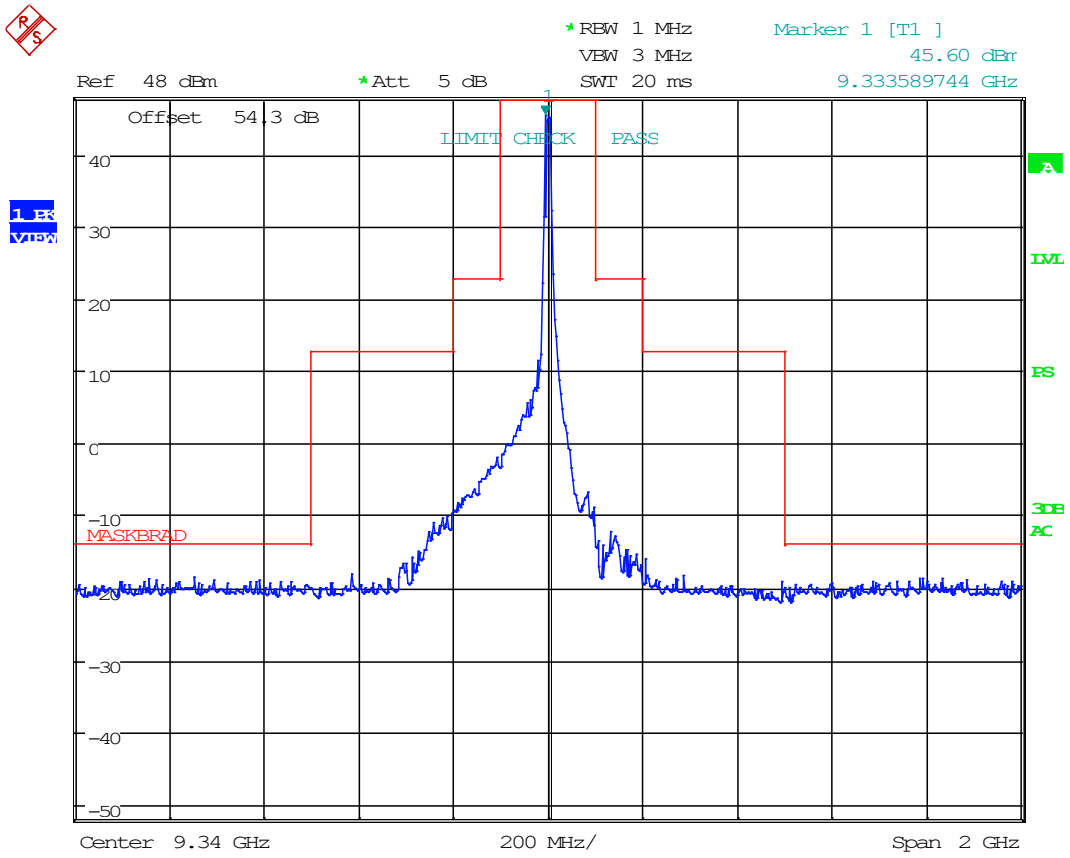
Date: 17.MAR.2023 11:17:10

8.4.4 Emission Mask, 9180 MHz, 24 nm, Low Power



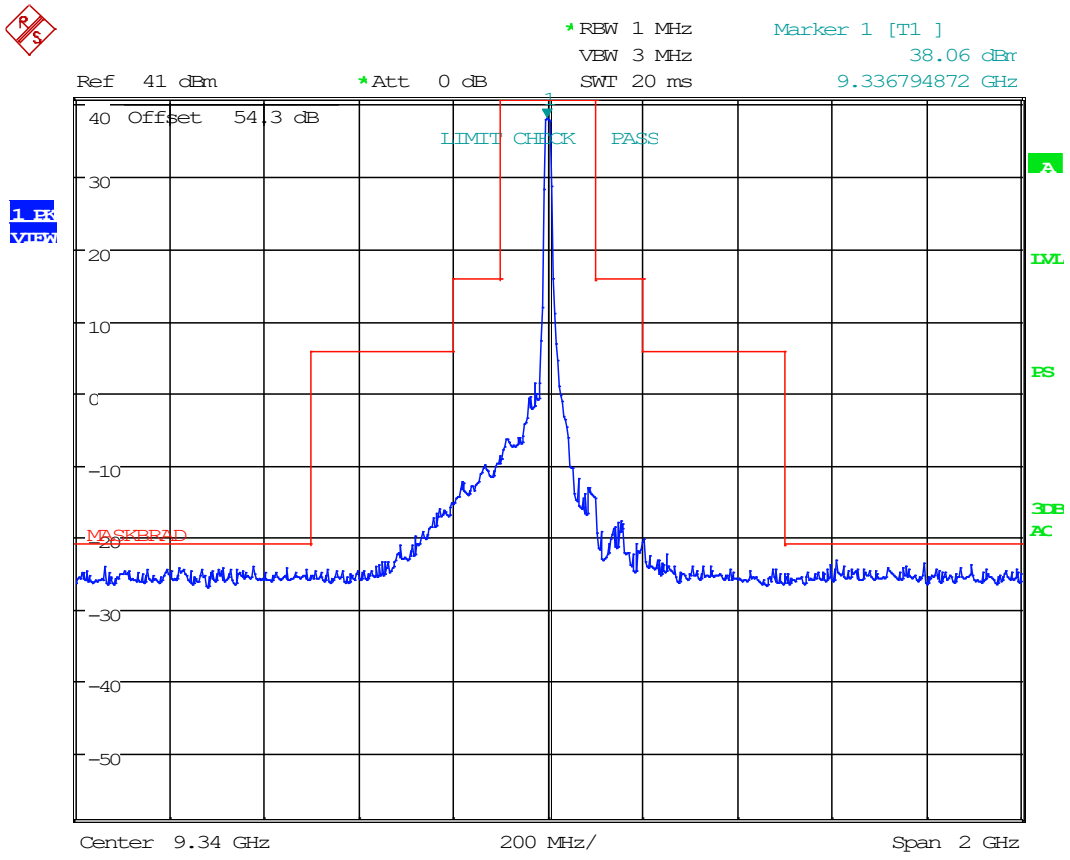
Date: 17.MAR.2023 11:29:37

8.4.5 Emission Mask, 9340 MHz, 24 nm, High Power



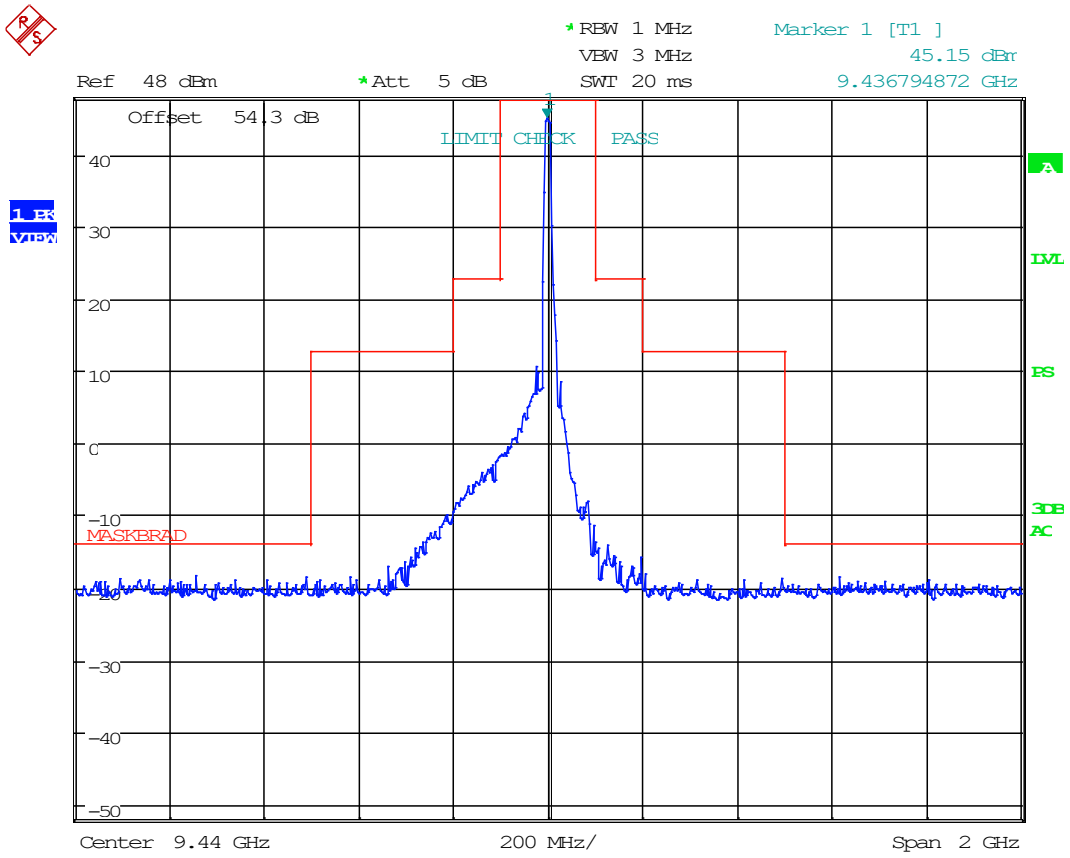
Date: 17.MAR.2023 11:20:41

8.4.6 Emission Mask, 9340 MHz, 24 nm Low Power



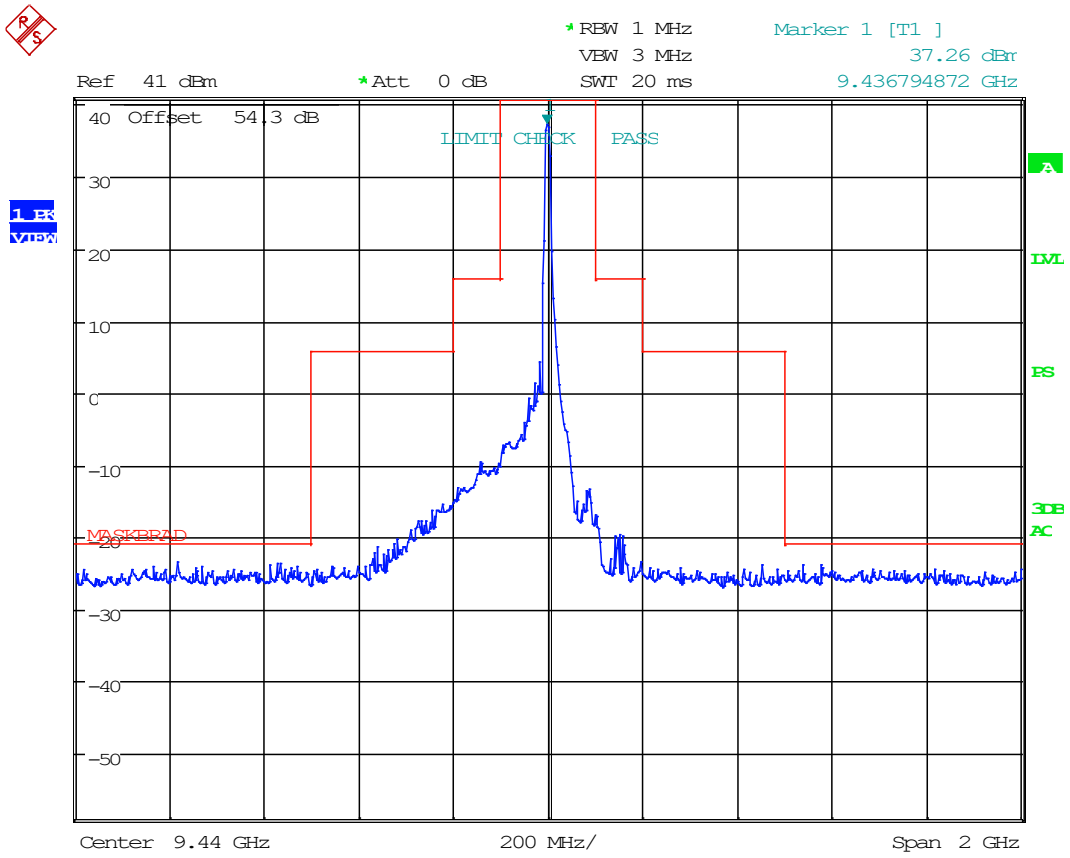
