TIMCO ENGINEERING, Inc.

An IIA Company

Test Report – FCC PART 74H LOW POWER LICENSED WIRELESS MICROPHONE

Applicant: Wisycom s.r.l.

Approved for Release By:

Signature: Bruno Clavier

Name & Title: Bruno Clavier, General Manager

Date of Signature 11/19/2021

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1. Customer Information

Applicant: Wisycom s.r.l.
Address: Via Tiepolo, 7/E
Tombolo, 35019, Italy

1.1 Test Result Summary

The following test procedure was used ANSI C63.26. Full test results are available in this report.

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.

Clauses	Description of the Requirements	Result (Pass, Fail or N/A)
PART 2.1046(a), 74.861(e) (1) (ii), (iii)	Conducted Power	PASS
2.1049(c), 74.861(d)(4)(i)	Operating Bandwidth	PASS
PART 74.861(e)(7), ETSI EN 300-422-1 s. 8.3.2	Unwanted Emissions	PASS
2.1051(a), 74.861(e)(6)(iii)	Unwanted Emissions	PASS
2.1053, 74.861(e)(6)(iii)	Unwanted Emissions	PASS
2.1053, 74.861(e) (4)	Frequency Stability	PASS

2. Location of Testing

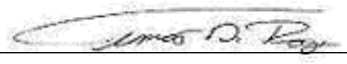
2.1 Test Laboratory

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

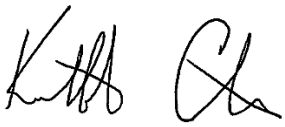
2.2 Testing was performed, reviewed by

Dates of Testing: 9/30/2021-10/1/2021

Signature:  Sr. EMC Engineer EMC-003838-NE

Name & Title: Tim Royer, EMC Engineer

Date of Signature 11/19/2021

Signature: 

Name & Title: Kristoffer Costa, EMC Technician

Date of Signature 11/19/2021

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

The test sample was received: 9/30/2021

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:	POUMTP60
Brief Description	Wireless Microphone
Type of Modular	n/a
Model(s) #	MTP60
Firmware version	V1
Software version	n/a
Serial Number	09900004

Technical Characteristics	
Technology	Wireless Microphone
Frequency Range	470-608 MHz, 653-657 MHz, 941.5-952 MHz, 952.85-956.25 MHz, 956.45-959.85 MHz
Modulation	FM
Number of Channels	10
Duty Cycle	100%
Antenna Connector	LEMO 1 Pin
Voltage Rating (AC or Batt.)	Battery, 3V

Antenna Characteristics			
Antenna	Frequency Range	Mode / BW	Antenna Gain
507	450-547	n/a	0.4 dBi
590	547-663	n/a	1.2 dBi
950	940-960	n/a	0.8 dBi

3.2 Configuration of EUT

Test Modes		
Mode (Type)	Test Frequencies (MHz)	Number of Ant.
Transmit	470-608 653-657 941.5-952 952.85-956.25 956.45-959.85	1

Operating conditions during Testing:

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

Peripherals used during Testing:

No peripherals used.

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

The measurement was performed as per ANSI C63.26. Full test results are available in this report.

Limits and Regulatory Limits:

1) FCC Part 74 H

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

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.

List of Test Equipment

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	5/4/21	5/3/2024
Antenna	Double-Ridged Horn/ETS Horn 1	ETS-Lindgren	3117	00035923	2/25/20	2/24/2023
CHAMBER	CHAMBER	Panashield	3M	N/A	3/12/19	3/11/2022
Pre-amp	Pre-amp	RF-LAMBDA	RLNA00M45GA	NA	2/27/19	2/26/2022
Receiver	EMI Test Receiver R&S ESU 40	Rohde & Schwarz	ESU 40	100320	5/27/21	5/26/2024
Function Generator	Function Generator	Standford	DS340	25200	1/13/21	1/13/2024
Signal Generator	Signal Generator HP 8648C	HP	8648C	3847A04696	3/31/21	3/30/2024
Thermometer	Type K J Thermometer	Martel	303	080504494	1/18/20	1/17/2023

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.

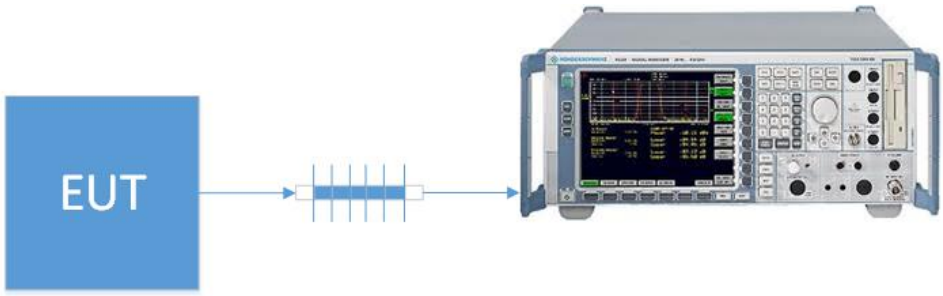
The measurement results, along with the appropriate limits for comparison, may be presented in tabular or graphical form. In addition, any variation in the measurement environment may be reported if applicable (e.g., a significant change of temperature that could affect the cable loss and amplifier response).

Units of measurement

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.

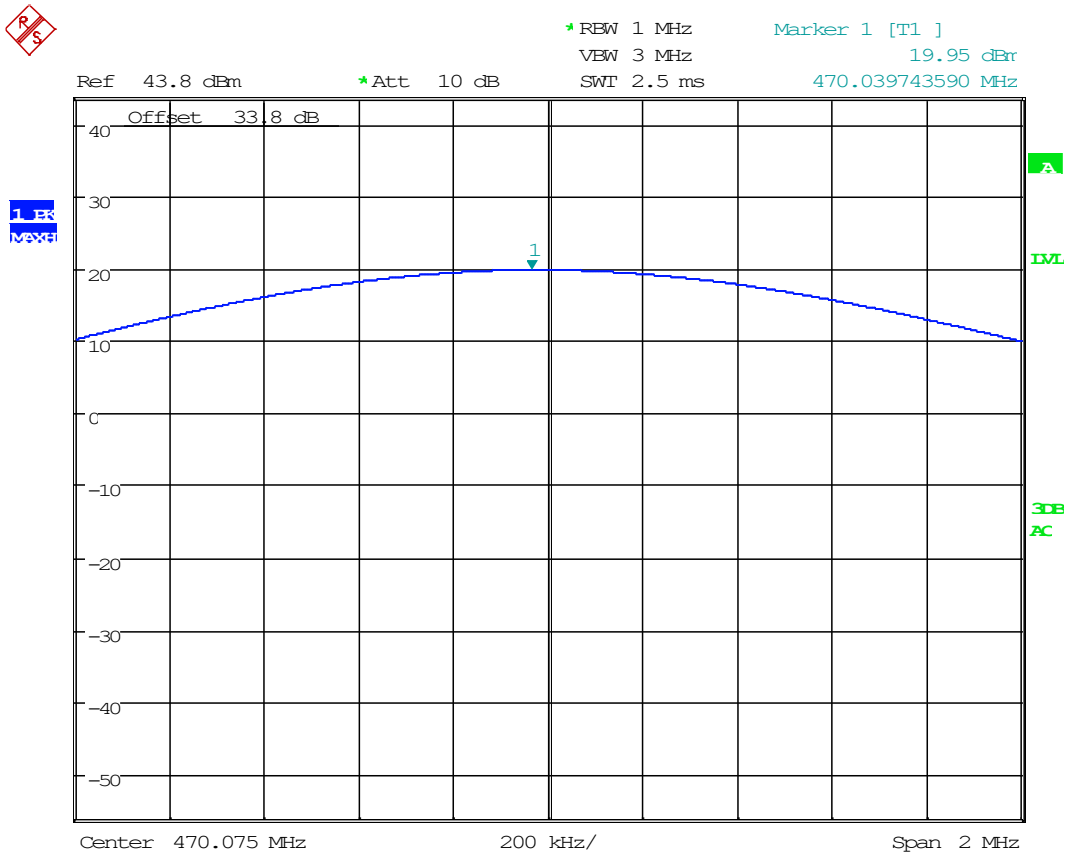
8.1 RF POWER OUTPUT

Limits from 2.1046(a), 74.861(e) (1) (ii) and test procedure from ANSI C63.26.



Test Results, Mode 1			
Mode	Tuned Frequency (MHz)	Power Output (dBm)	Power Output (W)
1	470.075	19.95	0.099
1	555	19.98	0.099
1	607.925	19.94	0.099
1	653.075	12.32	0.017
1	941.5	19.16	0.082
1	954	19.09	0.081
1	959.850	19.03	0.080

8.1.1 Test Data: RF Power Output Plot, 470.075 MHz



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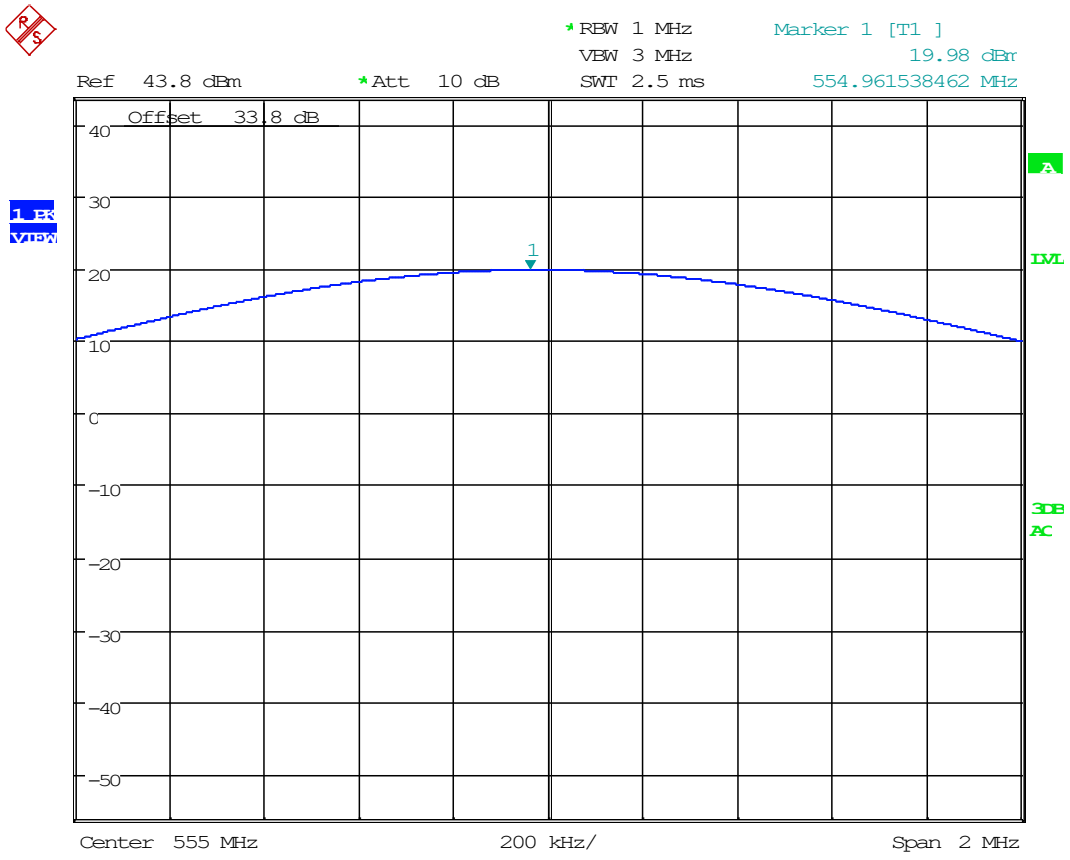
8.1.2 Test Data: RF Power Output Plot, 555 MHz



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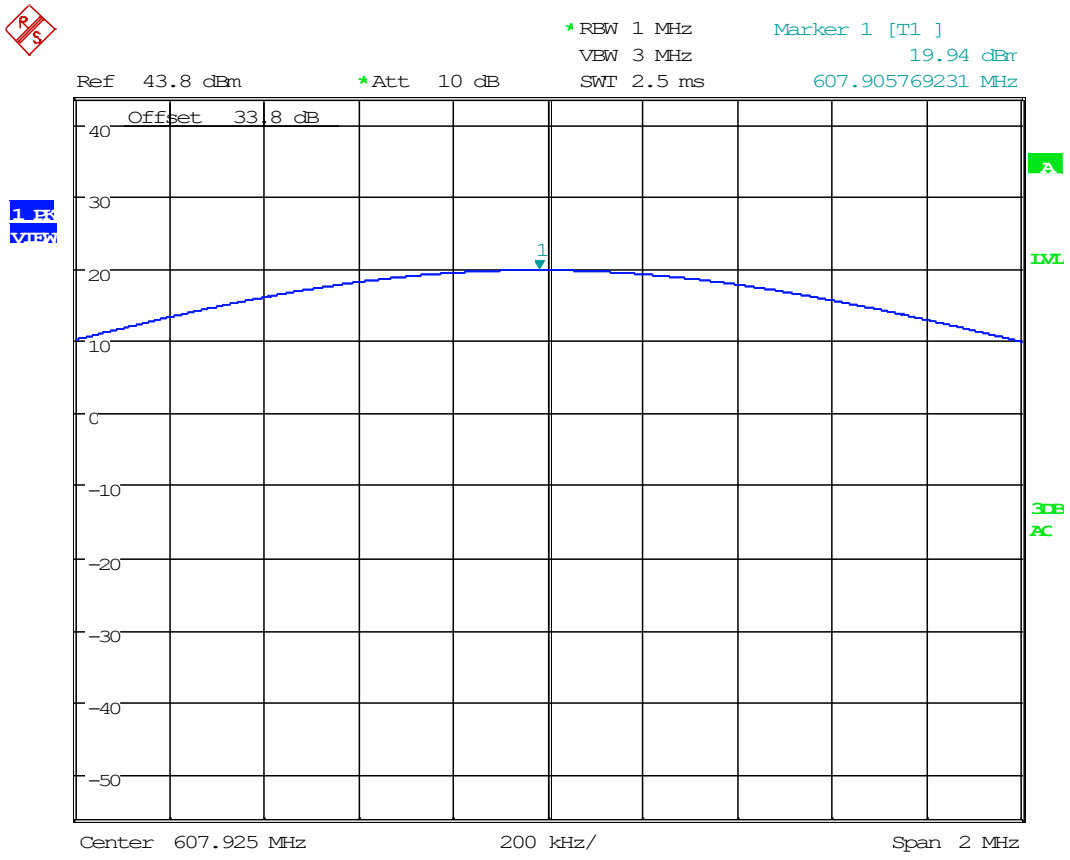
8.1.3 Test Data: RF Power Output Plot, 607.925 MHz



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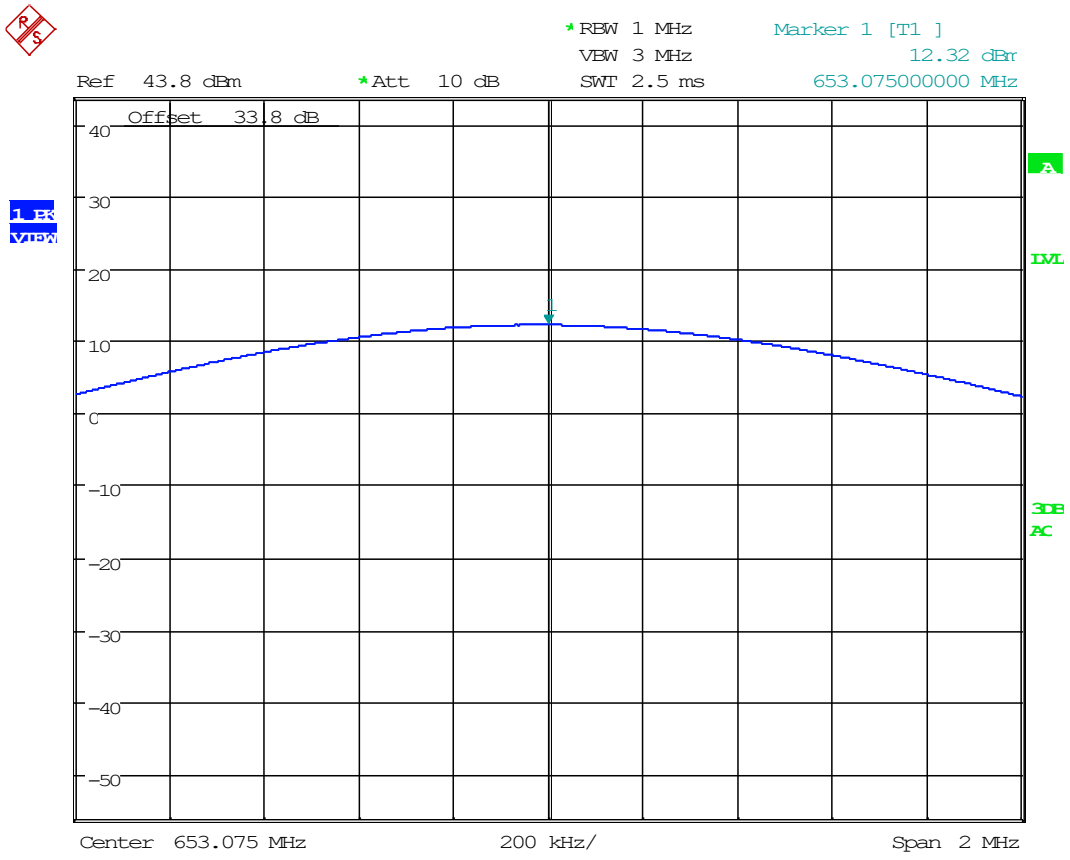
8.1.4 Test Data: RF Power Output Plot, 653.075 MHz



