



Test Report - FCC Part 15.247/ DTS

Applicant: Crestron Electronics Inc.

Approved for Release By:

Signature: Bruno Clavier

Name & Title: Bruno Clavier, General Manager

Date of Signature 10/7/2022

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1. Customer Information

Applicant: Crestron Electronics Inc.
Address: 15 Volvo Drive
Rockleigh NJ 07647 United States

1.1 Test Result Summary

The following test procedure and guidance were used for measuring Digital Transmission System (DTS); FCC KDB 558074 D01 DTS Measurement Guidance and ANSI C63.10-2013. 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 2 or KDB | | |
|---------------------------------------|---------------------------------|---------------------------|
| FCC Clauses | Description of the requirements | Result: (Pass, Fail, N/A) |
| KDB 558074 D01 | Duty Cycle | Reported |
| KDB 558074 D01 | 99 % Bandwidth | Reported |
| KDB 558074 D01 | Band-edge measurements | Pass |

| Applicable Clauses from Part 15.247 | | |
|-------------------------------------|--|---------------------------|
| FCC Clauses | Description of the requirements | Result: (Pass, Fail, N/A) |
| 15.247 (a) (1) – (1) (iii) | FHSS hopping requirements (1, i,ii,iii) | N/A |
| 15.247 (a) (1) | FHSS 20dB Bandwidth | N/A |
| 15.247 (a) (2) | DTS 6dB Bandwidth | Pass |
| 15.247 (b) (1) – (4) | Conducted output power | Pass |
| 15.247 (c) (1) – (2) | Operation with directional antenna gains > 6 dBi | N/A |
| 15.247 (d), 15.215 (b) | Conducted Emissions in Non-restricted bands | Pass |
| 15.247 (d), 15.215 (b) | Conducted Emissions at the Band-edge | Pass |
| 15.247 (e) | Power Spectral Density (PSD) | Pass |
| 15.247 (f) | Hybrid system hopping requirements | N/A |
| 15.247 (f) | Hybrid system Power Spectral Density | N/A |
| 15.247 (g) | FHSS System requirements | N/A |
| 15.247 (h) | FHSS spectrum sensing | N/A |

| 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 in Restricted bands | 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 |



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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: 7/29/2022

Signature:

Sr. EMC Engineer
EMC-003838-NE



Name & Title:

Tim Royer, EMC Engineer

Date of Signature

10/7/2022

Signature:

Name & Title:

Kristoffer Costa, EMC Technician

Date of Signature

10/7/2022



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

The test sample was received: 7/29/2022

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: | EROCWD7969 |
| Brief Description | 2.4 GHz Radio Board Module |
| Model(s) # | CWD7969 |
| Firmware version | N/A |
| Software version | N/A |
| Serial Number | N/A |

| Technical Characteristics | |
|------------------------------|--------------------|
| Technology | Zigbee |
| Frequency Range | 2400-2483.5 MHz |
| RF O/P Power (Max.) | 100mW |
| Duty Cycle | 100% |
| Antenna Connector | N/A |
| Voltage Rating (AC or Batt.) | 3V Battery, 120VAC |



3.2 Configuration of EUT

| Band (MHz) | Mode | Number of Ant. |
|-------------|----------|----------------|
| 2400-2483.5 | 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:

A laptop was used to program the EUT.

3.3 Test Setup of EUT

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

Test Setups are included in the test report.



4. Test methods & Applicable Regulatory Limits

4.1 Test methods/Standards/Guidance:

Test procedures and guidance for measuring Digital Transmission System (DTS) are provided in the FCC KDB 558074 D01 DTS Measurement Guidance and in Clause 11 of ANSI C63.10-2013.

- 1) ANSI C63.10-2013
- 2) FCC KDB 558074 D01

4.2 Applied Limits and Regulatory Limits:

- 3) FCC CFR 47 Part 15.247

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% |
| Barometric pressure | 30.05 inHg |
| 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

| 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 | 12/21/2023 |
| Pre-amp | Pre-amp | RF-LAMBDA | RLNA00M45GA | NA | 2/27/19 | 7/26/2025 |
| Receiver | EMI Test Receiver R&S ESW44 | Rohde & Schwarz | ESW44 | 103049 | 10/13/21 | 10/12/2024 |
| Signal Generator | Signal Generator HP 8648C | HP | 8648C | 3847A04696 | 3/31/21 | 3/30/2024 |
| Receiver | EMI Test Receiver R&S ESU 40 | Rohde & Schwarz | ESU 40 | 100320 | 5/27/21 | 5/26/2024 |

| 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).

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.

Example:

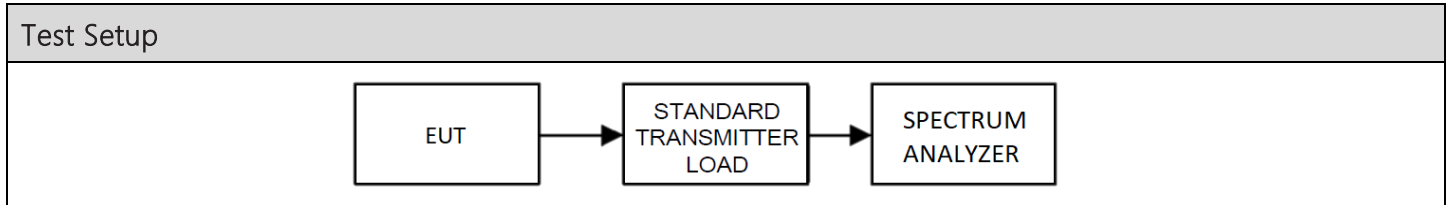
| Freq (MHz) | Meter Reading | + ACF | +CL | = FS |
|------------|---------------|--------------|----------|--------------------------|
| 33 | 20 dB μ V | + 10.36 dB/m | +0.40 dB | =30.36 dB μ V/m @ 3m |

$$\text{EIRP} = \text{Pcond (dBm)} + \text{dBi}$$



8.1 DTS conducted output power

Limits from FCC Part 15.247 (b) (3) and test procedure from ANSI C63.10-2013 section 11.9



| Test Results, Mode 1 | |
|-----------------------|--------------------|
| Tuned Frequency (MHz) | Power Output (dBm) |
| 2405 | 16.81 |
| 2440 | 17.52 |
| 2480 | 17.76 |

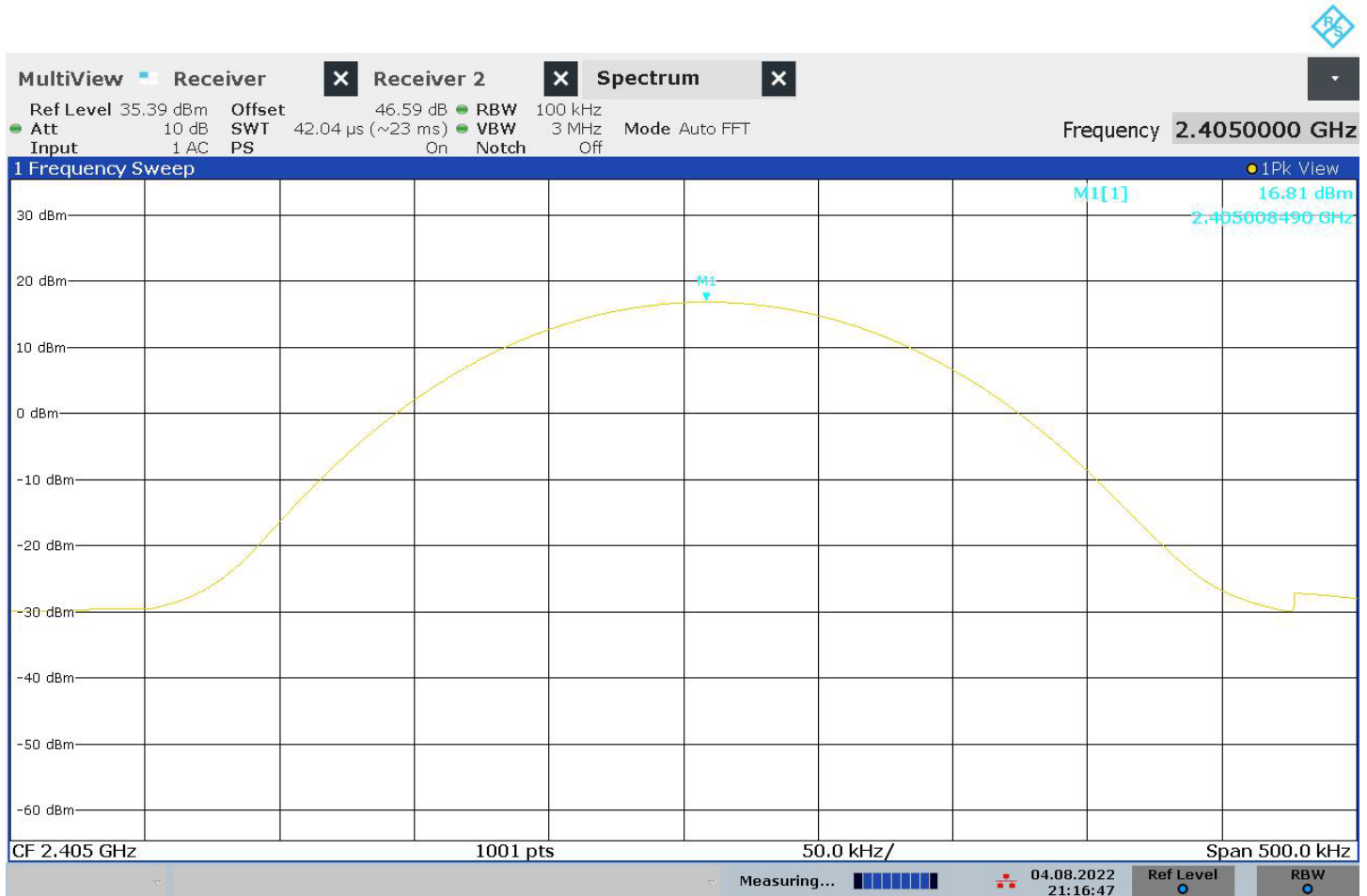
- MAXIMUM Conducted Output Power = 17.76 dBm



