



849 NW State Road 45  
Newberry, FL 32669 USA  
Ph: 888.472.2424 or 352.472.5500  
Fax: 352.472.2030  
Email: [info@timcoengr.com](mailto:info@timcoengr.com)  
Website: [www.timcoengr.com](http://www.timcoengr.com)

## FCC PART 15.Subpart H White Spaces System

### PART 1 TEST REPORT

#### Fixed TVBD Device Part 1

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Applicant</b>            | Meld Technology Inc.                                                   |
| <b>Address</b>              | 1645 Canary Drive                                                      |
|                             | Sunnyvale, CA 94087 USA                                                |
| <b>FCC ID</b>               | OKVMT300                                                               |
| <b>Model Number</b>         | MT300                                                                  |
| <b>Product Description</b>  | White Space Fixed TVBD                                                 |
| <b>Date Sample Received</b> | 7/6/2012                                                               |
| <b>Date Tested</b>          | 7/16/2012                                                              |
| <b>Tested By</b>            | Sushant Kadimdivan                                                     |
| <b>Approved By</b>          | Mario de Aranzeta                                                      |
| <b>Report Number</b>        | S\SPECTRUM BRIDGE\1695AUT12\1695AUT12TestReport.doc                    |
| <b>Test Results</b>         | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN  
APPROVAL OF TIMCO ENGINEERING, INC.



Testing Certificate # 0955-01

## TABLE OF CONTENT

|                                                                         |    |
|-------------------------------------------------------------------------|----|
| GENERAL REMARKS .....                                                   | 3  |
| GENERAL INFORMATION .....                                               | 4  |
| EMC EQUIPMENT LIST .....                                                | 6  |
| TEST PROCEDURES .....                                                   | 7  |
| §15.207 & §15.709(C)(5) POWER LINE CONDUCTED INTERFERENCE .....         | 8  |
| §15.209 RADIATION INTERFERENCE .....                                    | 11 |
| §15.709(A) POWER LIMITS FIXED TVBD .....                                | 16 |
| §15.709(A)(3)(I) TRANSMITTER POWER CONTROL FIXED TVBD .....             | 19 |
| §15.709(C)(1) EMISSION LIMITS AT THE BAND EDGE FOR TVBDS .....          | 20 |
| §15.709(C)(4) EMISSION IN THE BAND OF 602-620MHZ LIMITS FOR TVBDS ..... | 30 |
| §15.709(D) COMPLIANCE WITH RF EXPOSURE REQUIREMENTS: .....              | 38 |
| PRODUCT PHOTOS .....                                                    | 39 |

## GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results relate only to the items tested.

### Summary

The device under test does:

- ☒ fulfill the general approval requirements as identified in this test report  
☐ not fulfill the general approval requirements as identified in this test report

### Attestations

The scope of this document is to report the results of the Fixed TVBD Part 1 Radio Frequency Certification Tests. There are three (3) components of the White Spaces technology;

- **TV Band devices (Fixed TVBD for Certification).**
- **TV Bands Database**
- **TV Band System,** Made up of Fixed TVBD's database, and layer of interaction between the devices and the databases.

To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.



Testing Certificate # 0955-01

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.  
849 NW State Road 45  
Newberry, FL 32669

### Authorized Signatory Name:



Mario de Aranzeta C.E.T.  
Compliance Engineer/ Lab. Supervisor

**Date:** August 28, 2012

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## GENERAL INFORMATION

### DUT Description

General:

The Equipment Under Test (EUT's), is Meld Technology, Inc. model MT300 radio intended for use as Fixed TV Bands devices for the purpose of testing and verifying compliance with Part 15 Subpart H of Title 47 of the Code of Federal Regulations. The MT300 operates as a fixed TVBD transmitter in the UHF band using a VSB modulator that is designed to provide low-power transmission of a DTV compatible signal over a limited area. The radios tested are factory pre-configured UHF radios with an operating frequency range of 512-596 MHz (TV channels 21-34) and 620-698 MHz (TV channels 39-51). The radios are designed to comply with the FCC CFR 47 Part 15 subpart H rules. Local and remote device management is provided through a webpage interface and all database transactions are accomplished using a secure shell (SSH) network connection.

### DUT Specification

|                               |                                                                     |                                         |                                                |
|-------------------------------|---------------------------------------------------------------------|-----------------------------------------|------------------------------------------------|
| <b>Applicable Standard</b>    | Part 15 Subpart H TV Band White Space Fixed Device                  |                                         |                                                |
| <b>DUT Description</b>        | simplex(one way), transmit only                                     |                                         |                                                |
| <b>FCC ID</b>                 | OKVMT300                                                            |                                         |                                                |
| <b>Application:</b>           | Low Power HD Digital TV transmission                                |                                         |                                                |
| <b>Operating Frequency</b>    | TX: 512-596 MHz, 620-698 MHz                                        |                                         |                                                |
| <b>Number of channels</b>     | CH21 to CH34, CH39 to CH51                                          |                                         |                                                |
| <b>Bridged Ethernet Port:</b> | Ethernet Ports IP Subnets Bridge                                    |                                         |                                                |
| <b>Transmit Power(dBm):</b>   | 11.52 dBm                                                           |                                         |                                                |
| <b>DUT Power Source</b>       | <input type="checkbox"/> 110–120Vac/50– 60Hz                        |                                         |                                                |
|                               | <input checked="" type="checkbox"/> DC Power Stontronics 3A-401WP12 |                                         |                                                |
|                               | <input type="checkbox"/> Battery Operated Exclusively               |                                         |                                                |
| <b>Test Item</b>              | <input type="checkbox"/> Prototype                                  | <input type="checkbox"/> Pre-Production | <input checked="" type="checkbox"/> Production |
| <b>Type of Equipment</b>      | <input checked="" type="checkbox"/> Fixed - WGF                     | <input type="checkbox"/> Mobile – WG1   | <input type="checkbox"/> Portable – WG2        |
|                               | <input type="checkbox"/> Fixed - WSF                                | <input type="checkbox"/> Mobile – WS1   | <input type="checkbox"/> Portable – WS2        |
| <b>Antenna Connector</b>      | 75 ohm F-Connector                                                  |                                         |                                                |
| <b>Antenna</b>                | U Tek Technology Co. EA-79X-1                                       |                                         |                                                |
| <b>Network Port</b>           | RJ 45                                                               |                                         |                                                |
| <b>Serial Port</b>            | Male RS 232                                                         |                                         |                                                |
| <b>Indicators</b>             | <input checked="" type="checkbox"/> Power Indicator                 |                                         |                                                |
|                               | <input type="checkbox"/> Alarm Indicator                            |                                         |                                                |
|                               | <input checked="" type="checkbox"/> Transmit Indicator              |                                         |                                                |

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

|                        |                                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Facility</b>   | Timco Engineering Inc.<br>849 NW State Road 45<br>Newberry, FL 32669 USA.                                                        |
| <b>Test Conditions</b> | Temperature: 26°C<br>Relative humidity: 50%                                                                                      |
| <b>Test Exercise</b>   | The DUT was placed in manual mode allowing for power and frequency adjustments while in a continuous transmit mode of operation. |

## EMC EQUIPMENT LIST

| Device                                | Manufacturer       | Model         | Serial Number            | Cal/Char Date  | Due Date  |
|---------------------------------------|--------------------|---------------|--------------------------|----------------|-----------|
| 3-Meter Semi-Anechoic Chamber         | Panashield         | N/A           | N/A                      | Listed 5/10/10 | 5/10/12   |
| AC Voltmeter                          | HP                 | 400FL         | 2213A14499               | CAL 6/12/11    | 6/12/13   |
| Antenna: Active Loop                  | ETS-Lindgren       | 6502          | 00062529                 | CAL 9/23/10    | 9/23/12   |
| Frequency Counter                     | HP                 | 5385A         | 2730A03025               | CAL 8/17/11    | 8/17/13   |
| Hygro-Thermometer                     | Extech             | 445703        | 0602                     | CAL 6/15/11    | 6/15/13   |
| Modulation Analyzer                   | HP                 | 8901A         | 3435A06868               | CAL 7/18/11    | 7/18/13   |
| Digital Multimeter                    | Fluke              | FLUKE-77      | 35053830                 | CAL 9/9/11     | 9/9/13    |
| Analyzer Tan Tower Preamplifier       | HP                 | 8449B-H02     | 3008A00372               | CAL 10/28/11   | 10/28/13  |
| Analyzer Tan Tower Quasi-Peak Adapter | HP                 | 85650A        | 3303A01690               | CAL 10/28/11   | 10/28/13  |
| Analyzer Tan Tower RF Preselector     | HP                 | 85685A        | 3221A01400               | CAL 10/28/11   | 10/28/13  |
| Analyzer Tan Tower Spectrum Analyzer  | HP                 | 8566B Opt 462 | 3138A07786<br>3144A20661 | CAL 10/28/11   | 10/28/13  |
| Temperature Chamber                   | Tenney Engineering | TTRC          | 11717-7                  | CHAR 4/25/10   | 4/25/12   |
| Antenna                               | ETS                | 3117          | 41534                    | 9/22/2010      | 9/22/2012 |
| Antenna                               | Electro metrics    | LPA-25        | 1122                     | 5/04/2011      | 5/04/2013 |
| Antenna                               | Electro metrics    | BIA-25        | 1171                     | 1/15/2010      | 1/15/2012 |
| Spectrum Analyzer                     | Rohde & Schwarz    | ESIB40        | 100274                   | 3/16/2012      | 3/16/2014 |

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## TEST PROCEDURES

**RF Test:** Certification Test Procedures for TV Band (White Spaces) Devices Authorized under Subpart H of the Part 15 Rules, 416721 DO1 White Space Test Procedures v02.

**Power Line Conducted Interference:** The procedure used was ANSI C63.4-2009 using a 50uH LISN. Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed. The spectrum was scanned from 0.15 to 30 MHz.

**Radiation Interference:** ANSI C63.4-2009 using a spectrum analyzer, a preselector, a quasi-peak adapter, and an appropriate antenna. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100 kHz with an appropriate sweep speed and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth (10) harmonic of the fundamental.

**Formula Of Conversion Factors:** The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBμV) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Example:

|            |               |            |                           |
|------------|---------------|------------|---------------------------|
| Freq (MHz) | Meter Reading | + ACF      | + CL = FS                 |
| 33         | 20 dBμV       | + 10.36 dB | + 0.5 = 30.86 dBμV/m @ 3m |

**Occupied Bandwidth:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dBm per division.

**Bandwidth 6.0dB:** The measurements were made with the spectrum analyzer's resolution bandwidth (RBW)=1 MHz and the video bandwidth (VBW) =3 MHz and the span set as shown on plot.

**Power Output:** The RF power output was measured at the antenna feed point using a spectrum analyzer

**Antenna Conducted Emissions:** The RBW=100 kHz, VBW=300 kHz and the span set to 10 MHz and the spectrum was scanned from 30 MHz to the 10<sup>th</sup> Harmonic of the fundamental. Above 1 GHz the resolution bandwidth was 1 MHz and the VBW = 3 MHz and the span to 50 MHz.

**ANSI C63.4-2009 10.1 Measurement Procedures:** The DUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The DUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. Emissions attenuated more than 20 dB below the permissible value are not reported.

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

### **§15.203 Antenna Requirements:**

**Requirement: A UNIQUE connector or the antenna must be permanently attached.**

The device will be required to be professionally installed. It is not a consumer device.

### **§15.207 & §15.709(c)(5) POWER LINE CONDUCTED INTERFERENCE**

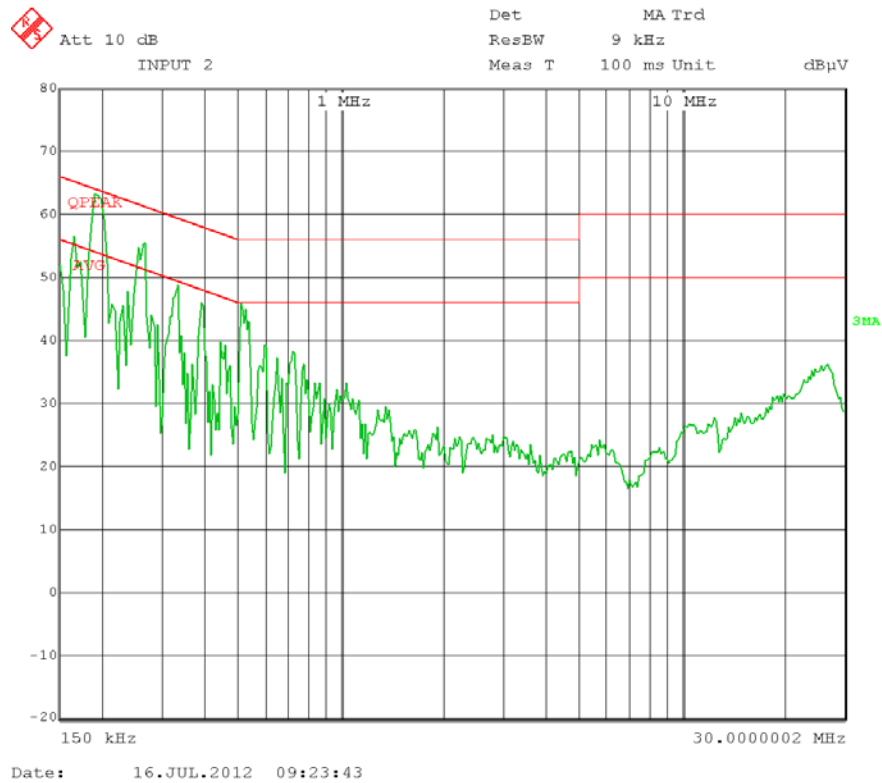
**Rules Part No.:** Part 15.207

#### **Requirements:**

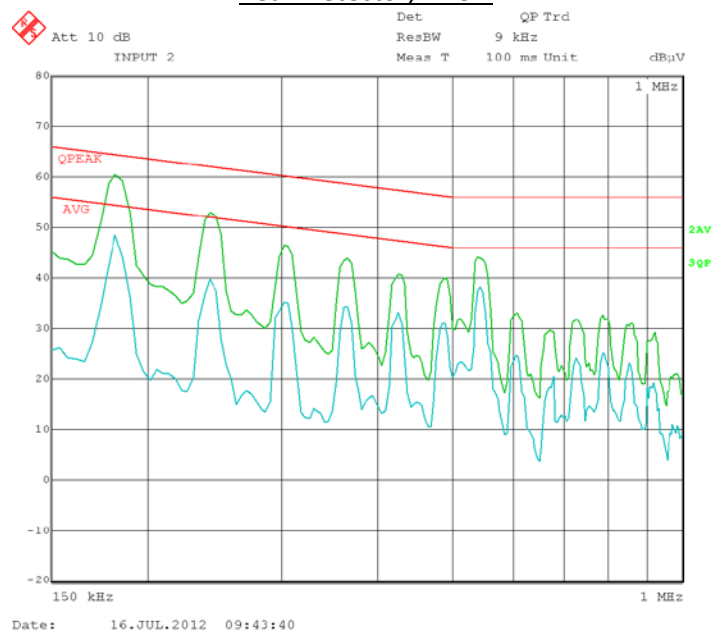
| Frequency<br>(MHz)                     | Quasi Peak Limits<br>(dBμV) | Average Limits<br>(dBμV) |
|----------------------------------------|-----------------------------|--------------------------|
| 0.15 – 0.5                             | 66 – 56 *                   | 56 – 46 *                |
| 0.5 – 5.0                              | 56                          | 46                       |
| 5.0 – 30                               | 60                          | 50                       |
| * Decrease with logarithm of frequency |                             |                          |

**Test Data:** The following plots represent the emissions read for power line conducted. Both lines were observed.  
The device was put in transmit mode.

