



# Test Report – FCC PART 15.236 LOW POWER UNLICENSED 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 C63.10. 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.

| Applicable Clauses from Part 15.236 |                                 |                           |
|-------------------------------------|---------------------------------|---------------------------|
| FCC Clauses                         | Description of the requirements | Result: (Pass, Fail, N/A) |
| 15.236 (c) (1) – (6)                | Permissible Frequency Bands     | Pass                      |
| 15.236 (d) (1) – (2)                | Maximum Radiated Power          | Pass                      |
| 15.236 (f) (1) – (2)                | Channel Aggregation & Bandwidth | Pass                      |
| 15.236 (f) (3)                      | Frequency Tolerance             | Pass                      |
| 15.236 (g)                          | Radiated Emissions, In-band     | Pass                      |

| Other Applicable Clauses from Part 2 and Part 15 Subpart C |                                 |                           |
|------------------------------------------------------------|---------------------------------|---------------------------|
| FCC Clauses                                                | Description of the requirements | Result: (Pass, Fail, N/A) |
| 15.203                                                     | Antenna requirements            | Pass                      |
| 15.205                                                     | Restricted bands of operation   | Pass                      |
| 15.207                                                     | AC Power Conducted Emissions    | n/a                       |
| 15.209                                                     | Radiated Emissions, Out-of-band | Pass                      |
| 15.211                                                     | Tunnel Radio Systems            | n/a                       |
| 15.212 (a)                                                 | Single Modular Transmitter      | n/a                       |
| 15.212 (b)                                                 | Limited Modular Transmitter     | n/a                       |
| 15.213                                                     | Cable Locating Equipment        | n/a                       |
| 15.214                                                     | Cordless Telephones             | n/a                       |

## 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

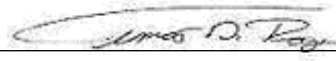
EU Notified Body # 1177

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



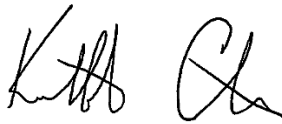
Name & Title:

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     | 0990004             |

| Technical Characteristics    |                                        |
|------------------------------|----------------------------------------|
| Technology                   | Wireless Microphone                    |
| Frequency Range              | 470-608 MHz, 614-616 MHz, 657-663 MHz, |
| Modulation                   | Frequency Modulation                   |
| Number of Channels           | 10                                     |
| Duty Cycle                   | 100%                                   |
| Antenna Connector            | LEMO 1pin                              |
| Voltage Rating (AC or Batt.) | Battery, 3V                            |

| Antenna Characteristics |                 |           |              |
|-------------------------|-----------------|-----------|--------------|
| Antenna                 | Frequency Range | Mode / BW | Antenna Gain |
| 507                     | 470-547 MHz     | Transmit  | 0.4 dBi      |
| 590                     | 547-663         | Transmit  | 1.2 dBi      |

### 3.2 Configuration of EUT

| Band (MHz) | Mode     | Number of Ant. |
|------------|----------|----------------|
| 470-608    | Transmit | 1              |
| 614-616    | Transmit | 1              |
| 657-663    | Transmit | 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 C63.10. Full test results are available in this report.

Limits and Regulatory Limits:

- 1) FCC Part 15.236

#### 5. Measurement Uncertainty

| Parameter                                                                                                                                                                   | Uncertainty (dB) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Conducted Emissions                                                                                                                                                         | $\pm 3.14$ dB    |
| Radiated Emissions (9kHz – 30 MHz)                                                                                                                                          | $\pm 3.08$ dB    |
| Radiated Emissions (30 – 200 MHz)                                                                                                                                           | $\pm 2.16$ dB    |
| Radiated Emissions (200 – 1000 MHz)                                                                                                                                         | $\pm 2.15$ dB    |
| Radiated Emissions (1 GHz – 18 GHz)                                                                                                                                         | $\pm 2.14$ dB    |
| Radiated Emissions (18 GHz – 40 GHz)                                                                                                                                        | $\pm 2.31$ dB    |
| <b>Note:</b> 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 |
| <b>Note:</b> 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  |

| Software       |                 |                          |               |
|----------------|-----------------|--------------------------|---------------|
| Software       | Author          | Version                  | Validation on |
| 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.

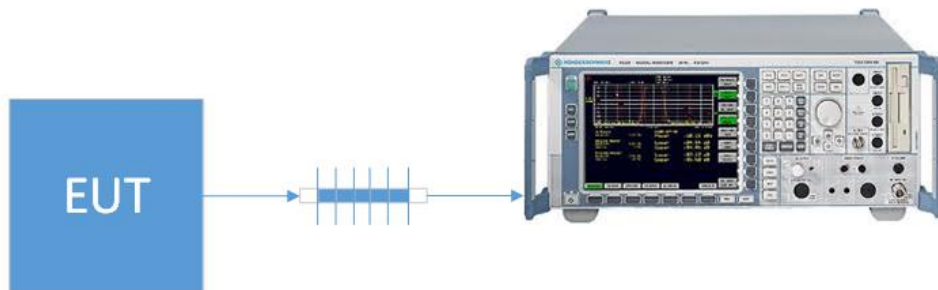
The measurement results, along with the appropriate limits for comparison, may be presented in tabular or graphical form. In addition, any variation in the measurement environment may be reported if applicable (e.g., a significant change of temperature that could affect the cable loss and amplifier response).

### 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 dB $\mu$ 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 $\mu$ 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 $\mu$ 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.

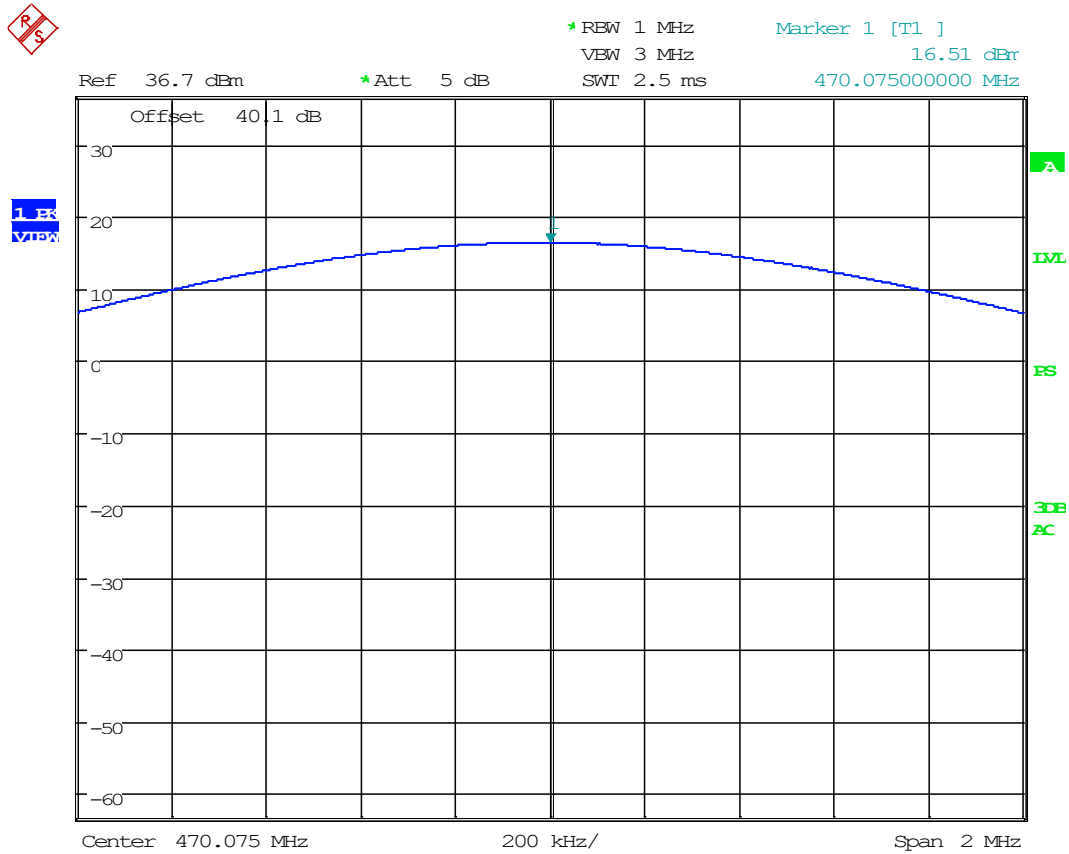
## 8.1 RF POWER OUTPUT

Limits from Part 2.1046 ,15.236 (d) (1) and test procedure from ANSI C63.10.



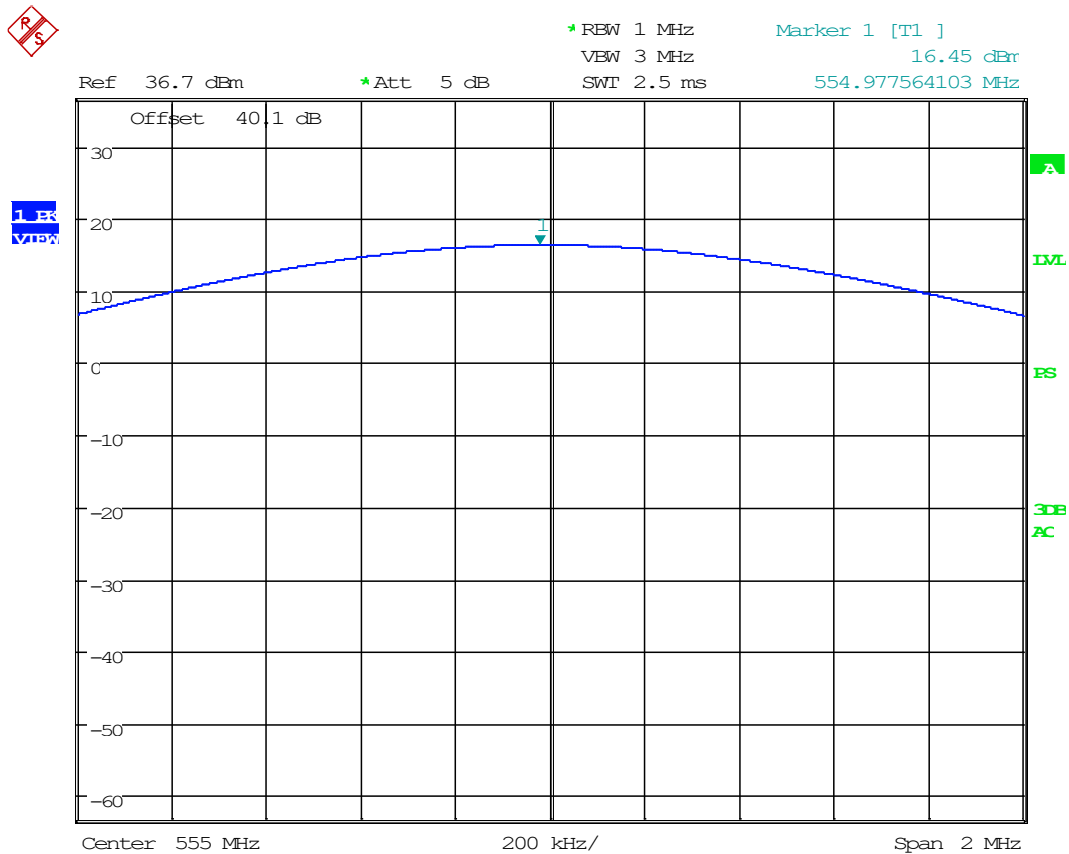
| Test Results          |                    |                  |            |
|-----------------------|--------------------|------------------|------------|
| Tuned Frequency (MHz) | Power Output (dBm) | Power Output (W) | Limit (mW) |
| 470.075               | 16.51              | 0.0448           | 50         |
| 555                   | 16.45              | 0.0442           | 50         |
| 607.925               | 16.45              | 0.0442           | 50         |
| 614.075               | 12.36              | 0.017            | 20         |
| 615.925               | 12.35              | 0.017            | 20         |
| 662.925               | 12.37              | 0.017            | 20         |

