



Test Report - FCC PARTS 80 (MRD) / 87 & 90 (TNB)

Prepared For: TERMA A/S

Approved for Release By:

Signature: Bruno Clavier

Name & Title: Bruno Clavier, General Manager

Date of Signature

(YYYY-MM-DD): 2020-09-28

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849 NW State Road 45, Newberry, Florida 32669
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1. Customer Information

Applicant: TERMA A/S
Address: Hovmarken 4
Lystrup 8520, DK-8520 Denmark

Technical Contact: Mr. Dimitri Karagan
Telephone: +1 470-322-3000
Email address: dimitri.karagan@termana.com

1.1 Part 80 Test Result Summary

The following test procedure and guidance were used for measuring FCC PART 80 (STATIONS IN THE MARITIME SERVICES) known as Licensed Maritime Radiotelephone; ANSI C63.26-2015. Full test results are available in this report.

The Following is for Test item FCC ID: N9MSC5202

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 80		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
80.205 (a), (d)	Bandwidths & Emission designator	Reported
80.209 (c)	Transmitter Frequency Tolerance	Pass
80.211 (f)	Emission Limitations, In-band	Pass
80.211 (f)	Emission Limitations, Out-of-band	Pass
80.213 (g)	Modulation Requirements	Pass
80.215 (a) (3), (n) (3)	Transmitter Power	Pass



1.2 Part 87 Test Result Summary

The following test procedure and guidance were used for measuring FCC PART 87 (AVIATION SERVICES) known as Licensed Aviation Radio; ANSI C63.26-2015. Full test results are available in this report.

Applicable Clauses from Part 87		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
87.131 footnote 4	Transmitter Power	Pass
87.133 (a) (8)	Frequency stability	Pass
87.135 (a) – (c)	Bandwidths (a) – (c)	Reported
87.137 (a) footnote 9	Emission designator	Reported
87.139 (a)	Emission Limitations, In-band	Pass
87.139 (a)	Emission Limitations, Out-of-band	Pass
87.141	Modulation Requirements	n/a

1.3 Part 90 Test Result Summary

The following test procedure and guidance were used for measuring FCC PART 90 (PRIVATE LAND MOBILE RADIO SERVICES) known as Licensed Land Mobile; ANSI C63.26-2015. Full test results are available in this report.

Applicable Clauses from Part 90		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
90.205 (r)	Transmitter Power	Pass
90.207 (n)	Emission designator	Reported
90.209 (b) (5) footnote 2	Bandwidth limitations	Pass
90.210 (n)	Emission masks, In-band	Pass
90.210 (n)	Emission masks, Out-of-band	Pass
90.213 (a) footnote 10	Frequency stability	Pass
90.214	Transient Frequency Behavior	n/a
90.221	Adjacent channel power limits	n/a

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.



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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 849 NW State Road 45, Newberry, Florida 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: September 25 - 30, 2020

Signature:

Name & Title: Franklin Rose, EMC Specialist

Date of Signature

(YYYY-MM-DD): 2020-10-01

Signature:

Sr. EMC Engineer
EMC-003838-NE



Name & Title: Tim Royer, EMC Engineer

Date of Signature

(YYYY-MM-DD): 2020-10-01



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

The test sample was received: September 25, 2020

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:	N9MSC5202
Brief Description	VTX, CS, OLC (ADLS)
Type of Modular	n/a
Model(s) #	SCANTER 5202 GaN 350W, SCANTER 6002 GaN 350W
Trade name	Scanter
Firmware version	n/a
Software version	386241-001 Rev. A
Serial Number	3010

Technical Characteristics	
Technology	FM Chirp Pulsed Radar
Frequency Range	9000 - 9500 MHz
RF O/P Power (Max.)	350 W
Modulation	Pulse w/ no modulated information
Bandwidth & Emission Class	292MV7N
Number of Channels	n/a
Duty Cycle	20%
Antenna Connector	Proprietary (fitted with WR-90 adapter for testing)
Voltage Rating (AC or Batt.)	AC 120 V

Antenna Characteristics				
Antenna Name	Frequency Range	Antenna Type	Dimensions	Antenna Gain
Compact Antenna	9.0 – 9.5 GHz	Linear Array	7'	≤31 dBi
Compact Antenna	9.0 – 9.5 GHz	Linear Array	9'	≤32 dBi
Compact Antenna	9.0 – 9.5 GHz	Linear Array	12'	≤34 dBi
High Gain Antenna	9.0 – 9.5 GHz	Linear Array	18'	≤37 dBi
High Gain Antenna	9.0 – 9.5 GHz	Linear Array	21'	≤38 dBi



3.2 Configuration of EUT

Test Modes					
Band	Mode (#)	Mode (Type)	Test Frequencies	BW (nominal)	Modulation
9.0 – 9.2 GHz	1	"Low Band"	9.100 GHz	250 MHz	Pulse
9.3 – 9.5 GHz	2	"High Band"	9.3625 GHz	292 MHz	Pulse

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 by the manufacturer was used to control 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 (per 80.273 (a) (6))

4.2 Applied Limits and Regulatory Limits:

- 1) FCC CFR 47 Part 80
- 2) FCC CFR 47 Part 87
- 3) FCC CFR 47 Part 90

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:

Temperature	23 C +/- 5%
Humidity	55% +/- 5%
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

Device	Manufacturer	Model	SN #	Current Cal	Cal Due
Audio Analyzer	HP	8903B	3011A13084	2/20/18	2/19/2021
Function Generator	Standford	DS340	25200	2/21/18	2/20/2021
Modulation Analyzer	HP	8901A	3050A05856	4/23/20	4/23/2023
Oscilloscope	LeCroy	LT364	00414	3/28/19	3/27/2022
Signal Generator HP 8648C	HP	8648C	3847A04696	9/11/20	9/11/2023
Signal Generator R&S SMU-200A	Rohde & Schwarz	SMU200A	103195	4/23/18	4/22/2021
Sweep/Signal Generator	Anritsu	68369B	985112	11/8/17	11/7/2020
Digital Multimeter	Fluke	77	35053830	11/6/17	11/5/2020
Digital Multimeter	Fluke	77	43850817	7/20/19	7/19/2022
Digital Multimeter	Fluke	FLUKE-77-3	79510408	9/9/20	9/9/2023
Multimeter	HP	973A	JP37006959	9/9/20	9/9/2023
R&S 18 GHz USB Peak Power Sensor	Rohde & Schwarz	NRP-Z85	1411.7501.02-102085-VV	2/4/19	2/3/2022
Active Loop	ETS-Lindgren	6502	00062529	12/11/17	12/10/2020
Biconical 1057	Eaton	94455-1	1057	12/13/17	12/12/2020
Log-Periodic 1243	Eaton	96005	1243	4/20/18	4/19/2021
Double-Ridged Horn/ETS Horn 1	ETS-Lindgren	3117	00035923	2/25/20	2/24/2023
Double-Ridged Horn 18-40 GHz	EMCO	3116	9011-2145	12/8/17	12/7/2020
CHAMBER	Panashield	3M	N/A	3/12/19	3/11/2021
Pre-amp	RF-LAMBDA	RLNA00M45GA	NA	2/27/19	2/26/2022
EMI Test Receiver R&S ESIB 40	Rohde & Schwarz	ESIB 40	100274	7/22/19	7/21/2022
EMI Test Receiver R&S ESU 40	Rohde & Schwarz	ESU 40	100320	8/28/18	8/27/2021
Frequency Counter Small	HP	5385A	3242A07460	9/9/20	9/9/2023
Type K J Thermometer	Martel	303	080504494	11/6/17	11/5/2020

Software	Author	Version	Validation Or
ESU Firmware	Rohde & Schwarz	4.43 SP3; BIOS v5.1-24-3	2018
RSCCommander	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 dB μ V. 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 (dB μ V/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 dB μ V 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.



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8.1 Power at the Final Amplifier

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

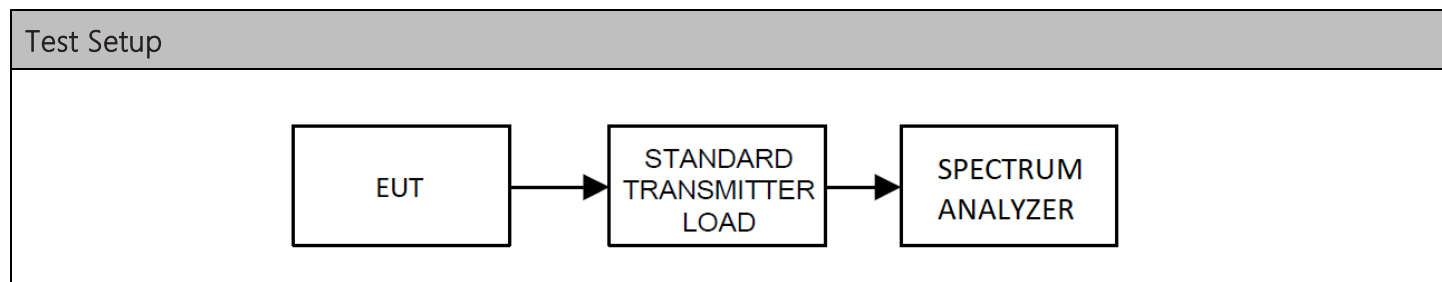
No method of measurement is specified. The result has been calculated based on all available information.

