


Advanced
Compliance Laboratory

6 Randolph Way
Hillsborough, NJ 08844
Tel: (908) 927 9288
Fax: (908) 927 0728

**Electromagnetic
Emission
Compliance
Test Report**



| | |
|---------------------------------------|--|
| Equipment Under Test (EUT) | Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| Applicant | RF Extreme, LLC. |
| In Accordance With | FCC Part 2 FCC Part 74 |
| Test by | Advanced Compliance Laboratory, Inc. 6 Randolph Way Hillsborough, New Jersey 08844 |
| Authorized by | Wei Li Lab Manager |
| | Signature  |
| Date | June 18, 2009 |
| AC Lab Report Number | 0048-090528-01 |



Lab Code:200101-0

The test result in this report is supported and covered by the NVLAP accreditation.

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Section 1. Summary of Test Results

Manufacturer: RF Extreme, LLC.
Model No.: Tri-Band ChannelMaster Transmitter
TRICMTX7-L5E1.5C.5
Sample No.: ENGUNIT

General: **All measurements are traceable to national standards**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 2& Part 74.

New Submission Production Unit
 Class II Permissive Change Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

“See Summary of Test Data”



NVLAP LAB CODE: 200101-0

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Summary of Test Data

| | | | |
|---|---------------|---|----------|
| | | | |
| RF Power Output | 74.636/2.1046 | 12W (2G&7G Band) 1.5W (13G Band) EIRP | Complies |
| Occupied Bandwidth | 74.637/2.1049 | 18MHz (2G Band) 25MHz (7G &13G Band) | Complies |
| Spurious Emissions at Antenna Terminals | 74.637/2.1051 | -13 dBm | Complies |
| Field Strength of Spurious Emissions | 74.637/2.1051 | -13 dBm E.I.R.P. | Complies |
| Emission Limitation Mask | 74.637 | Mask | Complies |
| Frequency Stability vs. Voltage &Temperature | 74.661/2.1055 | 10/50ppm | Complies |

The estimated uncertainty of the test result is given as following. The method of uncertainty calculation is provided in Advanced Compliance Lab. Doc. No. 0048-01-01.

| | Prob. Dist. | Uncertainty(dB) | Uncertainty(dB) | Uncertainty(dB) |
|---------------------------------|-------------|-----------------|-----------------|-----------------|
| | | 30-1000MHz | 1-6.5GHz | Conducted |
| Combined Std. Uncertainty u_c | norm. | ± 2.36 | ± 2.99 | ± 1.83 |



Wei Li
 Lab Manager
 Advanced Compliance Lab

Date: June 18, 2009

Section 2. General Equipment Specification

| | | | | | |
|---|---|--|--|--|---|
| Supply Voltage | Nominal 115Vac Extended 90-132Vac, 60Hz | | | | |
| Frequency Range & Emission Designators | 2G Band | 1990.0 - 2110.0 MHz / 17M0F8W, 17M0D9W 1990.0 - 2110.0 MHz / 12M0F8W, 12M0D9W 2450.0 - 2483.5 MHz / 17M0F8W, 17M0D9W 2450.0 - 2483.5 MHz / 12M0F8W, 12M0D9W | | | |
| | 7G Band | 6425.0 - 6525.0 MHz / 25M0F8W, 25M0D9W 6875.0 - 7125.0 MHz / 25M0F8W, 25M0D9W | | | |
| | 13G Band | 12.700 - 13.250 GHz / 25M0F8W, 25M0D9W | | | |
| Modulations | All Bands | Digital QPSK (D9W) <input checked="" type="checkbox"/> | Digital 16QAM (D9W) <input checked="" type="checkbox"/> | Digital 64QAM (D9W) <input checked="" type="checkbox"/> | Analog (F8W) <input checked="" type="checkbox"/> |
| Rated Power | 2G Band: 12W for Analog & 3W for Digital 7G Band: 5W for Analog & 1.5W for Digital 13G Band: 1.5W for Analog & 0.5W for Digital | | | | |
| Output Impedance | 50ohm | | | | |
| Frequency Translation | All Bands | F1-F1 <input checked="" type="checkbox"/> | F1-F2 <input type="checkbox"/> | N/A <input type="checkbox"/> | |
| | | Software <input type="checkbox"/> | Duplexer Change <input type="checkbox"/> | Full Band Coverage <input checked="" type="checkbox"/> | |

DC voltages and DC currents per 2.1033(c)(8)

The input supply to the RF Circuitry was set as followings:

2GHz Band: 28Vdc /1.5A; 7GHz Band: 11Vdc /3.1A; 13GHz Band: 11Vdc/2.2A.

The RF power output was measured with the indicated voltage and current applied into the final RF amplifying device(s).

Measured Maximum RF output : 40.7dBm (12W)

Measured Minimum RF output: 0 dBm

Tune-up procedure per 2.1033(c) (9)

There are no user accessible adjustments or tuning in this portable Transmitter. All necessary adjustments and tuning are performed during manufacture of the product. Any adjustments or tuning after service or repair are done as part of that process as special equipment is required to perform such adjustments.

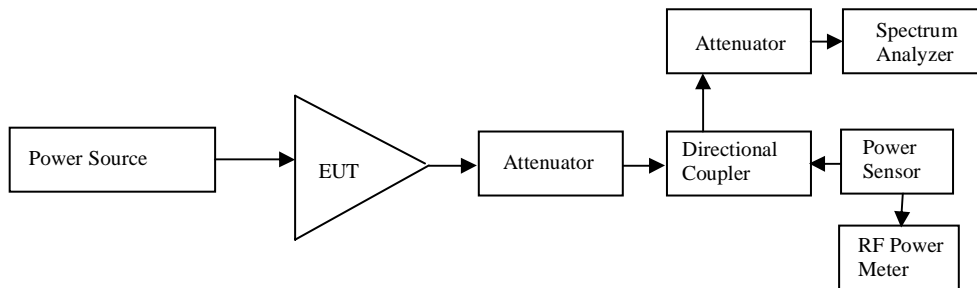
Description of Operation

Tri-band ChannelMaster TX7 is a Digital-Analog Portable Microwave Transmitter. The tripod mounted Microwave Transmitter System is designed to operate in any specified 2G & 7G & 13G band.

System Diagram

See Attachment.

General EUT Setup



Testing Frequency/Channel/Port Selection:

- L(owest), M(iddle), H(ighest) Channels of each 2G, 7G and 13G Bands.
- Measured at EUT's antenna port.
- Using internal Color Bar generator as testing signal source
- Complete Channel Plan: refer to user manual Sec. 3.1

Section 3. RF Output Power

| | | | |
|----------------------|------------------------|-----------------------|-----------------------|
| Name of Test: | <i>RF Output Power</i> | Test Standard: | <i>74.636/2.1046</i> |
| Tested By: | WEI LI | Test Date: | 05/28/2009-06/15/2009 |

Minimum Standard:

Refer to FCC Part 74.636(a)/2.1046: Power Limit

| Frequency Band (MHz) | Maximum Allowable Transmitter Power (W) |
|----------------------|---|
| 1,990 to 2,110 | 12.0 (40.79dBm) |
| 2,450 to 2,483.5 | 12.0 |
| 6,425 to 6,525 | 12.0 |
| 6,875 to 7,125 | 12.0 |
| 12,700 to 13,250 | 1.5 (31.76dBm) |

Method of Measurement:

Detachable Antenna:

The average/peak power at antenna terminals is measured using power meter.

Integral Antenna:

If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation

$$\frac{GP}{4\pi R^2} = \frac{E^2}{120\pi}$$

and proceeding as follows:

$$P = \frac{E^2 R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts

E = the maximum measured field strength in V/m

R = the measurement range (3 meters)

G = the numeric gain of the transmit antenna in relation to an isotropic radiator

Test Result:

Complies

Test Data:

| Band | Freq Channel | Transmitter Power (dBm) | | | | FCC Limit (dBm) | Min. Margin |
|--------|-----------------------|--------------------------|------------|------------|---------|-----------------|-------------|
| | | QPSK High | 16QAM High | 64QAM High | FM High | | |
| 2 GHz | 1999 CH-1 | 34.53 | 34.56 | 34.57 | 40.68 | 40.79 | -0.11 |
| | 2050.50 CH-4 | 34.67 | 34.64 | 34.73 | 40.76 | 40.79 | -0.03 |
| | 2101.5 CH-7 | 34.70 | 34.70 | 34.72 | 40.63 | 40.79 | -0.16 |
| | 2458.5 CH-8 | 34.60 | 34.60 | 34.56 | 40.70 | 40.79 | -0.09 |
| | 2475.25 CH-9 | 34.33 | 34.34 | 34.35 | 40.66 | 40.79 | -0.13 |
| 7 GHz | 6438 CH-21 | 32.30 | 30.81 | 30.88 | 37.66 | 40.79 | -3.13 |
| | 6471 CH-22+ | 31.93 | 30.61 | 30.72 | 37.66 | 40.79 | -3.13 |
| | 6513 CH-24 | 32.20 | 30.80 | 30.81 | 37.62 | 40.79 | -3.17 |
| | 6887.5 CH-1 | 31.09 | 29.80 | 29.71 | 37.31 | 40.79 | -3.48 |
| | 7006.25 CH-6- | 31.29 | 29.87 | 29.8 | 37.00 | 40.79 | -3.79 |
| | 7112.5 CH-10 | 31.51 | 30.33 | 30.20 | 37.05 | 40.79 | -3.74 |
| 13 GHz | 12712.5 0 CH-1 | 26.87 | 26.91 | 26.86 | 31.62 | 31.76 | -0.14 |
| | 12937.5 0 CH-10 | 26.58 | 26.53 | 26.53 | 31.49 | 31.76 | -0.27 |
| | 13237.5 CH-22 | 25.99 | 26.07 | 25.96 | 31.07 | 31.76 | -0.69 |

Section 4. Occupied Bandwidth

| | | | |
|----------------------|---------------------------|-----------------------|-----------------------|
| Name of Test: | <i>Occupied Bandwidth</i> | Test Standard: | <i>74.637/2.1049</i> |
| Tested By: | WEI LI | Test Date: | 05/28/2009-06/15/2009 |

Minimum Standard: Part 74.637(g)
 (g) *The maximum bandwidth which will be authorized per frequency assignment is set out in the table which follows. Regardless of the maximum authorized bandwidth specified for each frequency band, the Commission reserves the right to issue a license for less than the maximum bandwidth if it appears that less bandwidth would be sufficient to support an applicant's intended communications.*

| Frequency Band (MHz) | Maximum Authorized Bandwidth (MHz) |
|----------------------|------------------------------------|
| 1,990 to 2,110 | 18 |
| 2,450 to 2,483.5 | 18 |
| 6,425 to 6,525 | 25 |
| 6,875 to 7,125 | 25 |
| 12,700 to 13,250 | 25 |

Method of Measurement: Spectrum Analyzer Settings:
 RBW: 1~3% of Signal Channel BW
 VBW: \geq RBW
 Span: As required
 Sweep: Auto
 Input Signal Characteristics:
 RF level: Maximum Gain recommended by manufacturer

Test Result:

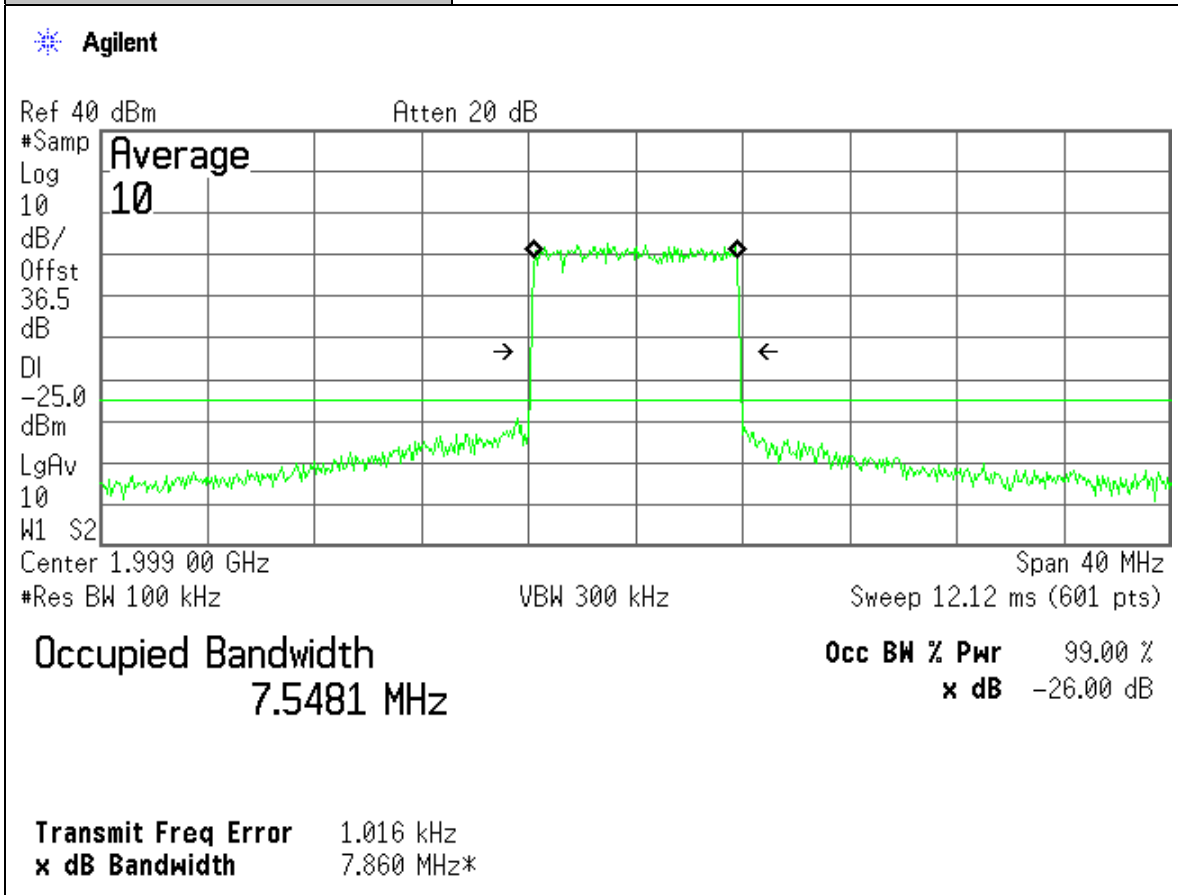
Complies

Test Data:

Attached Plots

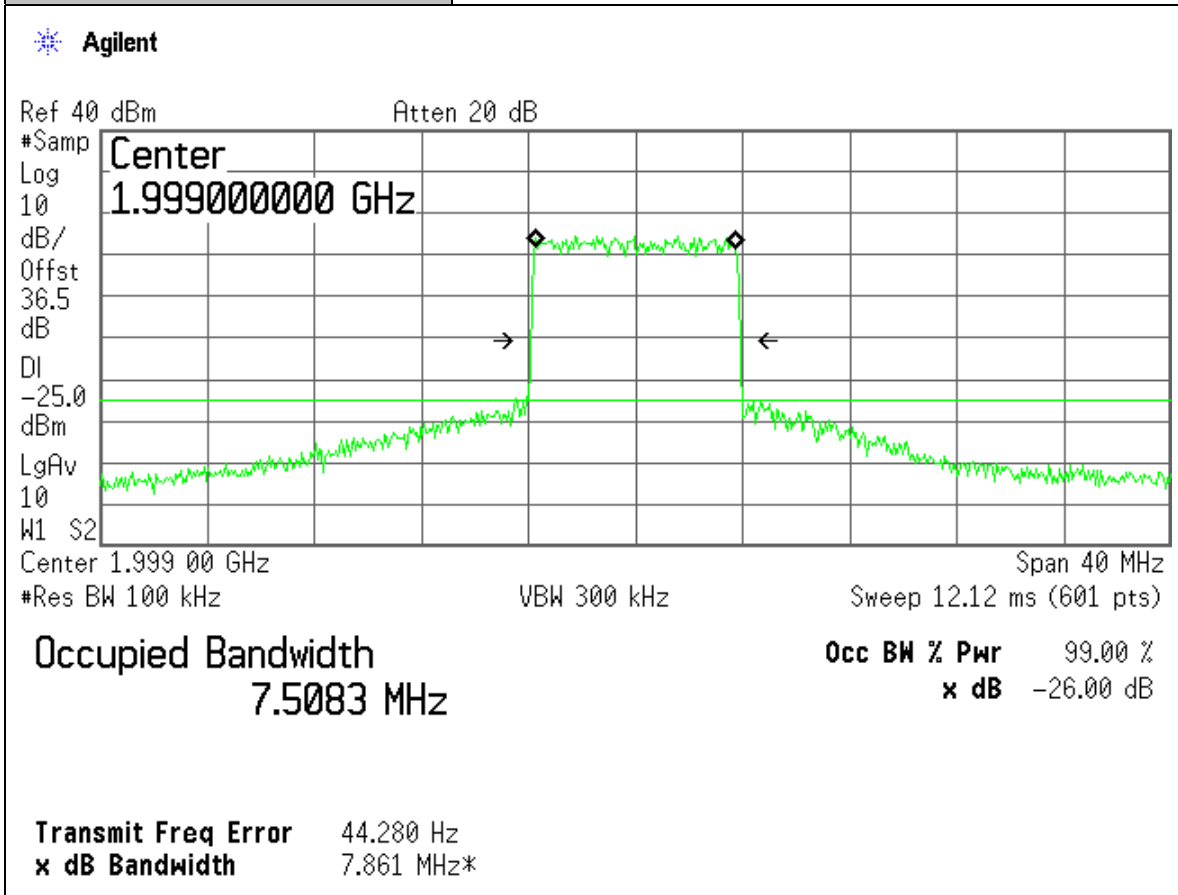
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-1, 1999MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



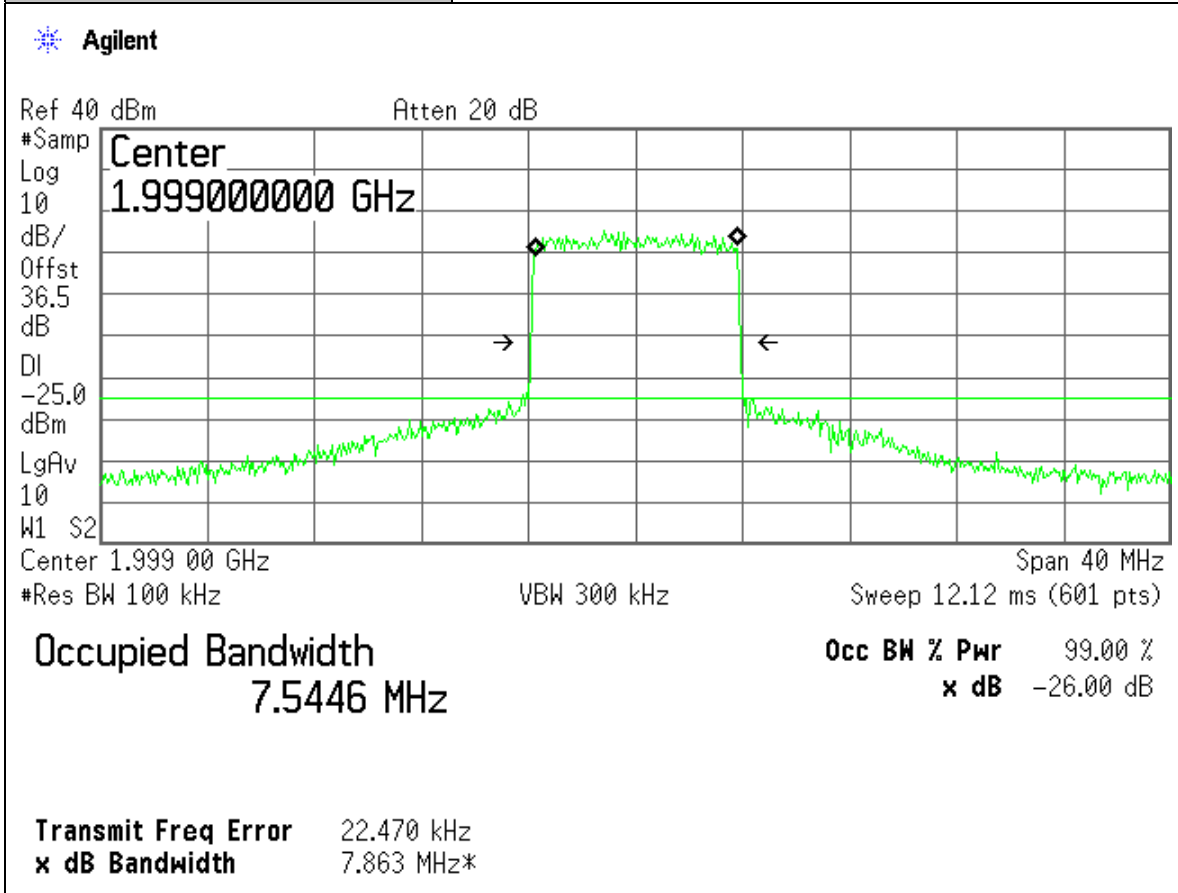
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-1, 1999MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



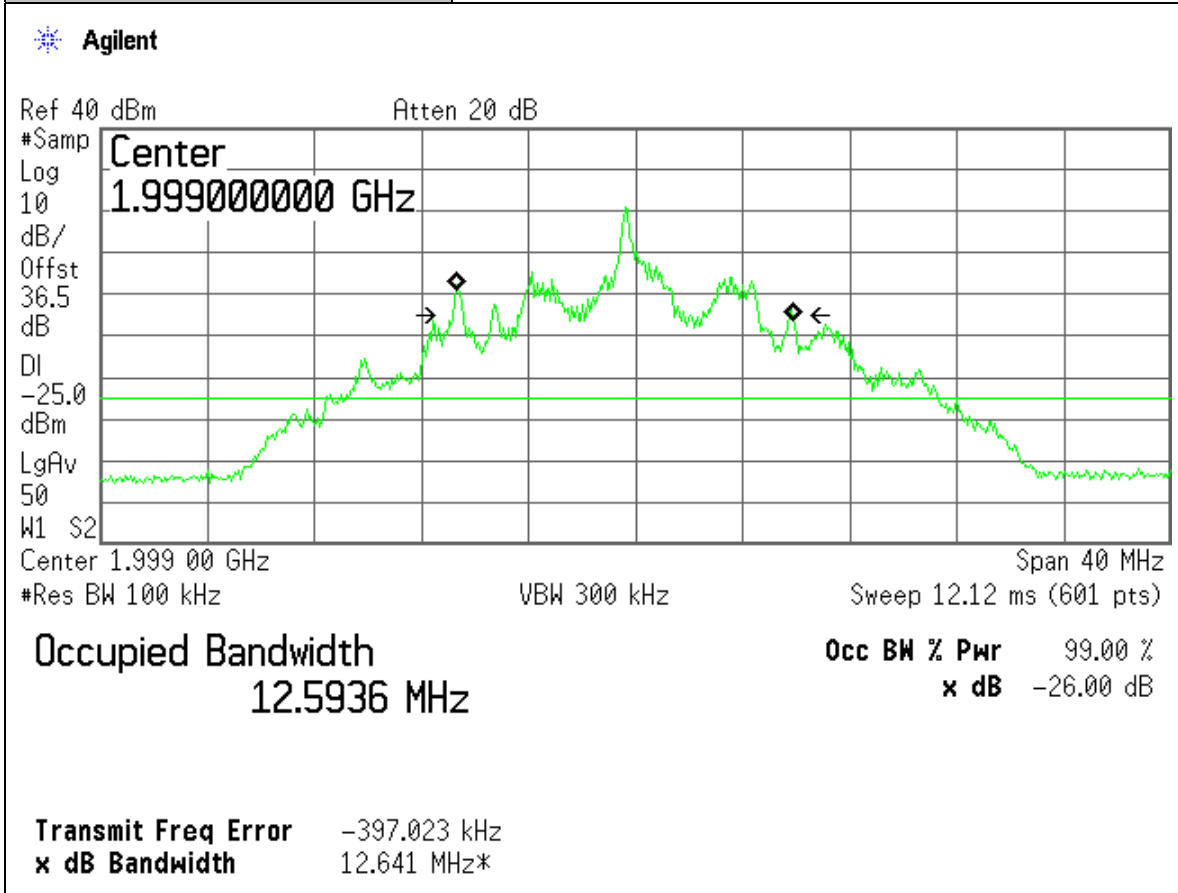
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-1, 1999MHz , 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



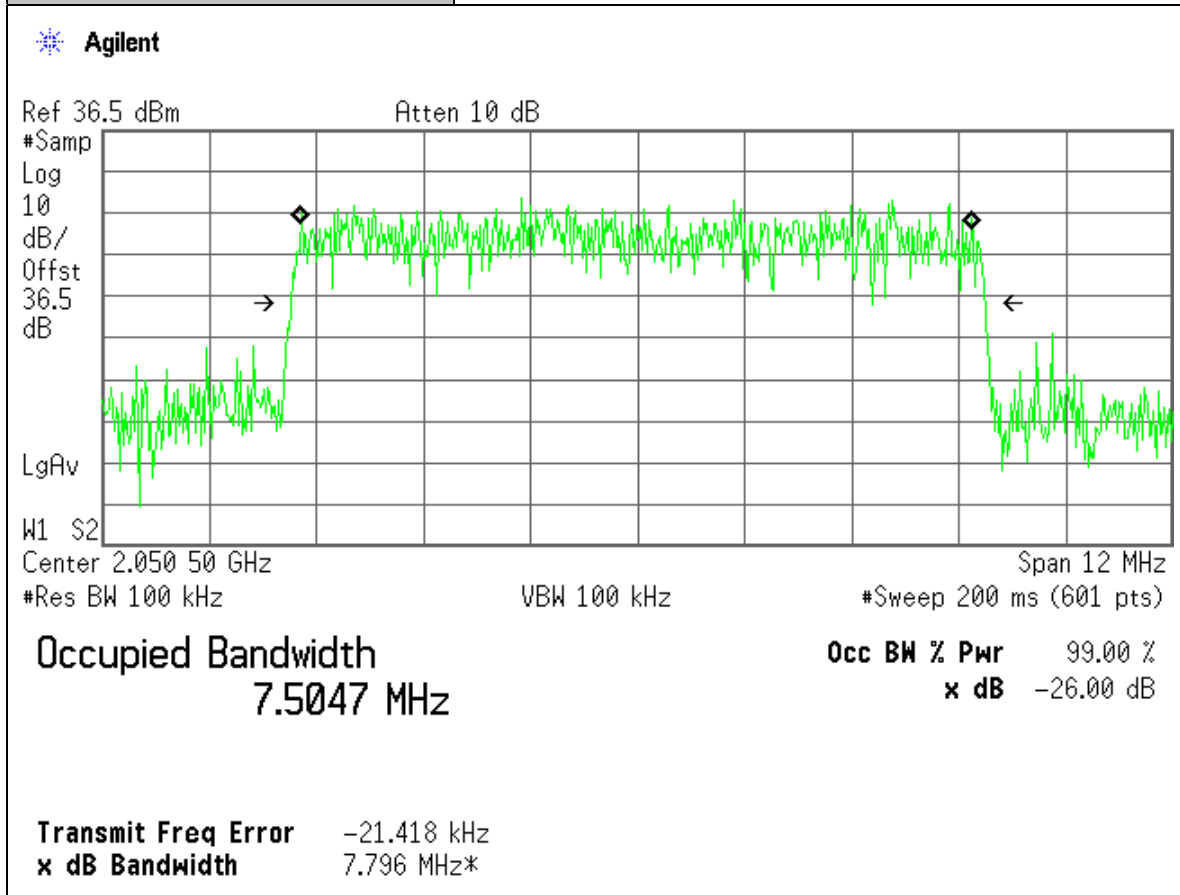
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-1, 1999MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