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Conducted Output Power, Spectrum Plots

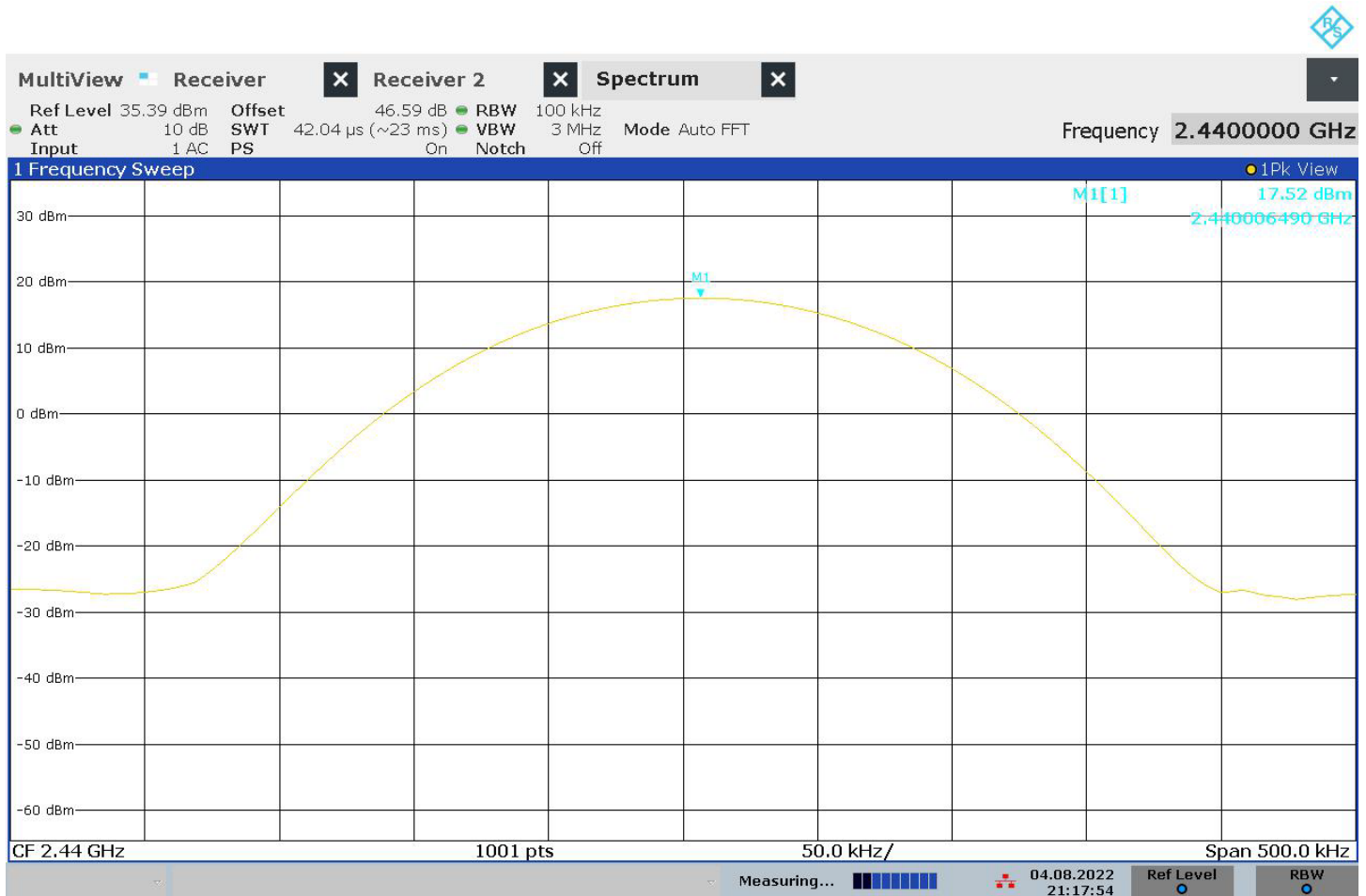
8.1.1 Conducted Output Power, 2405 MHz



21:16:48 04.08.2022



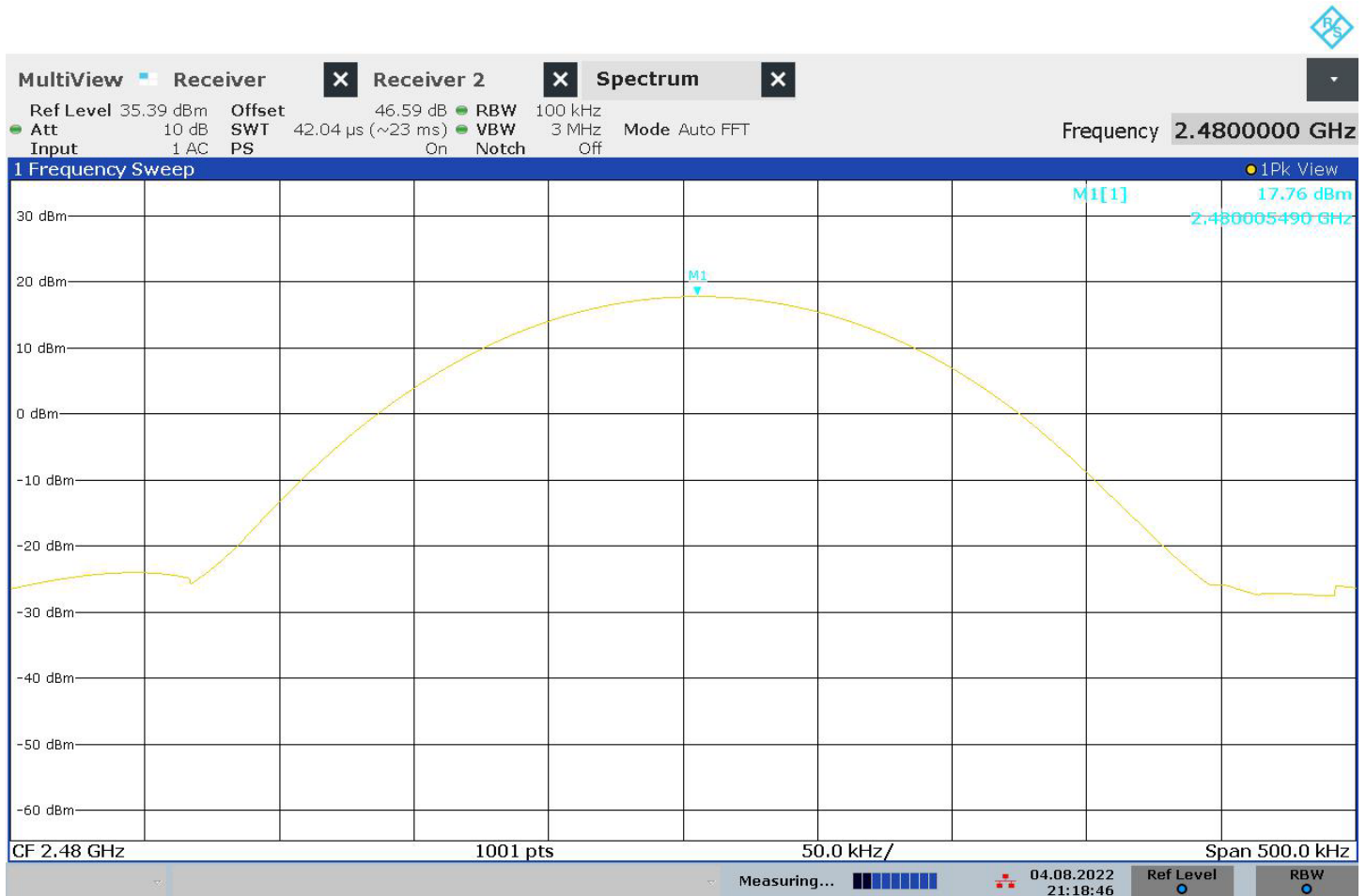
8.1.2 Conducted Output Power, 2440 MHz



21:17:55 04.08.2022



8.1.3 Conducted Output Power, 2480 MHz

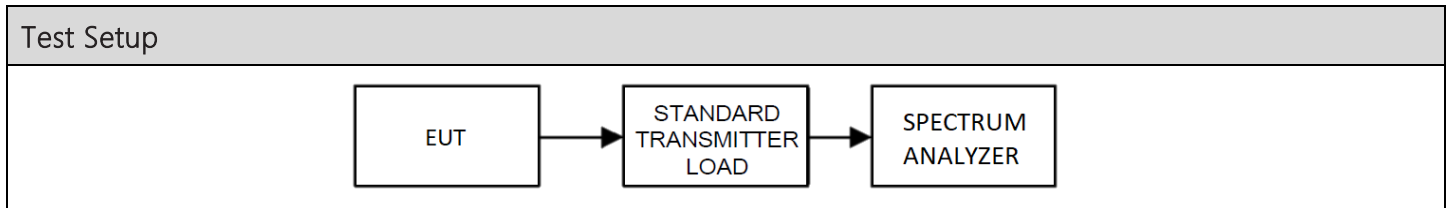


21:18:47 04.08.2022



8.2 Occupied Bandwidth

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2013 section 6.9.3



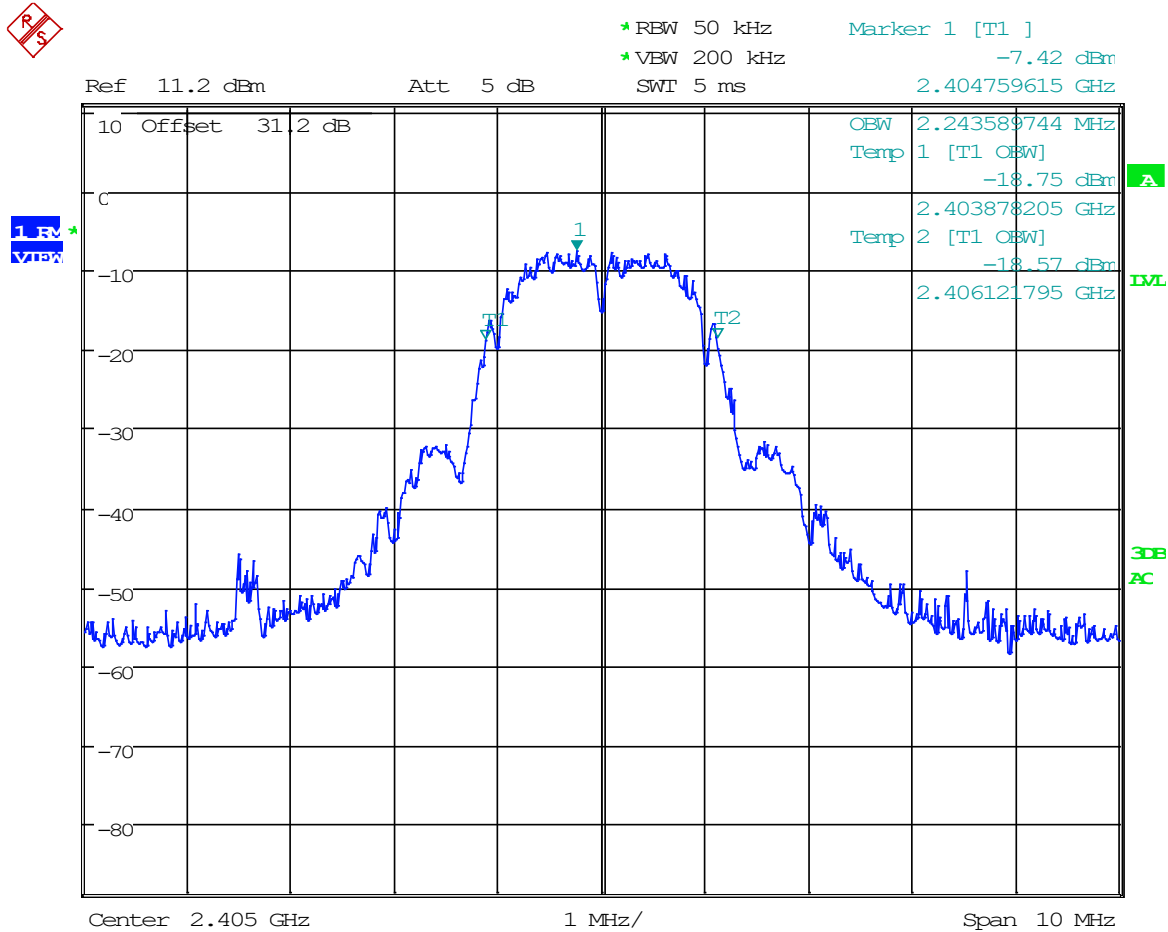
99% BW Test Results

| Tuned Frequency (MHz) | 99% BW (MHz) |
|-----------------------|--------------|
| 2405 | 2.24 |
| 2440 | 2.24 |
| 2480 | 2.24 |



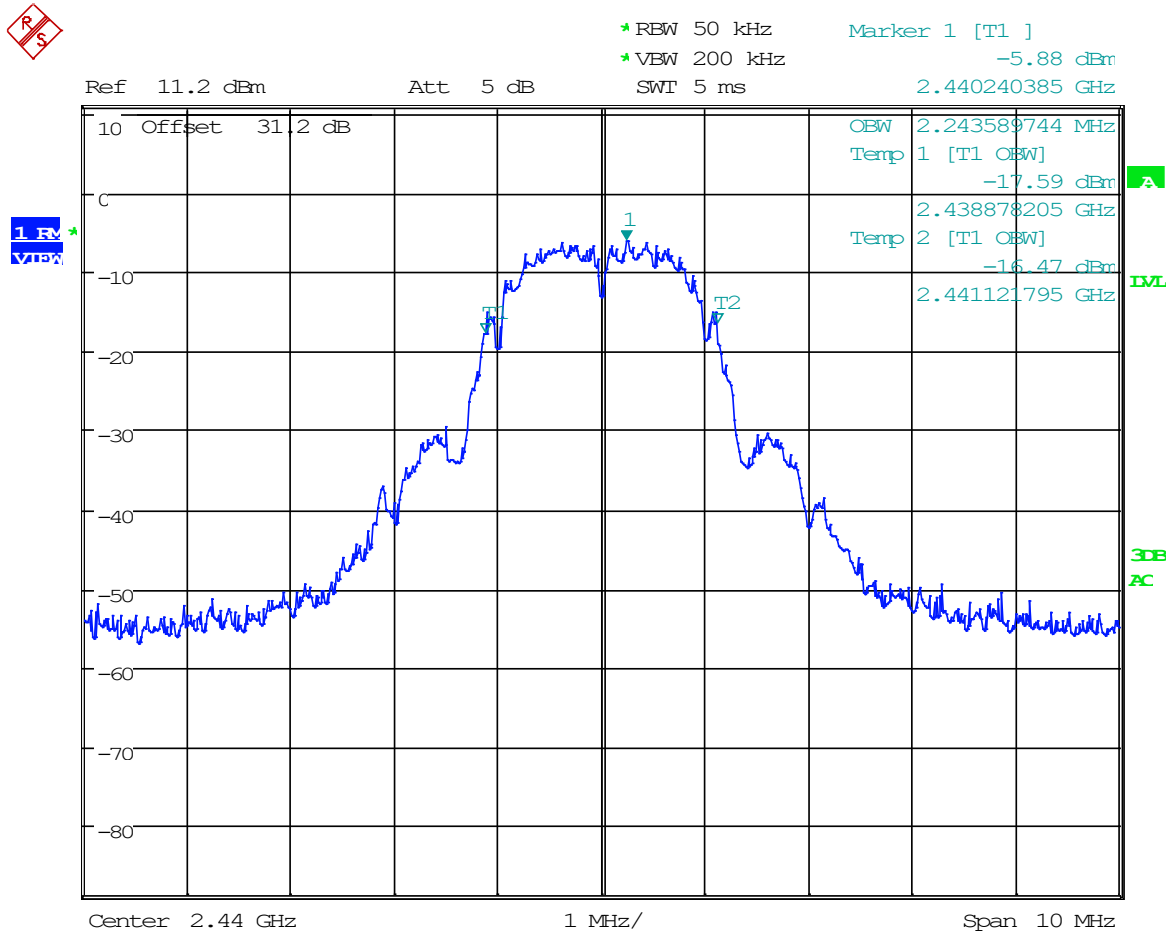
99% Occupied Bandwidth Test Data / Spectrum Plots