### 8.1.1 Test Data: RF Power Output Measurement Table, 470.075 MHz



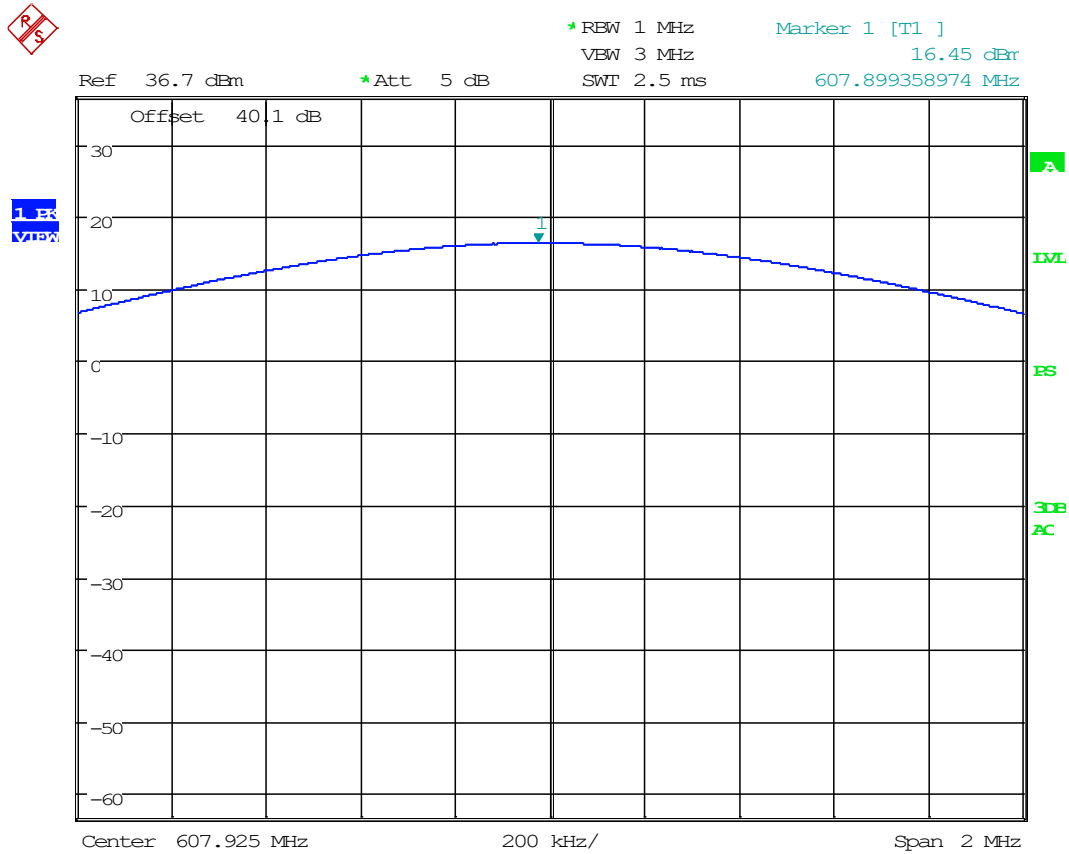
Date: 15.NOV.2021 11:13:11

## 8.1.2 Test Data: RF Power Output Measurement Table, 555 MHz



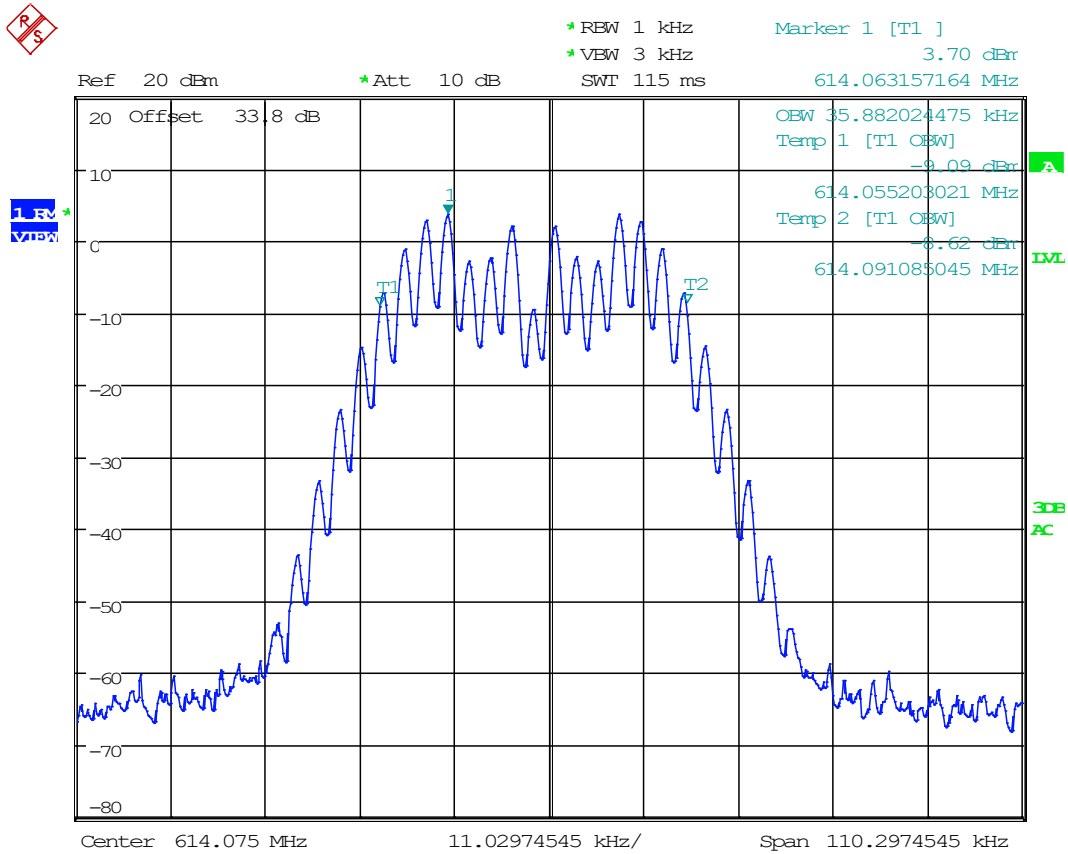
Date: 15.NOV.2021 11:16:23

### 8.1.3 Test Data: RF Power Output Measurement Table, 607.925 MHz



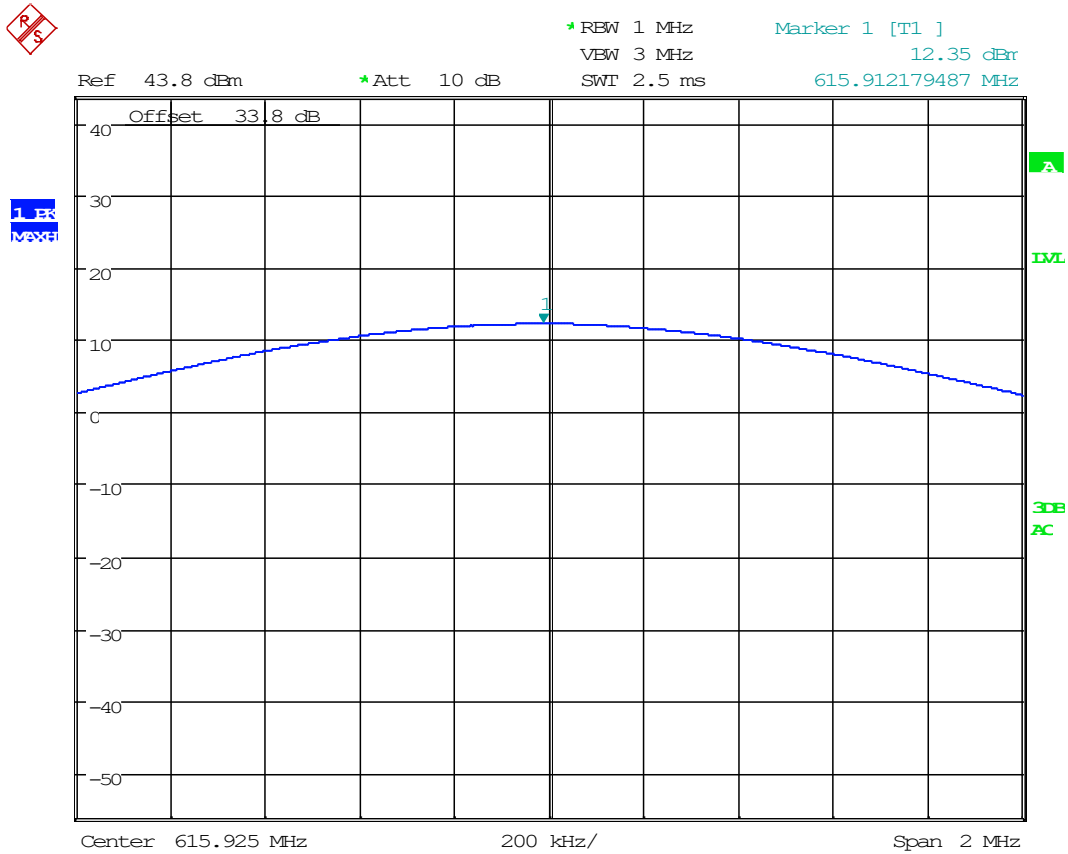
Date: 15.NOV.2021 11:18:05

## 8.1.4 Test Data: RF Power Output Measurement Table, 614.075 MHz



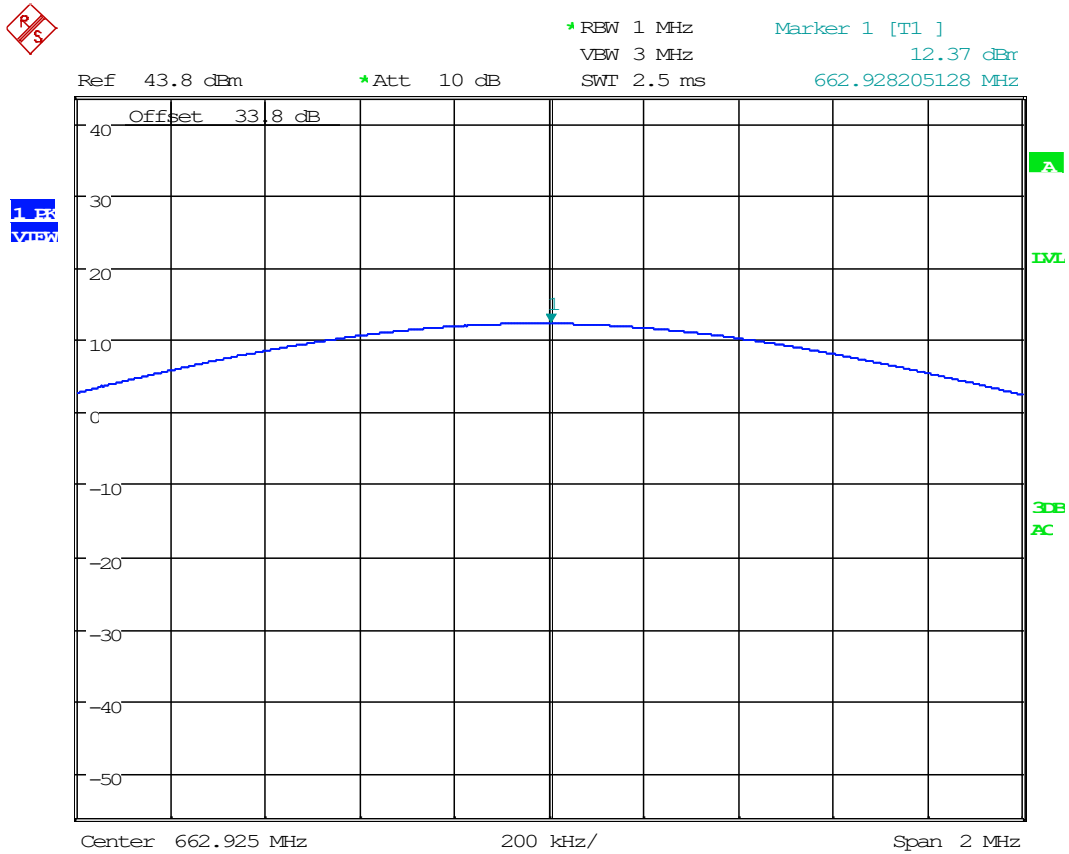
Date: 30.SEP.2021 11:59:36

### 8.1.5 Test Data: RF Power Output Measurement Table, 615.925 MHz



Date: 30.SEP.2021 10:12:51