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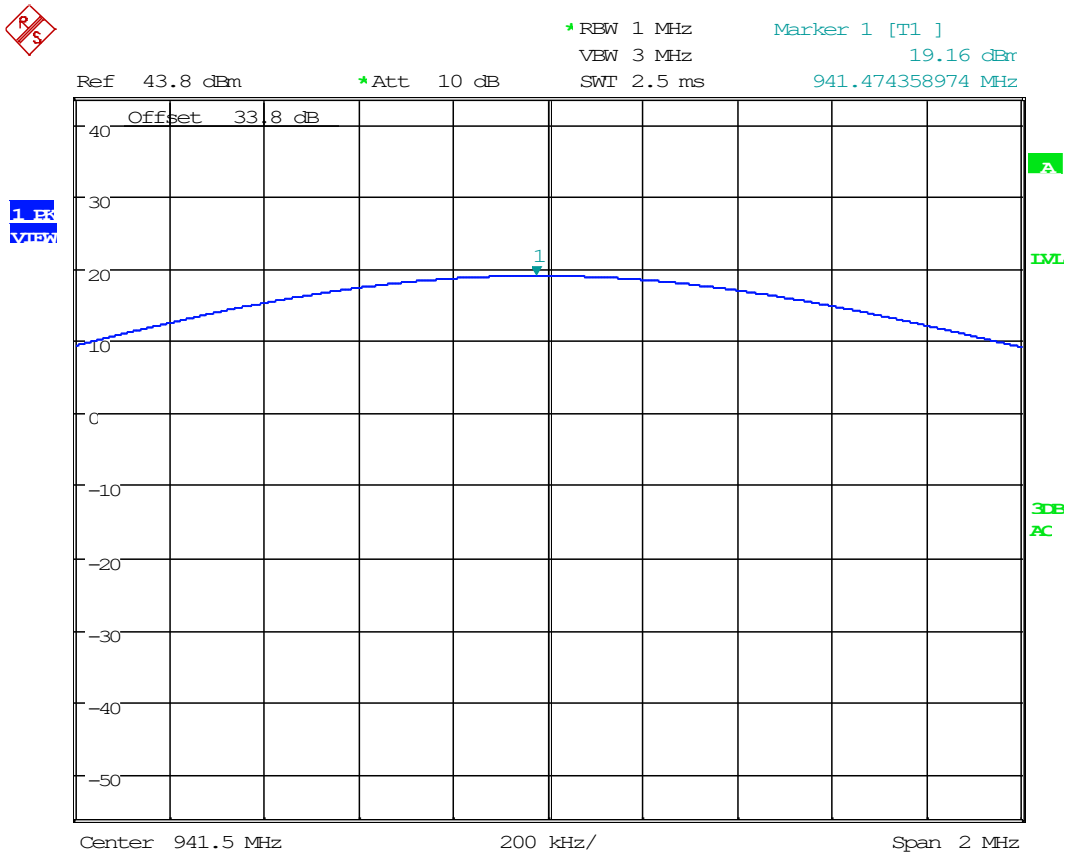
8.1.5 Test Data: RF Power Output Plot, 941.5 MHz



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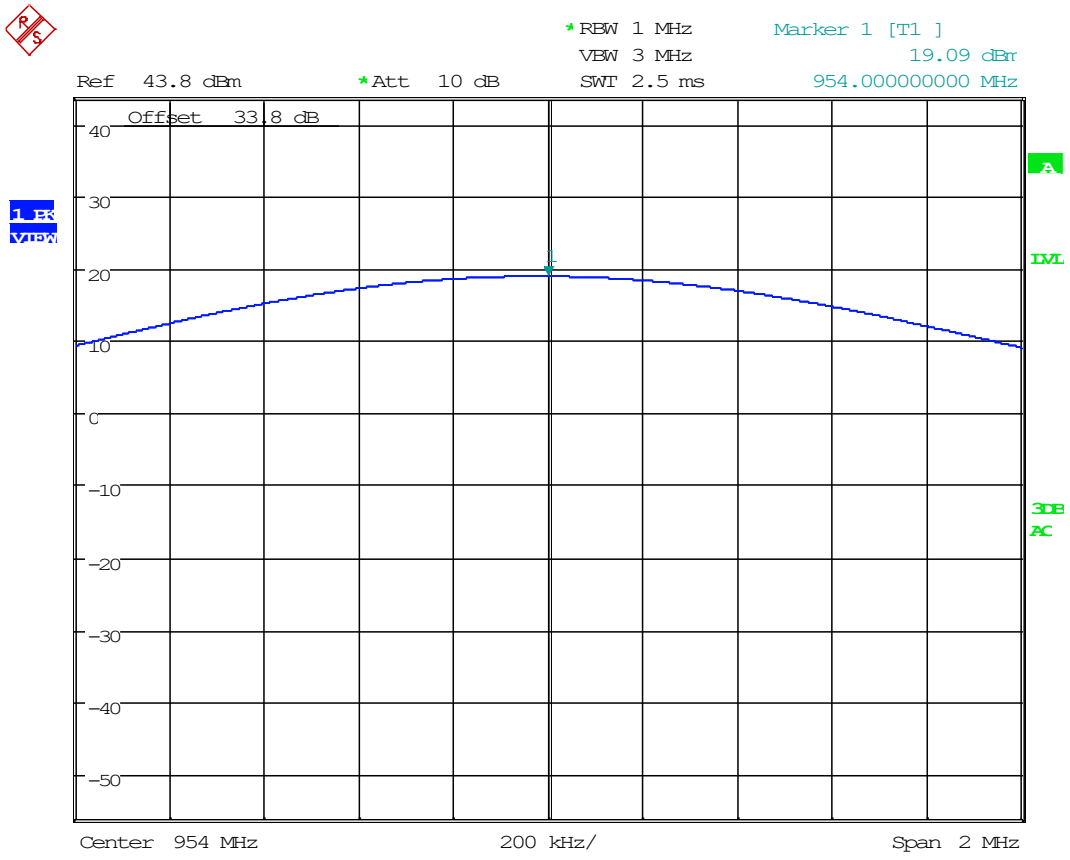
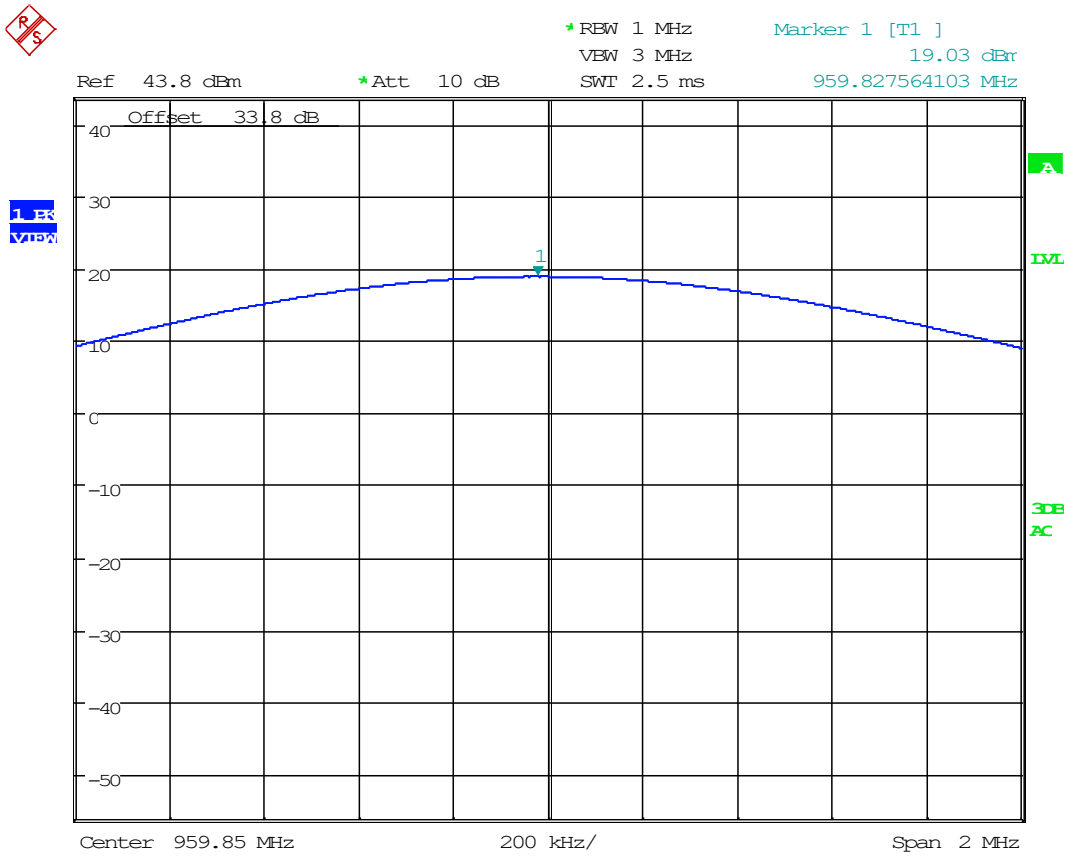
8.1.6 Test Data: RF Power Output Plot, 954 MHz



Date: 30.SEP.2021 10:16:46

8.1.7 Test Data: RF Power Output Plot, 959.85 MHz



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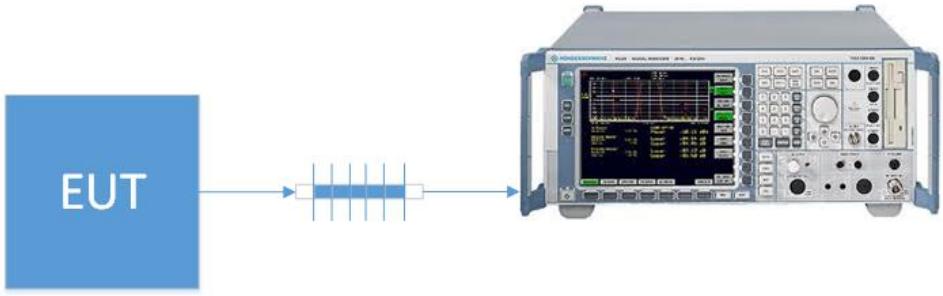
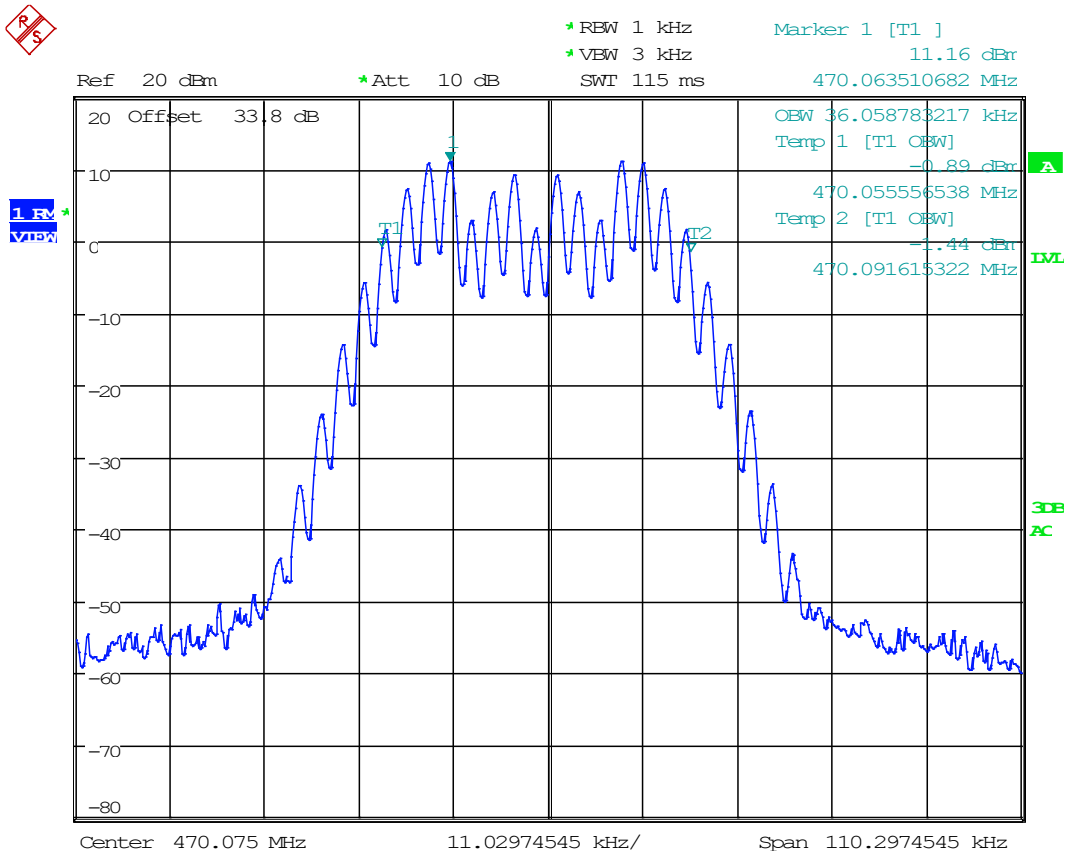
8.2 OCCUPIED BANDWIDTH



Tuned Frequency (MHz)	99% BW (kHz)
470.075	36.059
555	35.882
607.925	35.882
653.075	36.766
941.5	37.296
954	37.296
959.85	38.533

8.2.1 Test Data: 99% Occupied Bandwidth Plot, 470.075 MHz



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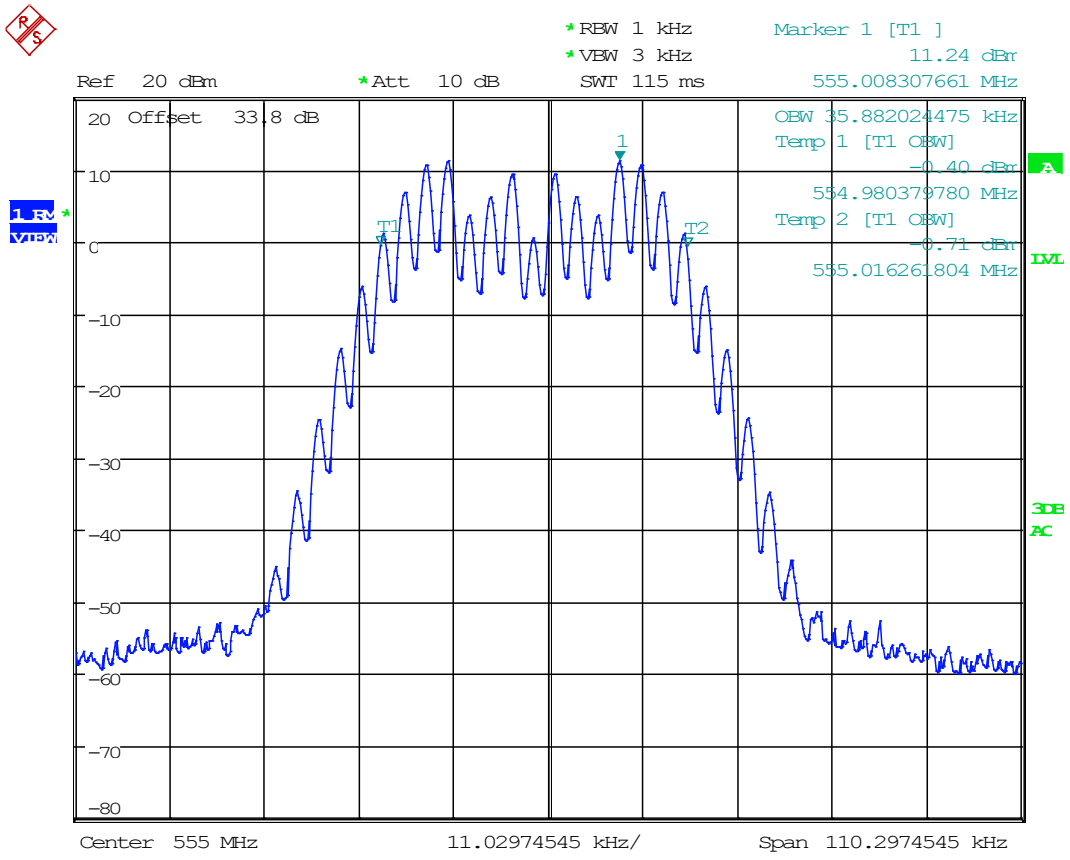
8.2.2 Test Data: 99% Occupied Bandwidth Plot, 555 MHz



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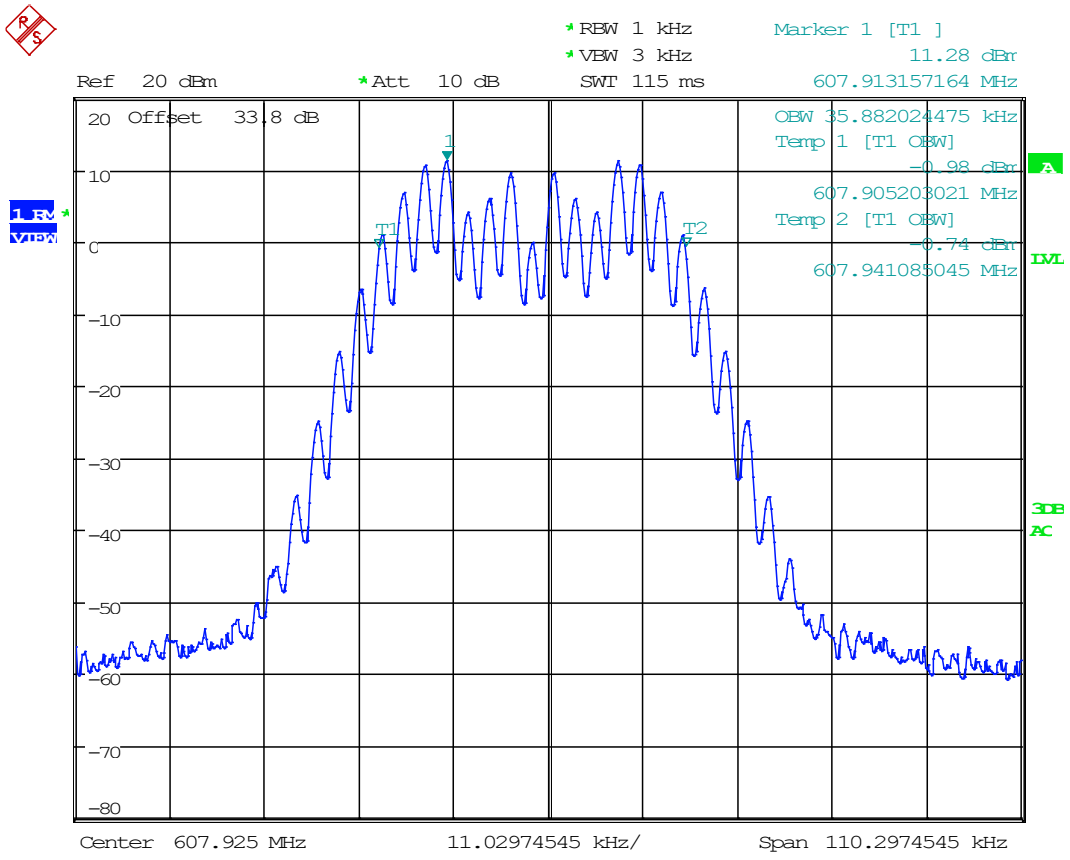
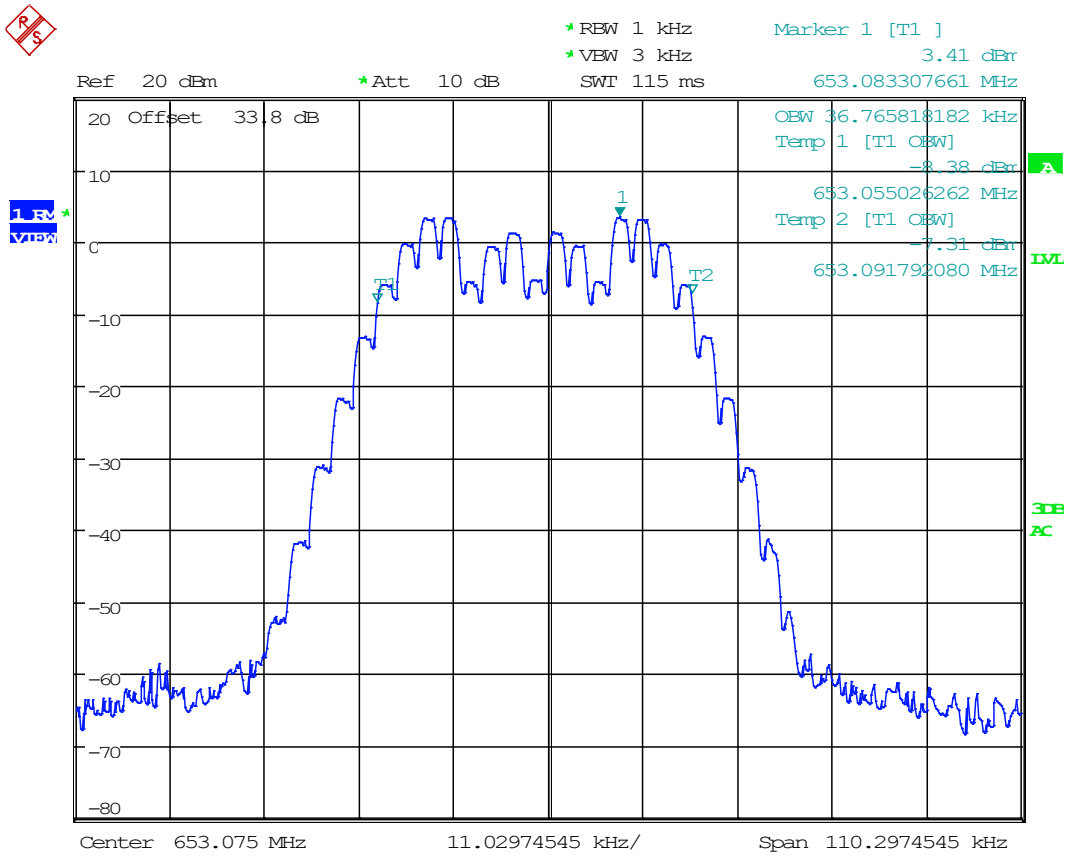
8.2.3 Test Data: 99% Occupied Bandwidth Plot, 607.925 MHz