8.2.1 99% Bandwidth Plot, 2405 MHz



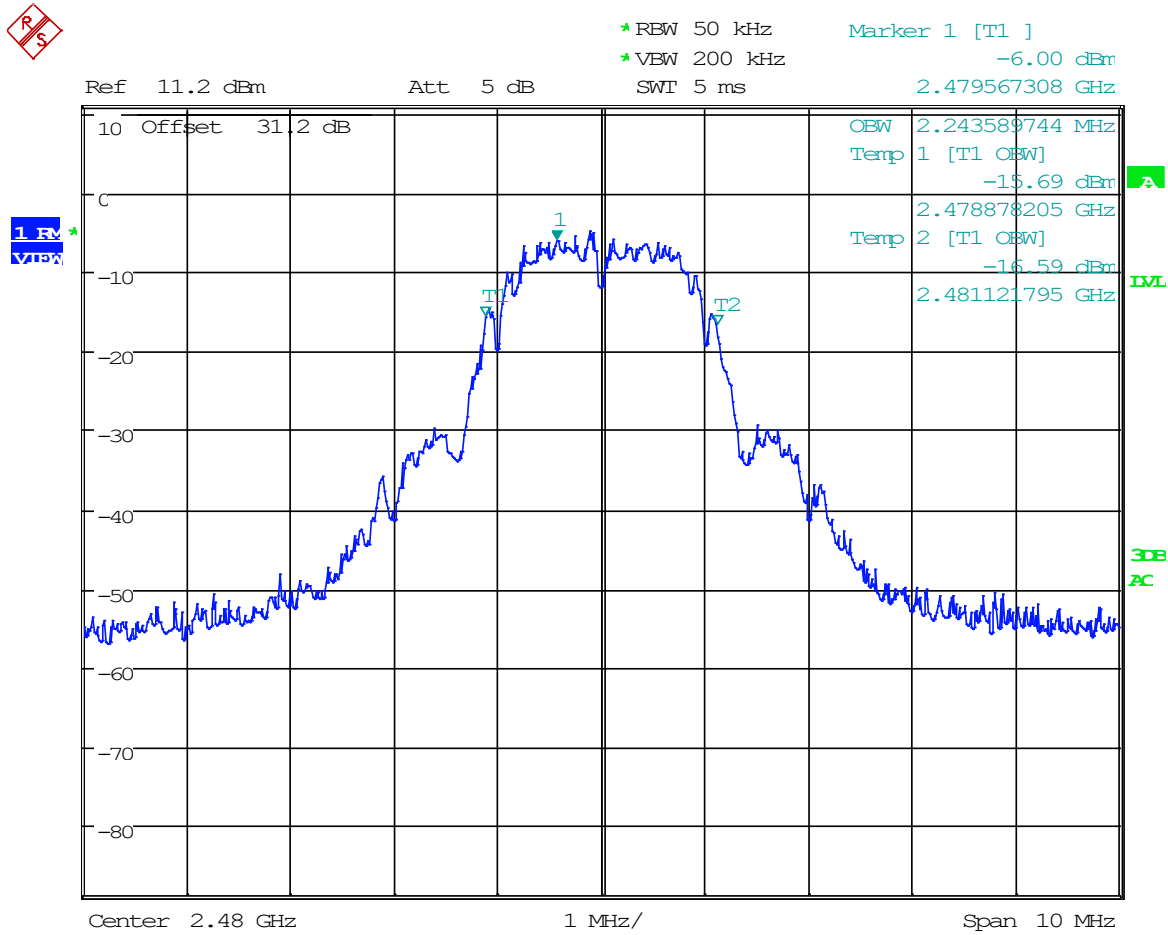
Date: 29.JUL.2022 16:12:17

8.2.2 99% Bandwidth Plot, 2440 MHz



Date: 29.JUL.2022 16:12:41

8.2.3 99% Bandwidth Plot, 2480 MHz

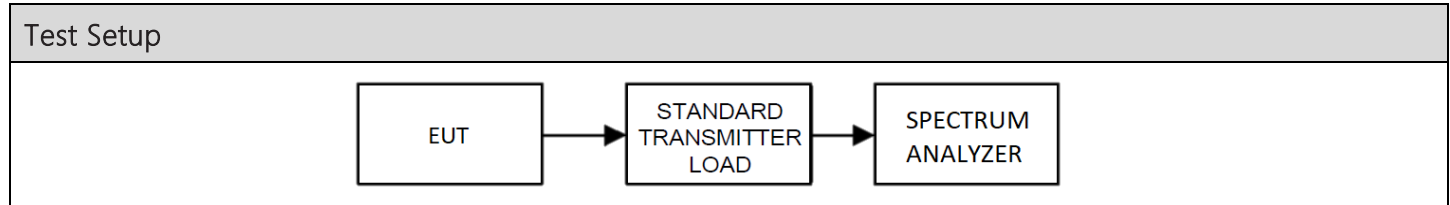


Date: 29.JUL.2022 16:13:31

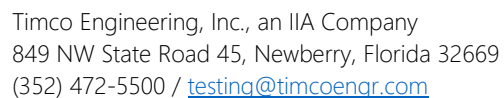


8.3 6dB Bandwidth (DTS BW)

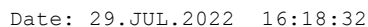
Limits from FCC Part 15.247 (a) (2) and test procedure from ANSI C63.10-2013 section 11.8



| Tuned Frequency (MHz) | 6dB Bandwidth (DTS BW) (MHz) |
|-----------------------|------------------------------|
| 2405 | 1.66 |
| 2440 | 1.66 |
| 2480 | 1.65 |

