

Report on the FCC Testing of the

Domo Tactical Communications (DTC) Ltd.
Digital Video Transceiver,
Model: Mesh SOL8SDR CONCEALMENT MODULE-
SOL8SDR-C-470043

In accordance with FCC 47 CFR Part 90 and
FCC 47 CFR Part 2

Prepared for: Domo Tactical Communications (DTC) Ltd.
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Add value.
Inspire trust.

FCC ID: XRF SOL8SDRC470043

COMMERCIAL-IN-CONFIDENCE

Document Number: 75942063-06 | Issue: 05

| RESPONSIBLE FOR | NAME | DATE | SIGNATURE |
|----------------------|-----------------|---------------|-----------|
| Project Management | Natalie Bennett | 12 April 2019 | |
| Authorised Signatory | Simon Bennett | 12 April 2019 | |

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 90 and FCC 47 CFR Part 2. The sample tested was found to comply with the requirements defined in the applied rules.

| RESPONSIBLE FOR | NAME | DATE | SIGNATURE |
|-----------------|---------------------|---------------|-----------|
| Testing | Matthew Russell | 12 April 2019 | |
| Testing | Nandhini Mathivanan | 12 April 2019 | |
| Testing | Graeme Lawler | 12 April 2019 | |

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 90: 2017 and FCC 47 CFR Part 2: 2017.



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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

| Issue | Description of Change | Date of Issue |
|-------|--|------------------|
| 1 | First Issue | 23 August 2018 |
| 2 | To amend the FCC ID | 14 December 2018 |
| 3 | To amend the application form. | 07 January 2019 |
| 4 | To amend the address and company name on the front page. | 21 January 2019 |
| 5 | To amend the application form | 12 April 2019 |

1.2 Introduction

| | |
|-------------------------------|--|
| Applicant | Domo Tactical Communications (DTC) Ltd |
| Manufacturer | Domo Tactical Communications (DTC) Ltd |
| Model Number(s) | Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043 |
| Serial Number(s) | 108873 |
| Hardware Version(s) | 4 |
| Software Version(s) | 4.02 |
| Number of Samples Tested | 1 |
| Test Specification/Issue/Date | FCC 47 CFR Part 90: 2017 FCC 47 CFR Part 2: 2017 |
| Order Number | PO-047375-1 |
| Date | 26-February-2018 |
| Date of Receipt of EUT | 04-May-2018 |
| Start of Test | 09-May-2018 |
| Finish of Test | 14-August-2018 |
| Name of Engineer(s) | Matthew Russell, Nandhini Mathivanan and Graeme Lawler |
| Related Document(s) | ANSI C63.26: 2015 |



1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 90 and FCC 47 CFR Part 2 is shown below.

| Section | Specification Clause | | Test Description | Result | Comments/Base Standard |
|--|----------------------|--------|---|-------------|------------------------|
| | Part 90 | Part 2 | | | |
| Configuration and Mode: 4.9 GHz - Transmit | | | | | |
| 2.1 | 90.205 | 2.1046 | Maximum Conducted Output Power | Pass | ANSI C63.26 |
| 2.2 | 90.207 | 2.1047 | Types of Emissions | Declaration | |
| 2.3 | 90.209 | 2.1049 | Bandwidth Limitations | Pass | |
| 2.4 | 90.210 | 2.1051 | Spurious Emissions at Antenna Terminals | Pass | |
| 2.5 | 90.210 | 2.1051 | Radiated Spurious Emissions | Pass | |
| 2.6 | 90.210 | 2.1055 | Frequency Stability | Pass | |

Table 1



1.4 Application Form

| EQUIPMENT DESCRIPTION | |
|---|---|
| Model Name/Number | Mesh SOL8SDR CONCEALMENT MODULE- SOL8SDR-C-470043 |
| Part Number | SOL8SDR-C-470043 (MODULE) |
| Hardware Version | 4 |
| Software Version | 4.0.2 |
| FCC ID (if applicable) | XRFSOL8SDRC470043 |
| Industry Canada ID (if applicable) | 8638A-SOL8SDR-C |
| Technical Description (Please provide a brief description of the intended use of the equipment) | SOL8 software defined radio is an ultra-miniature COFDM digital video transceiver. The Concealment -C is an ultra-miniature package ideal for integration into small concealment solutions. Capable of Video and IP transmission providing greater than 25mb/s over a selectable bandwidth of between 2.5-10 MHz. |

| INTENTIONAL RADIATORS | | | | | | | | |
|-----------------------|---------------------------------------|--------------------|------------------------------|----------------------|-------------------------|---------------------|--------|---------|
| Technology | Conducted Declared Output Power (dBm) | Antenna Gain (dBi) | Supported Bandwidth(s) (MHz) | Modulation Scheme(s) | ITU Emission Designator | Test Channels (MHz) | | |
| | | | | | | Bottom | Middle | Top |
| COFDM | 20 | 2 | 2.5 | 16QAM-BPSK | 2M50D7W | 4941.25 | 4965.0 | 4988.75 |
| COFDM | 20 | 2 | 3 | 16QAM-BPSK | 3M00D7W | 4941.5 | 4965.0 | 4988.5 |
| COFDM | 20 | 2 | 3.5 | 16QAM-BPSK | 3M50D7W | 4941.75 | 4965.0 | 4988.25 |
| COFDM | 20 | 2 | 5 | 16QAM-BPSK | 5M00D7W | 4942.5 | 4965.0 | 4987.5 |
| COFDM | 20 | 2 | 6 | 16QAM-BPSK | 6M00D7W | 4943.0 | 4965.0 | 4987.0 |
| COFDM | 20 | 2 | 7 | 16QAM-BPSK | 7M00D7W | 4943.5 | 4965.0 | 4986.5 |
| COFDM | 20 | 2 | 8 | 16QAM-BPSK | 8M00D7W | 4944.0 | 4965.0 | 4986.0 |
| COFDM | 20 | 2 | 10 | 16QAM-BPSK | 10M0D7W | 4945.0 | 4965.0 | 4985.0 |

| UN-INTENTIONAL RADIATOR | |
|--|-------------|
| Highest frequency generated or used in the device or on which the device operates or tunes | 5000.0 MHz |
| Lowest frequency generated or used in the device or on which the device operates or tunes | 4941.25 MHz |
| Class A Digital Device (Use in commercial, industrial or business environment) <input checked="" type="checkbox"/> | |
| Class B Digital Device (Use in residential environment only) <input type="checkbox"/> | |



| Power Source | | | |
|--|-----------------|-------------|---|
| AC | Single Phase | Three Phase | Nominal Voltage |
| | | | |
| External DC | Nominal Voltage | | Maximum Current |
| | 12V | | 1.5A |
| Battery | Nominal Voltage | | Battery Operating End Point Voltage |
| | 12V | | 9V |
| Can EUT transmit whilst being charged? | | | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |

| EXTREME CONDITIONS | | | |
|---------------------|-----|----|----------------------------|
| Maximum temperature | +60 | °C | Minimum temperature -10 °C |

| Ancillaries |
|---|
| Please list all ancillaries which will be used with the device. |
| 12v LEAD AND RJ 45 |

| ANTENNA CHARACTERISTICS | | | |
|---|-----------------|----|-----|
| <input checked="" type="checkbox"/> Antenna connector | State impedance | 50 | Ohm |
| <input type="checkbox"/> Temporary antenna connector | State impedance | | Ohm |
| <input type="checkbox"/> Integral antenna | Type | | |
| <input checked="" type="checkbox"/> External antenna | Type | | |

I hereby declare that the information supplied is correct and complete.

Name: Rob Garth

Position held: Product Director

Date: 09/04/2019



1.5 Product Information

1.5.1 Technical Description

SOL8 software defined radio is an ultra-miniature COFDM digital video transceiver. The Concealment -C is an ultra-miniature package ideal for integration into small concealment solutions. Capable of Video and IP transmission providing greater than 25mb/s over a selectable bandwidth of between 2.5-10 MHz.

1.5.2 Test Channels

The following centre frequencies were used as the test channels depending on the bandwidth of the transmitter.

| Channel Bandwidth (MHz) | Bottom Channel (MHz) | Middle Channel (MHz) | Top Channel (MHz) |
|-------------------------|----------------------|----------------------|-------------------|
| 2.5 | 4941.25 | 4965.0 | 4988.75 |
| 3 | 4941.5 | 4965.0 | 4988.5 |
| 3.5 | 4941.75 | 4965.0 | 4988.25 |
| 5 | 4942.5 | 4965.0 | 4987.5 |
| 6 | 4943.0 | 4965.0 | 4987.0 |
| 7 | 4943.5 | 4965.0 | 4986.5 |
| 8 | 4944.0 | 4965.0 | 4986.0 |
| 10 | 4945.0 | 4965.0 | 4985.0 |

Table 2

1.6 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme. The modifications incorporated during each test are recorded on the appropriate test pages.

| Modification State | Description of Modification still fitted to EUT | Modification Fitted By | Date Modification Fitted |
|-----------------------|---|------------------------|--------------------------|
| Serial Number: 108873 | | | |
| 0 | As supplied by the customer | Not Applicable | Not Applicable |

Table 3



1.8 Test Location

TÜV SÜD conducted the following tests at our Fareham Test Laboratory.

| Test Name | Name of Engineer(s) | Accreditation |
|--|--|---------------|
| Configuration and Mode: 4.9 GHz - Transmit | | |
| Maximum Conducted Output Power | Matthew Russell | UKAS |
| Types of Emissions | Matthew Russell | UKAS |
| Bandwidth Limitations | Nandhini Mathivanan | UKAS |
| Spurious Emissions at Antenna Terminals | Nandhini Mathivanan | UKAS |
| Radiated Spurious Emissions | Graeme Lawler | UKAS |
| Frequency Stability | Nandhini Mathivanan Matthew Russell | UKAS |

Table 4

Office Address:

Octagon House
Concorde Way
Segensworth North
Fareham
Hampshire
PO15 5RL
United Kingdom



2 Test Details

2.1 Maximum Conducted Output Power

2.1.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.205
FCC 47 CFR Part 2, Clause 2.1046

2.1.2 Equipment Under Test and Modification State

Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043,
S/N: 108873 - Modification State 0

2.1.3 Date of Test

09-May-2018 to 14-August 2018

2.1.4 Test Method

This test was performed in accordance with ANSI C63.26, clause 5.2.4.4.1 and 5.2.4.5.

The EUT did not transmit continuously therefore a gated trigger was implemented and measurements were only made during the transmitter on time.

Power spectral density results recorded in the tables below were measured with a 1 MHz RBW.

Total Power/PSD measurements were calculated using the procedure in KDB 662911 D01, E(2)(b).

2.1.5 Environmental Conditions

Ambient Temperature 23.1 °C
Relative Humidity 35.9 %

2.1.6 Test Results

4.9 GHz - Transmit

| Description | Bottom Channel | Middle Channel | Top Channel |
|-------------------------|----------------|----------------|-------------|
| | Result (dB) | Result (dB) | Result (dB) |
| 2.5 MHz Bandwidth, CCDF | 11.86 | 11.87 | 11.95 |
| 3 MHz Bandwidth, CCDF | 11.94 | 11.93 | 12.00 |
| 3.5 MHz Bandwidth, CCDF | 11.96 | 11.96 | 12.01 |
| 5 MHz Bandwidth, CCDF | 12.08 | 12.07 | 12.10 |
| 6 MHz Bandwidth, CCDF | 12.10 | 12.07 | 12.12 |
| 7 MHz Bandwidth, CCDF | 12.15 | 12.12 | 12.17 |
| 8 MHz Bandwidth, CCDF | 12.20 | 12.21 | 12.21 |
| 10 MHz Bandwidth, CCDF | 12.29 | 12.25 | 12.31 |

Table 5 – Peak to Average Ratio Measurements



| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.95 | 124.45 | 20.65 | 116.14 | 20.56 | 113.76 |
| Power - Port B | 20.51 | 112.46 | 20.62 | 115.35 | 20.36 | 108.64 |
| Power - Total Power | 23.75 | 236.91 | 23.65 | 231.49 | 23.47 | 222.41 |
| PSD - Port A | 16.37 | 43.35 | 16.29 | 42.56 | 16.58 | 45.50 |
| PSD - Port B | 16.51 | 44.77 | 16.53 | 44.98 | 16.23 | 41.98 |
| PSD - Total PSD | 19.45 | 88.12 | 19.42 | 87.54 | 19.42 | 87.47 |

Table 6 – Maximum Conducted Output Power – 2.5 MHz Bandwidth



| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.84 | 121.34 | 20.61 | 115.08 | 20.53 | 112.98 |
| Power - Port B | 20.59 | 114.55 | 20.66 | 116.41 | 20.36 | 108.64 |
| Power - Total Power | 23.73 | 235.89 | 23.65 | 231.49 | 23.46 | 221.62 |
| PSD - Port A | 16.15 | 41.21 | 15.09 | 32.28 | 14.14 | 32.66 |
| PSD - Port B | 15.08 | 32.21 | 14.98 | 31.48 | 14.66 | 29.24 |
| PSD - Total PSD | 18.66 | 73.42 | 18.05 | 63.76 | 17.82 | 61.90 |

Table 7 – Maximum Conducted Output Power – 3 MHz Bandwidth

| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.82 | 120.78 | 20.60 | 114.82 | 20.57 | 114.02 |
| Power - Port B | 20.53 | 112.98 | 20.59 | 114.55 | 20.30 | 107.15 |
| Power - Total Power | 23.69 | 233.76 | 23.61 | 229.37 | 23.45 | 221.18 |
| PSD - Port A | 15.73 | 37.41 | 15.46 | 35.16 | 14.67 | 29.31 |
| PSD - Port B | 14.52 | 28.31 | 15.05 | 31.99 | 13.79 | 23.93 |
| PSD - Total Power | 18.18 | 65.72 | 18.27 | 67.14 | 17.26 | 53.24 |

Table 8 – Maximum Conducted Output Power – 3.5 MHz Bandwidth

| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.72 | 118.03 | 20.49 | 111.94 | 20.46 | 111.17 |
| Power - Port B | 20.44 | 110.66 | 20.51 | 112.46 | 20.21 | 104.95 |
| Power - Total Power | 23.59 | 228.69 | 23.51 | 224.40 | 23.35 | 216.13 |
| PSD - Port A | 13.57 | 22.75 | 11.79 | 15.10 | 13.49 | 22.34 |
| PSD - Port B | 13.41 | 21.93 | 13.27 | 21.23 | 13.22 | 20.99 |
| PSD - Total PSD | 16.50 | 44.68 | 15.60 | 36.33 | 16.37 | 43.33 |

Table 9 – Maximum Conducted Output Power – 5 MHz Bandwidth



| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.29 | 106.91 | 20.29 | 106.91 | 20.25 | 105.93 |
| Power - Port B | 20.31 | 107.40 | 20.39 | 109.40 | 20.11 | 102.57 |
| Power - Total Power | 23.31 | 214.30 | 23.35 | 216.30 | 23.19 | 208.49 |
| PSD - Port A | 12.65 | 18.41 | 11.79 | 15.10 | 11.28 | 13.43 |
| PSD - Port B | 11.61 | 14.49 | 13.37 | 21.73 | 11.06 | 12.76 |
| PSD - Total PSD | 15.17 | 32.90 | 15.66 | 36.83 | 14.18 | 26.19 |

Table 10 – Maximum Conducted Output Power – 6 MHz Bandwidth

| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.36 | 108.64 | 20.13 | 103.04 | 20.10 | 102.33 |
| Power - Port B | 20.12 | 102.80 | 20.18 | 104.23 | 19.90 | 97.72 |
| Power - Total Power | 23.25 | 211.44 | 23.17 | 207.27 | 23.01 | 200.05 |
| PSD - Port A | 12.90 | 19.50 | 12.24 | 16.75 | 12.15 | 16.41 |
| PSD - Port B | 11.42 | 13.87 | 12.28 | 16.90 | 11.60 | 14.45 |
| PSD - Total Power | 15.23 | 33.37 | 15.27 | 33.65 | 14.89 | 30.86 |

Table 11 – Maximum Conducted Output Power – 7 MHz Bandwidth

| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.23 | 105.44 | 20.04 | 100.93 | 20.01 | 100.23 |
| Power - Port B | 20.03 | 100.69 | 20.11 | 102.57 | 19.82 | 95.94 |
| Power - Total Power | 23.14 | 206.13 | 23.09 | 203.49 | 22.93 | 196.17 |
| PSD - Port A | 12.19 | 16.56 | 11.99 | 15.81 | 11.98 | 15.78 |
| PSD - Port B | 11.69 | 14.76 | 11.87 | 15.38 | 11.56 | 14.32 |
| PSD - Total PSD | 14.96 | 31.31 | 14.94 | 31.19 | 14.79 | 30.10 |

Table 12 – Maximum Conducted Output Power – 8 MHz Bandwidth



| Description | Bottom Channel | | Middle Channel | | Top Channel | |
|---------------------|----------------|-------------|----------------|-------------|--------------|-------------|
| | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) | Result (dBm) | Result (mW) |
| Power - Port A | 20.06 | 101.39 | 19.84 | 96.38 | 19.81 | 95.72 |
| Power - Port B | 19.88 | 97.27 | 19.97 | 99.31 | 19.68 | 92.90 |
| Power - Total Power | 22.98 | 198.67 | 22.92 | 195.69 | 22.76 | 188.62 |
| PSD - Port A | 10.12 | 10.28 | 9.90 | 9.77 | 9.89 | 9.75 |
| PSD - Port B | 9.67 | 9.27 | 9.82 | 9.59 | 9.54 | 8.99 |
| PSD - Total PSD | 12.91 | 19.55 | 12.87 | 19.37 | 12.73 | 18.74 |

Table 13 – Maximum Conducted Output Power – 10 MHz Bandwidth

FCC 47 CFR Part 90, Limit Clause 90.1215

| Channel Bandwidth (MHz) | Low Power Maximum Conducted Output Power (dBm) | High Power Maximum Conducted Output Power (dBm) |
|-------------------------|--|---|
| 1 | 7 | 20 |
| 5 | 14 | 27 |
| 10 | 17 | 30 |
| 15 | 18.8 | 31.8 |
| 20 | 20 | 33 |

Table 14 - Specification Limits for Conducted Power

High power devices are also limited to a peak power spectral density of 21 dBm per one MHz.

High power devices using channel bandwidths other than those listed above are permitted; however, they are limited to peak power spectral density of 21 dBm/MHz.

90.1215(e): The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.



2.1.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

| Instrument | Manufacturer | Type No | TE No | Calibration Period (months) | Calibration Due |
|-------------------------|-----------------------|--------------------|-------|-----------------------------|-----------------|
| Attenuator (10dB, 1W) | Sealectro | 60-674-1010-89 | 1224 | 12 | 30-Jun-2018 |
| Multimeter | Iso-tech | IDM101 | 2419 | 12 | 23-Nov-2018 |
| Attenuator (30dB/50W) | Aeroflex / Weinschel | 47-30-34 | 3164 | 12 | 11-Jul-2018 |
| Hygrometer | Rotronic | I-1000 | 3220 | 12 | 30-Aug-2018 |
| Network Analyser | Rohde & Schwarz | ZVA 40 | 3548 | 12 | 02-Oct-2018 |
| Calibration Unit | Rohde & Schwarz | ZV-Z54 | 4368 | 12 | 06-Mar-2019 |
| 1 metre K-Type Cable | Florida Labs | KMS-180SP-39.4-KMS | 4520 | 12 | 13-Feb-2019 |
| PXA Signal Analyser | Keysight Technologies | N9030A | 4653 | 12 | 05-Feb-2019 |
| Attenuator (20dB, 100W) | Weinschel | 48-20-43 | 4869 | 12 | 11-Jul-2018 |
| Quad Power Supply | Rohde & Schwarz | HMP4040 | 4955 | - | O/P Mon |

Table 15

O/P Mon – Output Monitored using calibrated equipment



2.2 Types of Emissions

2.2.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.207
FCC 47 CFR Part 2, Clause 2.1047

2.2.2 Equipment Under Test

Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043

2.2.3 Test Method

The following information was provided by the manufacturer

2.2.4 Test Results

4.9 GHz - Transmit

The class of emission has been declared by the manufacturer as D1W. This emission class is to be considered for use on a case-by-case basis as stated in FCC 47 CFR Part 90.207(n).

The modulation scheme used is BPSK and 16-QAM with authorised bandwidths of 2.5, 3, 3.5, 5, 6, 7, 8 and 10 MHz.

The device is intended primarily for the transmission of digital video information. The video input signal goes through an ADC before the information is modulated within the given bandwidth.

FCC 47 CFR Part 90, Limit Clause 90.207

As per FCC Part 90.207(n).

FCC 47 CFR Part 2, Limit Clause 2.1047(d)

Other types of equipment. A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.



2.3 Bandwidth Limitations

2.3.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.209
FCC 47 CFR Part 2, Clause 2.1049

2.3.2 Equipment Under Test and Modification State

Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043,
S/N: 108873 - Modification State 0

2.3.3 Date of Test

10-May-2018

2.3.4 Test Method

This test was performed in accordance with ANSI C63.26, clause 5.4.4. Occupied Bandwidth Power Bandwidth (99%) measurement procedure.

2.3.5 Environmental Conditions

Ambient Temperature 22.6 °C
Relative Humidity 33.9 %

2.3.6 Test Results

4.9 GHz - Transmit

| Description | Occupied Bandwidth (MHz) | | |
|---------------------------|--------------------------|----------------|-------------|
| | Bottom Channel | Middle Channel | Top Channel |
| 2.5 MHz Bandwidth, Port A | 2.315 | 2.315 | 2.315 |
| 3 MHz Bandwidth, Port A | 2.772 | 2.772 | 2.772 |
| 3.5 MHz Bandwidth, Port A | 3.241 | 3.241 | 3.230 |
| 5 MHz Bandwidth, Port A | 4.631 | 4.631 | 4.631 |
| 6 MHz Bandwidth, Port A | 5.529 | 5.529 | 5.529 |
| 7 MHz Bandwidth, Port A | 6.519 | 6.519 | 6.519 |
| 8 MHz Bandwidth, Port A | 7.423 | 7.442 | 7.423 |
| 10 MHz Bandwidth, Port A | 9.262 | 9.262 | 9.262 |