## POWERLINE CONDUCTED PLOTS



### Peak Detector, Line 1



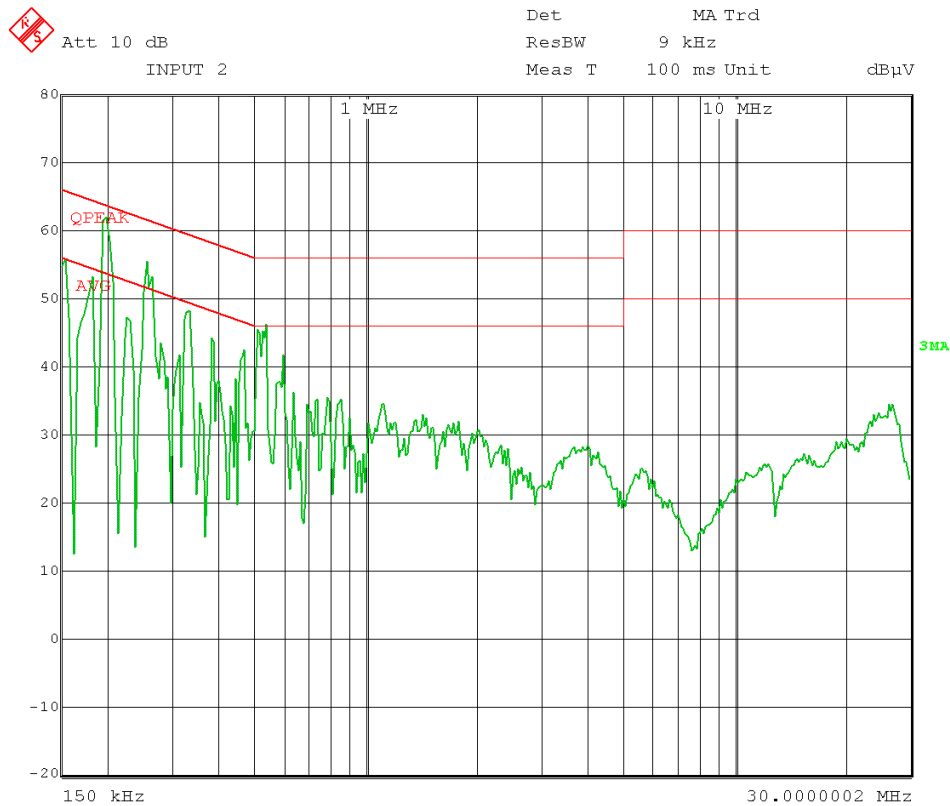
### Quasi-Peak, Line 1 (150 kHz to 1MHz)

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

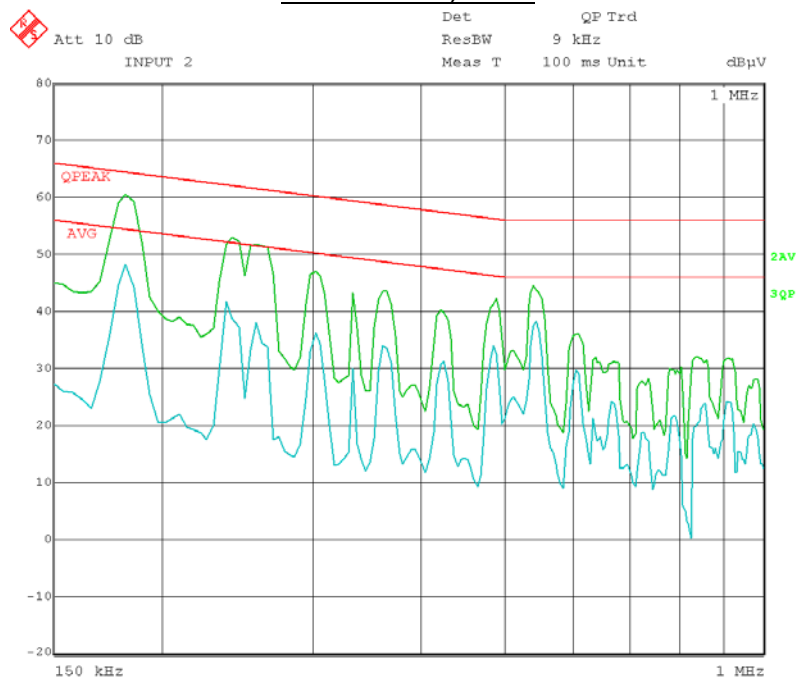
REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

# POWERLINE CONDUCTED PLOTS



Date: 16.JUL.2012 09:26:16

## Peak Detector, Line 2



Date: 16.JUL.2012 09:38:40

## Quasi-peak Detector, Line 2 (150 kHz to 1 MHz)

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## §15.209 RADIATION INTERFERENCE

**Rules Part No.:** 15.709(c)(3) Emission Limits for TVBD's, 15.209

**Requirements:**

| Frequency          | Limits                              |
|--------------------|-------------------------------------|
| Part 15.209        |                                     |
| 9 to 490 kHz       | 2400/F (kHz) $\mu$ V/m @ 300 meters |
| 490 to 1705 kHz    | 24000/F (kHz) $\mu$ V/m @ 30 meters |
| 1705 kHz to 30 MHz | 29.54 dB $\mu$ V/m @ 30 meters      |
| 30 – 88            | 40.0 dB $\mu$ V/m @ 3 meters        |
| 80 – 216           | 43.5 dB $\mu$ V/m @ 3 meters        |
| 216 – 960          | 46.0 dB $\mu$ V/m @ 3 meters        |
| Above 960          | 54.0 dB $\mu$ V/m @ 3 meters        |

Any emissions that fall in the restricted bands (15.205) must be less than or equal to 54 dB $\mu$ V/m. Spurious emissions not in a restricted band must be 20 dBc. Harmonics were checked through the 10<sup>th</sup> harmonic.

The whitespace TVBD must meet CLASS B requirements.

**Test Data:** All values are peak unless noted.  
 Items mark with an \* designate a frequency in a restricted band.  
 Measurement Distance is 3m.

### Unintentional Radiated Emissions

| Emission Frequency MHz | Meter Reading dBuV | Ant. Polarity | Coax Loss dB | Correction Factor dB/m | Field Strength dBuV/m | Margin dB |
|------------------------|--------------------|---------------|--------------|------------------------|-----------------------|-----------|
| 40.12                  | 15.0               | V             | 0.45         | 13.48                  | 28.93                 | 11.07     |
| 57.08                  | 5.1                | H             | 0.52         | 8.90                   | 14.52                 | 25.48     |
| 76.30                  | 16.8               | V             | 0.59         | 7.02                   | 24.41                 | 15.59     |
| 80.50                  | 4.9                | H             | 0.60         | 8.32                   | 13.82                 | 26.18     |
| 95.38                  | 16.7               | V             | 0.64         | 10.62                  | 27.96                 | 15.54     |
| 96.90                  | 7.2                | H             | 0.64         | 10.68                  | 18.52                 | 24.98     |
| 133.50                 | 12.3               | V             | 0.68         | 13.68                  | 26.66                 | 16.84     |
| 143.02                 | 5.4                | V             | 0.69         | 15.46                  | 21.55                 | 21.95     |
| 171.60                 | 7.0                | V             | 0.79         | 15.45                  | 23.24                 | 20.26     |
| 248.00                 | 7.5                | H             | 1.00         | 12.76                  | 21.26                 | 24.74     |
| 248.00                 | 14.6               | V             | 1.00         | 12.76                  | 28.36                 | 17.64     |
| 381.00                 | 11.2               | V             | 1.18         | 15.65                  | 28.03                 | 17.97     |
| 448.20                 | 8.2                | H             | 1.25         | 17.52                  | 26.97                 | 19.03     |
| 486.00                 | 10.3               | V             | 1.29         | 18.14                  | 29.73                 | 16.27     |
| 543.00                 | 9.3                | V             | 1.43         | 18.73                  | 29.46                 | 16.54     |
| 562.70                 | 10.2               | V             | 1.49         | 19.13                  | 30.82                 | 15.18     |
| 672.00                 | 10.0               | V             | 1.67         | 21.54                  | 33.21                 | 12.79     |
| 672.00                 | 10.4               | H             | 1.67         | 21.54                  | 33.61                 | 12.39     |
| 868.20                 | 8.5                | V             | 1.93         | 23.18                  | 33.61                 | 12.39     |
| 1,296.00               | 6.1                | V             | 2.34         | 27.86                  | 36.30                 | 17.70     |

Note: The transmitter on the product was turned off using control software.

### Intentional Radiated Emissions

| Emission Frequency MHz | Meter Reading dBuV | Ant. Polarity | Coax Loss dB | Correction Factor dB/m | Field Strength dBuV/m | Margin dB |
|------------------------|--------------------|---------------|--------------|------------------------|-----------------------|-----------|
| 76.26                  | 16.7               | V             | 0.59         | 7.00                   | 24.29                 | 15.71     |
| 95.32                  | 16.6               | V             | 0.64         | 10.61                  | 27.85                 | 15.65     |
| 133.40                 | 12.3               | V             | 0.68         | 13.65                  | 26.63                 | 16.87     |
| 160.00                 | 6.2                | H             | 0.74         | 16.70                  | 23.64                 | 19.86     |
| 171.50                 | 7.0                | V             | 0.79         | 15.47                  | 23.26                 | 20.24     |
| 248.00                 | 14.4               | V             | 1.00         | 12.76                  | 28.16                 | 17.84     |
| 381.40                 | 11.8               | V             | 1.18         | 15.67                  | 28.65                 | 17.35     |
| 486.00                 | 9.6                | V             | 1.29         | 18.14                  | 29.03                 | 16.97     |
| 534.00                 | 9.7                | V             | 1.40         | 18.64                  | 29.74                 | 16.26     |
| 624.00                 | 7.5                | H             | 1.62         | 20.08                  | 29.20                 | 16.80     |
| 1,029.00               | 25.4               | V             | 2.12         | 27.53                  | 55.05                 | -1.05     |
| 1,029.00               | 23.0(AVG)          | V             | 2.12         | 27.53                  | 52.65                 | 1.35      |
| 1,029.00               | 22.5               | H             | 2.12         | 27.53                  | 52.15                 | 1.85      |
| 1,029.00               | 13.0(AVG)          | H             | 2.12         | 27.53                  | 42.65                 | 11.35     |
| 1,544.00               | 32.3               | H             | 2.54         | 28.44                  | 63.28                 | -9.28     |
| 1,544.00               | 20.2(AVG)          | H             | 2.54         | 28.44                  | 51.18                 | 2.82      |
| 1,545.00               | 27.5               | V             | 2.54         | 28.45                  | 58.49                 | -4.49     |
| 1,545.00               | 21.0(AVG)          | V             | 2.54         | 28.45                  | 51.99                 | 2.01      |
| 2,574.00               | 17.1               | H             | 3.30         | 32.70                  | 53.10                 | 0.9       |
| 2,574.00               | 18.2               | V             | 3.30         | 32.70                  | 54.20                 | -0.2      |
| 2,574.00               | 17.0(AVG)          | V             | 3.30         | 32.70                  | 53.00                 | 1         |
| 3,090.00               | 8.7                | V             | 3.68         | 33.26                  | 45.64                 | 8.36      |
| 3,605.00               | 12.1               | H             | 4.14         | 33.27                  | 49.51                 | 4.49      |
| 3,605.00               | 14.0               | V             | 4.14         | 33.27                  | 51.41                 | 2.59      |
| 4,120.00               | 13.0               | V             | 4.56         | 33.90                  | 51.46                 | 2.54      |
| 4,634.00               | 11.0               | H             | 4.82         | 33.93                  | 49.75                 | 4.25      |
| 4,634.00               | 12.8               | V             | 4.82         | 33.93                  | 51.55                 | 2.45      |

### Tx on channel 21 (515 MHz) – Low Channel

*Note: Frequencies (above 1000MHz) at which the emissions exceed the limits with peak detector, were re-measured with averaging turned on and found to be below the limit.*

*Emissions were checked from 9 kHz or the lowest frequency generated to the 10<sup>th</sup> Harmonic.*

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

| Emission Frequency MHz | Meter Reading dBuV | Ant. Polarity | Coax Loss dB | Correction Factor dB/m | Field Strength dBuV/m | Margin dB |
|------------------------|--------------------|---------------|--------------|------------------------|-----------------------|-----------|
| 41.04                  | 18.1               | V             | 0.46         | 13.33                  | 31.89                 | 8.11      |
| 76.26                  | 16.8               | V             | 0.59         | 7.00                   | 24.39                 | 15.61     |
| 95.30                  | 15.9               | V             | 0.64         | 10.61                  | 27.15                 | 16.35     |
| 124.00                 | 5.2                | H             | 0.67         | 11.30                  | 17.17                 | 26.33     |
| 133.40                 | 12.7               | V             | 0.68         | 13.65                  | 27.03                 | 16.47     |
| 171.50                 | 7.0                | V             | 0.79         | 15.47                  | 23.26                 | 20.24     |
| 247.90                 | 14.4               | V             | 1.00         | 12.75                  | 28.15                 | 17.85     |
| 346.00                 | 5.7                | H             | 1.15         | 15.00                  | 21.85                 | 24.15     |
| 467.30                 | 7.5                | V             | 1.27         | 17.67                  | 26.44                 | 19.56     |
| 562.65                 | 9.8                | V             | 1.49         | 19.13                  | 30.42                 | 15.58     |
| 1,246.00               | 14.7               | H             | 2.30         | 27.80                  | 44.80                 | 9.2       |
| 1,246.00               | 18.2               | V             | 2.30         | 27.80                  | 48.30                 | 5.7       |
| 1,868.00               | 15.7               | V             | 2.79         | 30.97                  | 49.46                 | 4.54      |
| 1,868.00               | 16.6               | H             | 2.79         | 30.97                  | 50.36                 | 3.64      |
| 2,492.00               | 15.1               | V             | 3.24         | 32.59                  | 50.93                 | 3.07      |
| 3,115.00               | 10.2               | V             | 3.70         | 33.25                  | 47.15                 | 6.85      |
| 3,738.00               | 12.1               | H             | 4.26         | 33.48                  | 49.84                 | 4.16      |
| 3,738.00               | 12.5               | V             | 4.26         | 33.48                  | 50.24                 | 3.76      |

Tx on channel 39 (623 MHz) – Mid Channel

| Emission Frequency MHz | Meter Reading dBuV | Ant. Polarity | Coax Loss dB | Correction Factor dB/m | Field Strength dBuV/m | Margin dB |
|------------------------|--------------------|---------------|--------------|------------------------|-----------------------|-----------|
| 64.02                  | 6.9                | H             | 0.55         | 6.05                   | 13.50                 | 26.5      |
| 76.24                  | 16.2               | V             | 0.59         | 7.00                   | 23.79                 | 16.21     |
| 95.30                  | 15.9               | V             | 0.64         | 10.61                  | 27.15                 | 16.35     |
| 133.00                 | 13.2               | V             | 0.68         | 13.54                  | 27.42                 | 16.08     |
| 171.50                 | 7.0                | V             | 0.79         | 15.47                  | 23.26                 | 20.24     |
| 248.00                 | 14.6               | V             | 1.00         | 11.52                  | 27.12                 | 18.88     |
| 381.40                 | 12.9               | V             | 1.18         | 14.78                  | 28.86                 | 17.14     |
| 562.60                 | 10.3               | V             | 1.49         | 18.07                  | 29.86                 | 16.14     |
| 729.60                 | 6.7                | H             | 1.76         | 21.63                  | 30.09                 | 15.91     |
| 827.50                 | 15.6               | V             | 1.91         | 21.48                  | 38.99                 | 7.01      |
| 1,389.00               | 17.7               | V             | 2.41         | 27.97                  | 48.08                 | 5.92      |
| 1,390.00               | 17.0               | H             | 2.41         | 27.97                  | 47.38                 | 6.62      |
| 2,084.00               | 18.1               | H             | 2.96         | 32.10                  | 53.16                 | 0.84      |
| 2,085.00               | 15.5               | V             | 2.96         | 32.10                  | 50.56                 | 3.44      |
| 3,474.00               | 11.2               | V             | 4.03         | 33.11                  | 48.34                 | 5.66      |
| 3,475.00               | 12.0               | H             | 4.03         | 33.11                  | 49.14                 | 4.86      |
| 4,864.00               | 11.5               | V             | 4.93         | 33.97                  | 50.40                 | 3.6       |
| 4,865.00               | 10.3               | H             | 4.93         | 33.97                  | 49.20                 | 4.8       |

Tx on channel 51 (695 MHz) – High Channel

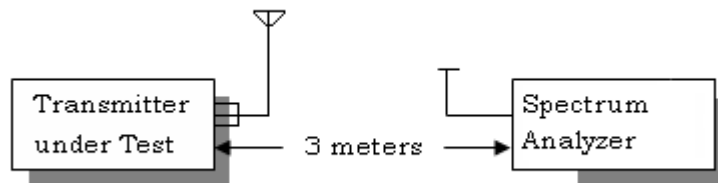
**Results: PASS**

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## Method of Measuring Radiated Spurious Emissions



METHOD OF MEASUREMENT: The procedure used was ANSI standard C63.4-2009 & the FCC/OET Guidance on Measurements for Spread Spectrum Systems – KDB 558074 dated March 23, 2005.