8.2.4 Test Data: 99% Occupied Bandwidth Plot, 653.075 MHz



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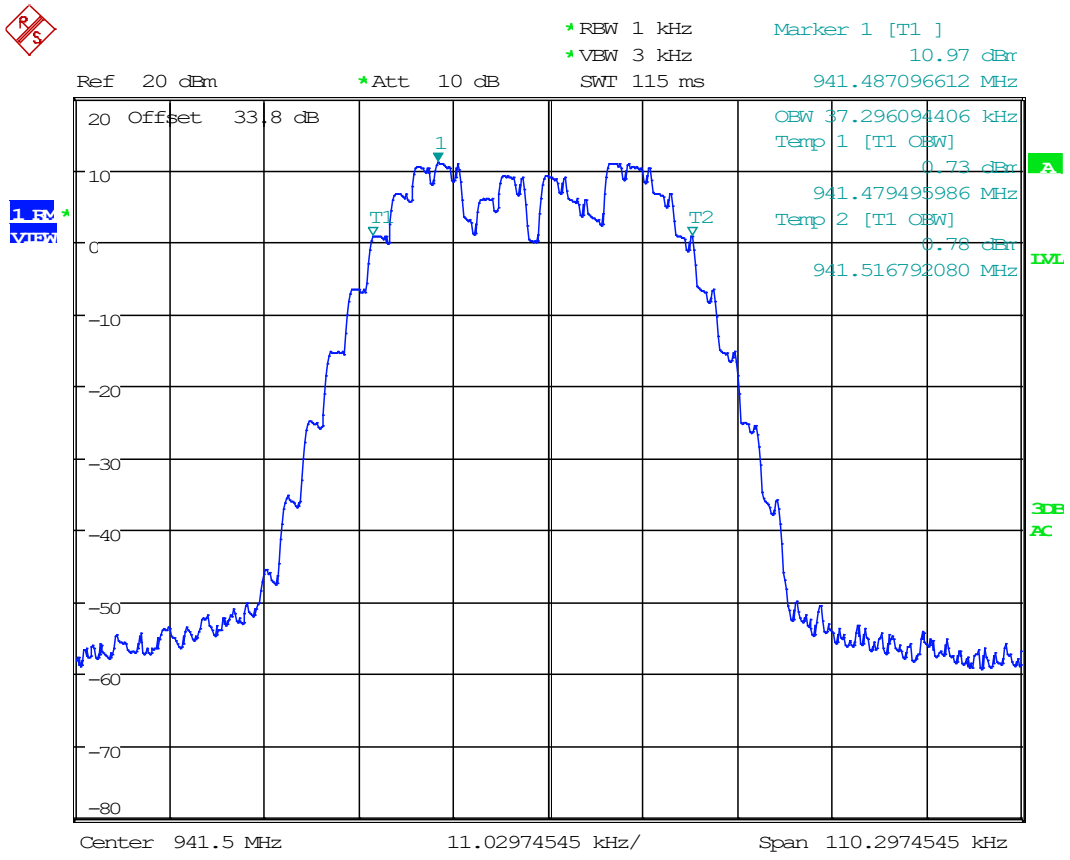
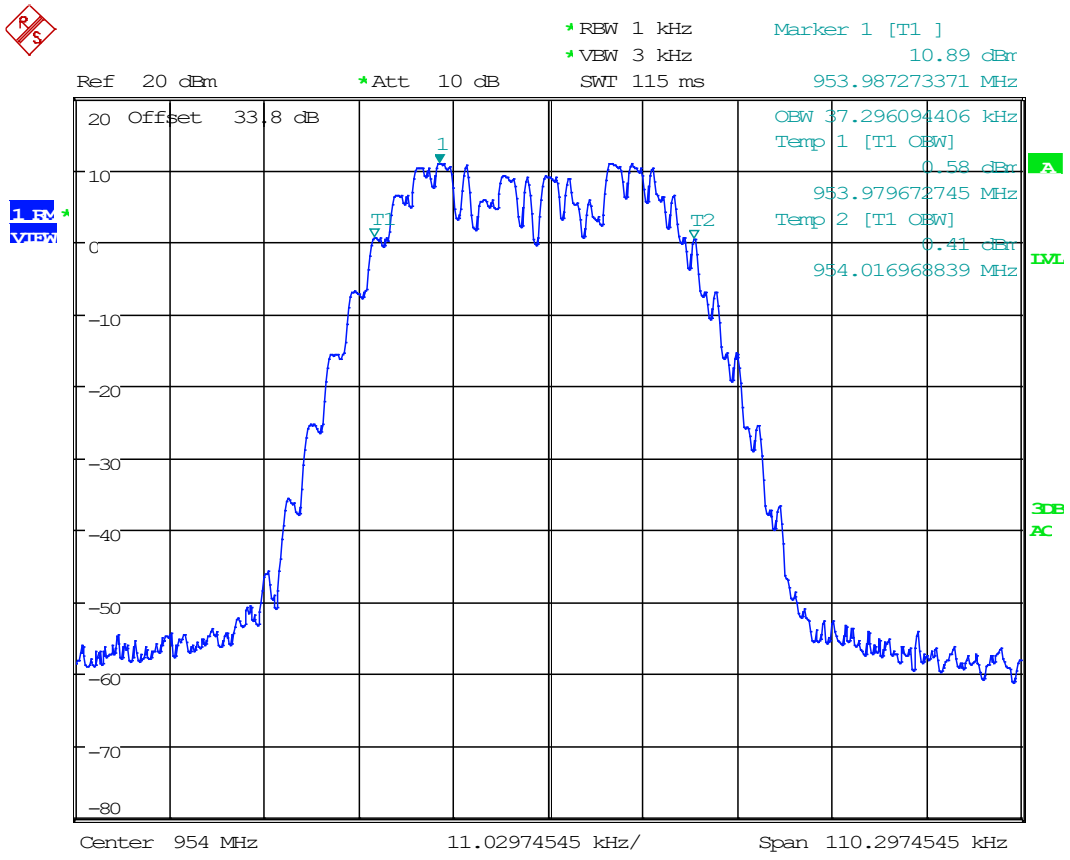
8.2.5 Test Data: 99% Occupied Bandwidth Plot, 941.5 MHz



Date: 30.SEP.2021 12:03:22

8.2.6 Test Data: 99% Occupied Bandwidth Plot, 954 MHz



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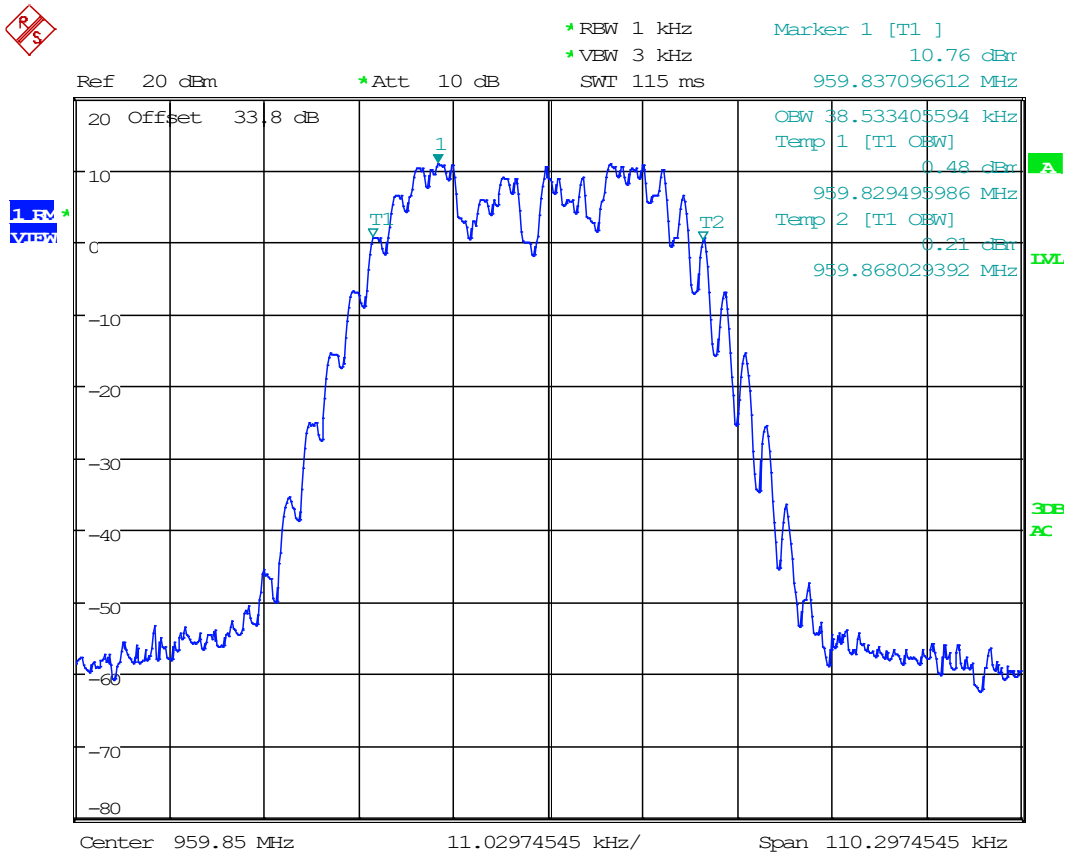
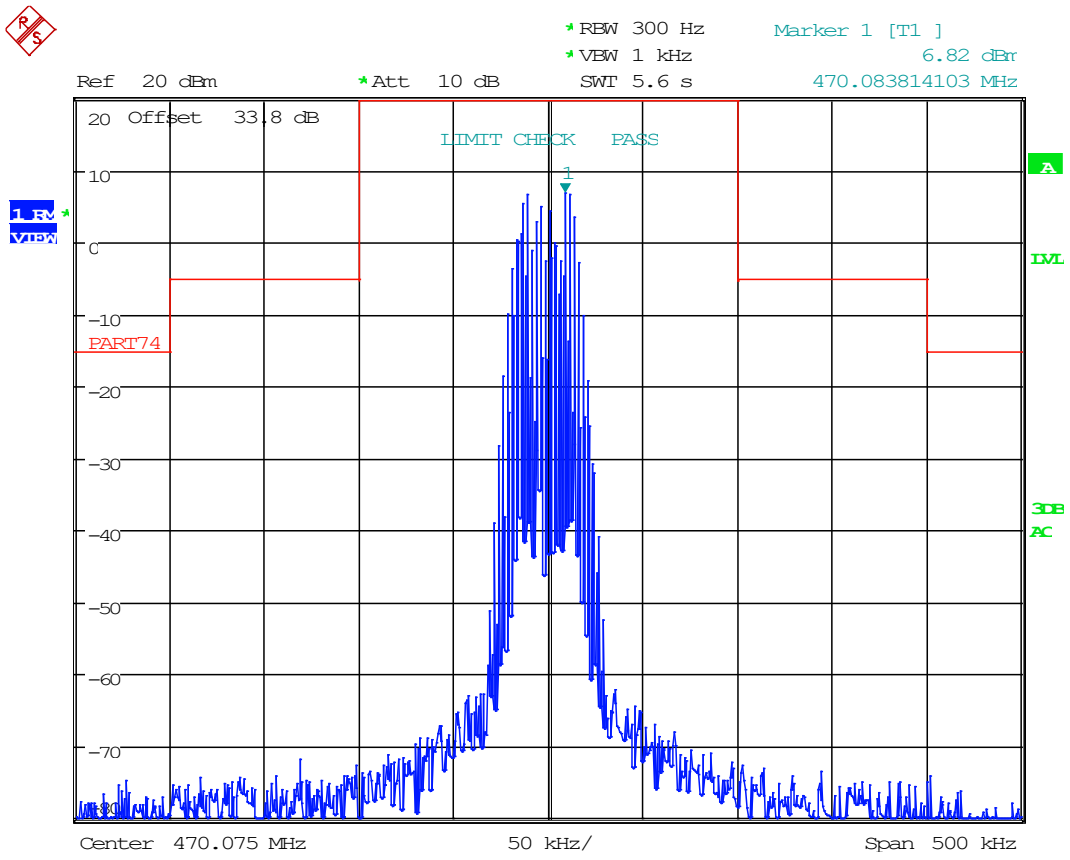
8.2.7 Test Data: 99% Occupied Bandwidth Plot, 959.85 MHz



8.2.8 Test Data: Emission Mask Measurement Plot, 470.075 MHz



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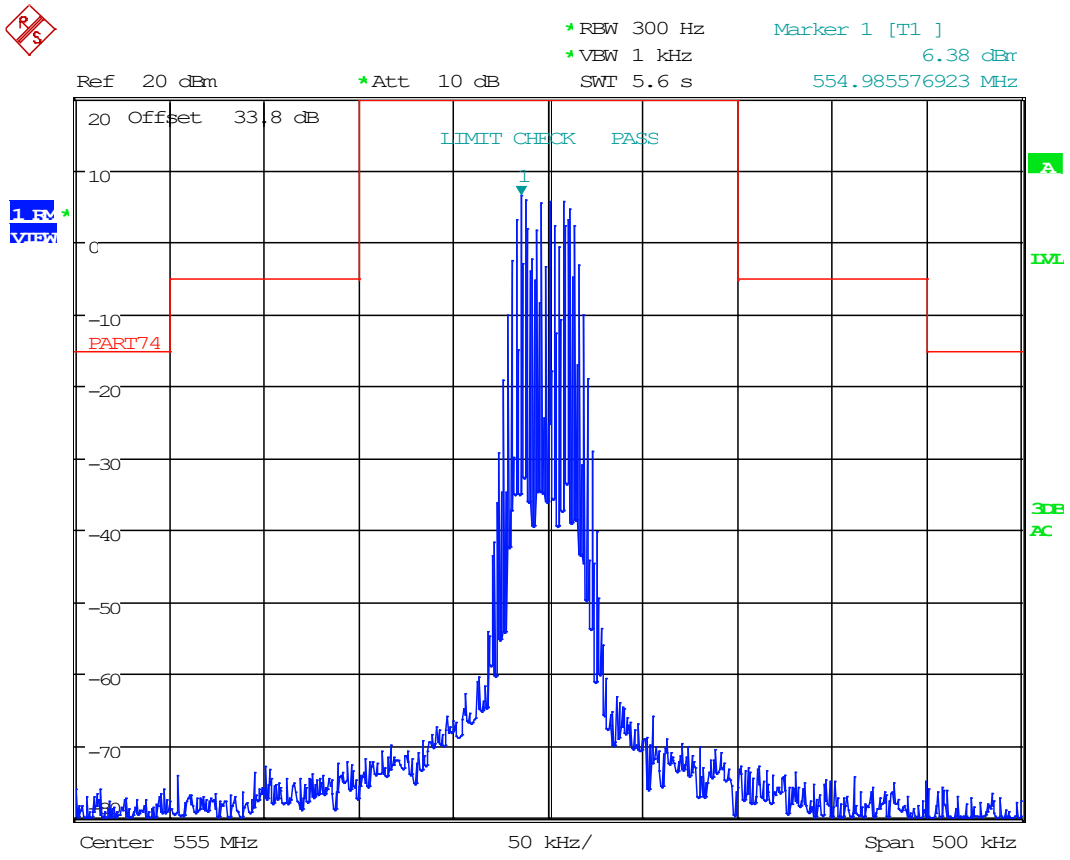
8.2.9 Test Data: Emission Mask Measurement Plot, 555 MHz