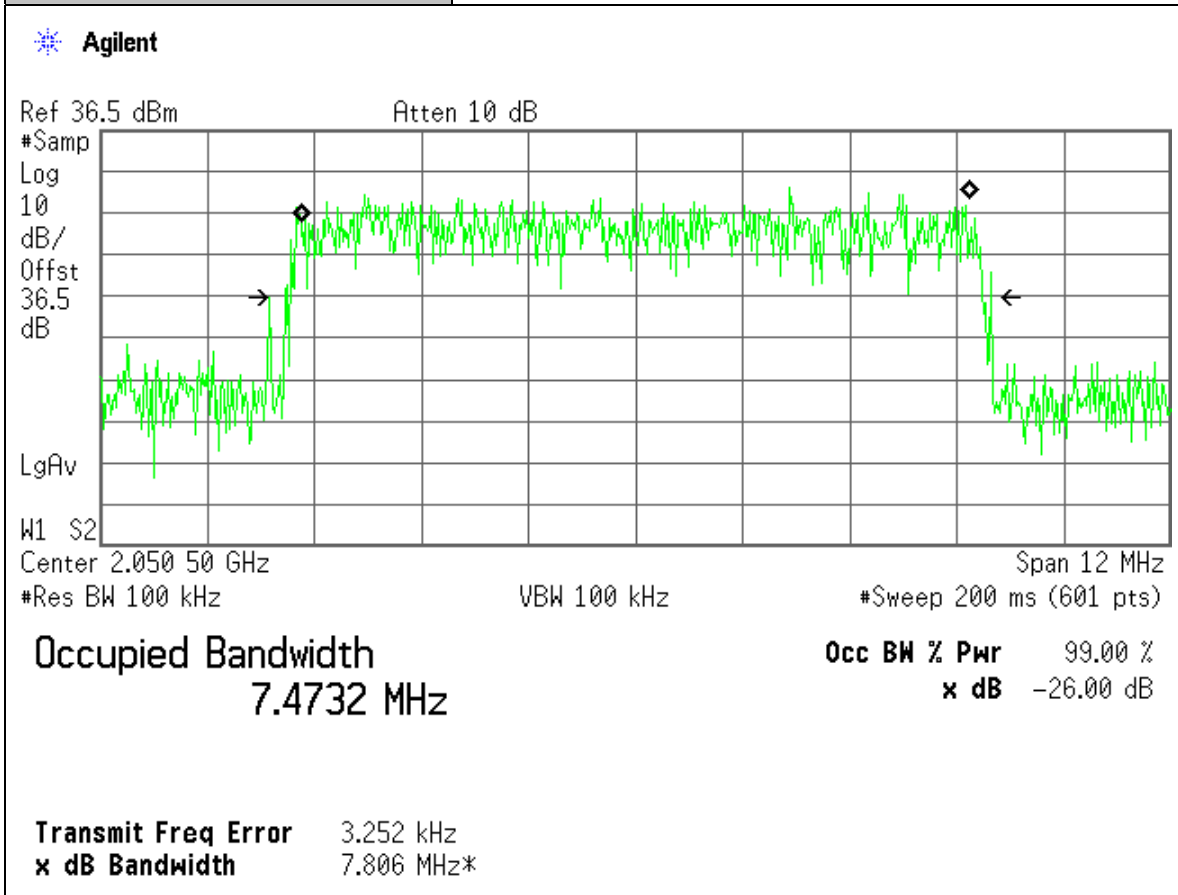
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



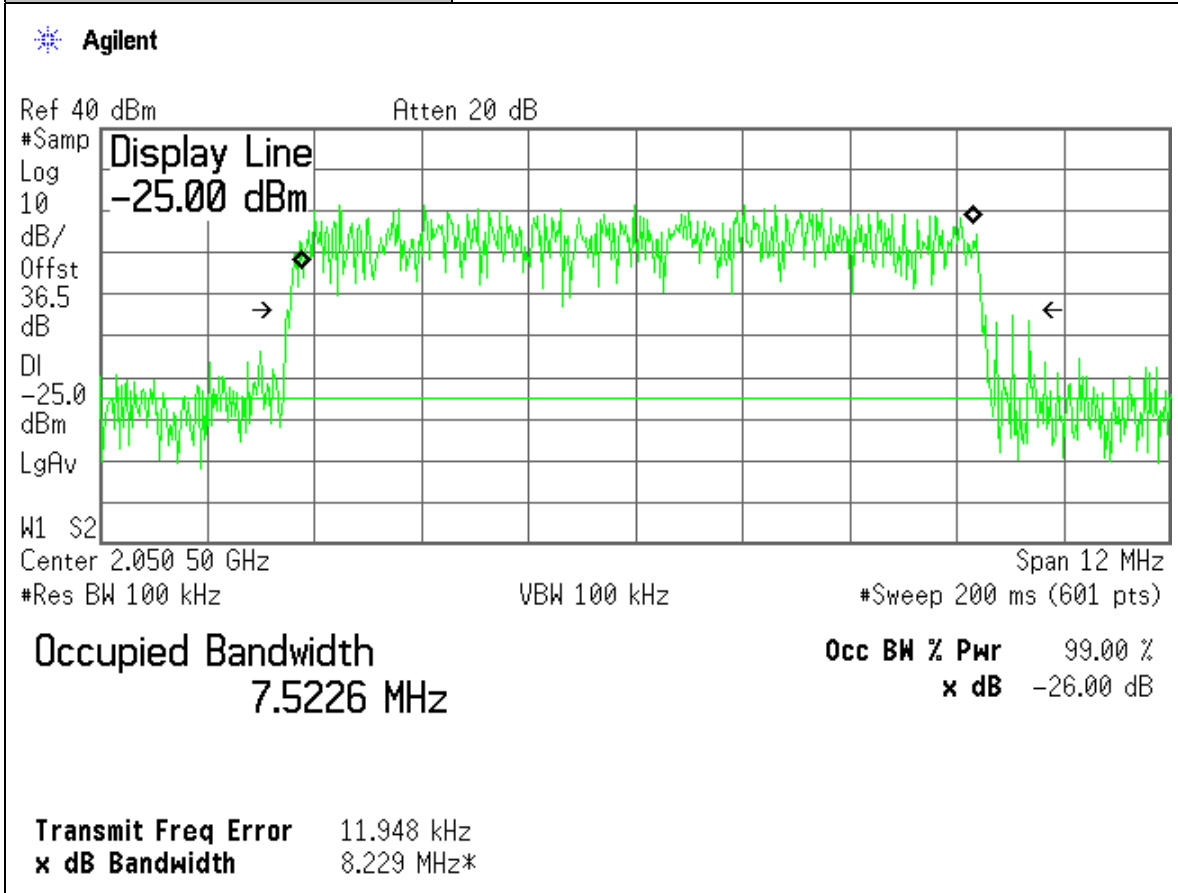
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



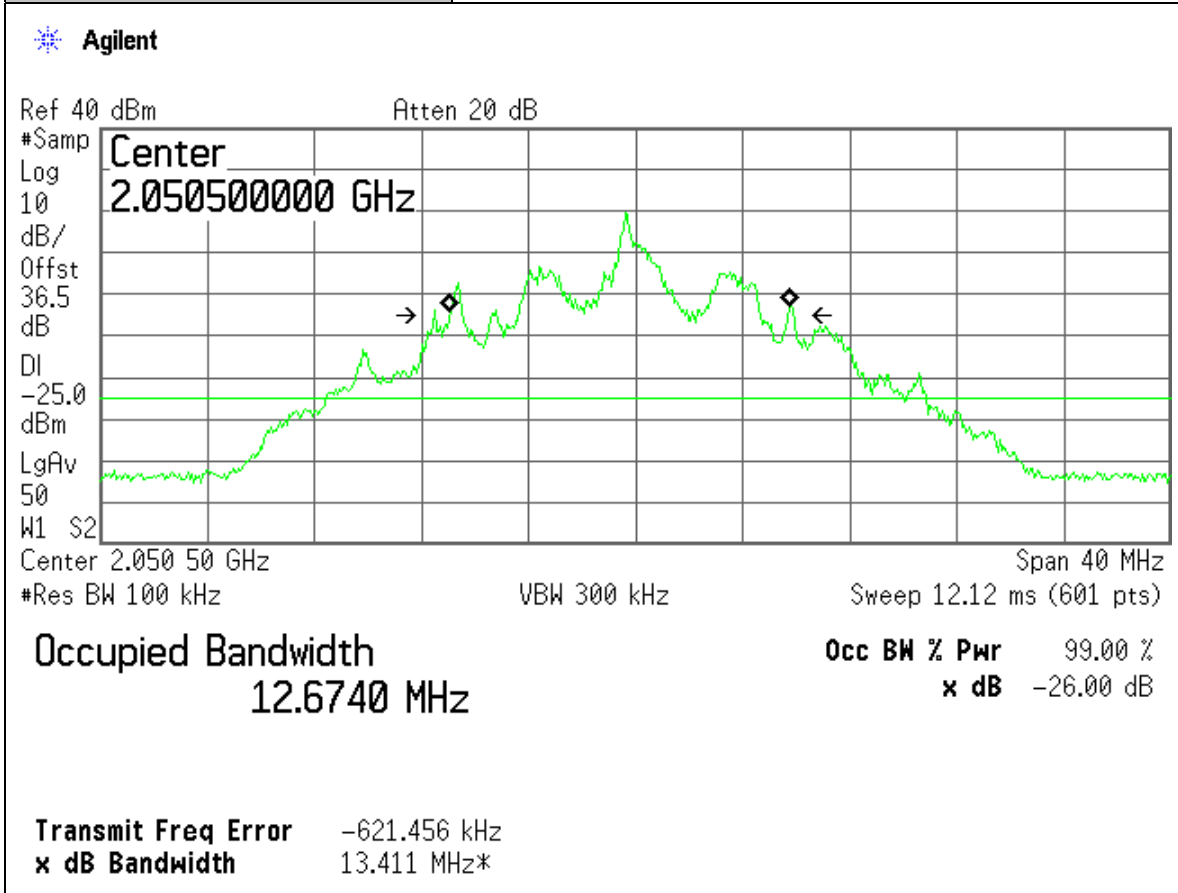
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



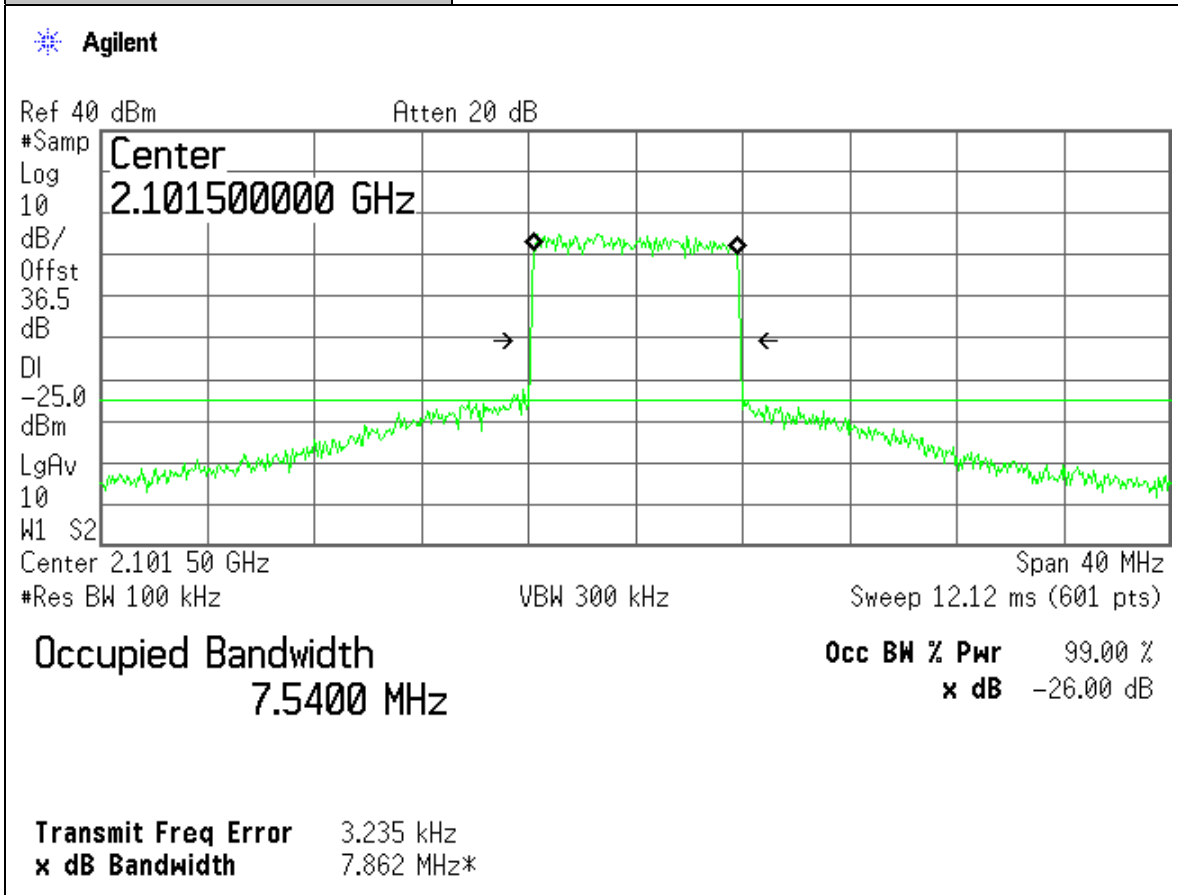
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



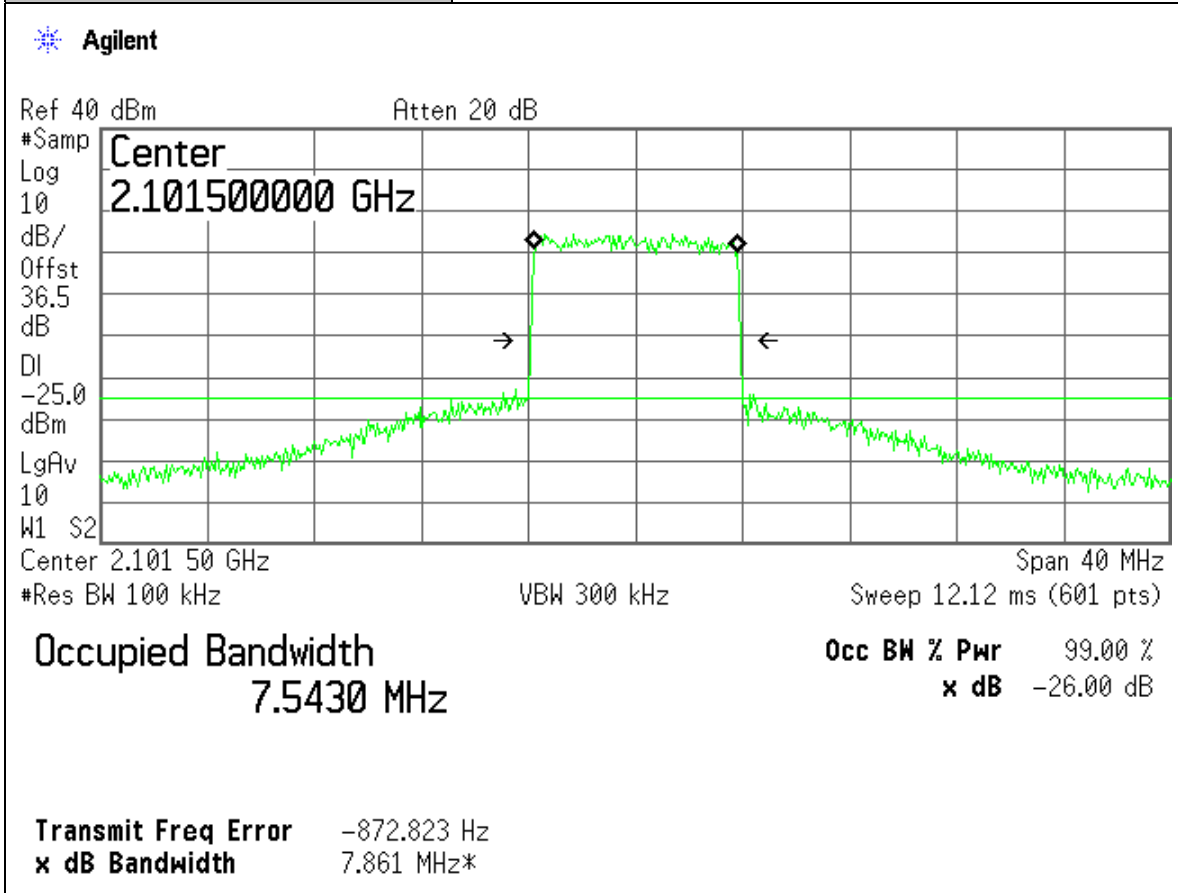
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