Date: 17.MAR.2023 11:26:55

8.4.7 Emission Mask, 9440 MHz, 24 nm, High Power



Date: 17.MAR.2023 11:23:21

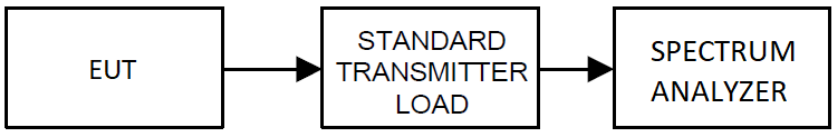
8.4.8 Emission Mask, 9440 MHz, 24 nm, Low Power



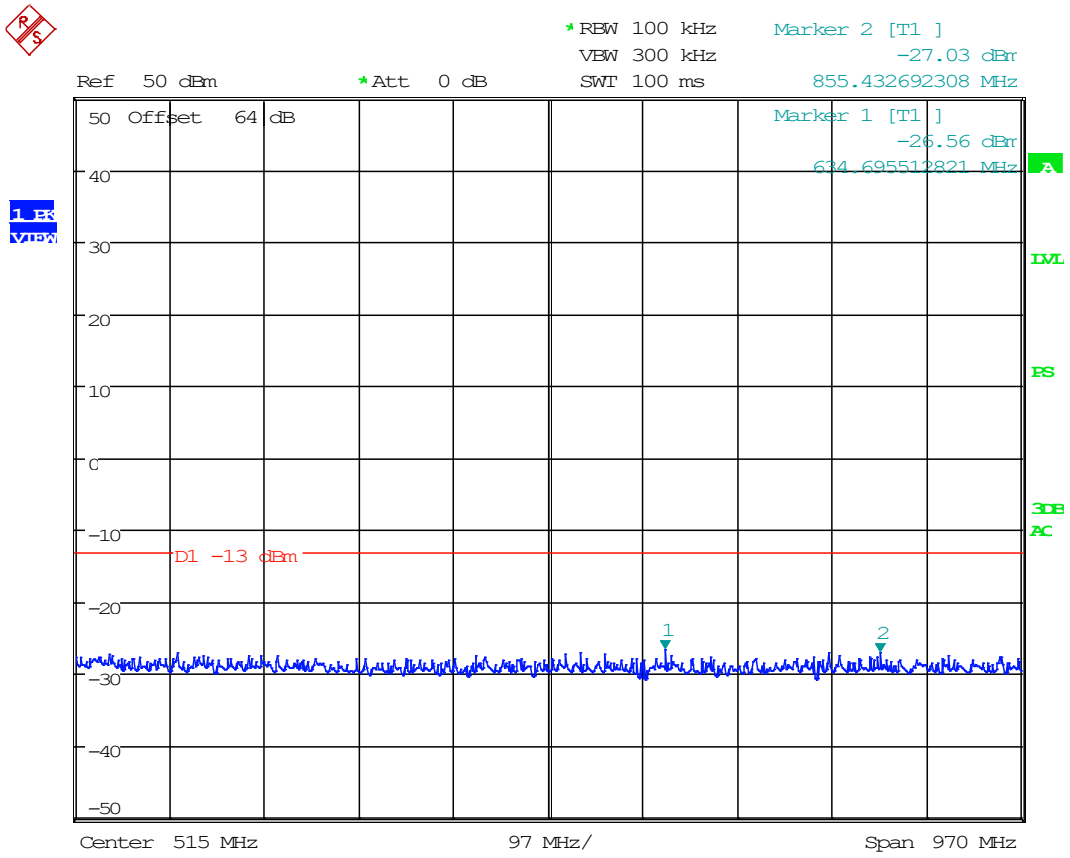
Date: 17.MAR.2023 11:24:36

8.5 Emission Limitations, Out-of-Band

Limits from FCC Parts 2.1051, 87.139 (a)(3) and test procedure from ANSI C63.26-2015.