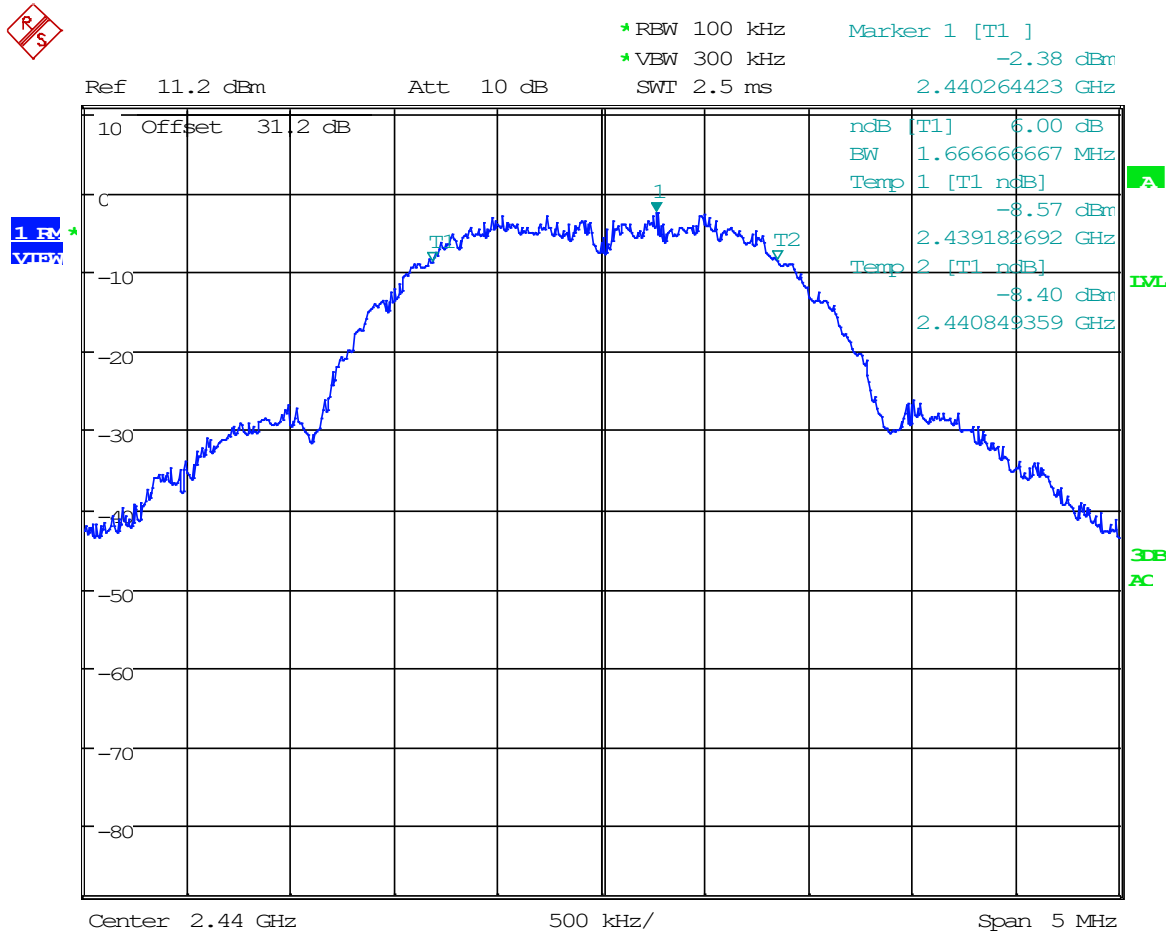


8.3.1 6dB Bandwidth (DTS BW), 2405 MHz



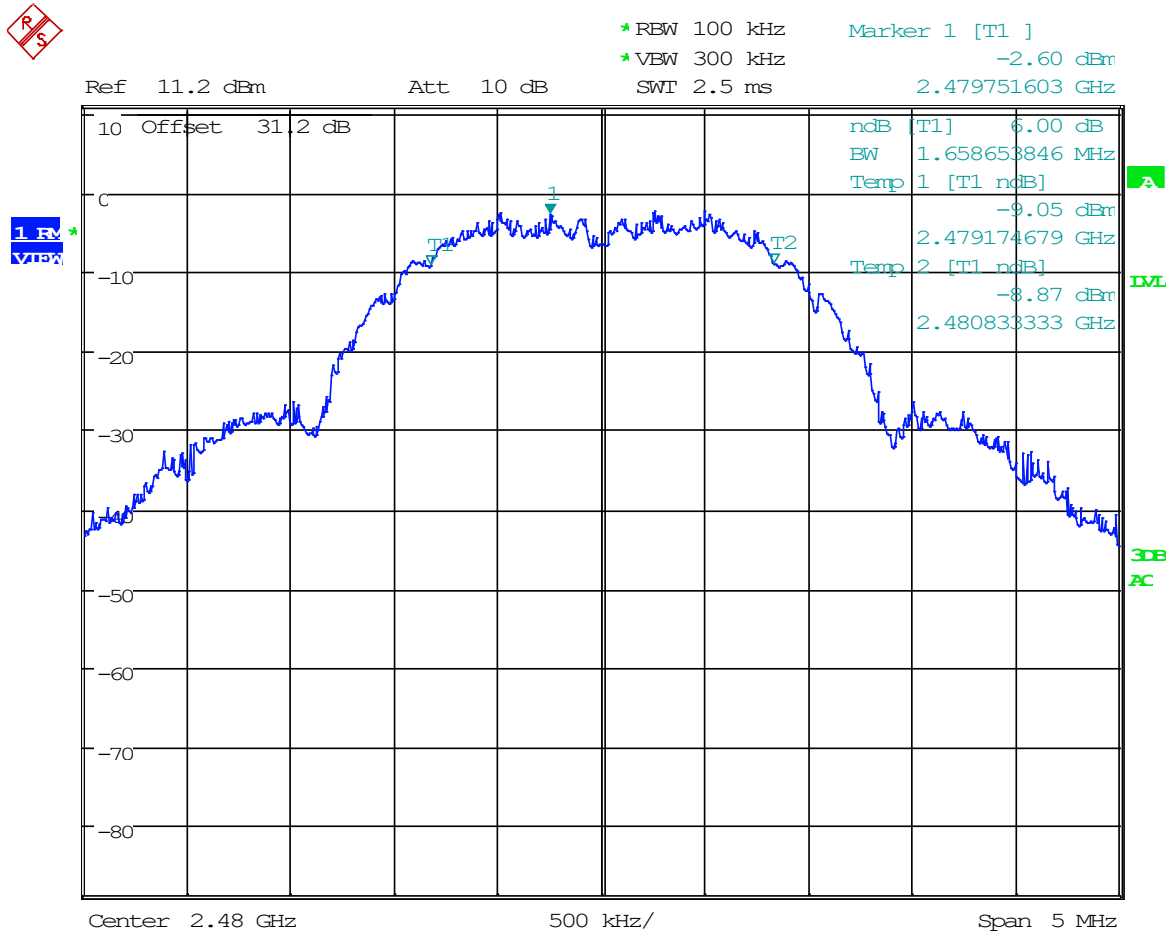


8.3.2 6dB Bandwidth (DTS BW), 2440 MHz



Date: 29.JUL.2022 16:18:32

8.3.3 6dB Bandwidth (DTS BW), 2480 MHz




Date: 29.JUL.2022 16:19:44

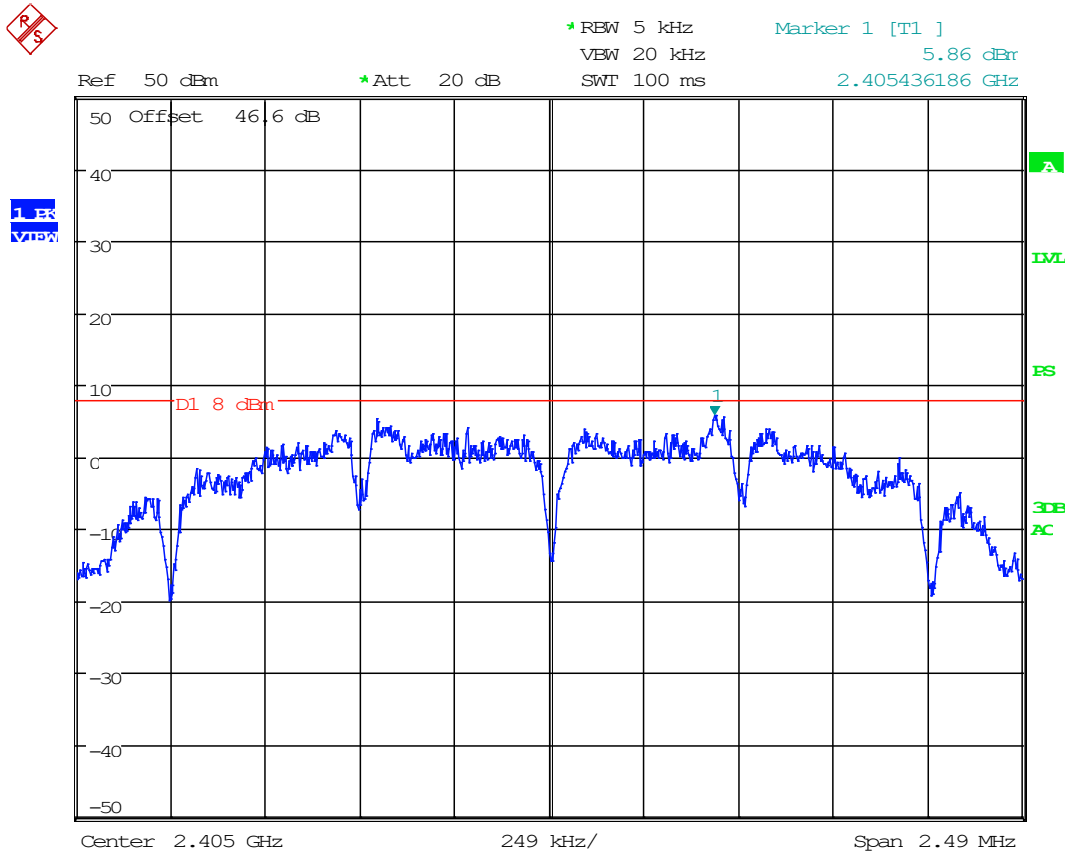


8.4 Power Spectral Density (PSD)

Limits from FCC Part 15.247 (e) and test procedure from ANSI C63.10-2013 section 11.10.

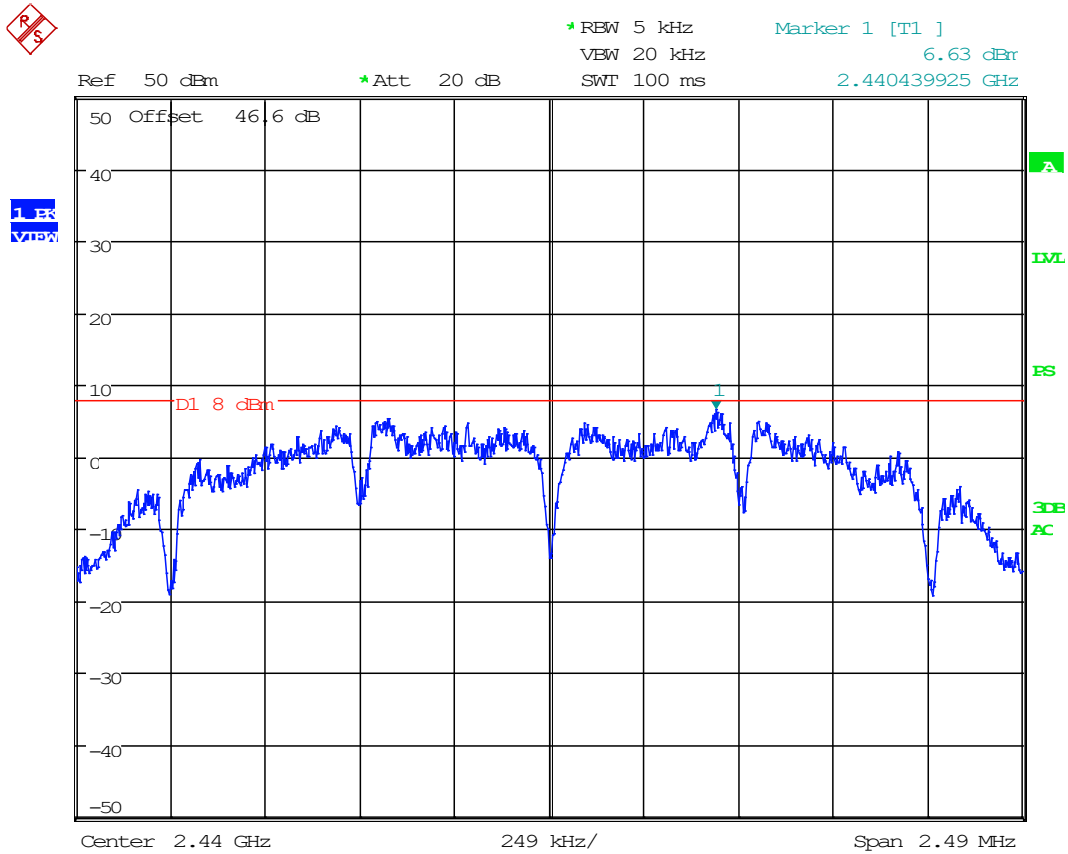
| Conducted Test Setup | |
|--|-----------------|