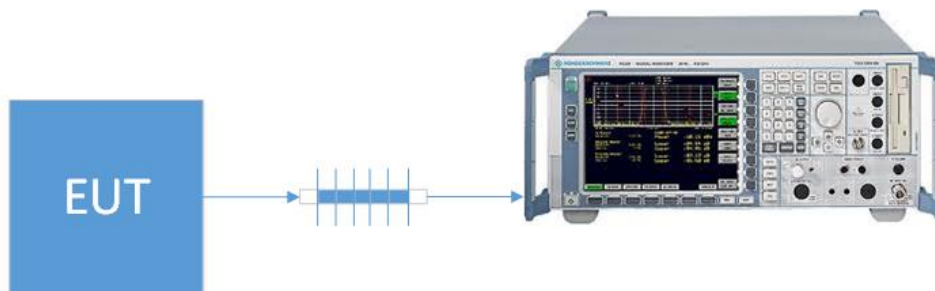
## 8.1.6 Test Data: RF Power Output Measurement Table, 662.925 MHz



Date: 30.SEP.2021 10:14:45

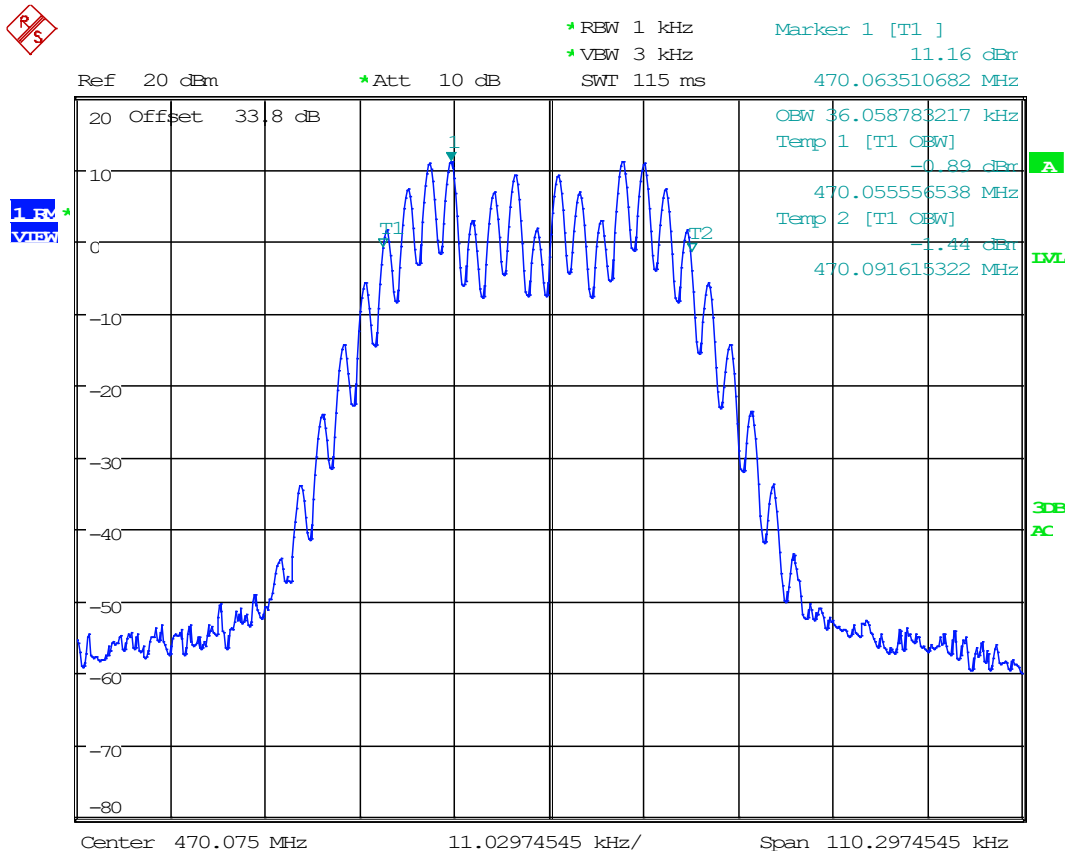
## 8.2 OCCUPIED BANDWIDTH

Limits from Part 2.1046 ,15.236 and test procedure from ANSI C63.10.



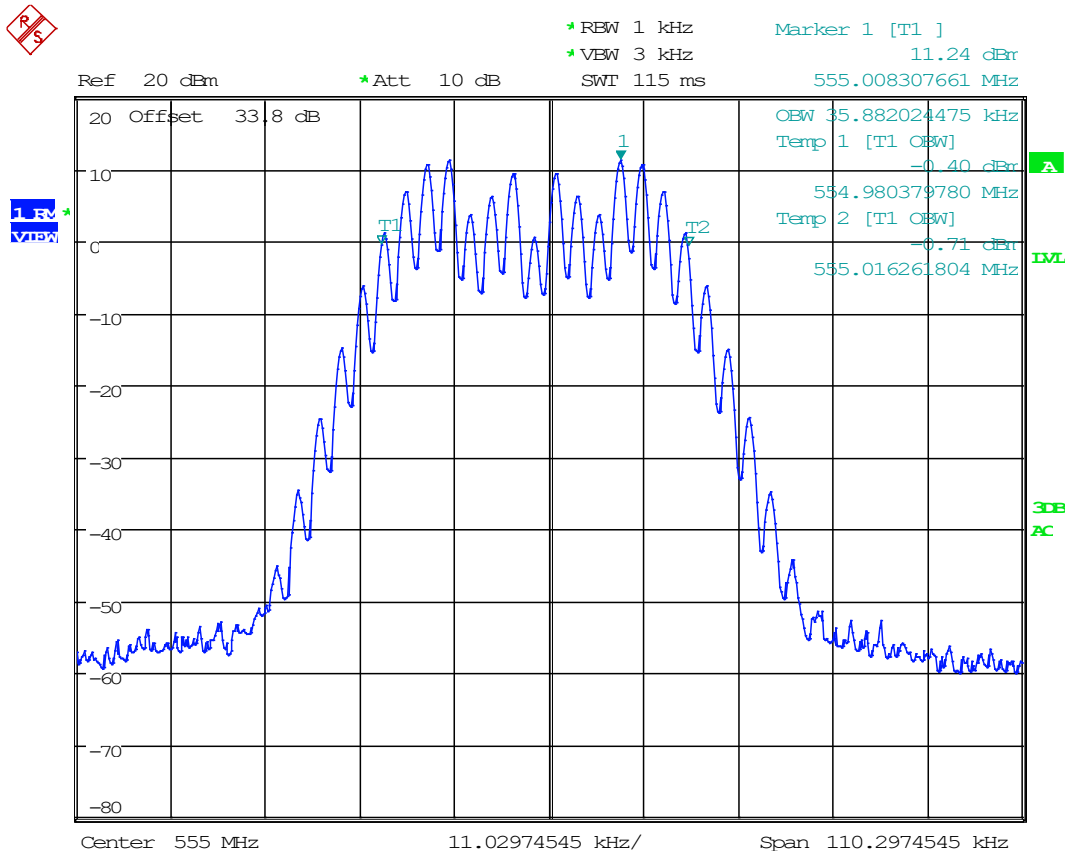
| Tuned Frequency (MHz) | 99% BW (kHz) |
|-----------------------|--------------|
| 470.075               | 36.059       |
| 555                   | 35.882       |
| 607.925               | 35.882       |
| 614.075               | 35.882       |
| 615.925               | 36.412       |
| 662.925               | 35.705       |