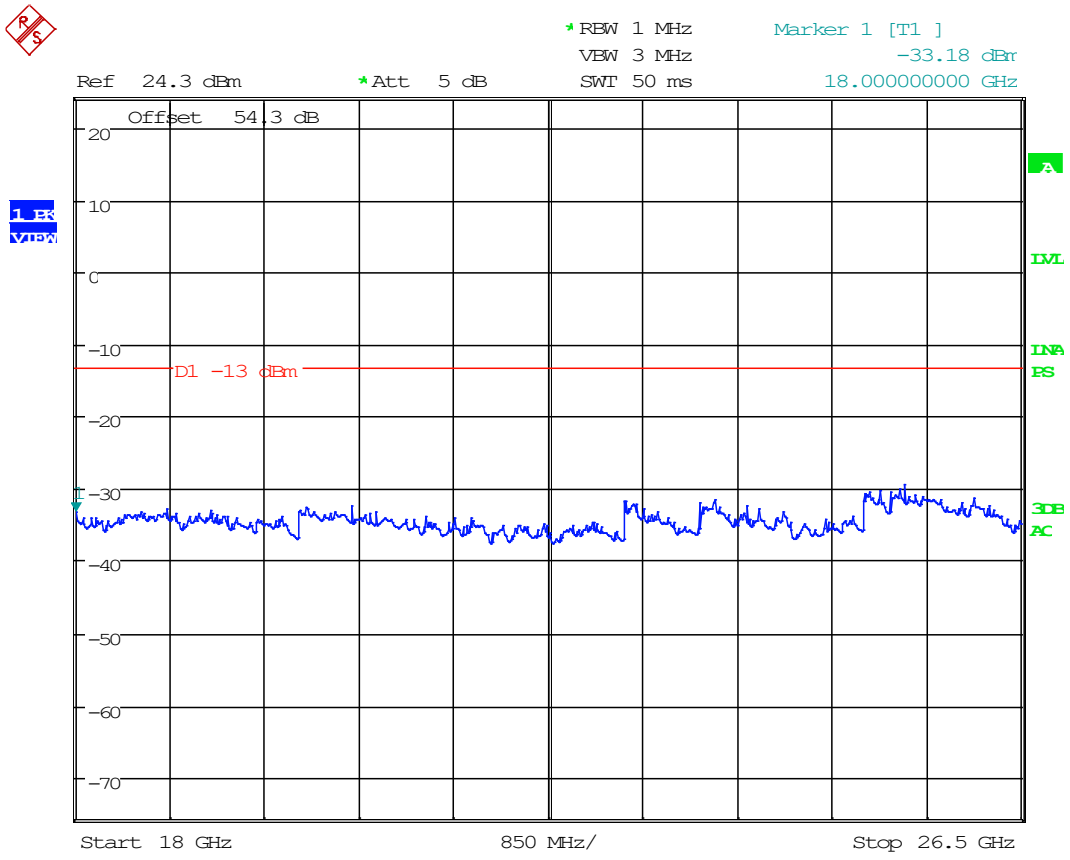
Conducted Test Setup


8.5.1 Conducted Emissions, Below 1GHz, 9100 MHz, 6 nm



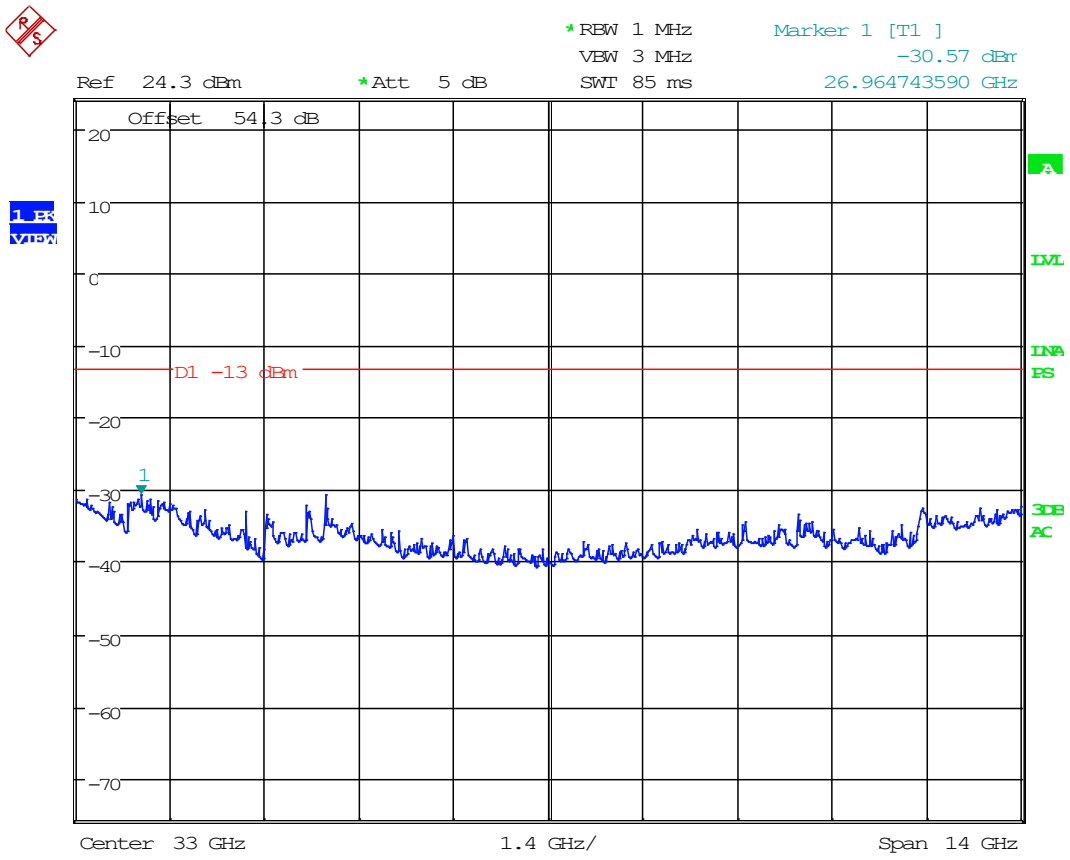
Date: 23.JAN.2023 16:44:04

8.5.1 Conducted Emissions, Above 18GHz, 9100 MHz, 6 nm



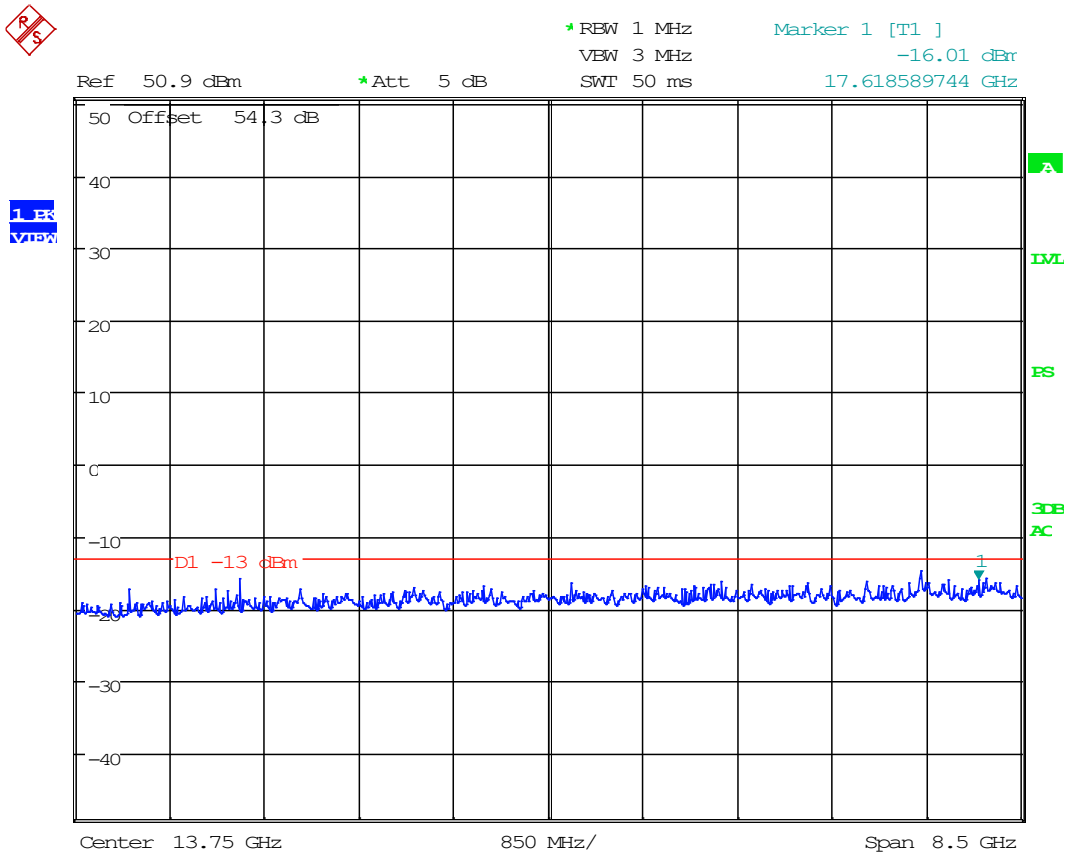
Date: 17.MAR.2023 10:15:53

8.5.2 Conducted Emissions, Above 26GHz, 9100 MHz, 6 nm

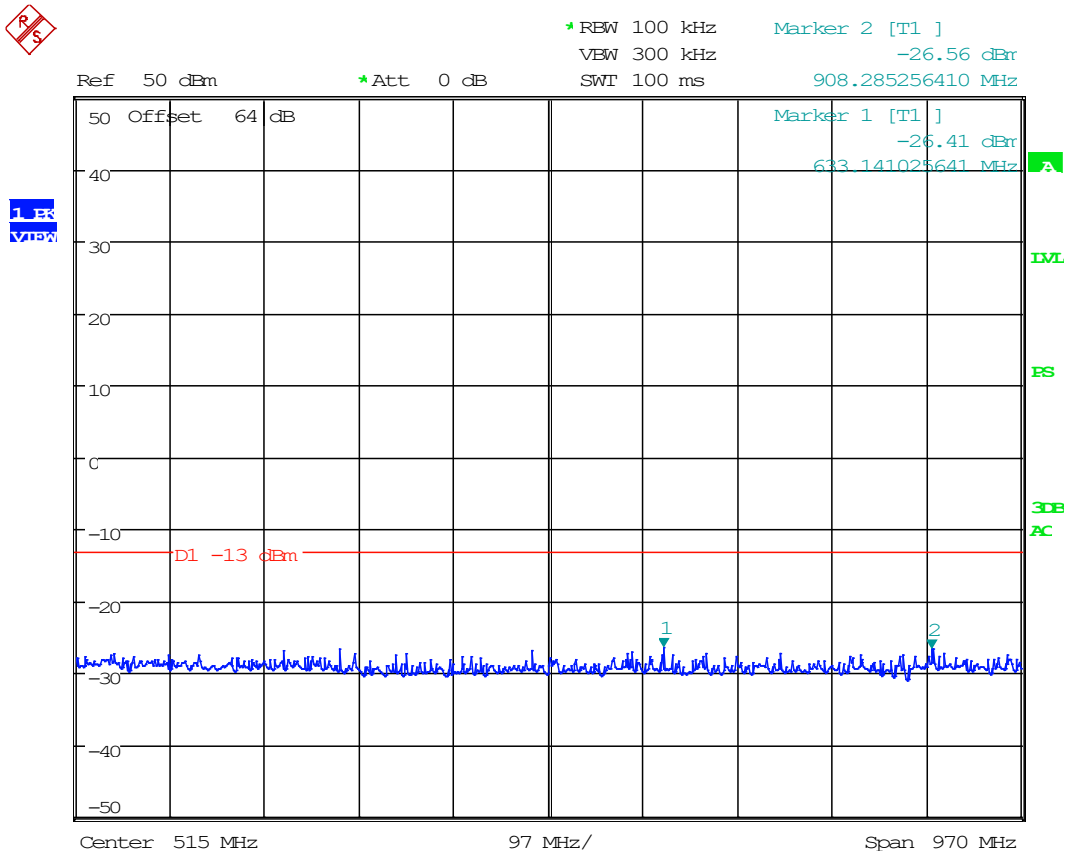


Date: 17.MAR.2023 11:07:58

8.5.3 Conducted Emissions, Above 1GHz, 9100 MHz, 6 nm

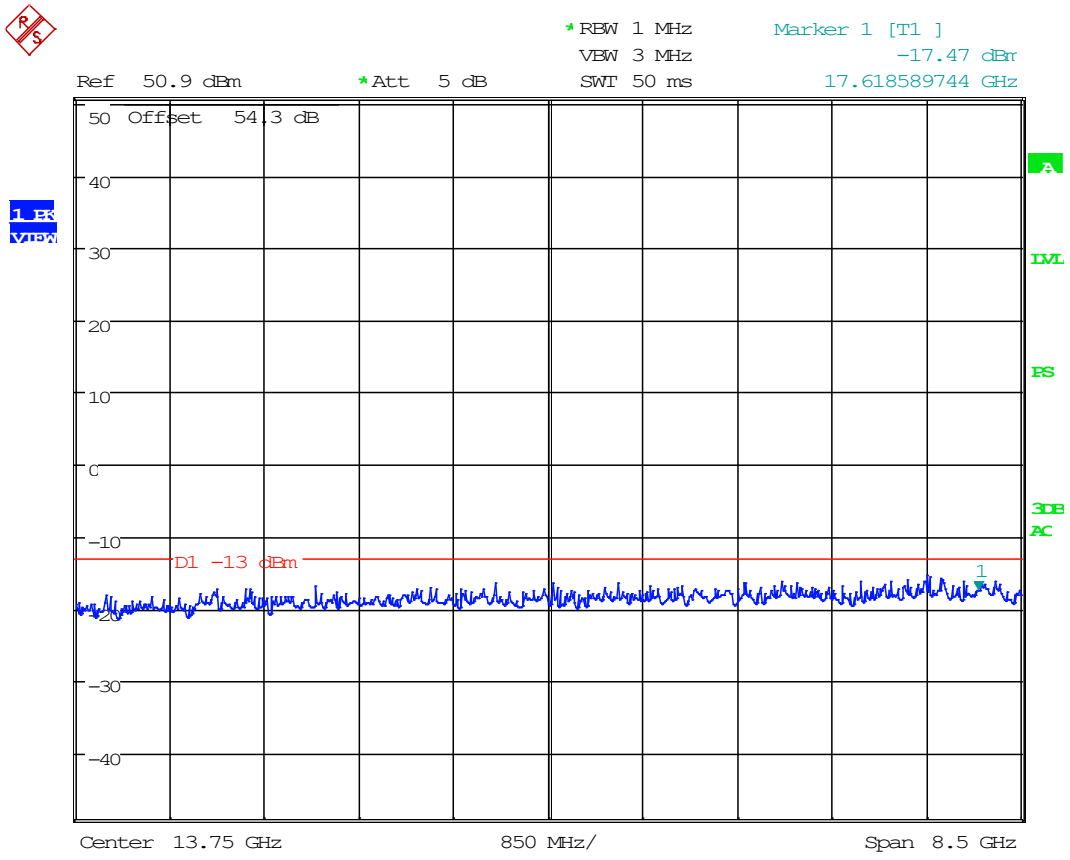


8.5.4 Conducted Emissions, Below 1GHz, 91800 MHz, 6 nm

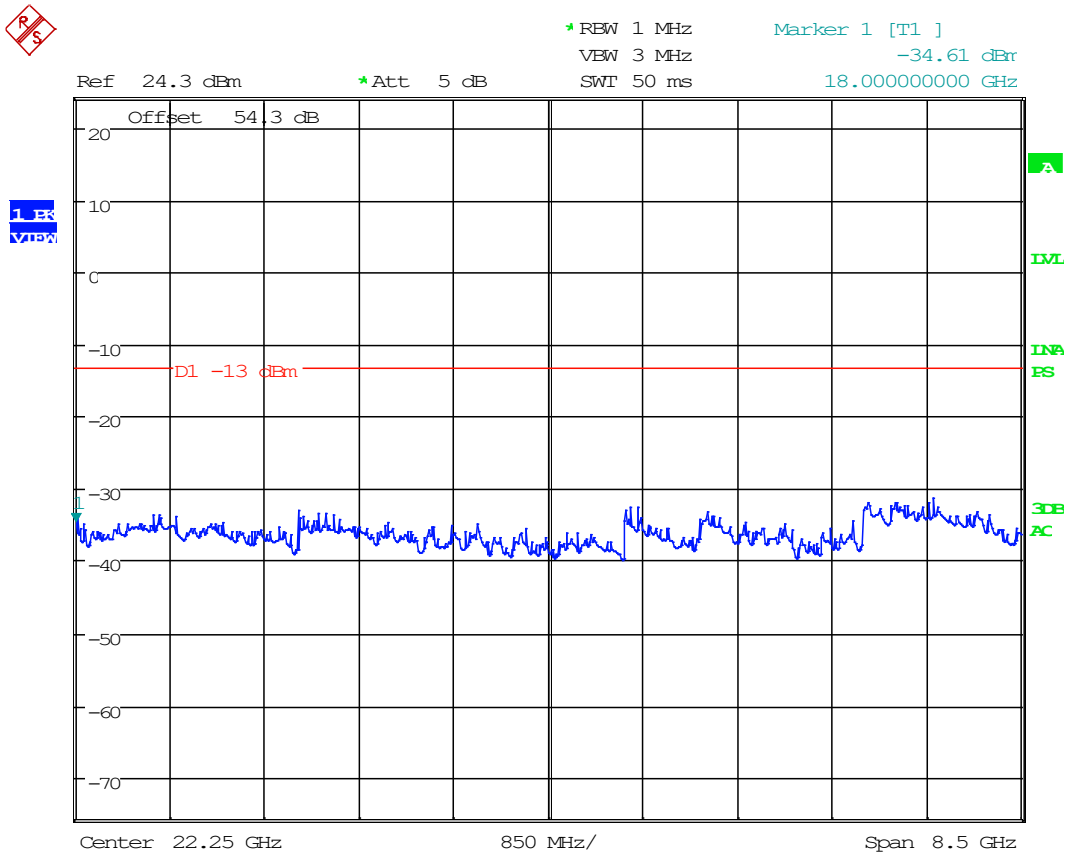


Date: 23.JAN.2023 16:45:11