Table 16 - Occupied Bandwidth Results



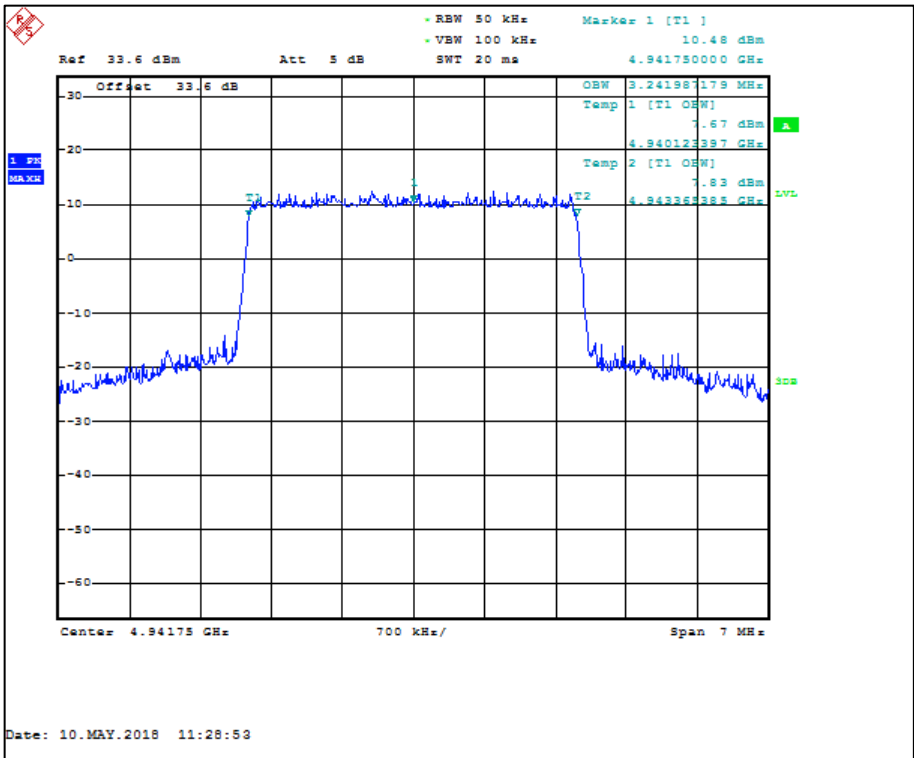


Figure 3 - Bottom Channel - Occupied Bandwidth - 3.5 MHz Bandwidth, Port A

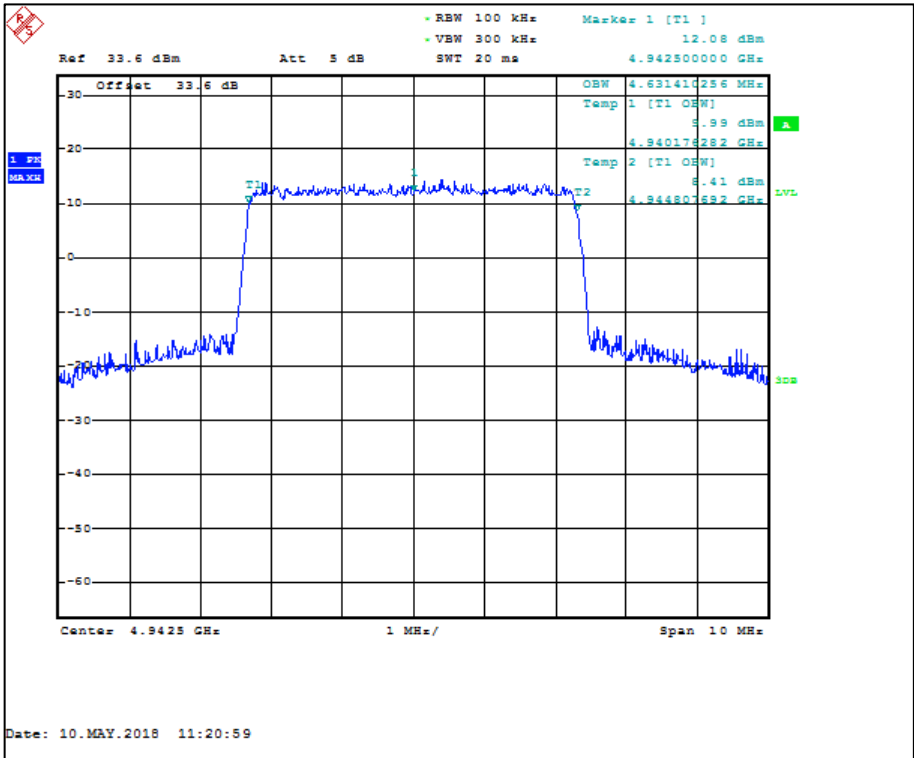


Figure 4 - Bottom Channel - Occupied Bandwidth - 5 MHz Bandwidth, Port A

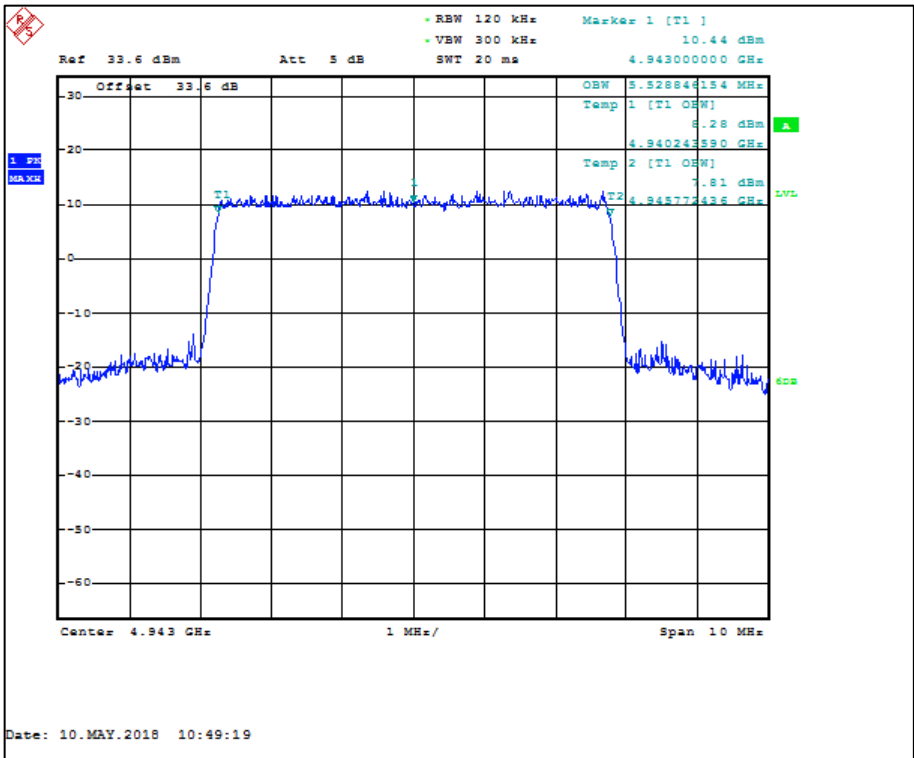


Figure 5 - Bottom Channel - Occupied Bandwidth - 6 MHz Bandwidth, Port A

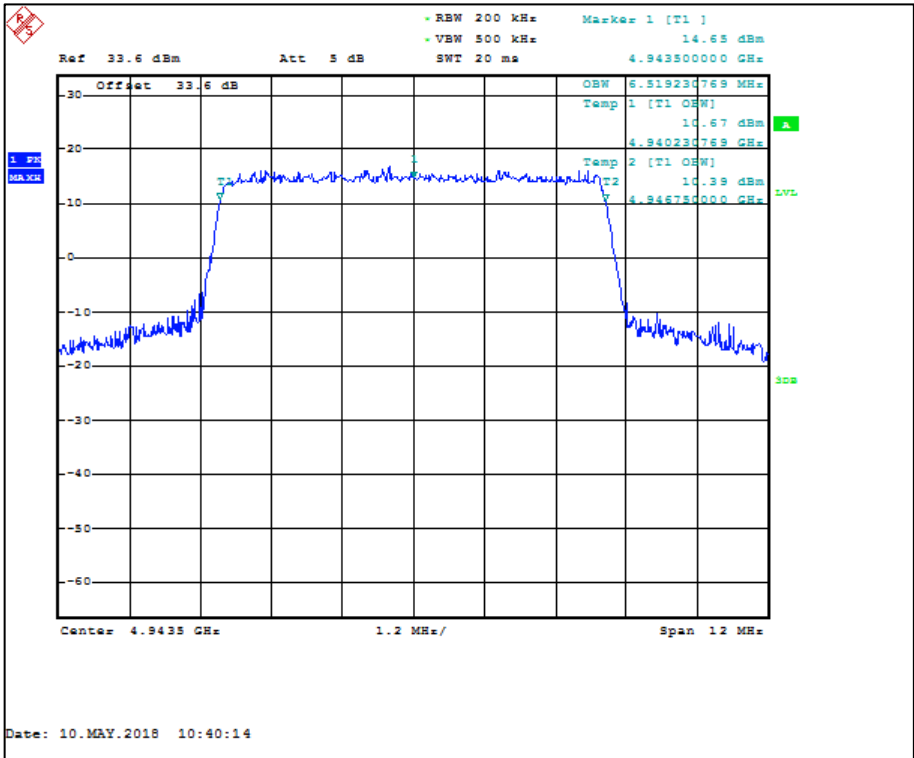


Figure 6 - Bottom Channel - Occupied Bandwidth - 7 MHz Bandwidth, Port A

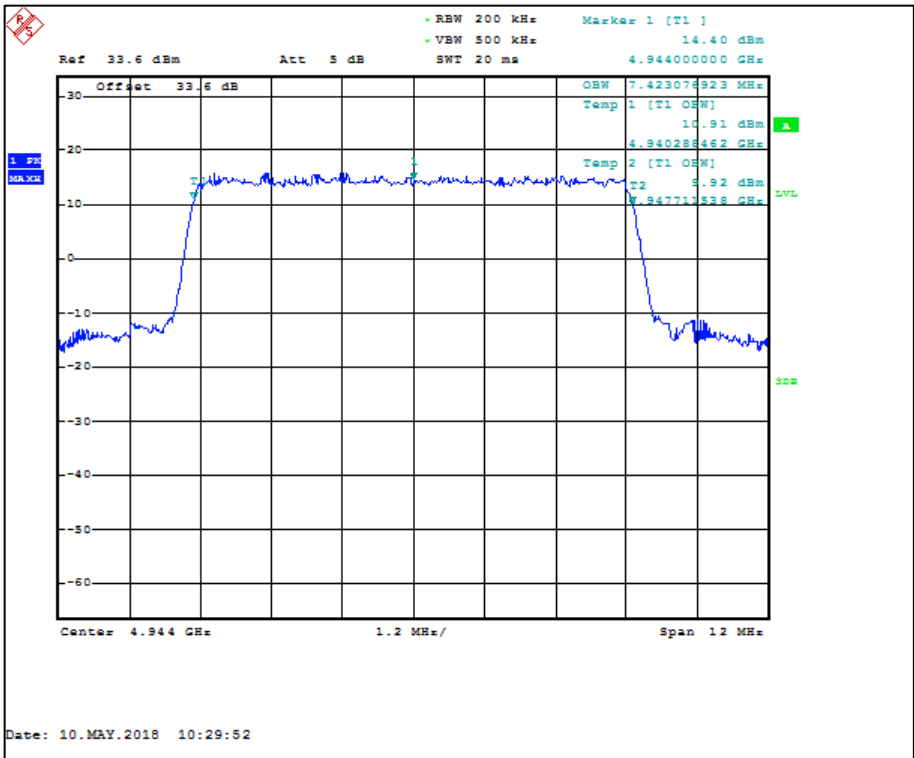


Figure 7 - Bottom Channel - Occupied Bandwidth - 8 MHz Bandwidth, Port A

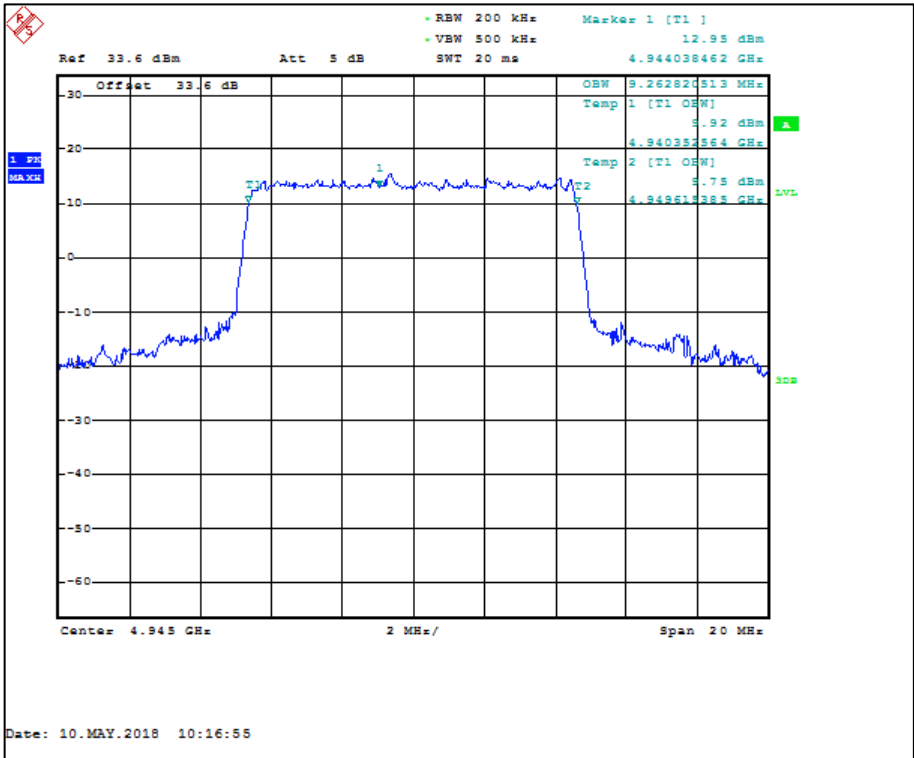


Figure 8 - Bottom Channel - Occupied Bandwidth - 10 MHz Bandwidth, Port A

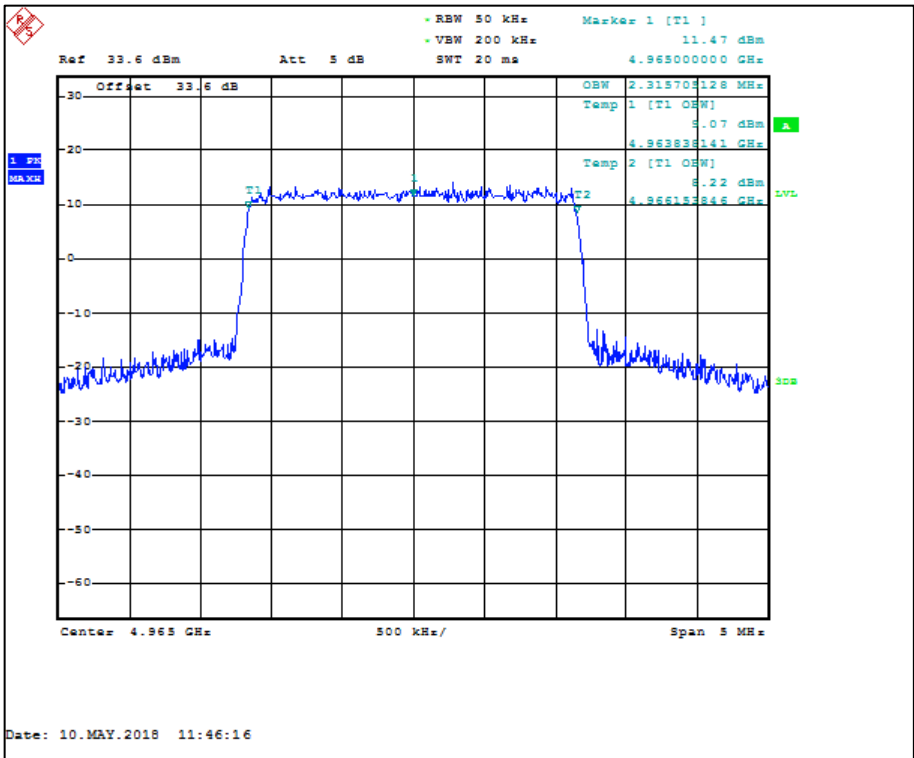


Figure 9 - Middle Channel - Occupied Bandwidth - 2.5 MHz Bandwidth, Port A

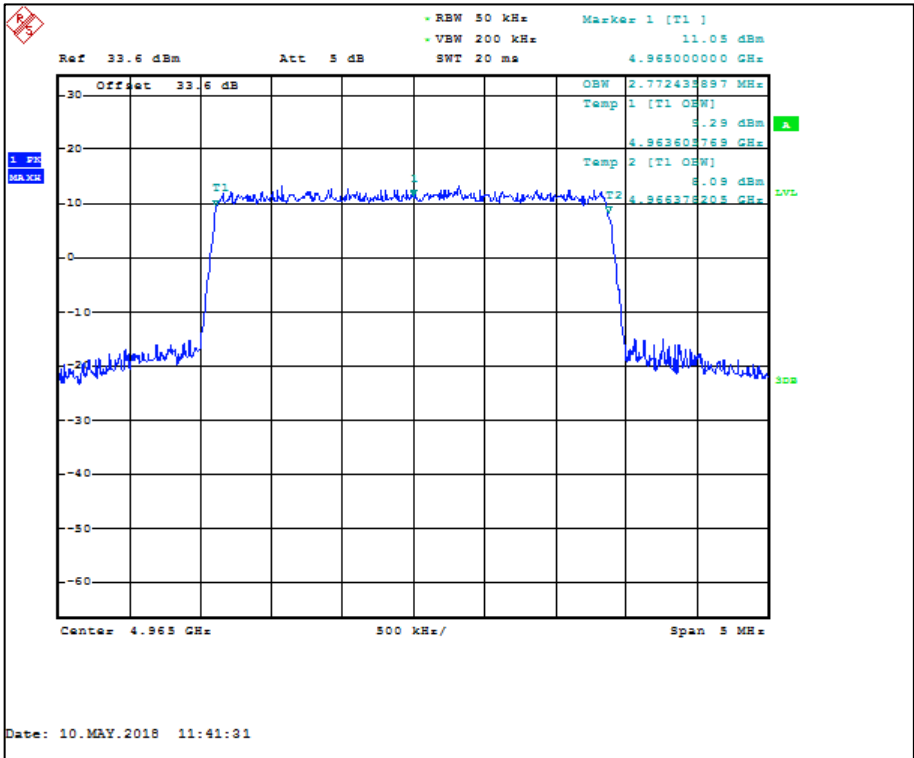


Figure 10 - Middle Channel - Occupied Bandwidth - 3 MHz Bandwidth, Port A

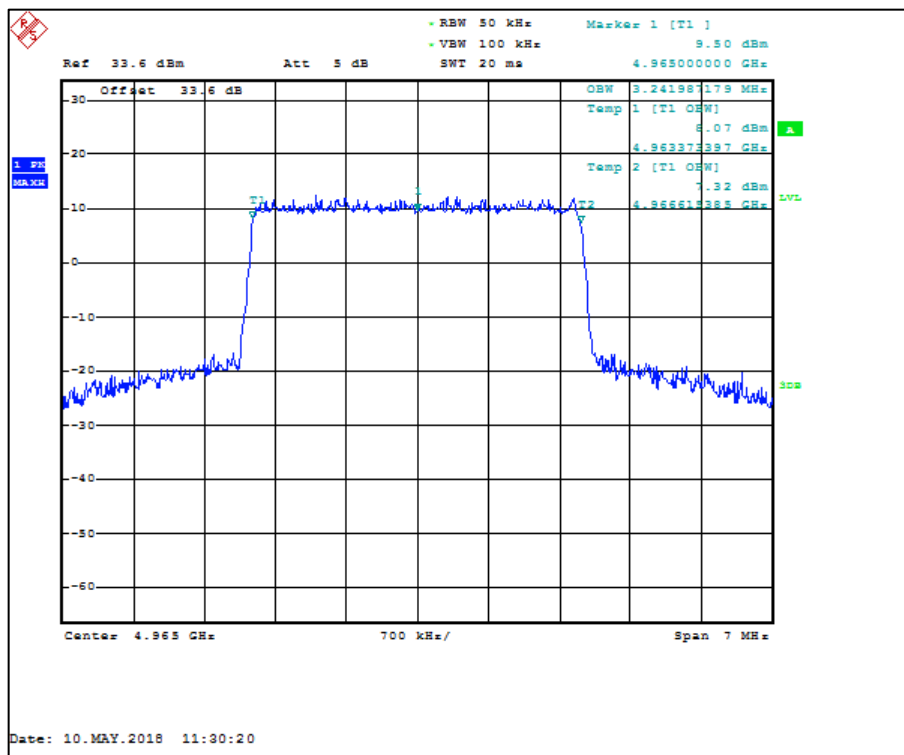


Figure 11 - Middle Channel - Occupied Bandwidth - 3.5 MHz Bandwidth, Port A

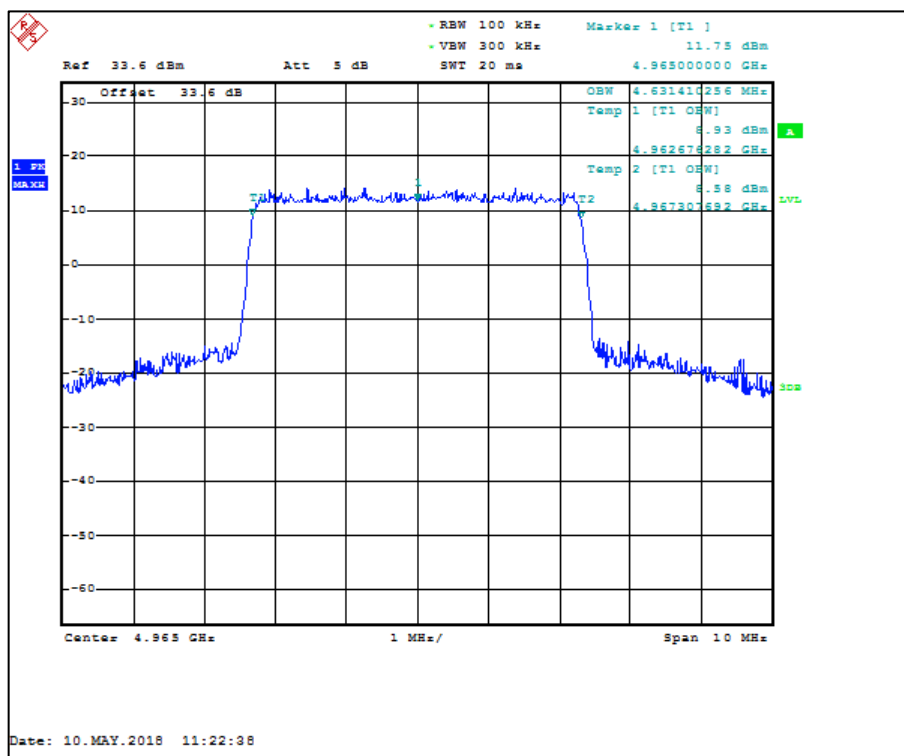


Figure 12 - Middle Channel - Occupied Bandwidth - 5 MHz Bandwidth, Port A

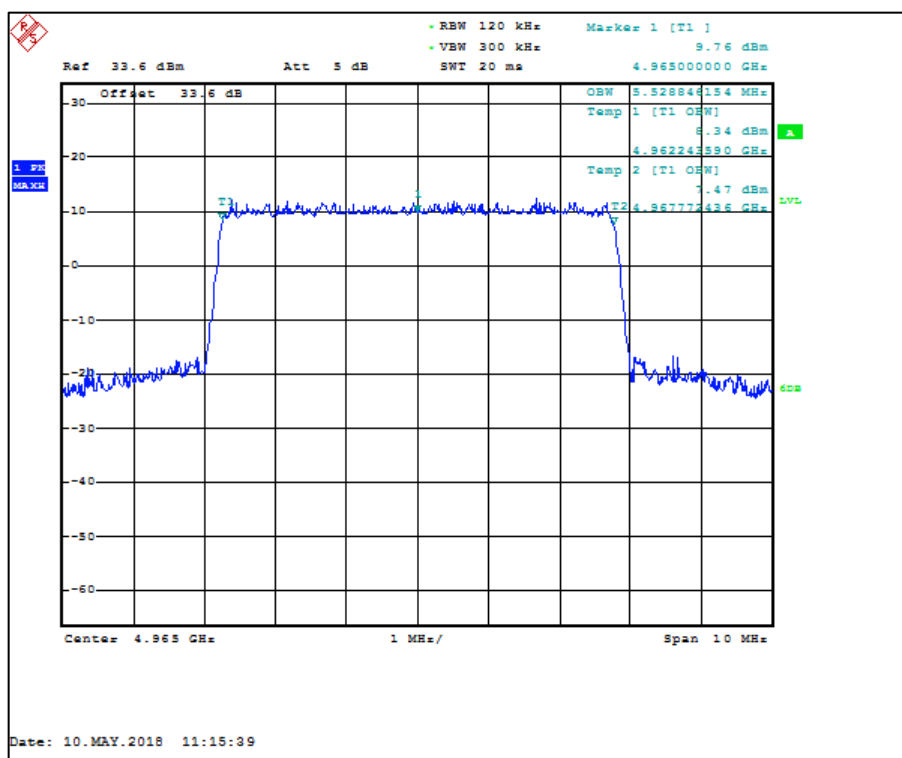


Figure 13 - Middle Channel - Occupied Bandwidth - 6 MHz Bandwidth, Port A

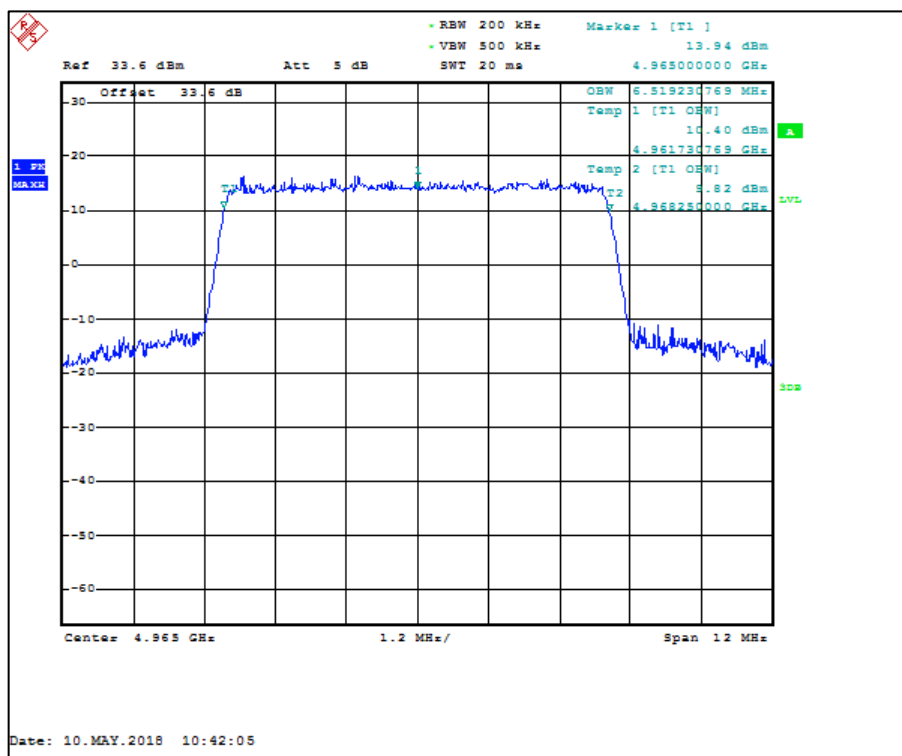


Figure 14 - Middle Channel - Occupied Bandwidth - 7 MHz Bandwidth, Port A

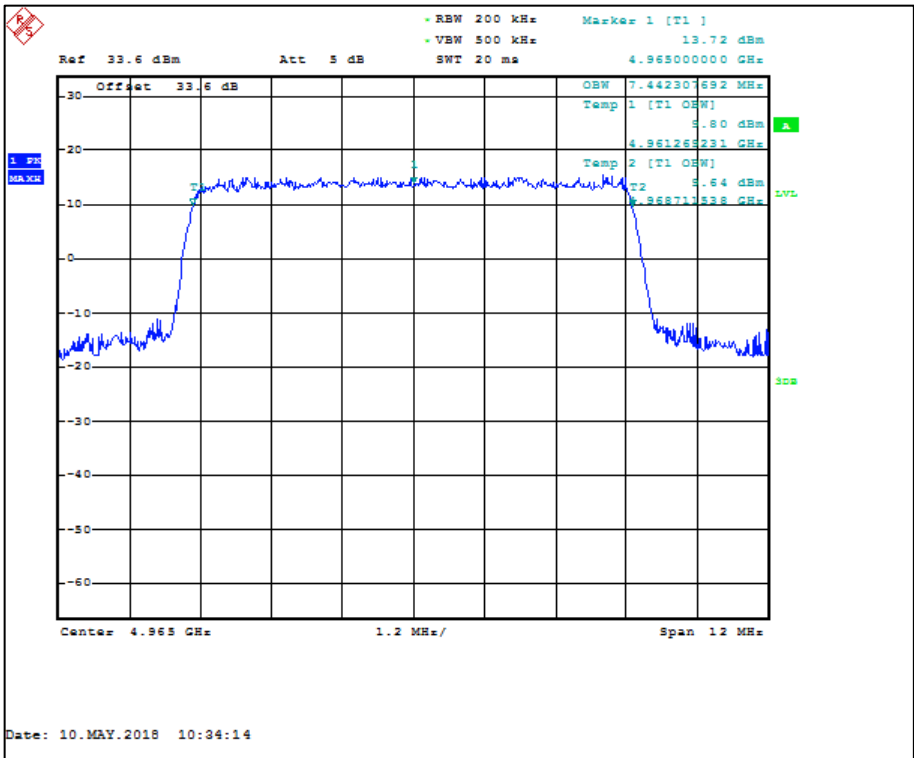


Figure 15 - Middle Channel - Occupied Bandwidth - 8 MHz Bandwidth, Port A

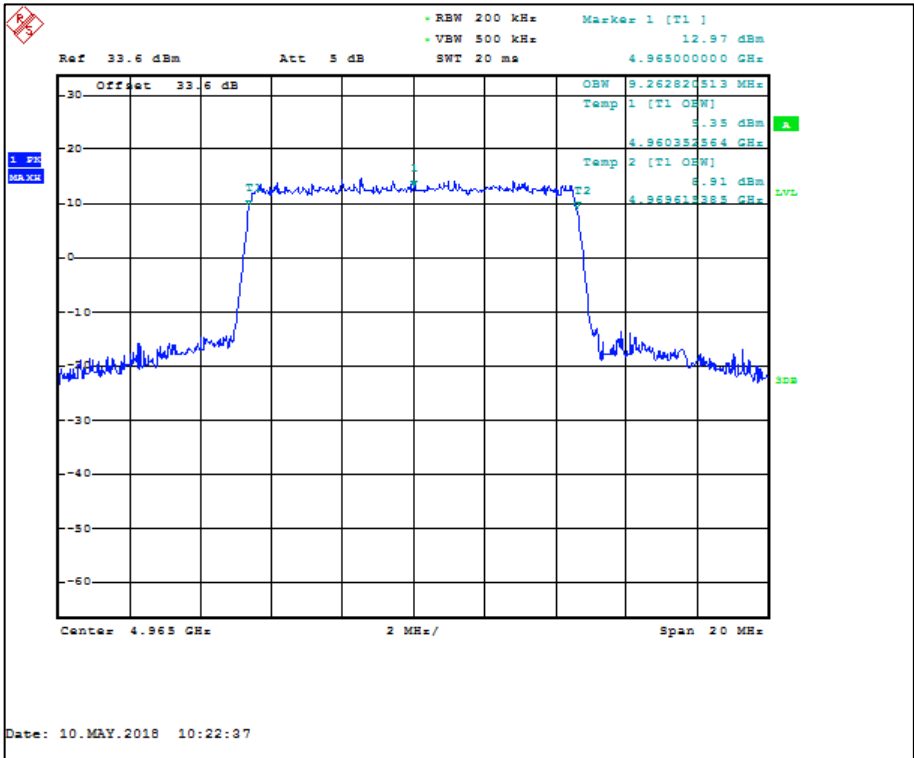


Figure 16 - Middle Channel - Occupied Bandwidth - 10 MHz Bandwidth, Port A

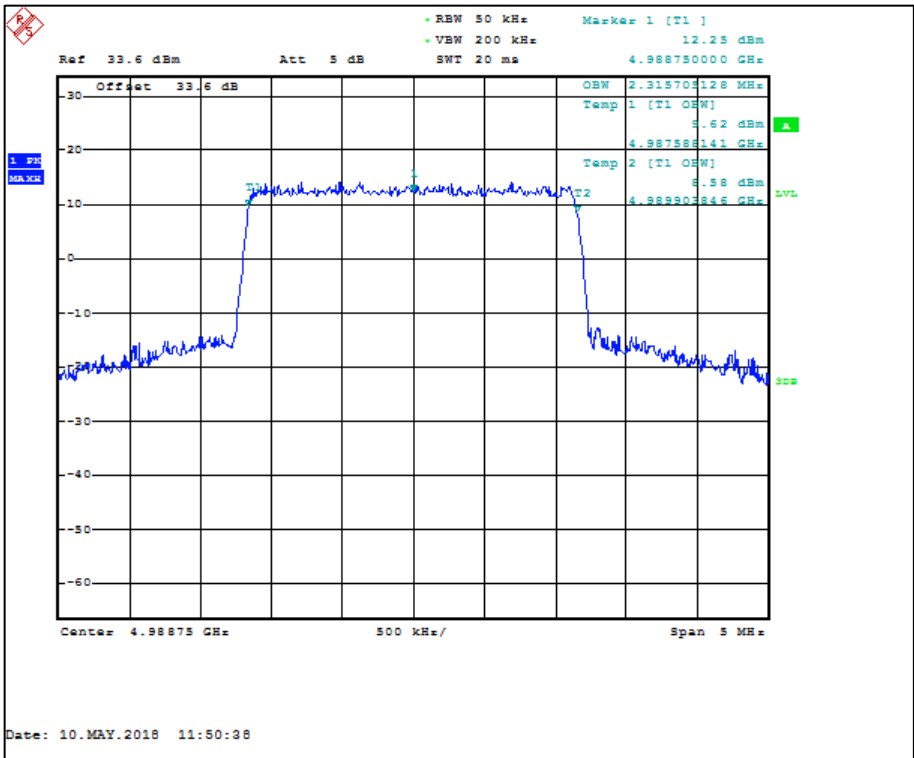


Figure 17 - Top Channel - Occupied Bandwidth - 2.5 MHz Bandwidth, Port A

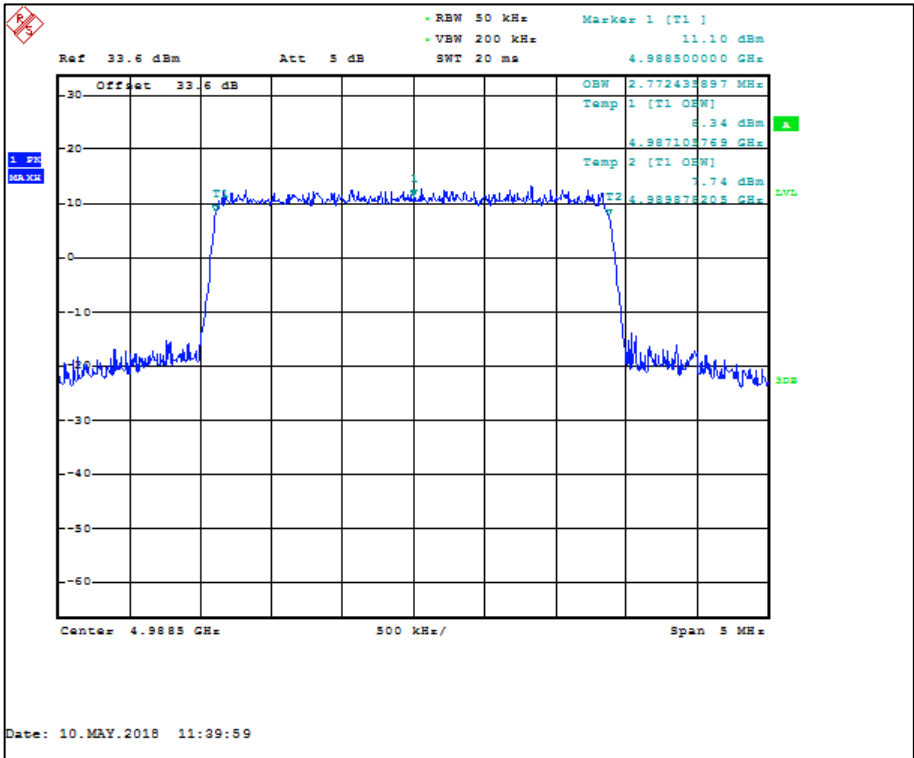


Figure 18 - Top Channel - Occupied Bandwidth - 3 MHz Bandwidth, Port A

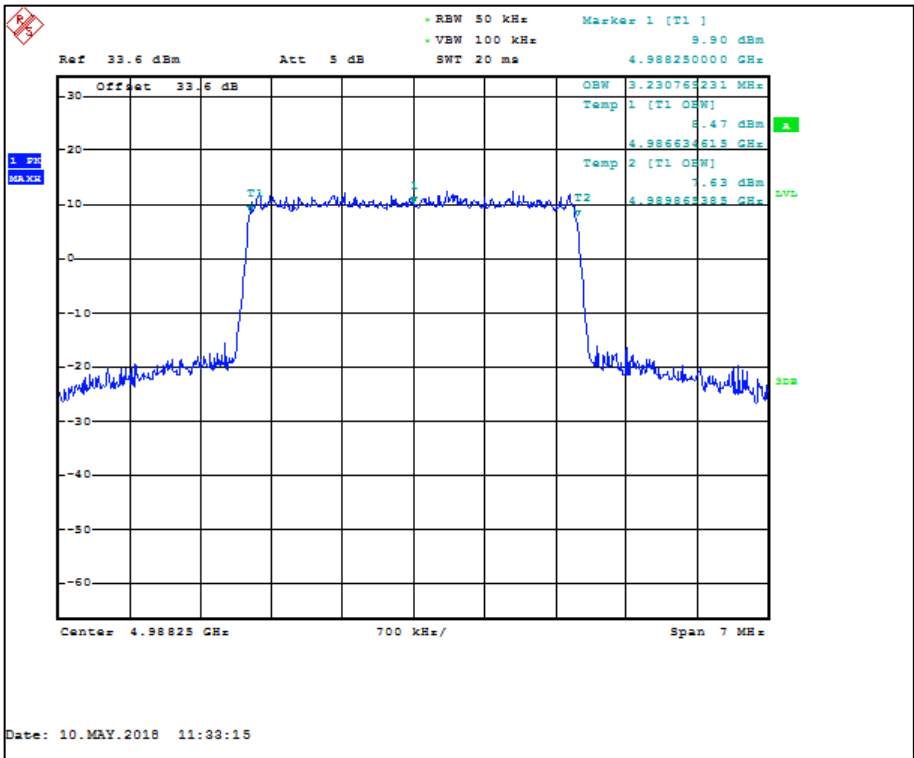


Figure 19 - Top Channel - Occupied Bandwidth - 3.5 MHz Bandwidth, Port A

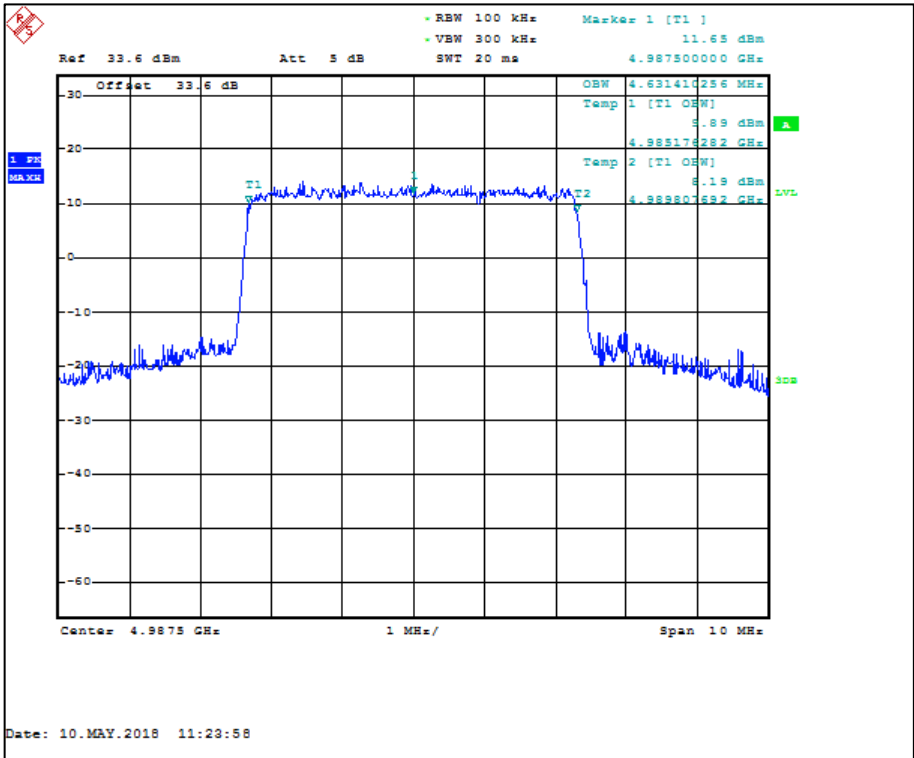


Figure 20 - Top Channel - Occupied Bandwidth - 5 MHz Bandwidth, Port A

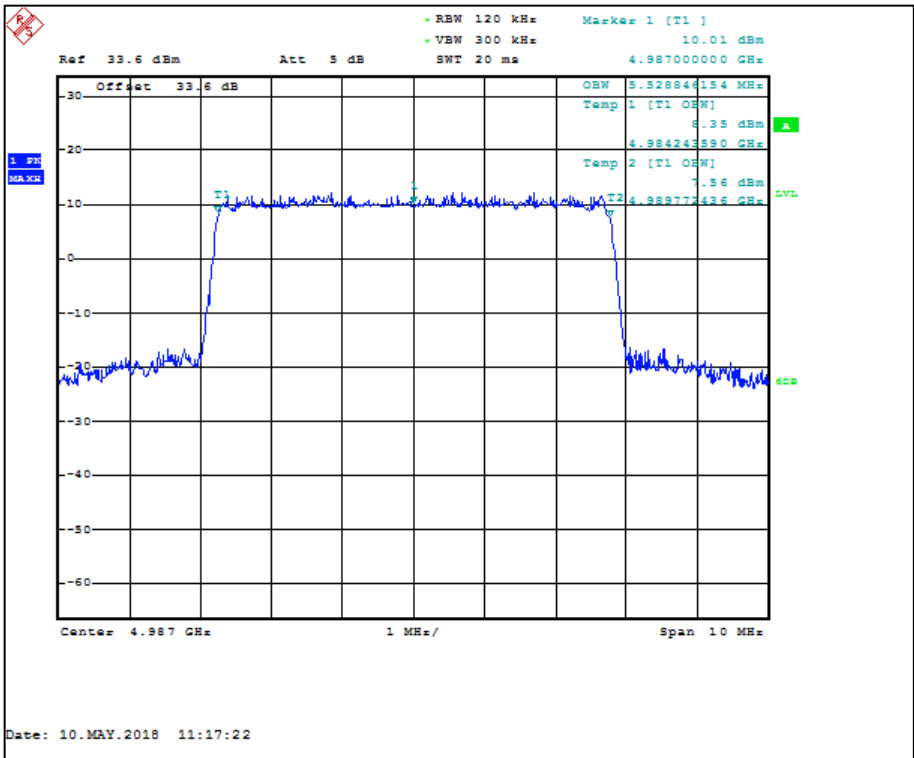


Figure 21 - Top Channel - Occupied Bandwidth - 6 MHz Bandwidth, Port A