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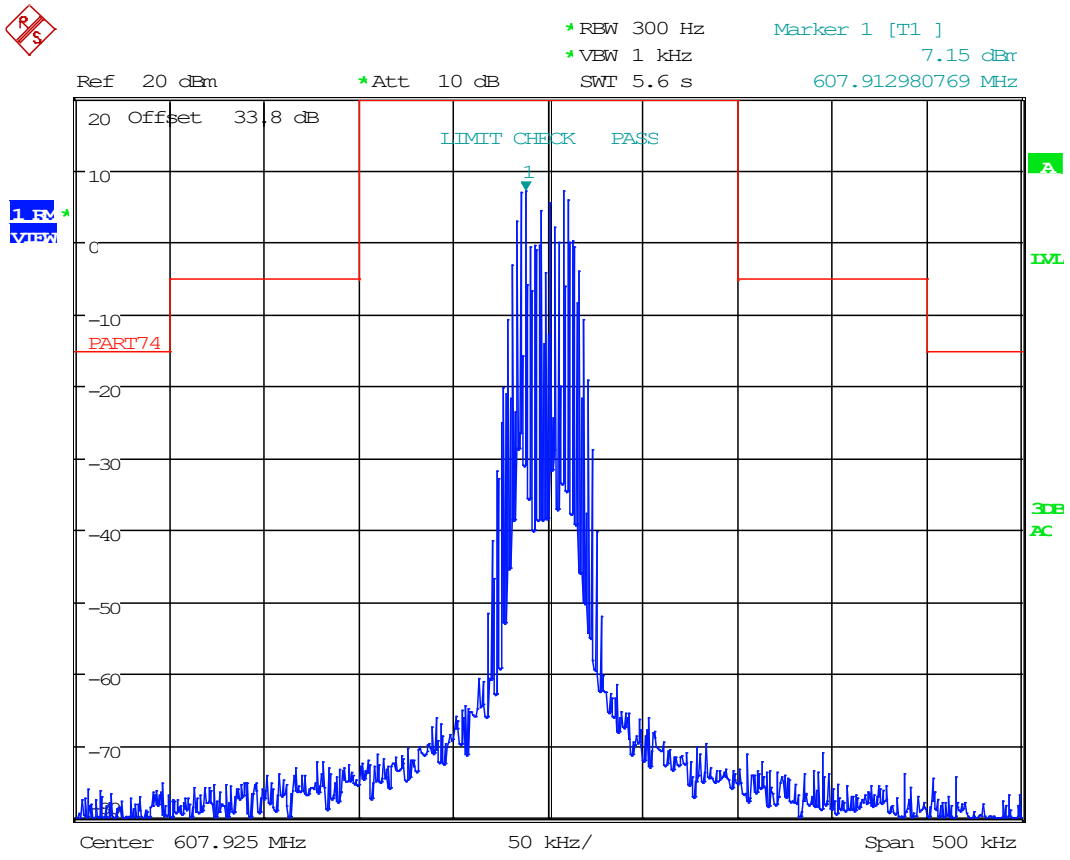
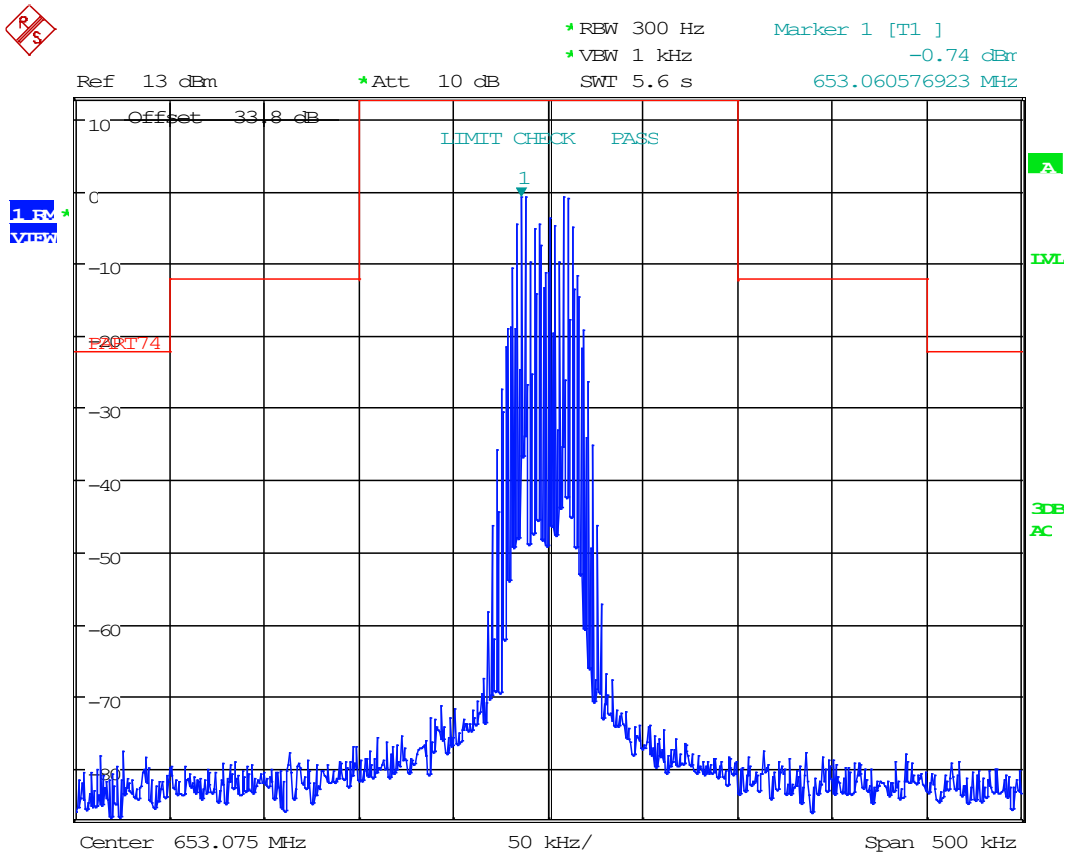
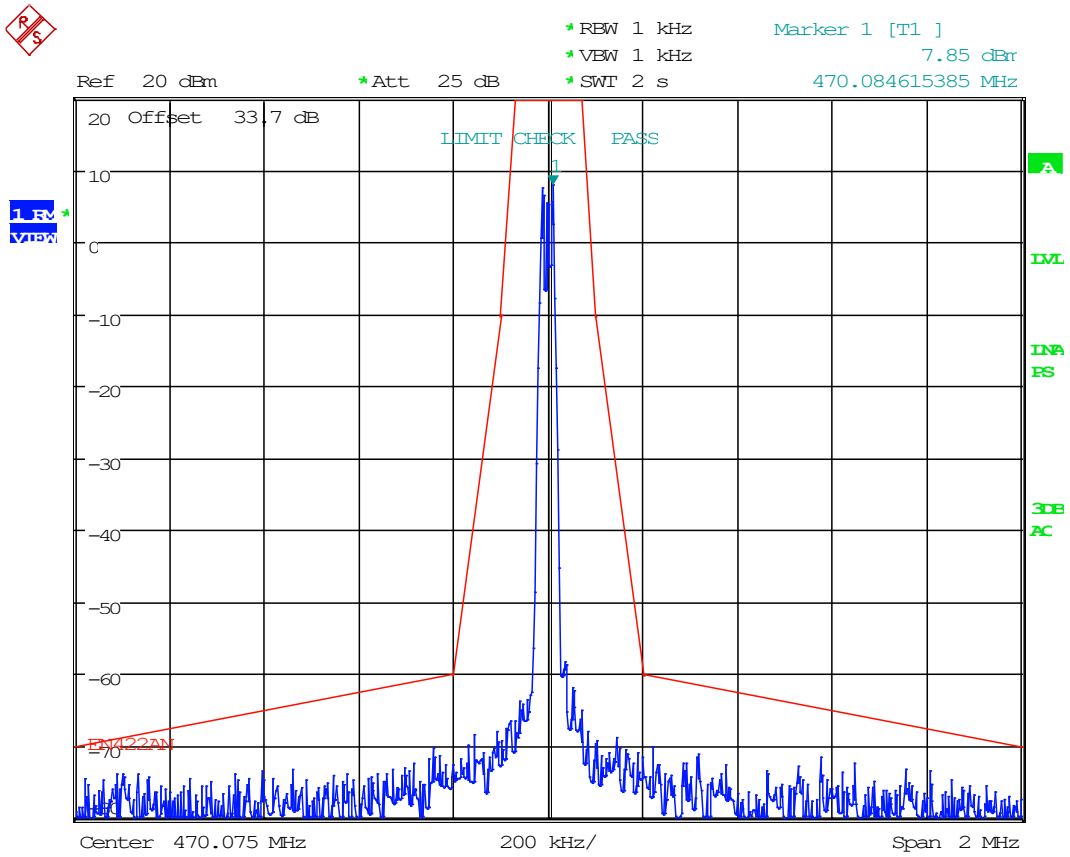
8.2.10 Test Data: Emission Mask Measurement Plot, 607.925 MHz



8.2.11 Test Data: Emission Mask Measurement Plot, 653.075 MHz



8.2.12 Test Data: Emission Mask Measurement Plot, 470.075 MHz



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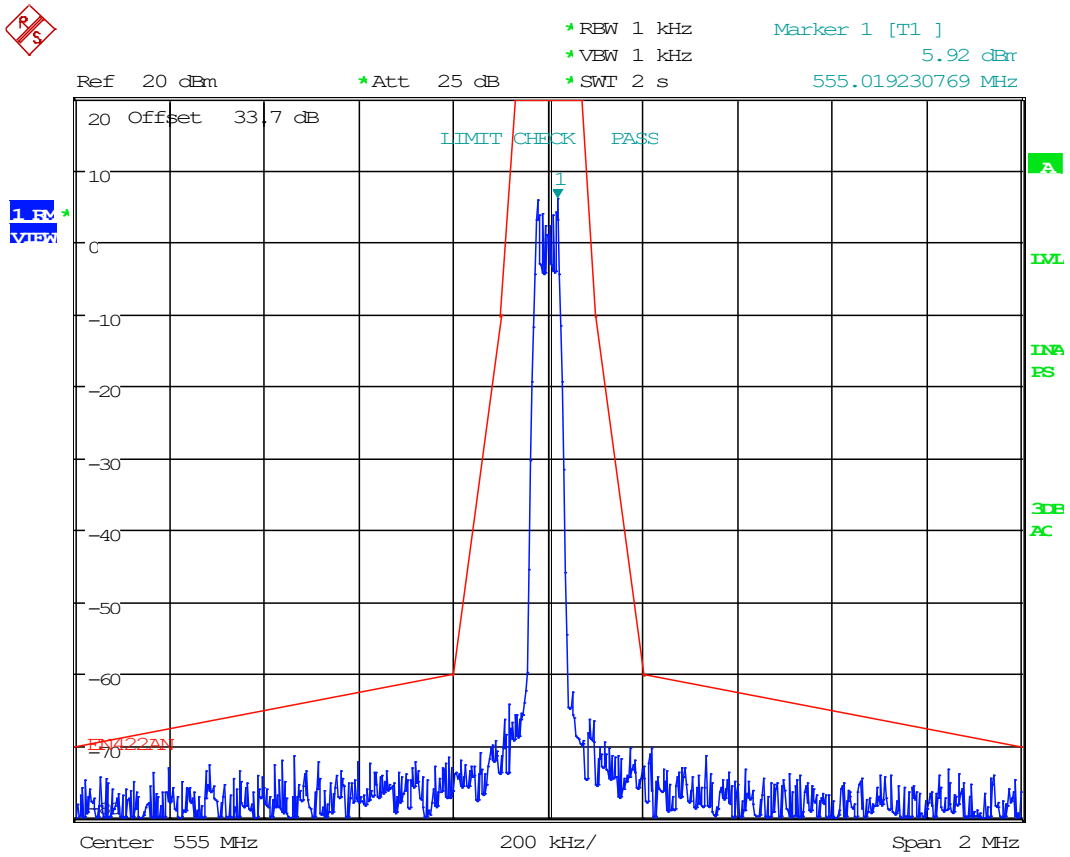
8.2.13 Test Data: Emission Mask Measurement Plot, 555 MHz



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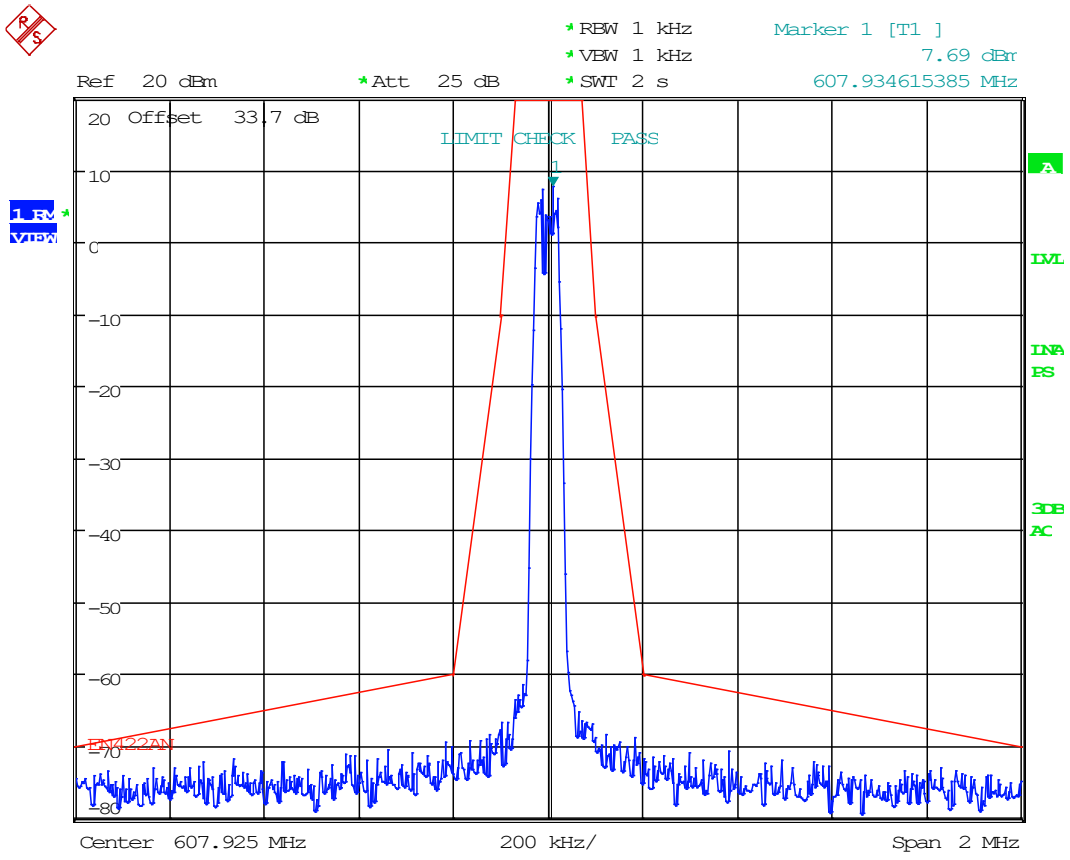
8.2.14 Test Data: Emission Mask Measurement Plot, 607.925 MHz



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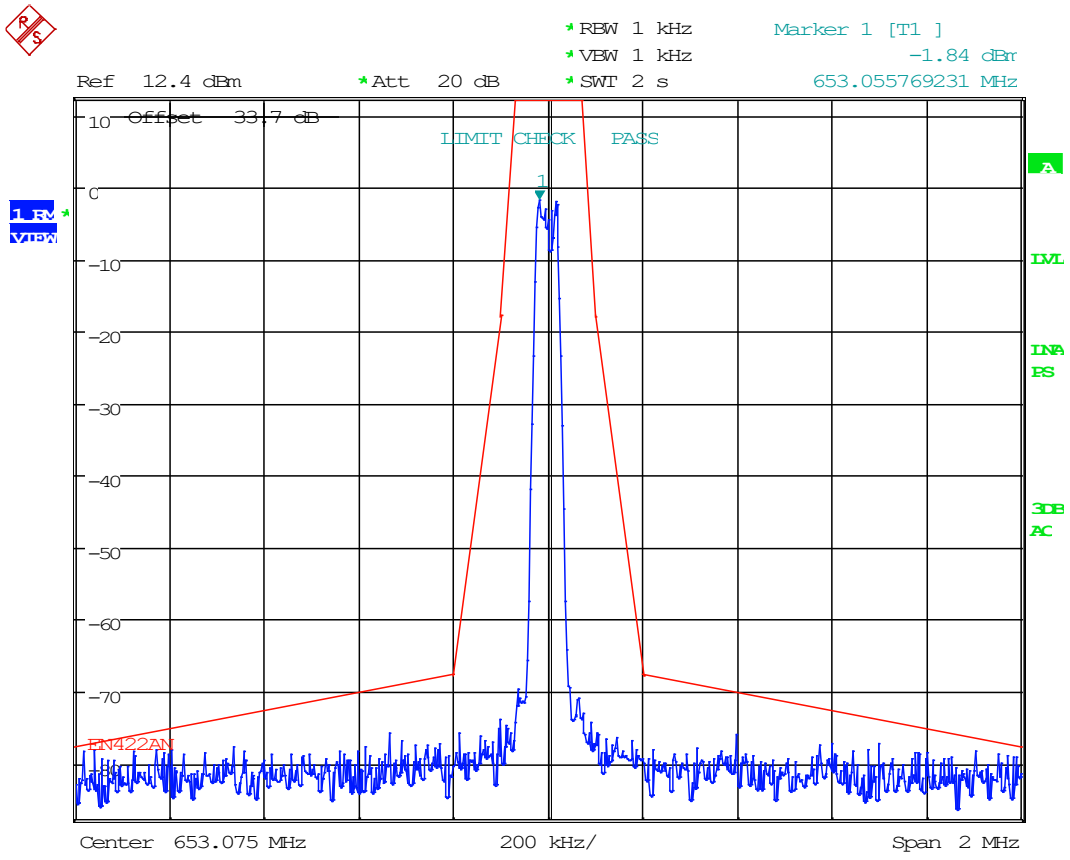
8.2.15 Test Data: Emission Mask Measurement Plot, 653.075 MHz



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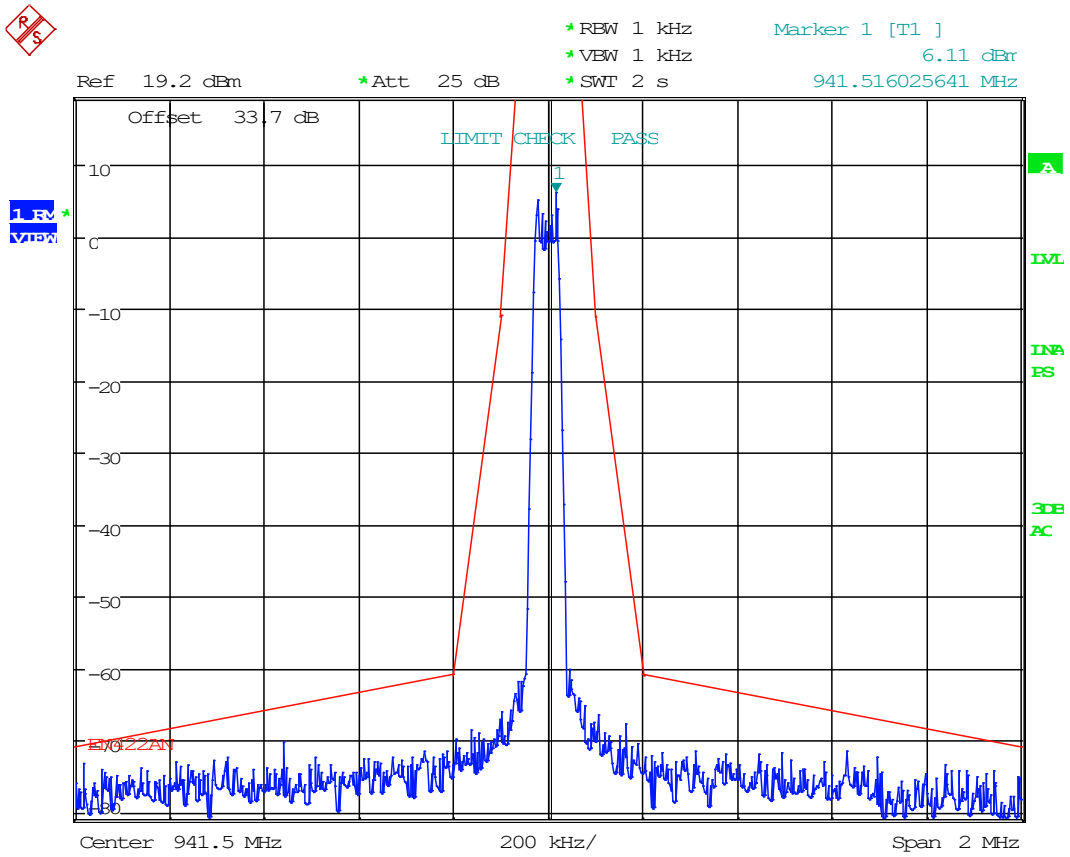
8.2.16 Test Data: Emission Mask Measurement Plot, 941.5 MHz