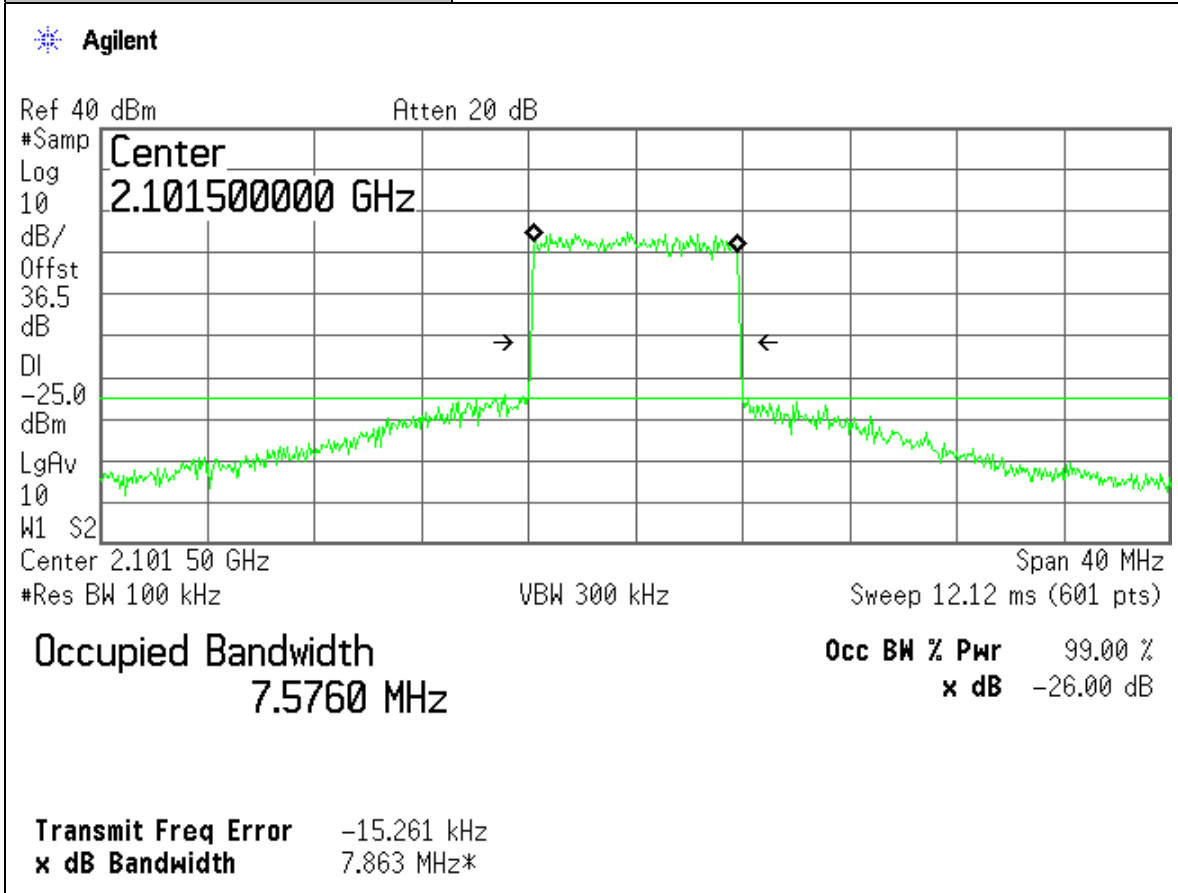
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



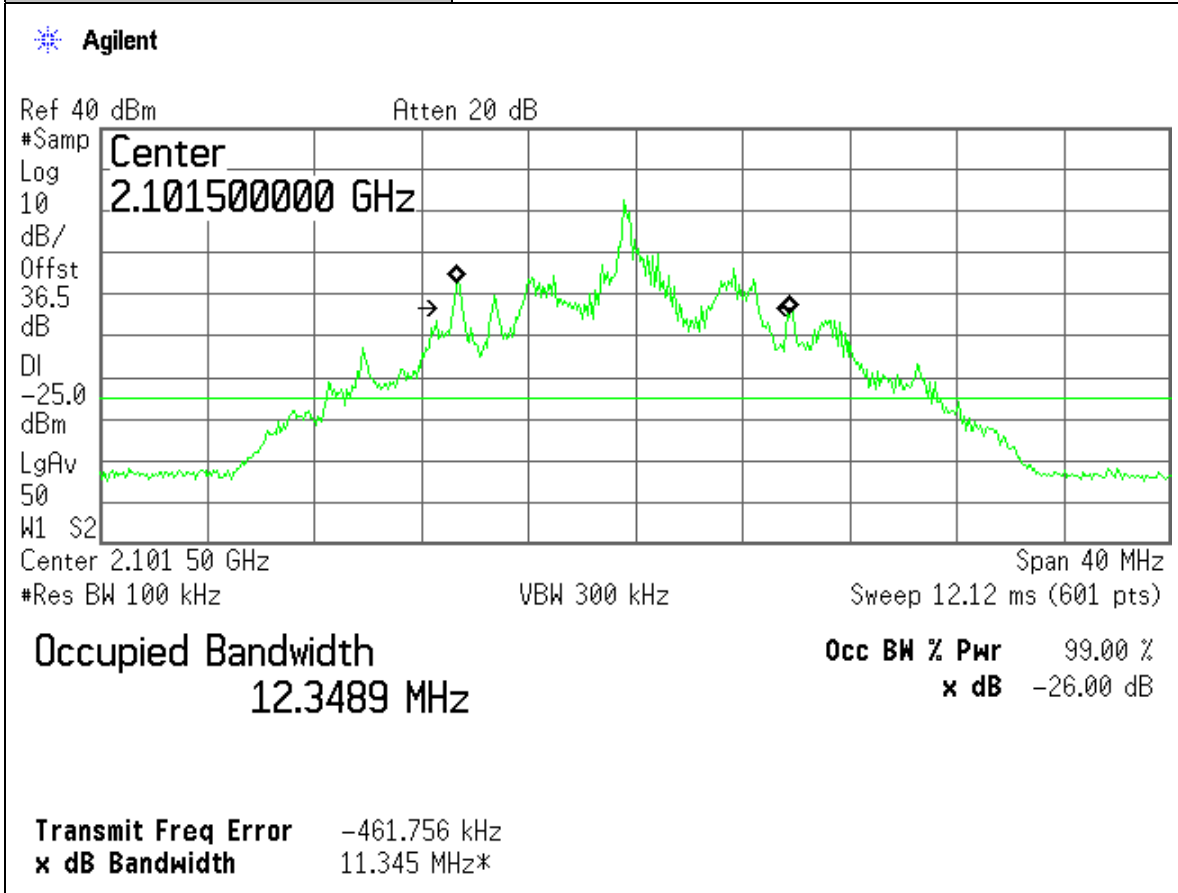
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



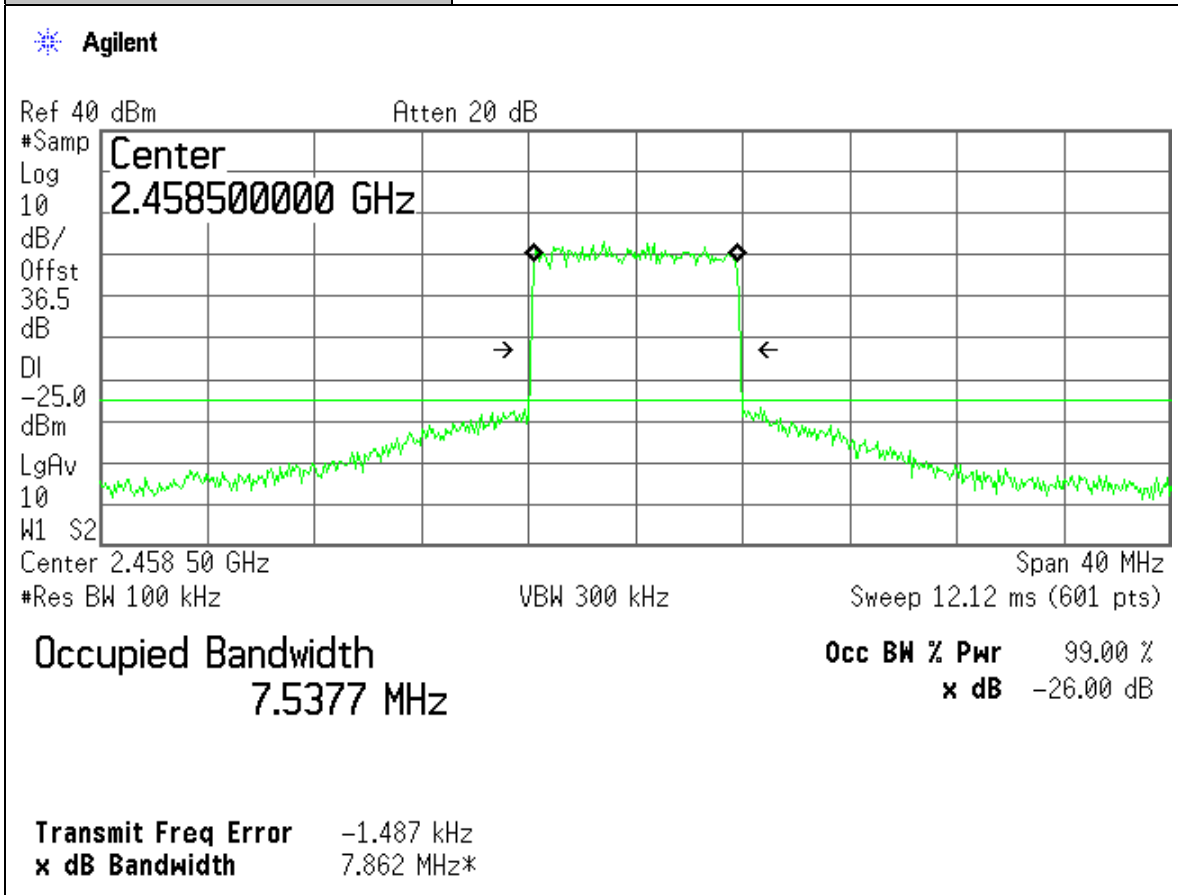
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



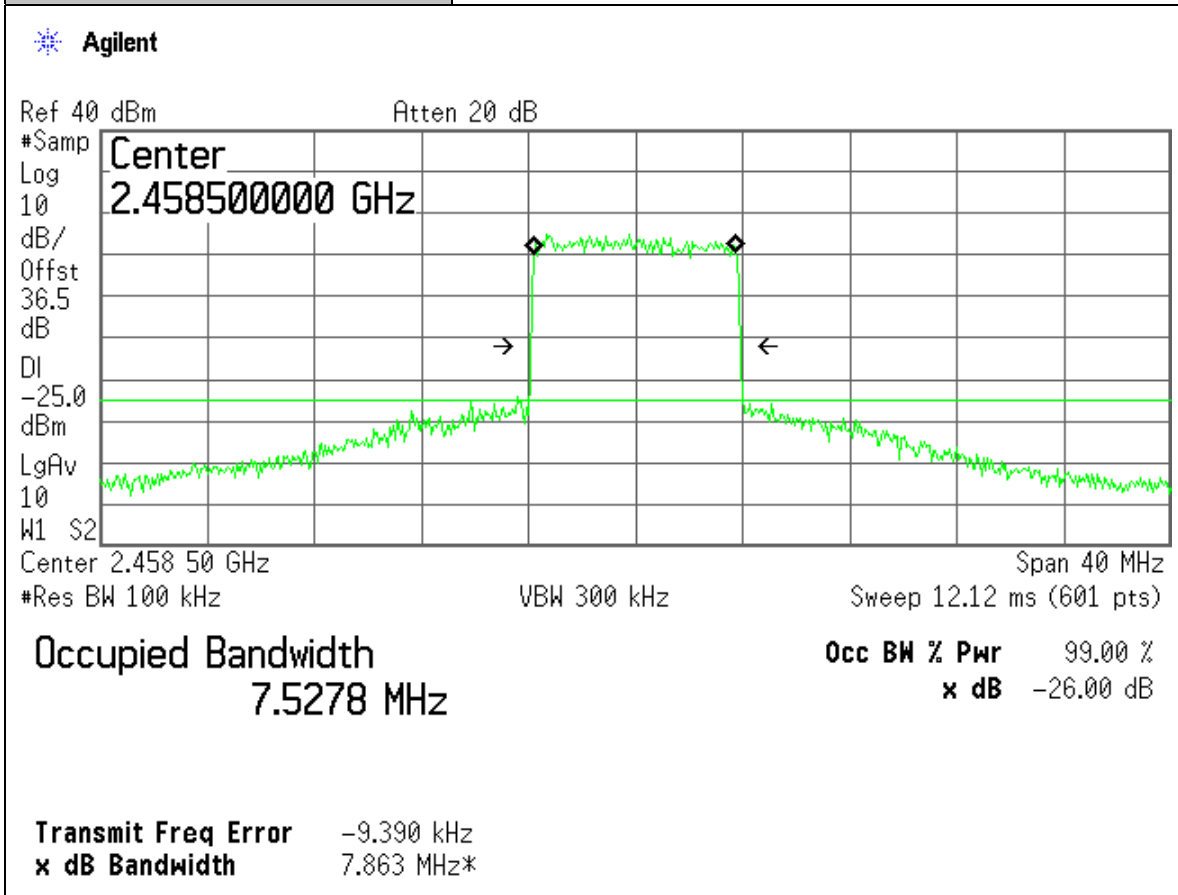
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