8.5.5 Conducted Emissions, Above 1GHz, 9180 MHz, 6 nm

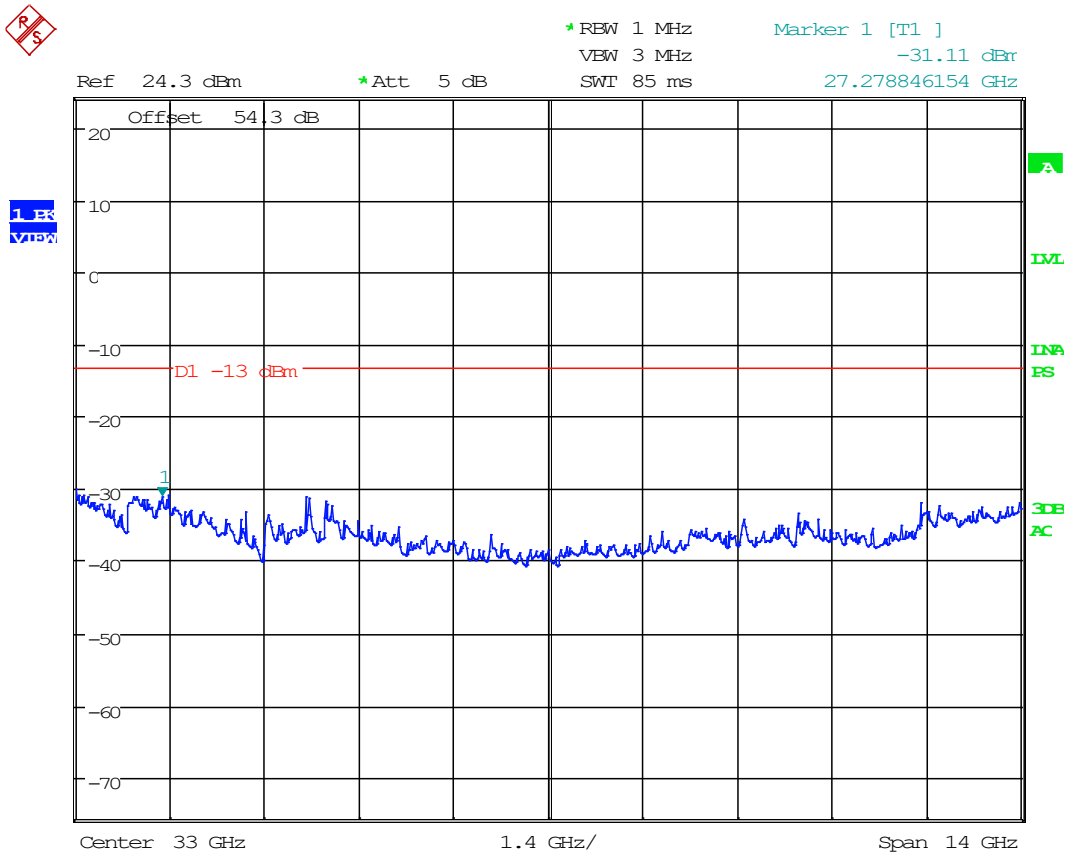


8.5.6 Conducted Emissions, Above 18GHz, 9180 MHz, 6 nm



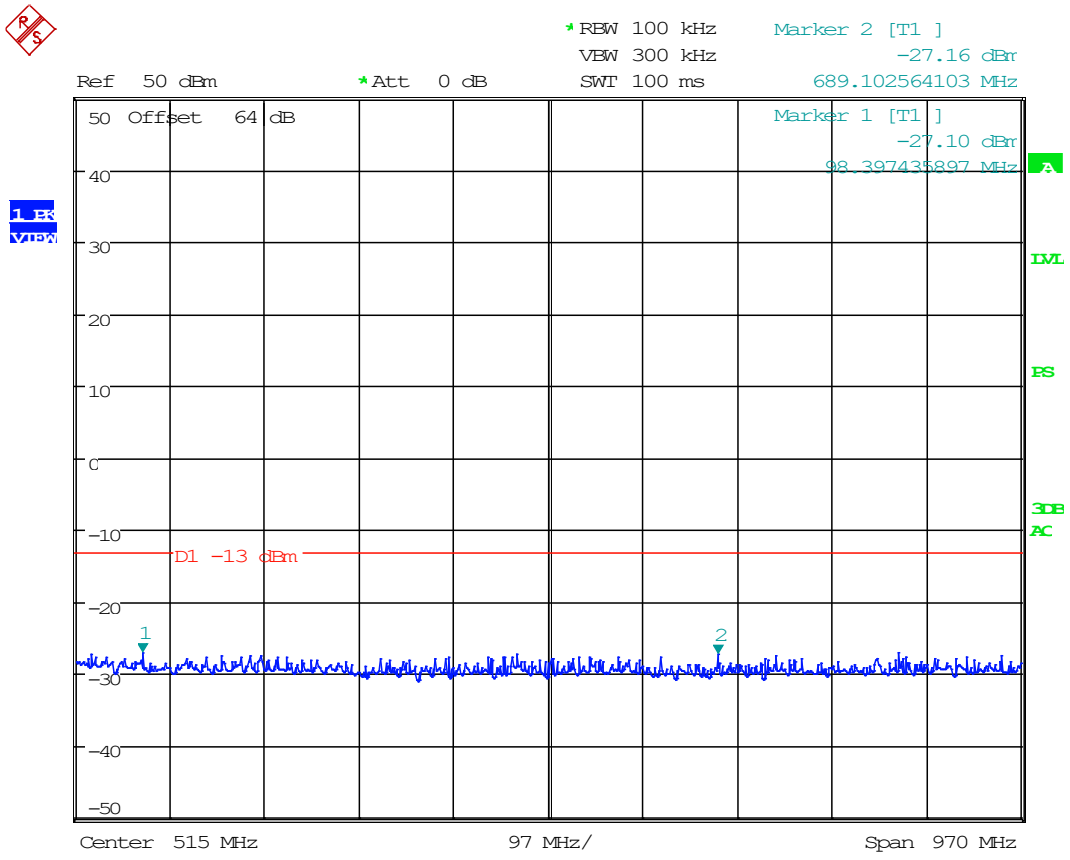
Date: 17.MAR.2023 10:16:34

8.5.7 Conducted Emissions, Above 26GHz, 9180 MHz, 6 nm



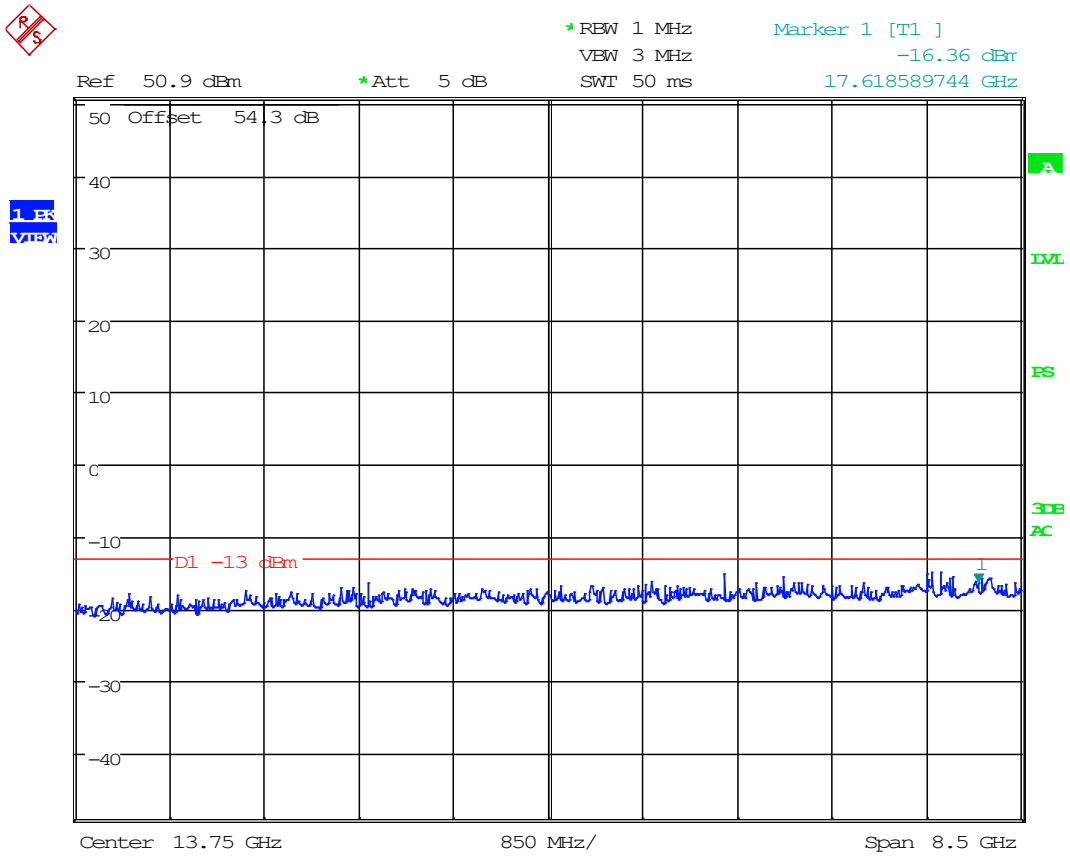
Date: 17.MAR.2023 11:07:33

8.5.8 Conducted Emissions, Below 1GHz, 9340 MHz, 6 nm



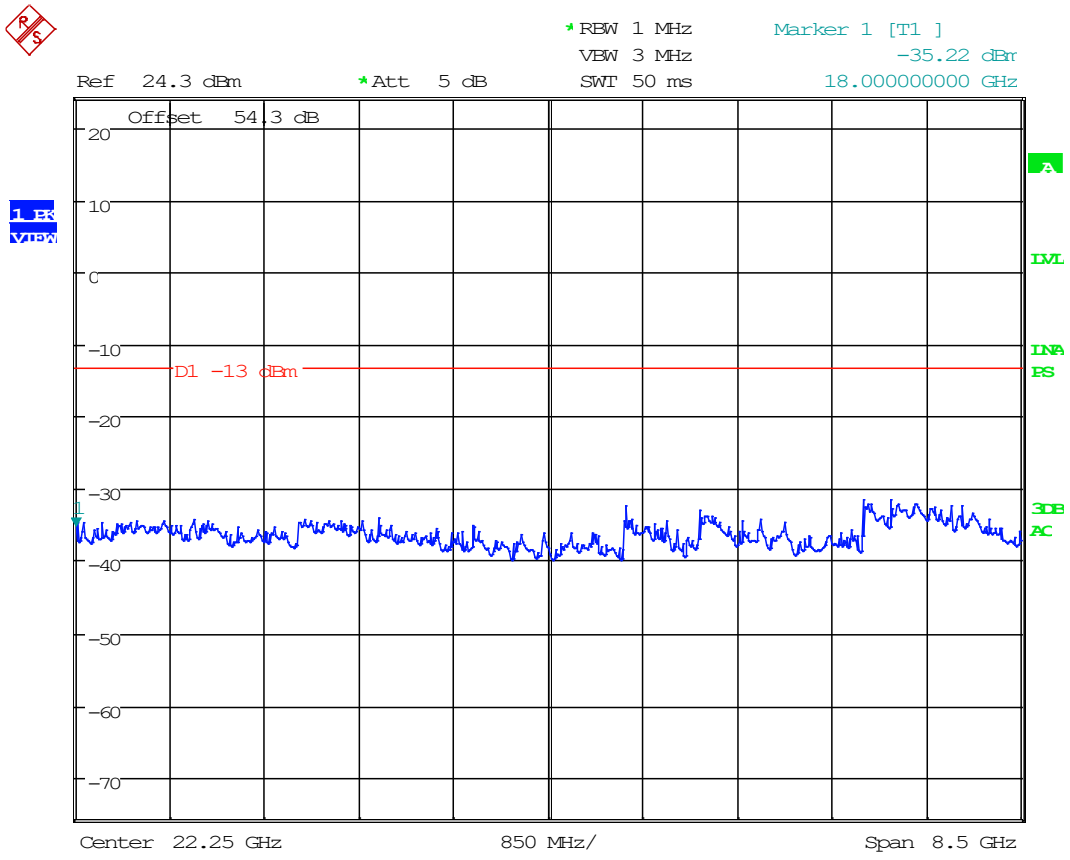
Date: 23.JAN.2023 16:49:58

8.5.9 Conducted Emissions, Above 1GHz, 9340 MHz, 6 nm



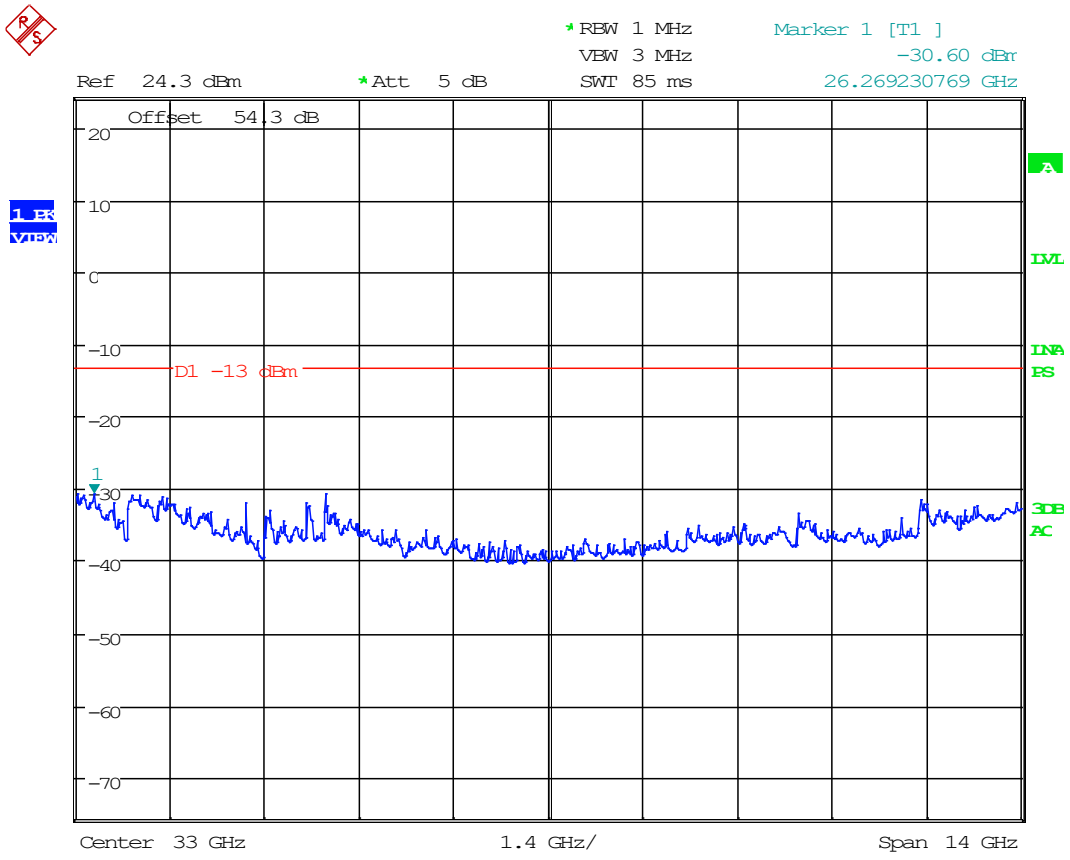
Date: 17.MAR.2023 09:56:37

8.5.10 Conducted Emissions, Above 18GHz, 9340 MHz, 6 nm