## §15.709(a) Power Limits Fixed TVBD

**Test Procedure:** 15.709(a)(2), 15.709(a)(5)(ii),  
416721 D01 Whitespace Procedures v02

**Requirements:** 15.709(a)(2), 15.709(a)(5)(ii)

Fixed Power limit (6MHz) = 30dBm  
Fixed PSD limit (100kHz) = 12.6dBm

40mw Power limit (6MHz) = 16dBm  
40mw PSD limit (100kHz) = -1.4dBm

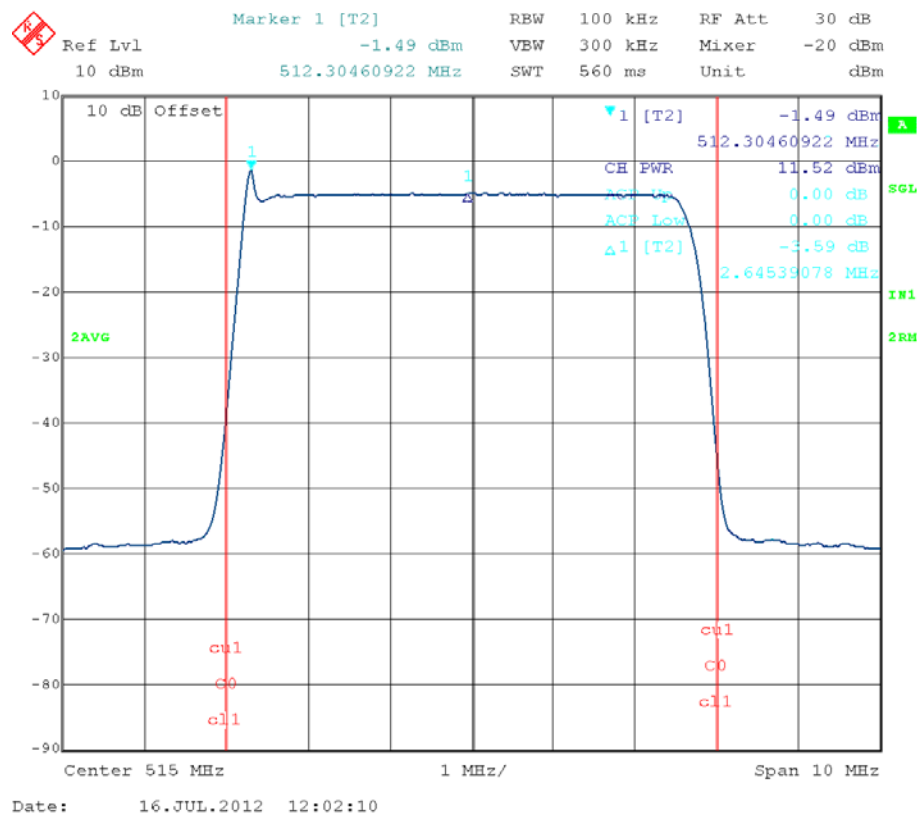
### Test Data:

#### 0 Test Results #1 Low of the Band:

Channel Frequency: 515 MHz

Measured Channel Power: 11.52 dBm

Highest in-band PSD: -1.49 dBm



#### Channel 21

**Results:** PASS, The maximum gain of the antenna is 2 dBi

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

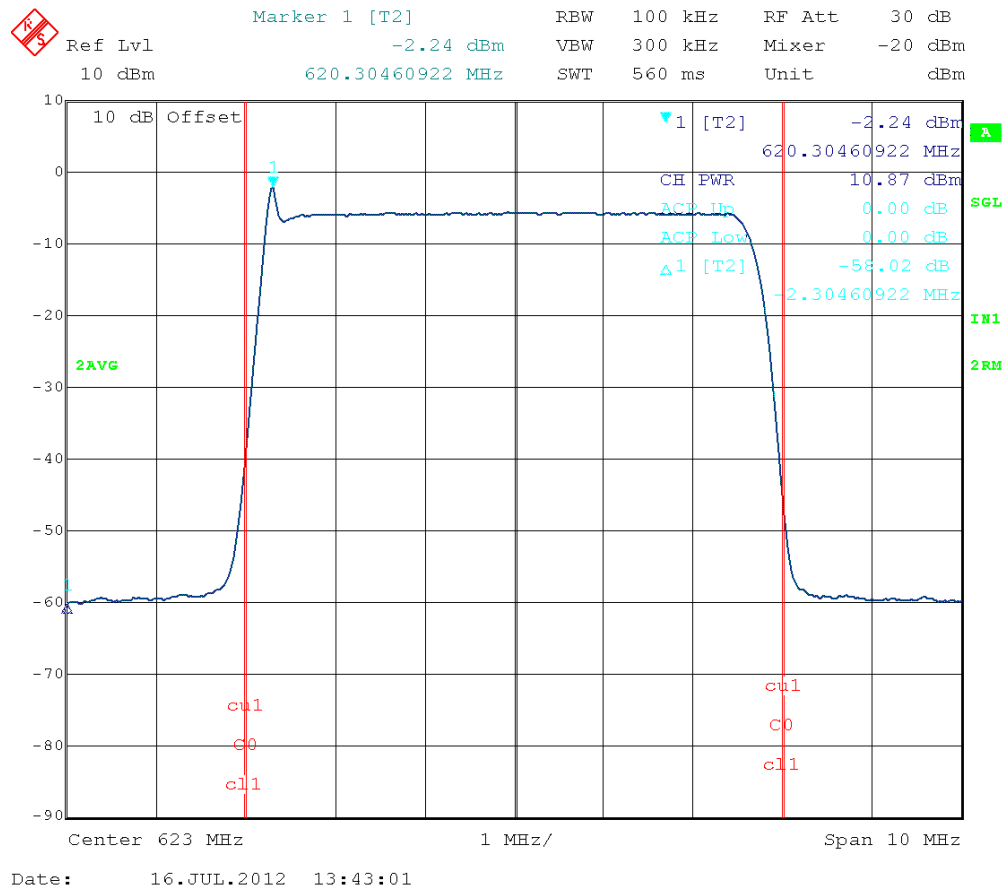
REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## 0 Test Results #2 Middle of the Band:

Channel Frequency: 623 MHz

Measured Channel Power: 10.87 dBm

Highest in-band PSD: -2.24 dBm



**Results:** PASS, The maximum gain of the antenna is 2dBi

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



### **§15.709(a)(3)(i) Transmitter Power Control Fixed TVBD**

The power setting for the product under test was set (11.5 dBm) using the manufacturer's test tool software. The values programmed in the radio for this testing were as follows,

'g' = ab

'p' = 35

The 'g' and 'p' values are responsible for setting the device transmit power and the device will be limited to these values as the maximum allowable setting for transmit power. The values described represent the maximum transmit power values when the device was compliant with the transmit power limits described in 15.209.

## §15.709(c)(1) Emission Limits at the band edge for TVBDs

**Requirement:** 15.709 (c) (ii), 15.709(c)(2) Emission Limits for TVBDs

Fixed device Limit = -42.8 dBm  
40mw device Limit = -56.8 dBm

### Test Data:

The measurements were made with 10 kHz RBW at the band edges, up to 200 kHz, to avoid capturing in-band signals. Since 15.709(c)(2) specifically calls out for a 100 kHz RBW, the measurements performed using 10 kHz bandwidth were integrated to show total power over two 100 kHz blocks. Beyond 200 kHz displacement, an RBW of 100 kHz was used for measurements.

#### Low Band: 515 MHz

| Bandwidth               | PSD        |
|-------------------------|------------|
| fL-6MHz to fL-200 kHz   | -57.49 dBm |
| fL-200kHz to fL-100 kHz | -61.90 dBm |
| fL-100kHz to fL         | -59.26 dBm |
| fH to fH+100kHz         | -59.43 dBm |
| fH+100kHz to fH+200 kHz | -61.35 dBm |
| fH+200kHz to fH+6MHz    | -58.77 dBm |

#### Mid Band: 623 MHz

| Bandwidth              | PSD        |
|------------------------|------------|
| fL-6MHz to fL-200kHz   | -59.00 dBm |
| fL-200kHz to fL-100kHz | -64.47 dBm |
| fL-100kHz to fL        | -61.24 dBm |
| fH to fH+100kHz        | -61.64 dBm |
| fH+100kHz to fH+200kHz | -64.99 dBm |
| fH+200kHz to fH+6MHz   | -60.89 dBm |

#### Mid Band: 695 MHz

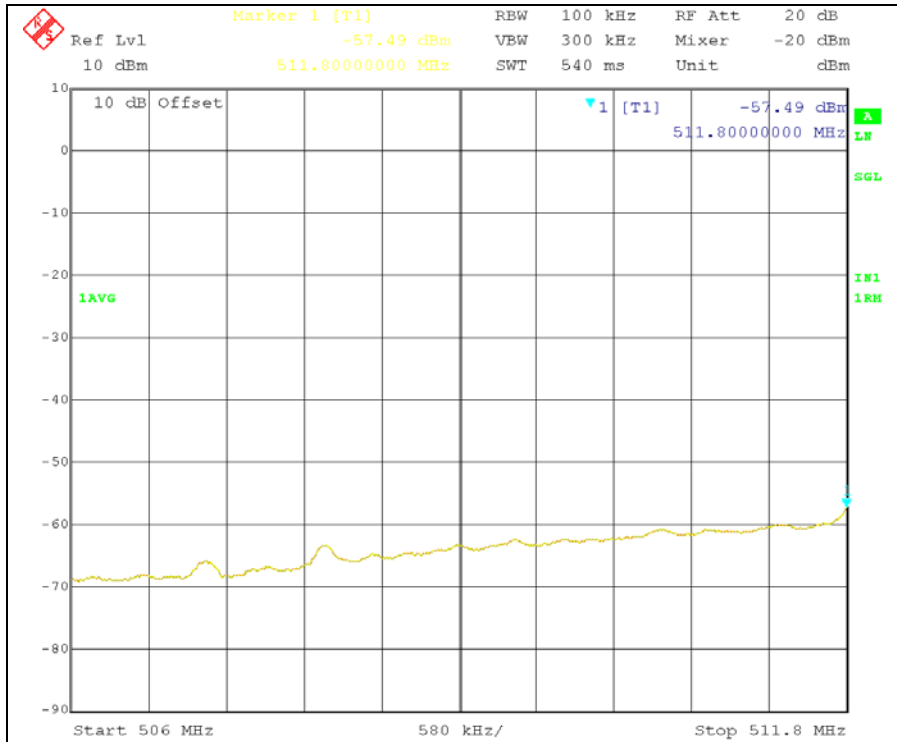
| Bandwidth              | PSD        |
|------------------------|------------|
| fL-6MHz to fL-200kHz   | -57.79 dBm |
| fL-200kHz to fL-100kHz | -62.16 dBm |
| fL-100kHz to fL        | -59.71 dBm |
| fH to fH+100kHz        | -60.51 dBm |
| fH+100kHz to fH+200kHz | -62.89 dBm |
| fH+200kHz to fH+6MHz   | -59.53 dBm |

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

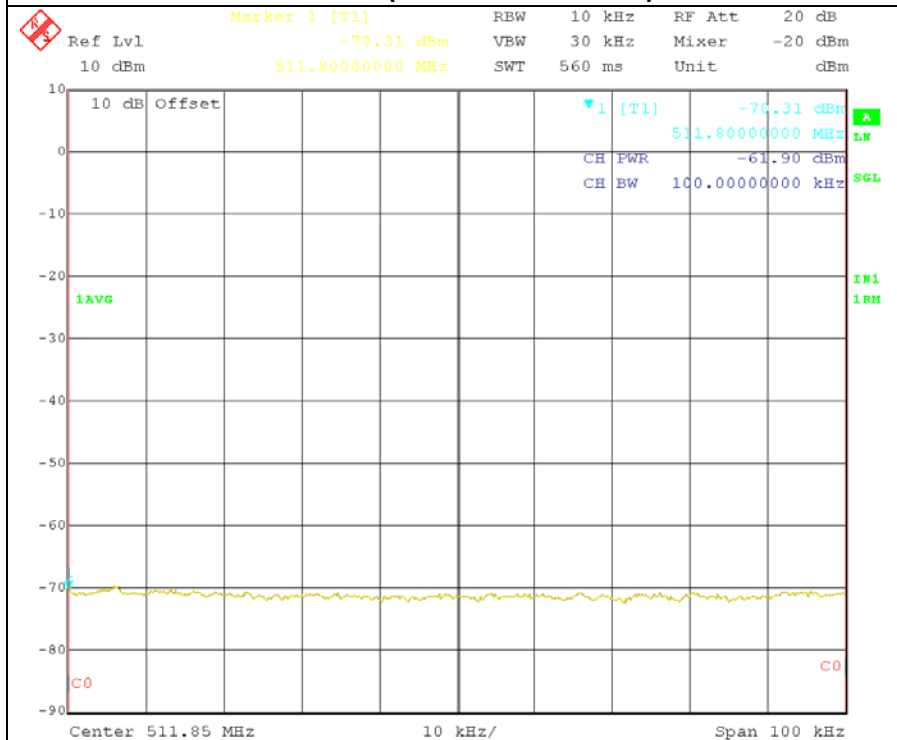
REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## 0 Test Results #1 Low of the Band:



Date: 16.JUL.2012 15:52:49

### Low Band (fl-6MHz to fl-200kHz)



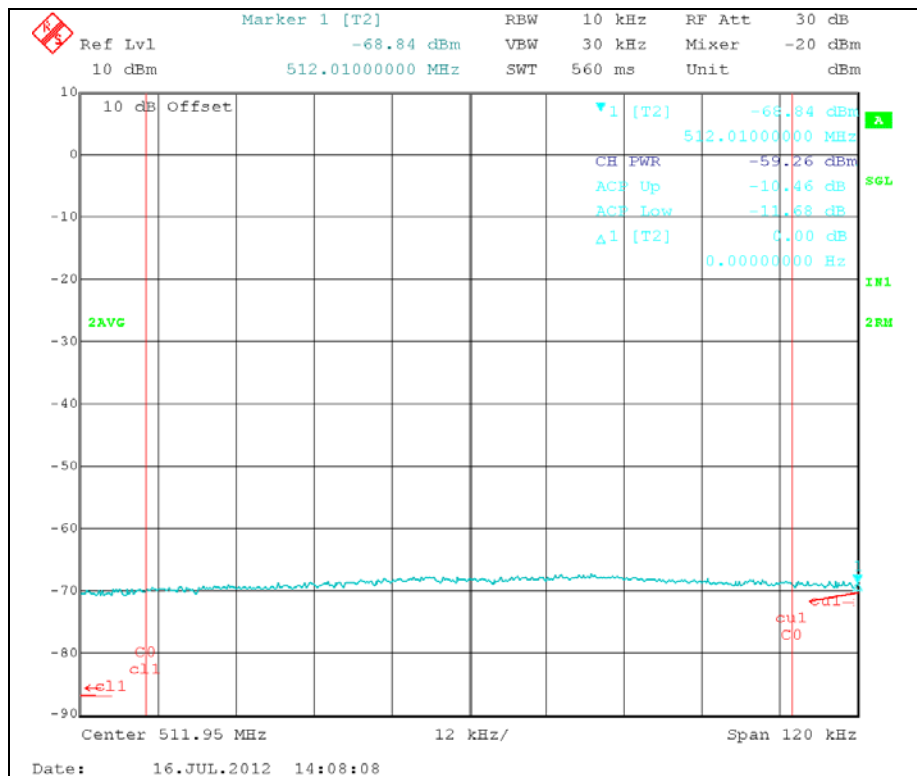
Date: 16.JUL.2012 14:47:13

### Low Band (fl-200 kHz to fl-100kHz)

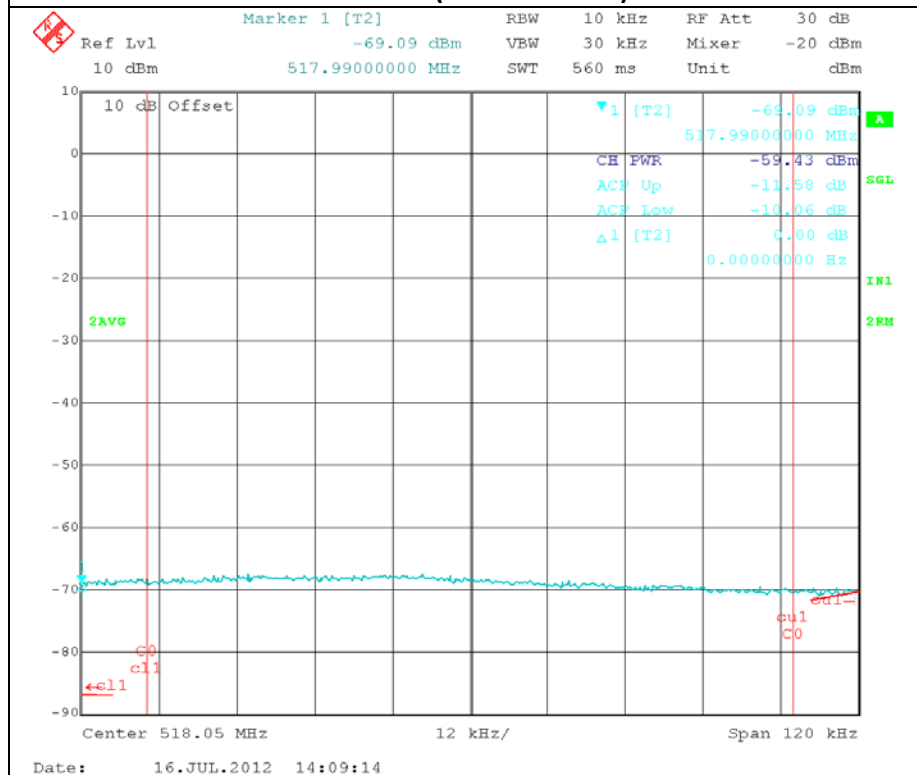
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



### Low Band (fL-100 kHz to fL)

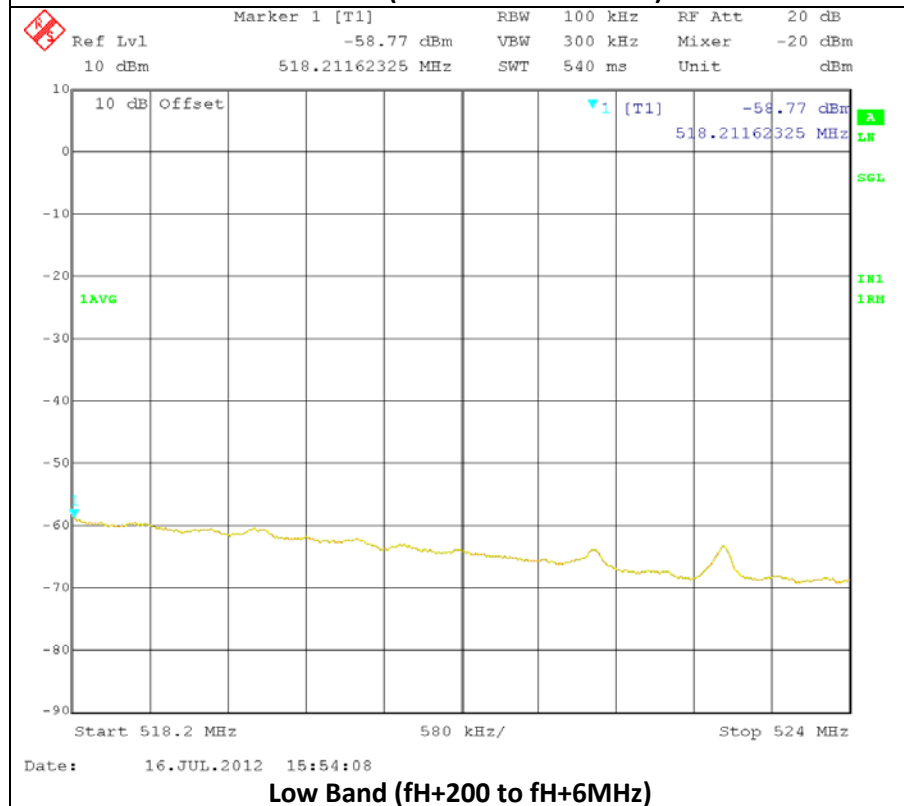
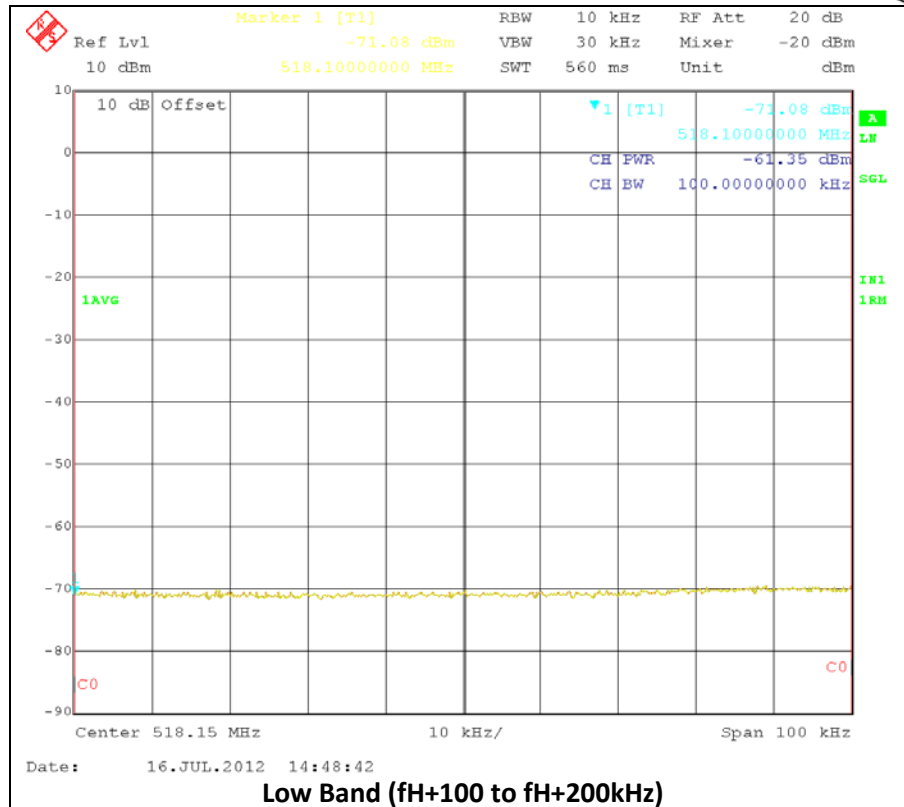


### Low Band (fH to fH+100kHz)

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

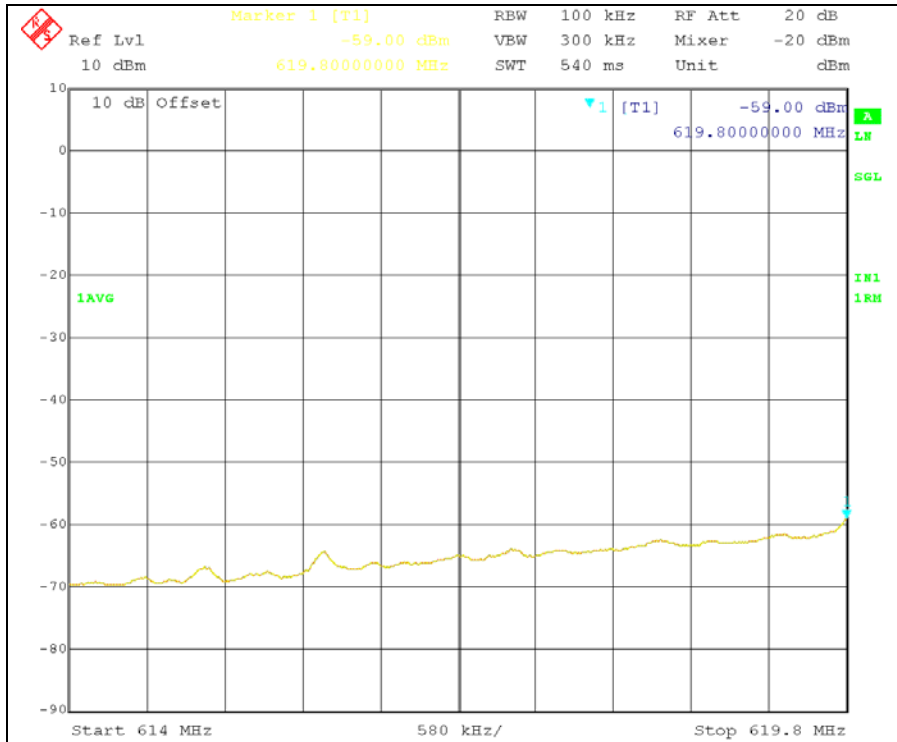


APPLICANT: Meld Technology, Inc.

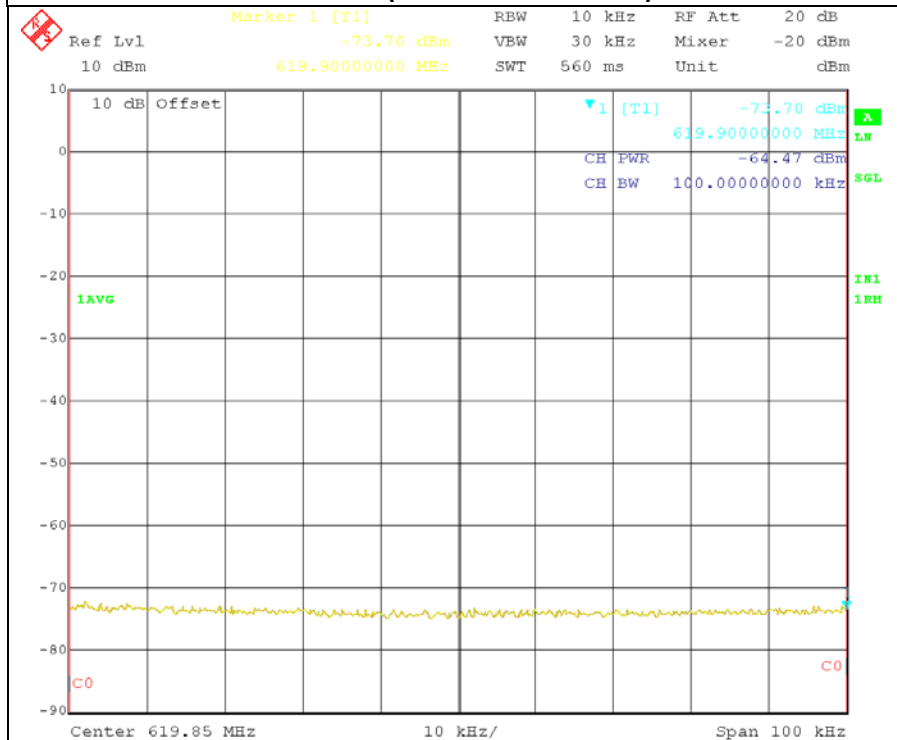
FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## 0 Test Results #2 Mid of the Band:



### Mid Band (fl-6MHz to fl-200kHz)

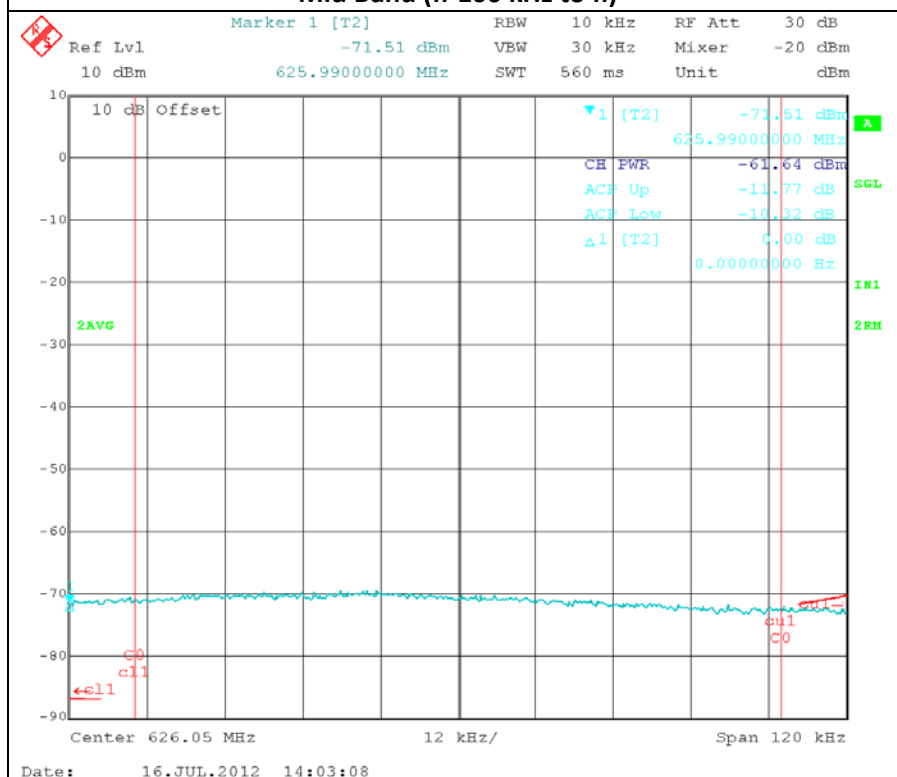
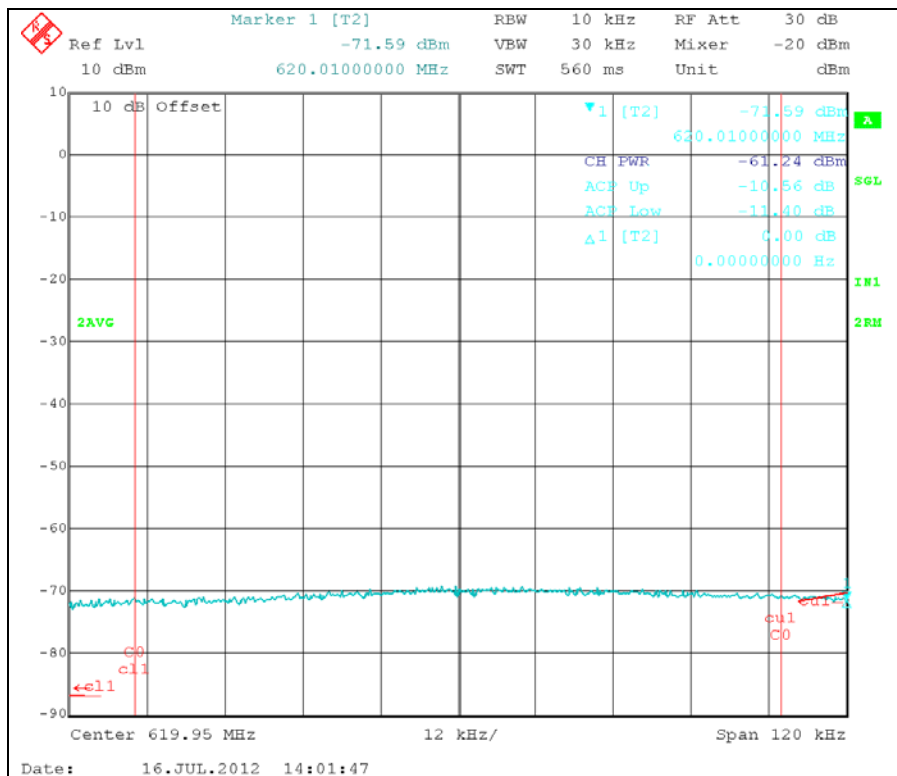


### Mid Band (fl-200 kHz to fl-100kHz)

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

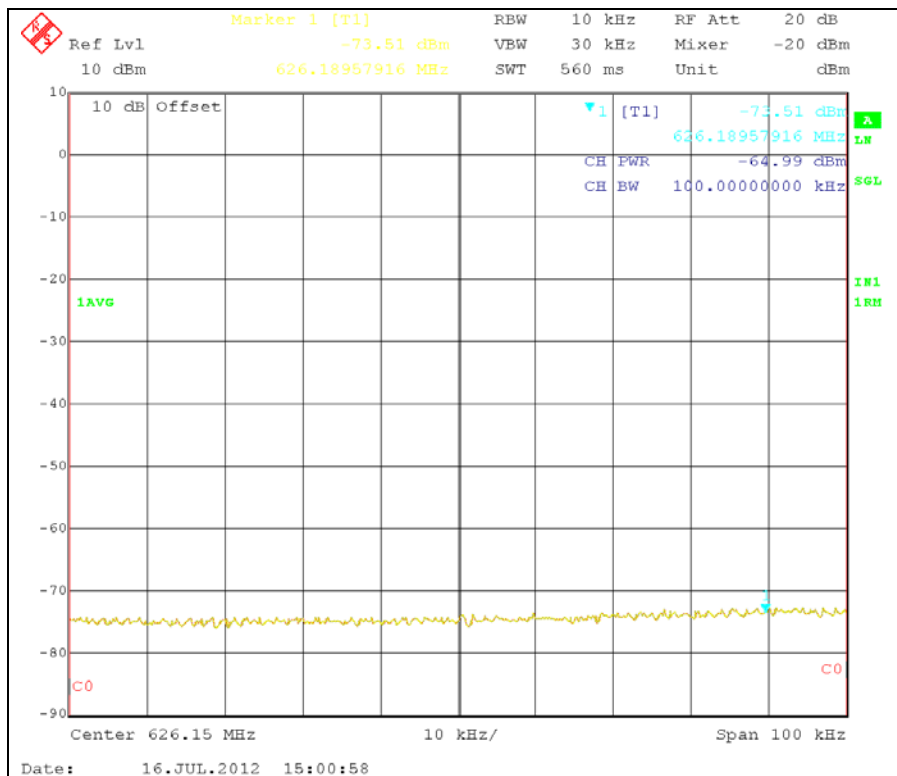
REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



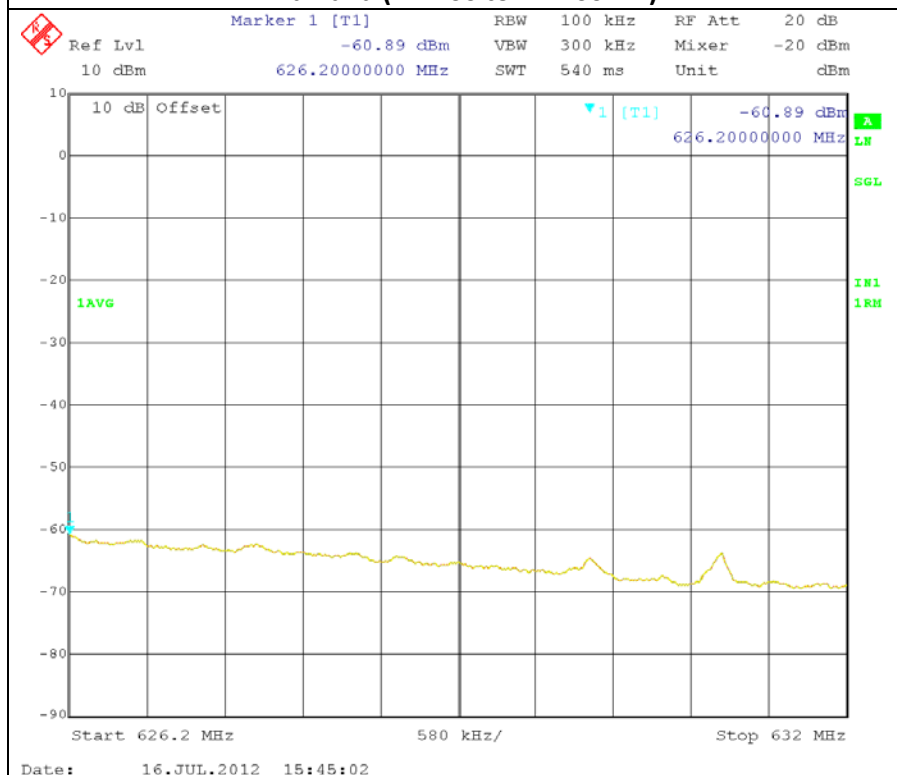
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



### Mid Band (fH+100 to fH+200kHz)



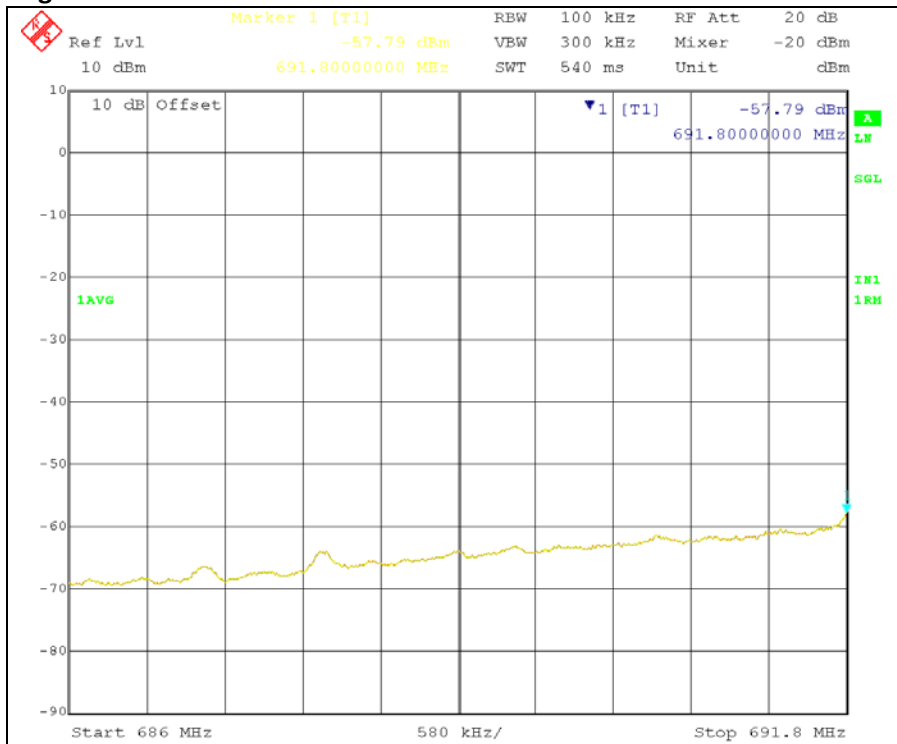
### Mid Band (fH+200 to fH+6MHz)

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

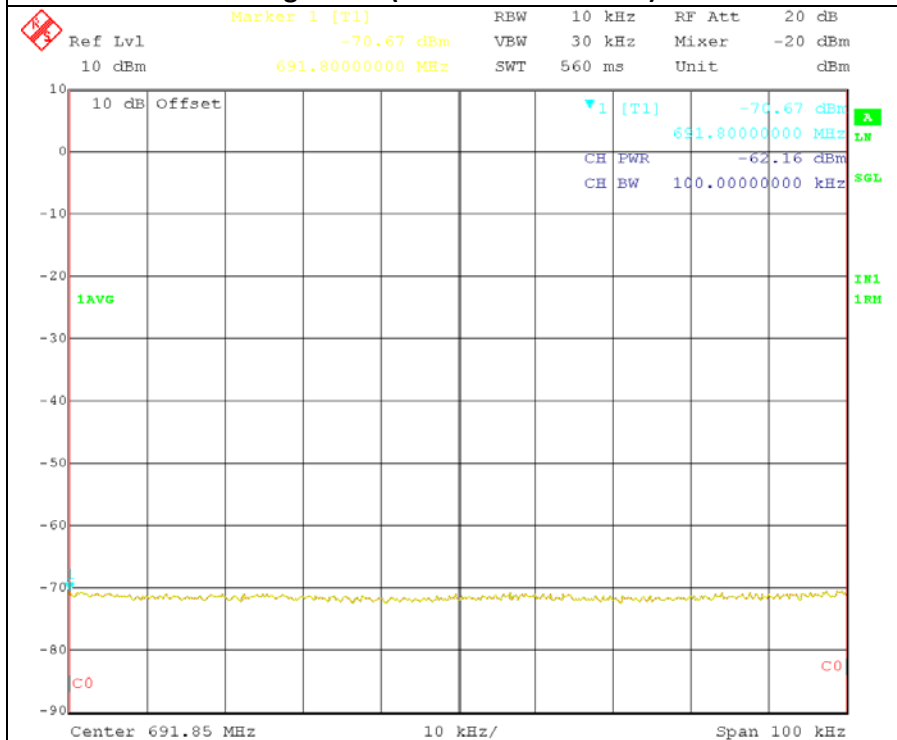
REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## 0 Test Results #2 High Band:



Date: 16.JUL.2012 15:35:59

### High Band (fl-6MHz to fl-200kHz)



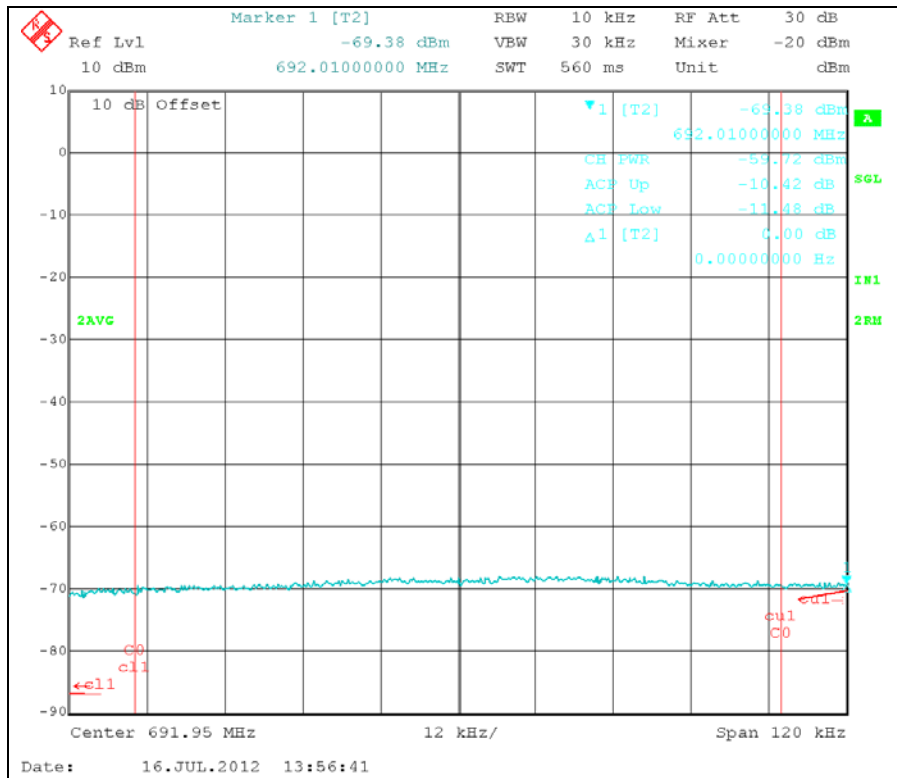
Date: 16.JUL.2012 15:04:56

### High Band (fl-200 kHz to fl-100kHz)

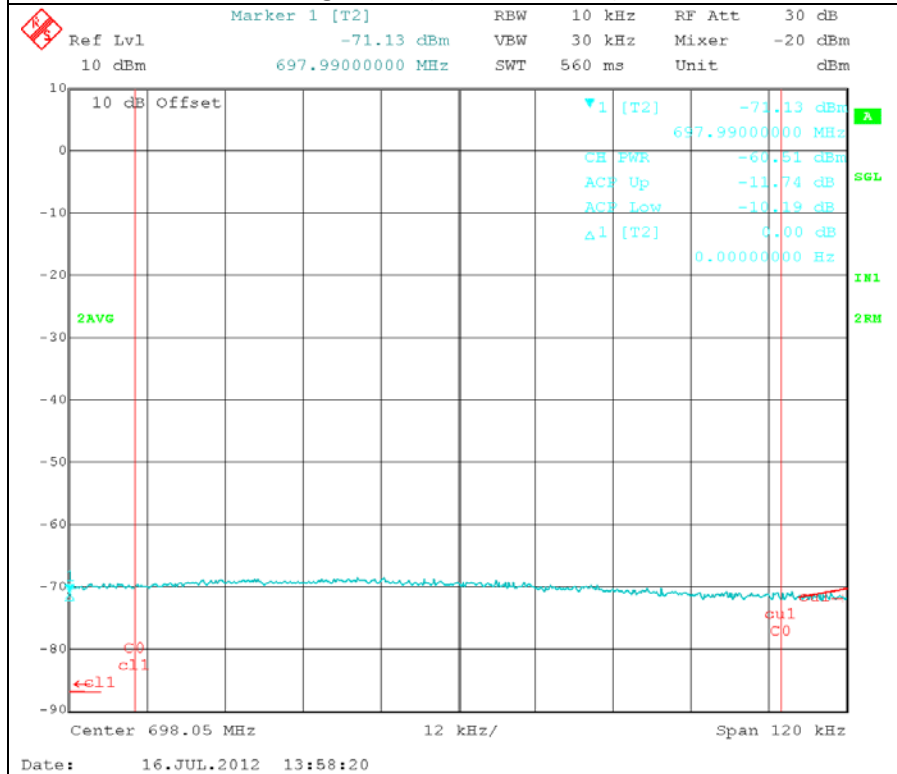
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