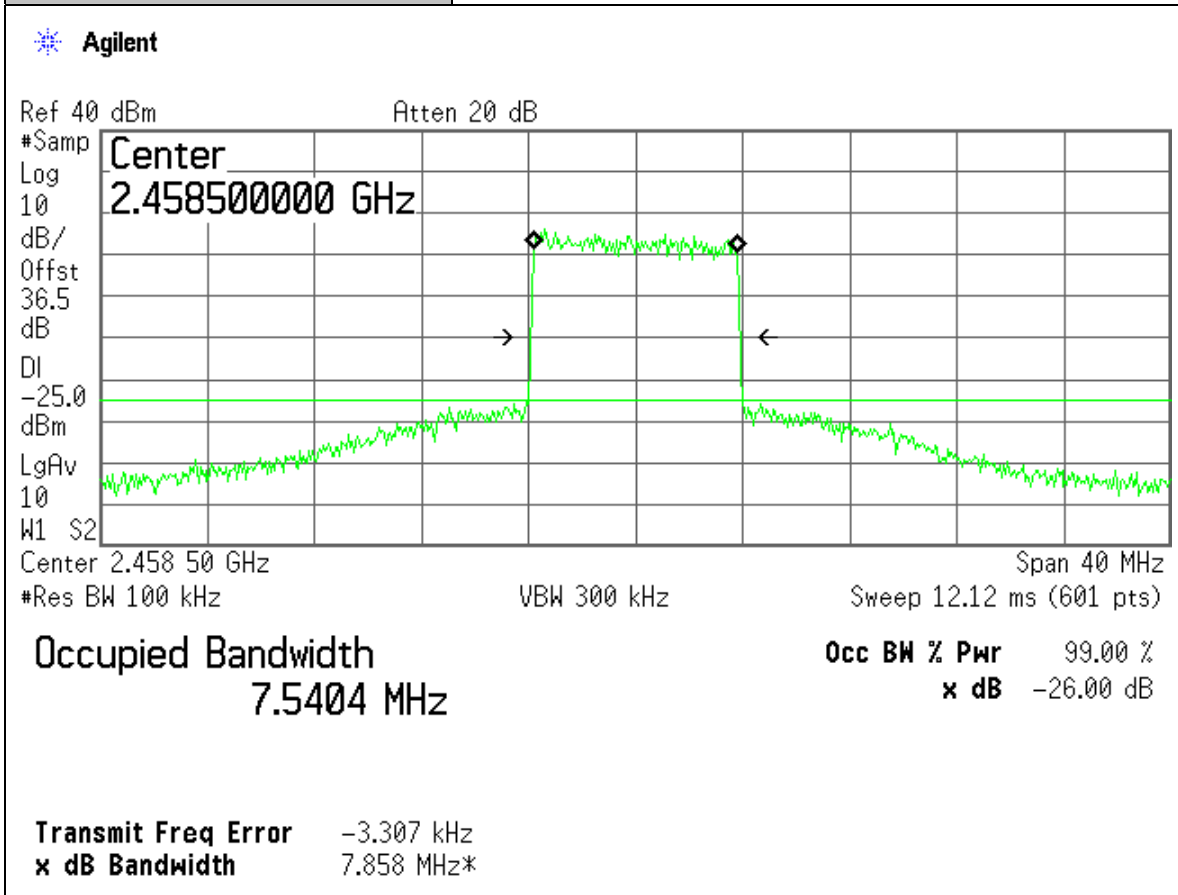
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



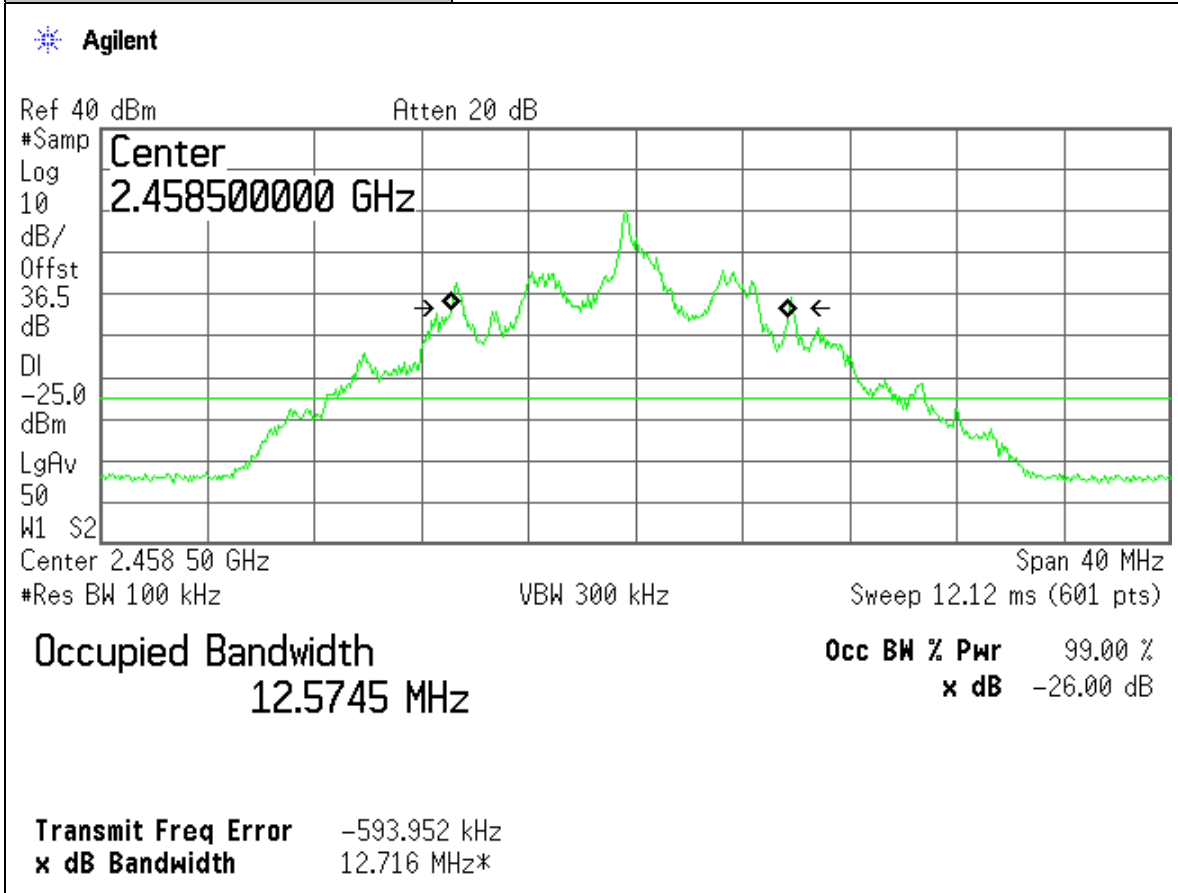
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



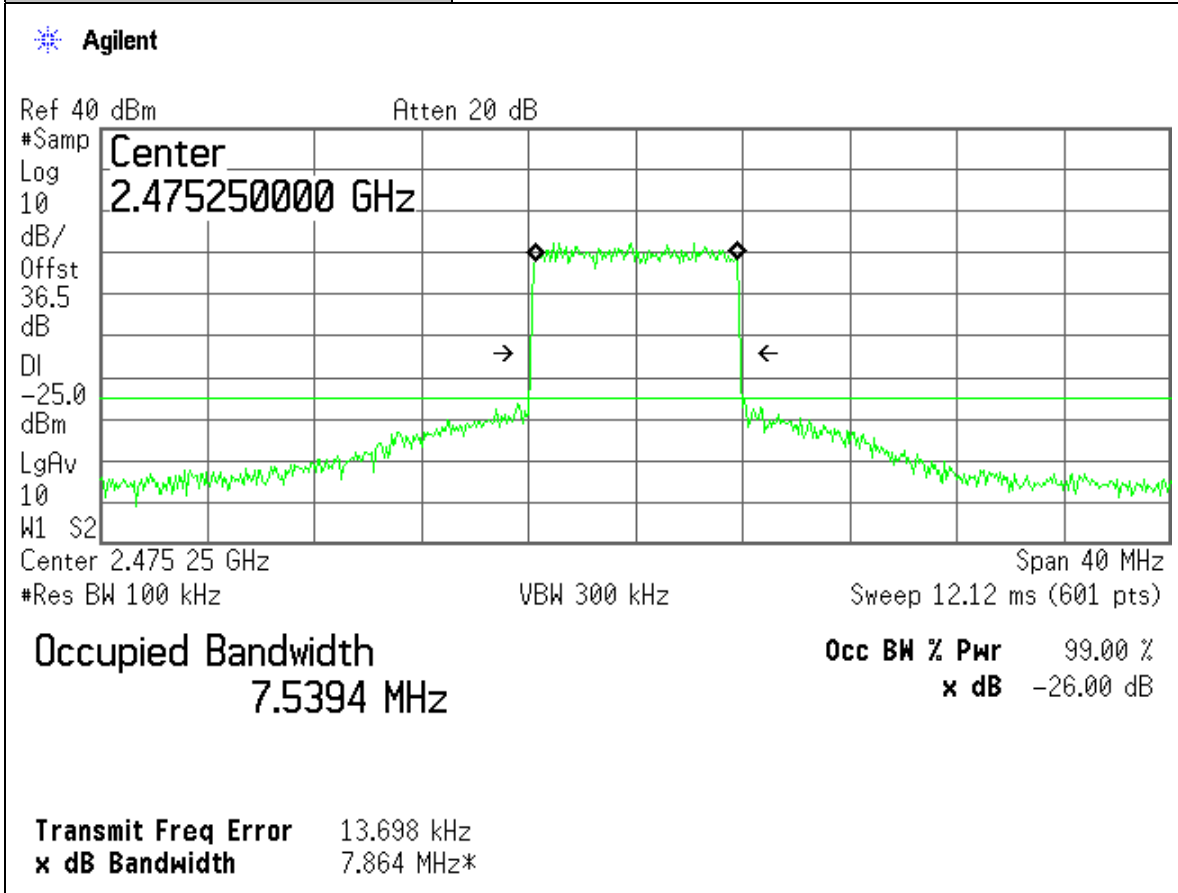
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



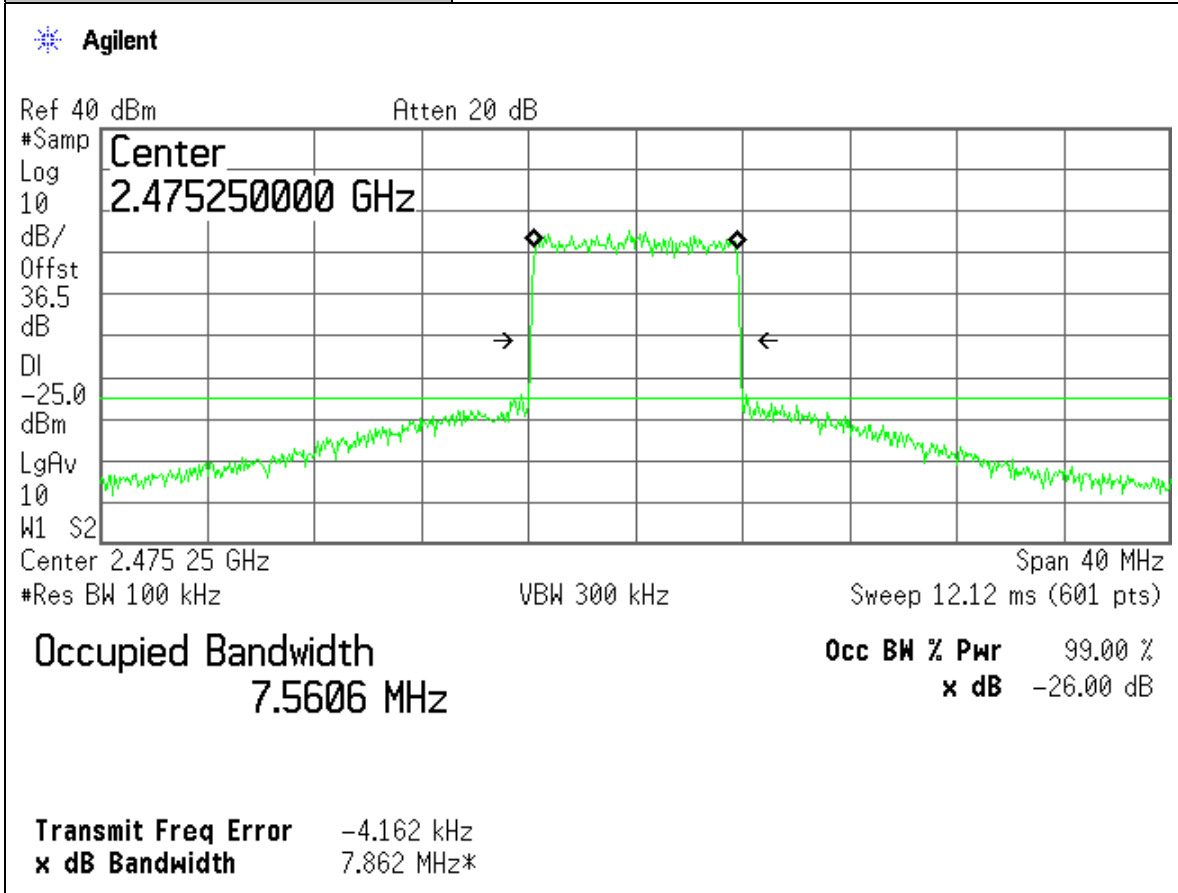
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