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



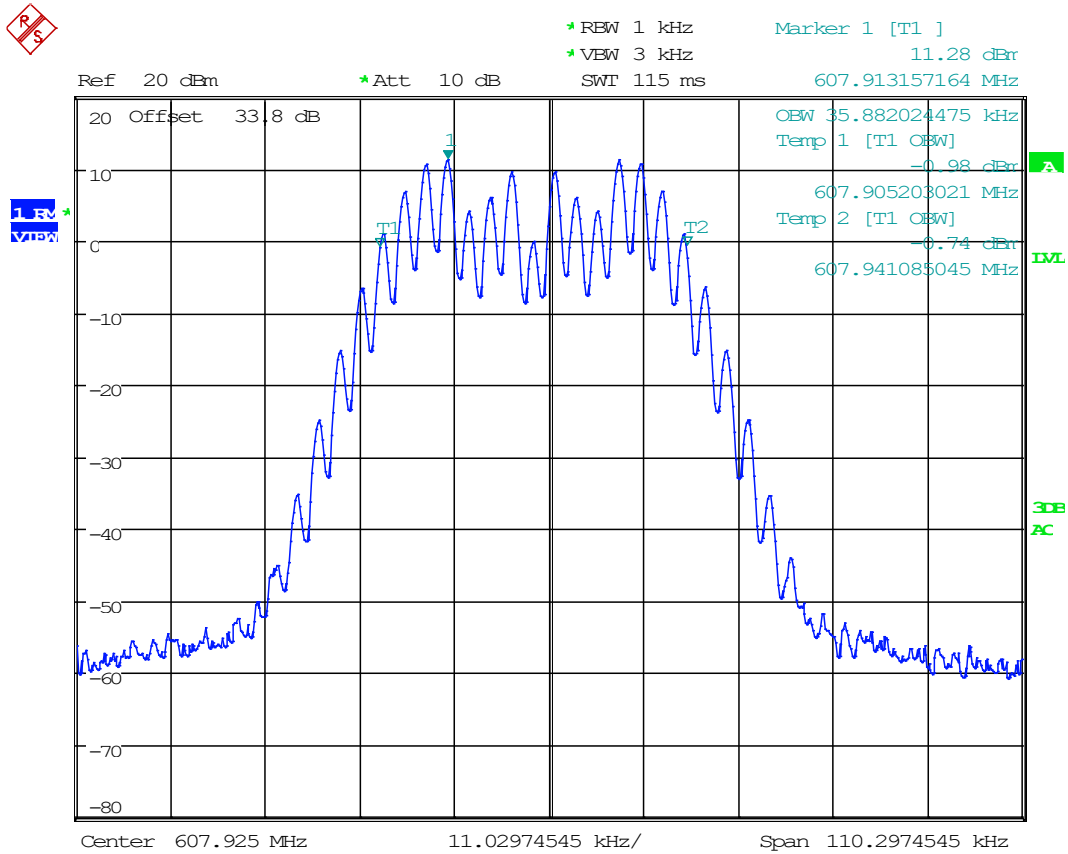
Date: 30.SEP.2021 11:57:00

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



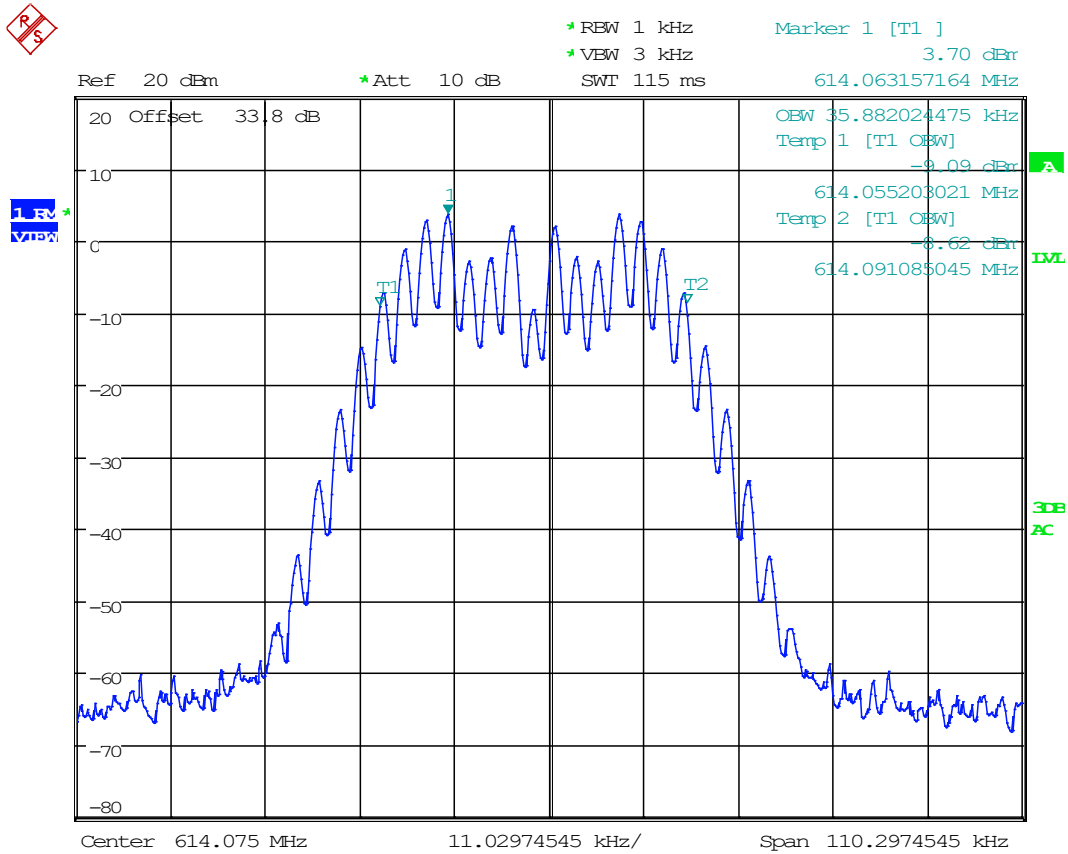
Date: 30.SEP.2021 11:57:56

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



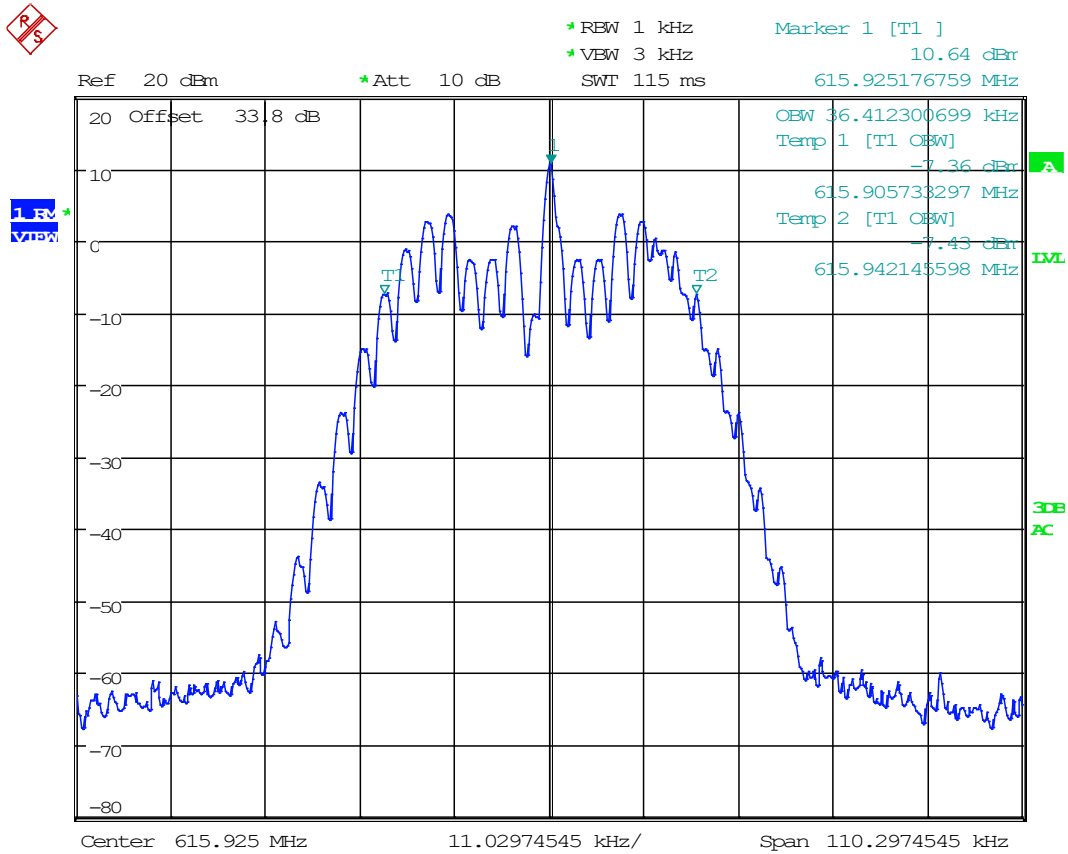
Date: 30.SEP.2021 11:58:43

## 8.2.4 Test Data: 99% Occupied Bandwidth Measurement Plot, 614.075 MHz



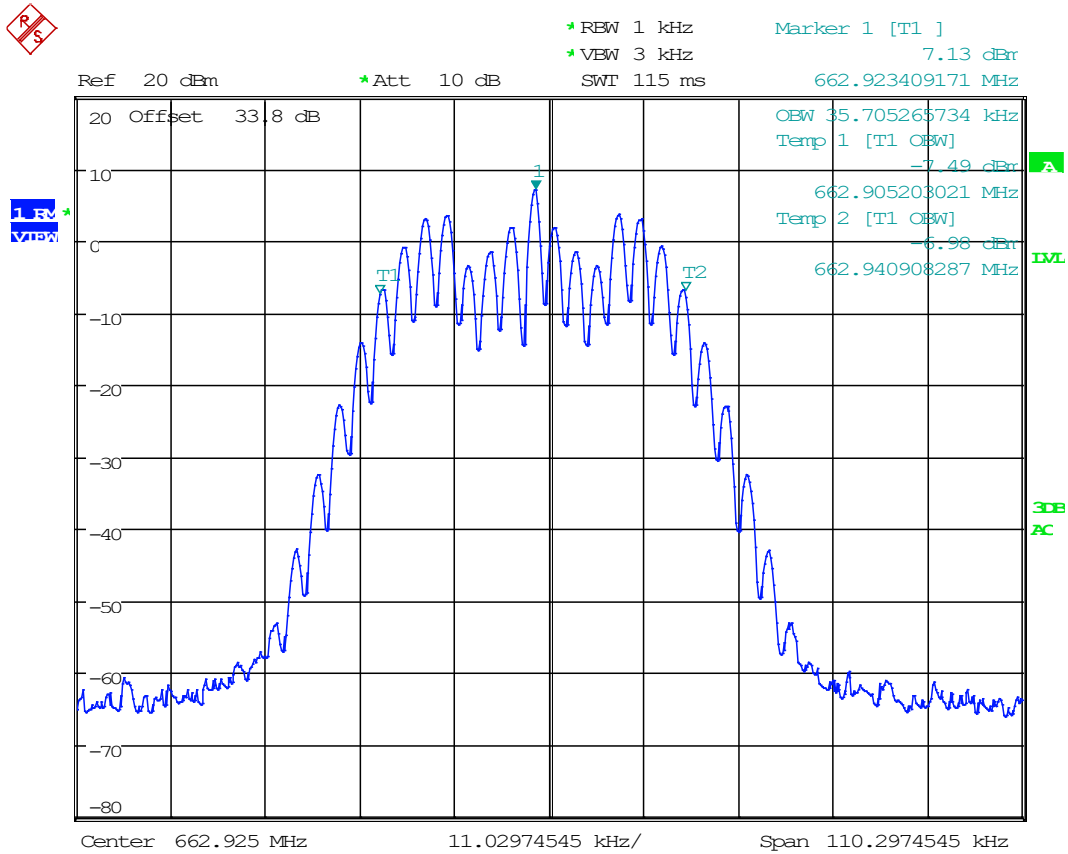
Date: 30.SEP.2021 11:59:36

## 8.2.5 Test Data: 99% Occupied Bandwidth Measurement Plot, 615.925 MHz



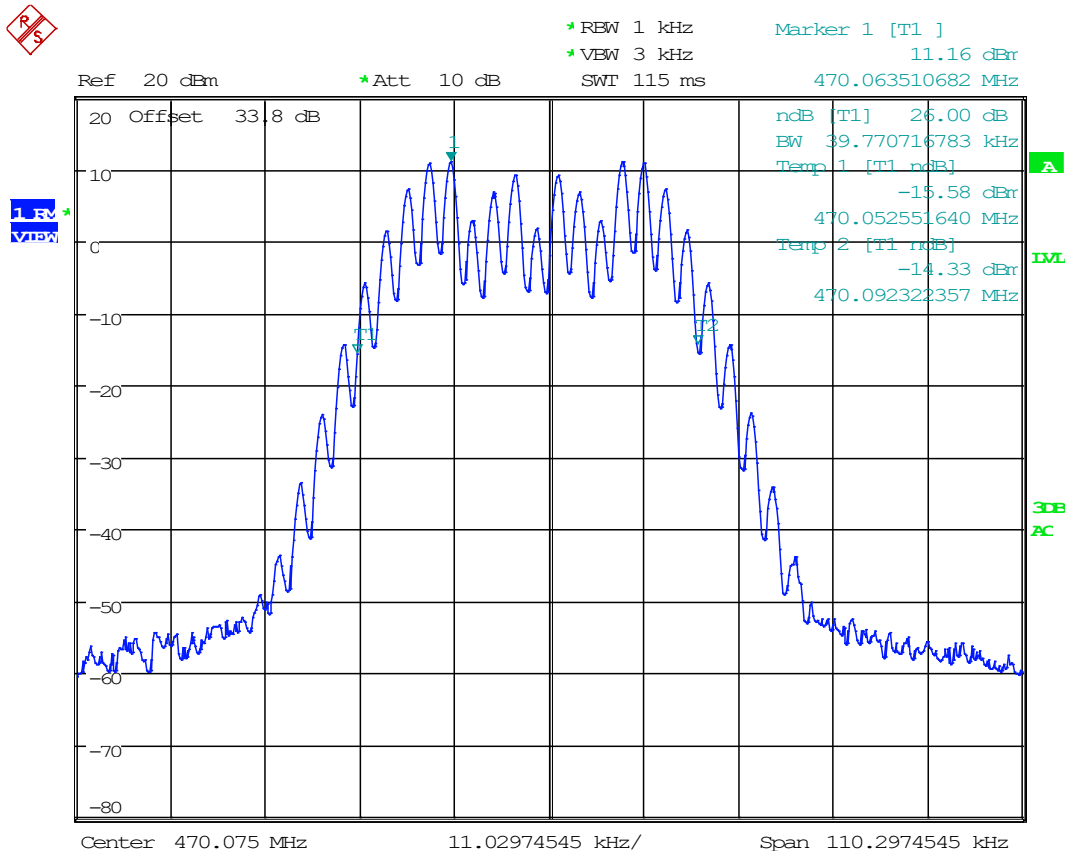