Test Results		
EUT Operating Voltage (V)	EUT Current (A)	Power at the Final Amplifier
120 V AC	10.5 A	1050 W
230 V AC	4.57 A	1050 W



8.2 RF Output Power

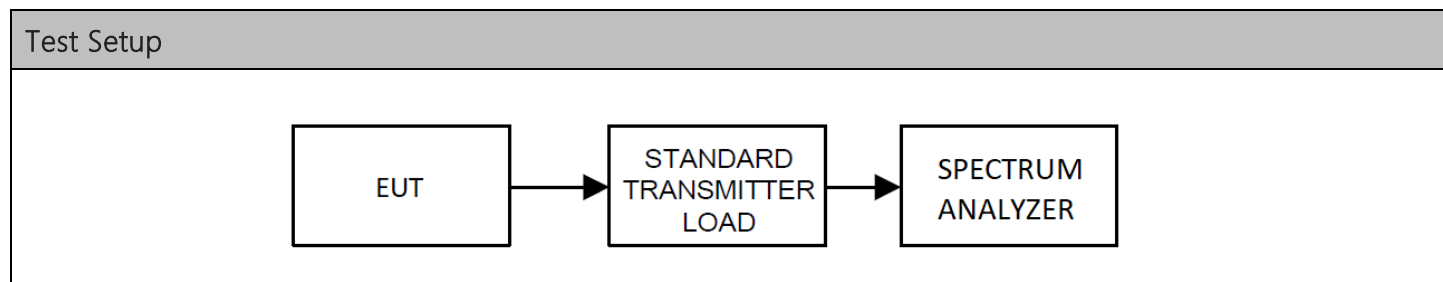
Limits from FCC Parts 2.1046(a), 80.215 (a) (3), (n) (3), 87.131 footnote 4, and 90.205 (r); and test procedure from ANSI C63.26-2015.



Test Results, Mode 1				
Mode	Tuned Frequency (MHz)	Method	Power Output (dBm)	Power Output (W)
1	9100.0	Conducted	55.44	349.95
2	9362.5	Conducted	55.48	353.18

8.3 Bandwidth & Emission

Limits from FCC Parts 2.1049, 80.205 (a), (d), 87.135 (a) – (c) & 87.137 (a) footnote 9, & 90.207 (n) & 90.209 (b) (5) footnote 2, and test procedure from ANSI C63.26-2015.



Test Results, Authorized Bandwidth		
Rule Part	Operating Range	Authorized Bandwidth
Part 80	9.3 – 9.5 GHz	300 MHz
Part 87	9.0 – 9.2 GHz	550 MHz
Part 90	9.0 – 9.5 GHz	2050 MHz

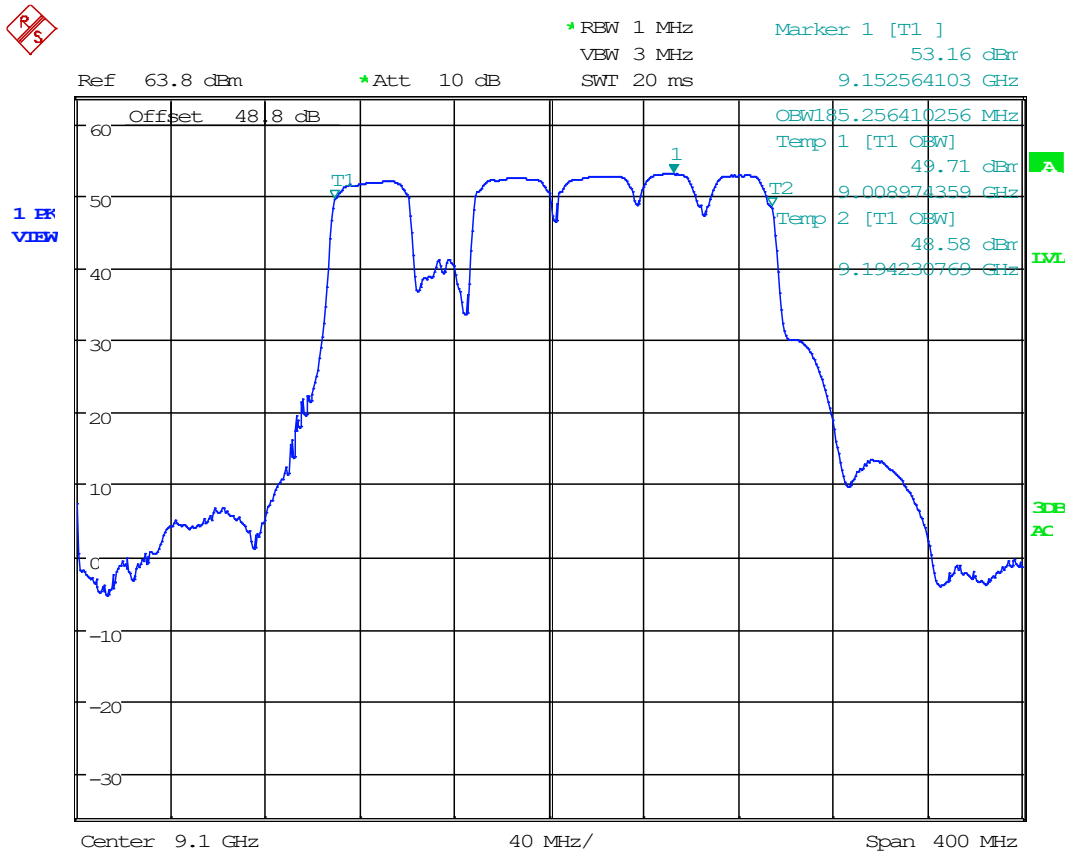
Test Results, Occupied Bandwidth		
Tuned Frequency (MHz)	Occupied Bandwidth (MHz)	Bandwidth Type
9100.0	185.26	99% Power
9362.5	235.58	99% Power

Test Results, Necessary Bandwidth			
Tuned Frequency (MHz)	Necessary Bandwidth (MHz)	Emission Designator	Bandwidth Type
9100.0	250.00	V7N	40 dB Down
9362.5	292.31	V7N	40 dB Down