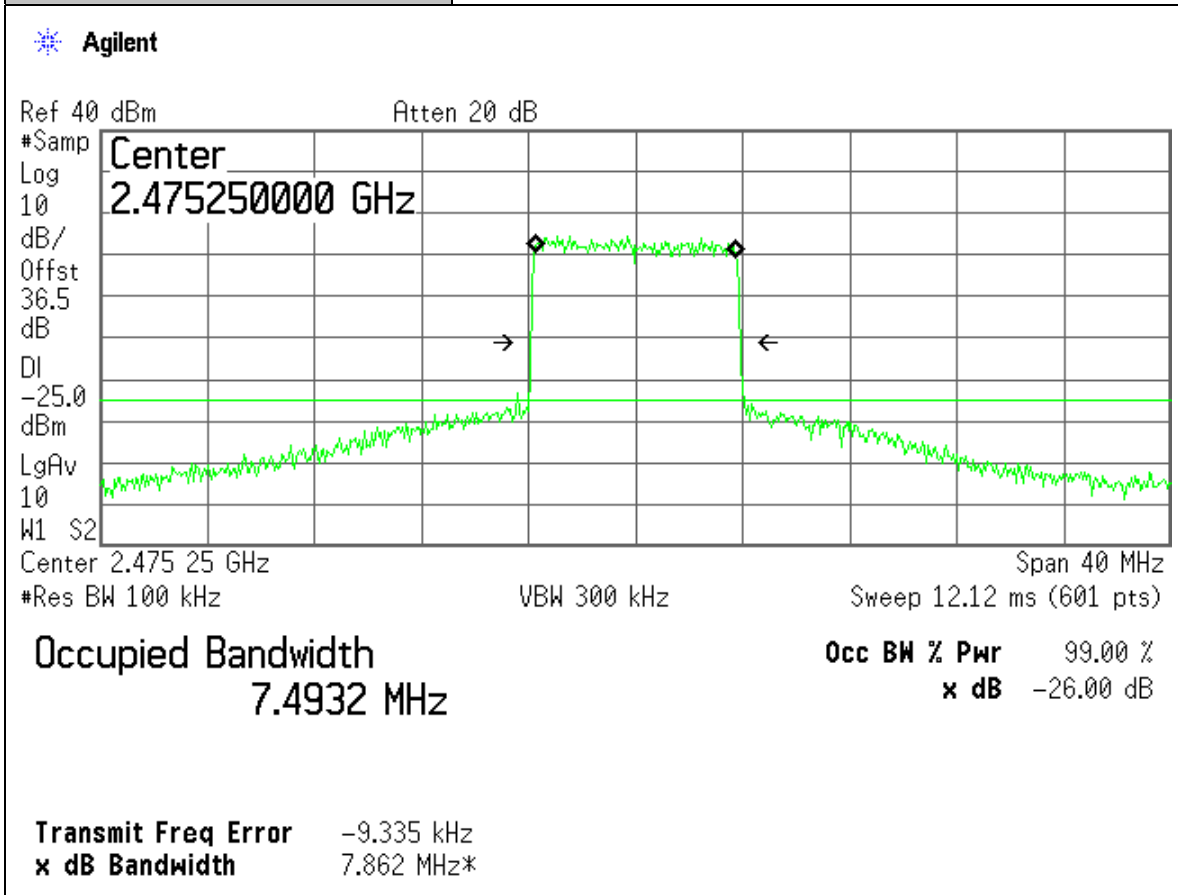
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



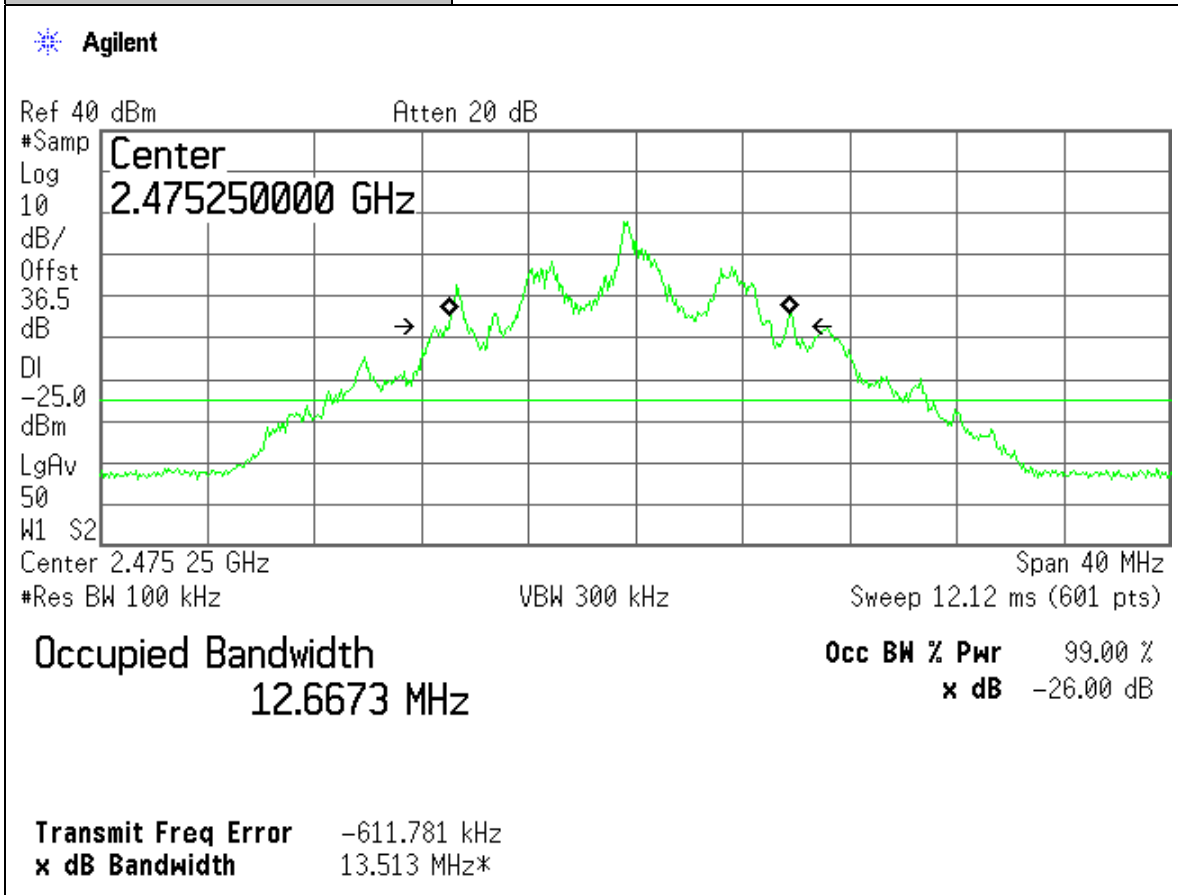
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



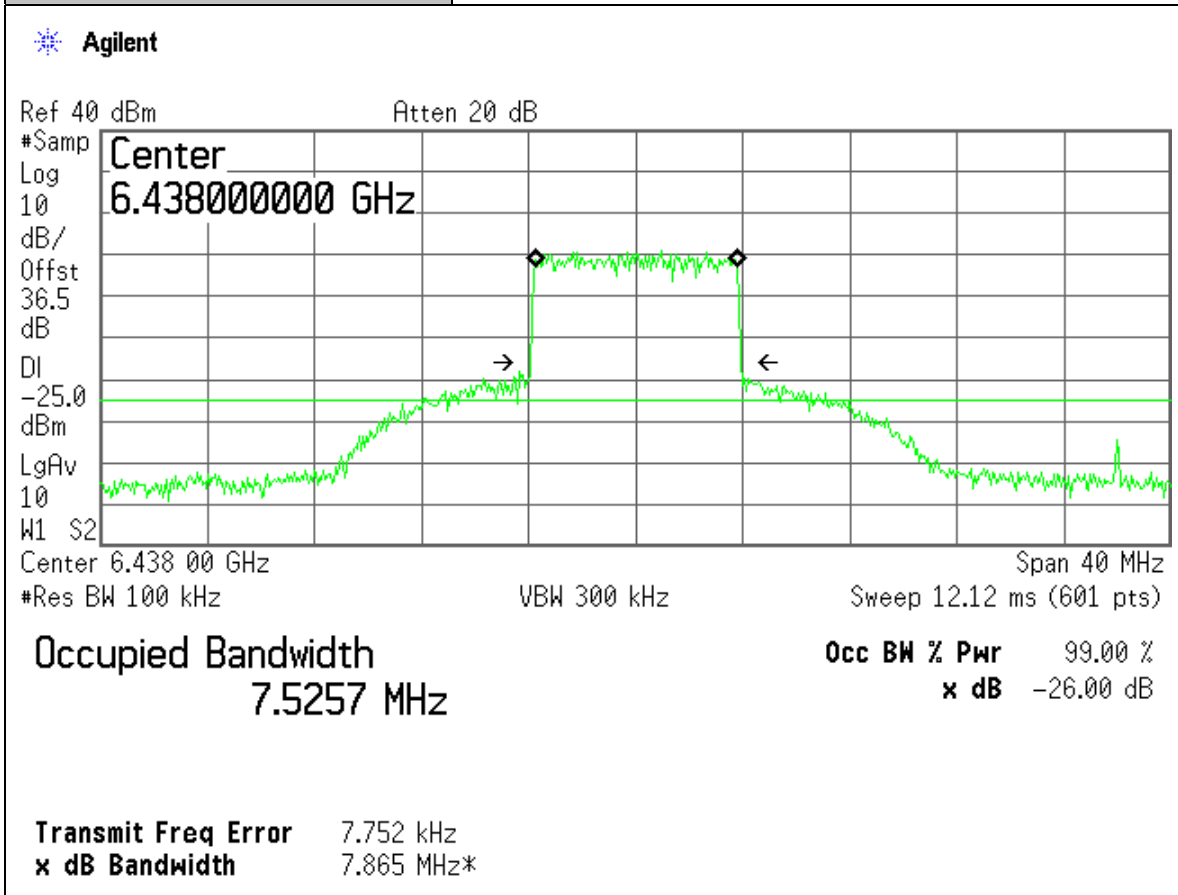
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



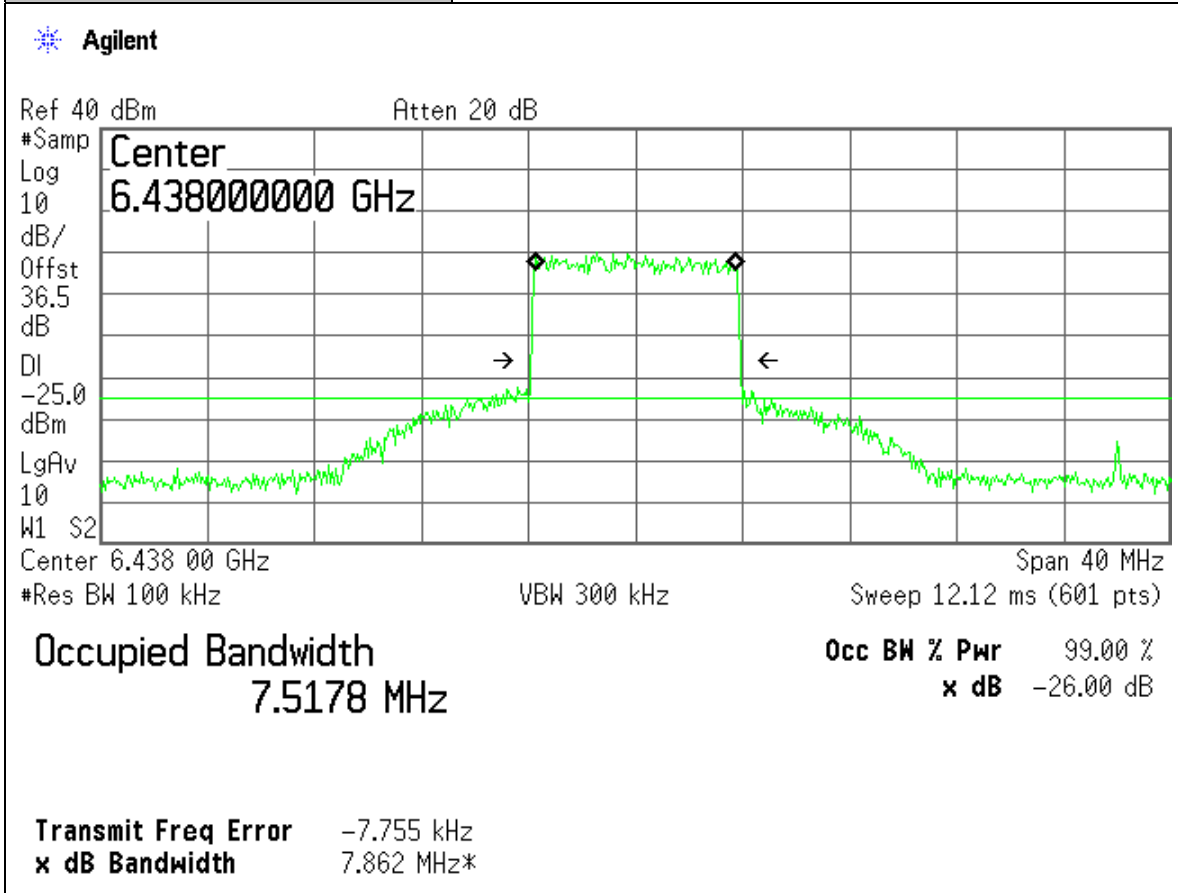
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-21, 6438MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