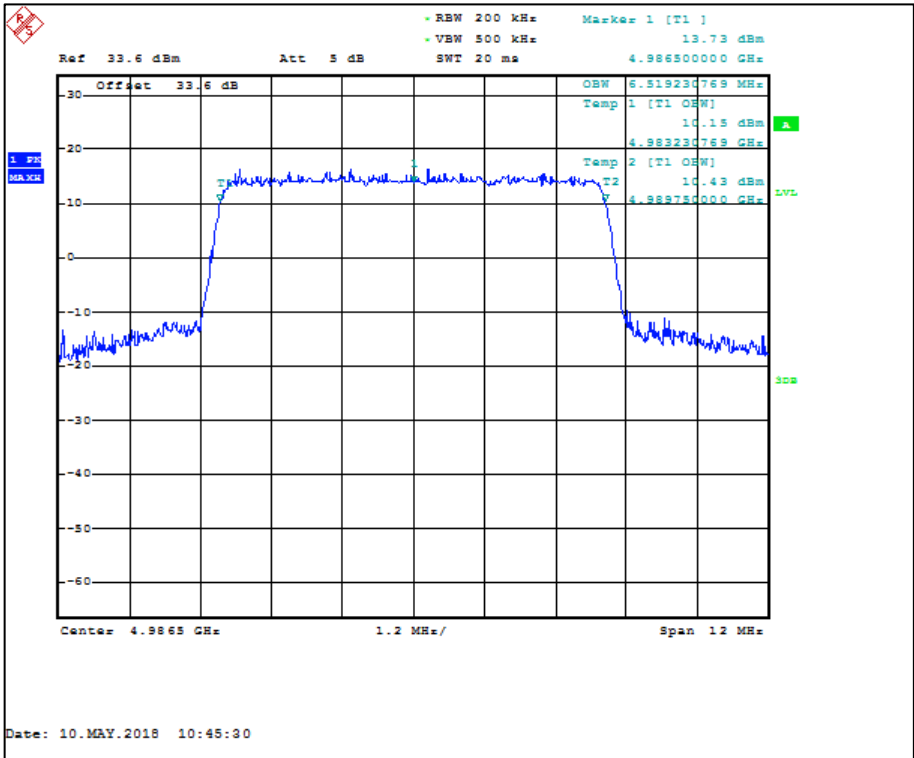


Figure 22 - Top Channel - Occupied Bandwidth - 7 MHz Bandwidth, Port A





FCC 47 CFR Part 90, Limit Clause

None Specified.

2.3.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

| Instrument | Manufacturer | Type No | TE No | Calibration Period (months) | Calibration Due |
|-------------------------|-----------------------|----------------|-------|-----------------------------|-----------------|
| Attenuator (10dB, 1W) | Sealectro | 60-674-1010-89 | 1224 | 12 | 30-Jun-2018 |
| Multimeter | Iso-tech | IDM101 | 2419 | 12 | 23-Nov-2018 |
| Attenuator (30dB/50W) | Aeroflex / Weinschel | 47-30-34 | 3164 | 12 | 11-Jul-2018 |
| Hygrometer | Rotronic | I-1000 | 3220 | 12 | 30-Aug-2018 |
| Signal Analyser | Rohde & Schwarz | FSQ 26 | 3545 | 12 | 14-Mar-2019 |
| Network Analyser | Rohde & Schwarz | ZVA 40 | 3548 | 12 | 02-Oct-2018 |
| Calibration Unit | Rohde & Schwarz | ZV-Z54 | 4368 | 12 | 06-Mar-2019 |
| PXA Signal Analyser | Keysight Technologies | N9030A | 4653 | 12 | 05-Feb-2019 |
| Attenuator (20dB, 100W) | Weinschel | 48-20-43 | 4869 | 12 | 11-Jul-2018 |
| Quad Power Supply | Rohde & Schwarz | HMP4040 | 4955 | - | O/P Mon |

Table 17

O/P Mon – Output Monitored using calibrated equipment



2.4 Spurious Emissions at Antenna Terminals

2.4.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.210
FCC 47 CFR Part 2, Clause 2.1051

2.4.2 Equipment Under Test and Modification State

Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043,
S/N: 108873 - Modification State 0

2.4.3 Date of Test

11-May-2018

2.4.4 Test Method

This test was performed in accordance with FCC Part 90, Clause 90.210 Emission Mask M, and ANSI C63.26, Clause 5.7, 5.7.1, 5.7.2.

The limit line used for compliance with the appropriate rules for emissions for emissions removed > 150% of the authorised bandwidth from the centre frequency, is -25 dBm. This is then further reduced by 3 dB for MIMO operation when N=2 and N is the number of transmitters simultaneously operating.

$$3 \text{ dB} = 10 \cdot \text{LOG}(2)$$

2.4.5 Environmental Conditions

| | |
|---------------------|---------|
| Ambient Temperature | 23.1 °C |
| Relative Humidity | 36.0 % |