Date: 30.SEP.2021 12:00:18

## 8.2.6 Test Data: 99% Occupied Bandwidth Measurement Plot, 662.925 MHz



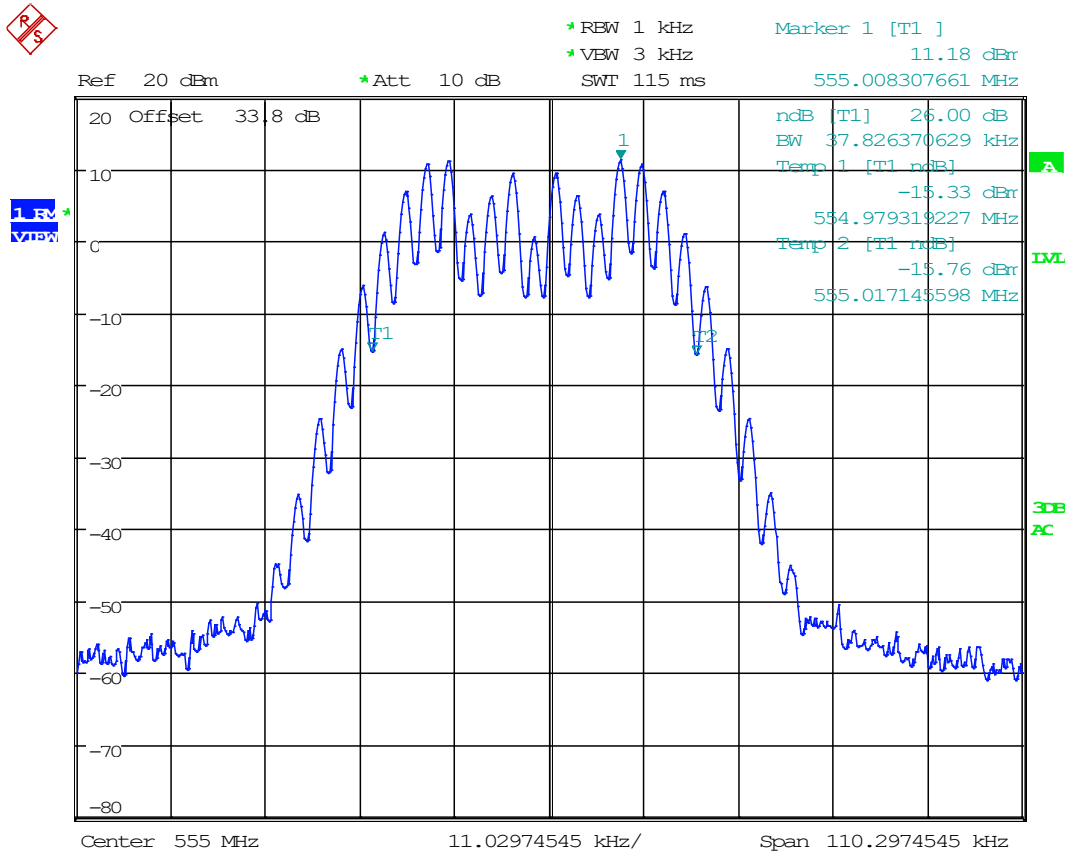
Date: 30.SEP.2021 12:02:33

## 8.2.7 Test Data: 26dB Occupied Bandwidth Measurement Plot, 470.075 MHz



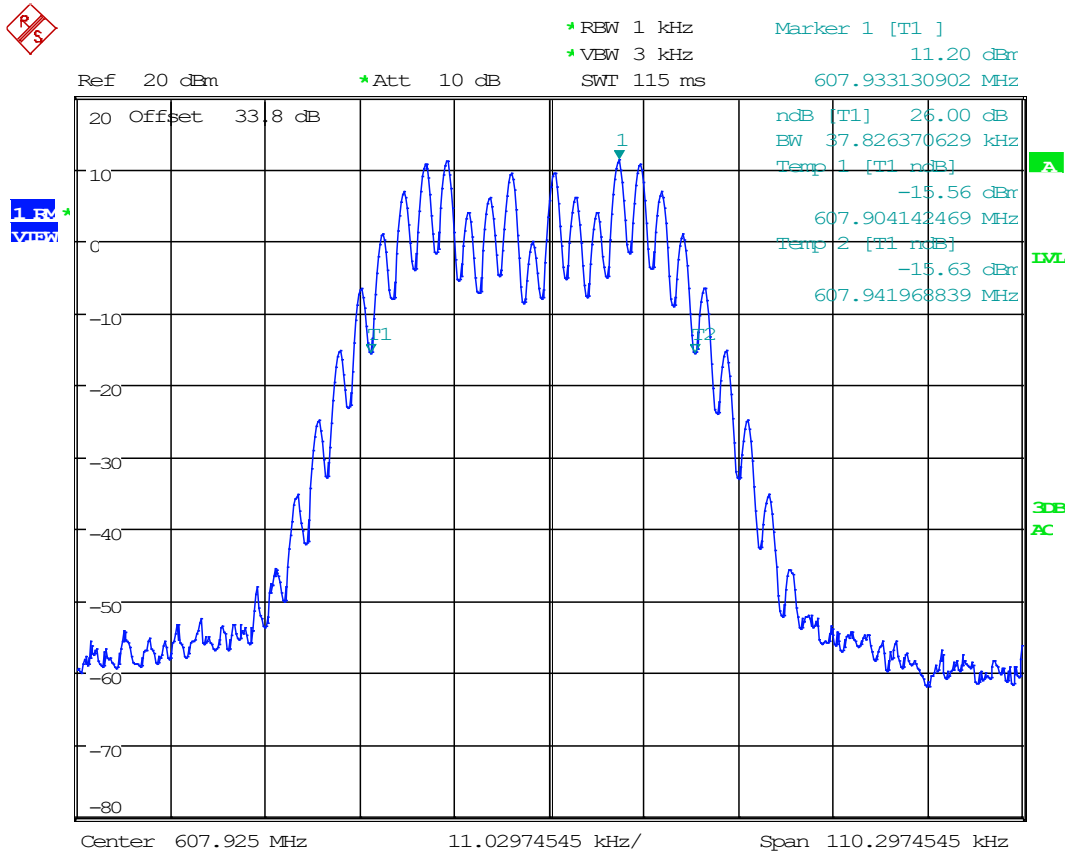
Date: 30.SEP.2021 13:52:55

## 8.2.8 Test Data: 26dB Occupied Bandwidth Measurement Plot, 555 MHz



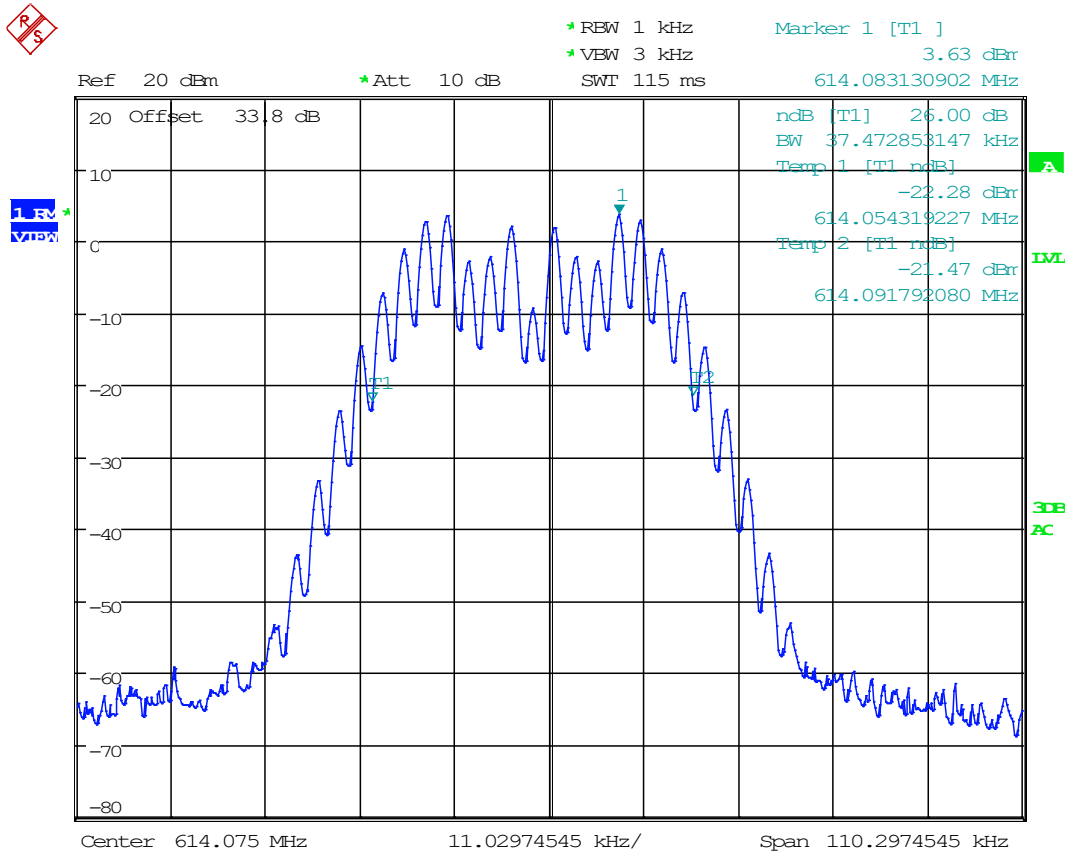
Date: 30.SEP.2021 13:52:23

## 8.2.9 Test Data: 26dB Occupied Bandwidth Measurement Plot, 607.925 MHz



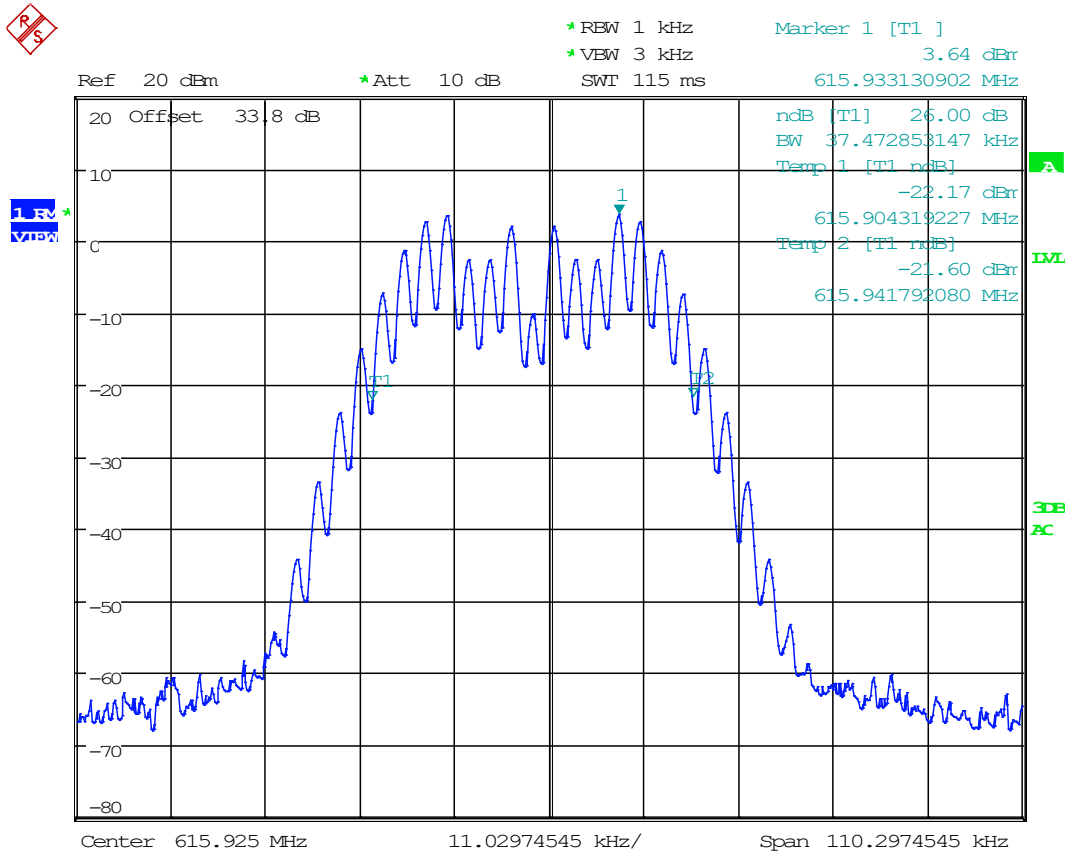