### High Band (f1-100 kHz to f1)

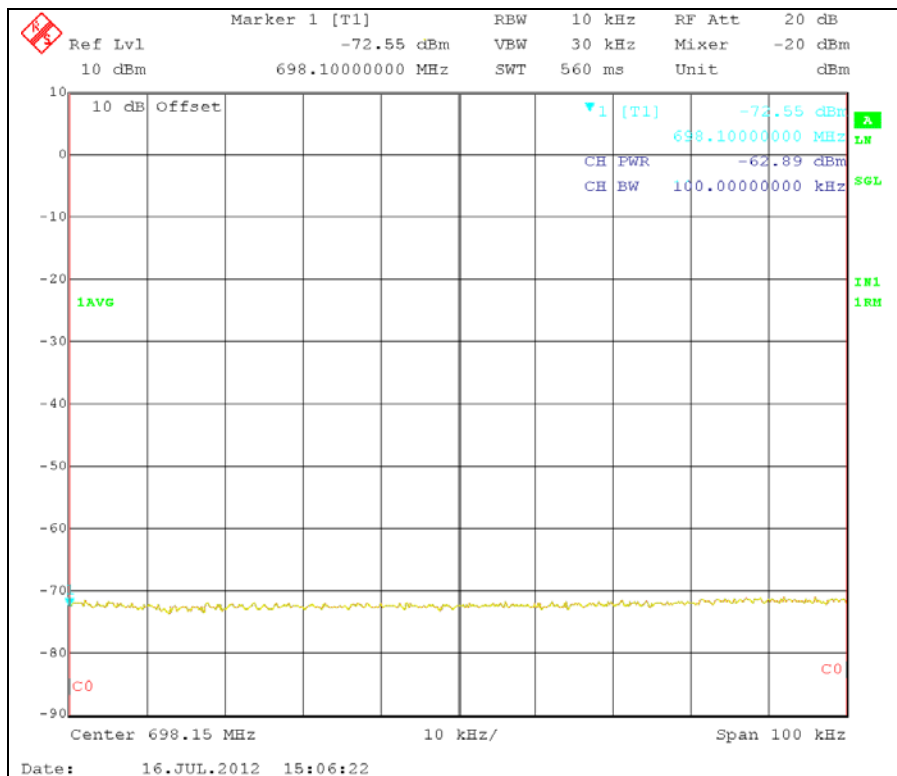


### High Band (fH to fH+100kHz)

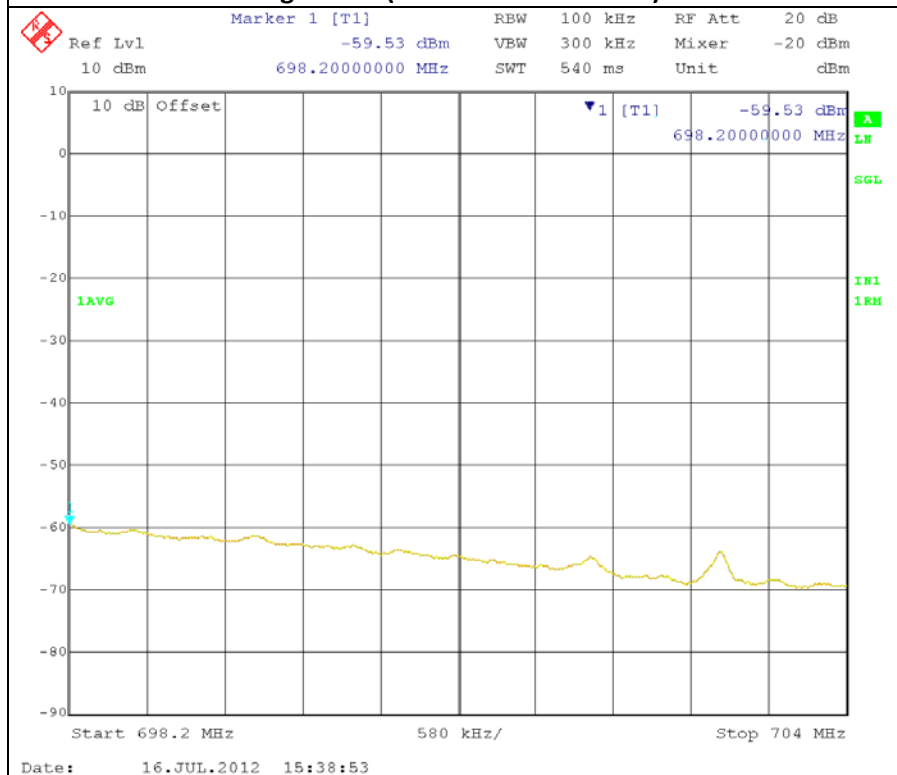
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



### High Band (fH+100 to fH+200kHz)



### High Band (fH+200 to fH+6MHz)

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

## §15.709(c)(4) Emission in the band of 602-620MHz Limits for TVBDs

### Requirements:

| Frequency<br>MHz | Field Strength<br>dBuV/m/120kHz |
|------------------|---------------------------------|
| 602-607          | 120-5[F(MHz)-602]               |
| 607-608          | 95                              |
| 608-614          | 30                              |
| 614-615          | 95                              |
| 615-620          | 120-5[620-F(MHz)]               |

Worst case limits for the respective bands,

| Frequency<br>MHz | Field Strength<br>dBuV/m/120kHz |
|------------------|---------------------------------|
| 602-607          | 95 (@607 MHz)                   |
| 607-608          | 95                              |
| 608-614          | 30                              |
| 614-615          | 95                              |
| 615-620          | 95 (@615 MHz)                   |

### Test Data:

#### Note:

The manufacturer restricts the transmission on Channel 35 in addition to Channels 36, 37 and 38 on the radio. The radio was tuned to transmit at the next adjacent channels (CH34 and CH39) during the emissions test at 602-620 MHz. The testing distance was 1m. Quasi-peak detector was used for measurement in the 608-614 MHz band.

- 602-620 MHz Emissions (with TX at CH 34)

| Emission<br>Frequency<br>MHz | Meter<br>Reading<br>dBuV | Det. | Ant.<br>Pol. | Coax<br>Loss<br>dB | Correction<br>Factor<br>dB/m | Field<br>Strength<br>dBuV/m | Worst<br>Case Limit<br>dBuV/m |
|------------------------------|--------------------------|------|--------------|--------------------|------------------------------|-----------------------------|-------------------------------|
| 605.91                       | 5.9                      | PK   | H            | 1.61               | 19.86                        | 27.37                       | 95                            |
| 607.98                       | 5.8                      | PK   | V            | 1.61               | 19.88                        | 27.29                       | 95                            |
| 608.01                       | 1.6                      | QP   | H            | 1.61               | 19.88                        | 23.06                       | 30                            |
| 608.02                       | 1.9                      | QP   | V            | 1.61               | 19.88                        | 23.42                       | 30                            |
| 616.47                       | 5.0                      | PK   | H            | 1.62               | 19.96                        | 26.58                       | 95                            |
| 616.76                       | 5.3                      | PK   | V            | 1.62               | 19.97                        | 26.89                       | 95                            |

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

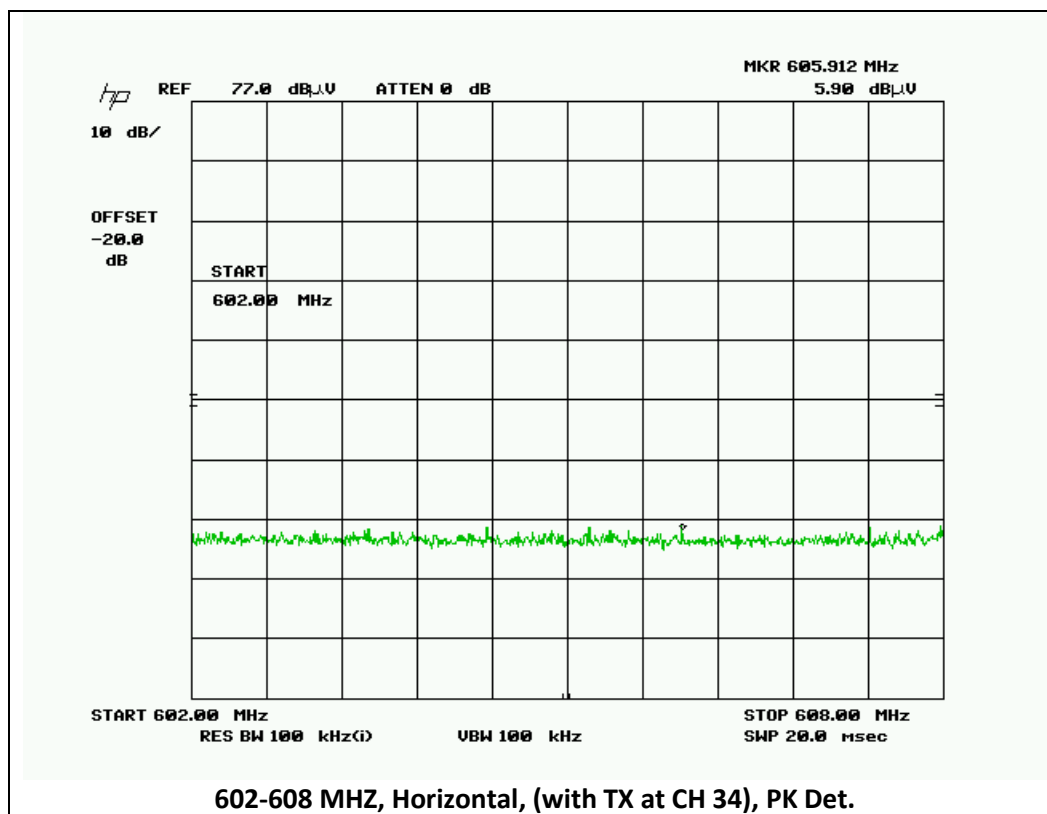
REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

- 602-620 MHz Emissions (with TX at CH 39)

| Emission Frequency MHz | Meter Reading dBuV | Det. | Ant. Pol. | Coax Loss dB | Correction Factor dB/m | Field Strength dBuV/m | Worst Case Limit dBuV/m |
|------------------------|--------------------|------|-----------|--------------|------------------------|-----------------------|-------------------------|
| 602.17                 | 5.9                | PK   | H         | 1.60         | 19.82                  | 27.32                 | 95                      |
| 603.15                 | 5.7                | PK   | V         | 1.60         | 19.83                  | 27.13                 | 95                      |
| 608.00                 | 1.6                | QP   | H         | 1.61         | 19.88                  | 23.11                 | 30                      |
| 608.01                 | 1.9                | QP   | V         | 1.61         | 19.88                  | 23.34                 | 30                      |
| 619.98                 | 14.6               | PK   | V         | 1.62         | 20.00                  | 36.22                 | 95                      |
| 620.00                 | 19.5               | PK   | H         | 1.62         | 20.00                  | 41.12                 | 95                      |

### Plots:

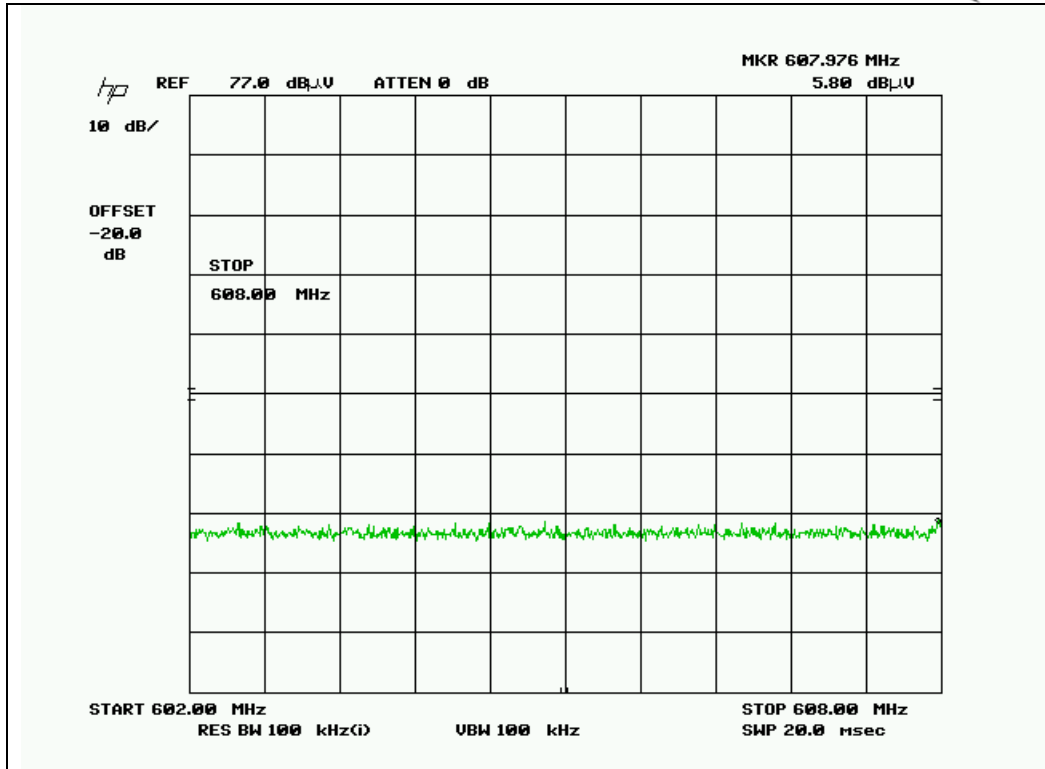
- 602-620 MHz Emissions (with TX at CH 34)