2.4.6 Test Results

4.9 GHz – Transmit

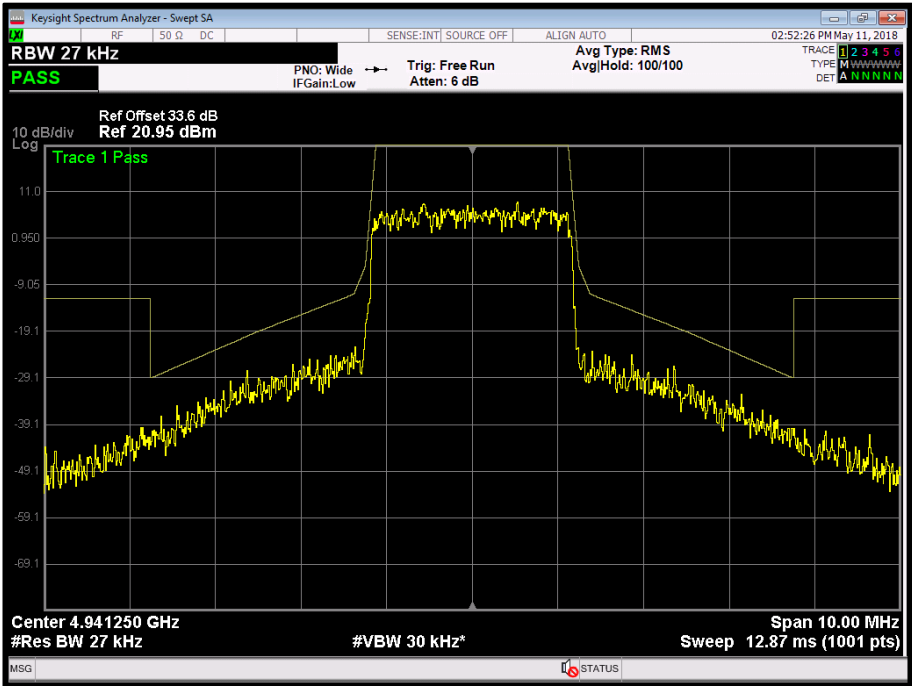


Figure 25 - Bottom Channel - Transmitter Mask - 2.5 MHz Bandwidth, Port A

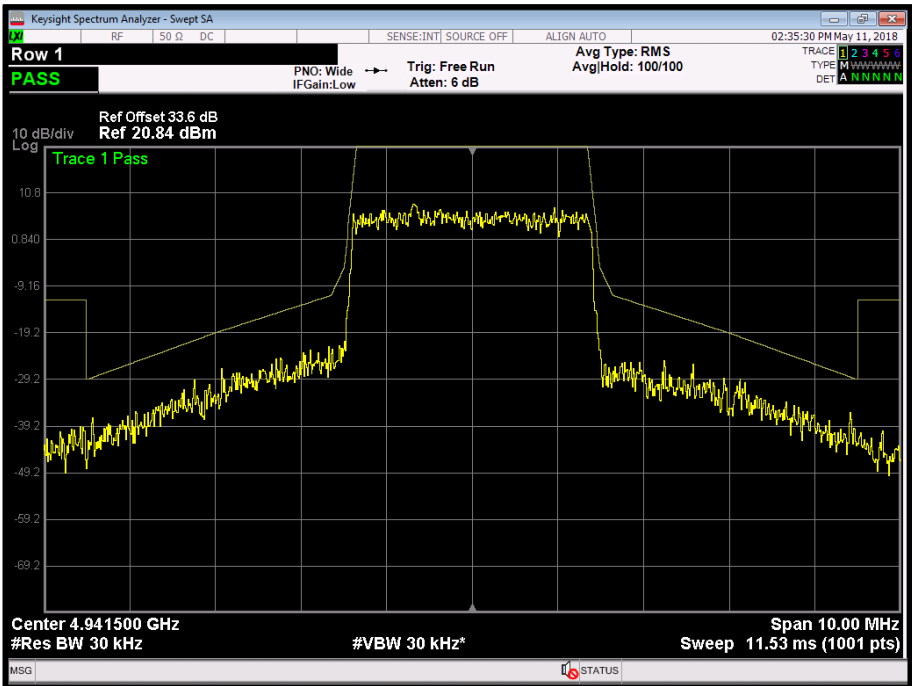


Figure 26 - Bottom Channel - Transmitter Mask - 3 MHz Bandwidth, Port A

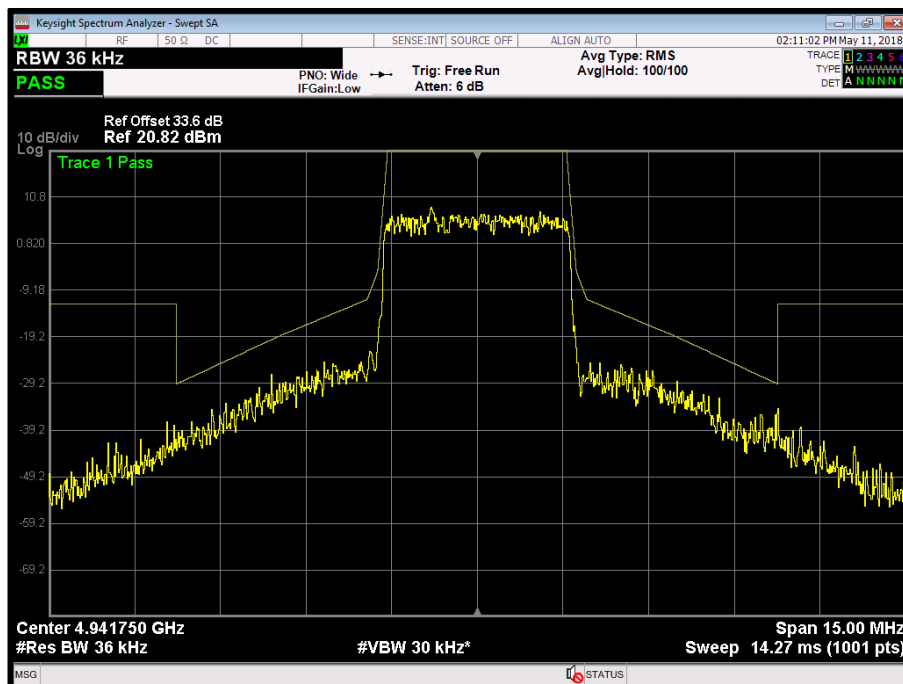


Figure 27 - Bottom Channel - Transmitter Mask - 3.5 MHz Bandwidth, Port A

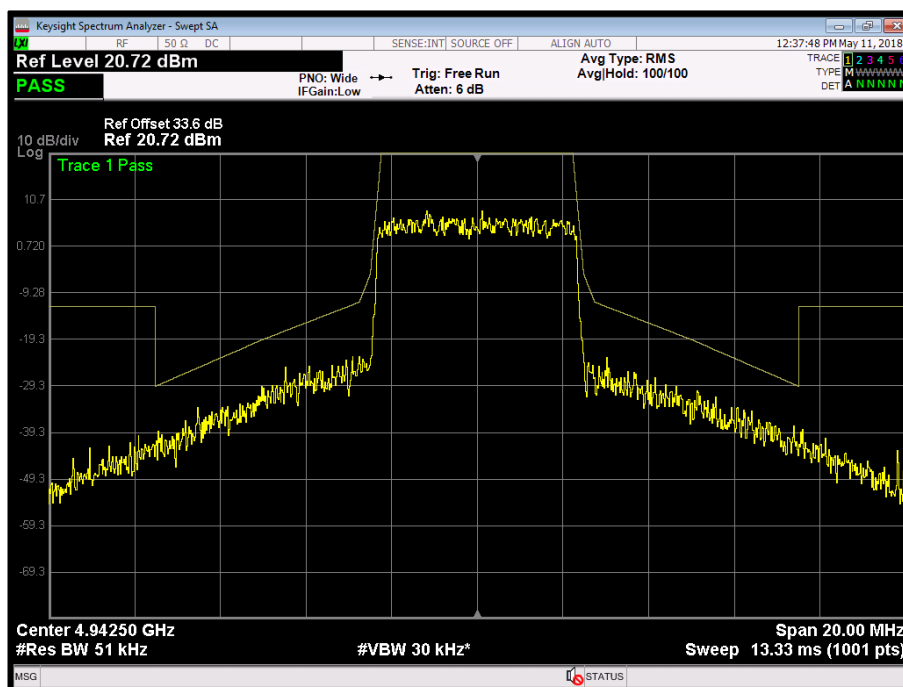


Figure 28 - Bottom Channel - Transmitter Mask - 5 MHz Bandwidth, Port A

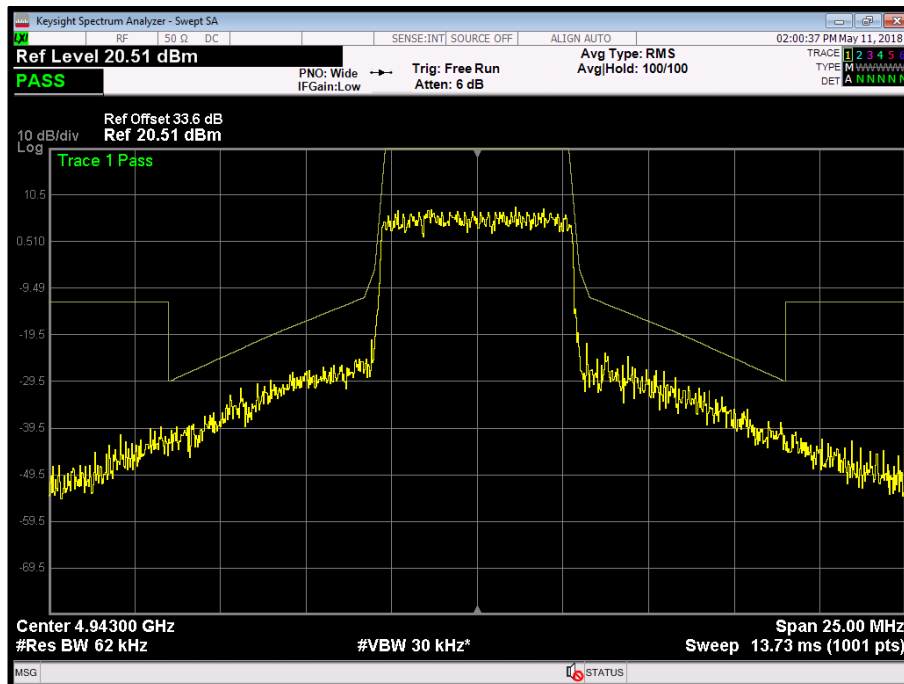


Figure 29 - Bottom Channel - Transmitter Mask - 6 MHz Bandwidth, Port A

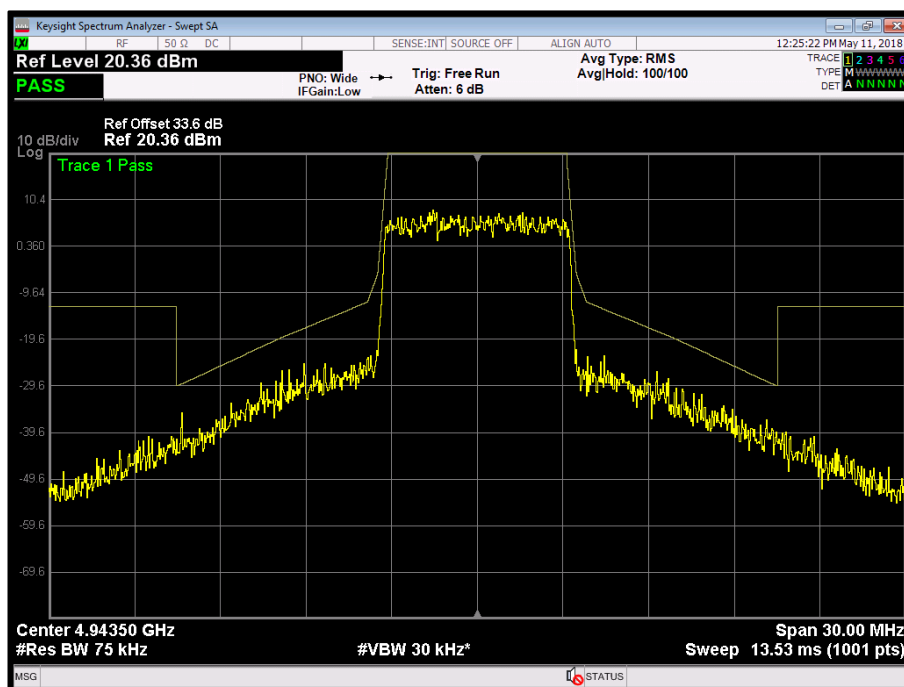


Figure 30 - Bottom Channel - Transmitter Mask - 7 MHz Bandwidth, Port A

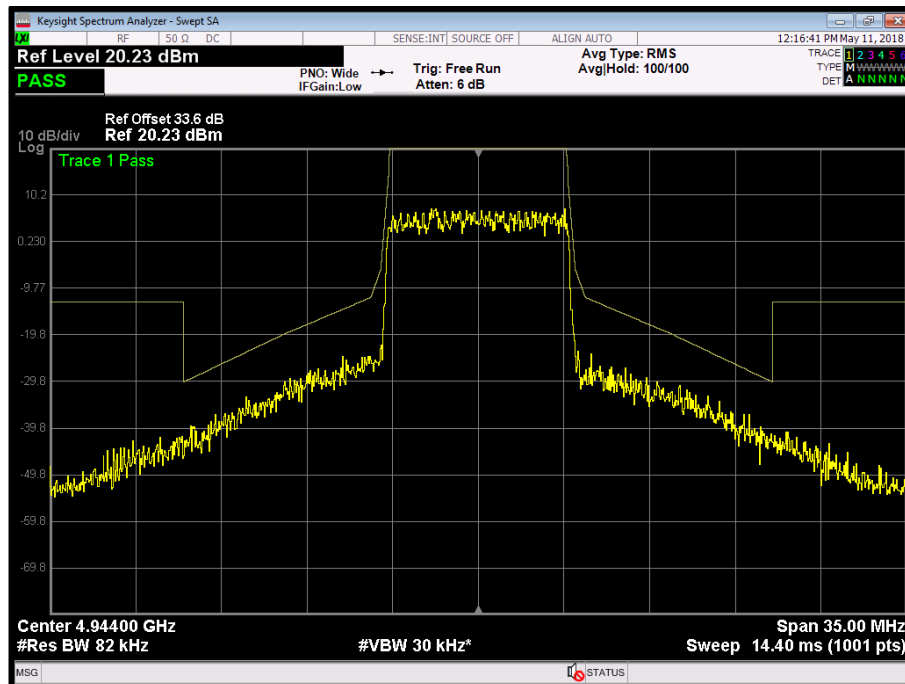


Figure 31 - Bottom Channel - Transmitter Mask - 8 MHz Bandwidth, Port A

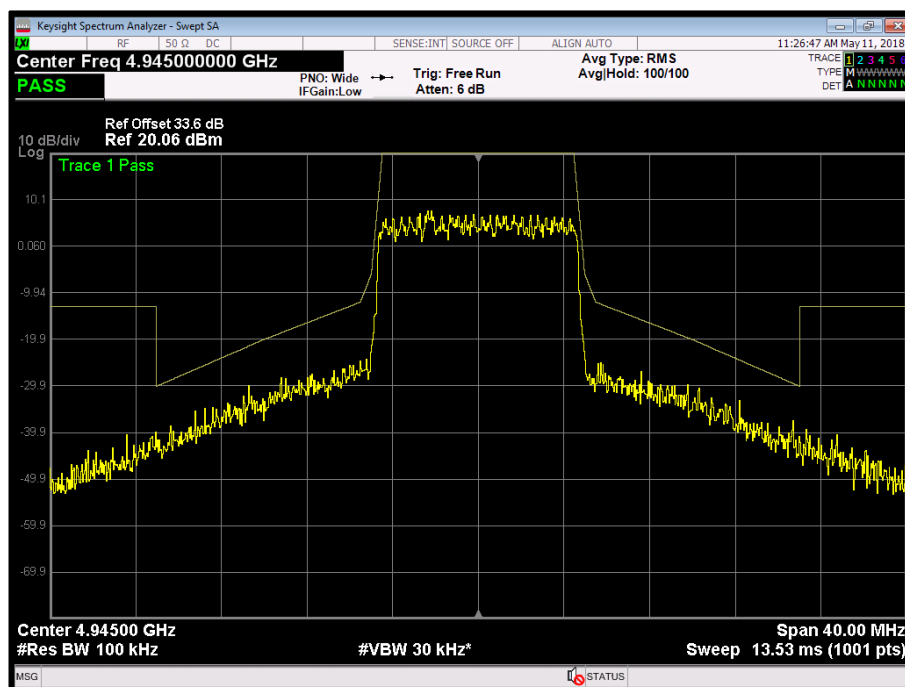


Figure 32 - Bottom Channel - Transmitter Mask - 10 MHz Bandwidth, Port A

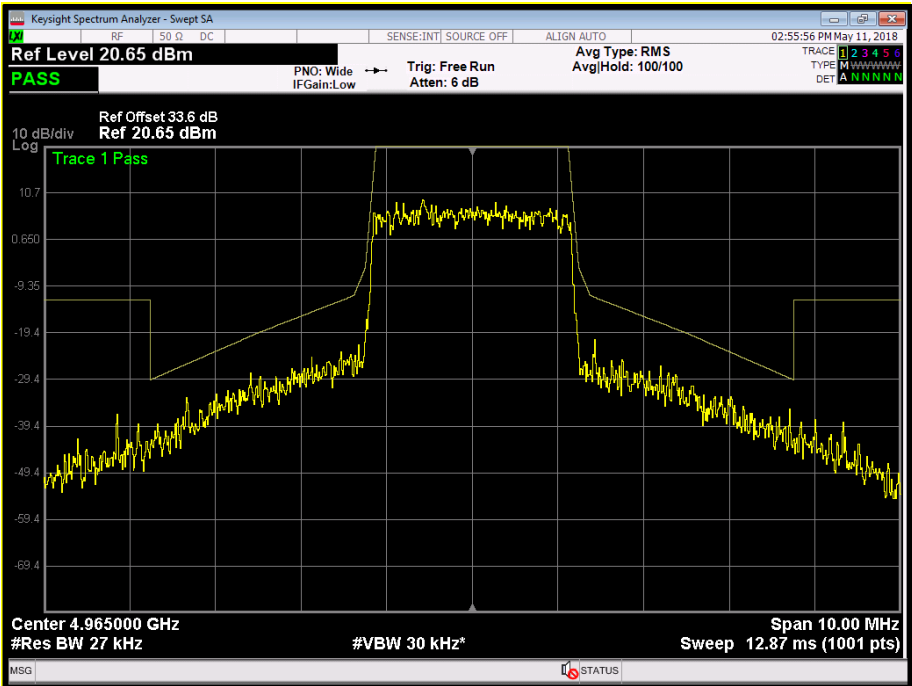


Figure 33 - Middle Channel - Transmitter Mask - 2.5 MHz Bandwidth, Port A

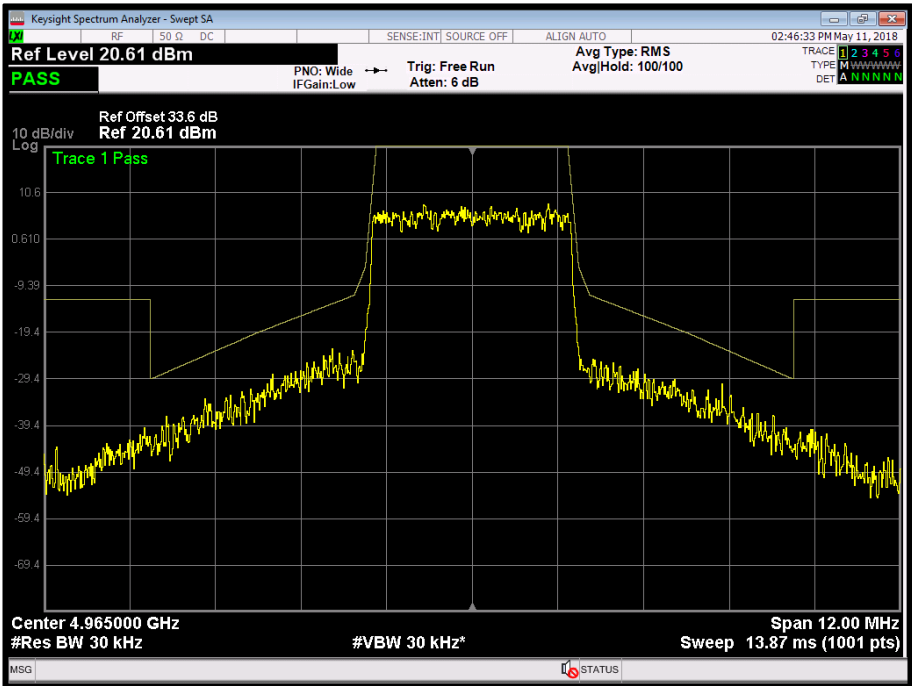


Figure 34 - Middle Channel - Transmitter Mask - 3 MHz Bandwidth, Port A

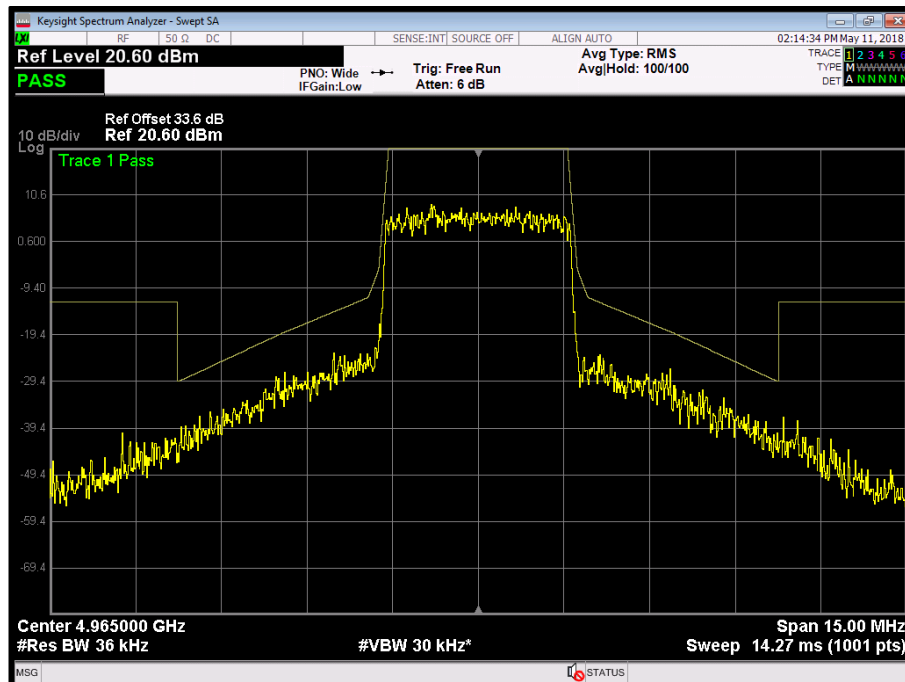


Figure 35 - Middle Channel - Transmitter Mask - 3.5 MHz Bandwidth, Port A

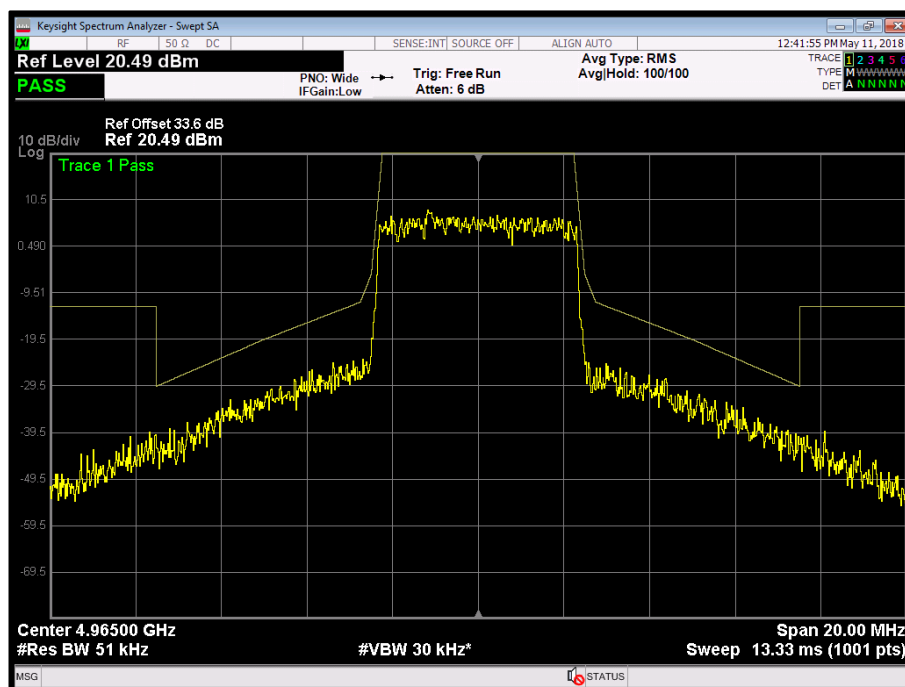


Figure 36 - Middle Channel - Transmitter Mask - 5 MHz Bandwidth, Port A

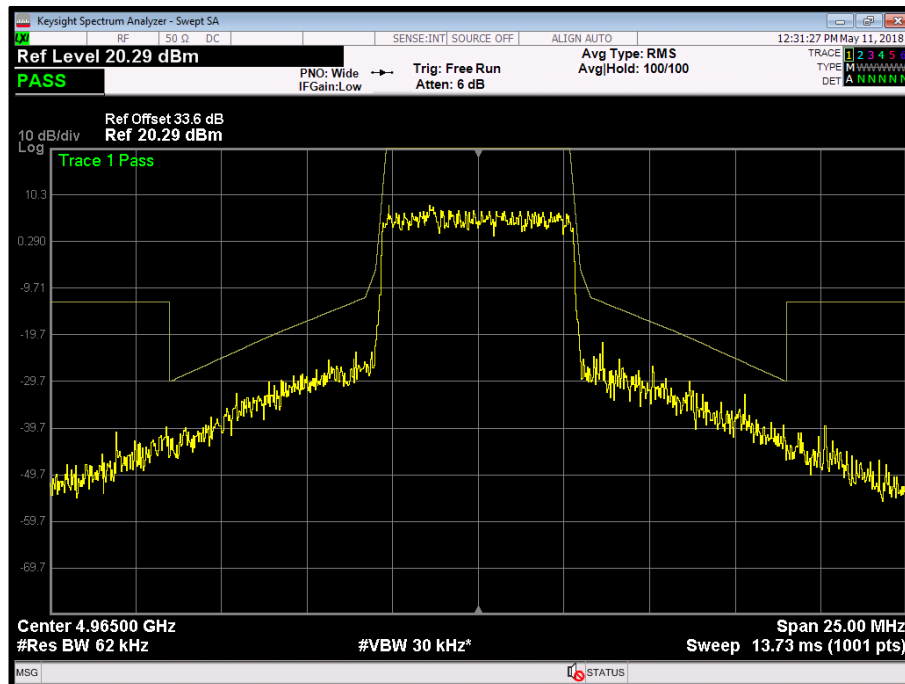


Figure 37 - Middle Channel - Transmitter Mask - 6 MHz Bandwidth, Port A

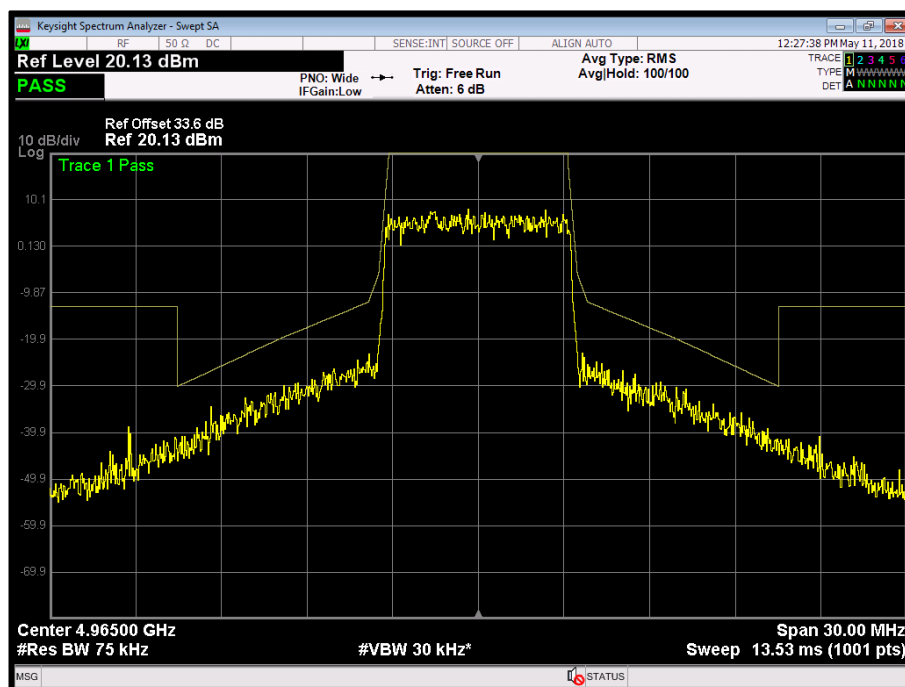


Figure 38 - Middle Channel - Transmitter Mask - 7 MHz Bandwidth, Port A

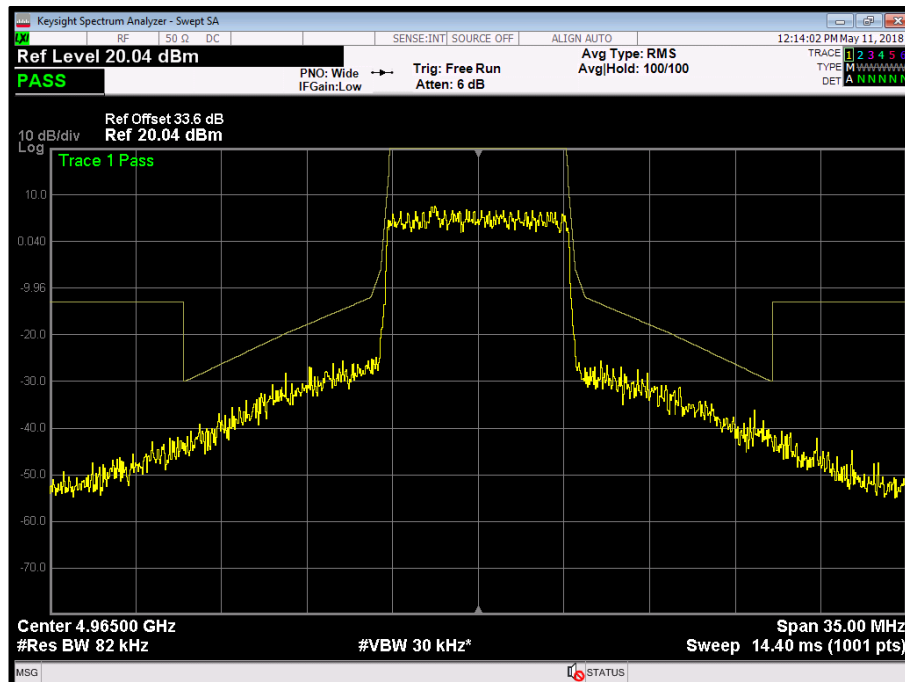


Figure 39 - Middle Channel - Transmitter Mask - 8 MHz Bandwidth, Port A

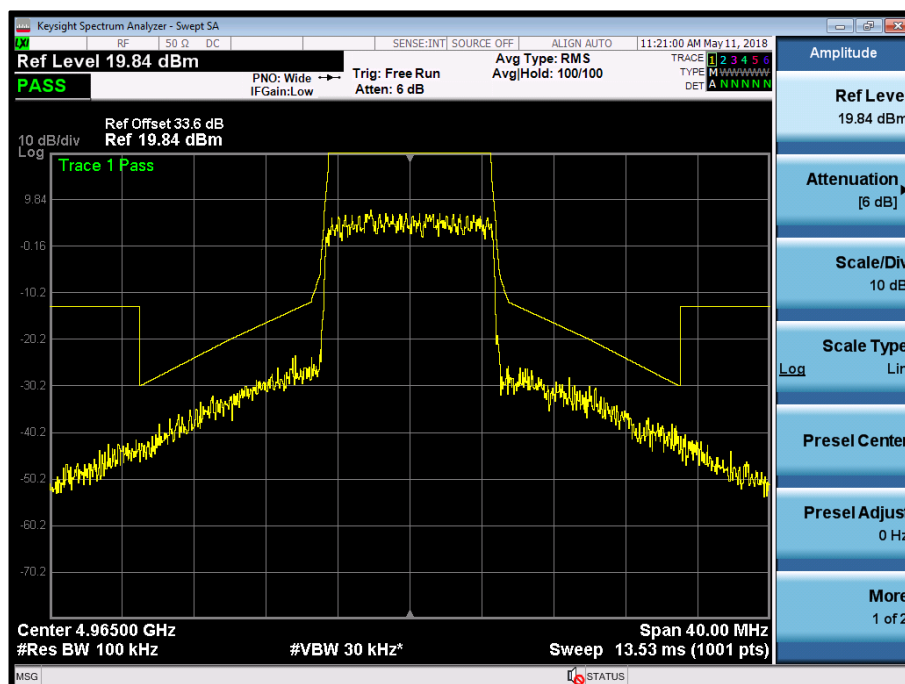


Figure 40 - Middle Channel - Transmitter Mask - 10 MHz Bandwidth, Port A

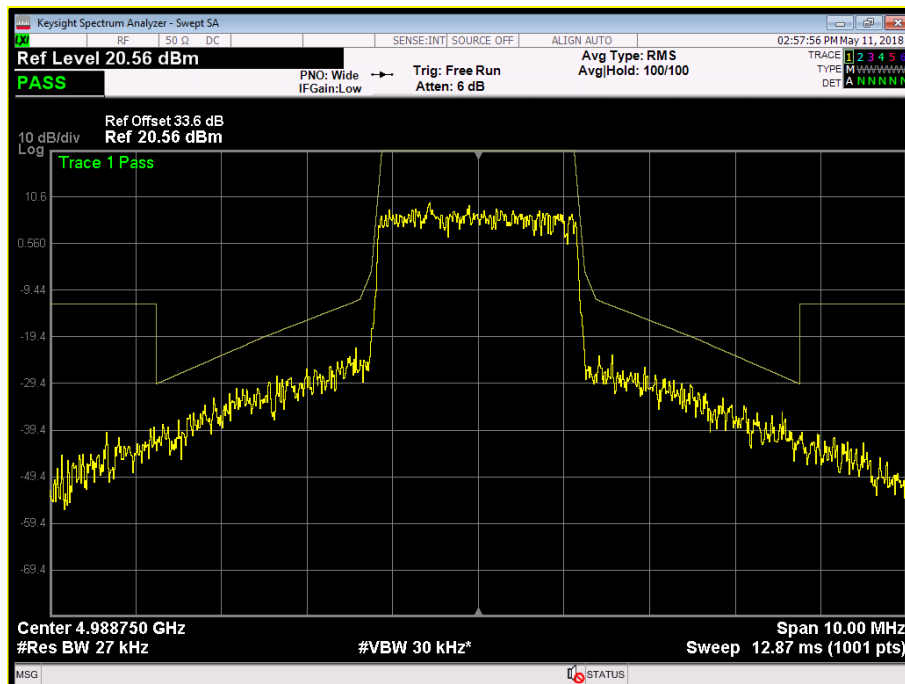


Figure 41 - Top Channel - Transmitter Mask - 2.5 MHz Bandwidth, Port A

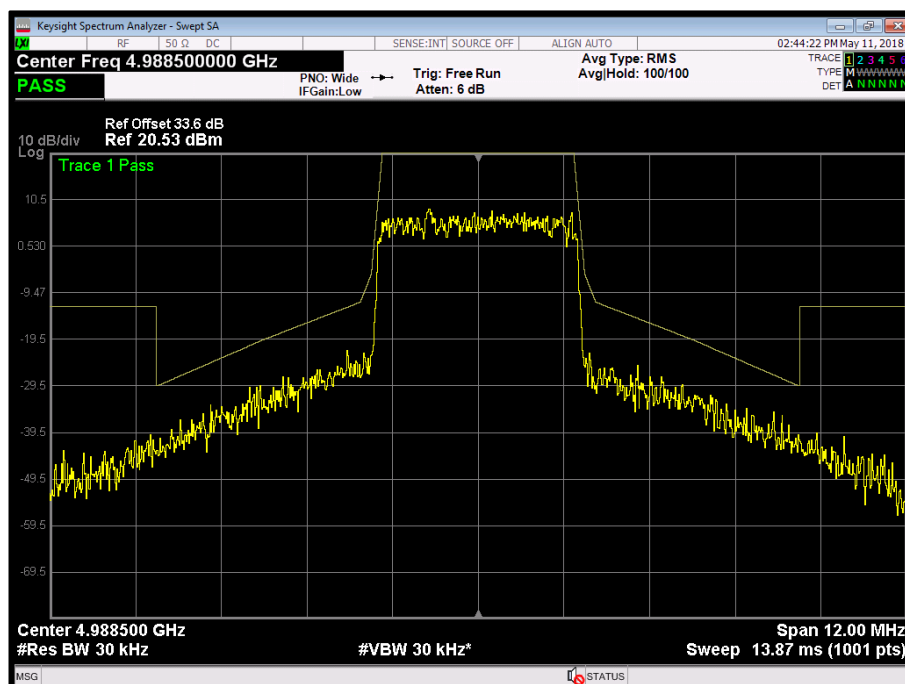


Figure 42 -Top Channel - Transmitter Mask - 3 MHz Bandwidth, Port A

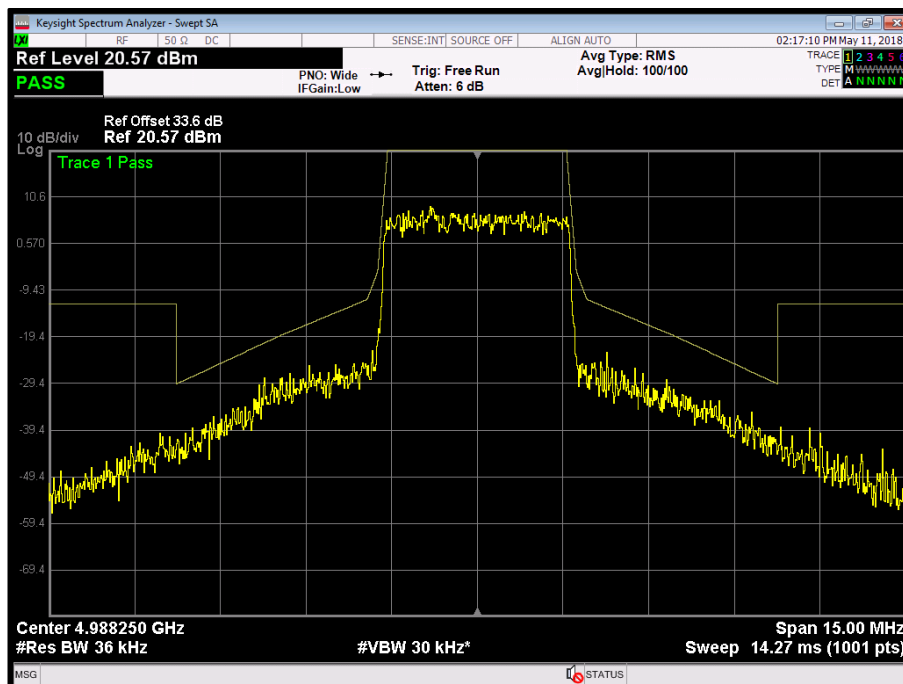


Figure 43 - Top Channel - Transmitter Mask - 3.5 MHz Bandwidth, Port A

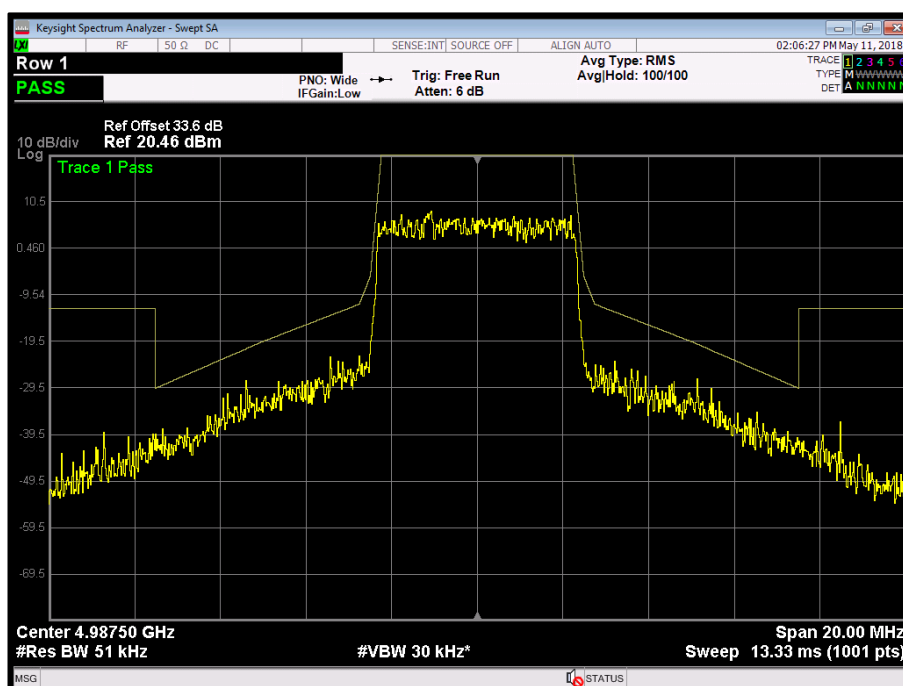


Figure 44 - Top Channel - Transmitter Mask - 5 MHz Bandwidth, Port A

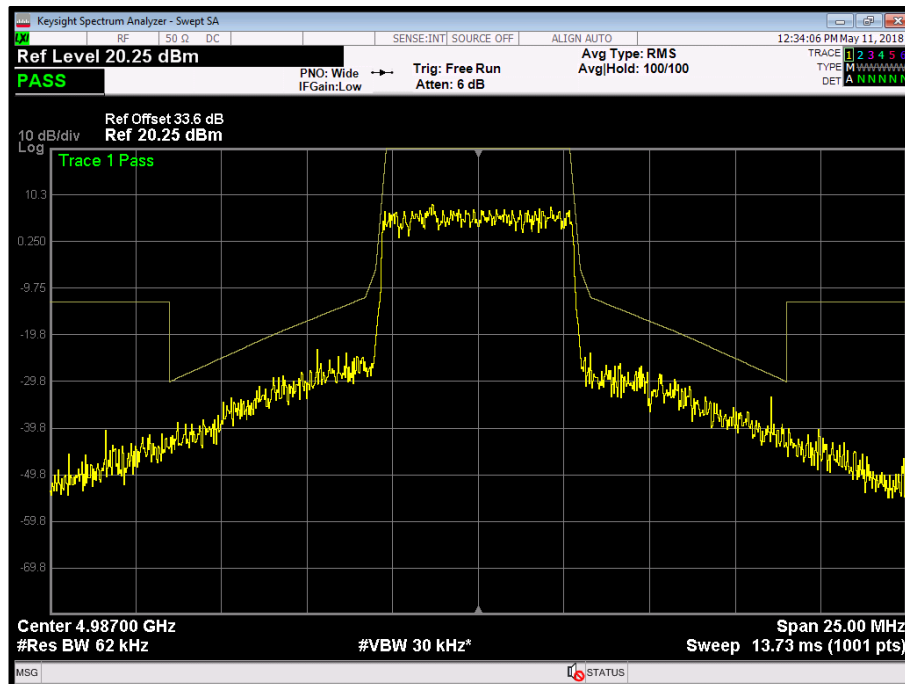


Figure 45 - Top Channel - Transmitter Mask - 6 MHz Bandwidth, Port A

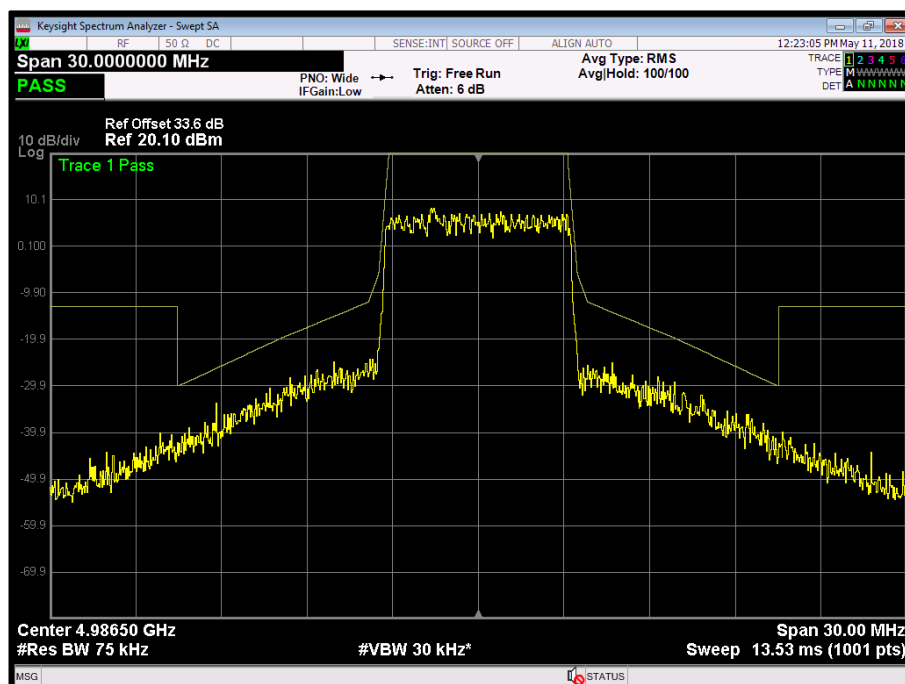


Figure 46 - Top Channel - Transmitter Mask - 7 MHz Bandwidth, Port A

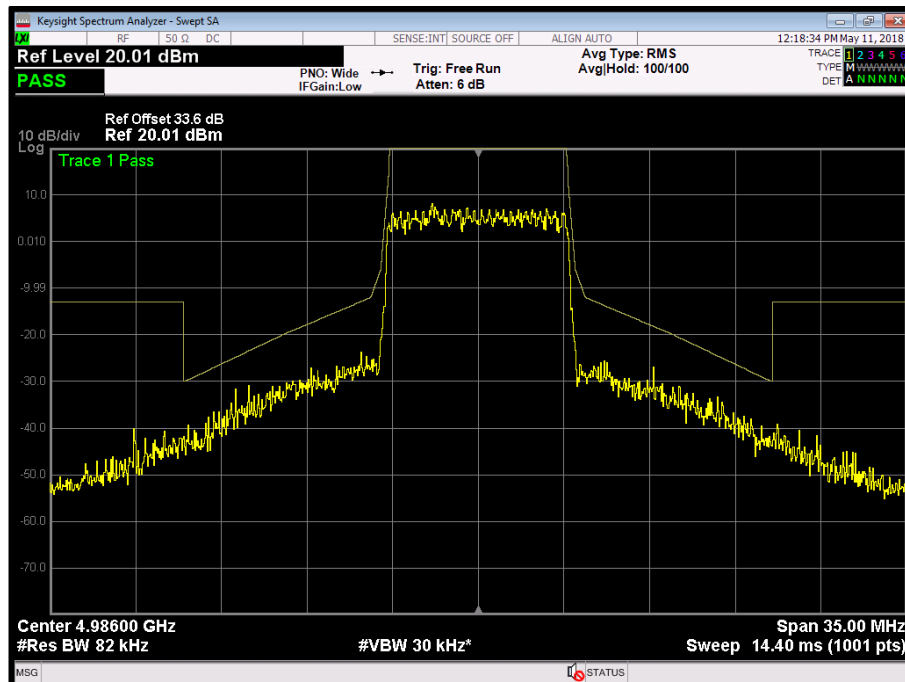


Figure 47 - Top Channel - Transmitter Mask - 8 MHz Bandwidth, Port A

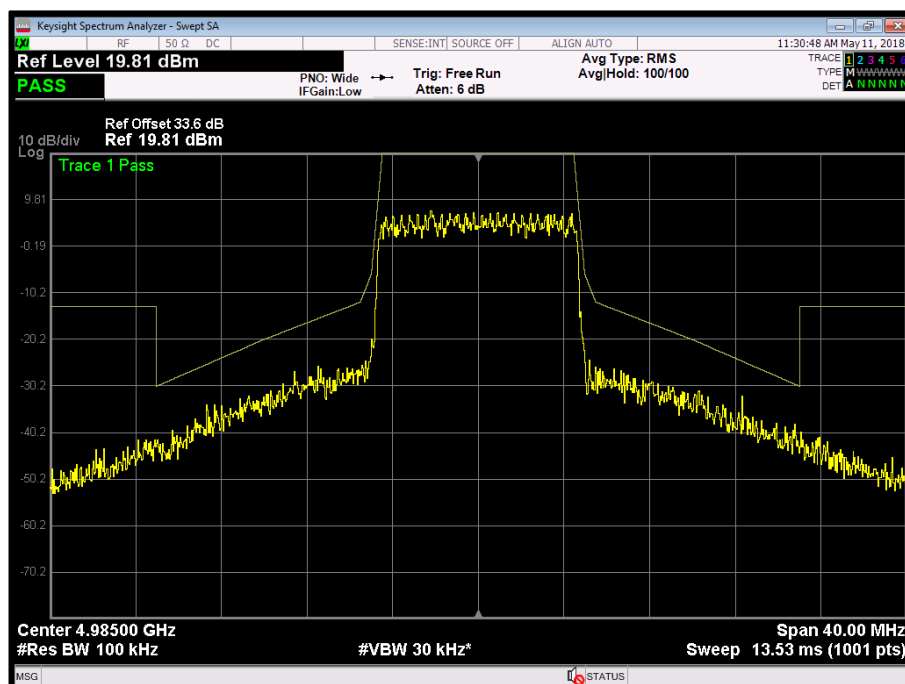


Figure 48 - Top Channel - Transmitter Mask - 10 MHz Bandwidth, Port A

FCC 47 CFR Part 90, Limit Clause 90.210

The EUT shall comply with emission mask M as per FCC 47 CFR Part 90.210.



2.4.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