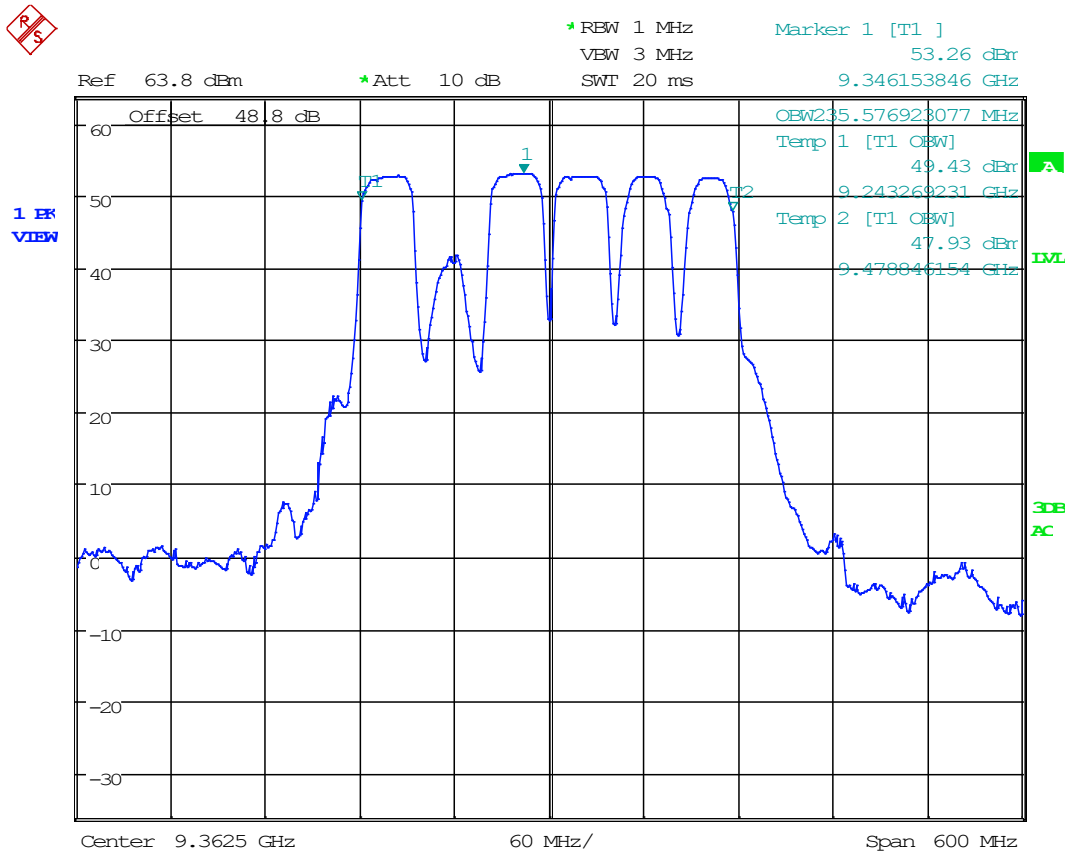
Occupied Bandwidth, Spectrum Plots

8.3.1 Bandwidth Plot, 99%, 9100 MHz



Date: 25.SEP.2020 16:48:15

8.3.1 Bandwidth Plot, 99%, 9362.5 MHz

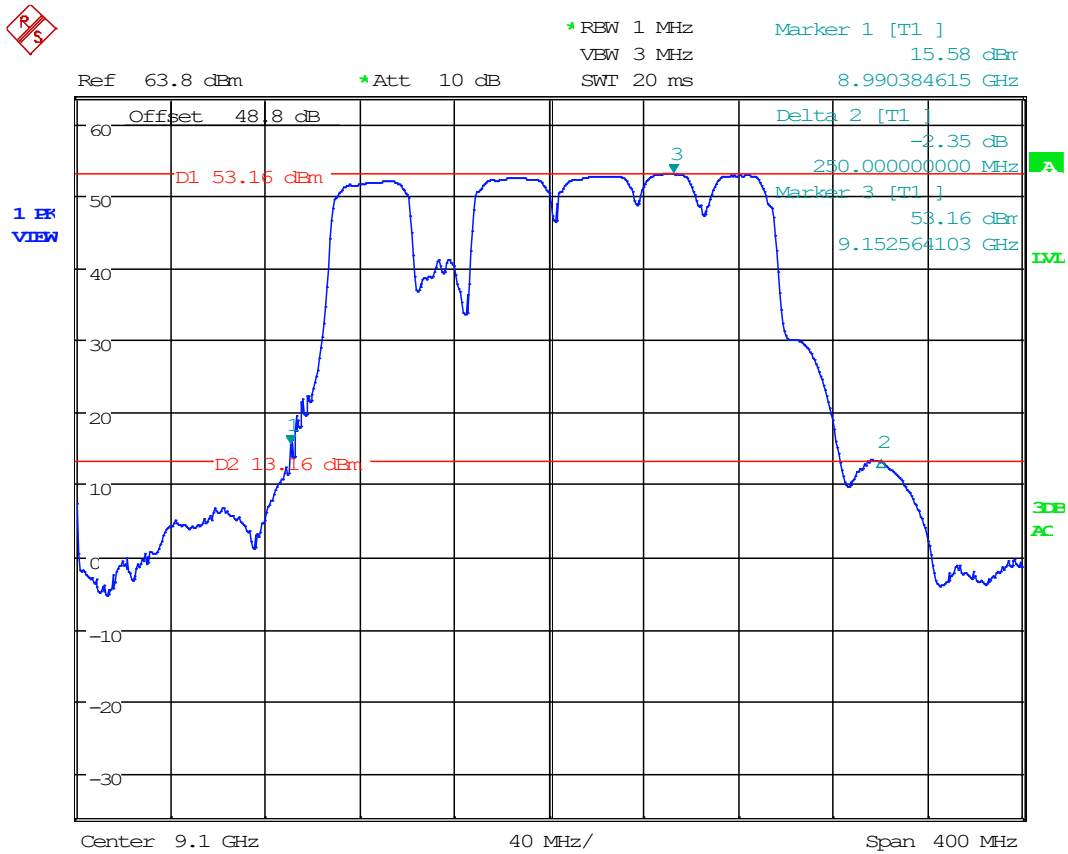


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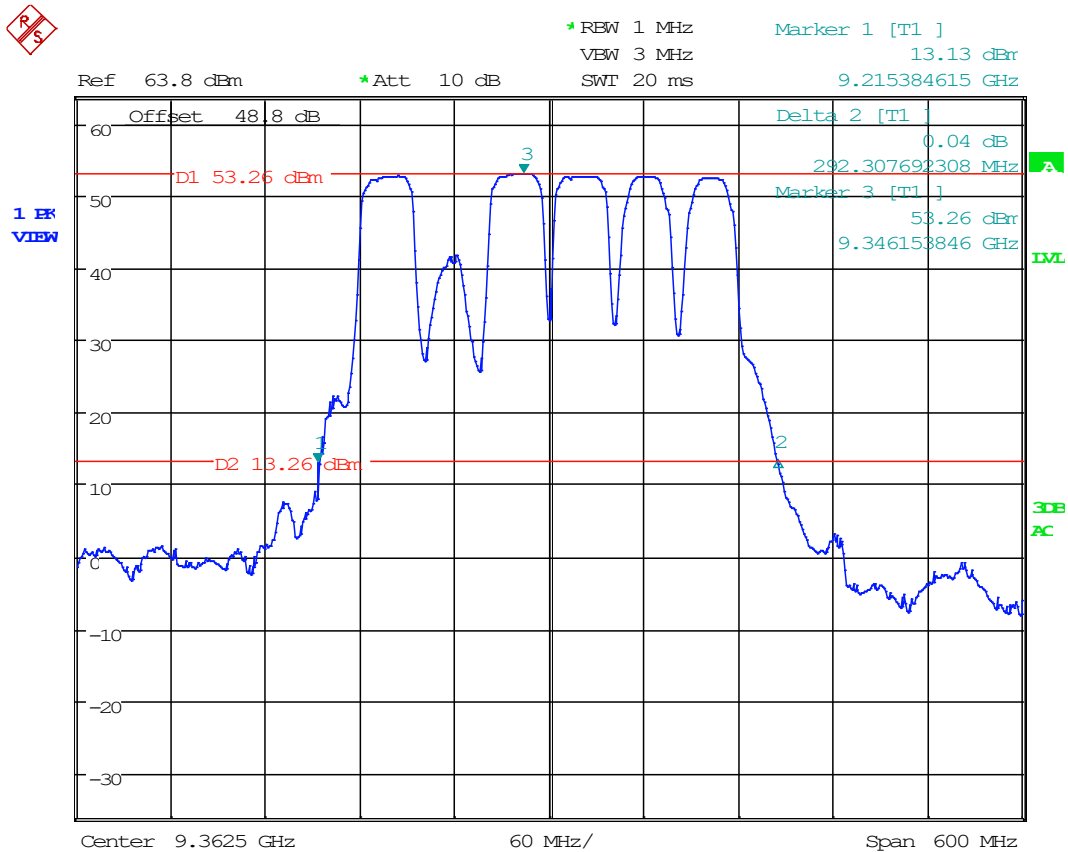
Necessary Bandwidth, Spectrum Plots

8.3.2 Bandwidth Plot, 40 dB BW, 9100 MHz



Date: 25.SEP.2020 16:59:13

8.3.1 Bandwidth Plot, 40 dB BW, 9362.5 MHz



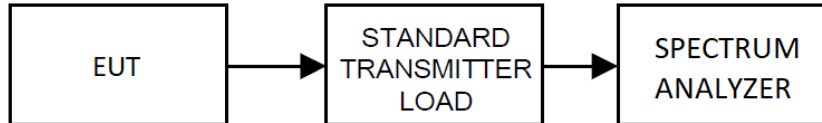
Date: 25.SEP.2020 17:13:08



8.4 Emission Limitations, In-Band

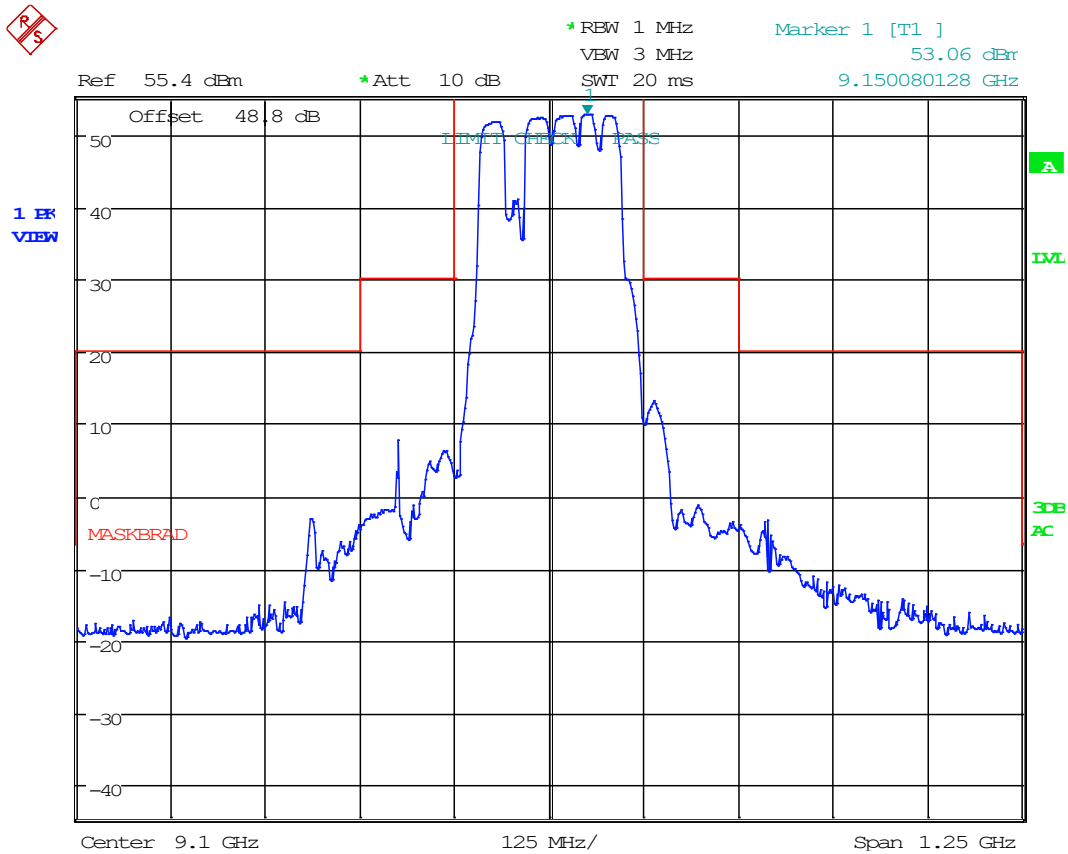
Limits from FCC Parts 80.211 (f), 87.139 (a), and 90.210 (n); and test procedure from ANSI C63.26-2015.