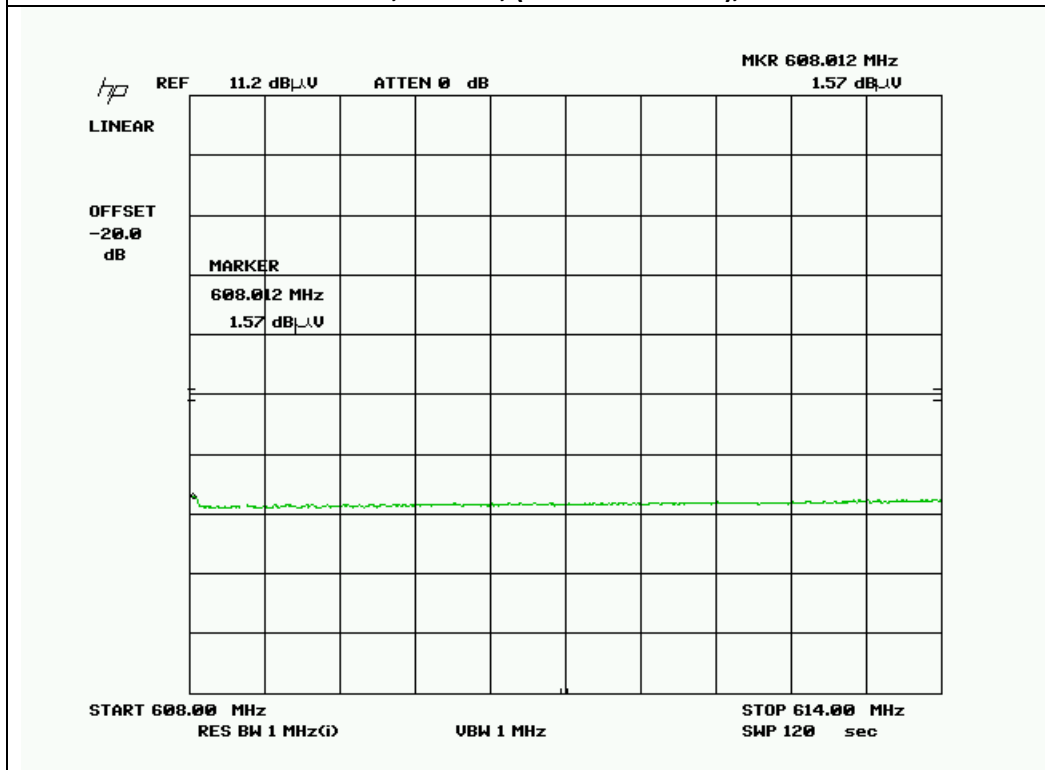
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



602-608 MHz, Vertical, (with TX at CH 34), PK Det.

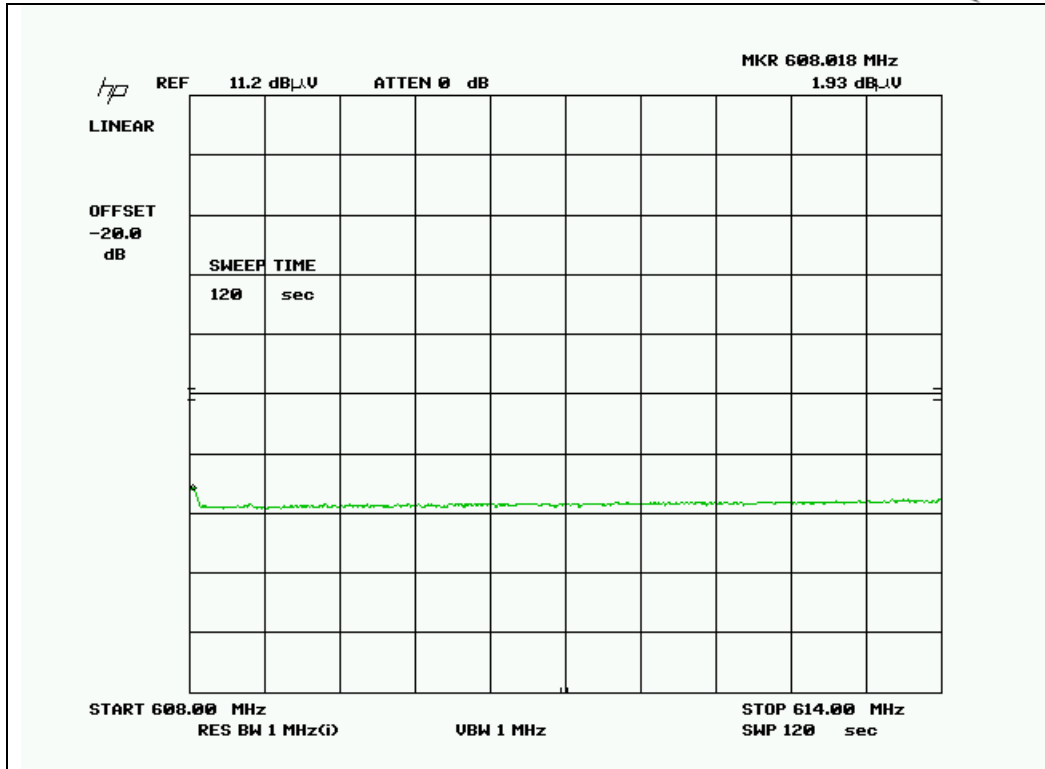


608-614 MHz, Horizontal, (with TX at CH 34), QP Det.

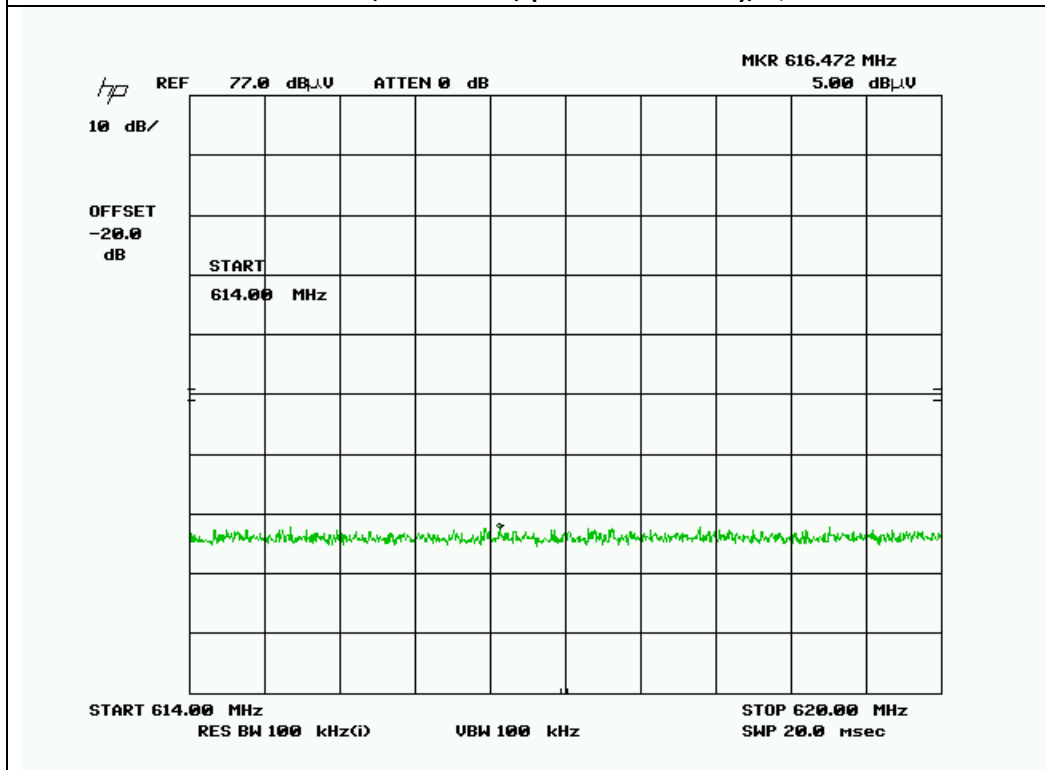
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



608-614 MHz, Horizontal, (with TX at CH 34), QP Det.

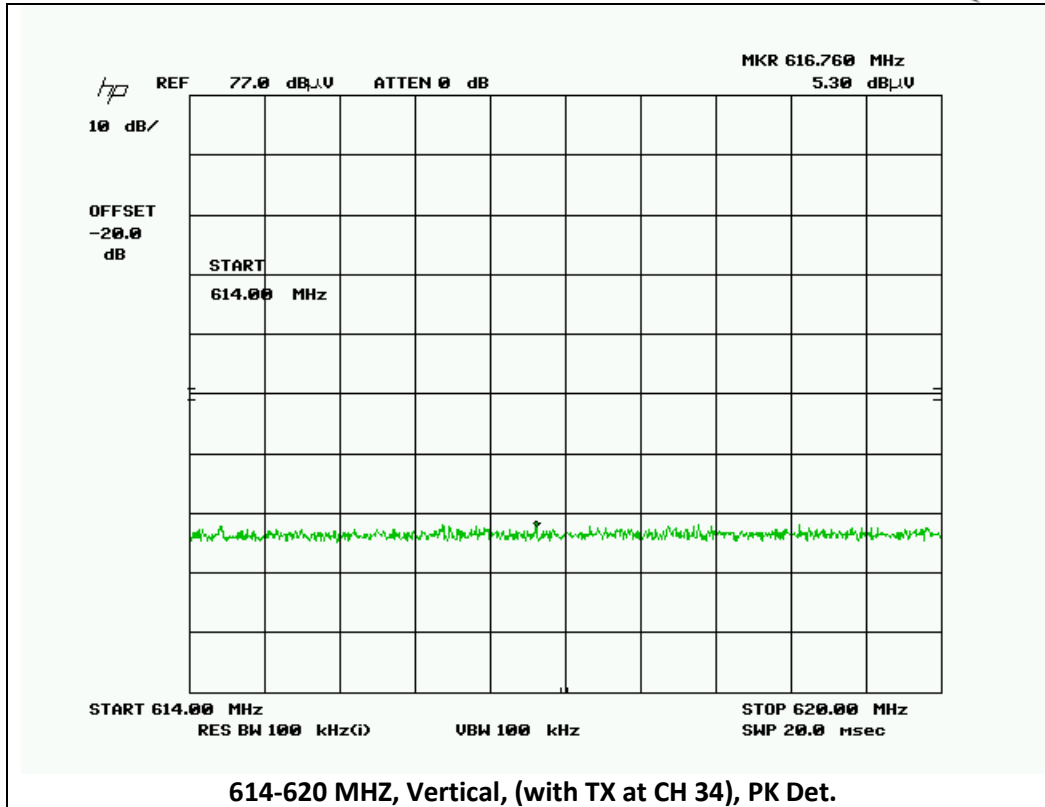


614-620 MHz, Horizontal, (with TX at CH 34), PK Det.

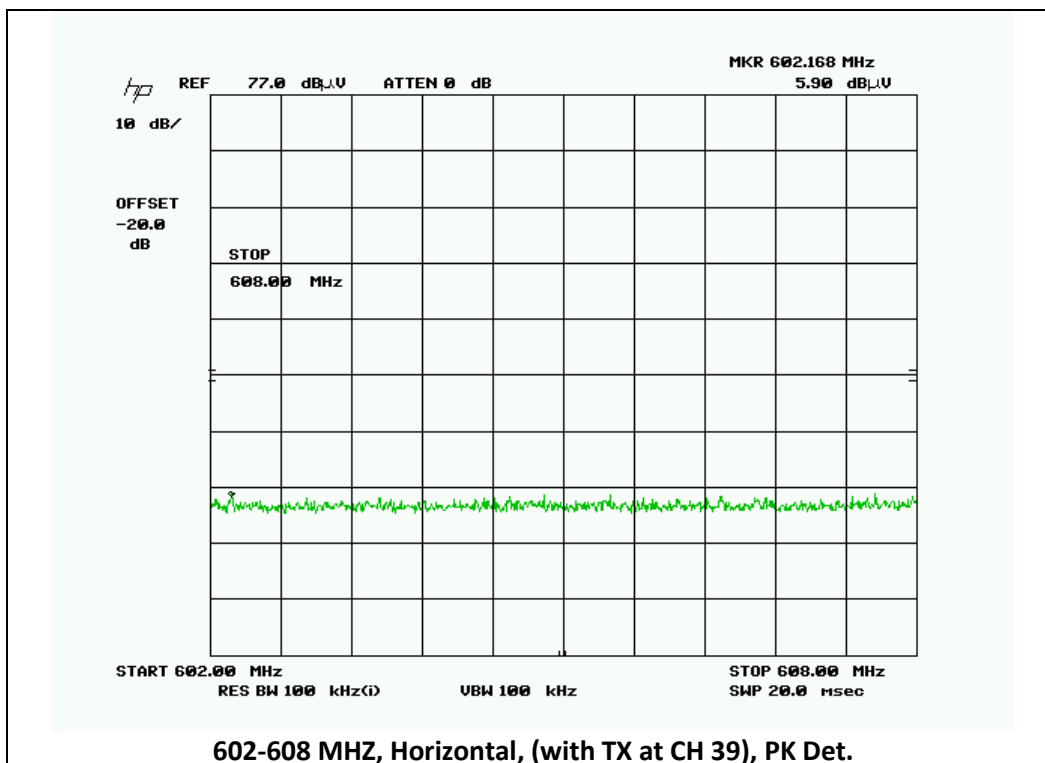
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



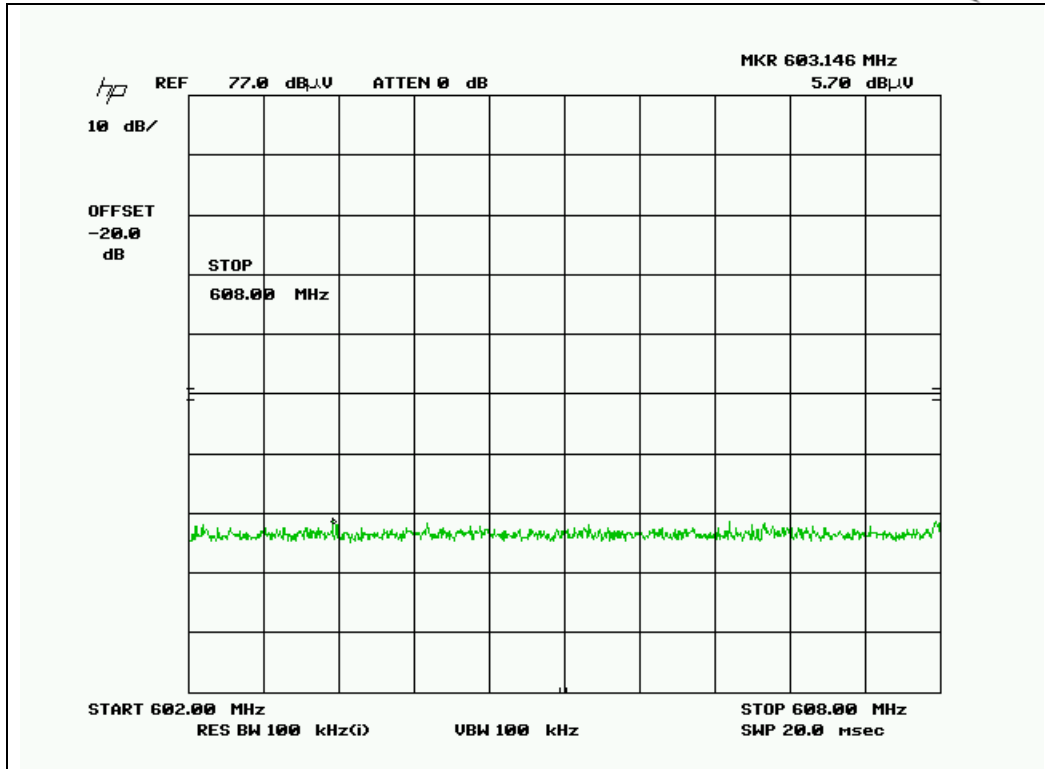
- 602-620 MHz Emissions (with TX at CH 39)