| Instrument | Manufacturer | Type No | TE No | Calibration Period (months) | Calibration Due |
|-------------------------|-----------------------|----------------|-------|-----------------------------|-----------------|
| Attenuator (10dB, 1W) | Sealectro | 60-674-1010-89 | 1224 | 12 | 30-Jun-2018 |
| Multimeter | Iso-tech | IDM101 | 2419 | 12 | 23-Nov-2018 |
| Attenuator (30dB/50W) | Aeroflex / Weinschel | 47-30-34 | 3164 | 12 | 11-Jul-2018 |
| Hygrometer | Rotronic | I-1000 | 3220 | 12 | 30-Aug-2018 |
| Network Analyser | Rohde & Schwarz | ZVA 40 | 3548 | 12 | 02-Oct-2018 |
| Calibration Unit | Rohde & Schwarz | ZV-Z54 | 4368 | 12 | 06-Mar-2019 |
| PXA Signal Analyser | Keysight Technologies | N9030A | 4653 | 12 | 05-Feb-2019 |
| Attenuator (20dB, 100W) | Weinschel | 48-20-43 | 4869 | 12 | 11-Jul-2018 |
| Quad Power Supply | Rohde & Schwarz | HMP4040 | 4955 | - | O/P Mon |

Table 18

O/P Mon – Output Monitored using calibrated equipment



2.5 Radiated Spurious Emissions

2.5.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.210
FCC 47 CFR Part 2, Clause 2.1051

2.5.2 Equipment Under Test and Modification State

Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043,
S/N: 108873 - Modification State 0

2.5.3 Date of Test

20-May-2018 to 10-June-2018

2.5.4 Test Method

Testing was performed in accordance with ANSI C63.26, clause 5.5.4.
The limit line used on the plots was calculated from equation c) in clause 5.2.7

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$; where D is the measurement distance (in the far field region) in m.

$-13 \text{ dBm} - 20*\log(3) + 104.8 = 82.26 \text{ dB}\mu\text{V/m at 3m.}$

2.5.5 Environmental Conditions

| | |
|---------------------|---------|
| Ambient Temperature | 19.5 °C |
| Relative Humidity | 68.4 % |



2.5.6 Test Results

4.9 GHz - Transmit

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| * | |

Table 19 - Bottom Channel - 30 MHz to 1 GHz - Emissions Results

*No emissions were detected within 10 dB of the limit.

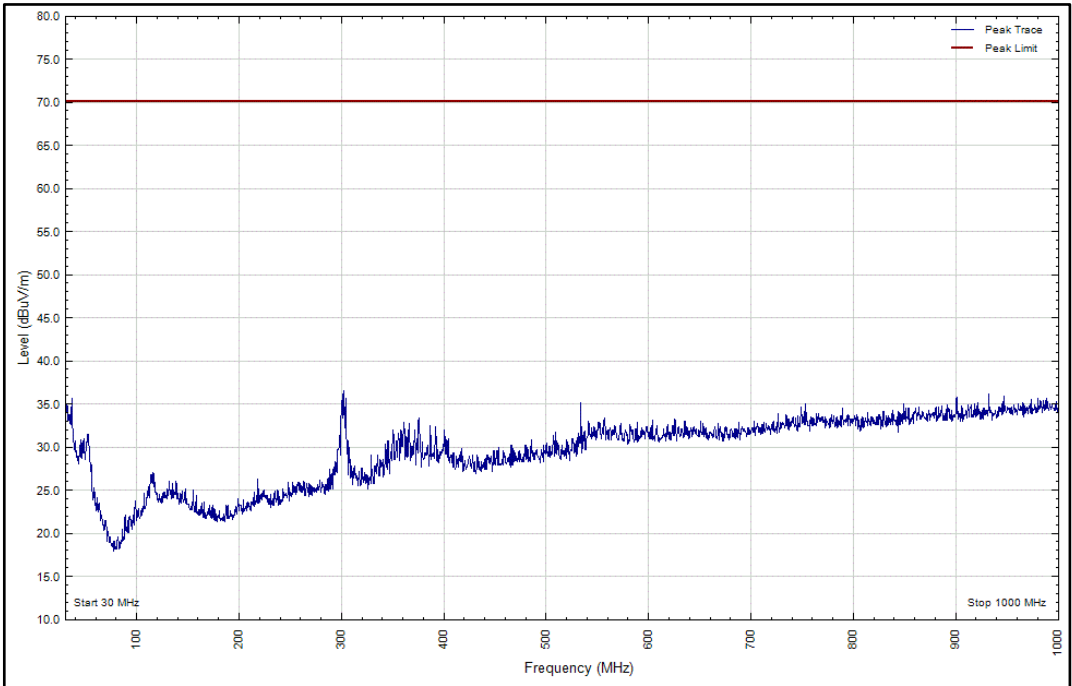


Figure 49 - Bottom Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation X

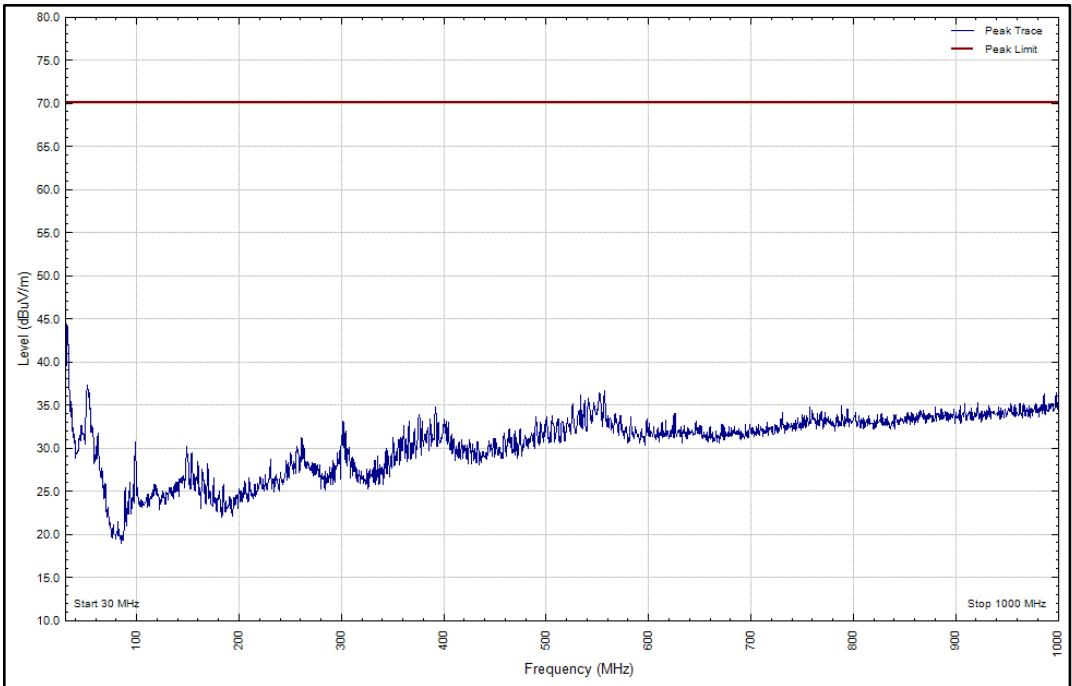


Figure 50 - Bottom Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation X

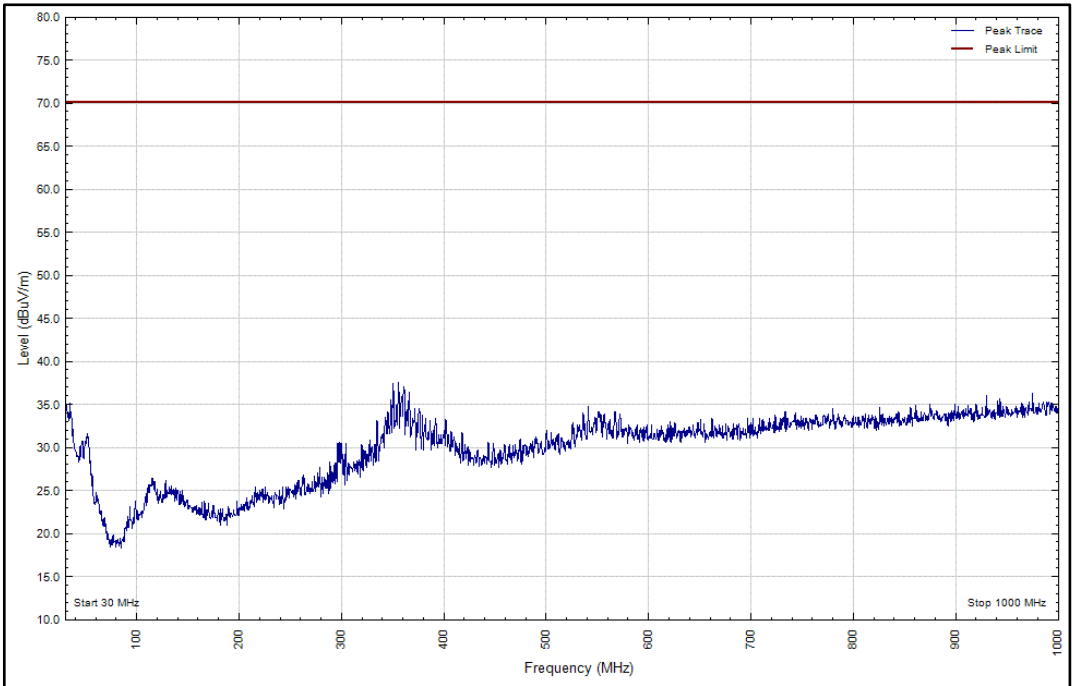


Figure 51 - Bottom Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation Y

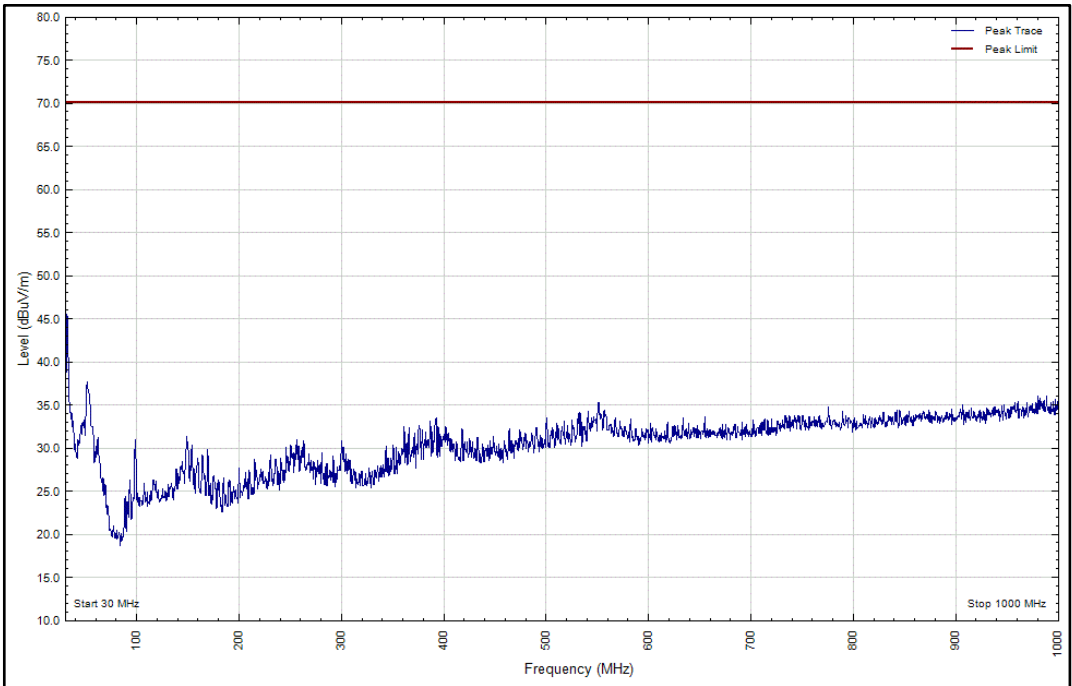


Figure 52 - Bottom Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation Y

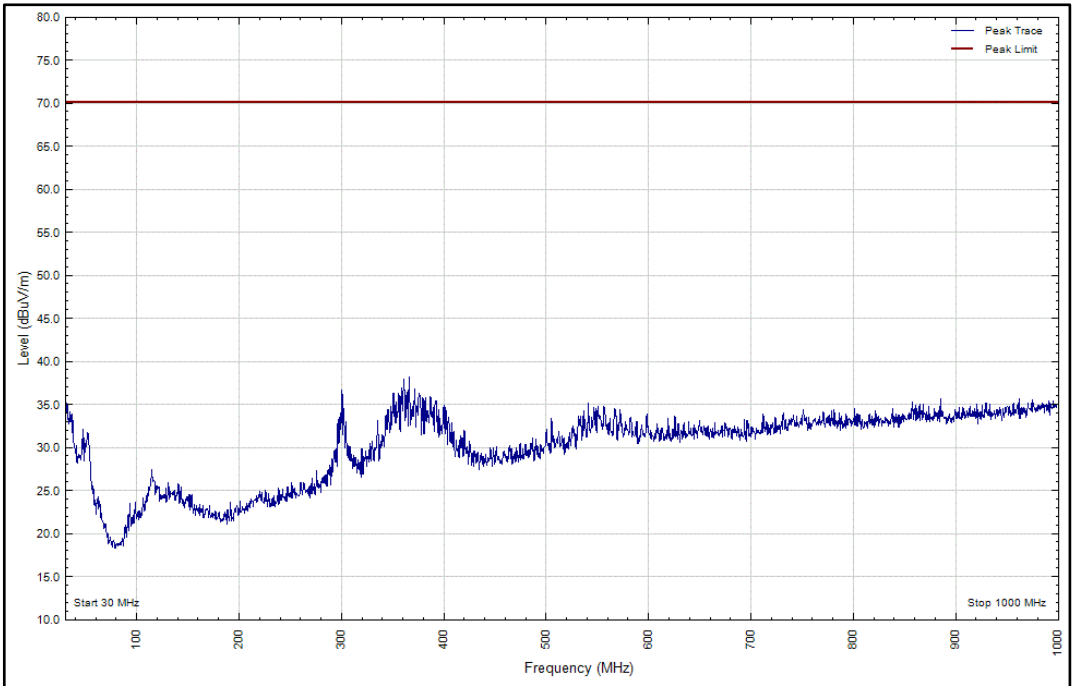


Figure 53 - Bottom Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation Z

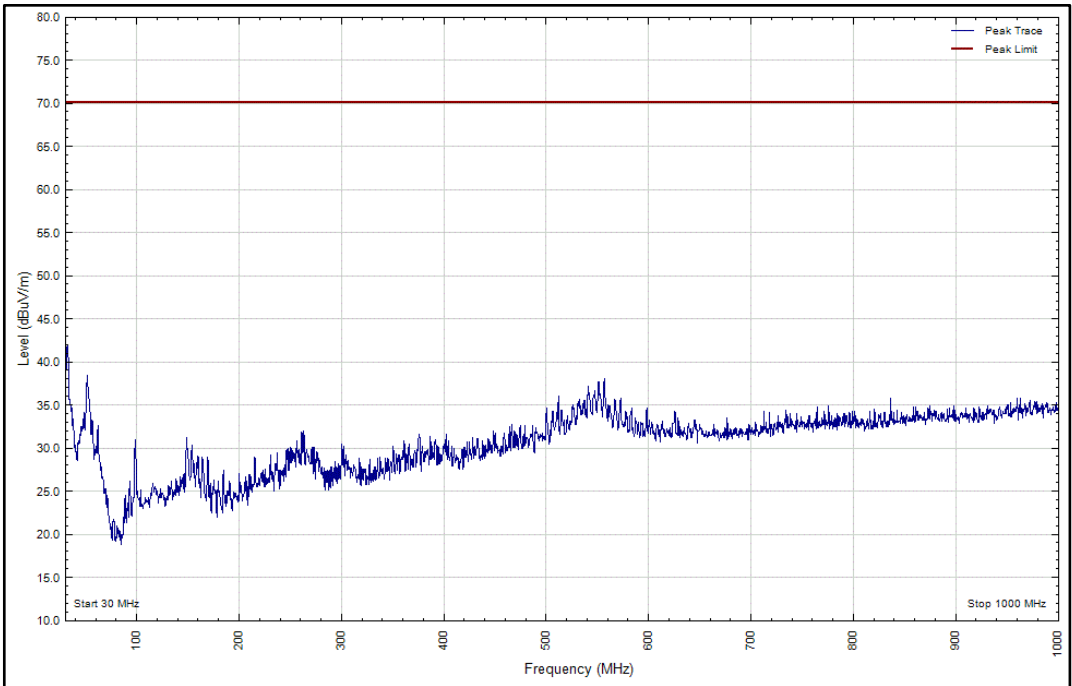


Figure 54 - Bottom Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation Z



| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| * | |

Table 20 - Middle Channel - 30 MHz to 1 GHz - Emissions Results

*No emissions were detected within 10 dB of the limit.