Conducted Test Setup



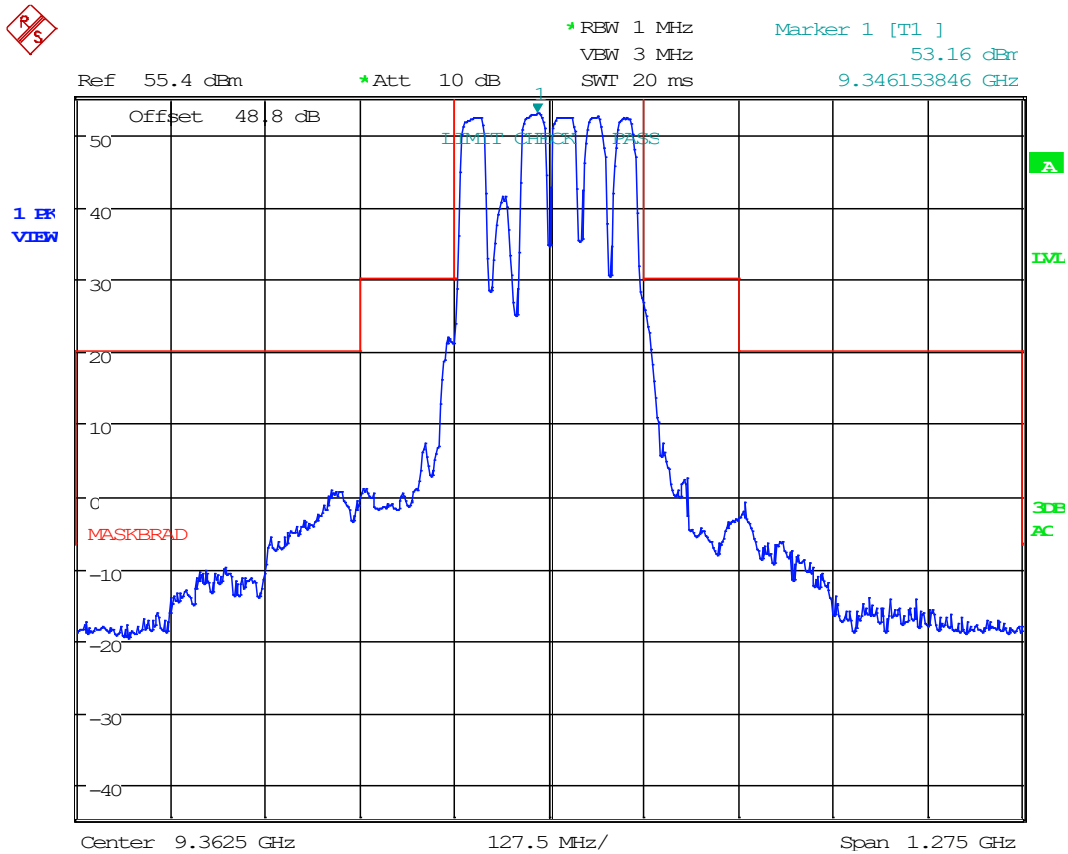
Conducted Emissions Mask, Spectrum Plots

8.4.1 Emission Mask, 9100 MHz



Date: 25.SEP.2020 17:25:28

8.4.2 Emission Mask, 9362.5 MHz



Date: 25.SEP.2020 17:39:02

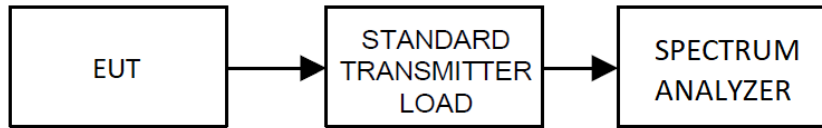


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8.5 Emission Limitations, Out-of-Band

Limits from FCC Parts 2.1051, 80.211 (f), 87.139 (a), and 90.210 (n); and test procedure from ANSI C63.26-2015.