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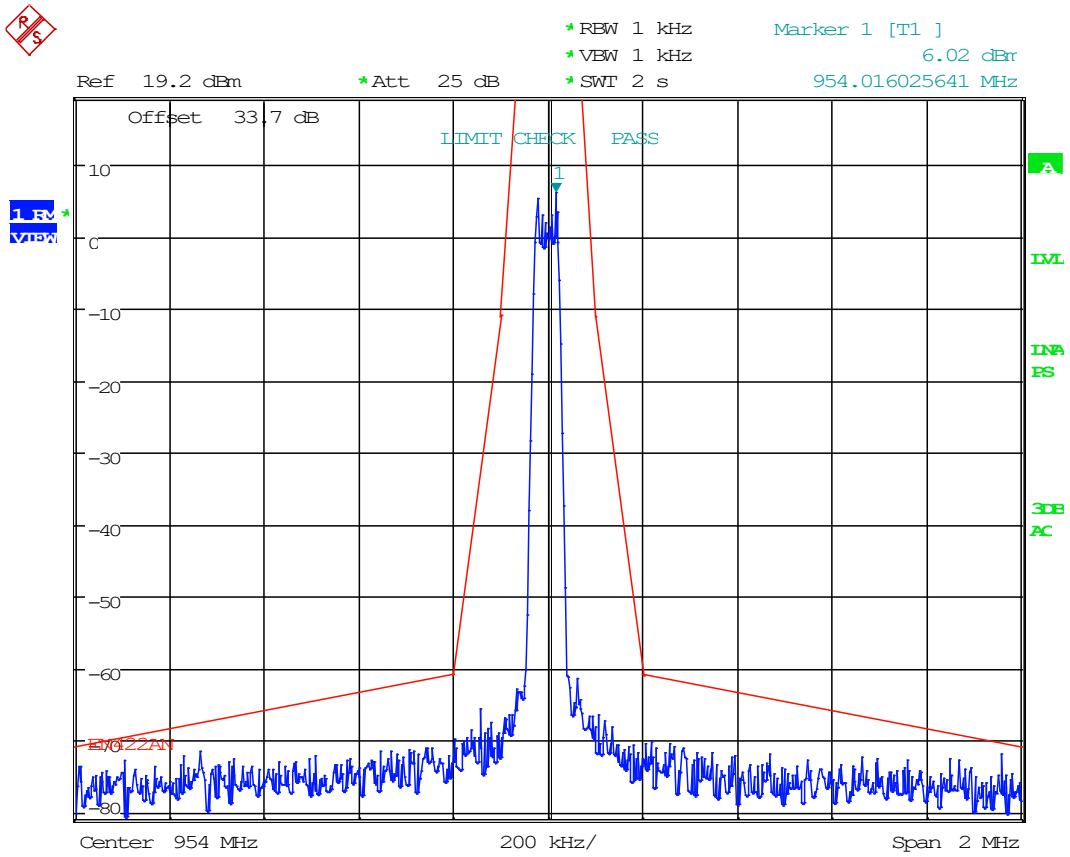
8.2.17 Test Data: Emission Mask Measurement Plot, 954 MHz



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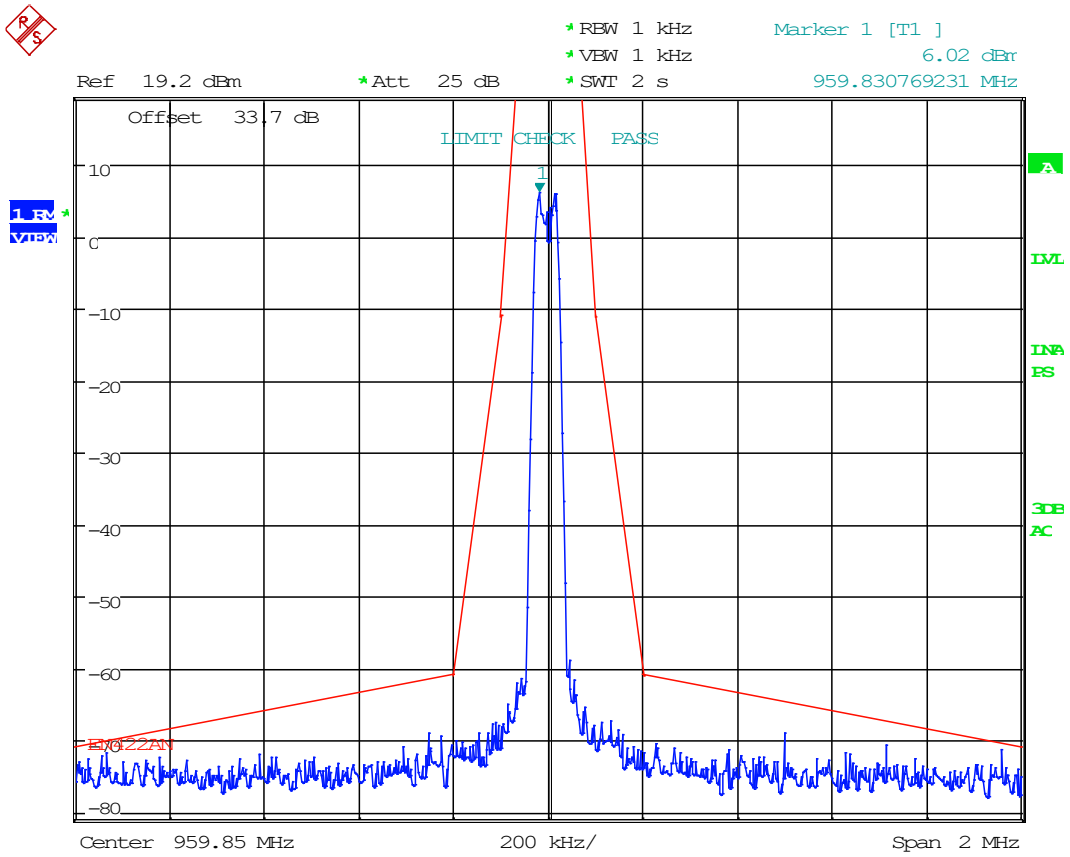
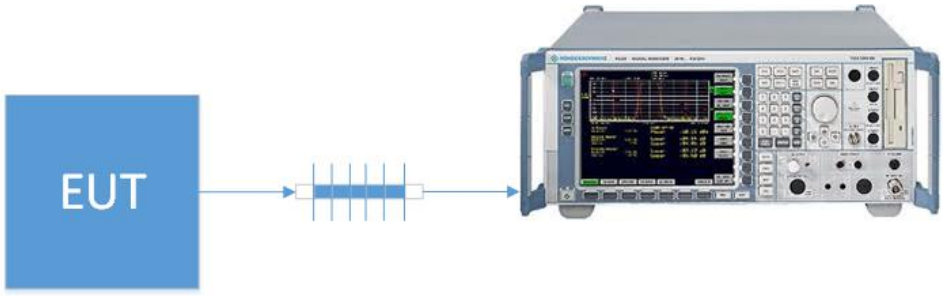
8.2.18 Test Data: Emission Mask Measurement Plot, 959.85 MHz

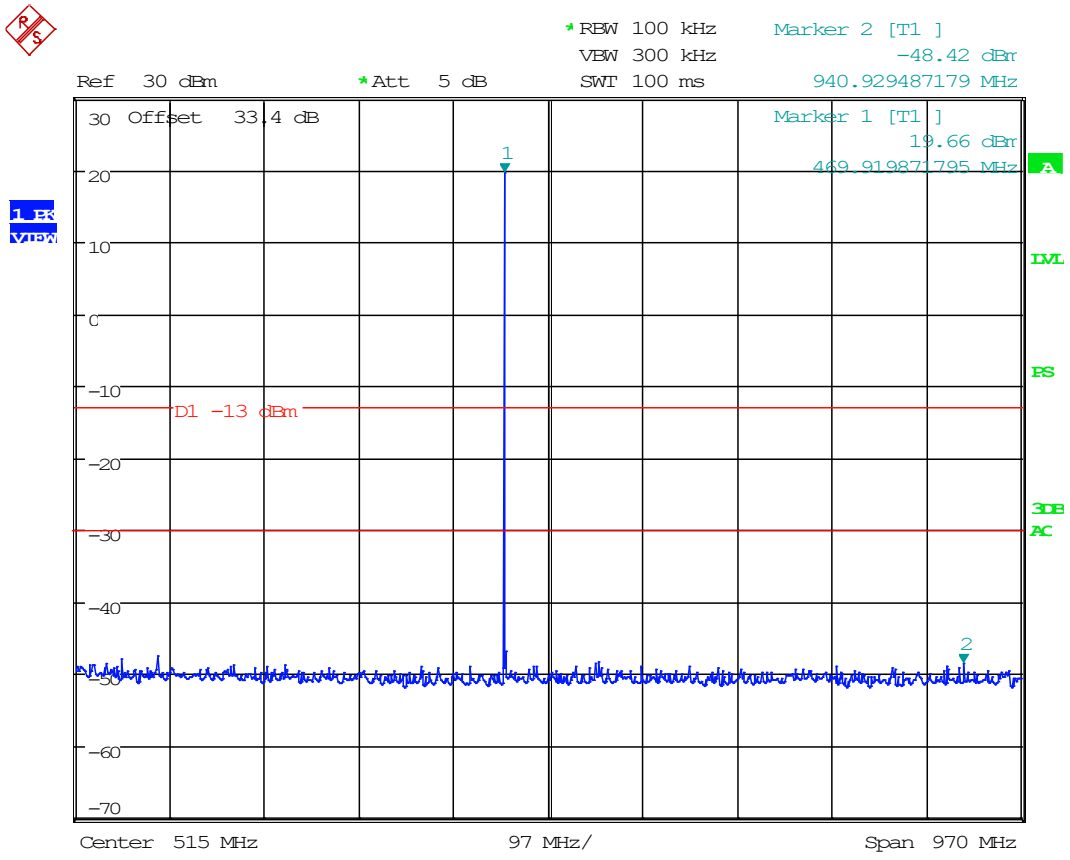


8.3 Spurious Emissions at antenna terminals (Conducted)

Limits from 2.1046(a), 74.861(e)(6)(iii) and test procedure from ANSI C63.26.



8.3.1 Conducted Emissions Below 1G, 470.075 MHz



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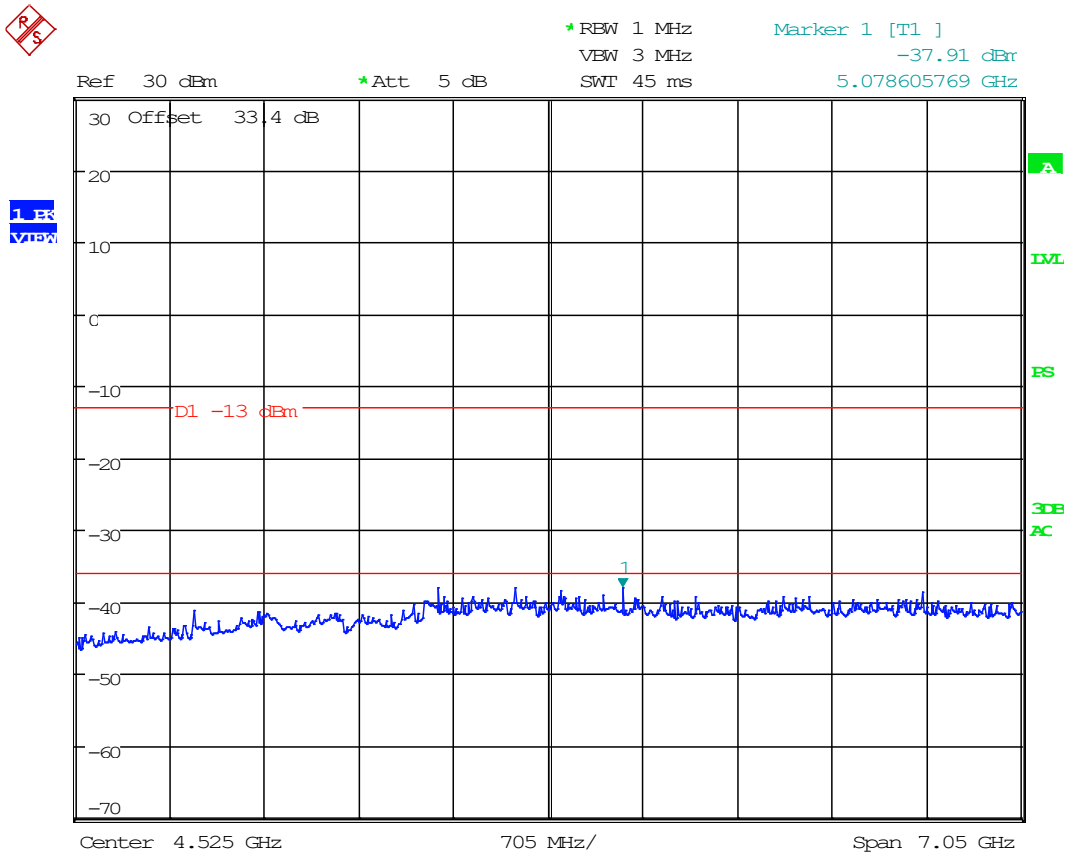
8.3.2 Conducted Emissions Above 1G, 470.075 MHz



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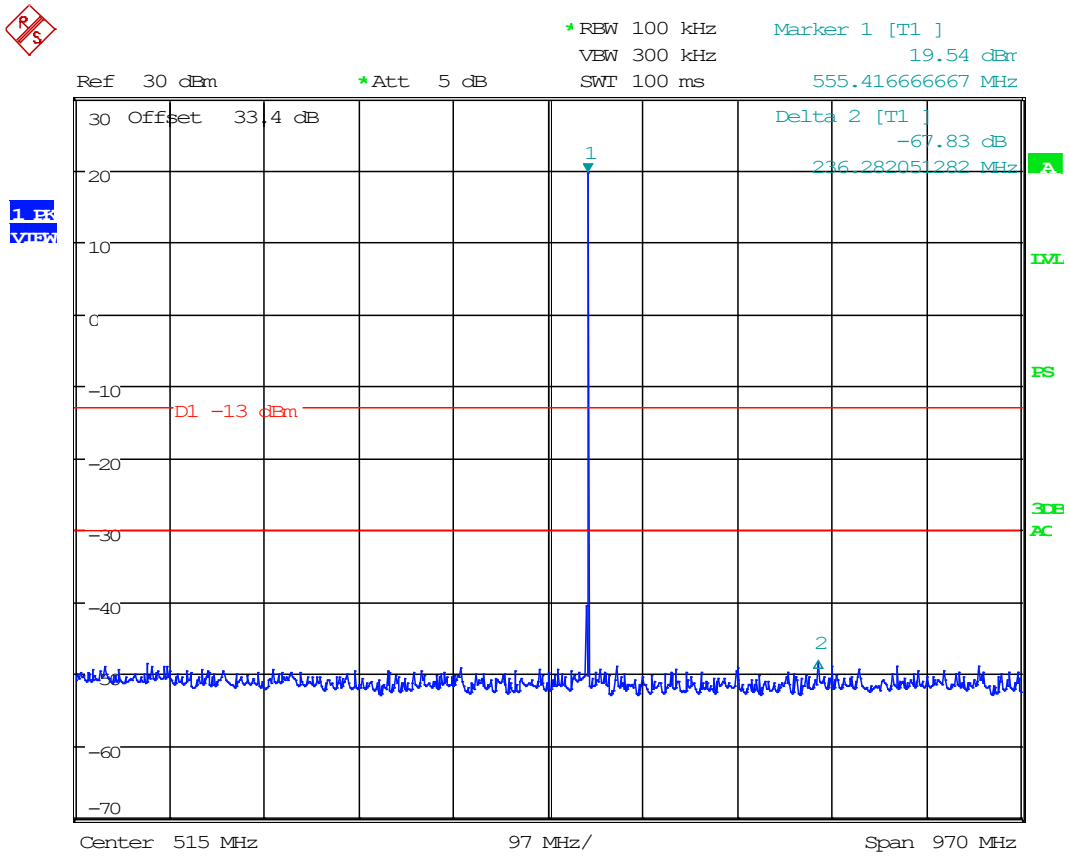
8.3.3 Conducted Emissions Below 1G, 555 MHz