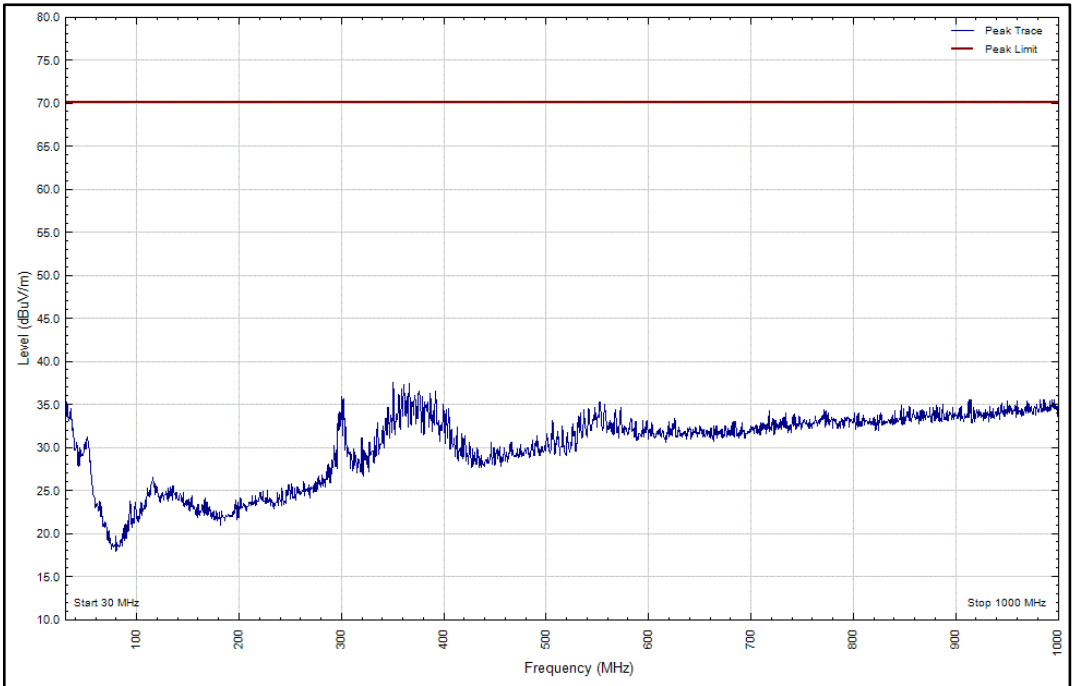


Figure 55 - Middle Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation X

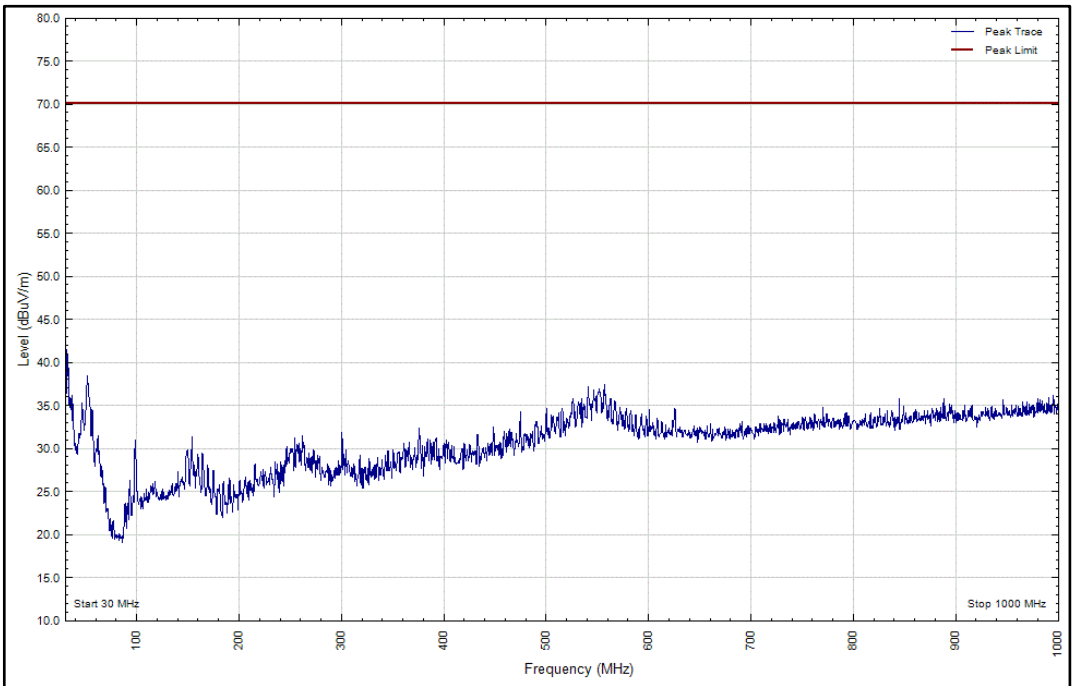


Figure 56 - Middle Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation X

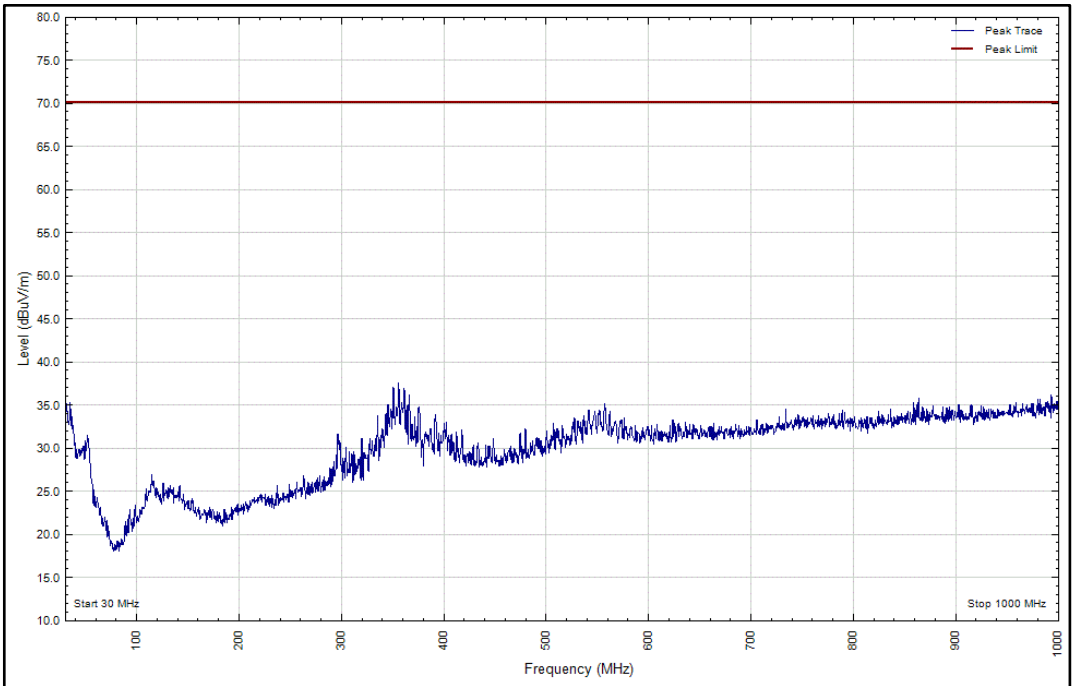


Figure 57 - Middle Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation Y

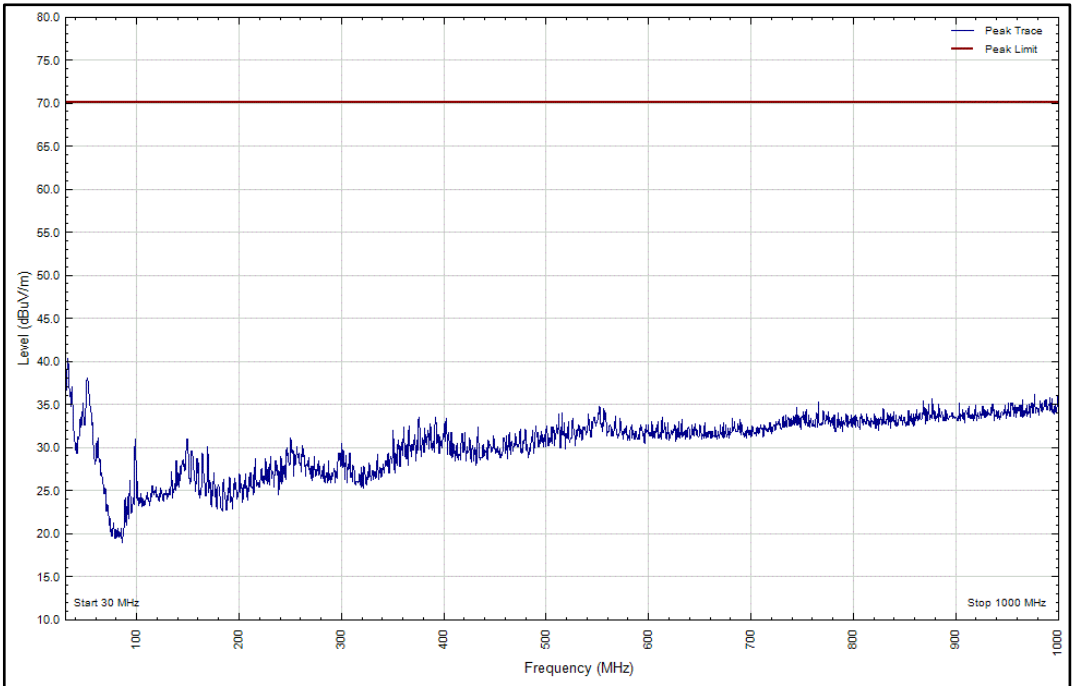


Figure 58 - Middle Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation Y

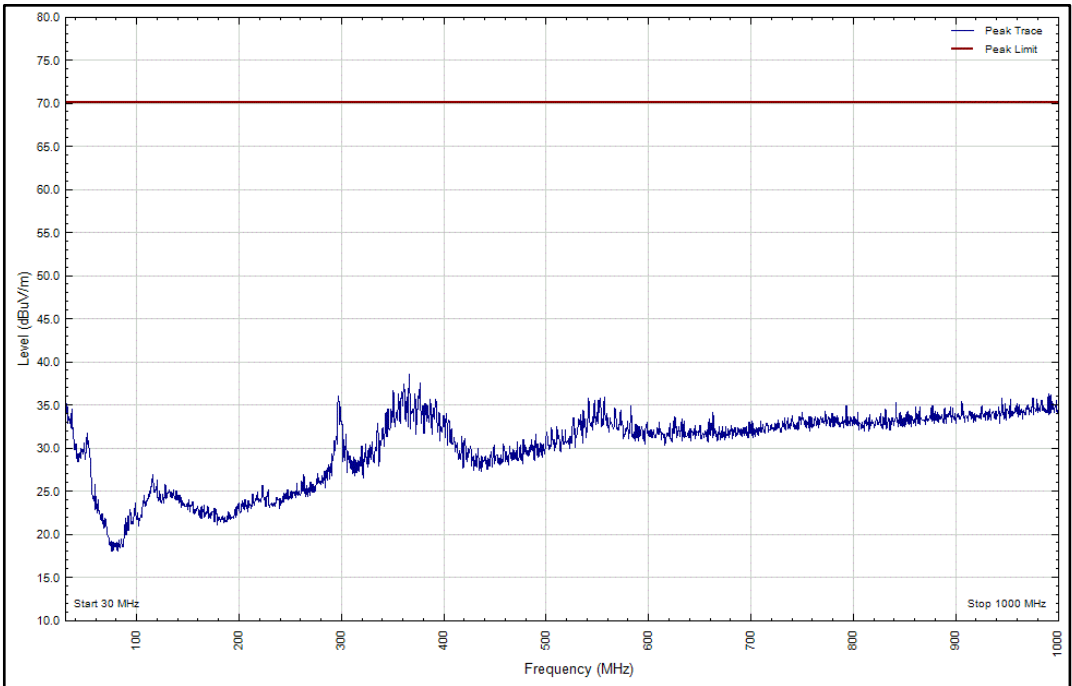


Figure 59 - Middle Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation Z

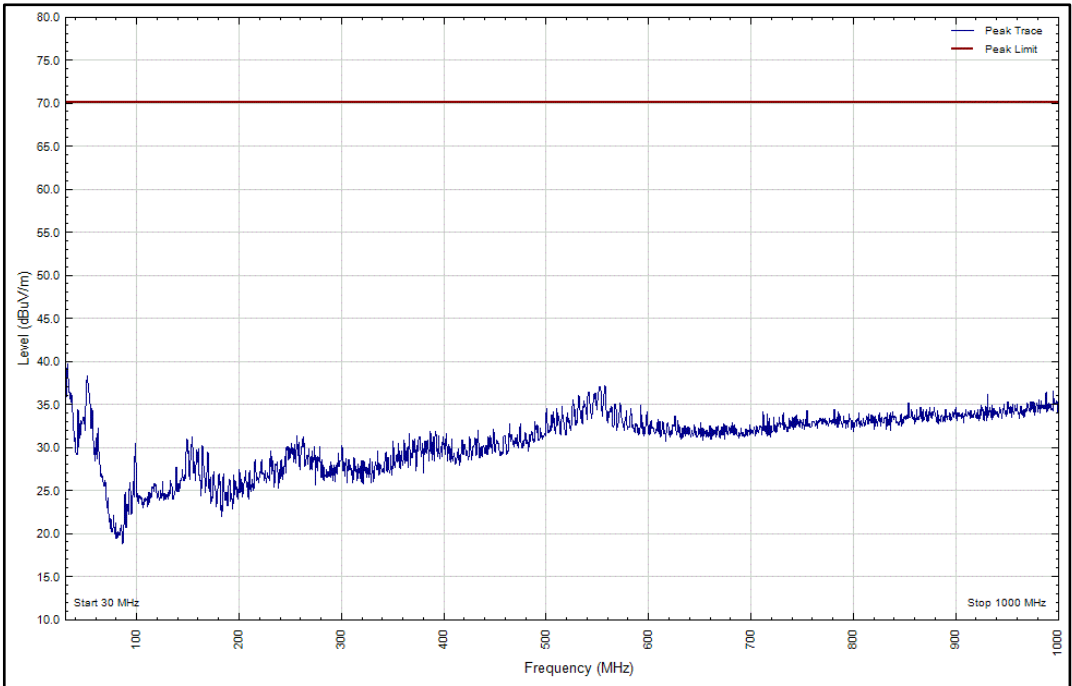


Figure 60 - Middle Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation Z



| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| * | |

Table 21 - Top Channel - 30 MHz to 1 GHz - Emissions Results

*No emissions were detected within 10 dB of the limit.

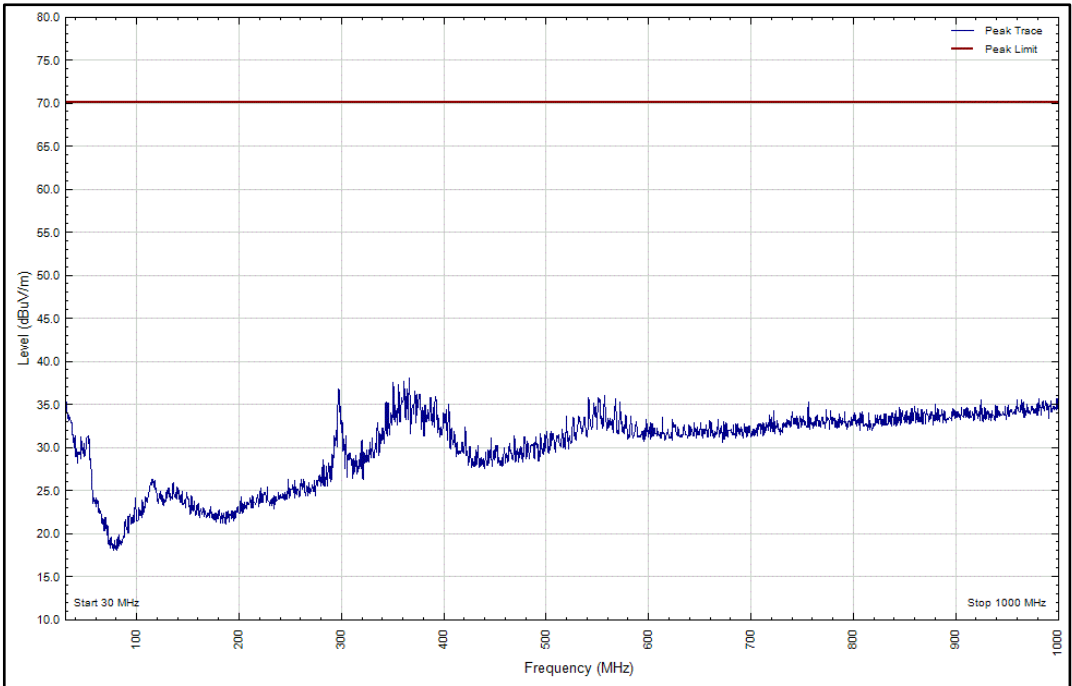


Figure 61 - Top Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation X

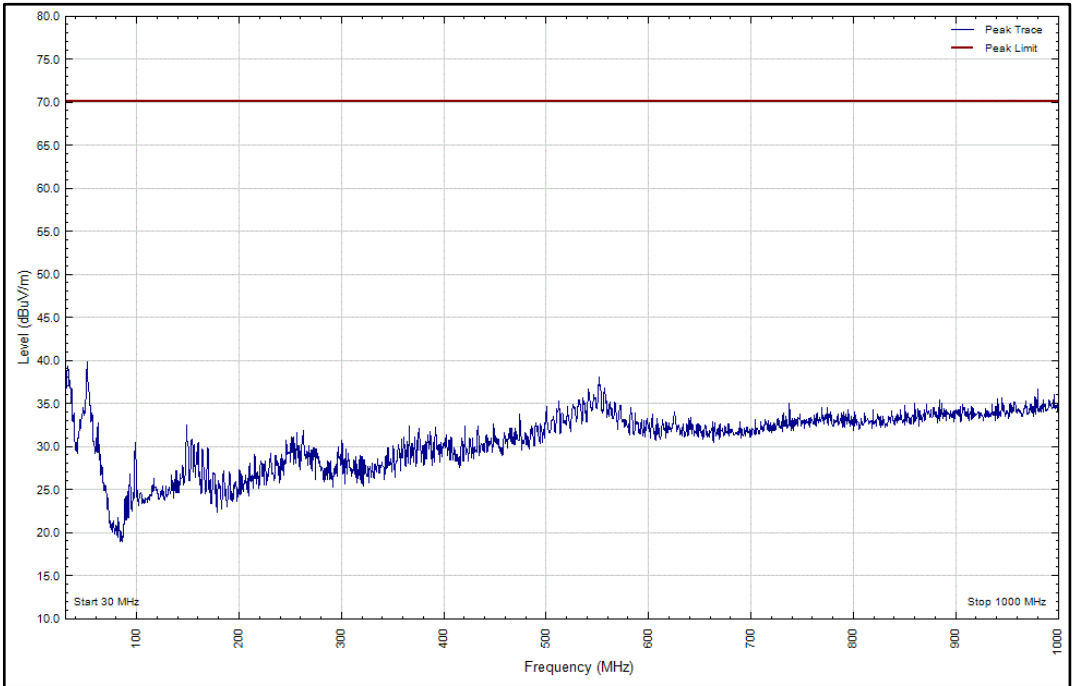


Figure 62 - Top Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation X

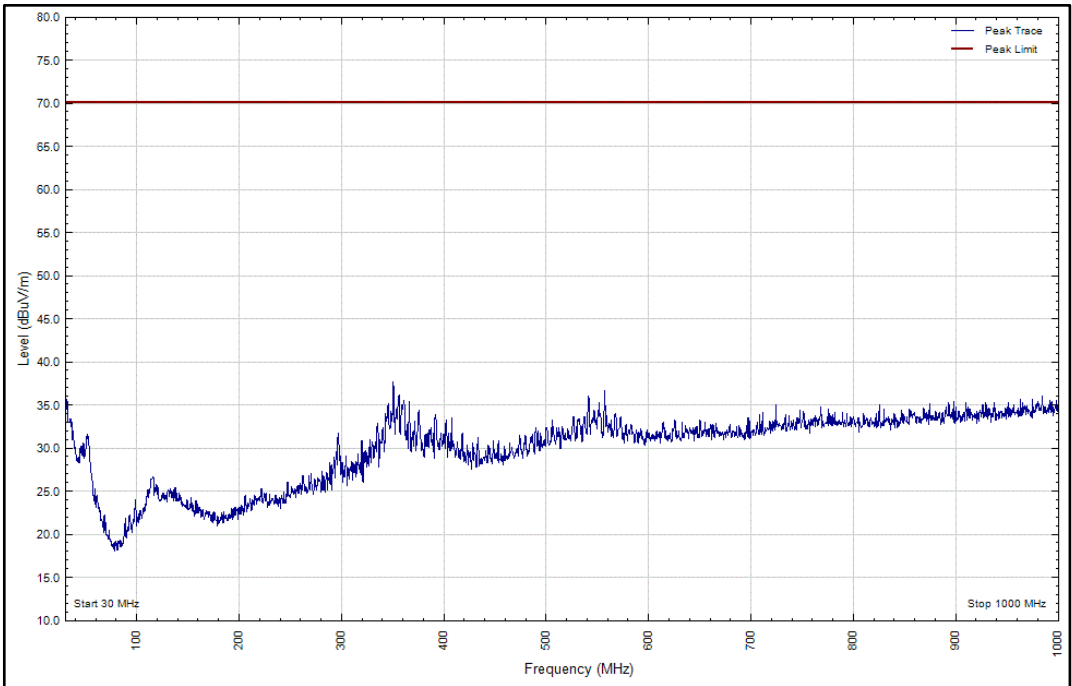


Figure 63 - Top Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation Y

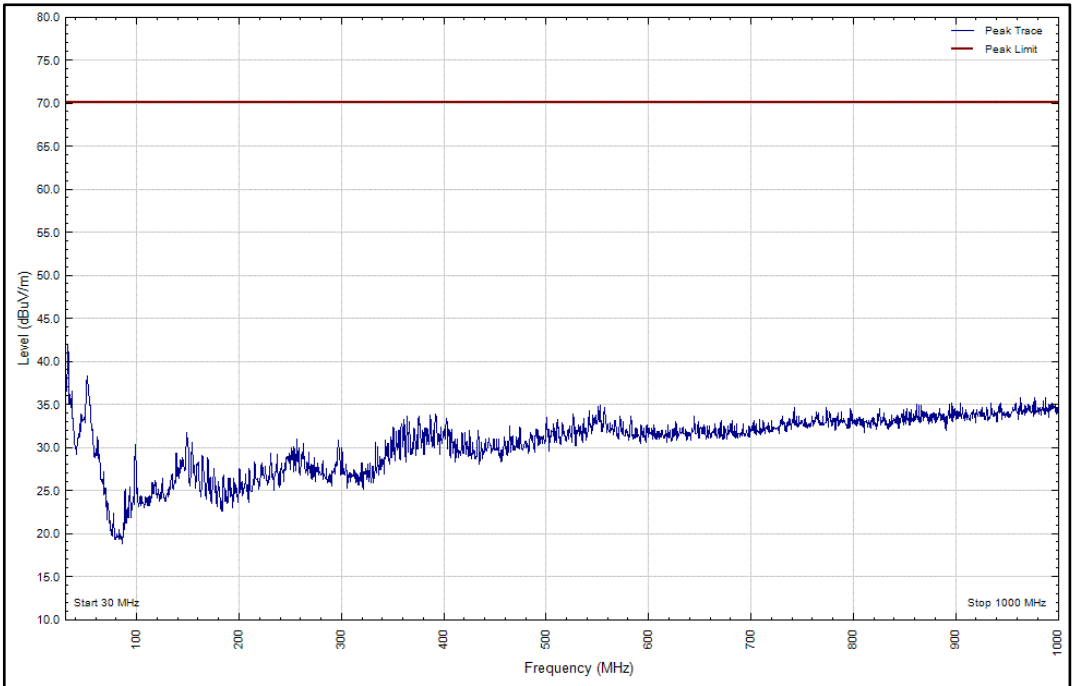


Figure 64 - Top Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation Y

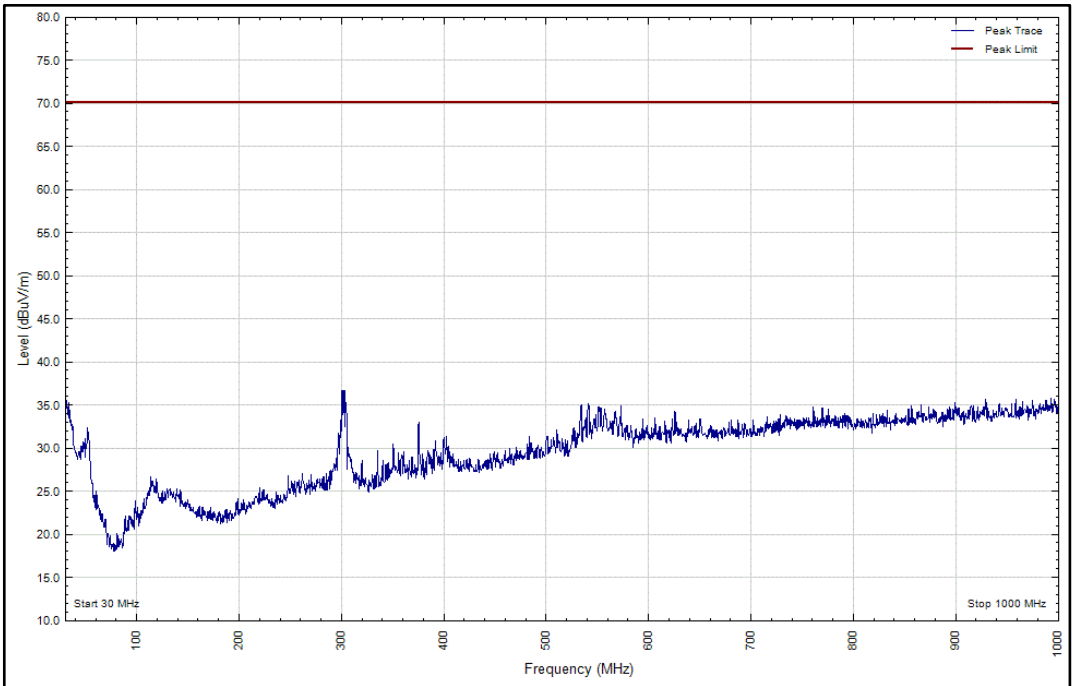


Figure 65 - Top Channel – 30 MHz to 1 GHz – Horizontal, EUT Orientation Z

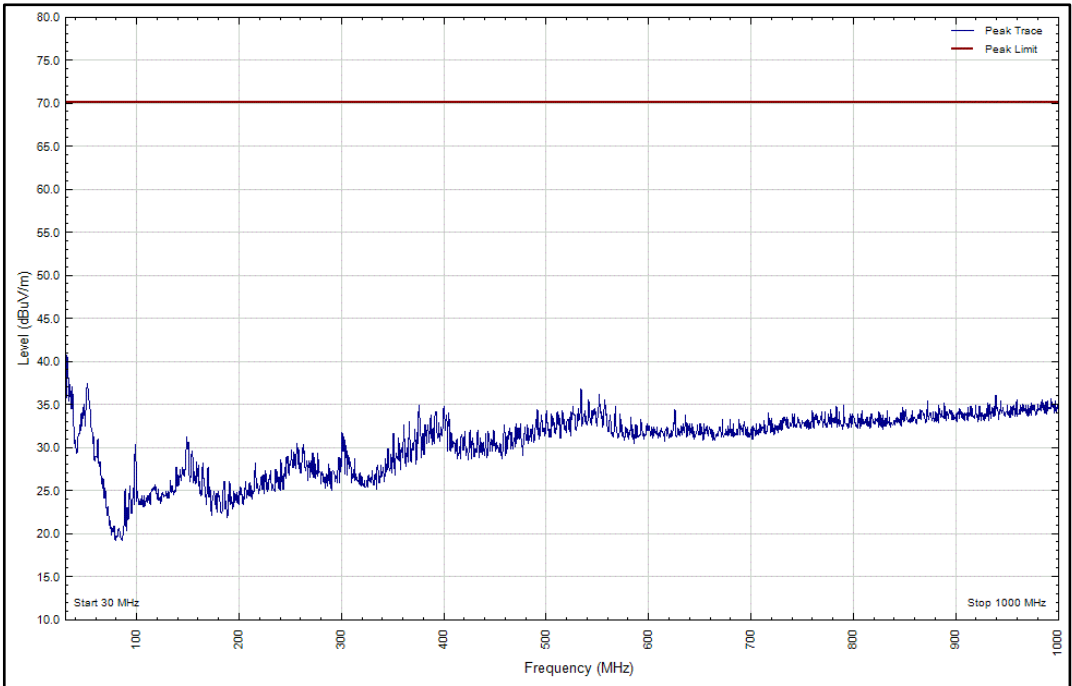


Figure 66 - Top Channel – 30 MHz to 1 GHz – Vertical, EUT Orientation Z



| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| * | |

Table 22 - Bottom Channel - 1 GHz to 40 GHz - Emissions Results

*No emissions were detected within 10 dB of the limit.