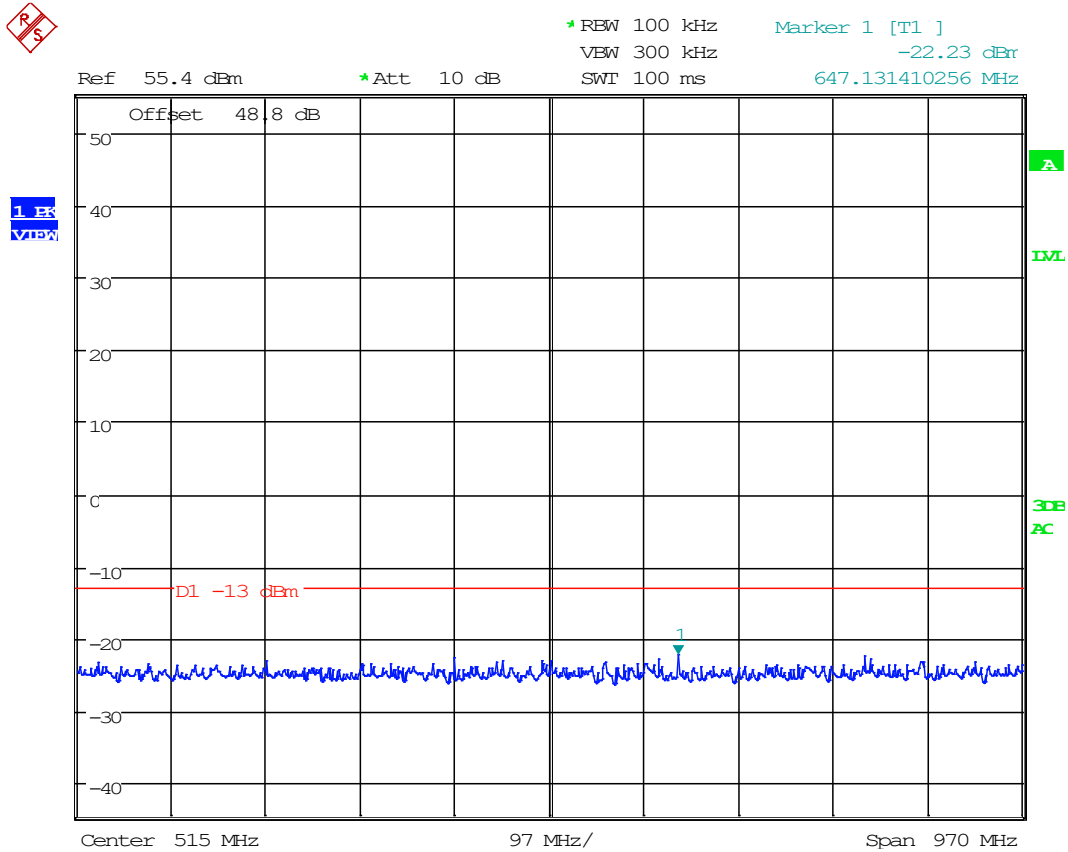
Conducted Test Setup





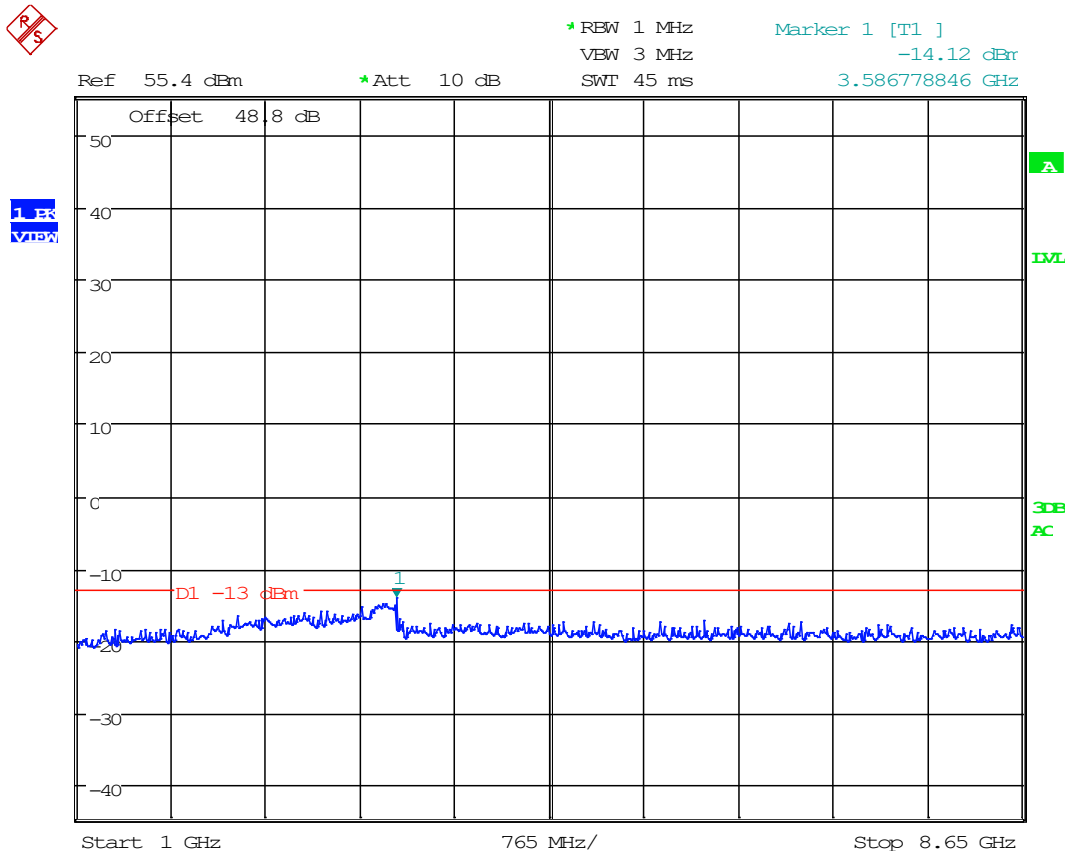
Conducted Emissions Spectrum Plots

8.5.1 Conducted Emissions 30 MHz to 1 GHz, 9100 MHz



Date: 25.SEP.2020 17:59:06

8.5.1 Conducted Emissions 1 GHz to Band Edge, 9100 MHz



Date: 25.SEP.2020 18:01:21



* RBW 1 MHz
 VBW 10 MHz
 SWT 20 ms

Marker 1 [T1]
 -25.01 dBm
 18.099038462 GHz

Ref 55.4 dBm
 * Att. 10 dB

Offset 48.8 dB

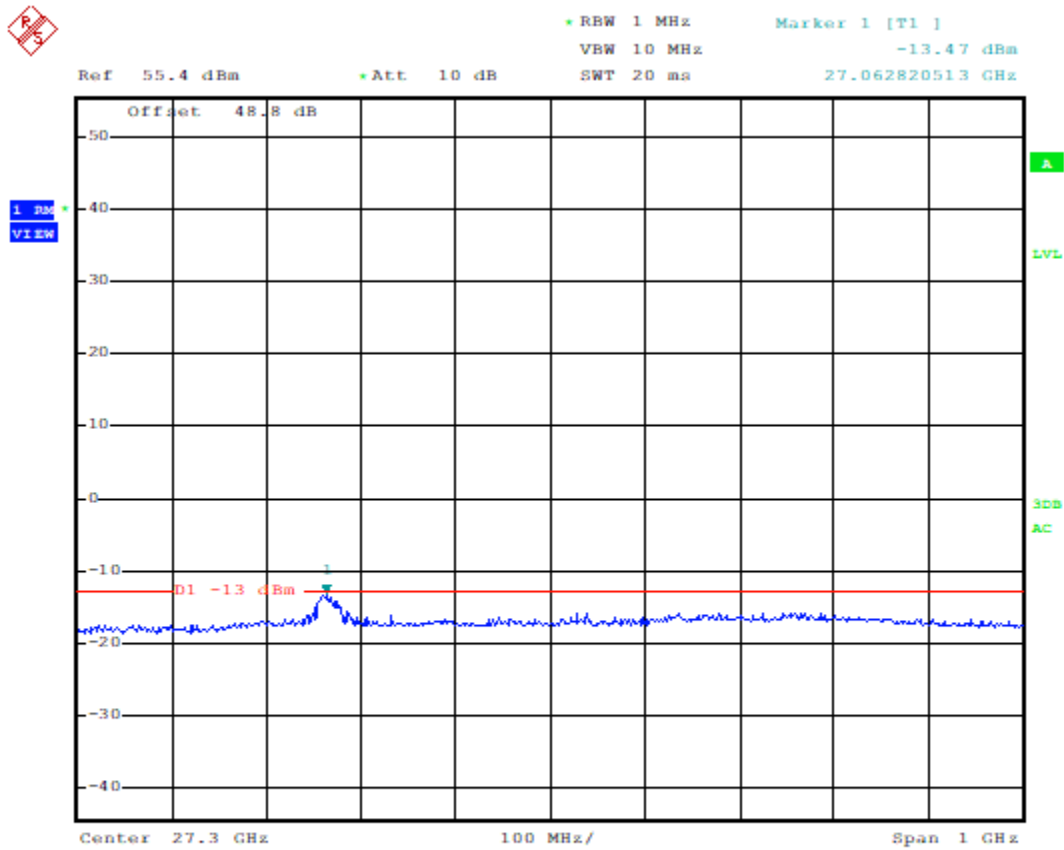
1 dB VIEW

D1 -13 dBm

Center 18.2 GHz
 100 MHz/
 Span 1 GHz

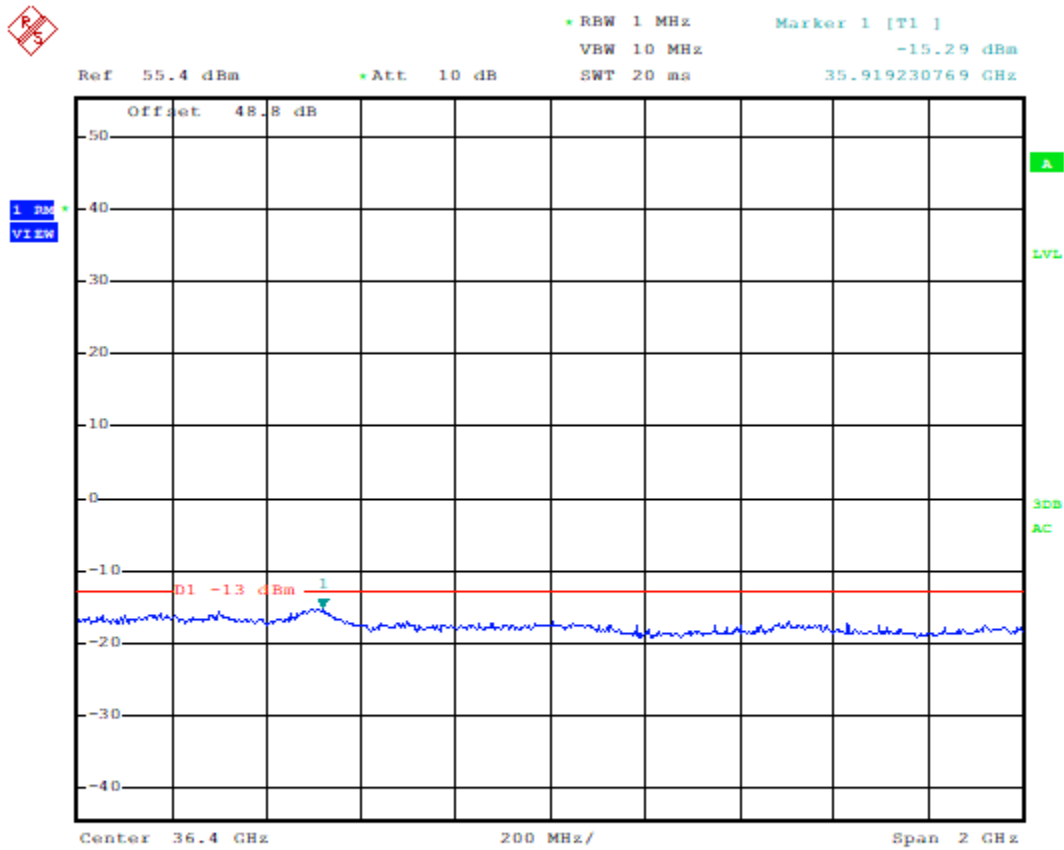
Date: 25.SEP.2020 18:08:29

8.5.1 Conducted Emissions 3rd Harmonic, 9100 MHz



Date: 25.SEP.2020 18:09:03

8.5.1 Conducted Emissions 4th Harmonic, 9100 MHz



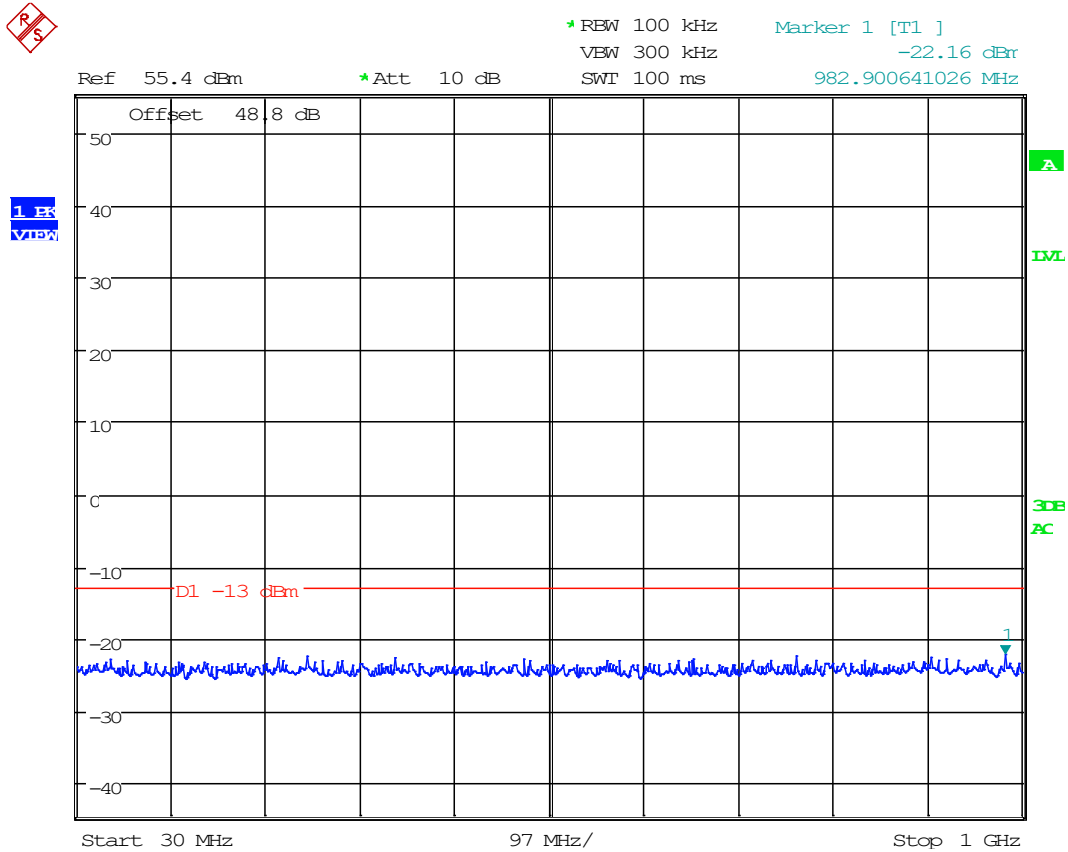
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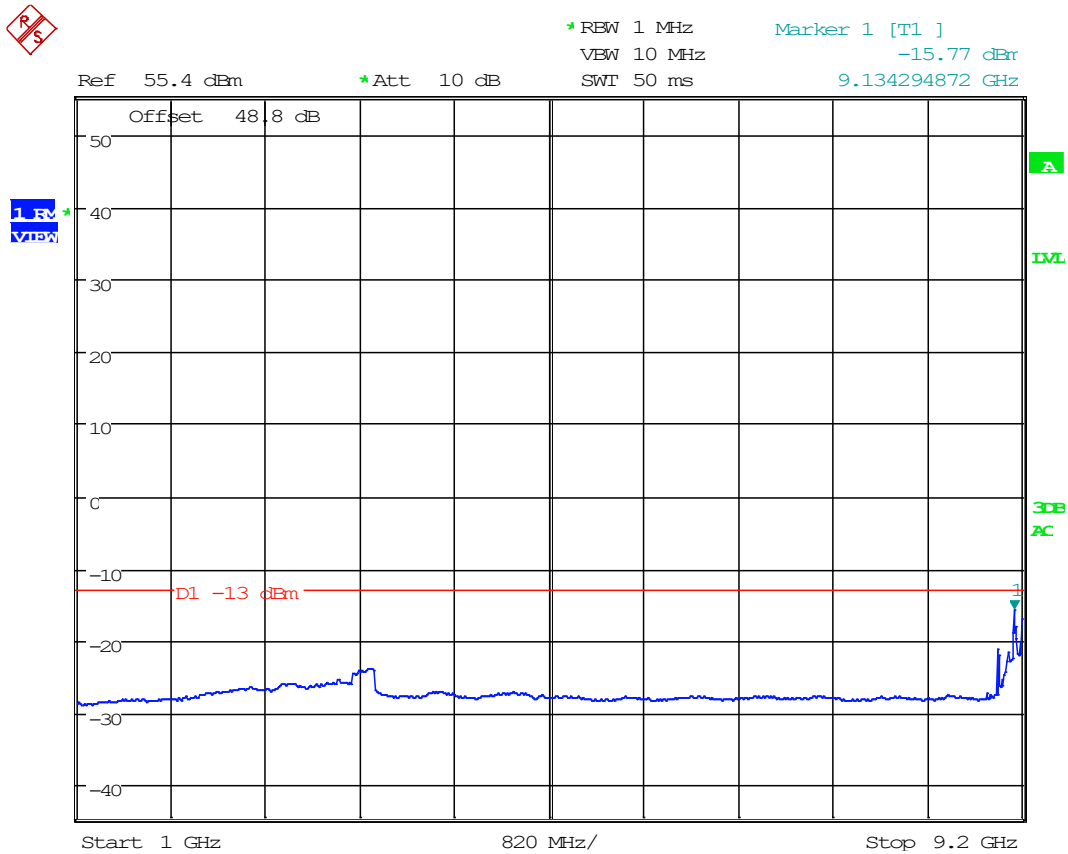
Conducted Emissions Spectrum Plots