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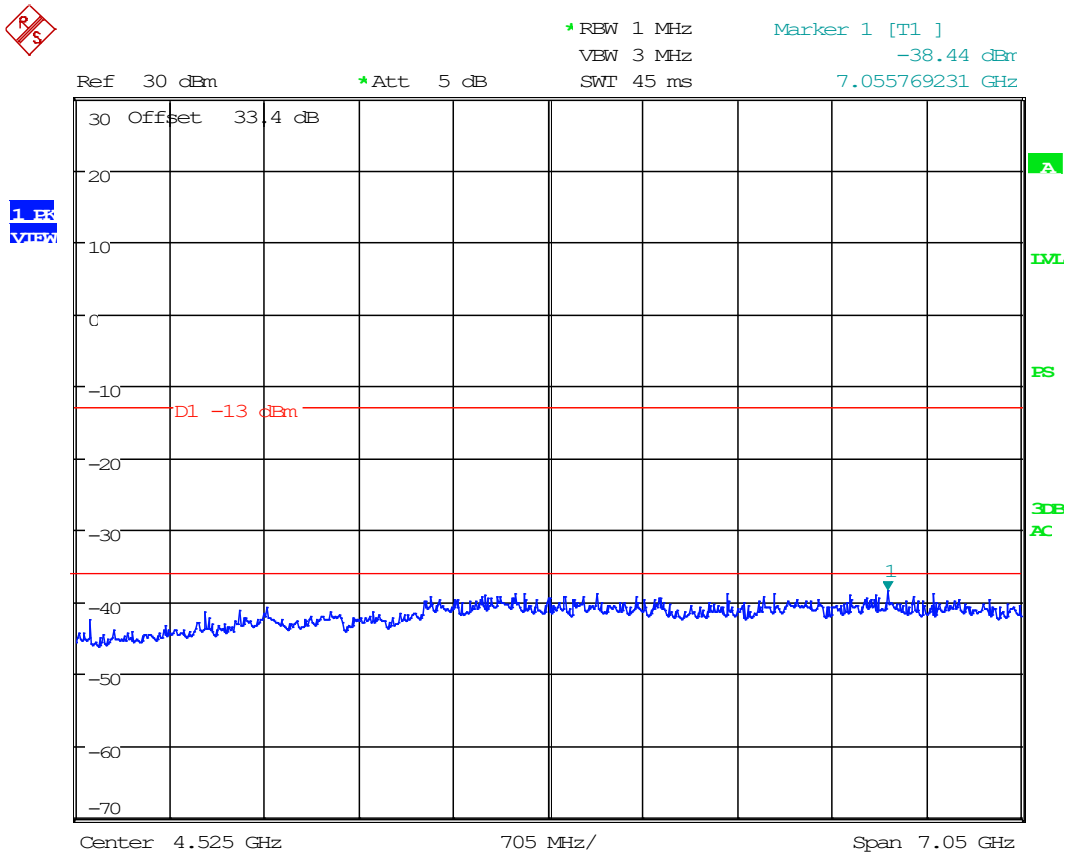
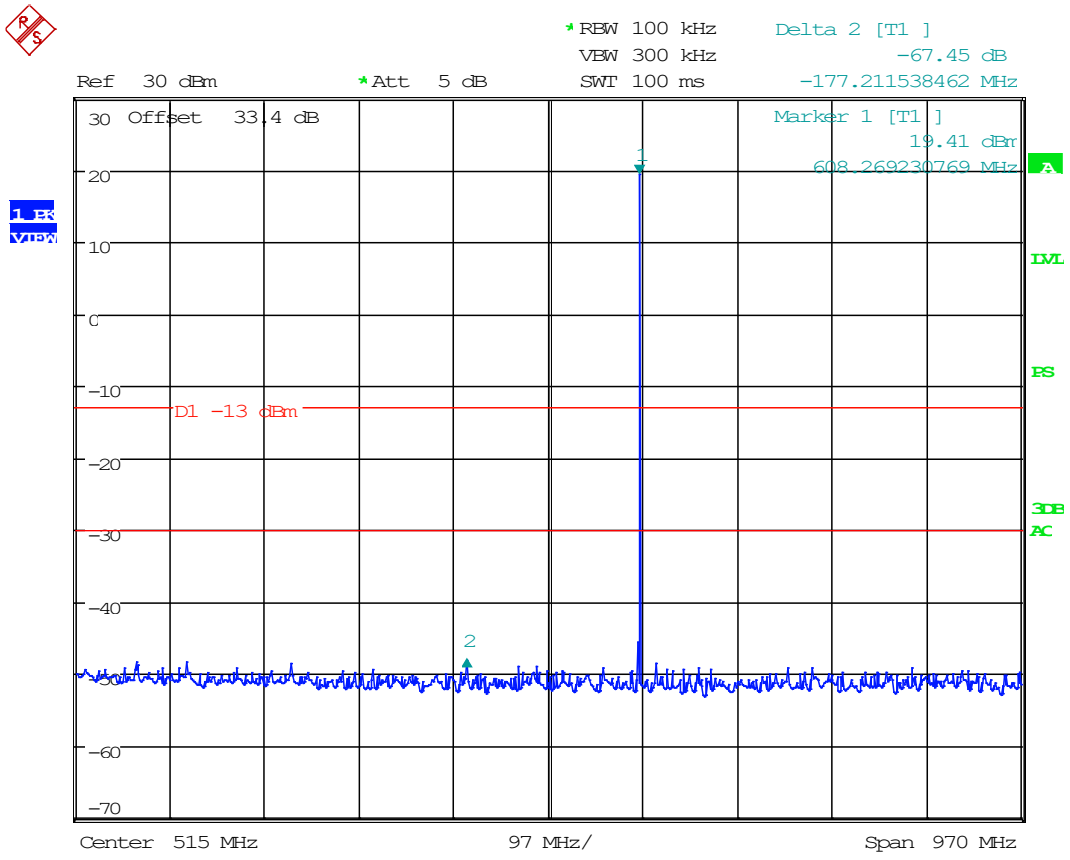
8.3.4 Conducted Emissions Above 1G, 555 MHz

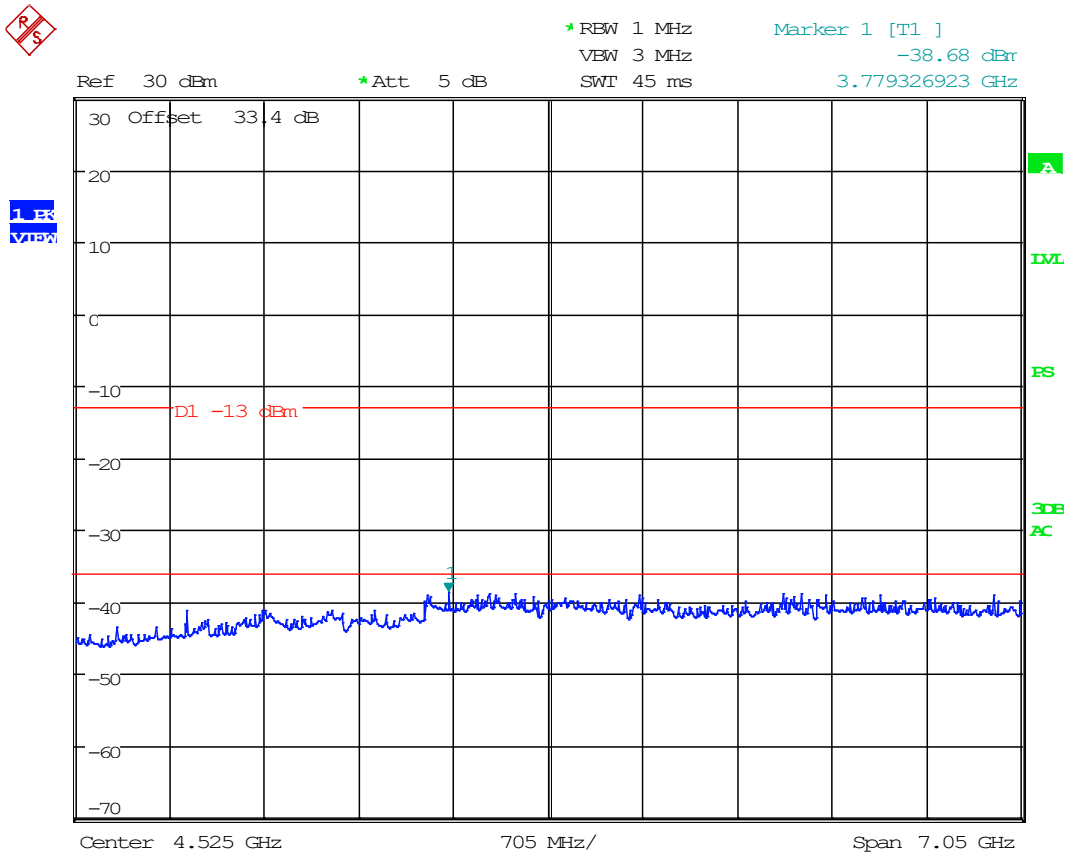


Date: 30.SEP.2021 15:38:49

8.3.5 Conducted Emissions Below 1G, 607.925 MHz

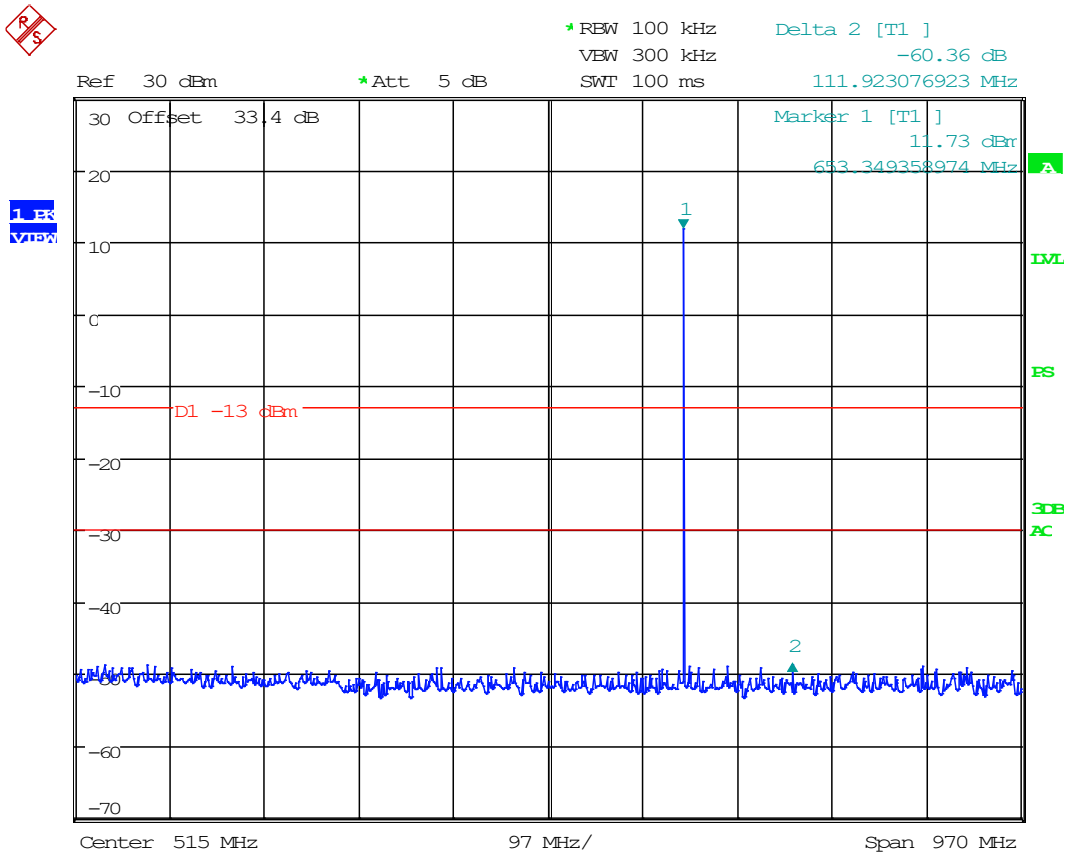


8.3.6 Conducted Emissions Above 1G, 607.925 MHz

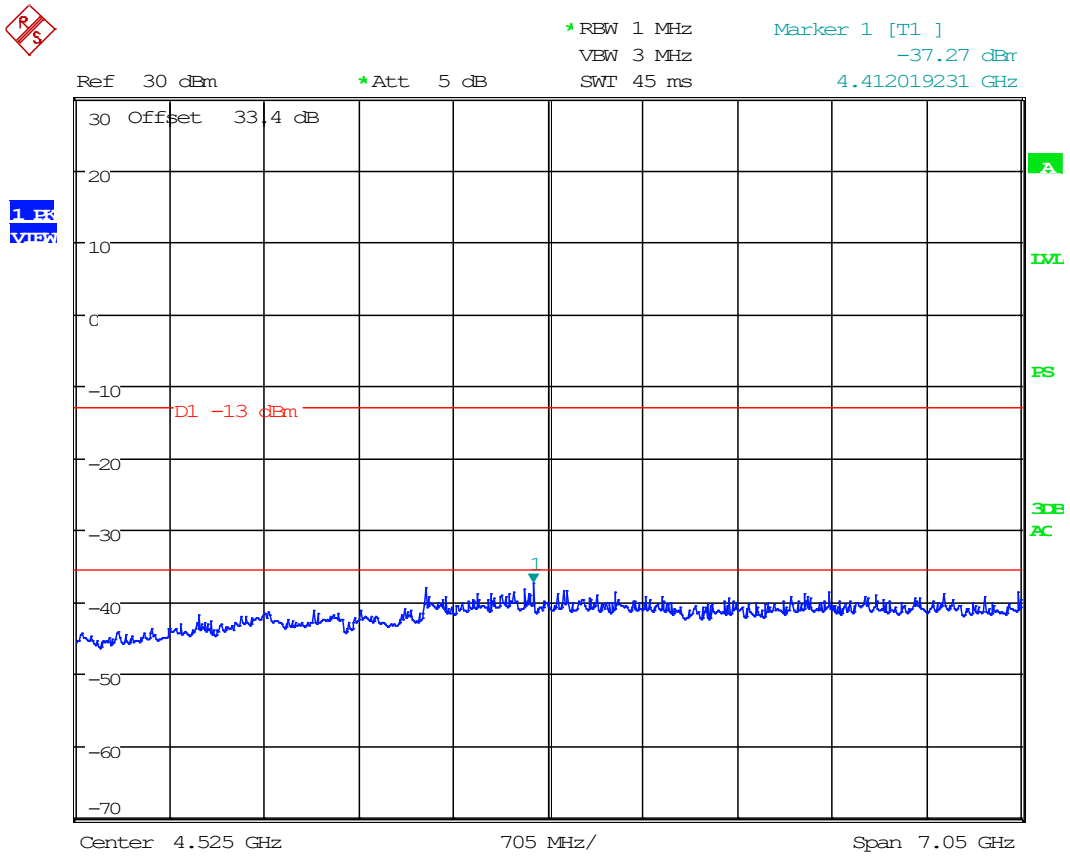


Date: 30.SEP.2021 15:38:10

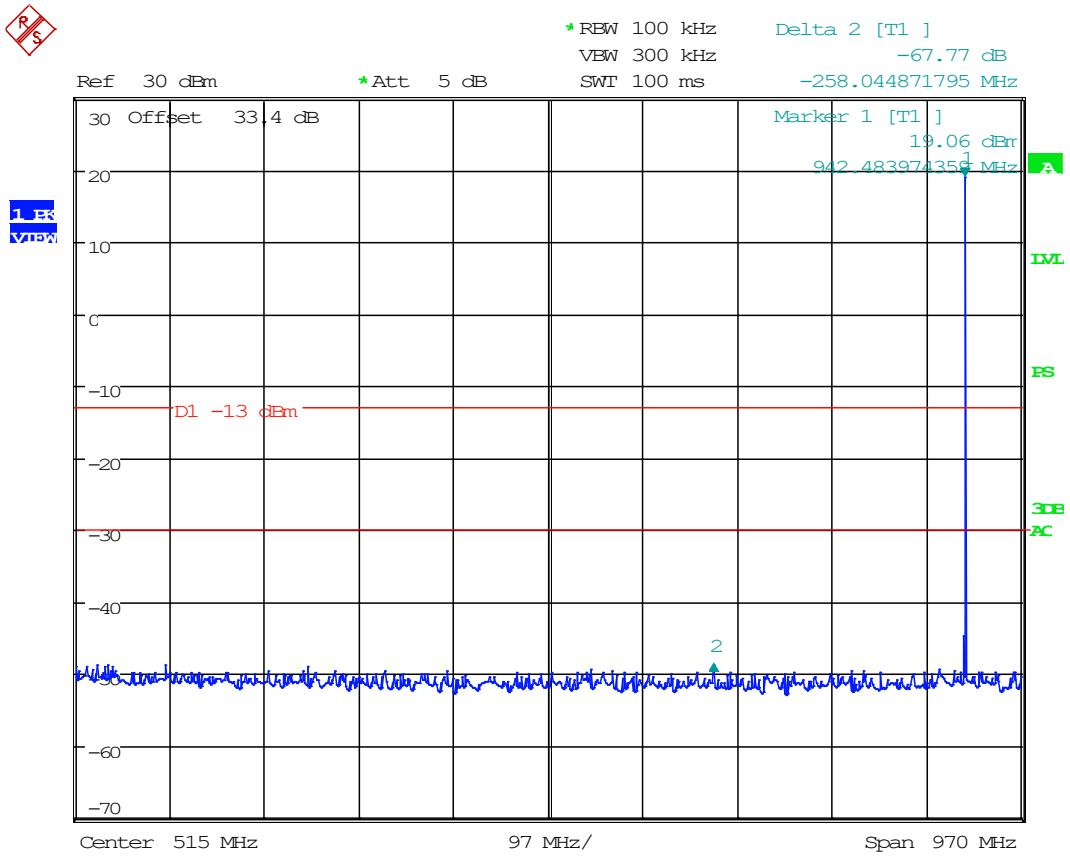
8.3.7 Conducted Emissions Below 1G, 653.075 MHz



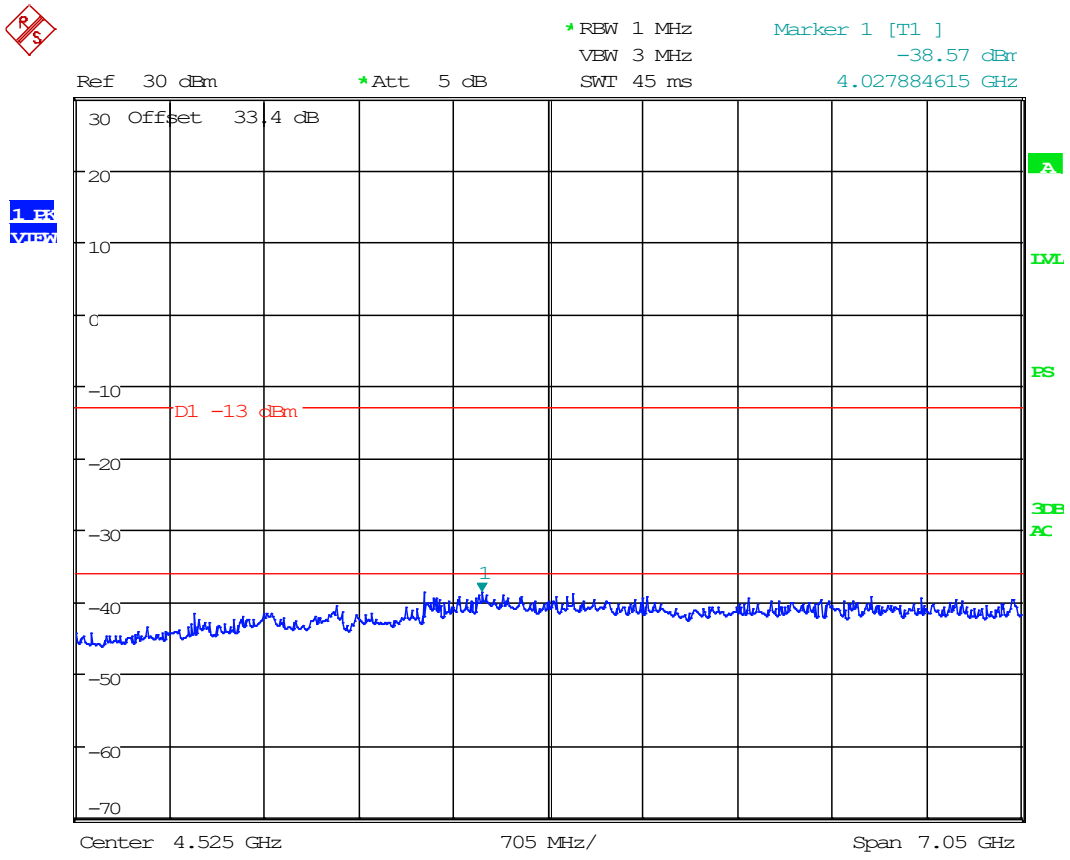
8.3.8 Conducted Emissions Above 1G, 653.075 MHz