|  | |
| Tuned Frequency (MHz) | PSD Level (dBm) |
| 2405 | 5.86 |
| 2440 | 6.63 |
| 2480 | 7.12 |

8.4.1 Power Spectral Density (PSD), 2405 MHz



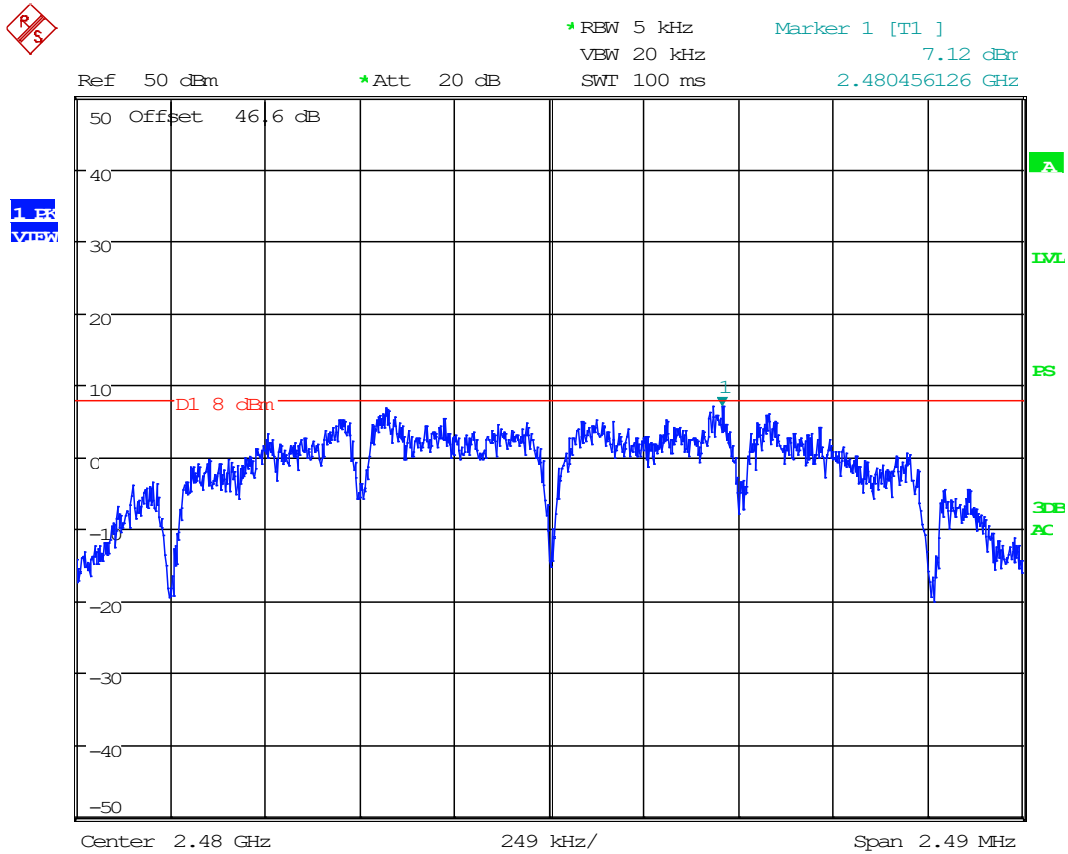
Date: 4.AUG.2022 16:36:01

8.4.2 Power Spectral Density (PSD), 2440 MHz



Date: 4.AUG.2022 16:38:26

8.4.3 Power Spectral Density (PSD), 2480 MHz



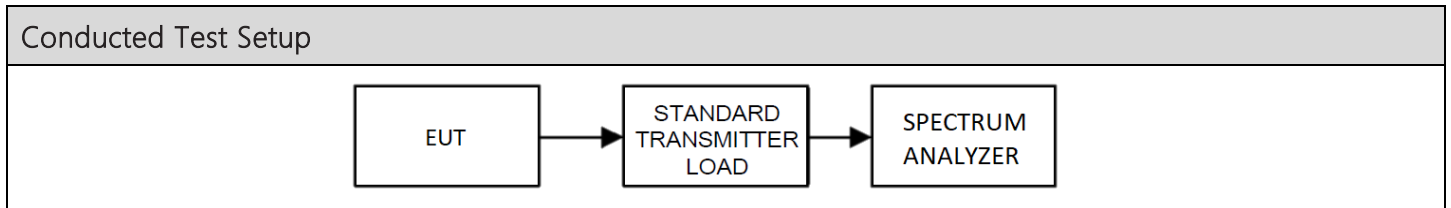
Date: 4.AUG.2022 16:51:50



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8.5 Emissions in Nonrestricted Frequency Bands (Out of Band)