Date: 30.SEP.2021 13:51:40

## 8.2.10 Test Data: 26dB Occupied Bandwidth Measurement Plot, 614.075 MHz



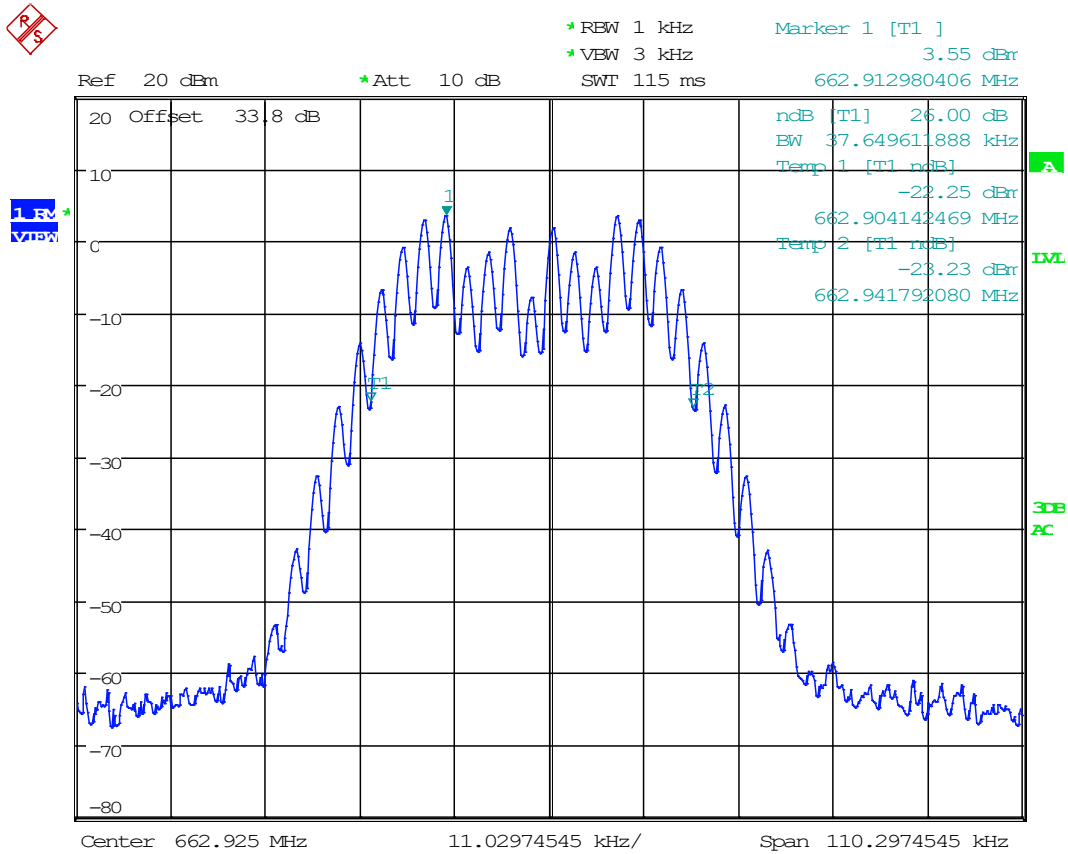
Date: 30.SEP.2021 13:51:07

## 8.2.11 Test Data: 26dB Occupied Bandwidth Measurement Plot, 615.925 MHz



Date: 30.SEP.2021 13:50:26

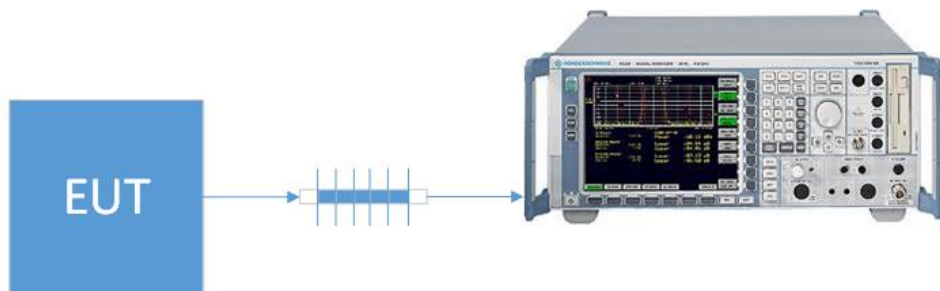
## 8.2.12 Test Data: 26dB Occupied Bandwidth Measurement Plot, 662.925 MHz



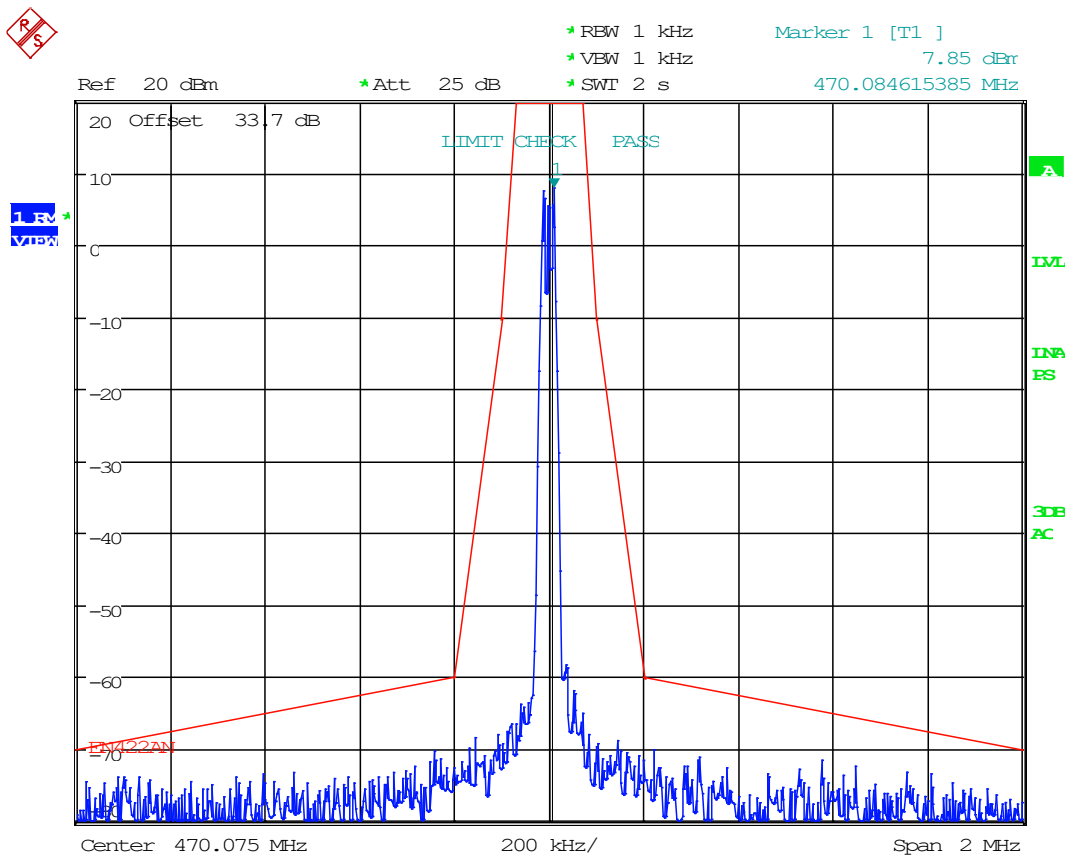
Date: 30.SEP.2021 13:48:57

### 8.3 OCCUPIED BANDWIDTH (Mask)

Limits from Part FCC Part 15.236 (g) and test procedure from ANSI C63.10.