8.5.2 Conducted Emissions 30 MHz to 1 GHz, 9362.5 MHz



Date: 25.SEP.2020 17:57:52

8.5.3 Conducted Emissions 1 GHz to Band Edge, 9362.5 MHz



Date: 25.SEP.2020 18:04:35



* RBW 1 MHz
 VBW 10 MHz
 SWT 20 ms
 Marker 1 [T1]
 -23.78 dBm

Ref 55.4 dBm
 * Att. 10 dB
 18.885256410 GHz

Offset 48.8 dB

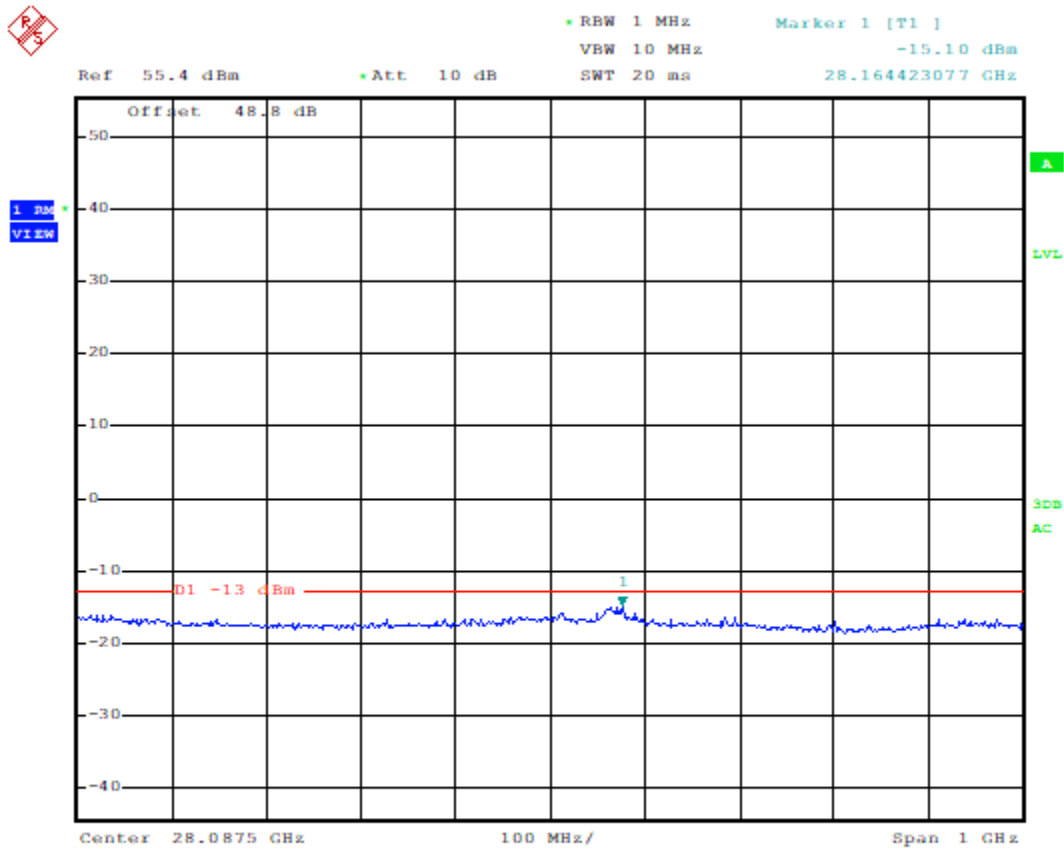
1 dB
 VIEW

D1 -13 dBm

Center 18.725 GHz
 100 MHz/
 Span 1 GHz

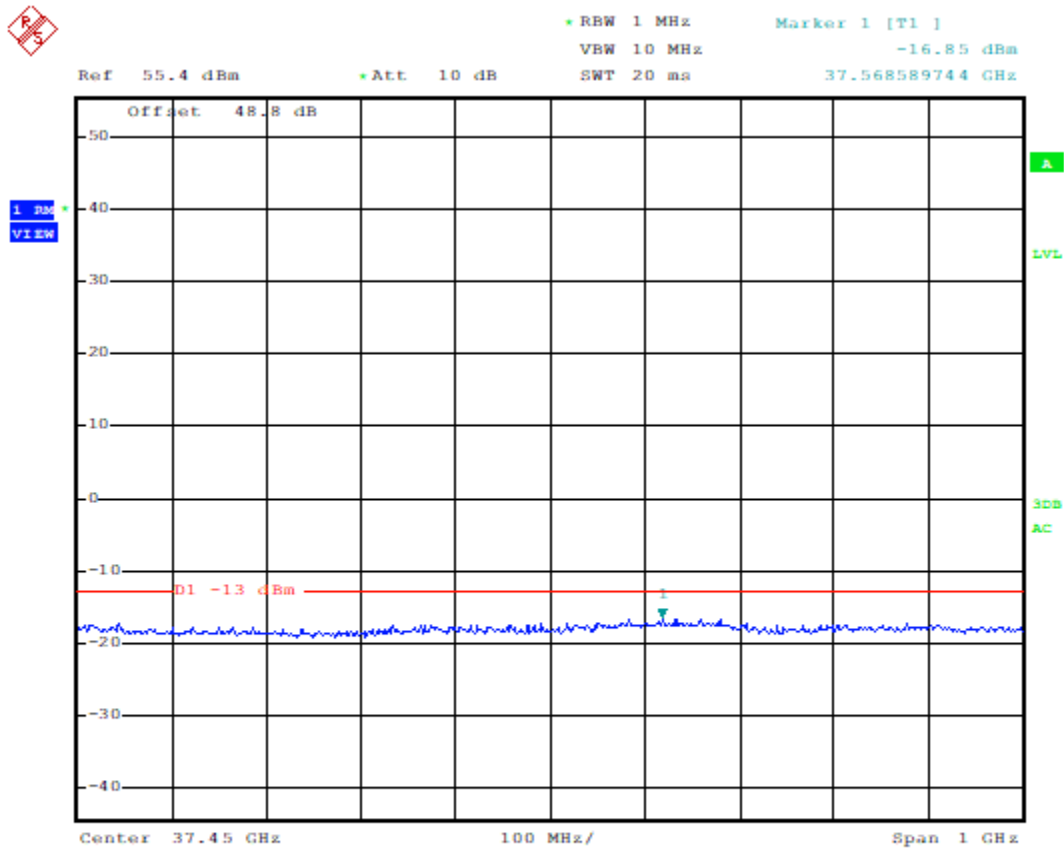
Date: 25.SEP.2020 18:06:38

8.5.5 Conducted Emissions 3rd Harmonic, 9362.5 MHz



Date: 25.SEP.2020 18:07:20

8.5.6 Conducted Emissions 4th Harmonic, 9362.5 MHz

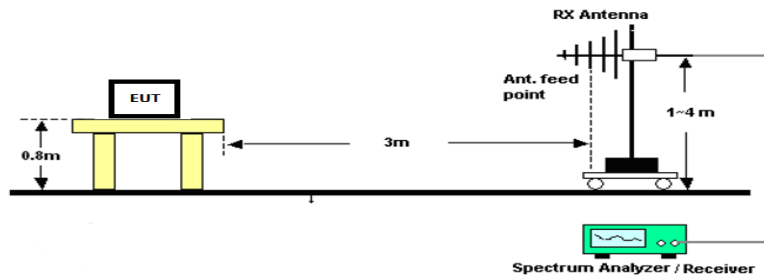


Date: 25.SEP.2020 18:07:45

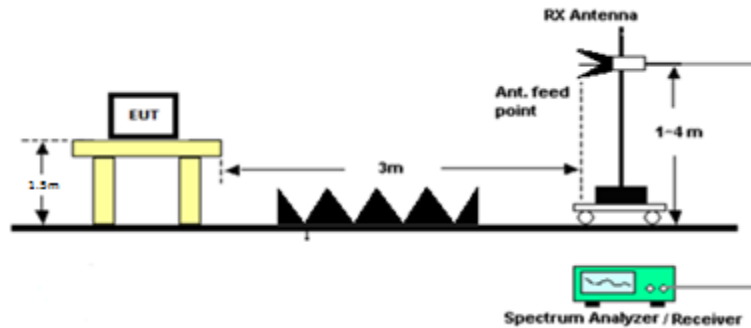
8.6 Radiated Emissions

Limits from FCC Parts 2.1053, 80.211 (f), 87.139 (a), and 90.210 (n); 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