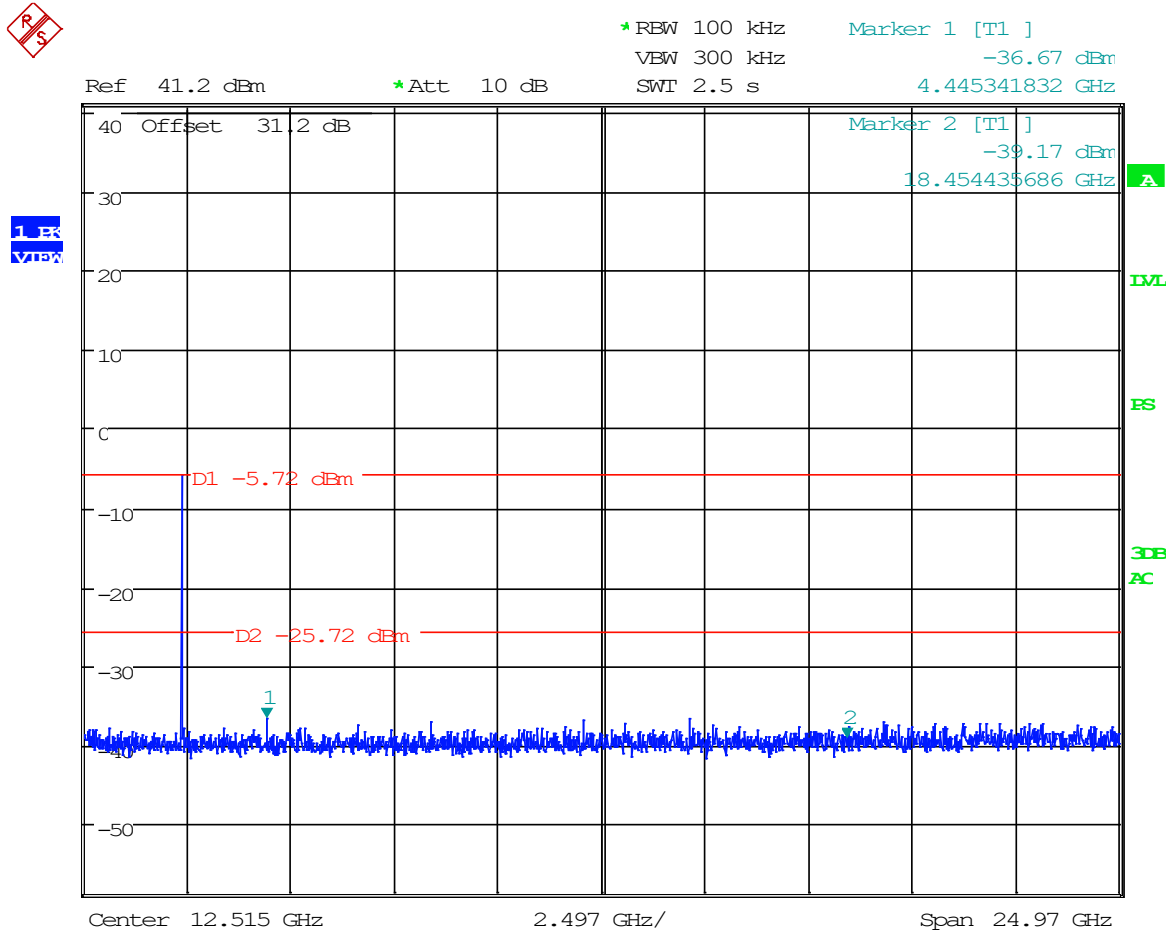
Limits from FCC Part 15.247 (d) and 15.215 (b) and test procedure from ANSI C63.10-2013 section 7.8 or 11.11 as applicable.





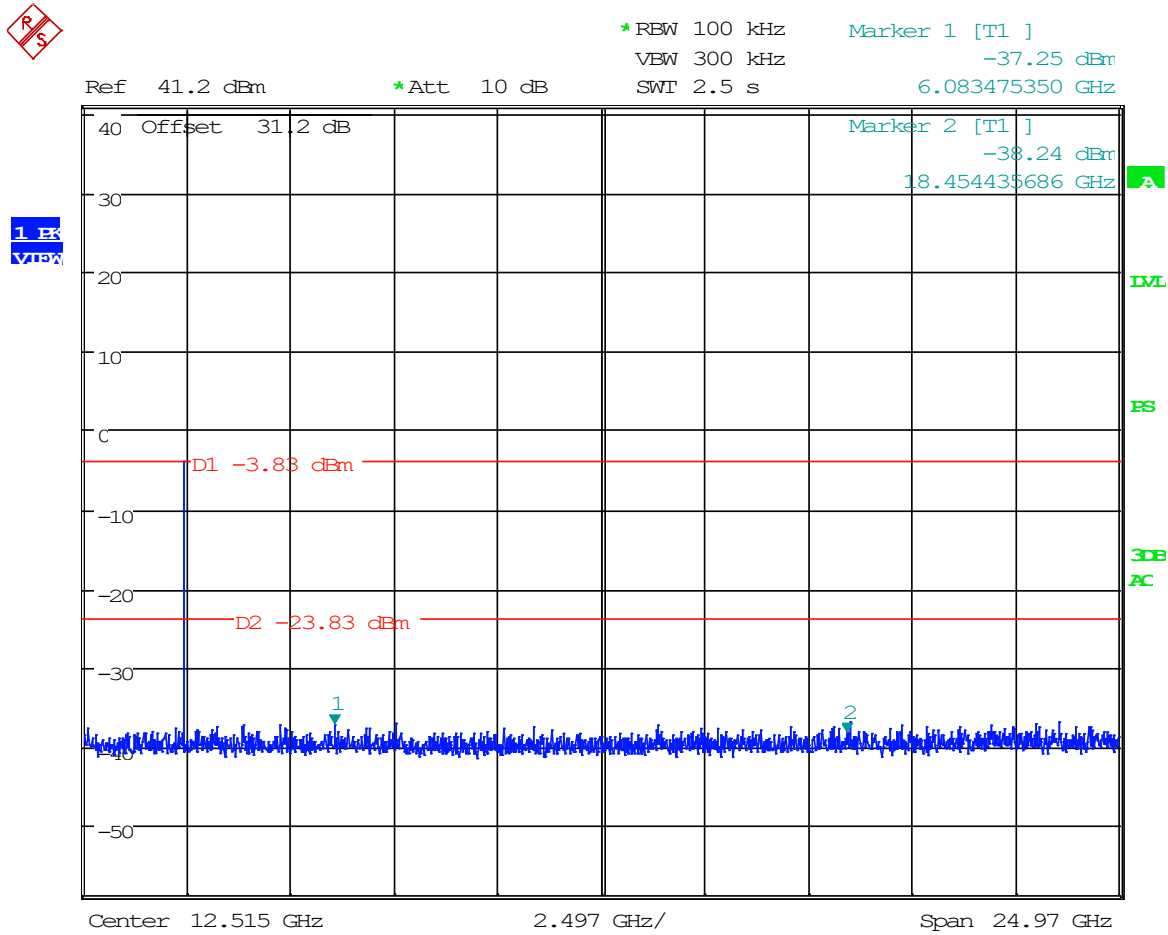
Conducted Emissions in Non-Restricted Bands, Spectrum Plots