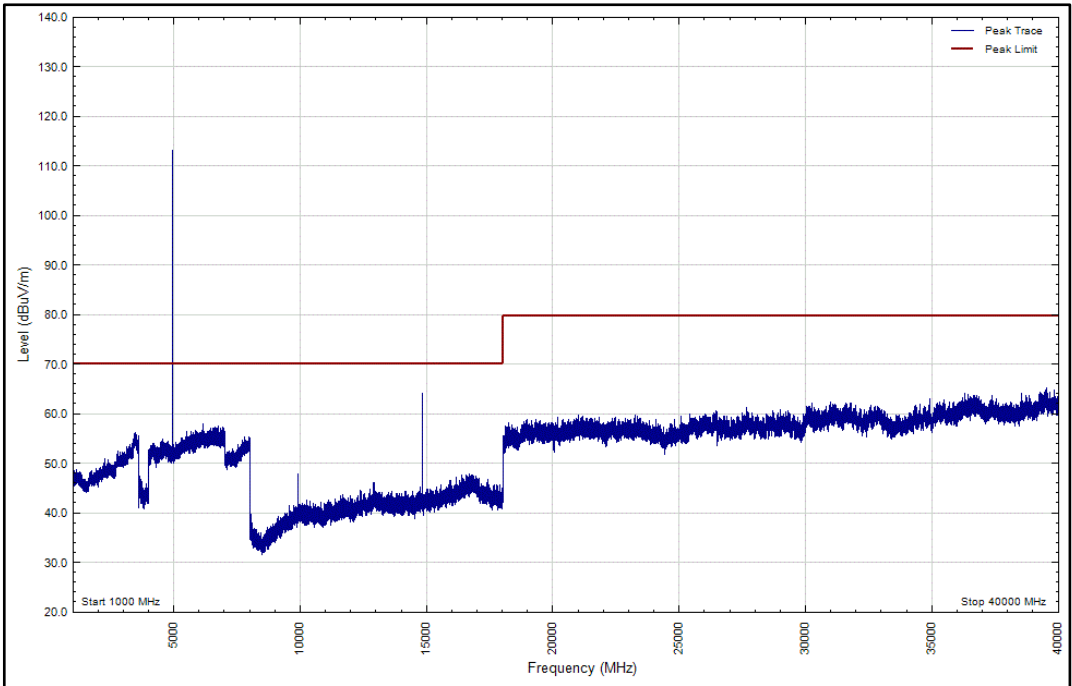


Figure 67 - Bottom Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation X

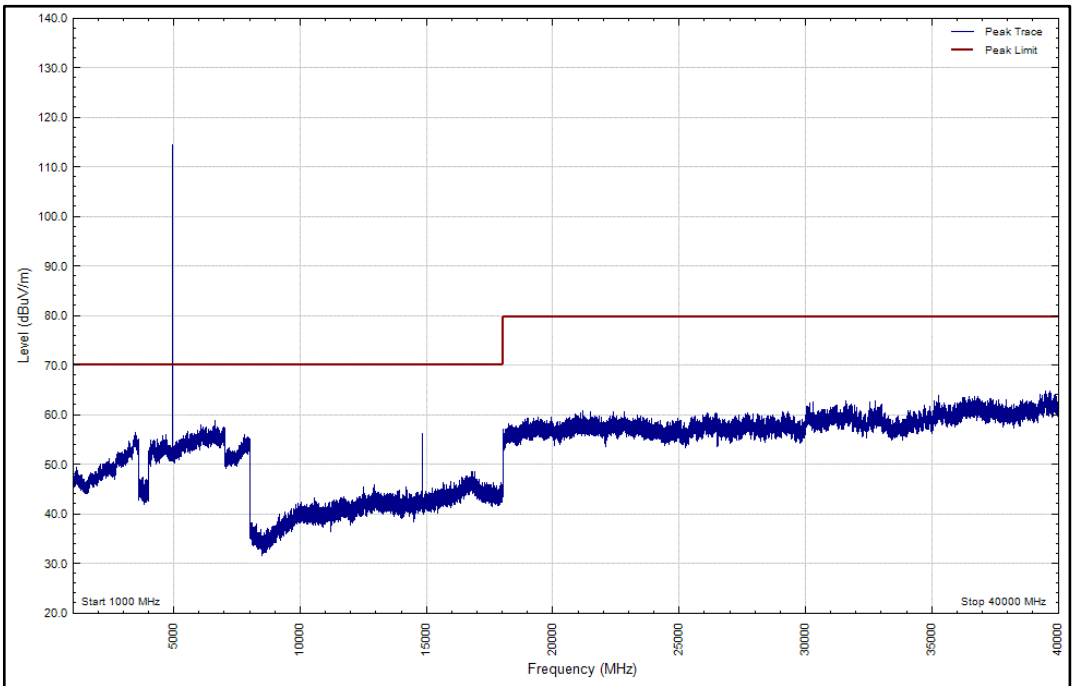


Figure 68 - Bottom Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation X

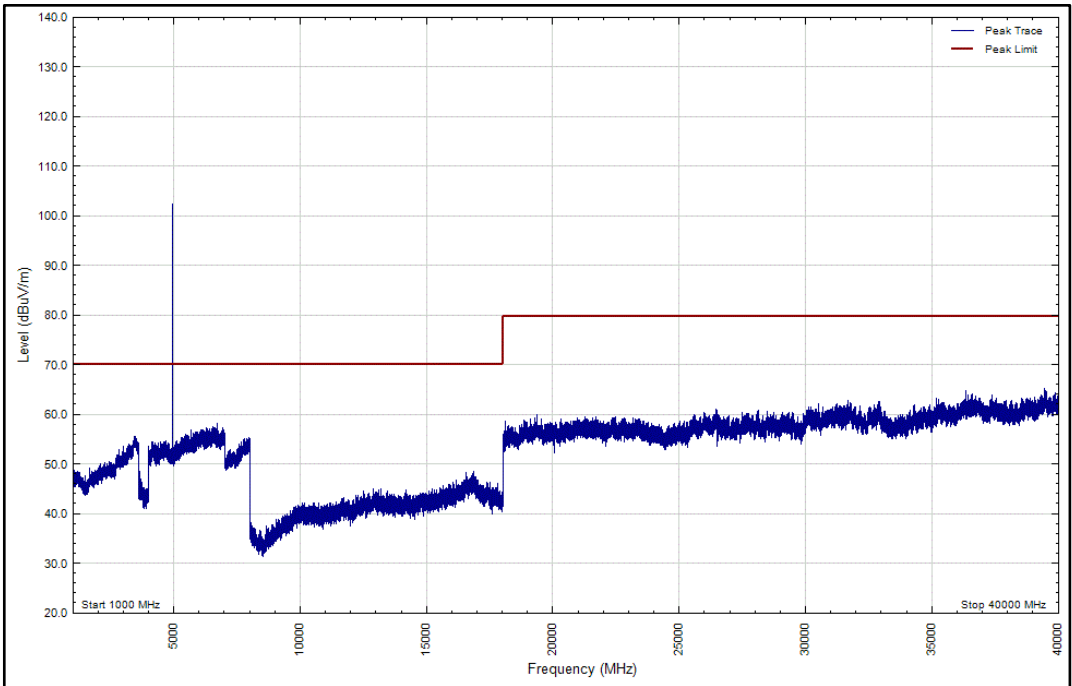


Figure 69 - Bottom Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation Y

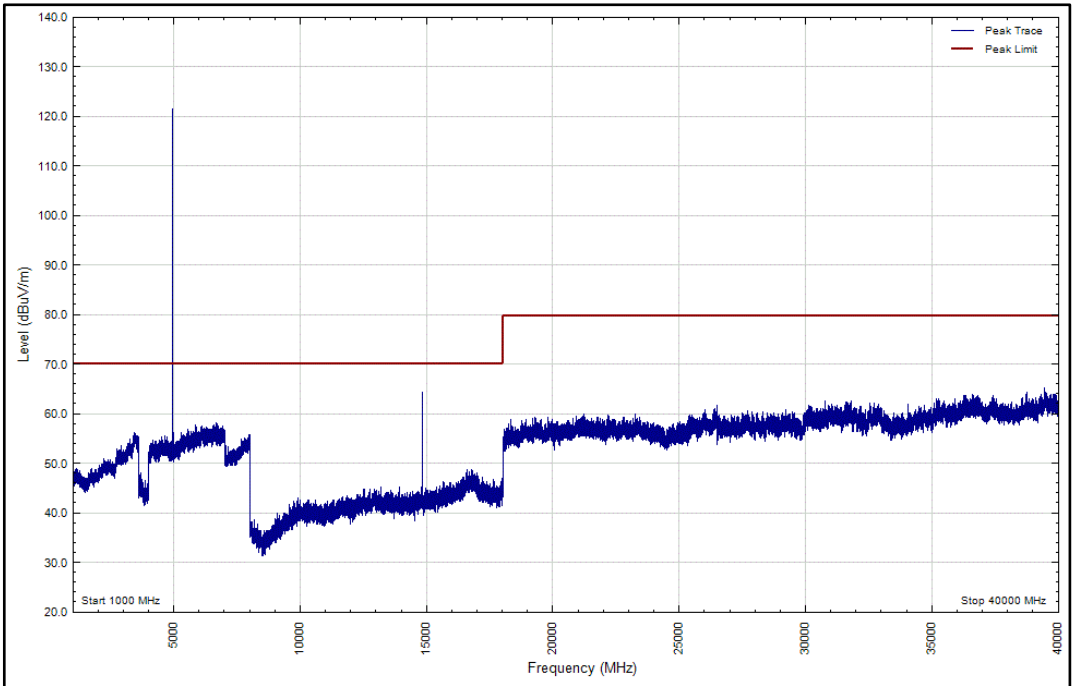


Figure 70 - Bottom Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation Y

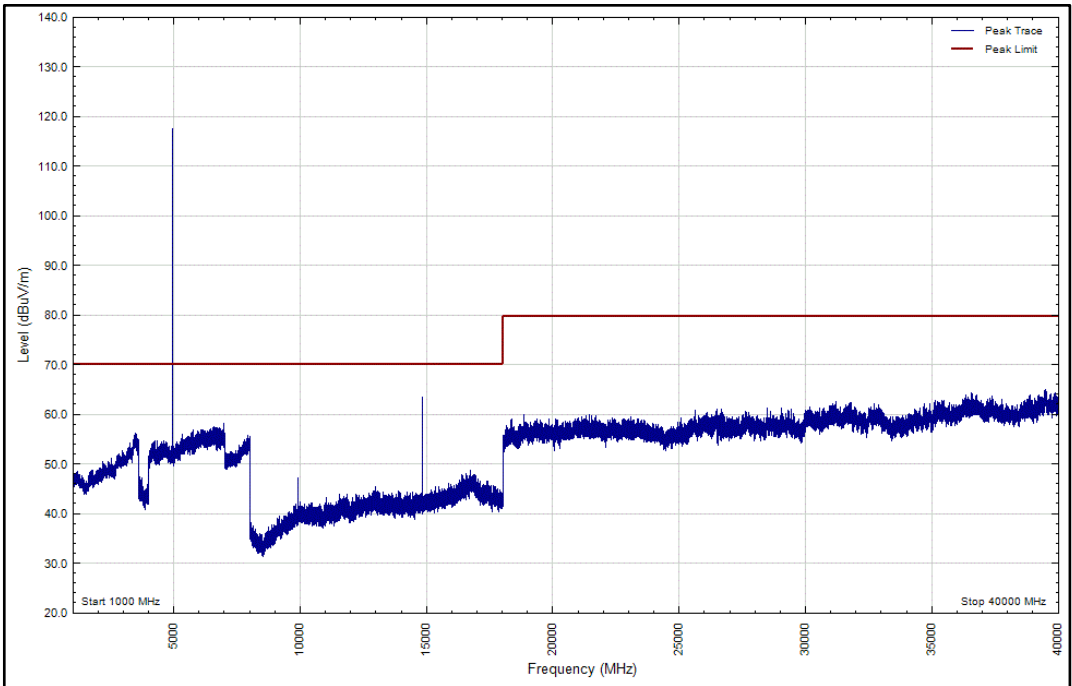


Figure 71 - Bottom Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation Z

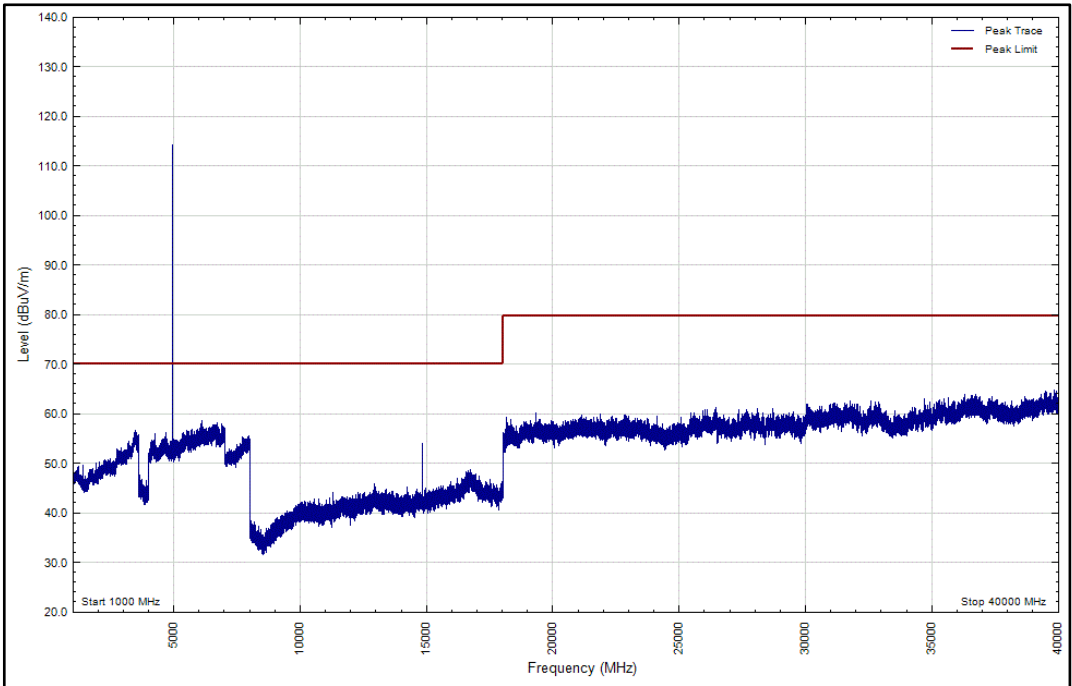


Figure 72 - Bottom Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation Z



| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| * | |

Table 23 - Middle Channel - 1 GHz to 40 GHz - Emissions Results

*No emissions were detected within 10 dB of the limit.