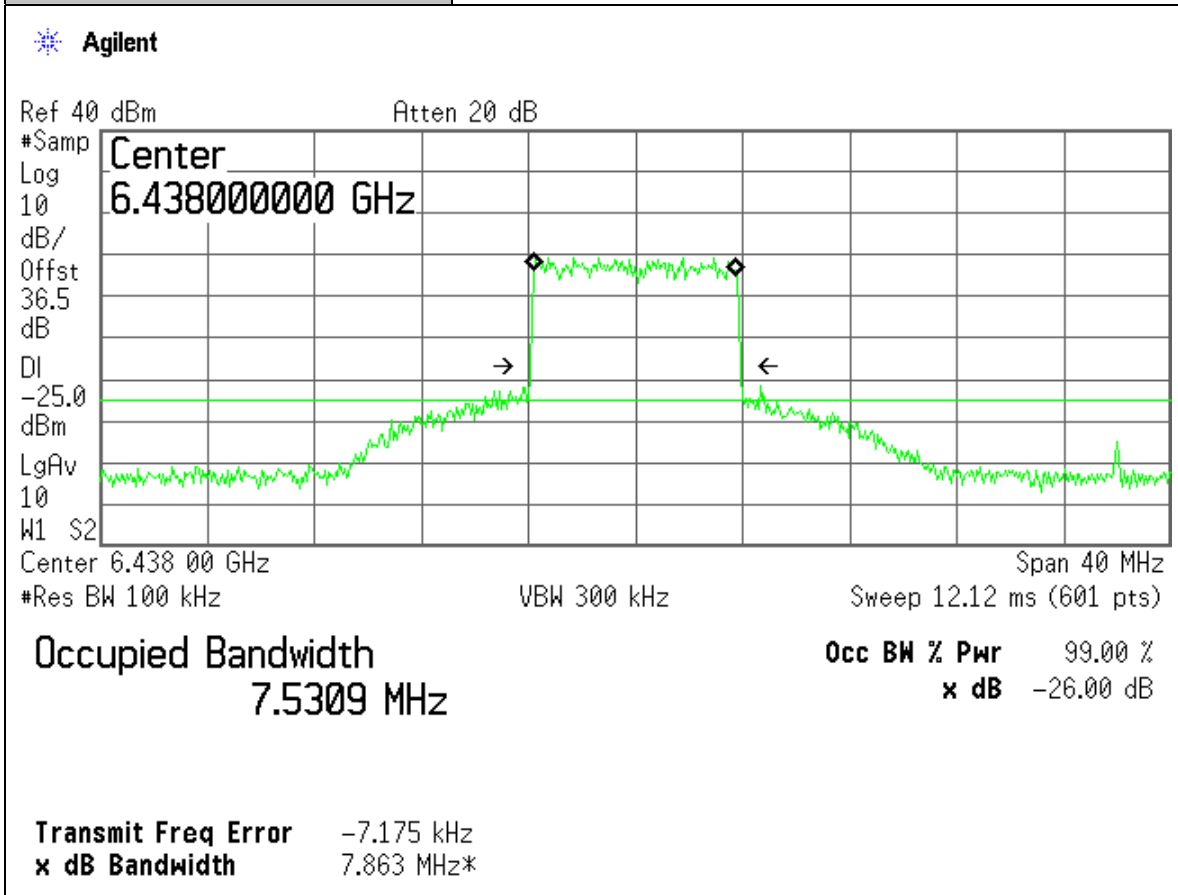
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-21, 6438MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



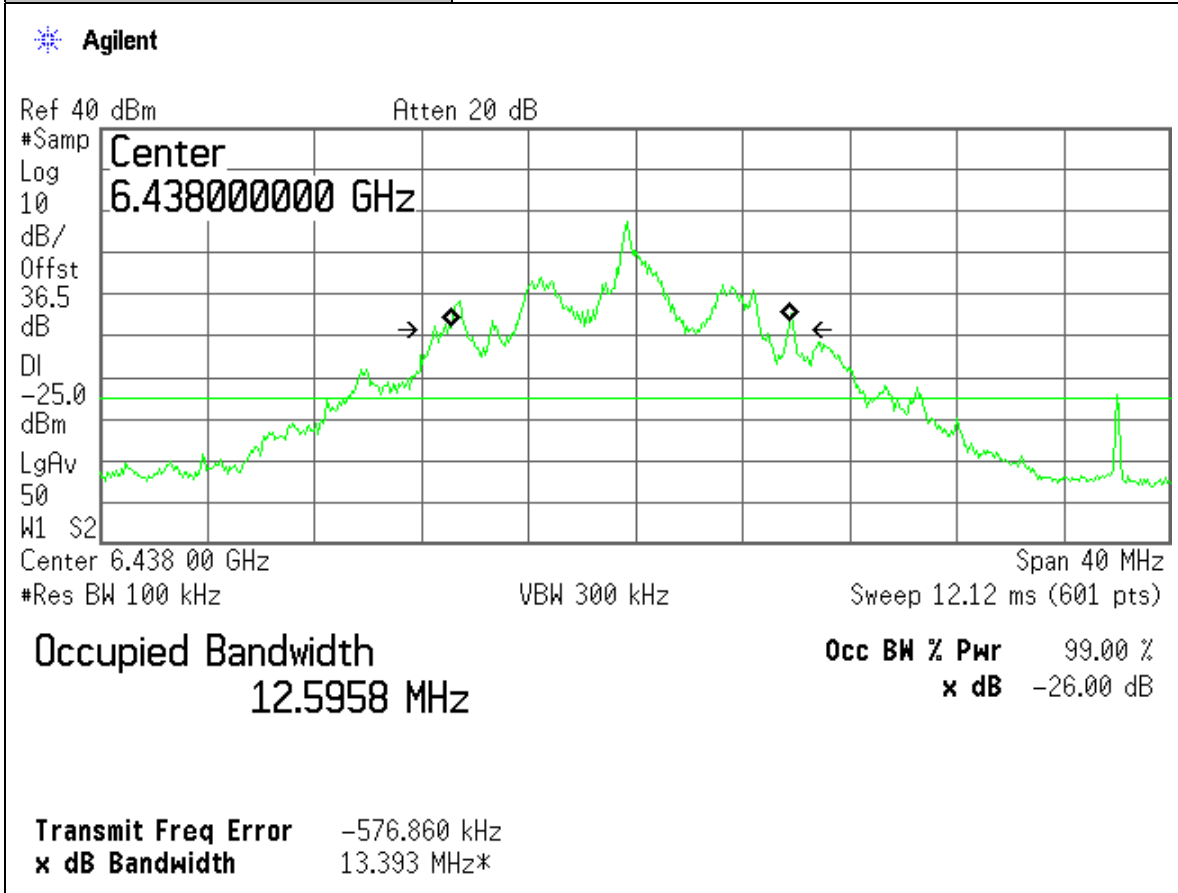
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-21, 6438MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



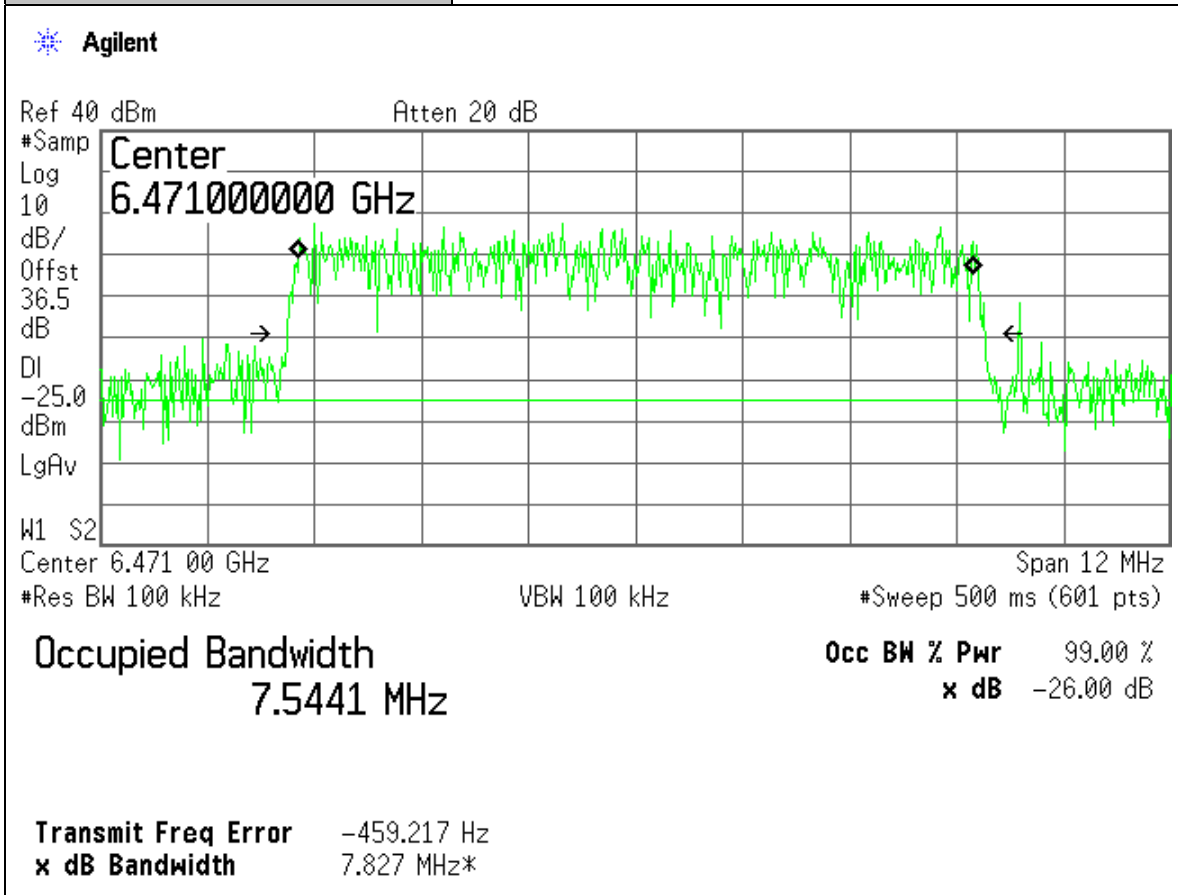
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-21, 6438MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



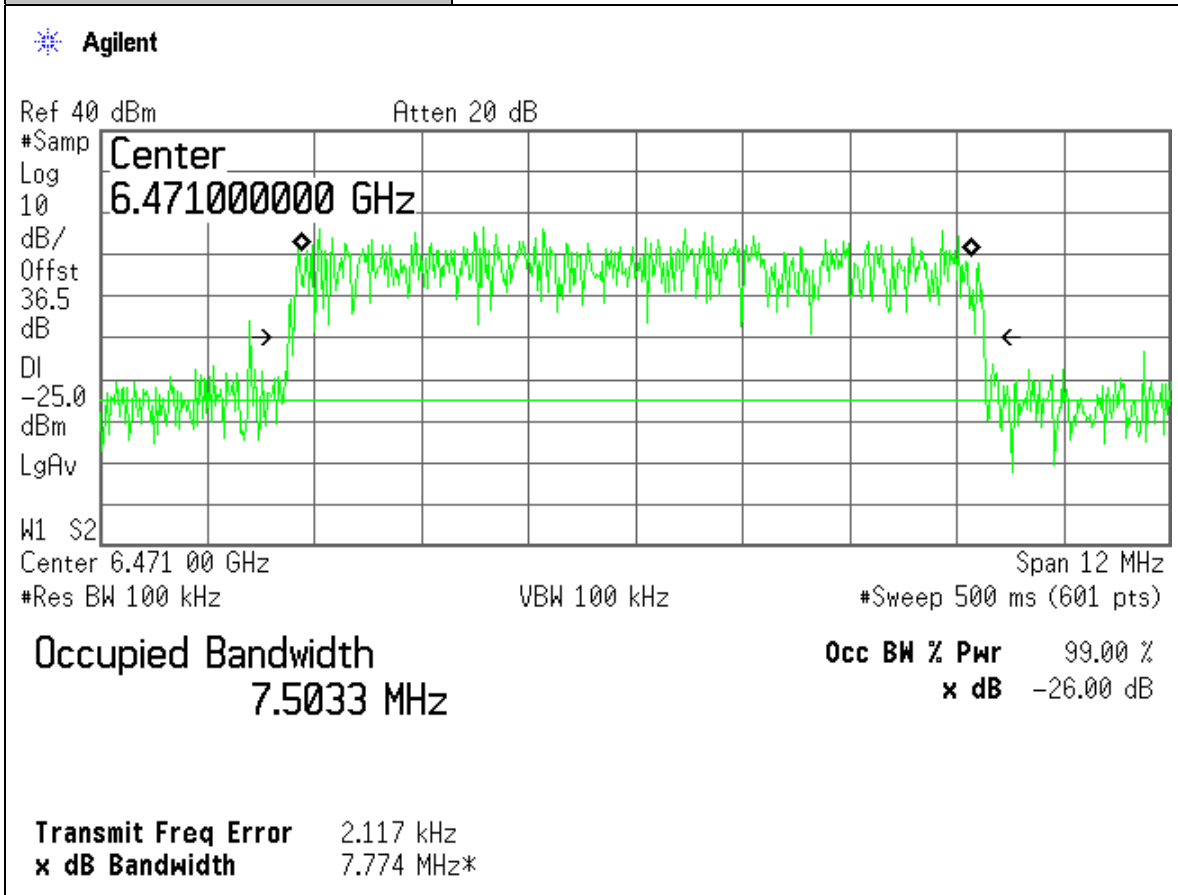
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-22+, 6471MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



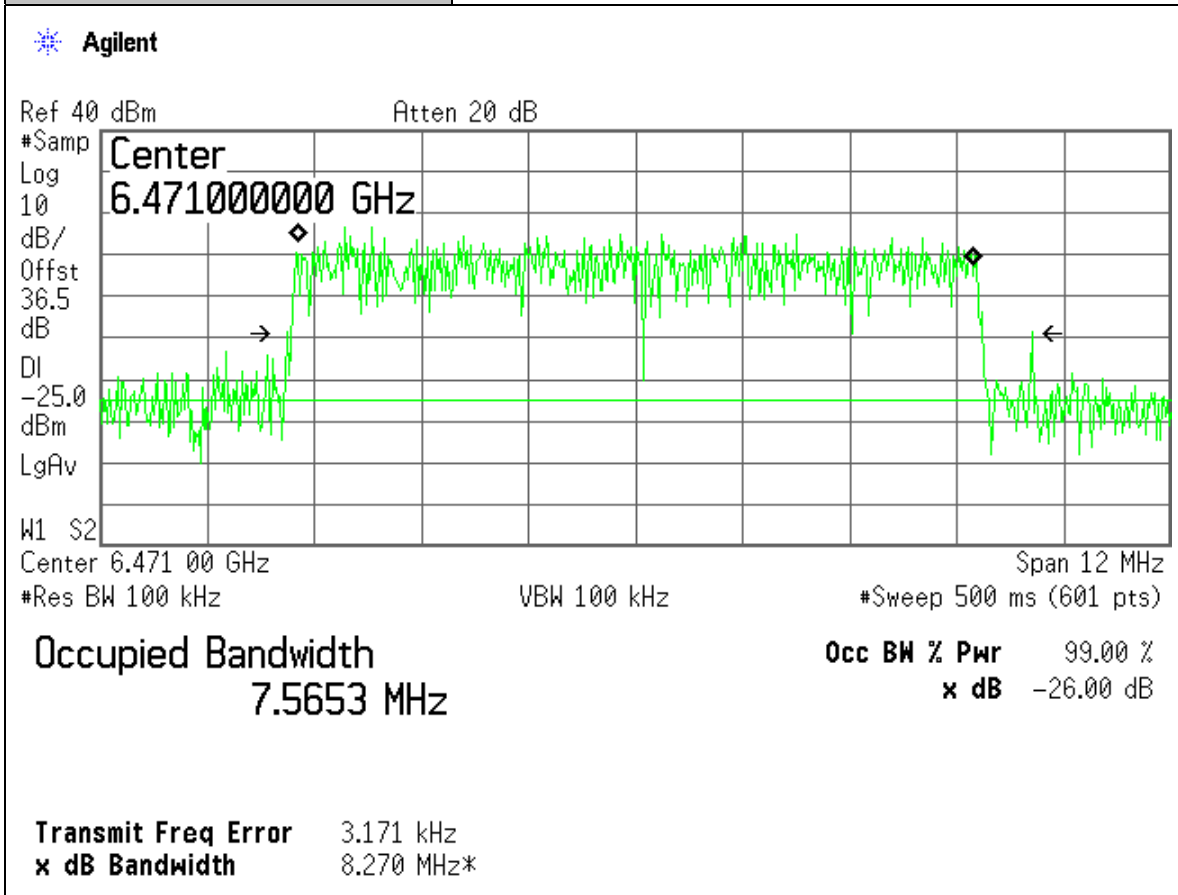
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 2G Band |
| Plot Name: | CH-22+, 6471 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