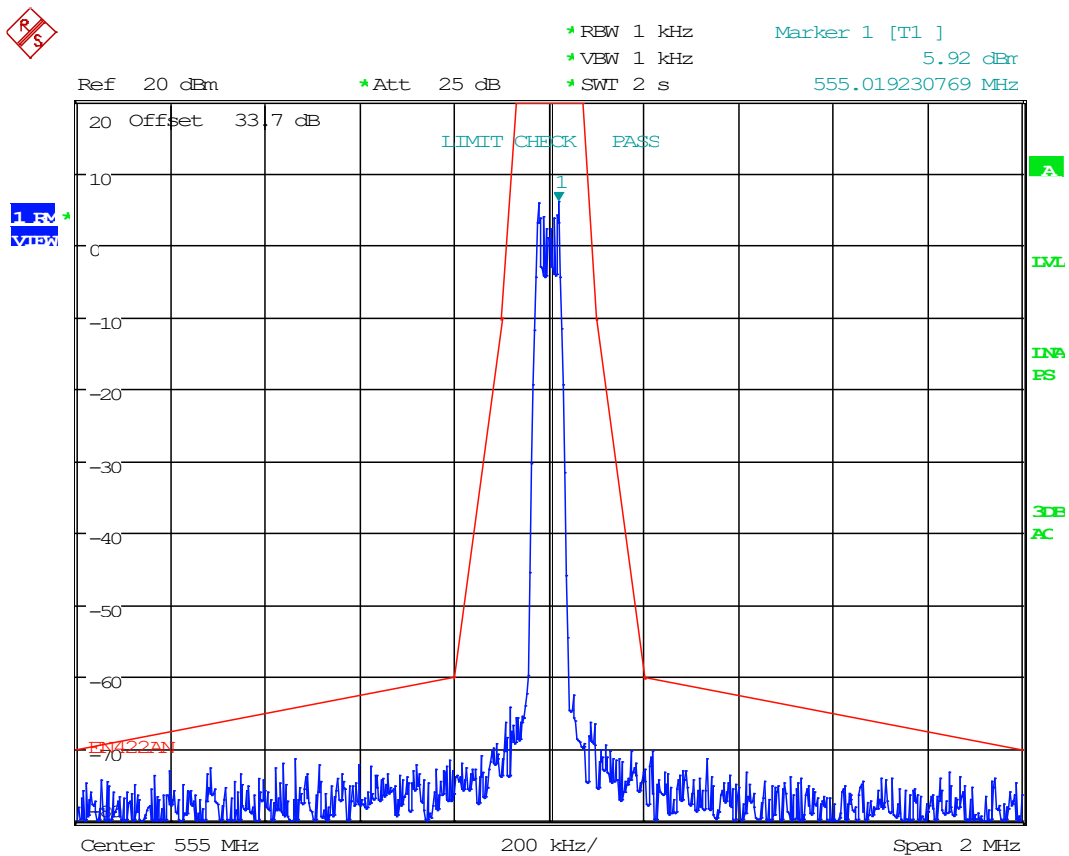


### 8.3.1 Test Data: Emission Mask Plot, 470.075 MHz



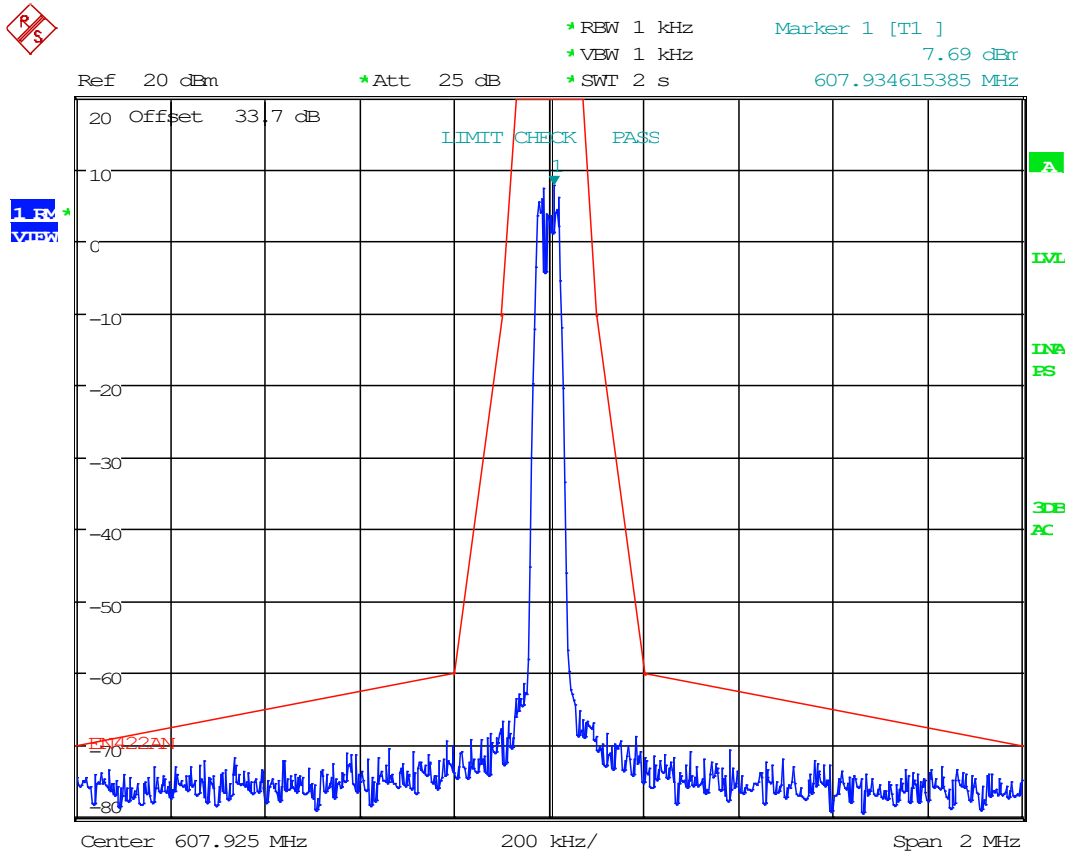
Date: 25.OCT.2021 10:30:28

### 8.3.2 Test Data: Emission Mask Plot, 555 MHz



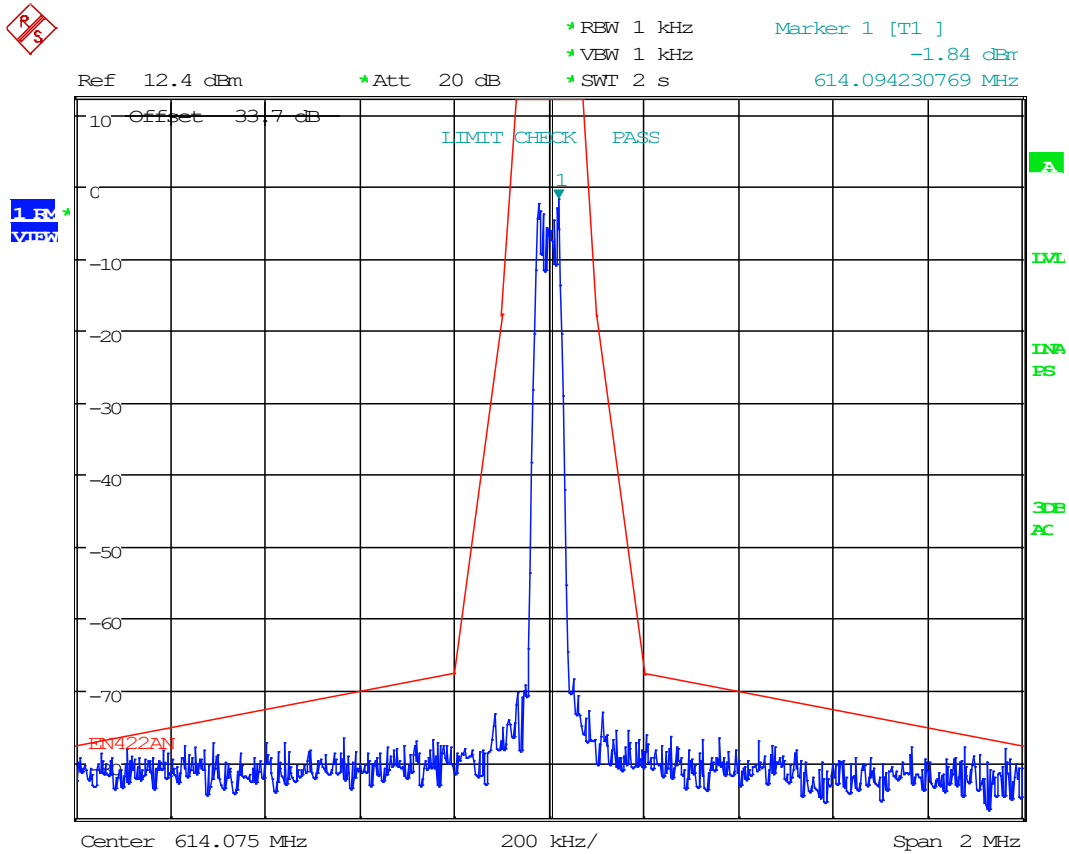
Date: 25.OCT.2021 10:31:39

### 8.3.3 Test Data: Emission Mask Plot, 607.925 MHz



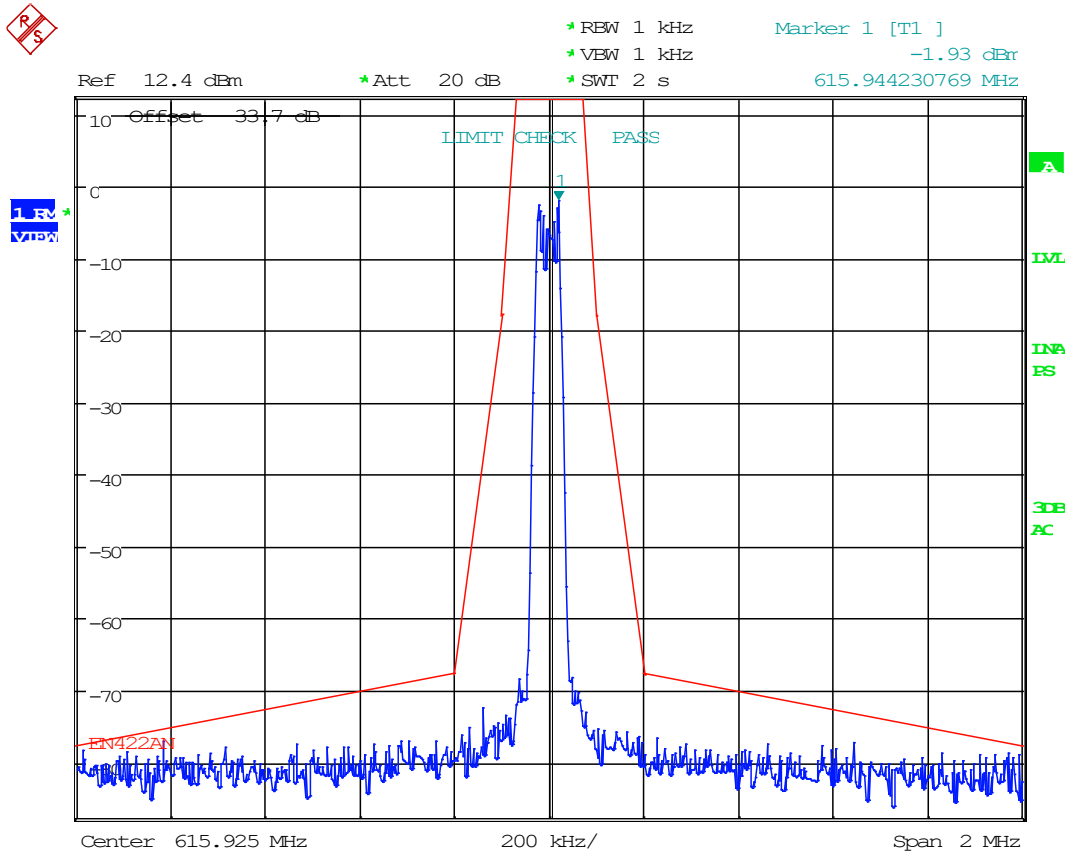
Date: 25.OCT.2021 10:33:26

### 8.3.4 Test Data: Emission Mask Plot, 614.075 MHz



Date: 25.OCT.2021 10:37:32

### 8.3.5 Test Data: Emission Mask Plot, 615.925 MHz



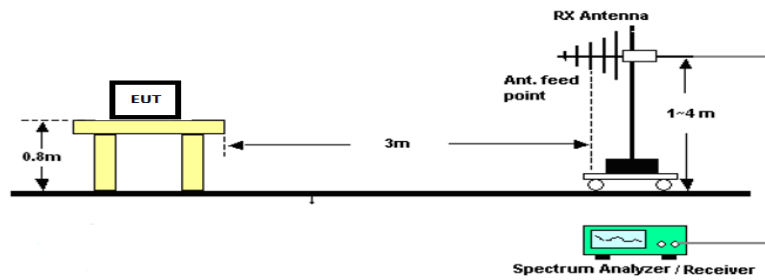
Date: 25.OCT.2021 10:38:36



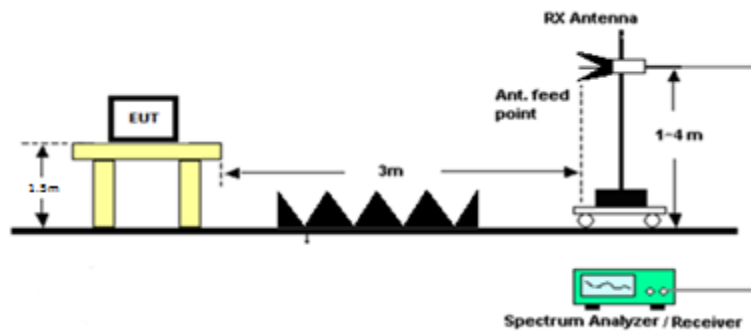
## 8.4 Radiated Emissions

Limits from FCC Part 15.236 (g) and test procedure from ANSI C63.10.