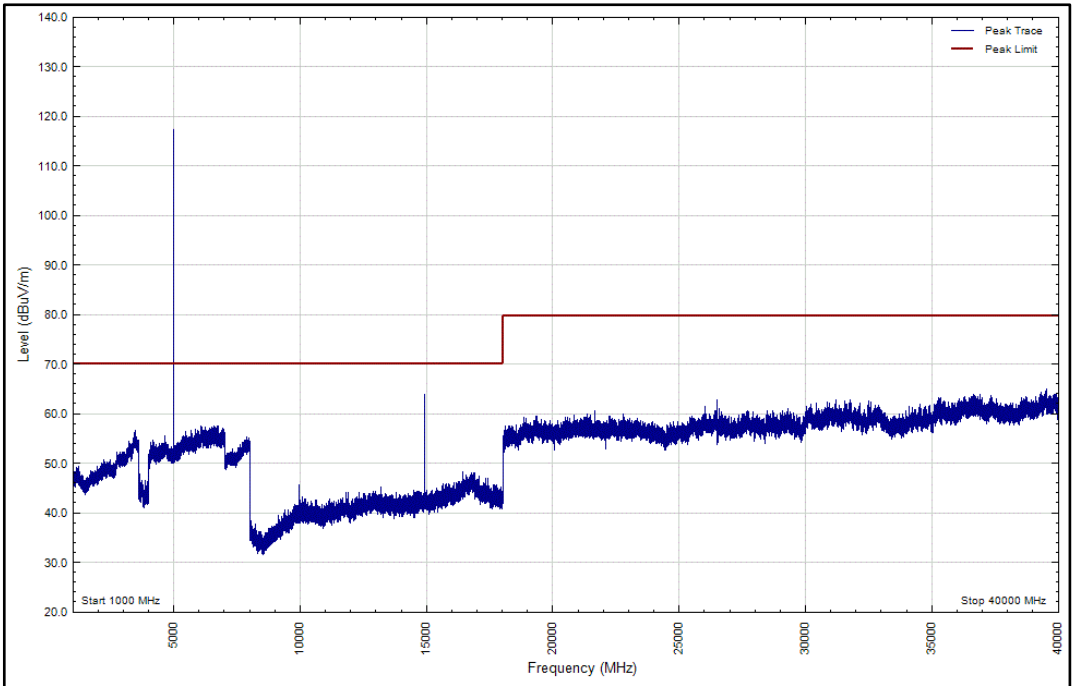


Figure 73 – Middle Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation X

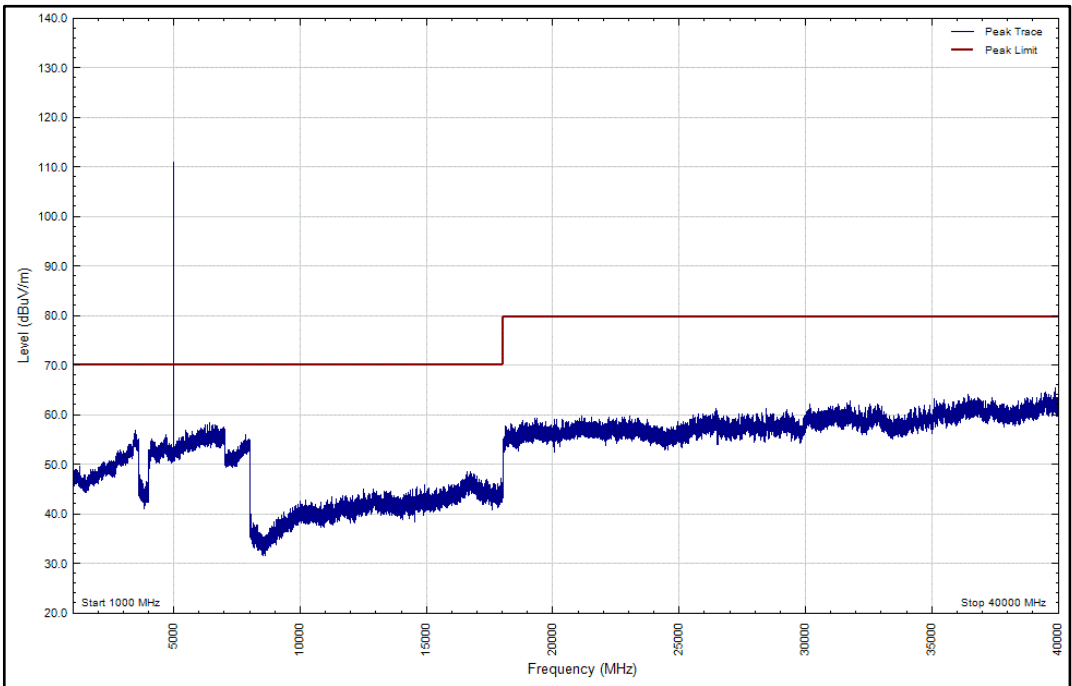


Figure 74 - Middle Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation X

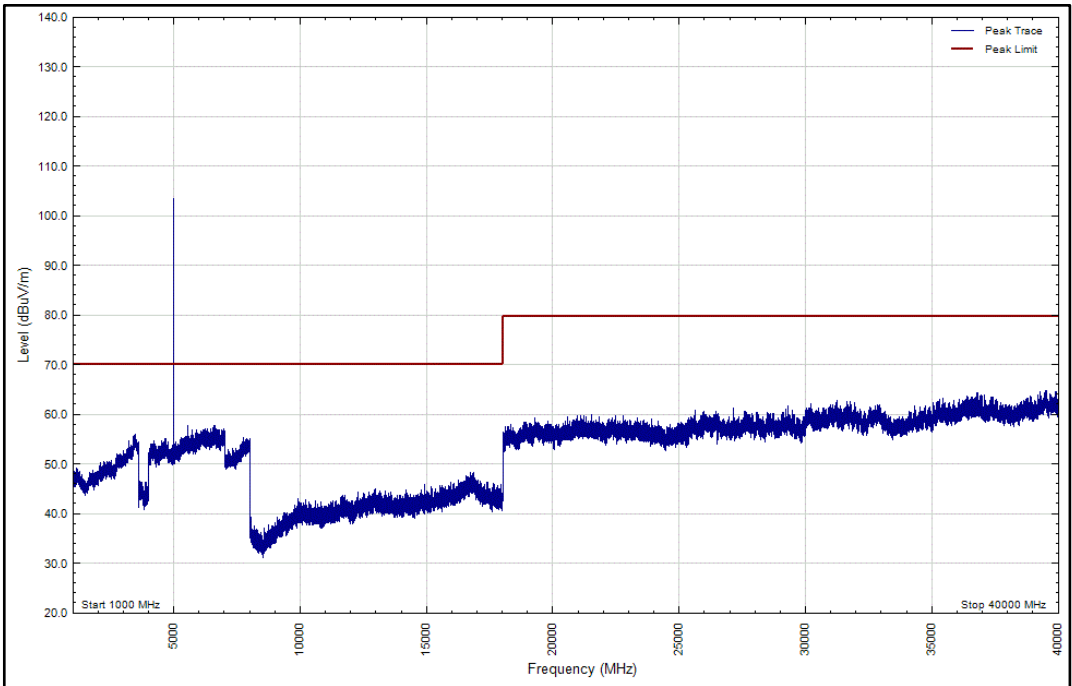


Figure 75 - Middle Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation Y

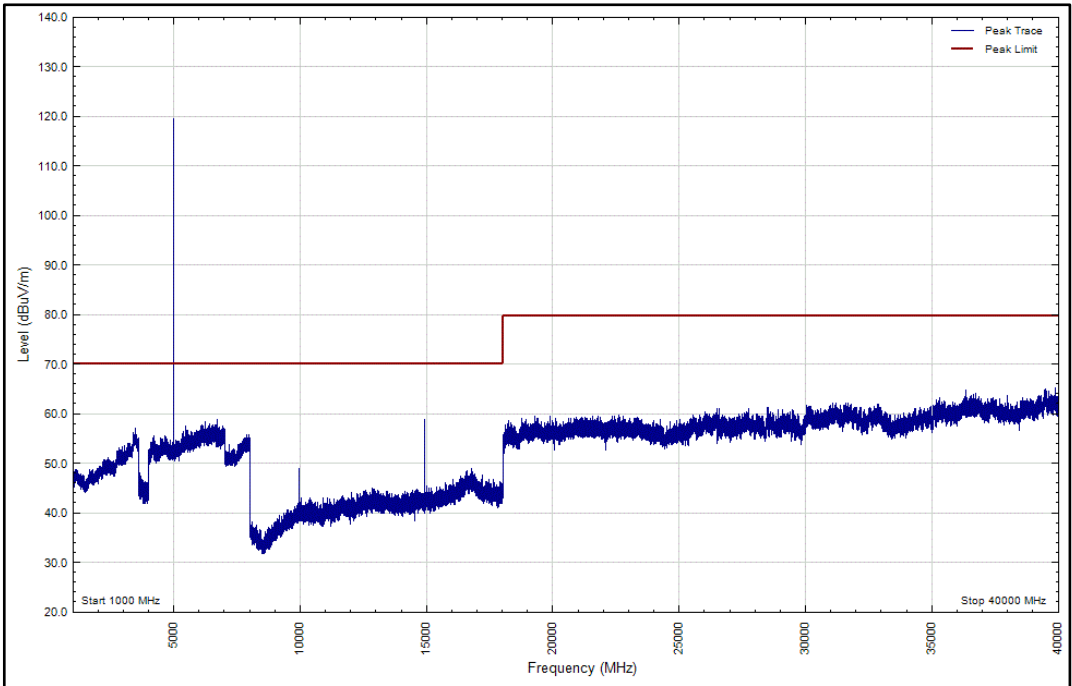


Figure 76 - Middle Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation Y

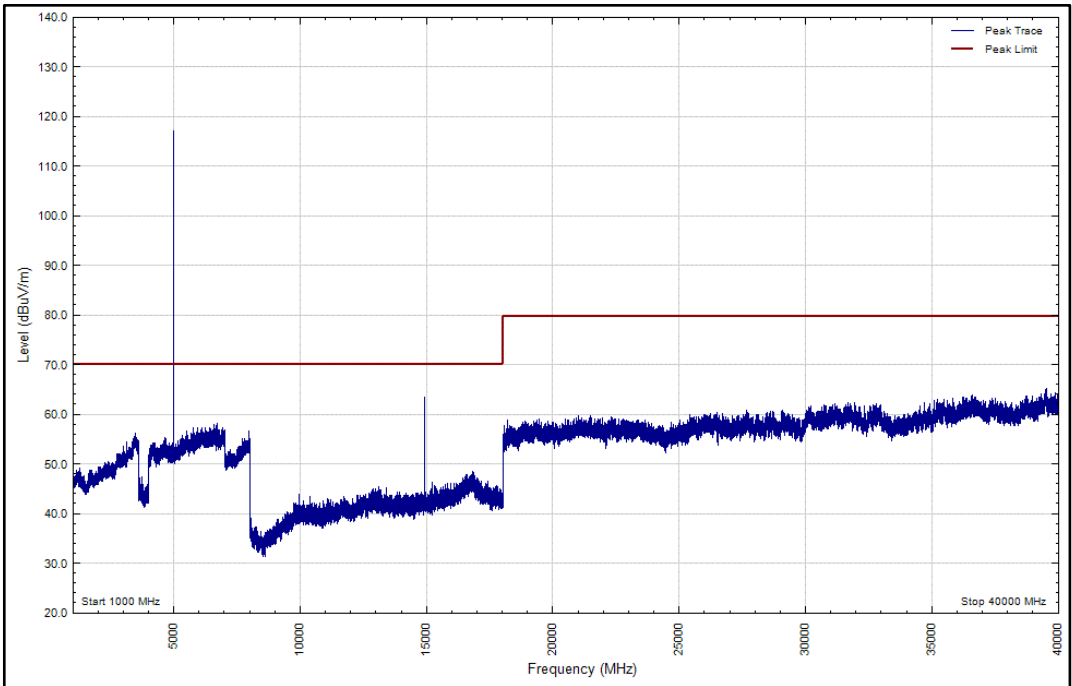


Figure 77 - Middle Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation Z

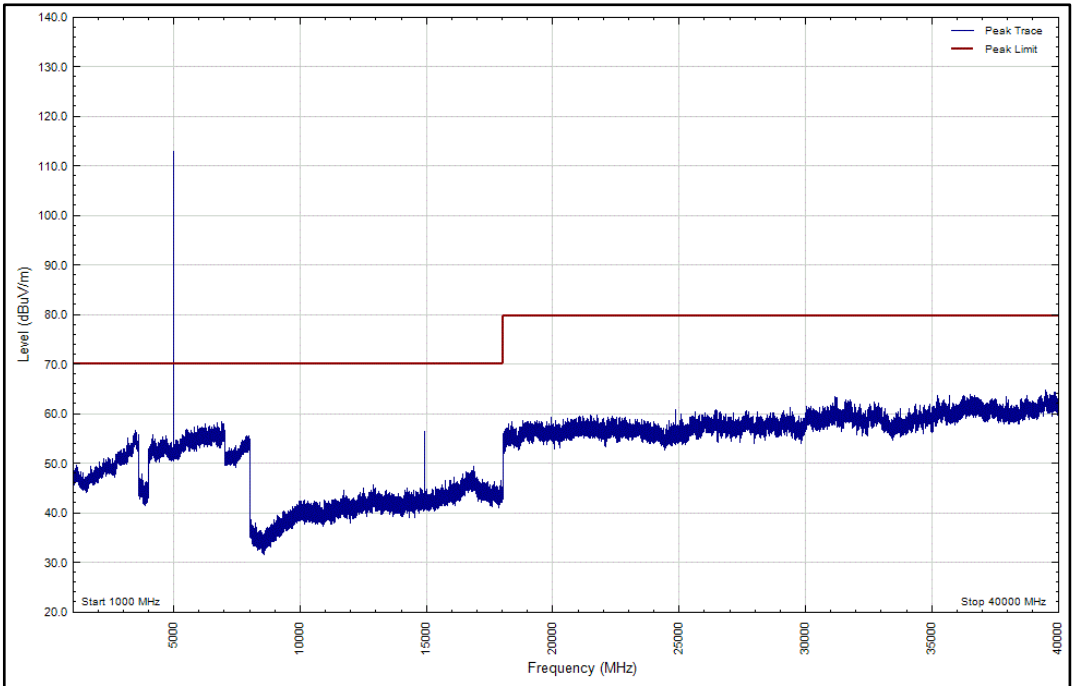


Figure 78 - Middle Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation Z



| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| * | |

Table 24 - Top Channel - 1 GHz to 40 GHz - Emissions Results

*No emissions were detected within 10 dB of the limit.

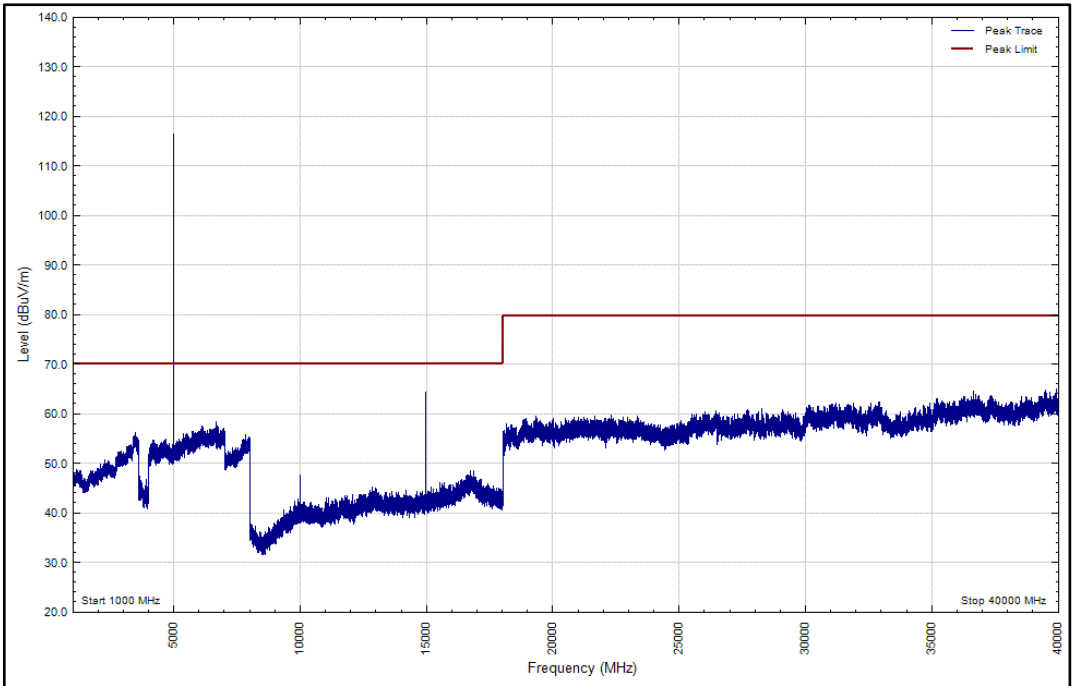


Figure 79 - Top Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation X

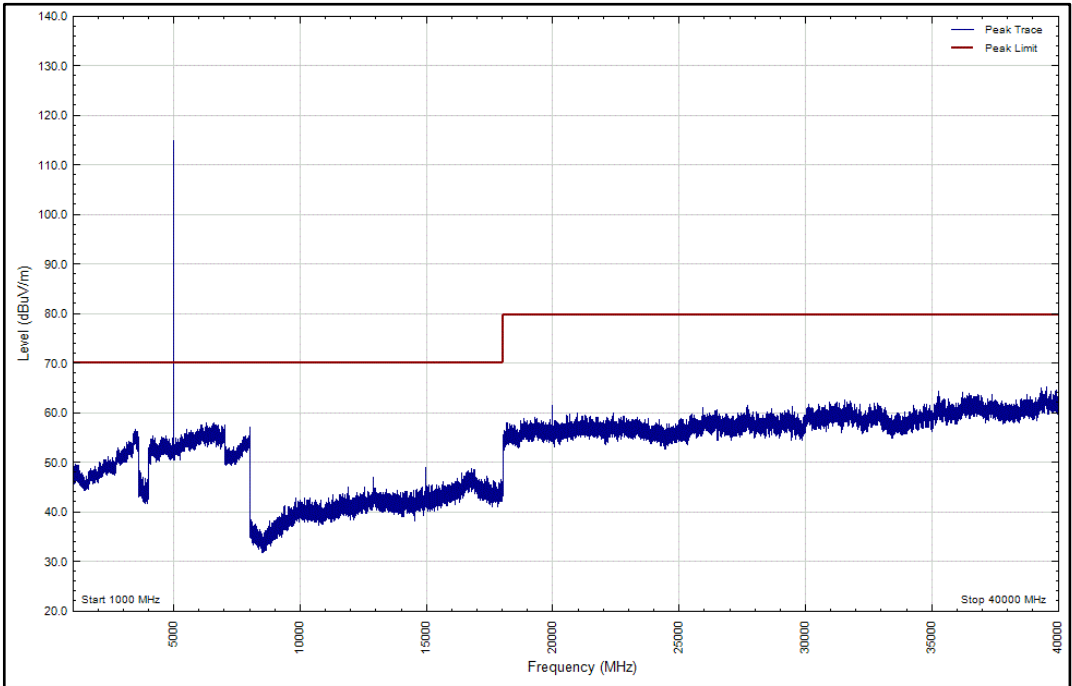


Figure 80 - Top Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation X

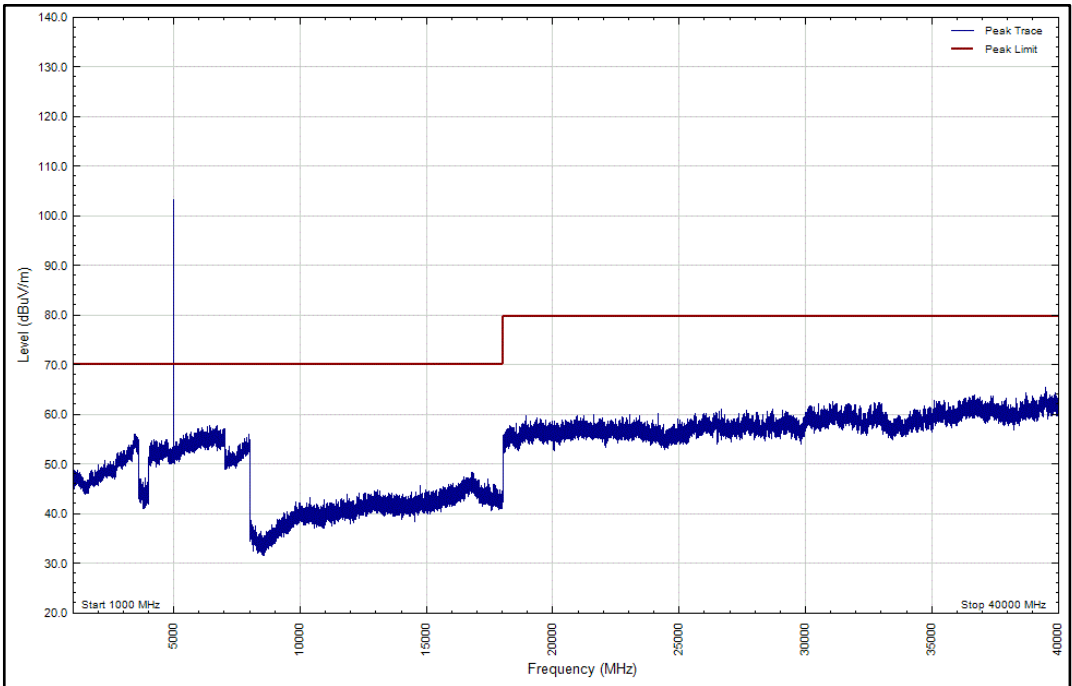


Figure 81 - Top Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation Y

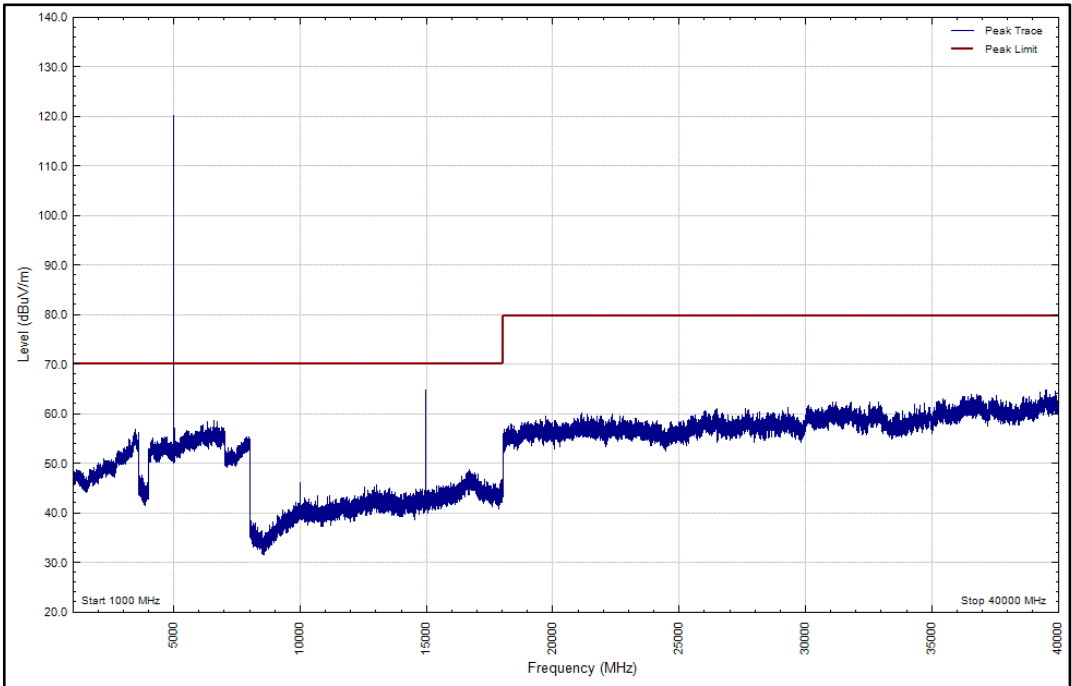


Figure 82 - Top Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation Y

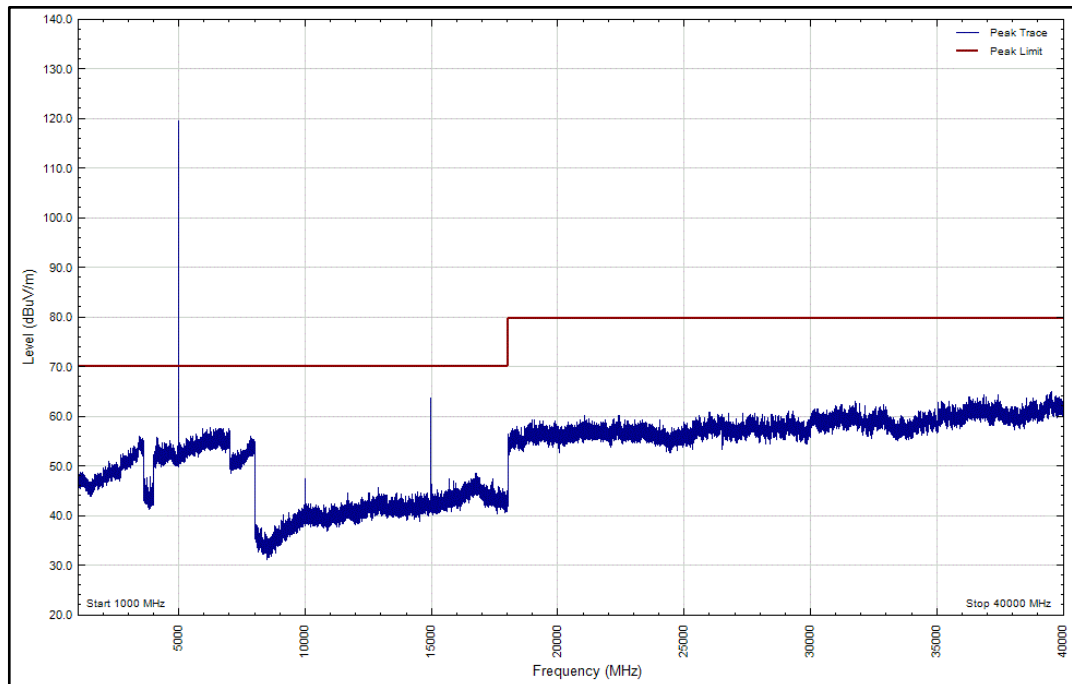


Figure 83 - Top Channel – 1 GHz to 40 GHz – Horizontal, EUT Orientation Z

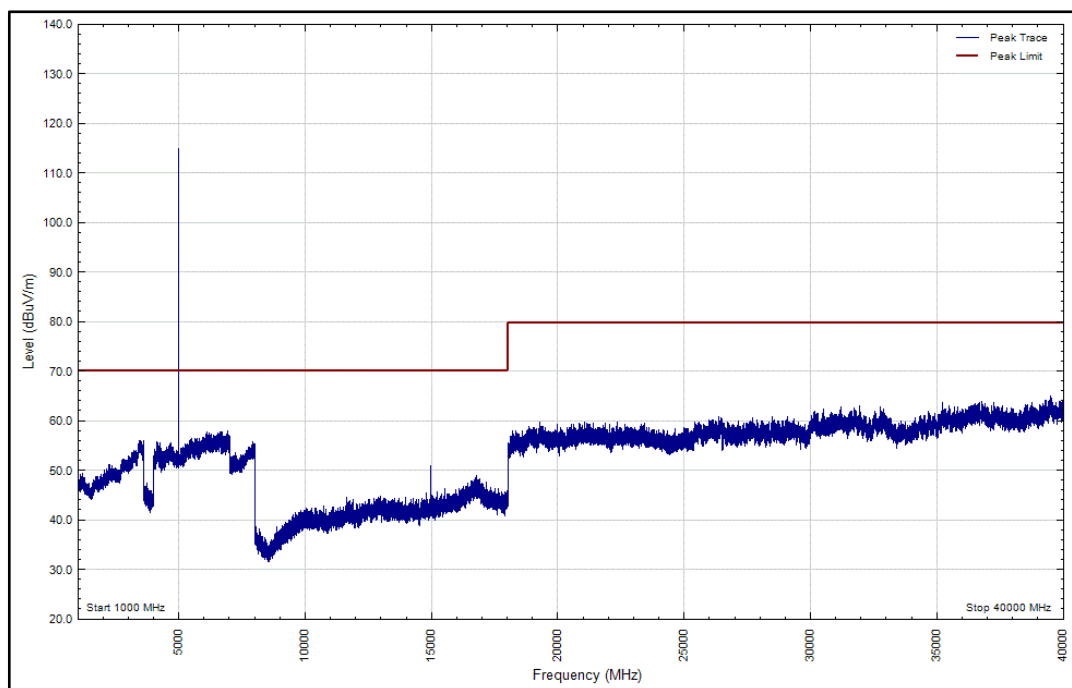


Figure 84 - Top Channel – 1 GHz to 40 GHz – Vertical, EUT Orientation Z

FCC 47 CFR Part 90, Limit Clause 90.210

The EUT shall comply with emission mask as per FCC 47 CFR Part 90.210.



2.5.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5.

| Instrument | Manufacturer | Type No | TE No | Calibration Period (months) | Calibration Due |
|---------------------------------------|--------------------------|------------------------|-------|-----------------------------|-----------------|
| Dual Power Supply Unit | Thurlby | PL320 | 288 | - | TU |
| Filter (High Pass) | Lorch | SHP7-7000-SR | 566 | - | O/P Mon |
| Signal Generator (10MHz to 40GHz) | Rohde & Schwarz | SMR40 | 1002 | 12 | 20-Oct-2018 |
| Antenna 18-40GHz (Double Ridge Guide) | Q-Par Angus Ltd | QSH 180K | 1511 | 24 | 07-Dec-2018 |
| Pre-Amplifier | Phase One | PS04-0086 | 1533 | 12 | 12-Jan-2019 |
| 18GHz - 40GHz Pre-Amplifier | Phase One | PS04-0087 | 1534 | 12 | 02-Feb-2019 |
| Screened Room (5) | Rainford | Rainford | 1545 | 36 | 18-Jul-2018 |
| Turntable Controller | Inn-Co GmbH | CO 1000 | 1606 | - | TU |
| Cable (3m, N(m) - N(m)) | Reynolds | 269-0088-3000 | 2412 | - | O/P Mon |
| Multimeter | Iso-tech | IDM101 | 2417 | 12 | 02-Oct-2018 |
| Power Supply Unit | Farnell | LT30-2 | 2659 | - | TU |
| Antenna (Bilog) | Chase | CBL6143 | 2904 | 24 | 08-Aug-2019 |
| Antenna (DRG Horn) | ETS-Lindgren | 3115 | 3125 | 12 | 21-Jul-2018 |
| EMI Test Receiver | Rohde & Schwarz | ESU40 | 3506 | 12 | 22-Nov-2018 |
| Termination (50ohm) | Meca | 405-1 | 3512 | 12 | 01-Nov-2018 |
| Termination (50ohm) | Meca | 405-1 | 3516 | 12 | 01-Nov-2018 |
| 1501A 4.0M Km Km Cable | Rhophase | KPS-1501A-4000-KPS | 4301 | 12 | 19-Feb-2019 |
| Suspended Substrate Highpass Filter | Advance Power Components | 11SH10-3000/X18000-O/O | 4412 | 12 | 15-Jun-2018 |
| Cable (Rx, Nm-Nm, 7m) | Scott Cables | SLU18-NMNM-07.00M | 4498 | 6 | 19-Jun-2018 |
| Cable (Rx, Km-Km 2m) | Scott Cables | KPS-1501-2000-KPS | 4526 | 6 | 02-Jul-2018 |
| Cable (Rx, SMAM-SMAM 0.5m) | Scott Cables | SLSL18-SMSM-00.50M | 4528 | 6 | 15-Aug-2018 |
| Double Ridged Waveguide Horn Antenna | ETS-Lindgren | 3117 | 4722 | 12 | 01-Mar-2019 |
| Mast Controller | Maturo GmbH | NCD | 4810 | - | TU |
| Tilt Antenna Mast | Maturo GmbH | TAM 4.0-P | 4811 | - | TU |
| Double Ridge Broadband Horn Antenna | Schwarzbeck | BBHA 9120 B | 4848 | 12 | 12-Feb-2019 |
| Quad Power Supply | Rohde & Schwarz | HMP4040 | 4955 | - | O/P Mon |
| Hygrometer | Rotronic | HP21 | 4989 | 12 | 26-Apr-2019 |

Table 25

TU - Traceability Unscheduled

O/P Mon – Output Monitored using calibrated equipment



2.6 Frequency Stability

2.6.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.210
FCC 47 CFR Part 2, Clause 2.1055

2.6.2 Equipment Under Test and Modification State

Mesh SOL8SDR CONCEALMENT MODULE - SOL8SDR-C-470043,
S/N: 108873 - Modification State 0

2.6.3 Date of Test

16-May-2018 to 18-May-2018

2.6.4 Test Method

Testing was performed in accordance with FCC Part 2, Clause 2.1055.

In accordance with 2.1055, the temperature was varied from -30°C to +50° in 10° steps at both minimum and maximum voltage extremes. At 20°C the nominal voltage 12V, minimum voltage 10.2 V and maximum voltage 13.8 V was performed. The peak value was determined using the marker peak function and the frequency of the points -20 dBc relative to the peak were recorded as f1 and f2.

To find out the frequency error, two marker method was used. $f_c = (f_1 + f_2) / 2$. The frequency error is the difference between the declared transmitted frequency and calculated carrier frequency declared frequency.

2.6.5 Environmental Conditions

Ambient Temperature 20.7 - 21.8 °C
Relative Humidity 32.5 - 39.6 %

2.6.6 Test Results

4.9 GHz - Transmit

| Voltage | Frequency Error (ppm) | | |
|-----------|-----------------------|----------------|-------------|
| | Bottom Channel | Middle Channel | Top Channel |
| 10.2 V DC | 6.067 | 0 | 6.011 |
| 13.8 V DC | 0 | 3.021 | 3.009 |

Table 26 - Frequency Stability Under Voltage Variations



| Temperature | Frequency Error (ppm) | | |
|-------------|-----------------------|----------------|-------------|
| | Bottom Channel | Middle Channel | Top Channel |
| +50.0 °C | 4.550 | 1.510 | 7.520 |
| +40.0 °C | 1.520 | 1.510 | 0 |
| +30.0 °C | 4.550 | 4.532 | 6.018 |
| +20.0 °C | 3.033 | 6.042 | 3.009 |
| +10.0 °C | 1.512 | 3.021 | -4.514 |
| 0 °C | 4.550 | -3.021 | 4.514 |
| -10.0 °C | 0 | 3.021 | 1.505 |
| -20.0 °C | 0 | 3.021 | 4.514 |
| -30.0 °C | 24.266 | -34.730 | -9.027 |

Table 27 - Frequency Stability Under Voltage Variations

FCC 47 CFR Part 90, Limit Clause 90.213

To be specified in the station authorisation.

2.6.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

| Instrument | Manufacturer | Type No | TE No | Calibration Period (months) | Calibration Due |
|--------------------------|-----------------------|----------------------------|-------|-----------------------------|-----------------|
| Signal Generator | Hewlett Packard | ESG4000A | 61 | 12 | 14-Jul-2018 |
| Climatic Chamber | Votsch | VT4002 | 161 | - | O/P Mon |
| Attenuator (10dB, 1W) | Sealectro | 60-674-1010-89 | 1224 | 12 | 30-Jun-2018 |
| Rubidium Standard | Rohde & Schwarz | XSRM | 1316 | 6 | 20-Oct-2018 |
| Attenuator (30dB/50W) | Aeroflex / Weinschel | 47-30-34 | 3164 | 12 | 11-Jul-2018 |
| Thermocouple Thermometer | Fluke | 51 | 3174 | 12 | 09-Jan-2019 |
| Hygrometer | Rotronic | I-1000 | 3220 | 12 | 30-Aug-2018 |
| Frequency Standard | Spectracom | Secure Sync 1200-0408-0601 | 4393 | 6 | 20-Oct-2018 |
| 1 metre K-Type Cable | Florida Labs | KMS-180SP-39.4-KMS | 4520 | 12 | 13-Feb-2019 |
| PXA Signal Analyser | Keysight Technologies | N9030A | 4653 | 12 | 05-Feb-2019 |
| Attenuator (20dB, 100W) | Weinschel | 48-20-43 | 4869 | 12 | 11-Jul-2018 |
| Quad Power Supply | Rohde & Schwarz | HMP4040 | 4955 | - | O/P Mon |

Table 28

O/P Mon – Output Monitored using calibrated equipment



3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

| Test Name | Measurement Uncertainty |
|---|--|
| Maximum Conducted Output Power | ± 3.2 dB |
| Types of Emissions | - |
| Bandwidth Limitations | ± 58.05 Hz |
| Spurious Emissions at Antenna Terminals | ± 3.45 dB |
| Radiated Spurious Emissions | 30 MHz to 1 GHz: ± 5.1 dB 1 GHz to 18 GHz: ± 6.3 dB |
| Frequency Stability | ± 11 Hz |

Table 29