8.5.1 Conducted Emissions Plot, 2405 MHz



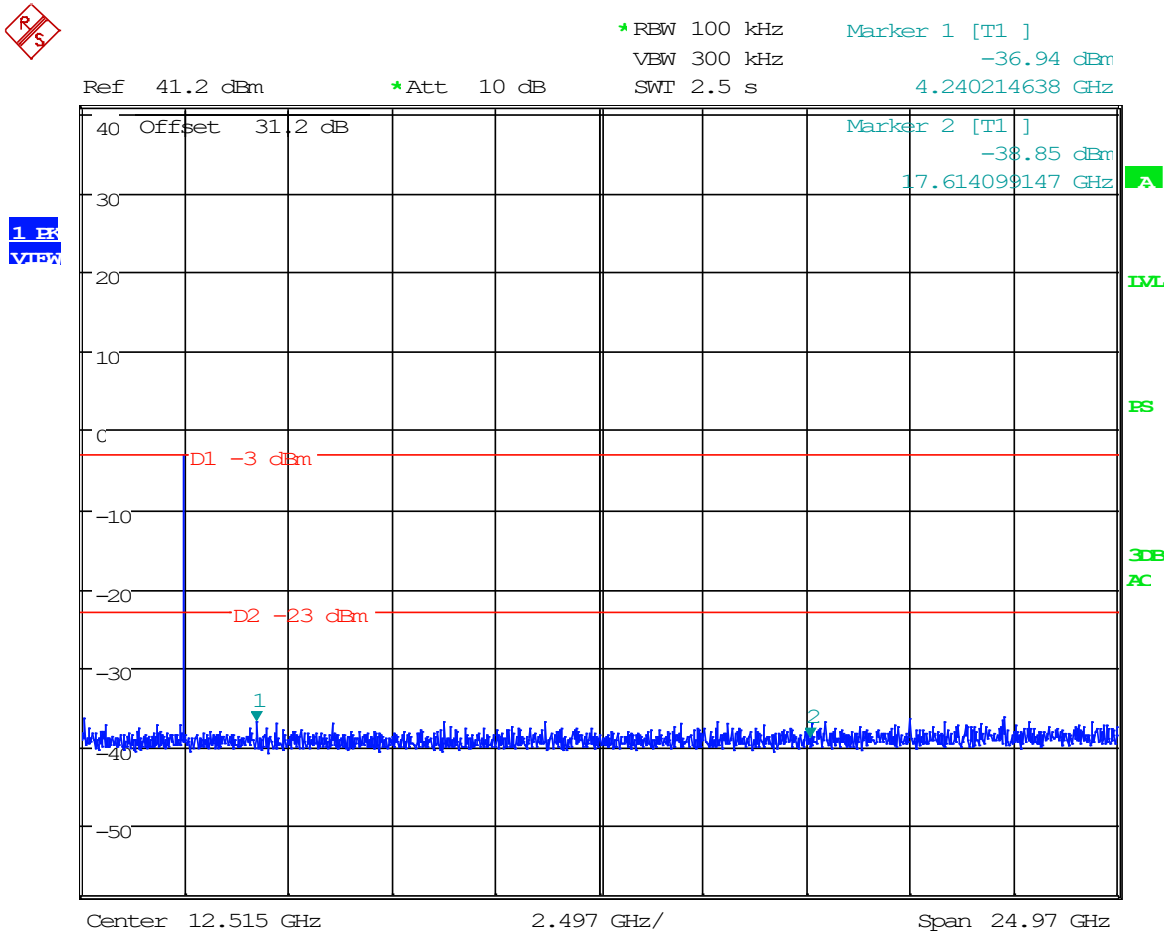
Date: 29.JUL.2022 16:28:04

8.5.2 Conducted Emissions Plot, 2440 MHz



Date: 29.JUL.2022 16:27:17

8.5.3 Conducted Emissions Plot, 2480 MHz

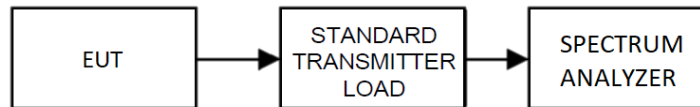


Date: 29.JUL.2022 16:26:23

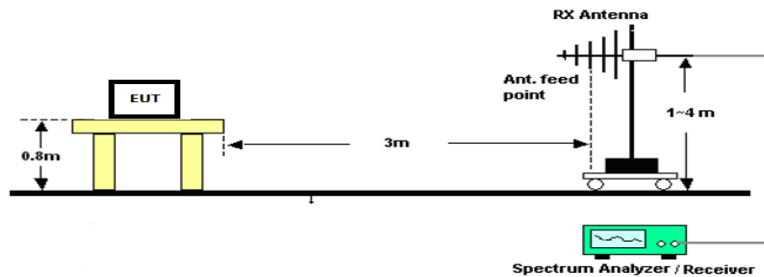
8.6 Band-edge measurements

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2013 section 7.8 or 11.13 as applicable.

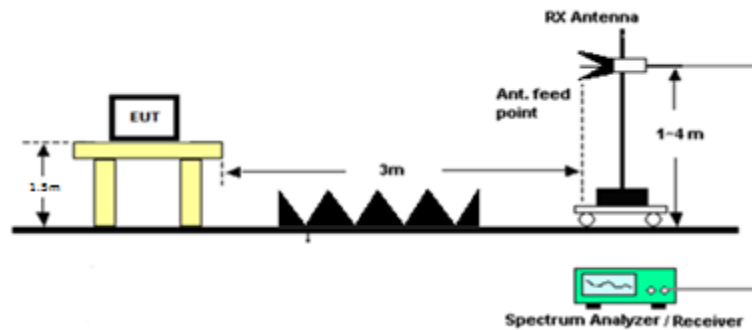
Conducted Test Setup



Radiated Test Setup, 30 – 1000 MHz



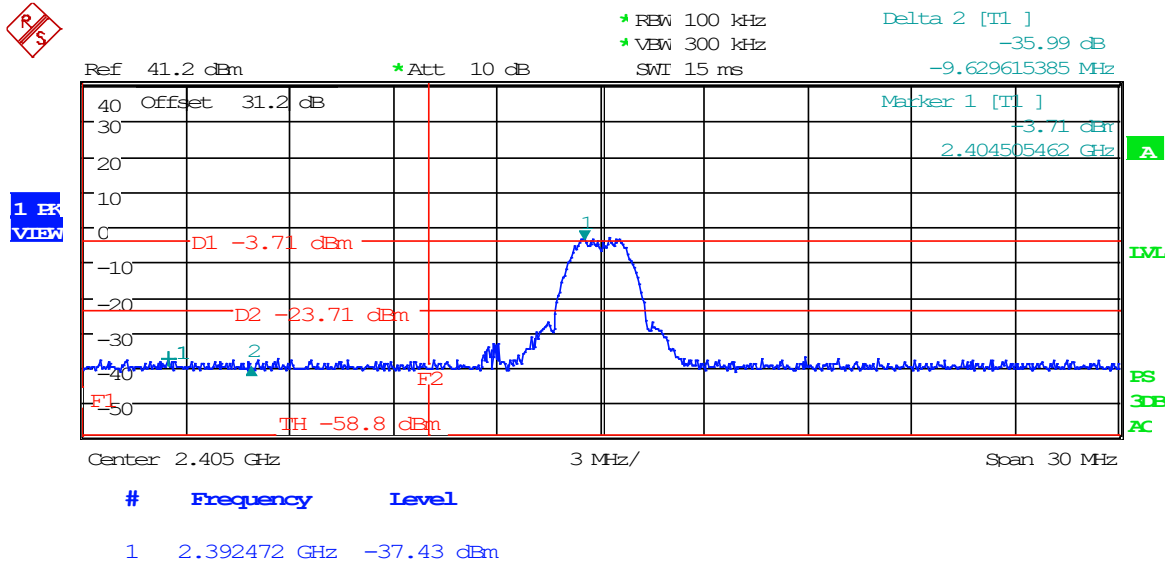
Radiated Test Setup, Above 1000 MHz



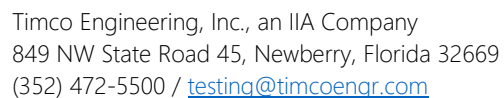


Band-edge Spectrum Plots

8.6.1 Lower Band Edge Plot, Stopped, 2405 MHz



Date: 29.JUL.2022 16:30:13



Ref 31.2 dBm * Att 0 dB SWI 10 ms 4.128000000 MHz

30 Offset 31.2 dB Marker 1 [T1] -4.78 dBm 2.480000000 GHz

1 EK
VIEW

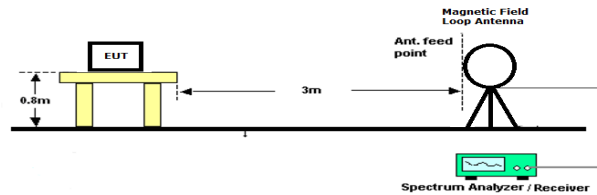
1 # Frequency Level
1 2.484128 GHz -45.40 dBm

| Tuned Frequency (MHz) | Emission Frequency (MHz) | 15.205 Restricted Band | 15.205, 15.35, 15.247(d) Detector | Meter Reading (dBµV) | Antenna Polarity | Coax Loss (dB) | Duty Cycle Correction (dB) | Antenna Correction Factor (dB/m) | Distance (m) | Field Strength (dBµV/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------------|--------------------------|------------------------|-----------------------------------|----------------------|------------------|----------------|----------------------------|----------------------------------|--------------|-------------------------|----------------|-------------|
| 2480.00 | 2484.13 | X | PK | 19.79 | H | 5.62 | 0.00 | 32.14 | 3.00 | 57.55 | 73.98 | 16.43 |
| 2480.00 | 2484.13 | X | PK | 20.69 | V | 5.62 | 0.00 | 32.14 | 3.00 | 58.45 | 73.98 | 15.53 |
| 2480.00 | 2484.13 | X | AVG | 6.09 | H | 5.62 | 0.00 | 32.14 | 3.00 | 43.85 | 53.98 | 10.13 |
| 2480.00 | 2484.13 | X | AVG | 9.49 | V | 5.62 | 0.00 | 32.14 | 3.00 | 47.25 | 53.98 | 6.73 |