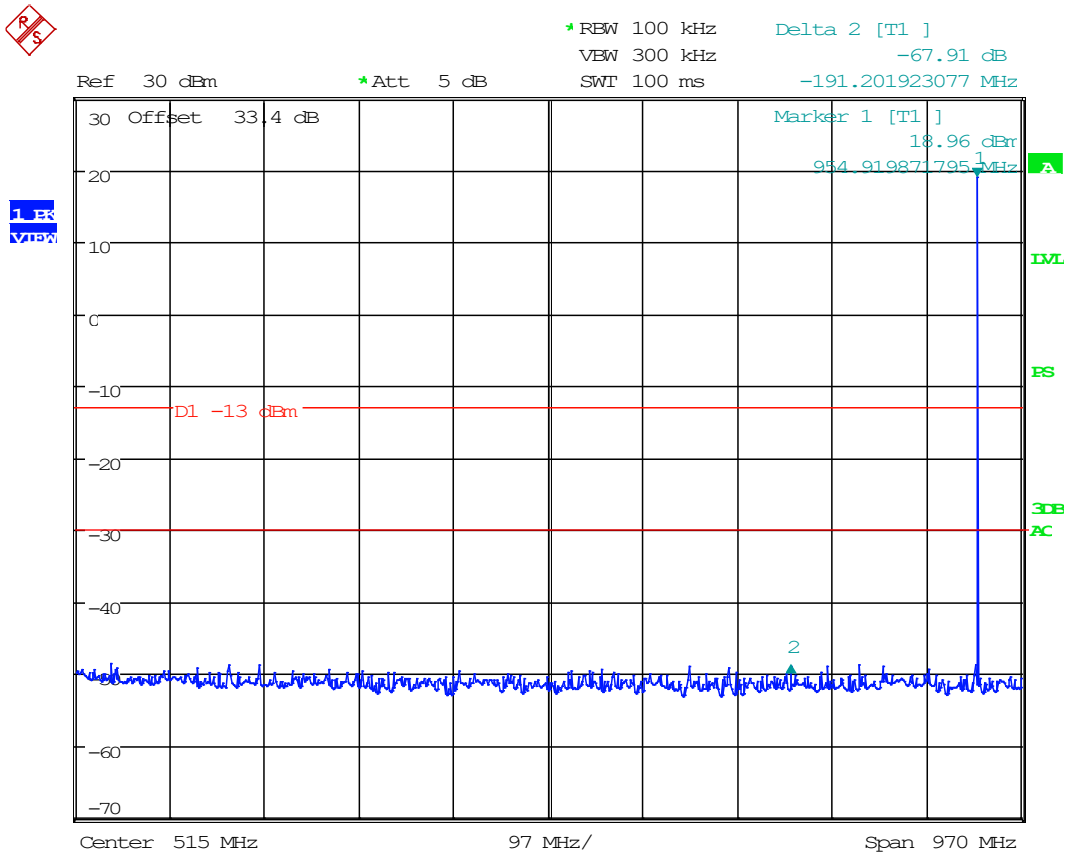
8.3.9 Conducted Emissions Below 1G, 941.5 MHz



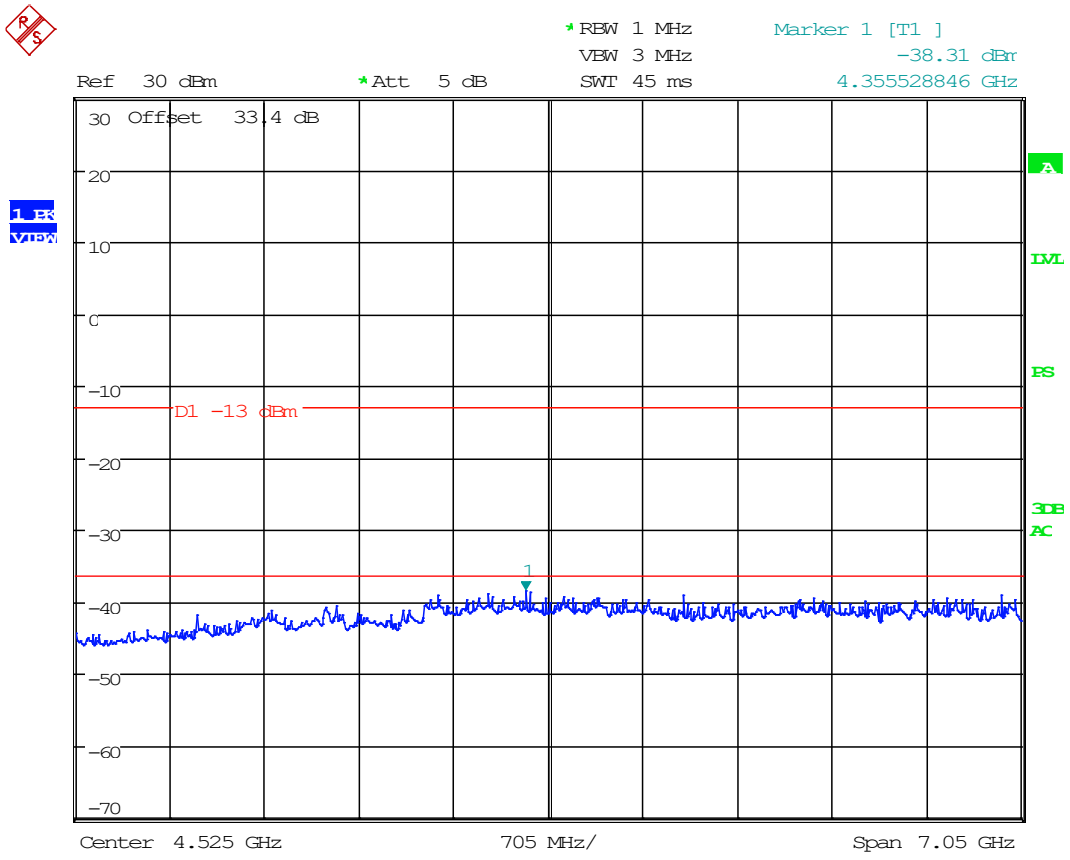
8.3.10 Conducted Emissions Above 1G, 941.5 MHz



8.3.11 Conducted Emissions Below 1G, 954 MHz

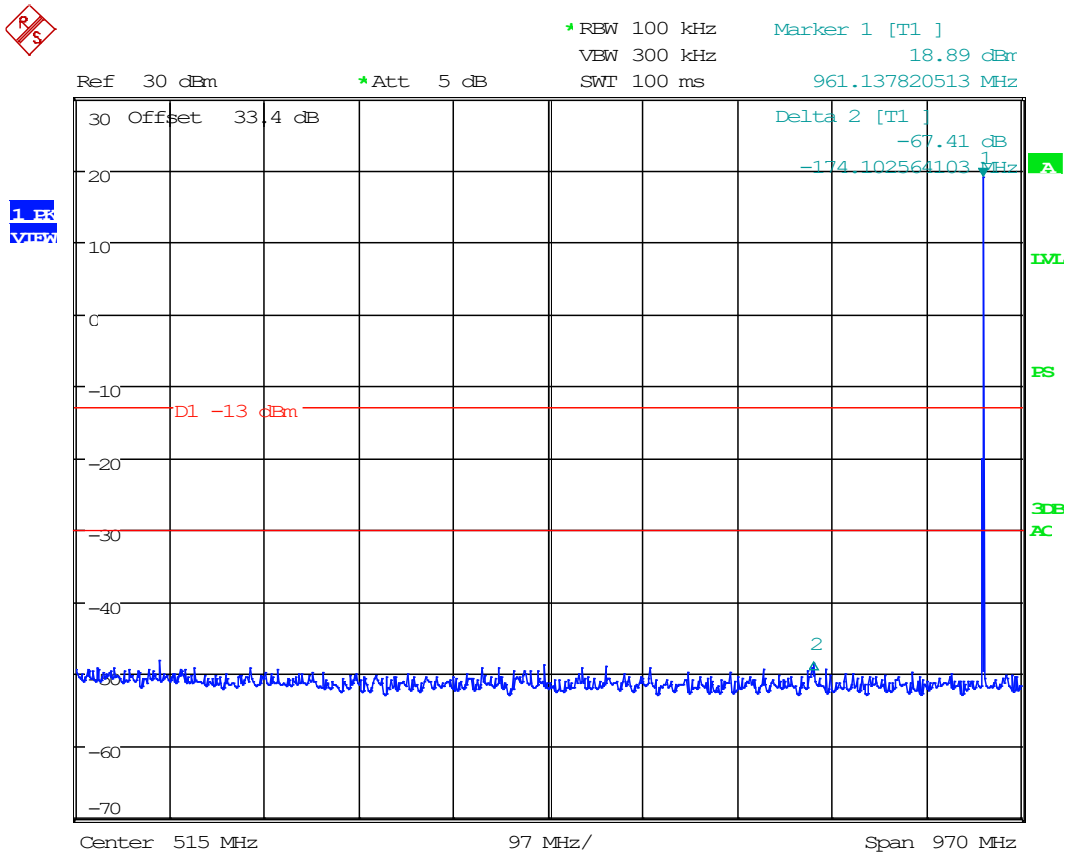


8.3.12 Conducted Emissions Above 1G, 954 MHz

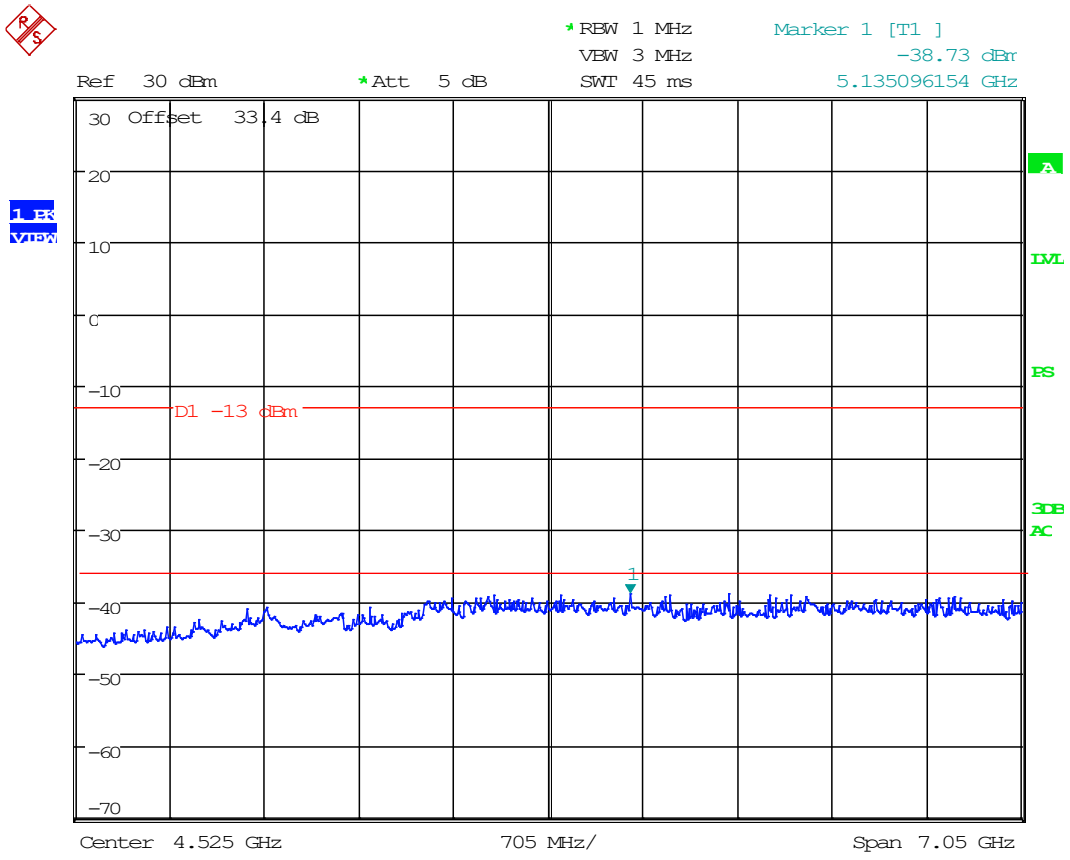


Date: 30.SEP.2021 15:35:58

8.3.13 Conducted Emissions Below 1G, 959.85 MHz



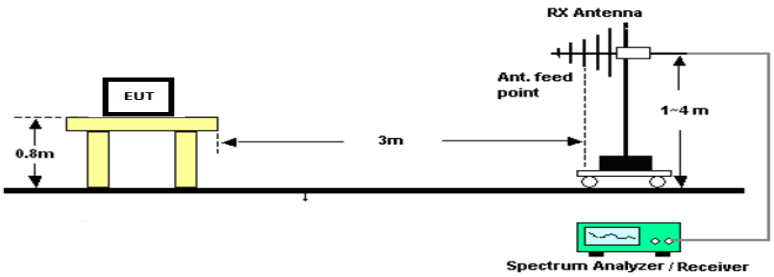
8.3.14 Conducted Emissions Above 1G, 959.85 MHz

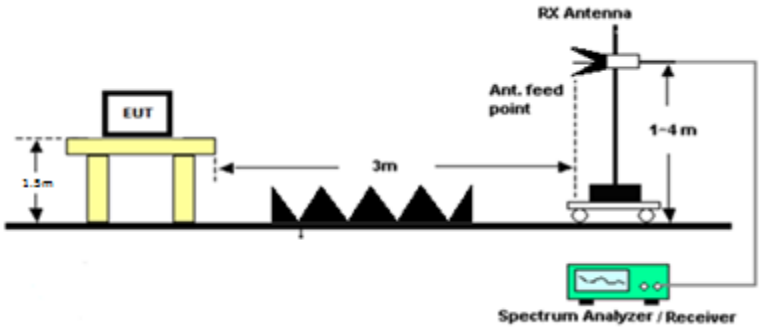


Date: 30.SEP.2021 15:35:14

8.4 Radiated Emissions

Limits from 2.1046(a), 74.861(e)(6)(iii) and test procedure from ANSI C63.26.

Radiated Test Setup, 30 – 1000 MHz


Radiated Test Setup, Above 1000 MHz


8.4.1 Radiated Emissions Table, 470.075 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)
470.08	940.15	PK	15.69	H	3.59	22.60	3.00	41.88	-55.50	-36.00	19.50
470.08	940.15	PK	13.65	V	3.59	22.60	3.00	39.84	-57.54	-36.00	21.54
470.08	1410.23	PK	12.50	H	4.31	28.39	3.00	45.20	-52.18	-30.00	22.18
470.08	1410.23	PK	11.66	V	4.31	28.39	3.00	44.36	-53.02	-30.00	23.02
470.08	1880.30	PK	12.31	H	5.03	30.94	3.00	48.29	-49.09	-30.00	19.09
470.08	1880.30	PK	13.09	V	5.03	30.94	3.00	49.07	-48.31	-30.00	18.31
470.08	2350.38	PK	12.96	H	5.58	31.93	3.00	50.46	-46.91	-30.00	16.91
470.08	2350.38	PK	13.03	V	5.58	31.93	3.00	50.53	-46.84	-30.00	16.84
470.08	2820.45	PK	12.26	H	6.21	32.43	3.00	50.90	-46.48	-30.00	16.48
470.08	2820.45	PK	13.08	V	6.21	32.43	3.00	51.72	-45.66	-30.00	15.66
470.08	3290.53	PK	12.65	H	6.70	32.63	3.00	51.98	-45.40	-30.00	15.40
470.08	3290.53	PK	13.85	V	6.70	32.63	3.00	53.18	-44.20	-30.00	14.20
470.08	3760.60	PK	10.56	H	6.45	33.13	3.00	50.13	-47.24	-30.00	17.24
470.08	3760.60	PK	10.41	V	6.45	33.13	3.00	49.98	-47.39	-30.00	17.39
470.08	4230.68	PK	12.33	H	7.11	33.33	3.00	52.76	-44.61	-30.00	14.61
470.08	4230.68	PK	11.69	V	7.11	33.33	3.00	52.12	-45.25	-30.00	15.25
470.08	4700.75	PK	13.01	H	7.20	33.88	3.00	54.08	-43.29	-30.00	13.29
470.08	4700.75	PK	11.84	V	7.20	33.88	3.00	52.91	-44.46	-30.00	14.46

8.4.2 Radiated Emissions Table, 555 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)
555.00	1110.00	PK	11.11	H	3.86	27.20	3.00	42.17	-55.20	-30.00	25.20
555.00	1110.00	PK	12.82	V	3.86	27.20	3.00	43.88	-53.49	-30.00	23.49
555.00	1665.00	PK	12.67	H	4.74	28.75	3.00	46.16	-51.22	-30.00	21.22
555.00	1665.00	PK	13.22	V	4.74	28.75	3.00	46.71	-50.67	-30.00	20.67
555.00	2220.00	PK	11.19	H	5.39	31.28	3.00	47.86	-49.51	-30.00	19.51
555.00	2220.00	PK	13.25	V	5.39	31.28	3.00	49.92	-47.45	-30.00	17.45
555.00	2775.00	PK	12.53	H	6.14	32.45	3.00	51.12	-46.26	-30.00	16.26
555.00	2775.00	PK	12.71	V	6.14	32.45	3.00	51.30	-46.08	-30.00	16.08
555.00	3330.00	PK	13.05	H	6.72	32.63	3.00	52.41	-44.97	-30.00	14.97
555.00	3330.00	PK	12.57	V	6.72	32.63	3.00	51.93	-45.45	-30.00	15.45
555.00	3885.00	PK	11.49	H	6.82	33.22	3.00	51.53	-45.85	-30.00	15.85
555.00	3885.00	PK	11.58	V	6.82	33.22	3.00	51.62	-45.76	-30.00	15.76
555.00	4440.00	PK	13.58	H	7.28	33.76	3.00	54.62	-42.76	-30.00	12.76
555.00	4440.00	PK	11.90	V	7.28	33.76	3.00	52.94	-44.44	-30.00	14.44
555.00	4995.00	PK	11.51	H	7.61	34.01	3.00	53.13	-44.25	-30.00	14.25
555.00	4995.00	PK	11.66	V	7.61	34.01	3.00	53.28	-44.10	-30.00	14.10
555.00	5550.00	PK	11.82	H	8.06	34.40	3.00	54.28	-43.10	-30.00	13.10
555.00	5550.00	PK	11.61	V	8.06	34.40	3.00	54.07	-43.31	-30.00	13.31