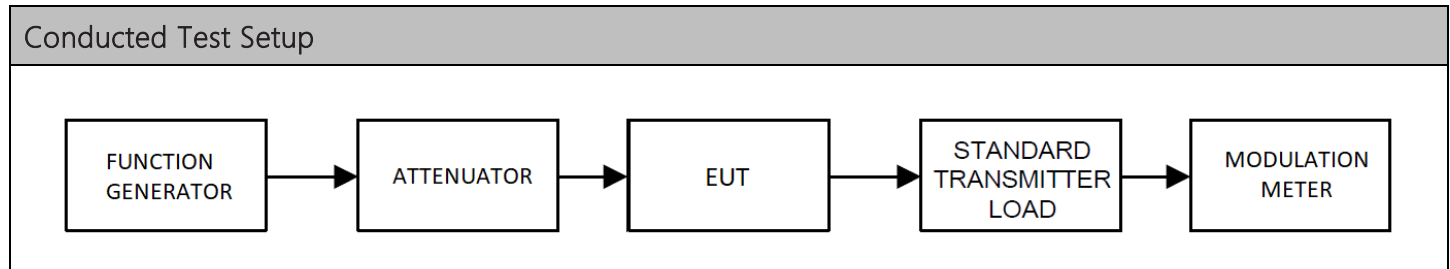
Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
9100.00	43.90	PK	25.40	H	0.75	12.72	3.00	38.87	-58.51	-13.00	45.51
9100.00	43.90	PK	33.31	V	0.75	12.72	3.00	46.78	-50.60	-13.00	37.60
9100.00	250.00	PK	31.28	H	1.89	11.20	3.00	44.37	-53.01	-13.00	40.01
9100.00	250.00	PK	29.95	V	1.89	11.20	3.00	43.04	-54.34	-13.00	41.34
9100.00	1102.00	PK	6.46	H	3.85	27.18	3.00	37.49	-59.89	-13.00	46.89
9100.00	1589.00	PK	9.37	H	4.63	28.00	3.00	42.01	-55.37	-13.00	42.37
9100.00	1141.00	PK	7.00	V	3.91	27.31	3.00	38.21	-59.16	-13.00	46.16
9100.00	2487.00	PK	4.59	H	5.62	32.17	3.00	42.37	-55.00	-13.00	42.00
9100.00	1589.00	PK	7.33	V	4.63	28.00	3.00	39.97	-57.41	-13.00	44.41
9100.00	18200.00	PK	4.40	H	15.33	44.77	3.00	64.50	-32.88	-13.00	19.88
9100.00	18200.00	PK	3.60	V	15.33	44.77	3.00	63.70	-33.68	-13.00	20.68
9100.00	27300.00	PK	8.83	H	19.38	46.59	3.00	74.80	-22.58	-13.00	9.58
9100.00	27300.00	PK	8.50	V	19.38	46.59	3.00	74.47	-22.91	-13.00	9.91
9100.00	36400.00	PK	10.41	H	22.16	47.39	3.00	79.96	-17.42	-13.00	4.42
9100.00	36400.00	PK	9.98	V	22.16	47.39	3.00	79.53	-17.85	-13.00	4.85

8.6.1 Radiated Emissions, 9362.5 MHz

Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBm)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
9362.50	101.40	PK	26.69	H	1.17	10.76	3.00	38.62	-58.76	-13.00	45.76
9362.50	44.20	PK	33.77	V	0.75	12.68	3.00	47.20	-50.18	-13.00	37.18
9362.50	250.00	PK	29.58	V	1.89	11.20	3.00	42.67	-54.71	-13.00	41.71
9362.50	250.00	PK	30.62	H	1.89	11.20	3.00	43.71	-53.67	-13.00	40.67
9362.50	2487.00	PK	7.59	V	5.62	32.17	3.00	45.37	-52.00	-13.00	39.00
9362.50	1589.00	PK	4.36	V	4.63	28.00	3.00	37.00	-60.38	-13.00	47.38
9362.50	1589.00	PK	8.64	H	4.63	28.00	3.00	41.28	-56.10	-13.00	43.10
9362.50	1128.00	PK	5.61	H	3.88	27.26	3.00	36.76	-60.62	-13.00	47.62
9362.50	18725.00	PK	3.62	H	15.43	44.74	3.00	63.79	-33.58	-13.00	20.58
9362.50	18725.00	PK	4.03	V	15.43	44.74	3.00	64.20	-33.17	-13.00	20.17
9362.50	28087.50	PK	8.46	H	19.15	46.92	3.00	74.53	-22.85	-13.00	9.85
9362.50	28087.50	PK	8.28	V	19.15	46.92	3.00	74.35	-23.03	-13.00	10.03
9362.50	37450.00	PK	11.14	H	22.42	45.79	3.00	79.35	-18.03	-13.00	5.03
9362.50	37450.00	PK	11.05	V	22.42	45.79	3.00	79.26	-18.12	-13.00	5.12

8.7 Modulation Characteristics

Limits from FCC Parts 2.1047, 80.213 (g), and 87.141; and test procedure from ANSI C63.26-2015



FCC 80.213(g) – Device is allowed any modulation type.

FCC 87.141 – n/a. Part 87 does not provide guidance concerning the modulation of this EUT.

8.7.1 Audio Frequency Response

N/A. Device does not carry Audio.

8.7.2 Low Pass Filter Response

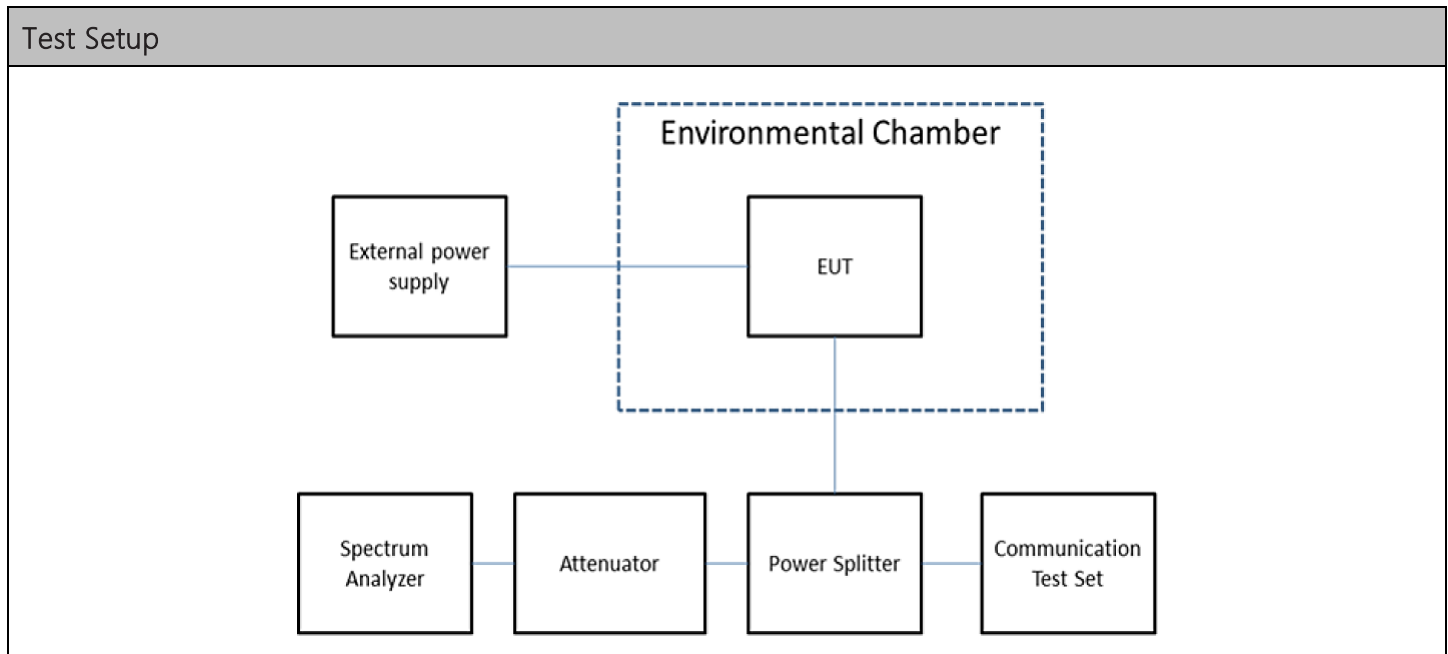
N/A. Device does not carry Audio.

8.7.3 Modulation Limiting

N/A. Device does not need to limit modulation.

8.8 Frequency Stability

Limits from FCC Parts 2.1055, 80.209 (c), 87.133 (a) (8), and 90.213 (a) footnote 10; and test procedure from ANSI C63.26-2015.



Test Results, Mode 1		
Tuned Frequency (MHz)	Max Deviation (ppm)	Limit (ppm)
9100.0	396	1250

Note: This EUT is designed to operate within FCC Parts 80, 87, 90, and in accordance with ISSED RSS-238. Therefore, in lieu of FCC Part 90 unspecified stability limit, the EUT shall meet Frequency Stability limits from the appropriate standards (1250 ppm).

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.