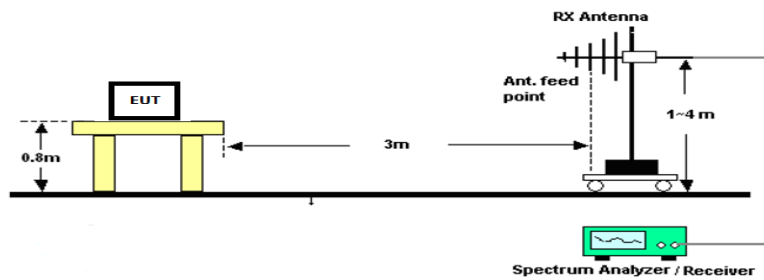
8.7 Radiated Emissions

Restricted Bands from FCC Part 15.205; Limits from FCC Part 15.209

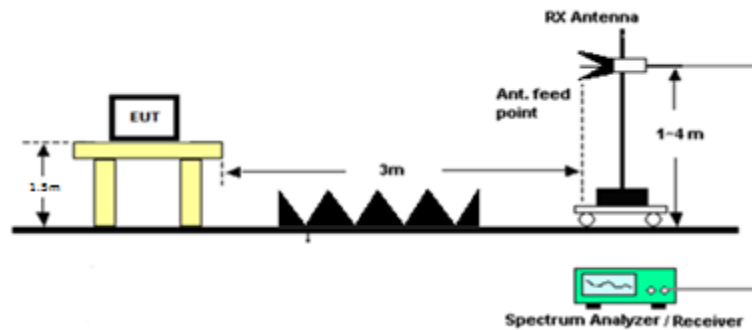
Radiated Test Setup, Below 30 MHz



Radiated Test Setup, 30 – 1000 MHz



Radiated Test Setup, Above 1000 MHz





Radiated Emissions in Restricted Bands, Tabular Data

8.7.1 Radiated Emissions, 2405 MHz

| Tuned Frequency (MHz) | Emission Frequency (MHz) | 15.205 Restricted Band | 15.205, 15.35, 15.247(d) Detector | Meter Reading (dBμV) | Antenna Polarity | Coax Loss (dB) | Duty Cycle Correction (dB) | Antenna Correction Factor (dB/m) | Distance (m) | Field Strength (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------------|--------------------------|------------------------|-----------------------------------|----------------------|------------------|----------------|----------------------------|----------------------------------|--------------|-------------------------|----------------|-------------|
| 2405.00 | 4810.00 | X | PK | 9.20 | H | 7.11 | 0.00 | 33.93 | 3.00 | 50.25 | 73.98 | 23.73 |
| 2405.00 | 4810.00 | X | PK | -1.90 | V | 7.11 | 0.00 | 33.93 | 3.00 | 39.15 | 73.98 | 34.83 |
| 2405.00 | 4810.00 | X | AVG | -1.10 | H | 7.11 | 0.00 | 33.93 | 3.00 | 39.95 | 53.98 | 14.03 |
| 2405.00 | 4810.00 | X | AVG | -13.60 | V | 7.11 | 0.00 | 33.93 | 3.00 | 27.45 | 53.98 | 26.53 |
| 2405.00 | 7215.00 | | PK | -5.90 | H | 9.53 | 0.00 | 36.38 | 3.00 | 40.01 | 53.98 | 13.97 |
| 2405.00 | 7215.00 | | PK | -6.50 | V | 9.53 | 0.00 | 36.38 | 3.00 | 39.41 | 53.98 | 14.57 |
| 2405.00 | 9620.00 | | PK | -5.00 | H | 10.72 | 0.00 | 36.67 | 3.00 | 42.38 | 53.98 | 11.60 |
| 2405.00 | 9620.00 | | PK | -5.30 | V | 10.72 | 0.00 | 36.67 | 3.00 | 42.08 | 53.98 | 11.90 |
| 2405.00 | 12025.00 | X | PK | -3.90 | H | 12.31 | 0.00 | 39.09 | 3.00 | 47.50 | 73.98 | 26.48 |
| 2405.00 | 12025.00 | X | PK | -4.20 | V | 12.31 | 0.00 | 39.09 | 3.00 | 47.20 | 73.98 | 26.78 |
| 2405.00 | 12025.00 | X | AVG | -16.80 | H | 12.31 | 0.00 | 39.09 | 3.00 | 34.60 | 53.98 | 19.38 |
| 2405.00 | 12025.00 | X | AVG | -16.90 | V | 12.31 | 0.00 | 39.09 | 3.00 | 34.50 | 53.98 | 19.48 |
| 2405.00 | 14430.00 | | PK | -3.90 | H | 13.35 | 0.00 | 39.79 | 3.00 | 49.24 | 53.98 | 4.74 |
| 2405.00 | 14430.00 | | PK | -3.90 | V | 13.35 | 0.00 | 39.79 | 3.00 | 49.24 | 53.98 | 4.74 |
| 2405.00 | 16835.00 | | PK | -5.00 | H | 14.62 | 0.00 | 42.36 | 3.00 | 51.98 | 53.98 | 2.00 |
| 2405.00 | 16835.00 | | PK | -5.90 | V | 14.62 | 0.00 | 42.36 | 3.00 | 51.08 | 53.98 | 2.90 |



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8.7.2 Radiated Emissions, 2440 MHz

| Tuned Frequency (MHz) | Emission Frequency (MHz) | 15.205 Restricted Band | 15.205, 15.35, 15.247(d) Detector | Meter Reading (dBμV) | Antenna Polarity | Coax Loss (dB) | Duty Cycle Correction (dB) | Antenna Correction Factor (dB/m) | Distance (m) | Field Strength (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------------|--------------------------|------------------------|-----------------------------------|----------------------|------------------|----------------|----------------------------|----------------------------------|--------------|-------------------------|----------------|-------------|
| 2440.00 | 4880.00 | X | PK | 9.90 | H | 7.33 | 0.00 | 33.93 | 3.00 | 51.16 | 73.98 | 22.82 |
| 2440.00 | 4880.00 | X | PK | 2.74 | V | 7.33 | 0.00 | 33.93 | 3.00 | 44.00 | 73.98 | 29.98 |
| 2440.00 | 4880.00 | X | AVG | -0.20 | H | 7.33 | 0.00 | 33.93 | 3.00 | 41.06 | 53.98 | 12.92 |
| 2440.00 | 4880.00 | X | AVG | -7.30 | V | 7.33 | 0.00 | 33.93 | 3.00 | 33.96 | 53.98 | 20.02 |
| 2440.00 | 7320.00 | X | PK | -6.40 | H | 9.61 | 0.00 | 36.24 | 3.00 | 39.45 | 73.98 | 34.53 |
| 2440.00 | 7320.00 | X | PK | -5.60 | V | 9.61 | 0.00 | 36.24 | 3.00 | 40.25 | 73.98 | 33.73 |
| 2440.00 | 7320.00 | X | AVG | -18.40 | H | 9.61 | 0.00 | 36.24 | 3.00 | 27.45 | 53.98 | 26.53 |
| 2440.00 | 7320.00 | X | AVG | -18.40 | V | 9.61 | 0.00 | 36.24 | 3.00 | 27.45 | 53.98 | 26.53 |
| 2440.00 | 9760.00 | | PK | -5.00 | H | 10.98 | 0.00 | 36.83 | 3.00 | 42.80 | 53.98 | 11.18 |
| 2440.00 | 9760.00 | | PK | -5.90 | V | 10.98 | 0.00 | 36.83 | 3.00 | 41.90 | 53.98 | 12.08 |
| 2440.00 | 12200.00 | X | PK | -4.80 | H | 12.52 | 0.00 | 39.23 | 3.00 | 46.95 | 73.98 | 27.03 |
| 2440.00 | 12200.00 | X | PK | -4.80 | V | 12.52 | 0.00 | 39.23 | 3.00 | 46.95 | 73.98 | 27.03 |
| 2440.00 | 12200.00 | X | AVG | -17.00 | H | 12.52 | 0.00 | 39.23 | 3.00 | 34.75 | 53.98 | 19.23 |
| 2440.00 | 12200.00 | X | AVG | -17.00 | V | 12.52 | 0.00 | 39.23 | 3.00 | 34.75 | 53.98 | 19.23 |
| 2440.00 | 14640.00 | | PK | -3.60 | H | 13.68 | 0.00 | 40.27 | 3.00 | 50.35 | 53.98 | 3.63 |
| 2440.00 | 14640.00 | | PK | -3.50 | V | 13.68 | 0.00 | 40.27 | 3.00 | 50.45 | 53.98 | 3.53 |
| 2440.00 | 17080.00 | | PK | -5.00 | H | 14.72 | 0.00 | 42.43 | 3.00 | 52.15 | 53.98 | 1.83 |
| 2440.00 | 17080.00 | | PK | -5.90 | V | 14.72 | 0.00 | 42.43 | 3.00 | 51.25 | 53.98 | 2.73 |



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8.7.3 Radiated Emissions, 2480 MHz

| Tuned Frequency (MHz) | Emission Frequency (MHz) | 15.205 Restricted Band | 15.205, 15.35, 15.247(d) Detector | Meter Reading (dBμV) | Antenna Polarity | Coax Loss (dB) | Duty Cycle Correction (dB) | Antenna Correction Factor (dB/m) | Distance (m) | Field Strength (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------------|--------------------------|------------------------|-----------------------------------|----------------------|------------------|----------------|----------------------------|----------------------------------|--------------|-------------------------|----------------|-------------|
| 2480.00 | 4960.00 | X | PK | 11.30 | H | 7.72 | 0.00 | 33.96 | 3.00 | 52.98 | 73.98 | 21.00 |
| 2480.00 | 4960.00 | X | PK | 1.90 | V | 7.72 | 0.00 | 33.96 | 3.00 | 43.58 | 73.98 | 30.40 |
| 2480.00 | 4960.00 | X | AVG | 1.10 | H | 7.72 | 0.00 | 33.96 | 3.00 | 42.78 | 53.98 | 11.20 |
| 2480.00 | 4960.00 | X | AVG | -9.10 | V | 7.72 | 0.00 | 33.96 | 3.00 | 32.58 | 53.98 | 21.40 |
| 2480.00 | 7440.00 | X | PK | -5.50 | H | 9.56 | 0.00 | 36.01 | 3.00 | 40.08 | 73.98 | 33.90 |
| 2480.00 | 7440.00 | X | PK | -4.40 | V | 9.56 | 0.00 | 36.01 | 3.00 | 41.18 | 73.98 | 32.80 |
| 2480.00 | 7440.00 | X | AVG | -14.10 | H | 9.56 | 0.00 | 36.01 | 3.00 | 31.48 | 53.98 | 22.50 |
| 2480.00 | 7440.00 | X | AVG | -16.70 | V | 9.56 | 0.00 | 36.01 | 3.00 | 28.88 | 53.98 | 25.10 |
| 2480.00 | 9920.00 | | PK | -5.10 | H | 11.15 | 0.00 | 37.08 | 3.00 | 43.13 | 53.98 | 10.85 |
| 2480.00 | 9920.00 | | PK | -5.98 | V | 11.15 | 0.00 | 37.08 | 3.00 | 42.25 | 53.98 | 11.73 |
| 2480.00 | 12400.00 | X | PK | -3.50 | H | 12.54 | 0.00 | 39.23 | 3.00 | 48.27 | 73.98 | 25.71 |
| 2480.00 | 12400.00 | X | PK | -5.00 | V | 12.54 | 0.00 | 39.23 | 3.00 | 46.77 | 73.98 | 27.21 |
| 2480.00 | 12400.00 | X | AVG | -17.10 | H | 12.54 | 0.00 | 39.23 | 3.00 | 34.67 | 53.98 | 19.31 |
| 2480.00 | 12400.00 | X | AVG | -17.10 | V | 12.54 | 0.00 | 39.23 | 3.00 | 34.67 | 53.98 | 19.31 |
| 2480.00 | 14880.00 | | PK | -20.85 | H | 13.44 | 0.00 | 40.29 | 3.00 | 32.89 | 53.98 | 21.09 |
| 2480.00 | 14880.00 | | PK | -2.60 | V | 13.44 | 0.00 | 40.29 | 3.00 | 51.14 | 53.98 | 2.84 |
| 2480.00 | 17360.00 | | PK | -5.50 | H | 15.01 | 0.00 | 42.52 | 3.00 | 52.03 | 53.98 | 1.95 |
| 2480.00 | 17360.00 | | PK | -5.00 | V | 15.01 | 0.00 | 42.52 | 3.00 | 52.53 | 53.98 | 1.45 |



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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_3458-22_FCC 15.247 DTS_ | 1 | Initial release | 8/1/2022 |
| | 2 | Updated technology type on Page 7 | 10/7/2022 |
| | | | |



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END OF TEST REPORT