### 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 (dBuV/m) | ERP (dBm) | Spurious Limit (dBm) | Margin (dBm) |
|-----------------------|--------------------------|----------|----------------------|------------------|----------------|----------------------------------|--------------|-------------------------|-----------|----------------------|--------------|
| 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 (dBuV/m) | ERP (dBm) | Spurious Limit (dBm) | Margin (dBm) |
|-----------------------|--------------------------|----------|----------------------|------------------|----------------|----------------------------------|--------------|-------------------------|-----------|----------------------|--------------|
| 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 (dBuV/m) | ERP (dBm) | Spurious Limit (dBm) | Margin (dBm) |
|-----------------------|--------------------------|----------|----------------------|------------------|----------------|----------------------------------|--------------|-------------------------|-----------|----------------------|--------------|
| 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, 614.075 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 (dBuV/m) | ERP (dBm) | Spurious Limit (dBm) | Margin (dBm) |
|-----------------------|--------------------------|----------|----------------------|------------------|----------------|----------------------------------|--------------|-------------------------|-----------|----------------------|--------------|
| 614.08                | 1228.15                  | PK       | 11.93                | H                | 4.04           | 28.26                            | 3.00         | 44.23                   | -53.15    | -30.00               | 23.15        |
| 614.08                | 1228.15                  | PK       | 12.87                | V                | 4.04           | 28.26                            | 3.00         | 45.17                   | -52.21    | -30.00               | 22.21        |
| 614.08                | 1842.23                  | PK       | 11.77                | H                | 4.96           | 30.79                            | 3.00         | 47.52                   | -49.85    | -30.00               | 19.85        |
| 614.08                | 1842.23                  | PK       | 12.05                | V                | 4.96           | 30.79                            | 3.00         | 47.80                   | -49.57    | -30.00               | 19.57        |
| 614.08                | 2456.30                  | PK       | 13.03                | H                | 5.61           | 31.89                            | 3.00         | 50.54                   | -46.84    | -30.00               | 16.84        |
| 614.08                | 2456.30                  | PK       | 12.58                | V                | 5.61           | 31.89                            | 3.00         | 50.09                   | -47.29    | -30.00               | 17.29        |
| 614.08                | 3070.38                  | PK       | 12.39                | H                | 6.43           | 32.69                            | 3.00         | 51.50                   | -45.87    | -30.00               | 15.87        |
| 614.08                | 3070.38                  | PK       | 12.52                | V                | 6.43           | 32.69                            | 3.00         | 51.63                   | -45.74    | -30.00               | 15.74        |
| 614.08                | 3684.45                  | PK       | 11.45                | H                | 6.63           | 33.19                            | 3.00         | 51.27                   | -46.11    | -30.00               | 16.11        |
| 614.08                | 3684.45                  | PK       | 11.20                | V                | 6.63           | 33.19                            | 3.00         | 51.02                   | -46.36    | -30.00               | 16.36        |
| 614.08                | 4298.53                  | PK       | 11.48                | H                | 7.47           | 33.46                            | 3.00         | 52.41                   | -44.97    | -30.00               | 14.97        |
| 614.08                | 4298.53                  | PK       | 11.12                | V                | 7.47           | 33.46                            | 3.00         | 52.05                   | -45.33    | -30.00               | 15.33        |
| 614.08                | 4912.60                  | PK       | 11.57                | H                | 7.59           | 33.92                            | 3.00         | 53.08                   | -44.29    | -30.00               | 14.29        |
| 614.08                | 4912.60                  | PK       | 11.64                | V                | 7.59           | 33.92                            | 3.00         | 53.15                   | -44.22    | -30.00               | 14.22        |
| 614.08                | 5526.68                  | PK       | 11.57                | H                | 8.06           | 34.43                            | 3.00         | 54.06                   | -43.31    | -30.00               | 13.31        |
| 614.08                | 5526.68                  | PK       | 11.50                | V                | 8.06           | 34.43                            | 3.00         | 53.99                   | -43.38    | -30.00               | 13.38        |
| 614.08                | 6140.75                  | PK       | 11.47                | H                | 8.61           | 35.32                            | 3.00         | 55.41                   | -41.97    | -30.00               | 11.97        |
| 614.08                | 6140.75                  | PK       | 11.10                | V                | 8.61           | 35.32                            | 3.00         | 55.04                   | -42.34    | -30.00               | 12.34        |

#### 8.4.5 Radiated Emissions Table, 615.925 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 (dBuV/m) | ERP (dBm) | Spurious Limit (dBm) | Margin (dBm) |
|-----------------------|--------------------------|----------|----------------------|------------------|----------------|----------------------------------|--------------|-------------------------|-----------|----------------------|--------------|
| 615.93                | 1231.85                  | PK       | 12.43                | H                | 4.05           | 28.28                            | 3.00         | 44.76                   | -52.62    | -30.00               | 22.62        |
| 615.93                | 1231.85                  | PK       | 12.32                | V                | 4.05           | 28.28                            | 3.00         | 44.65                   | -52.73    | -30.00               | 22.73        |
| 615.93                | 1847.78                  | PK       | 11.94                | H                | 4.97           | 30.86                            | 3.00         | 47.77                   | -49.61    | -30.00               | 19.61        |
| 615.93                | 1847.78                  | PK       | 11.90                | V                | 4.97           | 30.86                            | 3.00         | 47.73                   | -49.65    | -30.00               | 19.65        |
| 615.93                | 2463.70                  | PK       | 13.25                | H                | 5.61           | 31.96                            | 3.00         | 50.82                   | -46.55    | -30.00               | 16.55        |
| 615.93                | 2463.70                  | PK       | 13.11                | V                | 5.61           | 31.96                            | 3.00         | 50.68                   | -46.69    | -30.00               | 16.69        |
| 615.93                | 3079.63                  | PK       | 13.23                | H                | 6.44           | 32.71                            | 3.00         | 52.38                   | -45.00    | -30.00               | 15.00        |
| 615.93                | 3079.63                  | PK       | 13.12                | V                | 6.44           | 32.71                            | 3.00         | 52.27                   | -45.11    | -30.00               | 15.11        |
| 615.93                | 3695.55                  | PK       | 11.43                | H                | 6.61           | 33.19                            | 3.00         | 51.23                   | -46.15    | -30.00               | 16.15        |
| 615.93                | 3695.55                  | PK       | 11.63                | V                | 6.61           | 33.19                            | 3.00         | 51.43                   | -45.95    | -30.00               | 15.95        |
| 615.93                | 4311.48                  | PK       | 11.73                | H                | 7.55           | 33.49                            | 3.00         | 52.76                   | -44.62    | -30.00               | 14.62        |
| 615.93                | 4311.48                  | PK       | 11.25                | V                | 7.55           | 33.49                            | 3.00         | 52.28                   | -45.10    | -30.00               | 15.10        |
| 615.93                | 4927.40                  | PK       | 12.05                | H                | 7.71           | 33.93                            | 3.00         | 53.69                   | -43.69    | -30.00               | 13.69        |
| 615.93                | 4927.40                  | PK       | 12.79                | V                | 7.71           | 33.93                            | 3.00         | 54.43                   | -42.95    | -30.00               | 12.95        |
| 615.93                | 5543.33                  | PK       | 12.07                | H                | 8.06           | 34.41                            | 3.00         | 54.54                   | -42.84    | -30.00               | 12.84        |
| 615.93                | 5543.33                  | PK       | 12.09                | V                | 8.06           | 34.41                            | 3.00         | 54.56                   | -42.82    | -30.00               | 12.82        |
| 615.93                | 6159.25                  | PK       | 12.21                | H                | 8.63           | 35.34                            | 3.00         | 56.18                   | -41.20    | -30.00               | 11.20        |
| 615.93                | 6159.25                  | PK       | 12.29                | V                | 8.63           | 35.34                            | 3.00         | 56.26                   | -41.12    | -30.00               | 11.12        |

#### 8.4.6 Radiated Emissions Table, 662.925 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 (dBuV/m) | ERP (dBm) | Spurious Limit (dBm) | Margin (dBm) |
|-----------------------|--------------------------|----------|----------------------|------------------|----------------|----------------------------------|--------------|-------------------------|-----------|----------------------|--------------|
| 662.93                | 1325.85                  | PK       | 12.97                | H                | 4.22           | 28.72                            | 3.00         | 45.91                   | -51.47    | -30.00               | 21.47        |
| 662.93                | 1325.85                  | PK       | 12.44                | V                | 4.22           | 28.72                            | 3.00         | 45.38                   | -52.00    | -30.00               | 22.00        |
| 662.93                | 1988.78                  | PK       | 12.53                | H                | 5.17           | 31.31                            | 3.00         | 49.01                   | -48.37    | -30.00               | 18.37        |
| 662.93                | 1988.78                  | PK       | 12.81                | V                | 5.17           | 31.31                            | 3.00         | 49.29                   | -48.09    | -30.00               | 18.09        |
| 662.93                | 2651.70                  | PK       | 12.19                | H                | 5.89           | 32.42                            | 3.00         | 50.50                   | -46.87    | -30.00               | 16.87        |
| 662.93                | 2651.70                  | PK       | 12.34                | V                | 5.89           | 32.42                            | 3.00         | 50.65                   | -46.72    | -30.00               | 16.72        |
| 662.93                | 3314.63                  | PK       | 12.62                | H                | 6.72           | 32.63                            | 3.00         | 51.97                   | -45.41    | -30.00               | 15.41        |
| 662.93                | 3314.63                  | PK       | 12.69                | V                | 6.72           | 32.63                            | 3.00         | 52.04                   | -45.34    | -30.00               | 15.34        |
| 662.93                | 3977.55                  | PK       | 11.90                | H                | 7.26           | 33.39                            | 3.00         | 52.55                   | -44.83    | -30.00               | 14.83        |
| 662.93                | 3977.55                  | PK       | 11.51                | V                | 7.26           | 33.39                            | 3.00         | 52.16                   | -45.22    | -30.00               | 15.22        |
| 662.93                | 4640.48                  | PK       | 12.09                | H                | 7.49           | 33.93                            | 3.00         | 53.51                   | -43.86    | -30.00               | 13.86        |
| 662.93                | 4640.48                  | PK       | 11.22                | V                | 7.49           | 33.93                            | 3.00         | 52.64                   | -44.73    | -30.00               | 14.73        |
| 662.93                | 5303.40                  | PK       | 11.84                | H                | 7.91           | 34.28                            | 3.00         | 54.03                   | -43.35    | -30.00               | 13.35        |
| 662.93                | 5303.40                  | PK       | 11.80                | V                | 7.91           | 34.28                            | 3.00         | 53.99                   | -43.39    | -30.00               | 13.39        |
| 662.93                | 5966.33                  | PK       | 11.97                | H                | 8.57           | 35.07                            | 3.00         | 55.61                   | -41.76    | -30.00               | 11.76        |
| 662.93                | 5966.33                  | PK       | 11.29                | V                | 8.57           | 35.07                            | 3.00         | 54.93                   | -42.44    | -30.00               | 12.44        |
| 662.93                | 6629.25                  | PK       | 11.03                | H                | 9.17           | 35.65                            | 3.00         | 55.85                   | -41.53    | -30.00               | 11.53        |
| 662.93                | 6629.25                  | PK       | 11.74                | V                | 9.17           | 35.65                            | 3.00         | 56.56                   | -40.82    | -30.00               | 10.82        |

## 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 15.236_ | 1          | Initial release               | 10/4/2021     |
|                       | 2          | Updated pages 1, 12-15, 40-45 | 11/9/2021     |
|                       |            |                               |               |
|                       |            |                               |               |

END OF TEST REPORT