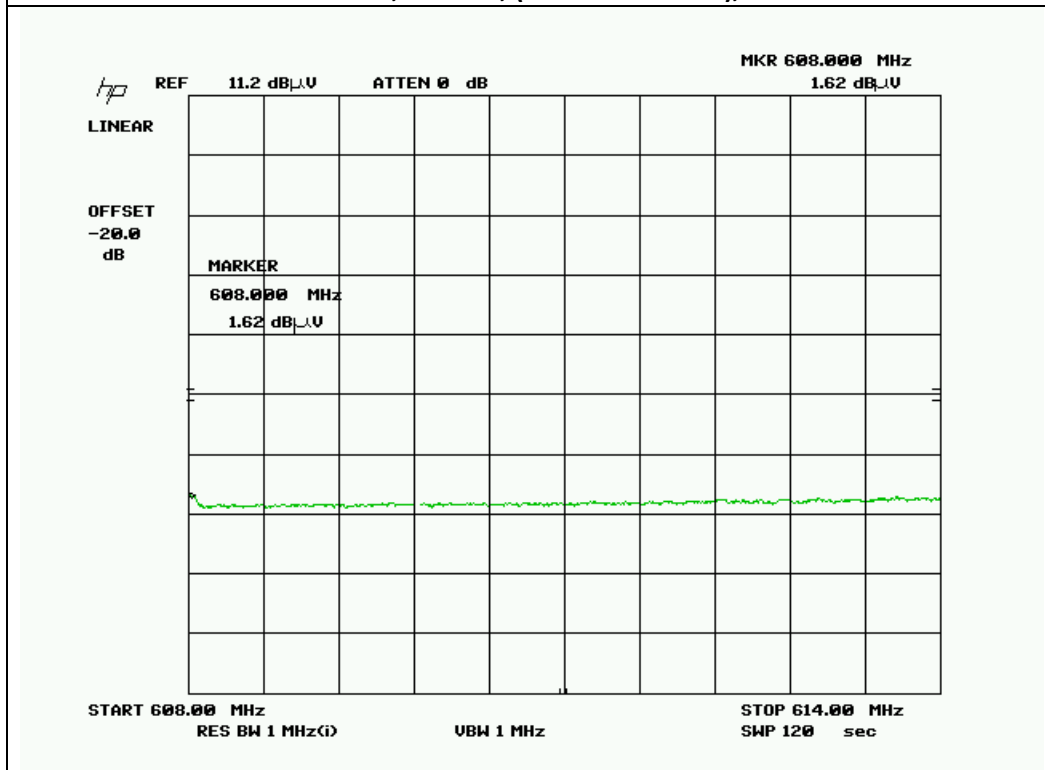
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



602-608 MHz, Vertical, (with TX at CH 39), PK Det.

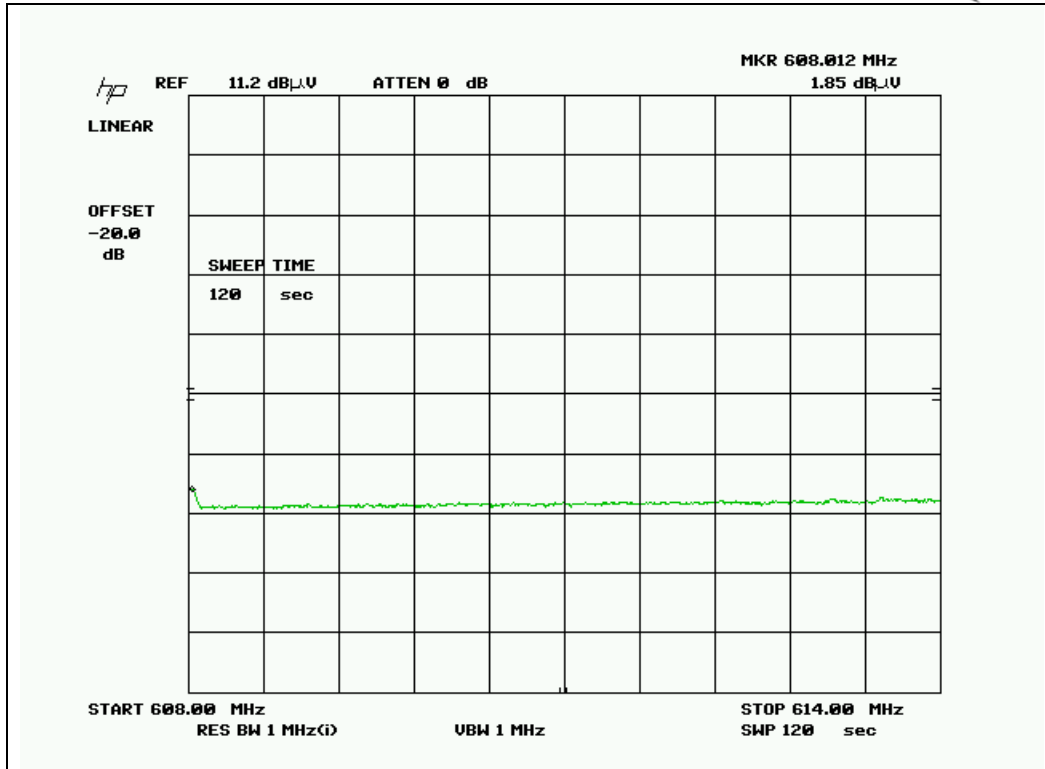


608-614 MHz, Horizontal, (with TX at CH 39), QP Det.

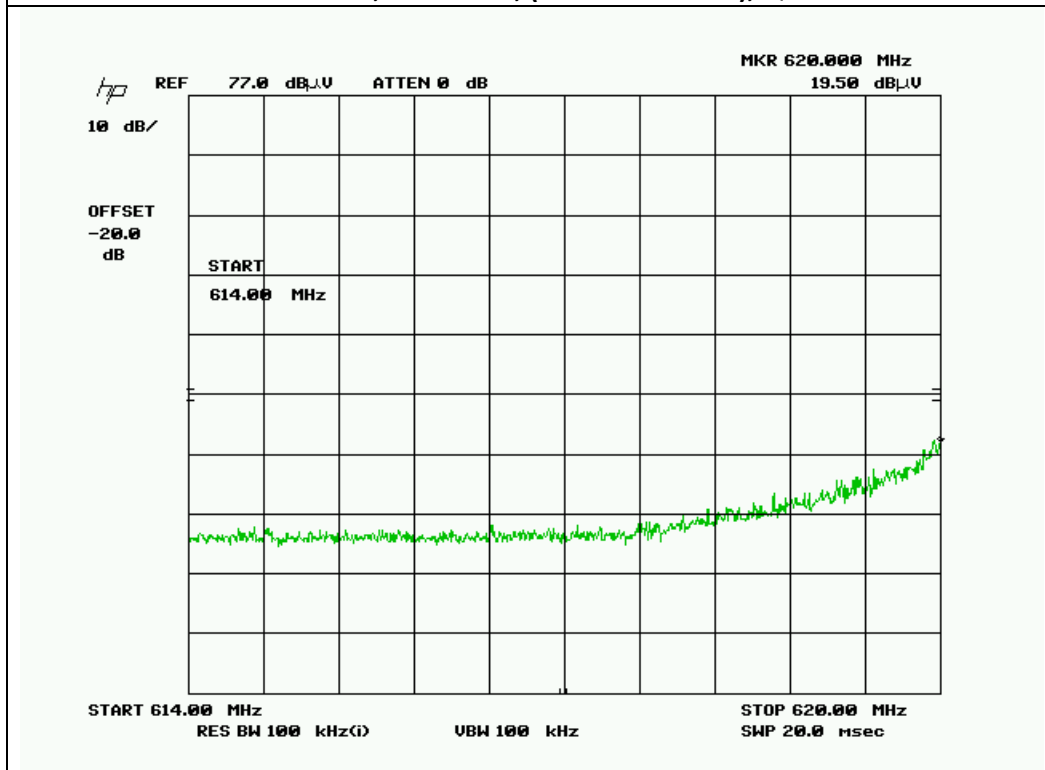
APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



608-614 MHz, Horizontal, (with TX at CH 39), QP Det.

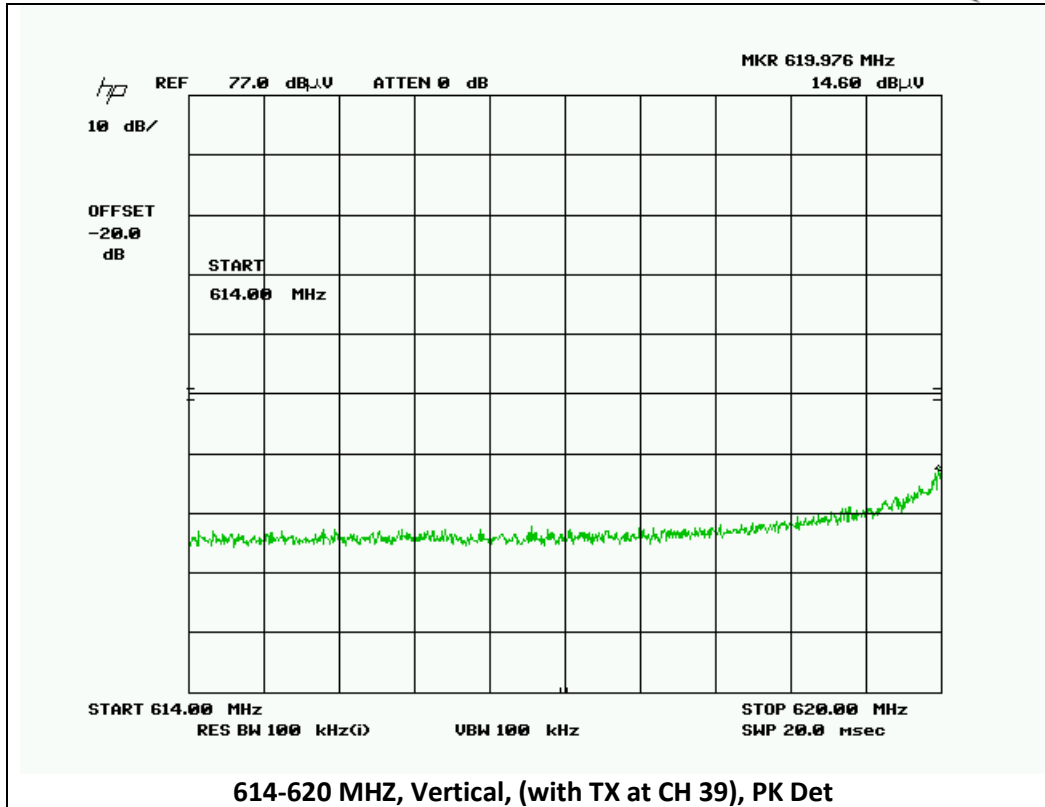


614-620 MHz, Horizontal, (with TX at CH 39), PK Det.

APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc



APPLICANT: Meld Technology, Inc.

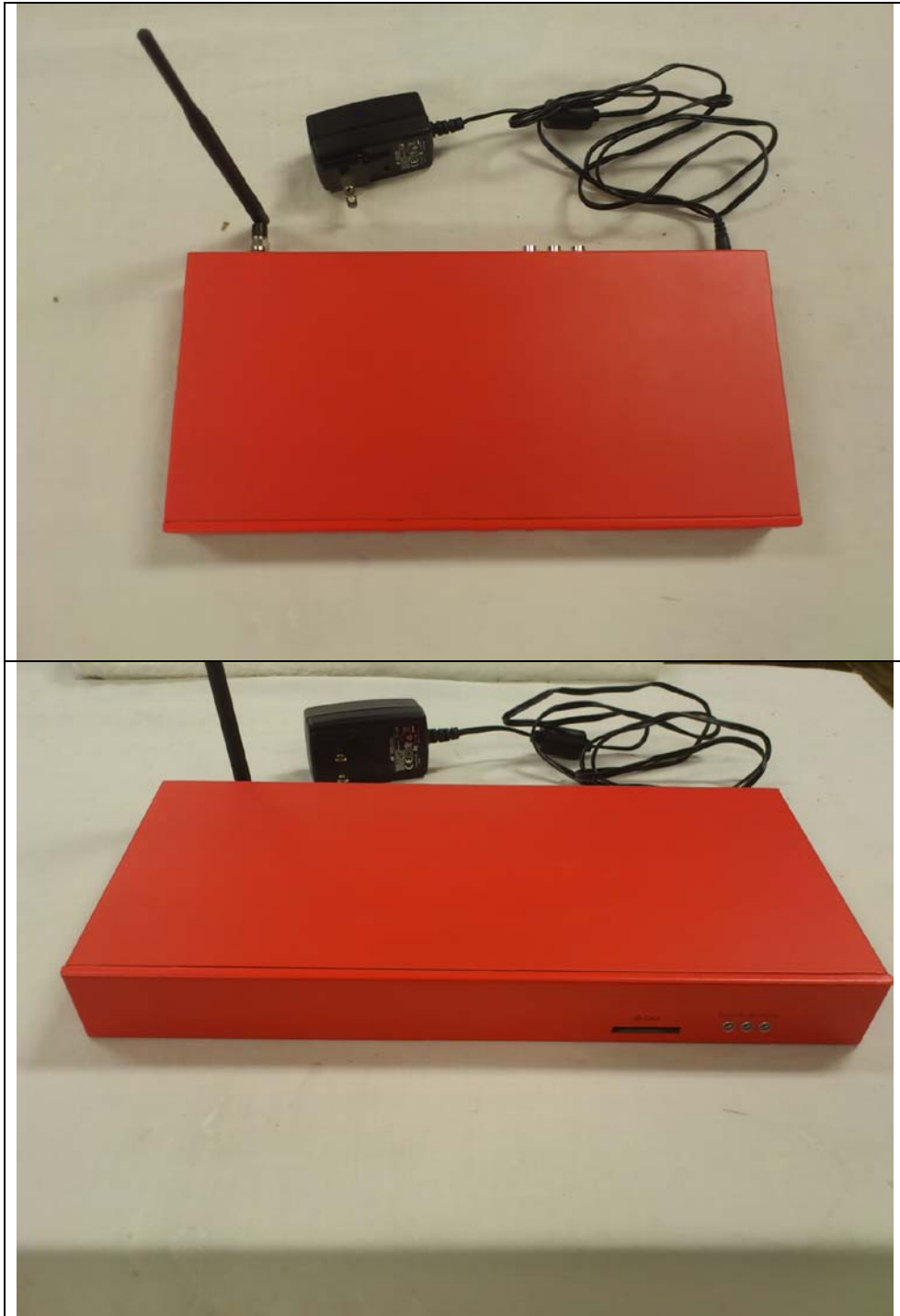
FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc

**§15.709(d) Compliance with RF Exposure Requirements:**

The output power is below the threshold for RF exposure.

**Product Photos**





APPLICANT: Meld Technology, Inc.

FCC ID: OKVMT300

REPORT: s/SPECTRUM BRIDGE/1695AUT12TestReport.doc