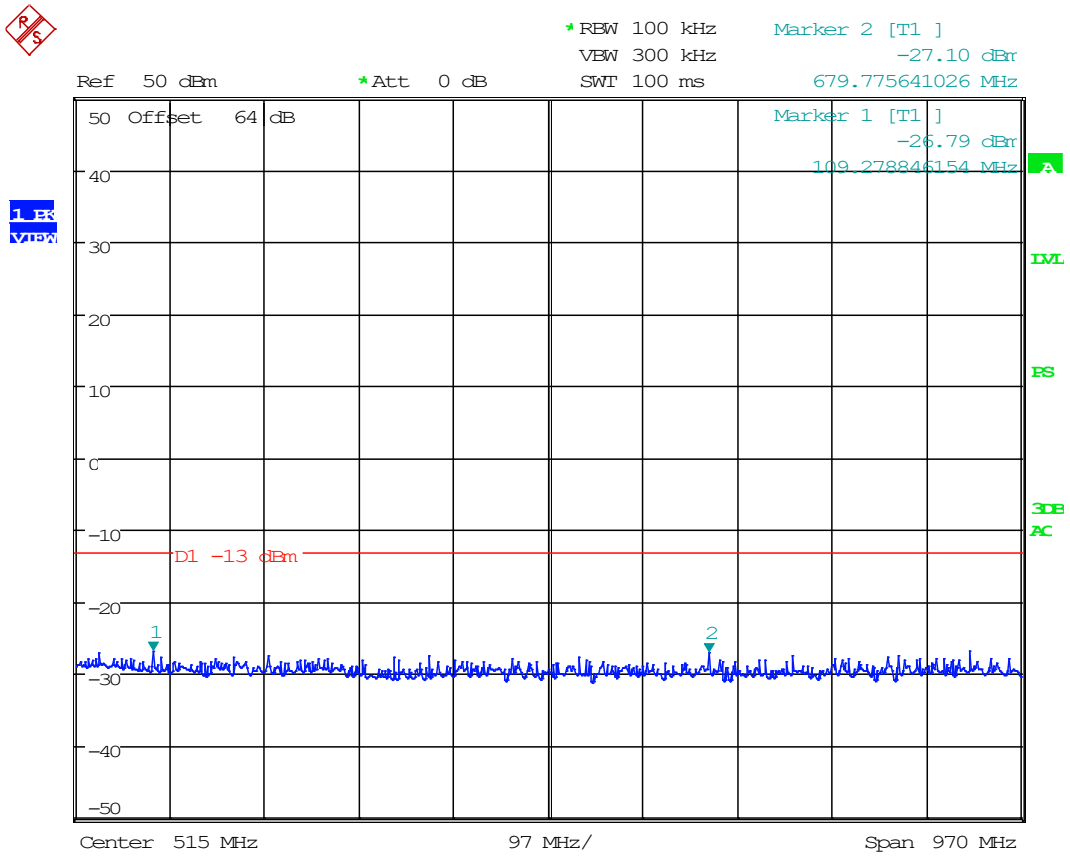
Date: 17.MAR.2023 10:17:43

8.5.11 Conducted Emissions, Above 26GHz, 9340 MHz, 6 nm



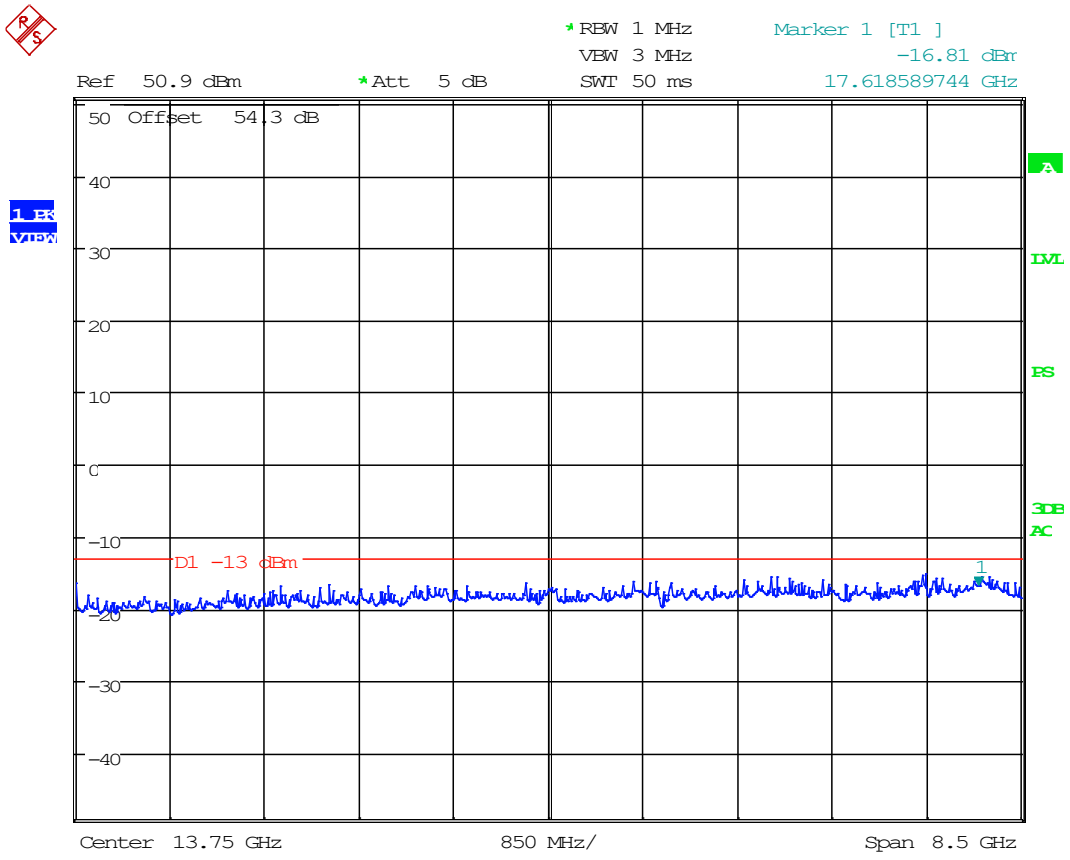
Date: 17.MAR.2023 11:06:45

8.5.12 Conducted Emissions, Below 1GHz, 9440 MHz, 6 nm

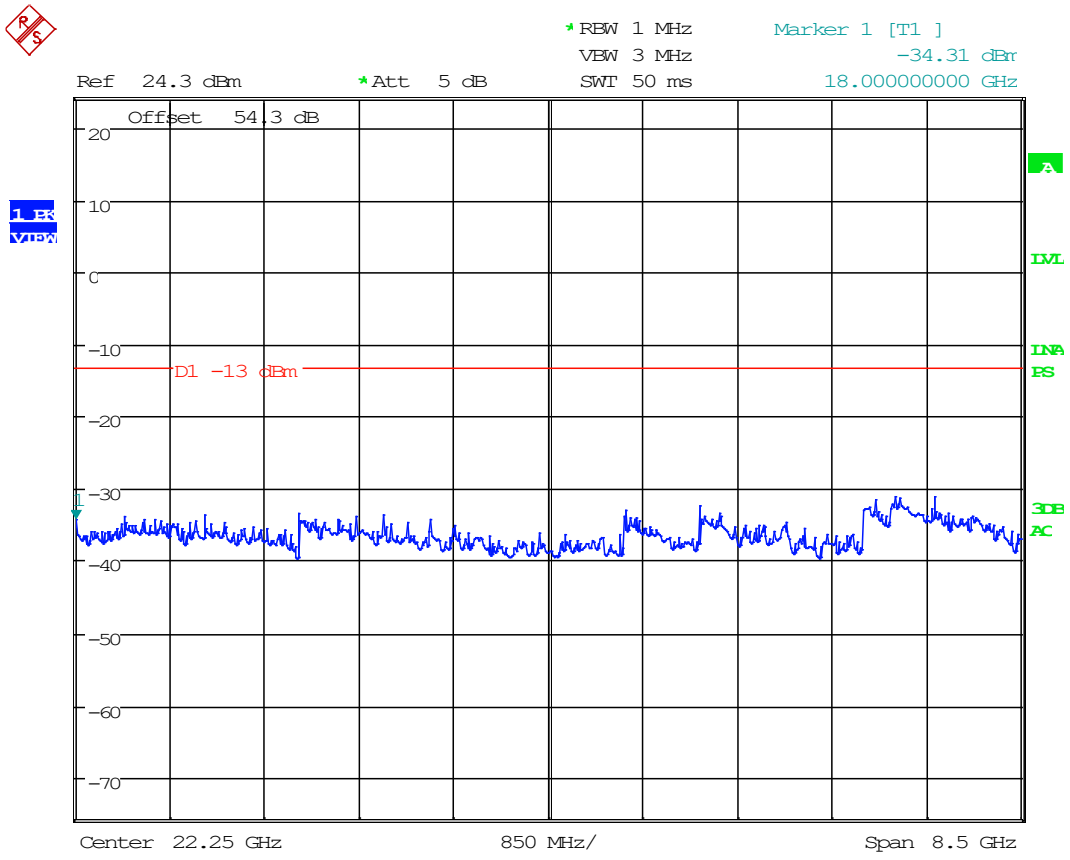


Date: 23.JAN.2023 16:50:41

8.5.13 Conducted Emissions, Above 1GHz, 9440 MHz, 6 nm

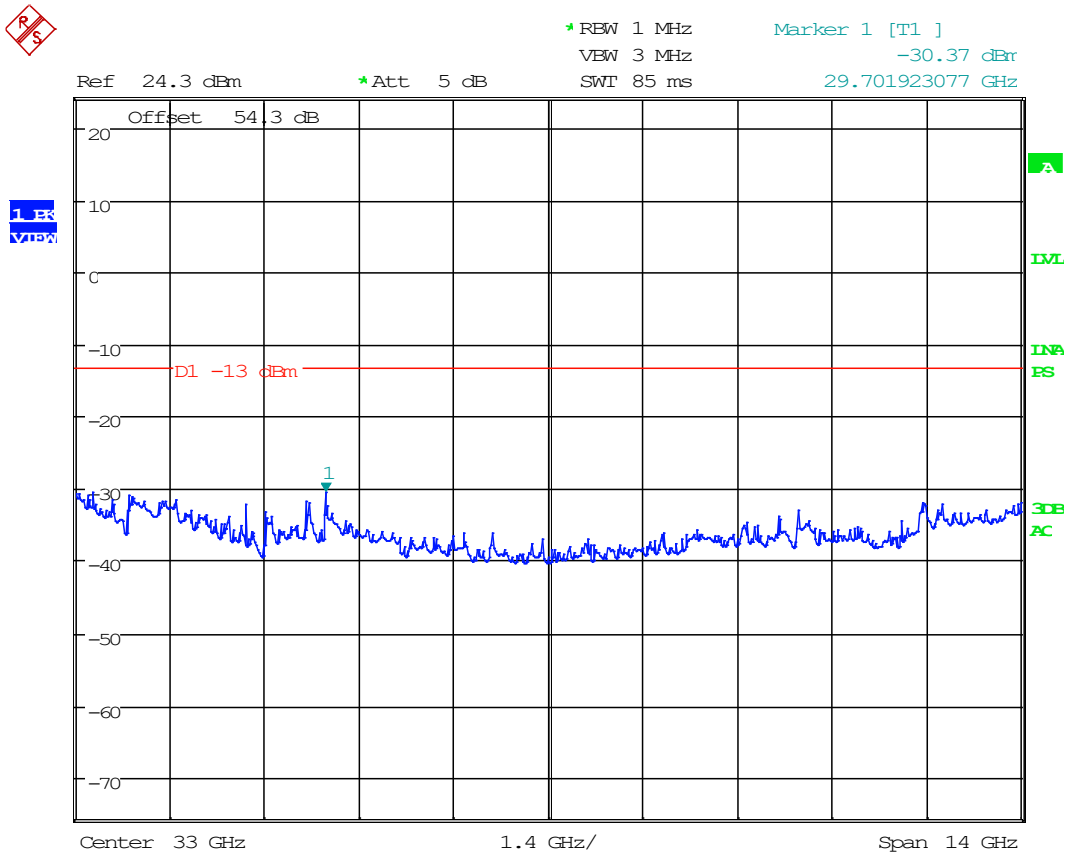


8.5.14 Conducted Emissions, Above 18GHz, 9440 MHz, 6 nm



Date: 17.MAR.2023 10:18:09

8.5.15 Conducted Emissions, Above 26GHz, 9440 MHz, 6 nm

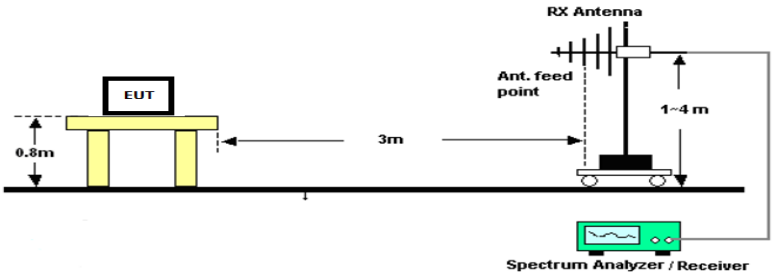


Date: 17.MAR.2023 11:06:15

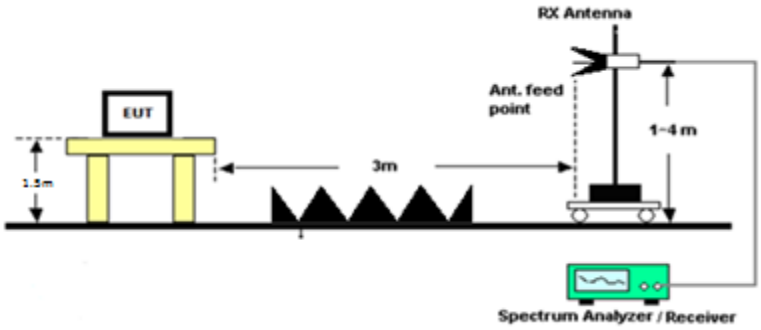