Frequency Stability, Tabular Data

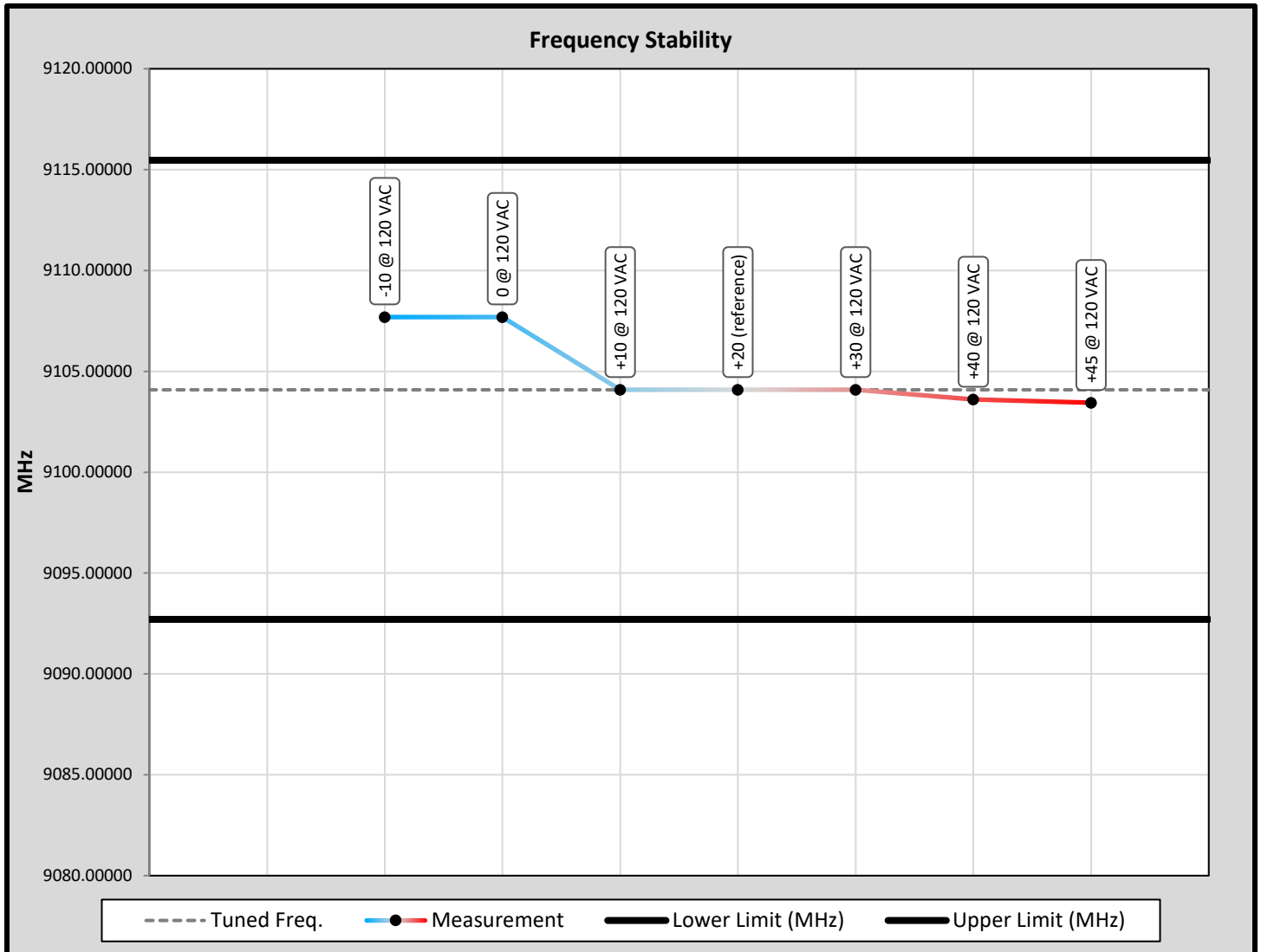
8.8.1 Frequency Stability Data

Limit (ppm)	1250.00		
Limit (MHz)	11.380		
Lower Limit (MHz)	9092.704894		
Upper Limit (MHz)	9115.465106		
Rated Supply Voltage	120.0	☒ AC	☐ DC
Temperature / Voltage Variation			
Temperature (°C)	Supplied Voltage (V)	Frequency (MHz)	Deviation (MHz)
-30	120.0		
-20	120.0		
-10	120.0	9107.690000	-3.605
0	120.0	9107.690000	-3.605
+10	120.0	9104.085000	0.000
+20 (reference)	120.0	9104.085000	0.000
+30	120.0	9104.085000	0.000
+40	120.0	9103.605000	0.480
+45	120.0	9103.445000	0.640
+50	120.0		

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.

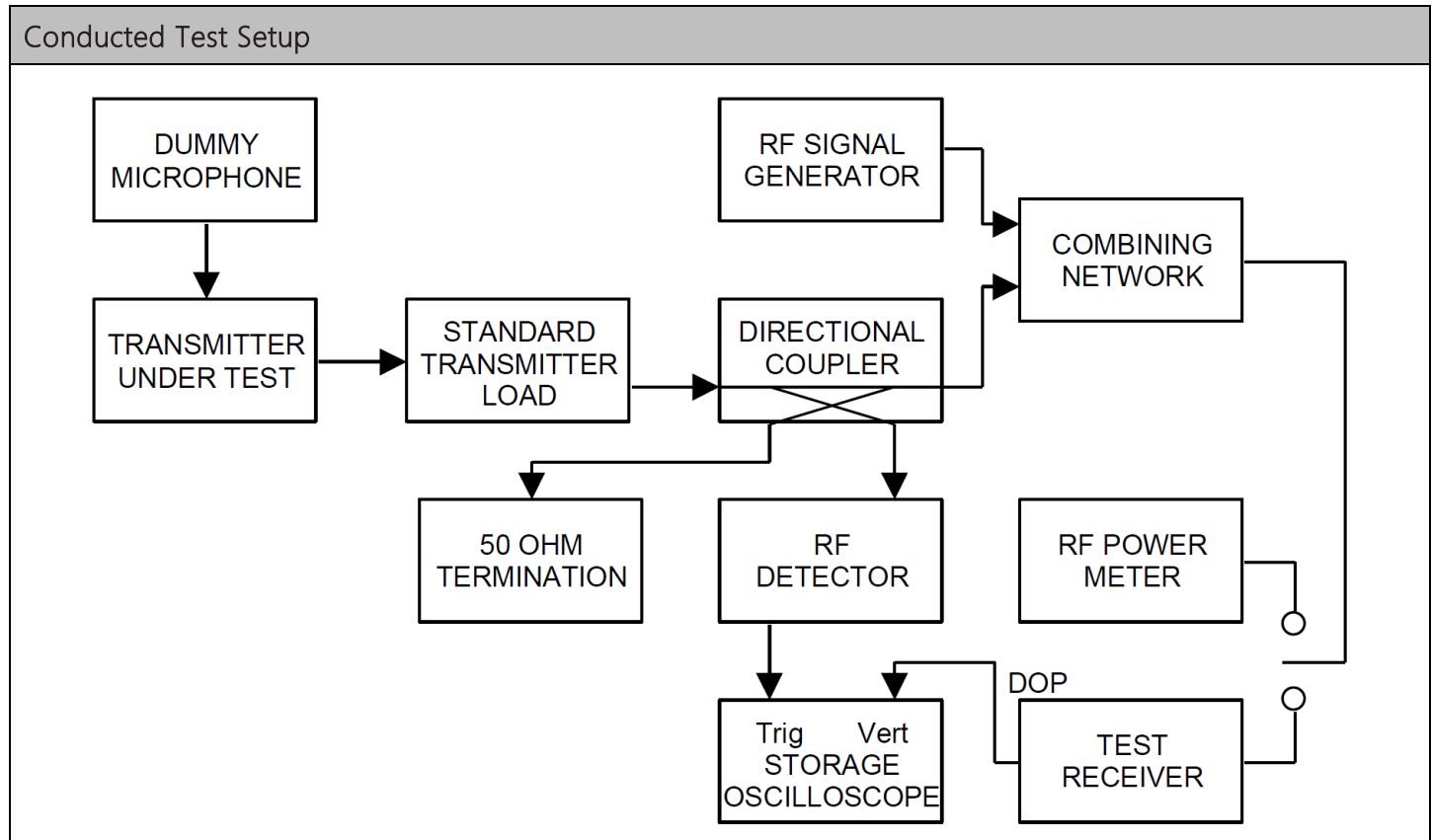
Note: The EUT's built-in power supply is designed to run stable and eliminated voltage differences from AC Mains. Input voltage variation was found to have no effect on the result.

8.8.2 Frequency Stability Plot



8.9 Transient Frequency Behavior

Limits from FCC Part 90.214; and test procedure from ANSI C63.26-2015.



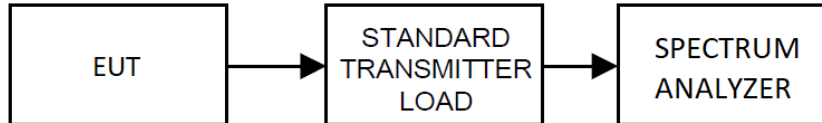
N/A. Device does not operate in a band requiring TFR measurement.



8.10 Adjacent channel power limits

Limits from FCC Part 90.221, and test procedure from ANSI C63.26-2015.

Conducted Test Setup



N/A. Device does not operate in a band requiring ACP measurement.



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(352) 472-5500 / testing@timcoengr.com

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_3544-20_FCC_PT80-87-90_1	1	Initial release	October 1, 2020
TR_3544-20_FCC_PT80-87-90_2	2	Updated Emission Designator	December 15, 2020
TR_3544-20_FCC_PT80-87-90_2	3	Clerical Update	December 17, 2020



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END OF TEST REPORT