8.4.3 Radiated Emissions Table, 607.925 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)
607.93	1215.85	PK	11.68	H	4.03	28.16	3.00	43.87	-53.51	-30.00	23.51
607.93	1215.85	PK	13.26	V	4.03	28.16	3.00	45.45	-51.93	-30.00	21.93
607.93	1823.78	PK	12.01	H	4.93	30.57	3.00	47.51	-49.87	-30.00	19.87
607.93	1823.78	PK	12.10	V	4.93	30.57	3.00	47.60	-49.78	-30.00	19.78
607.93	2431.70	PK	11.91	H	5.61	31.85	3.00	49.37	-48.00	-30.00	18.00
607.93	2431.70	PK	13.49	V	5.61	31.85	3.00	50.95	-46.42	-30.00	16.42
607.93	3039.63	PK	13.28	H	6.39	32.61	3.00	52.28	-45.10	-30.00	15.10
607.93	3039.63	PK	12.51	V	6.39	32.61	3.00	51.51	-45.87	-30.00	15.87
607.93	3647.55	PK	11.13	H	6.62	33.19	3.00	50.94	-46.44	-30.00	16.44
607.93	3647.55	PK	11.48	V	6.62	33.19	3.00	51.29	-46.09	-30.00	16.09
607.93	4255.48	PK	12.11	H	7.22	33.35	3.00	52.68	-44.69	-30.00	14.69
607.93	4255.48	PK	12.18	V	7.22	33.35	3.00	52.75	-44.62	-30.00	14.62
607.93	4863.40	PK	12.31	H	7.26	33.94	3.00	53.50	-43.87	-30.00	13.87
607.93	4863.40	PK	12.80	V	7.26	33.94	3.00	53.99	-43.38	-30.00	13.38
607.93	5471.33	PK	11.89	H	8.10	34.47	3.00	54.46	-42.92	-30.00	12.92
607.93	5471.33	PK	11.39	V	8.10	34.47	3.00	53.96	-43.42	-30.00	13.42
607.93	6079.25	PK	11.14	H	8.63	35.21	3.00	54.98	-42.39	-30.00	12.39
607.93	6079.25	PK	12.10	V	8.63	35.21	3.00	55.94	-41.43	-30.00	11.43

8.4.4 Radiated Emissions Table, 653.075 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)
653.08	1306.15	PK	11.47	H	4.19	28.69	3.00	44.35	-53.03	-30.00	23.03
653.08	1306.15	PK	12.20	V	4.19	28.69	3.00	45.08	-52.30	-30.00	22.30
653.08	1959.23	PK	11.96	H	5.14	31.31	3.00	48.41	-48.97	-30.00	18.97
653.08	1959.23	PK	12.16	V	5.14	31.31	3.00	48.61	-48.77	-30.00	18.77
653.08	2612.30	PK	12.60	H	5.82	32.41	3.00	50.83	-46.55	-30.00	16.55
653.08	2612.30	PK	11.85	V	5.82	32.41	3.00	50.08	-47.30	-30.00	17.30
653.08	3265.38	PK	12.90	H	6.67	32.66	3.00	52.23	-45.15	-30.00	15.15
653.08	3265.38	PK	12.80	V	6.67	32.66	3.00	52.13	-45.25	-30.00	15.25
653.08	3918.45	PK	11.91	H	7.10	33.28	3.00	52.30	-45.08	-30.00	15.08
653.08	3918.45	PK	11.67	V	7.10	33.28	3.00	52.06	-45.32	-30.00	15.32
653.08	4571.53	PK	11.44	H	7.52	34.02	3.00	52.99	-44.39	-30.00	14.39
653.08	4571.53	PK	11.86	V	7.52	34.02	3.00	53.41	-43.97	-30.00	13.97
653.08	5224.60	PK	11.64	H	7.81	34.23	3.00	53.68	-43.69	-30.00	13.69
653.08	5224.60	PK	11.97	V	7.81	34.23	3.00	54.01	-43.36	-30.00	13.36
653.08	5877.68	PK	11.08	H	8.42	34.99	3.00	54.50	-42.88	-30.00	12.88
653.08	5877.68	PK	11.51	V	8.42	34.99	3.00	54.93	-42.45	-30.00	12.45
653.08	6530.75	PK	13.02	H	9.15	35.55	3.00	57.72	-39.66	-30.00	9.66
653.08	6530.75	PK	11.76	V	9.15	35.55	3.00	56.46	-40.92	-30.00	10.92

8.4.5 Radiated Emissions Table, 941.5 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)
941.50	1883.00	PK	12.77	H	5.03	30.95	3.00	48.75	-48.62	-30.00	18.62
941.50	1883.00	PK	12.22	V	5.03	30.95	3.00	48.20	-49.17	-30.00	19.17
941.50	2824.50	PK	12.71	H	6.21	32.41	3.00	51.33	-46.05	-30.00	16.05
941.50	2824.50	PK	12.77	V	6.21	32.41	3.00	51.39	-45.99	-30.00	15.99
941.50	3766.00	PK	11.30	H	6.44	33.13	3.00	50.87	-46.51	-30.00	16.51
941.50	3766.00	PK	11.41	V	6.44	33.13	3.00	50.98	-46.40	-30.00	16.40
941.50	4707.50	PK	12.91	H	7.16	33.88	3.00	53.95	-43.43	-30.00	13.43
941.50	4707.50	PK	11.45	V	7.16	33.88	3.00	52.49	-44.89	-30.00	14.89
941.50	5649.00	PK	11.79	H	8.16	34.54	3.00	54.48	-42.89	-30.00	12.89
941.50	5649.00	PK	12.35	V	8.16	34.54	3.00	55.04	-42.33	-30.00	12.33
941.50	6590.50	PK	10.97	H	9.20	35.65	3.00	55.82	-41.56	-30.00	11.56
941.50	6590.50	PK	12.73	V	9.20	35.65	3.00	57.58	-39.80	-30.00	9.80
941.50	7532.00	PK	12.80	H	9.71	35.89	3.00	58.40	-38.98	-30.00	8.98
941.50	7532.00	PK	11.87	V	9.71	35.89	3.00	57.47	-39.91	-30.00	9.91
941.50	8473.50	PK	11.02	H	10.23	35.94	3.00	57.19	-40.19	-30.00	10.19
941.50	8473.50	PK	11.10	V	10.23	35.94	3.00	57.27	-40.11	-30.00	10.11
941.50	9415.00	PK	11.88	H	11.02	36.39	3.00	59.29	-38.09	-30.00	8.09
941.50	9415.00	PK	11.36	V	11.02	36.39	3.00	58.77	-38.61	-30.00	8.61

8.4.6 Radiated Emissions Table, 954 MHz

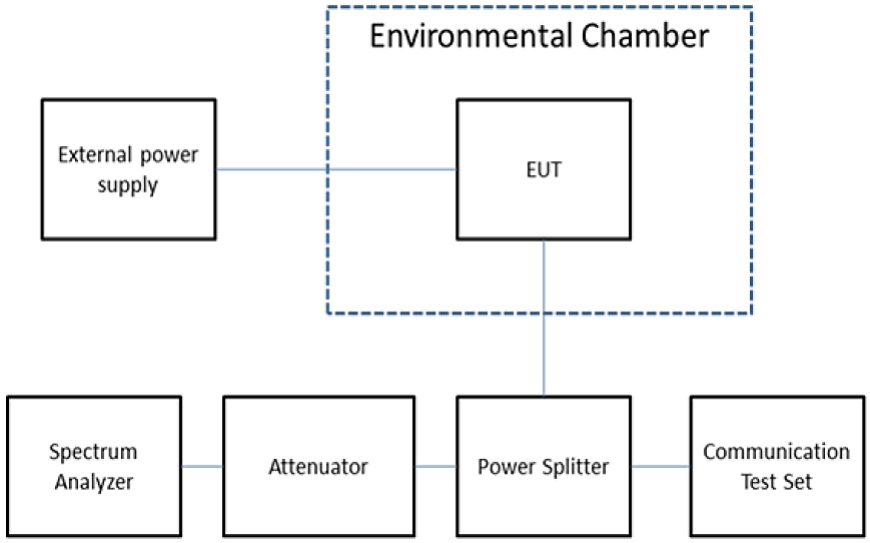
Tuned Frequency (MHz)	Emission Frequency (MHz)	Detector	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBµV/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
954.00	1908.00	PK	12.49	H	5.07	31.04	3.00	48.60	-48.78	-30.00	18.78
954.00	1908.00	PK	13.01	V	5.07	31.04	3.00	49.12	-48.26	-30.00	18.26
954.00	2862.00	PK	12.22	H	6.20	32.29	3.00	50.71	-46.67	-30.00	16.67
954.00	2862.00	PK	13.07	V	6.20	32.29	3.00	51.56	-45.82	-30.00	15.82
954.00	3816.00	PK	11.65	H	6.39	33.16	3.00	51.20	-46.18	-30.00	16.18
954.00	3816.00	PK	11.94	V	6.39	33.16	3.00	51.49	-45.89	-30.00	15.89
954.00	4770.00	PK	11.89	H	7.00	33.91	3.00	52.80	-44.58	-30.00	14.58
954.00	4770.00	PK	11.58	V	7.00	33.91	3.00	52.49	-44.89	-30.00	14.89
954.00	5724.00	PK	11.22	H	8.10	34.62	3.00	53.94	-43.43	-30.00	13.43
954.00	5724.00	PK	12.31	V	8.10	34.62	3.00	55.03	-42.34	-30.00	12.34
954.00	6678.00	PK	12.36	H	9.14	35.69	3.00	57.19	-40.19	-30.00	10.19
954.00	6678.00	PK	11.27	V	9.14	35.69	3.00	56.10	-41.28	-30.00	11.28
954.00	7632.00	PK	11.16	H	10.01	35.91	3.00	57.08	-40.30	-30.00	10.30
954.00	7632.00	PK	11.31	V	10.01	35.91	3.00	57.23	-40.15	-30.00	10.15
954.00	8586.00	PK	11.04	H	10.10	36.02	3.00	57.16	-40.22	-30.00	10.22
954.00	8586.00	PK	11.68	V	10.10	36.02	3.00	57.80	-39.58	-30.00	9.58
954.00	9540.00	PK	11.87	H	10.66	36.51	3.00	59.04	-38.34	-30.00	8.34
954.00	9540.00	PK	11.53	V	10.66	36.51	3.00	58.70	-38.68	-30.00	8.68

8.4.7 Radiated Emissions Table, 959.85 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)
959.85	1919.70	PK	13.45	H	5.09	31.11	3.00	49.65	-47.72	-36.00	11.72
959.85	1919.70	PK	12.64	V	5.09	31.11	3.00	48.84	-48.53	-36.00	12.53
959.85	2879.55	PK	13.46	H	6.21	32.25	3.00	51.92	-45.46	-36.00	9.46
959.85	2879.55	PK	13.33	V	6.21	32.25	3.00	51.79	-45.59	-36.00	9.59
959.85	3839.40	PK	11.90	H	6.53	33.19	3.00	51.62	-45.76	-36.00	9.76
959.85	3839.40	PK	12.81	V	6.53	33.19	3.00	52.53	-44.85	-36.00	8.85
959.85	4799.25	PK	10.72	H	7.08	33.93	3.00	51.73	-45.64	-36.00	9.64
959.85	4799.25	PK	11.75	V	7.08	33.93	3.00	52.76	-44.61	-36.00	8.61
959.85	5759.10	PK	11.44	H	8.19	34.67	3.00	54.30	-43.08	-36.00	7.08
959.85	5759.10	PK	10.89	V	8.19	34.67	3.00	53.75	-43.63	-36.00	7.63
959.85	6718.95	PK	10.97	H	9.14	35.77	3.00	55.88	-41.50	-36.00	5.50
959.85	6718.95	PK	12.16	V	9.14	35.77	3.00	57.07	-40.31	-36.00	4.31
959.85	7678.80	PK	10.92	H	10.09	35.90	3.00	56.91	-40.46	-36.00	4.46
959.85	7678.80	PK	12.41	V	10.09	35.90	3.00	58.40	-38.97	-36.00	2.97
959.85	8638.65	PK	11.61	H	10.26	36.02	3.00	57.89	-39.48	-36.00	3.48
959.85	8638.65	PK	11.62	V	10.26	36.02	3.00	57.90	-39.47	-36.00	3.47
959.85	9598.50	PK	11.91	H	10.68	36.59	3.00	59.18	-38.19	-36.00	2.19
959.85	9598.50	PK	11.92	V	10.68	36.59	3.00	59.19	-38.18	-36.00	2.18

8.5 Frequency Stability

Limits from 2.1046(a), 74.861(e) (4) and test procedure from ANSI C63.26.

Test Setup


Test Results, Mode 1		
Tuned Frequency (MHz)	Max Deviation (kHz)	Limit (ppm)
470.075	0.160	50

Frequency Stability, Tabular Data

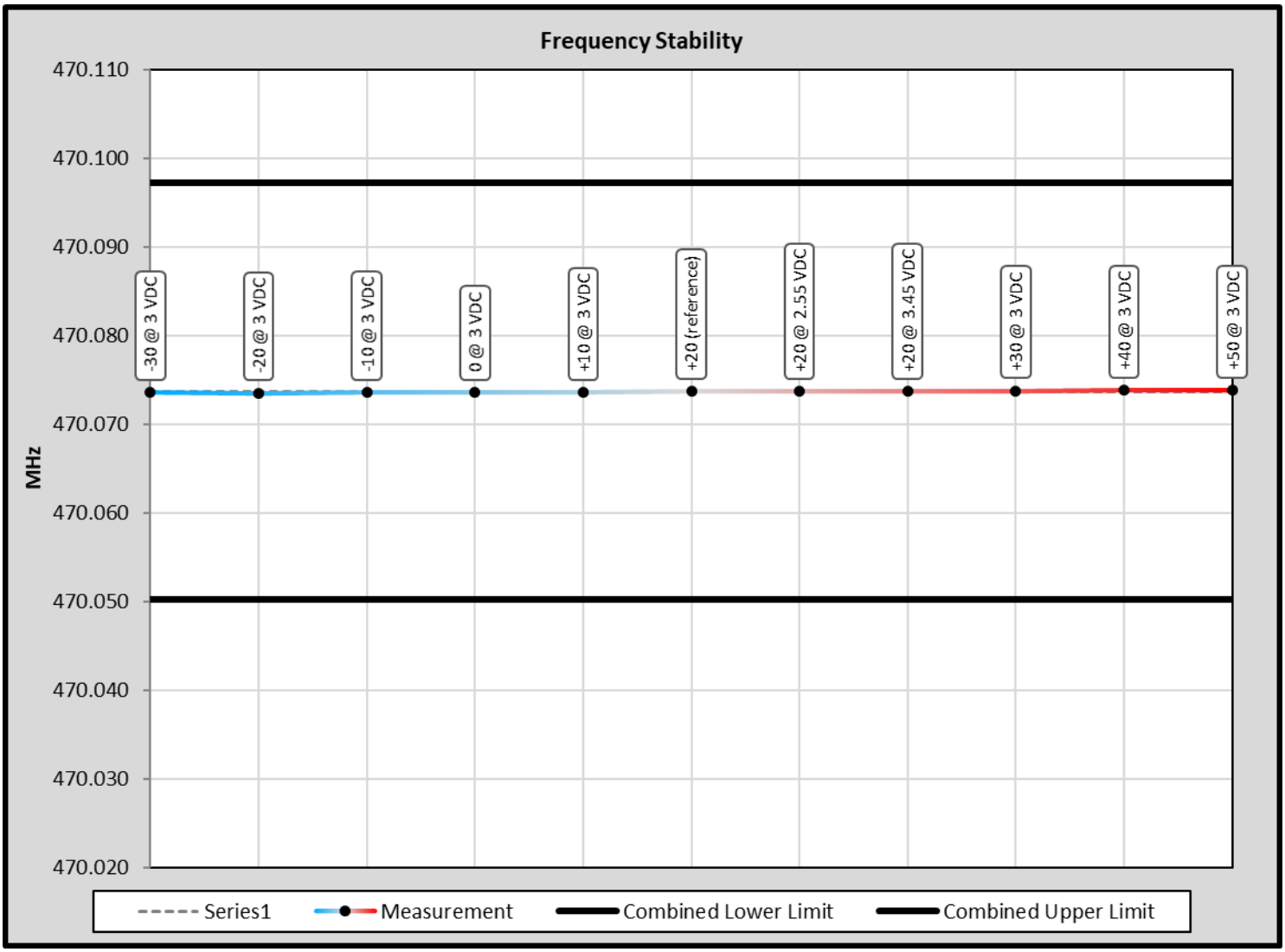
8.5.1 Frequency Stability Data

FCC Part 74 Limit	50.0	ppm
FCC Part 74 Limit, as ppb	50000	ppb (Parts per Billion)
FCC Part 74 Limit, as %	0.00500	%
Strictest Combined Limit, as Hz	23503.683	Hz
Combined Lower Limit	470.050156	MHz
Combined Upper Limit	470.097164	MHz
Rated Supply Voltage	3.0	○ AC ◉ DC

Temperature / Voltage Variation

Temperature (°C)	Supplied Voltage (V)	Frequency (MHz)	Deviation (kHz)
-30	3.0	470.073570	0.090
-20	3.0	470.073500	0.160
-10	3.0	470.073550	0.110
0	3.0	470.073590	0.070
+10	3.0	470.073590	0.070
+20 (reference)	3.0	470.073660	0.000
+20	2.6	470.073660	0.000
+20	3.5	470.073660	0.000
+30	3.0	470.073760	-0.100
+40	3.0	470.073800	-0.140
+50	3.0	470.073790	-0.130

8.5.2 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 a separate document.

10. ANNEX-B – Test Setup Photographs

Test setup photographs are located in a separate document.

11. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_4933-21_PT 74H_	1	Initial release	10/4/2021
	2	Updated pages 55-61	11/9/2021

END OF TEST REPORT