8.6 Radiated Emissions

Limits from FCC Parts 2.1053, 87.139 (a)(3) and test procedure from ANSI C63.26-2015.

Radiated Test Setup, 30 – 1000 MHz



Radiated Test Setup, Above 1000 MHz



Radiated Emissions Tabular Data

8.6.1 Radiated Emissions, 9100 MHz

Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBµV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
9100.00	18200.00	PK	7.91	H	15.33	44.76	3.00	68.00	-29.38	-13.00	16.38
9100.00	18200.00	PK	6.01	V	15.33	44.76	3.00	66.10	-31.28	-13.00	18.28
9100.00	27300.00	PK	17.20	H	19.38	46.58	3.00	83.16	-14.21	-13.00	1.21
9100.00	27300.00	PK	16.97	V	19.38	46.58	3.00	82.93	-14.44	-13.00	1.44
9100.00	36400.00	PK	13.58	H	22.16	47.62	3.00	83.36	-14.01	-13.00	1.01
9100.00	36400.00	PK	13.11	V	22.16	47.62	3.00	82.89	-14.48	-13.00	1.48

8.6.2 Radiated Emissions, 9180 MHz

Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBµV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
9180.00	18360.00	PK	17.88	H	15.32	44.75	3.00	77.95	-19.43	-13.00	6.43
9180.00	18360.00	PK	16.97	V	15.32	44.75	3.00	77.04	-20.34	-13.00	7.34
9180.00	27540.00	PK	17.20	H	18.67	46.60	3.00	82.47	-14.91	-13.00	1.91
9180.00	27540.00	PK	17.65	V	18.67	46.60	3.00	82.92	-14.46	-13.00	1.46
9180.00	36720.00	PK	13.73	H	22.55	46.78	3.00	83.07	-14.31	-13.00	1.31
9180.00	36720.00	PK	13.85	V	22.55	46.78	3.00	83.19	-14.19	-13.00	1.19

8.6.3 Radiated Emissions, 9340 MHz

Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBµV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
9340.00	18680.00	PK	6.23	H	15.49	44.74	3.00	66.46	-30.92	-13.00	17.92
9340.00	18680.00	PK	0.89	V	15.49	44.74	3.00	61.12	-36.26	-13.00	23.26
9340.00	28020.00	PK	7.86	H	19.38	46.91	3.00	74.15	-23.23	-13.00	10.23
9340.00	28020.00	PK	6.43	V	19.38	46.91	3.00	72.72	-24.66	-13.00	11.66
9340.00	37360.00	PK	9.61	H	22.08	45.91	3.00	77.60	-19.78	-13.00	6.78
9340.00	37360.00	PK	10.81	V	22.08	45.91	3.00	78.80	-18.58	-13.00	5.58

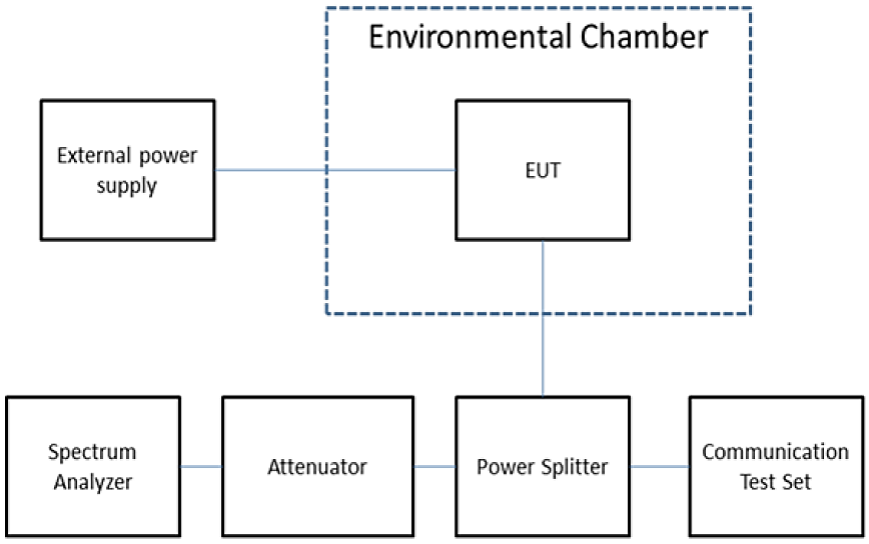
8.6.1 Radiated Emissions, 9440 MHz

Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBµV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
9440.00	18880.00	PK	11.00	H	15.33	44.74	3.00	71.07	-26.30	-13.00	13.30
9440.00	18880.00	PK	9.41	V	15.33	44.74	3.00	69.48	-27.89	-13.00	14.89
9440.00	28320.00	PK	15.96	H	19.19	46.78	3.00	81.93	-15.45	-13.00	2.45
9440.00	28320.00	PK	6.52	V	19.19	46.78	3.00	72.49	-24.89	-13.00	11.89
9440.00	37760.00	PK	9.00	H	22.61	45.68	3.00	77.29	-20.09	-13.00	7.09
9440.00	37760.00	PK	10.39	V	22.61	45.68	3.00	78.68	-18.70	-13.00	5.70

8.7 Frequency Stability

Limits from FCC Parts 2.1055, 87.131 and test procedure from ANSI C63.26-2015.

Test Setup



Test Results, Mode 1		
Tuned Frequency (MHz)	Max Deviation (ppm)	Limit (ppm)
9340	0.0000172	1250

kHz	Hz	Percent	ppm
160.360	160360.000	0.002%	0.0000172

Note: This EUT is designed to operate within FCC Parts 80 and in accordance with ISED RSS-238.

Note: The frequency determining element is the same component for both low and high ranges. The Frequency Stability testing was not repeated for both bands.

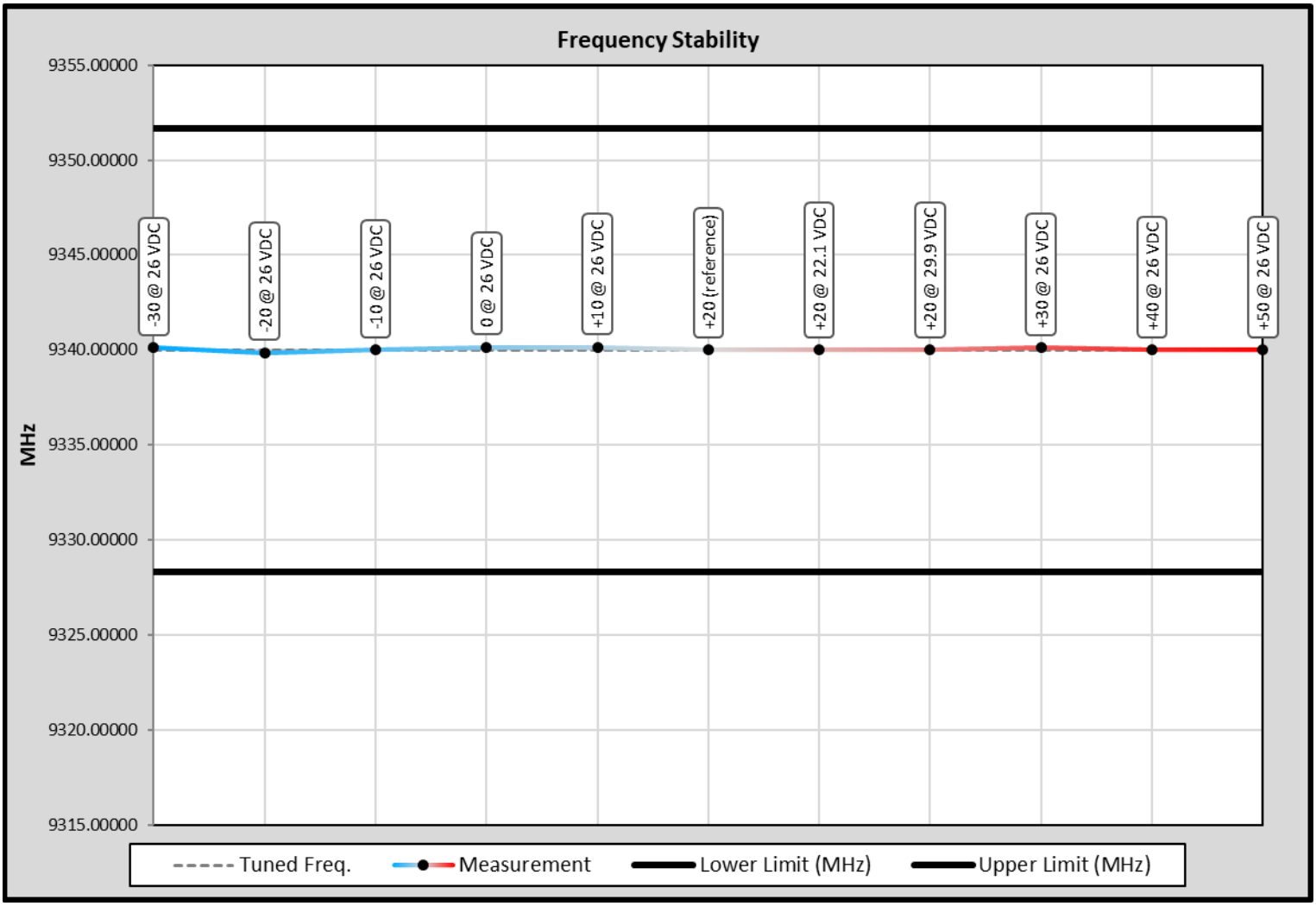
Note: The operational range of the EUT is -10 degrees C to +45 degrees C. Operation outside this range is not possible, due to the EUT's built-in limitation. The EUT has been tested to show compliance within this temperature range.

Note: The EUT's built-in power supply is designed to run stable and eliminated voltage differences from AC Mains. Input voltage variation was found to have no effect on the result.

8.7.1 Frequency Stability Data

	Limit (ppm)	1250.00	
	Limit (Hz)	11675000.000	
	Lower Limit (MHz)	9328.325000	
	Upper Limit (MHz)	9351.675000	
	Rated Supply Voltage	26.0	○ AC ◉ DC
Temperature / Voltage Variation			
Temperature (°C)	**Supplied Voltage (V)**	**Frequency (MHz)**	**Deviation (kHz)**
-30	26.0	9340.128205	-128.205
-20	26.0	9339.871795	128.205
-10	26.0	9340.000000	0.000
0	26.0	9340.160360	-160.360
+10	26.0	9340.160360	-160.360
+20 (reference)	26.0	9340.000000	0.000
+20	22.1	9340.000000	0.000
+20	29.9	9340.000000	0.000
+30	26.0	9340.128205	-128.205
+40	26.0	9340.000000	0.000
+50	26.0	9340.000000	0.000

8.7.2 Frequency Stability Plot



9. ANNEX-A - Photographs of the EUT

Photographs of the EUT and any manufacturer supplied accessories to be used with the EUT are in separate supplementary documents labelled EXTERNAL PHOTOS and INTERNAL PHOTOS.

10. ANNEX-B – Test Setup Photographs

Test setup photographs are located in a separate supplementary ANNEX-B document.

11. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_6172-23_FCC 80_Radar_	1	Initial release	04/17/2023
	2	Updated Page 1	09/09/2024

END OF TEST REPORT