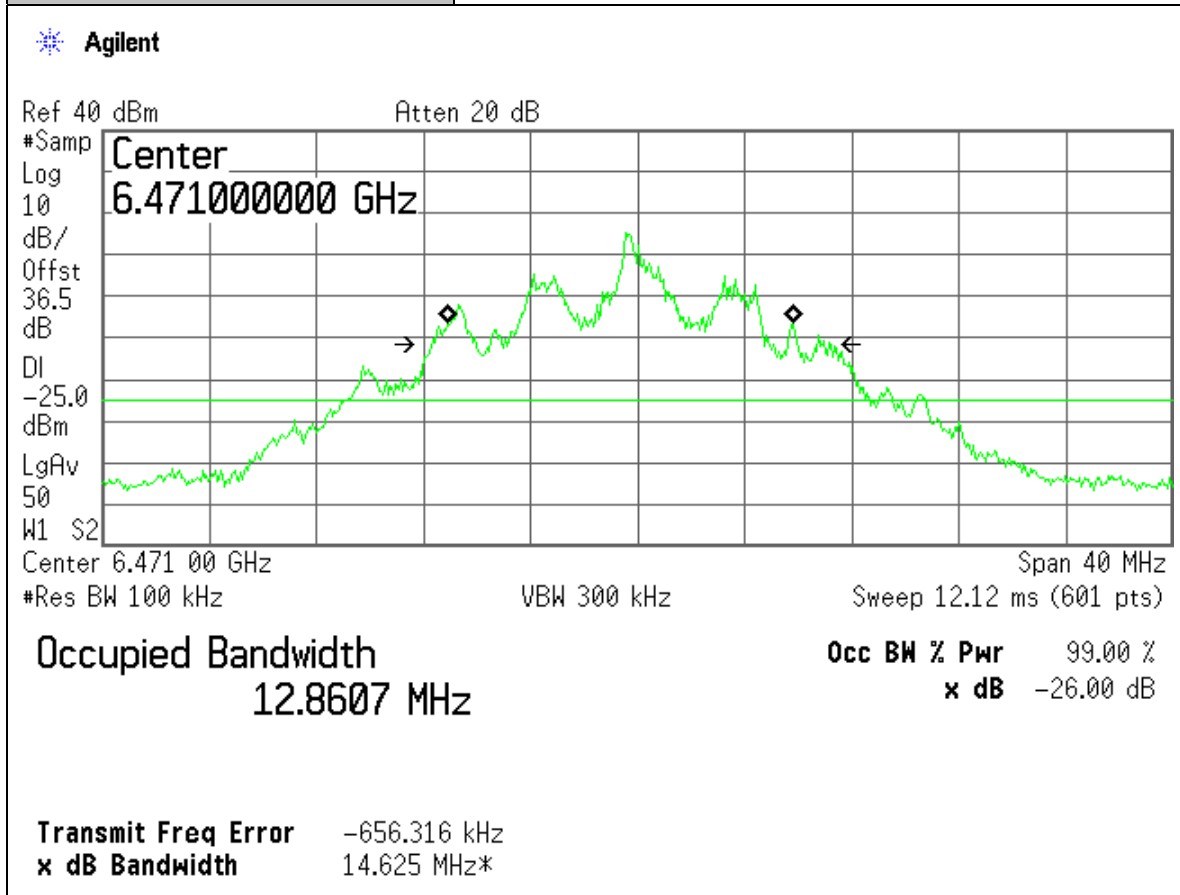
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-22+, 6471MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



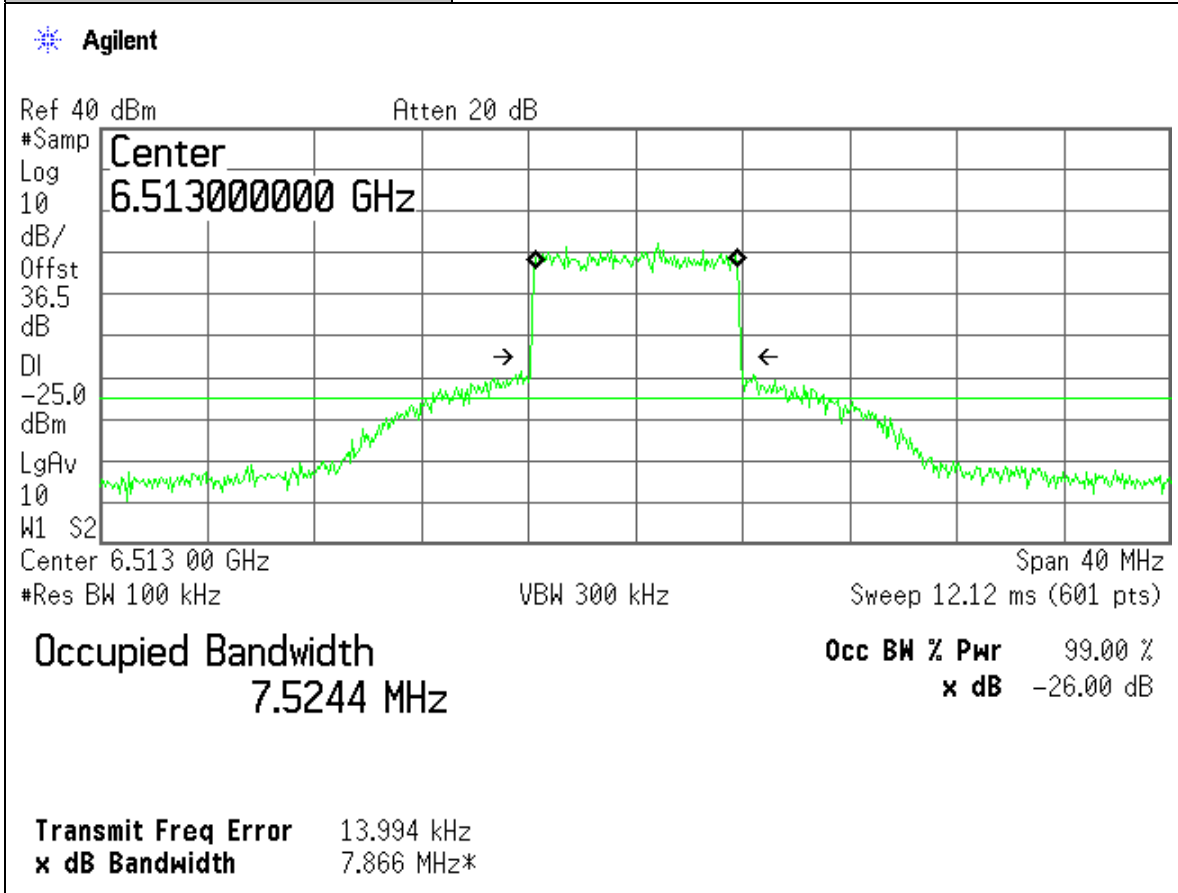
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-22+, 6471MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



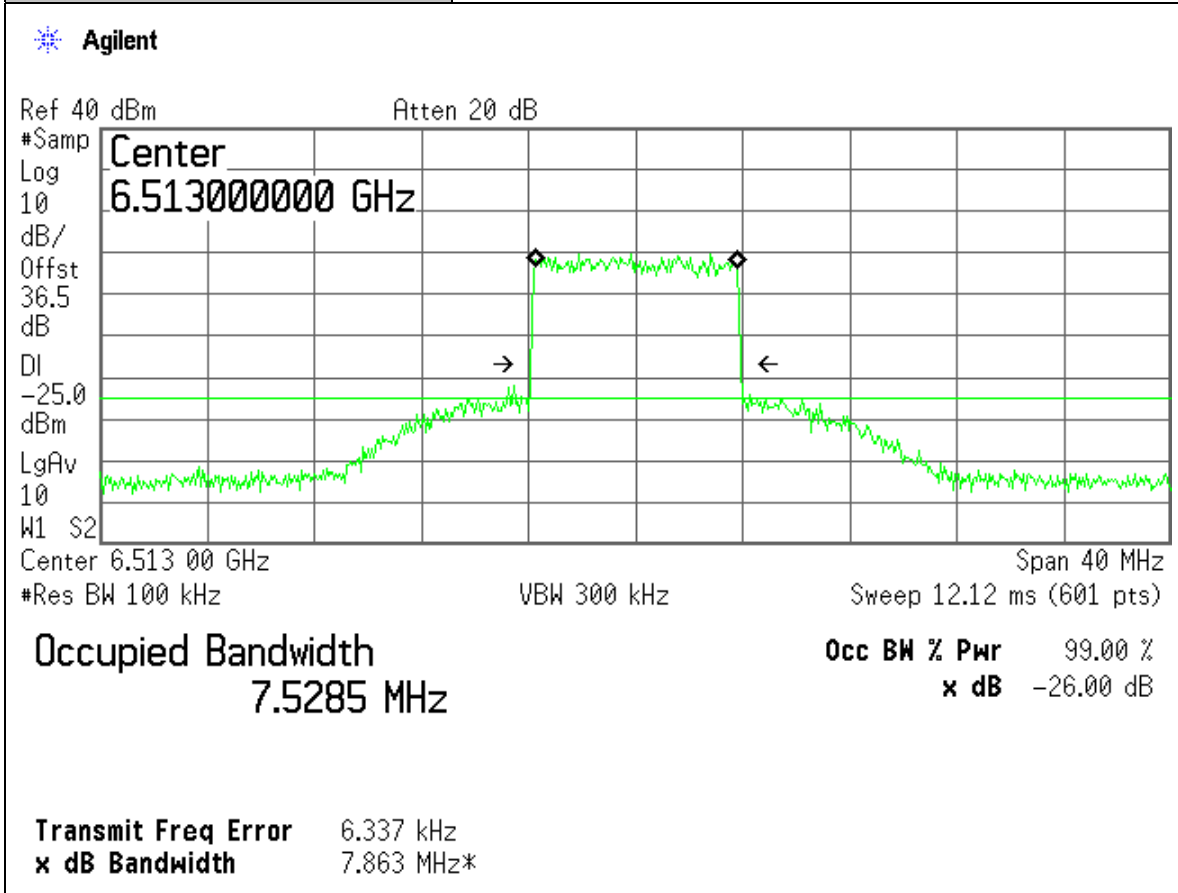
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-24, 6513MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



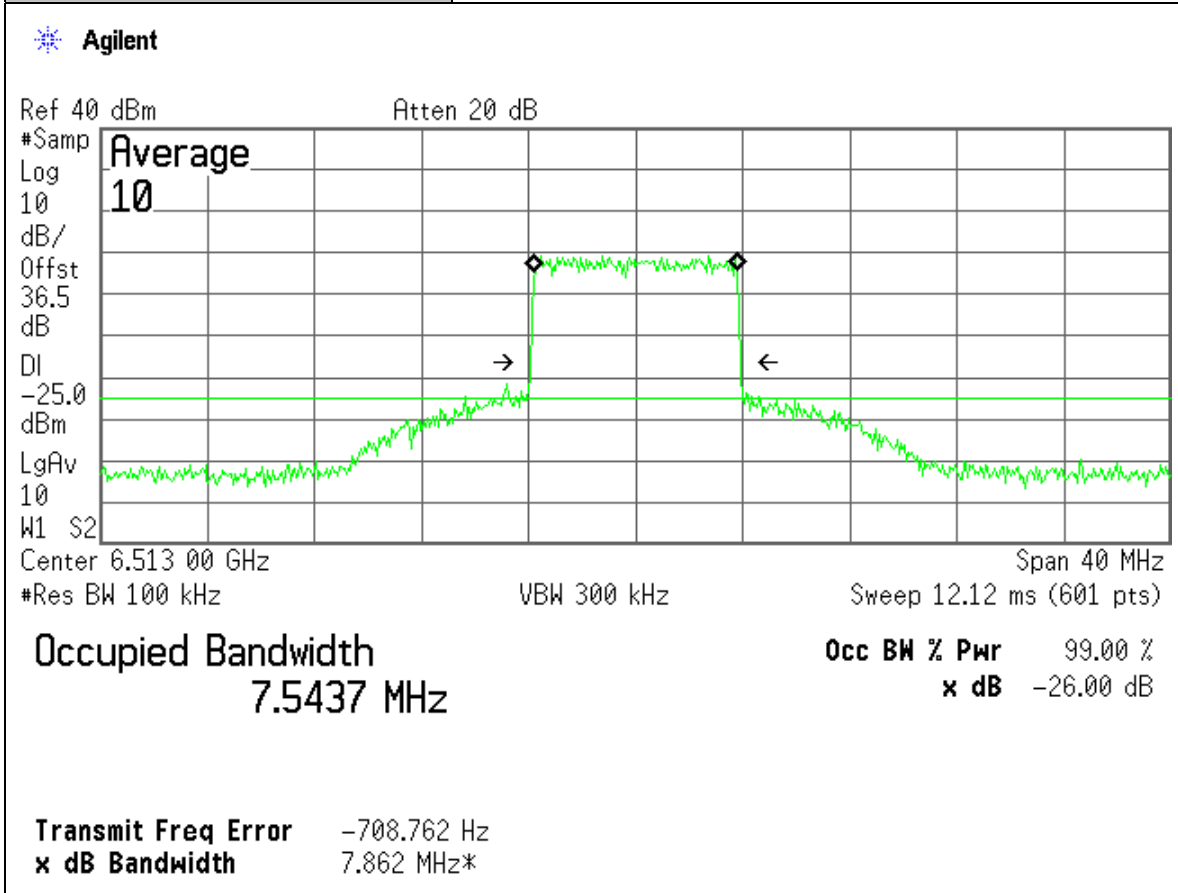
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-24, 6513 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



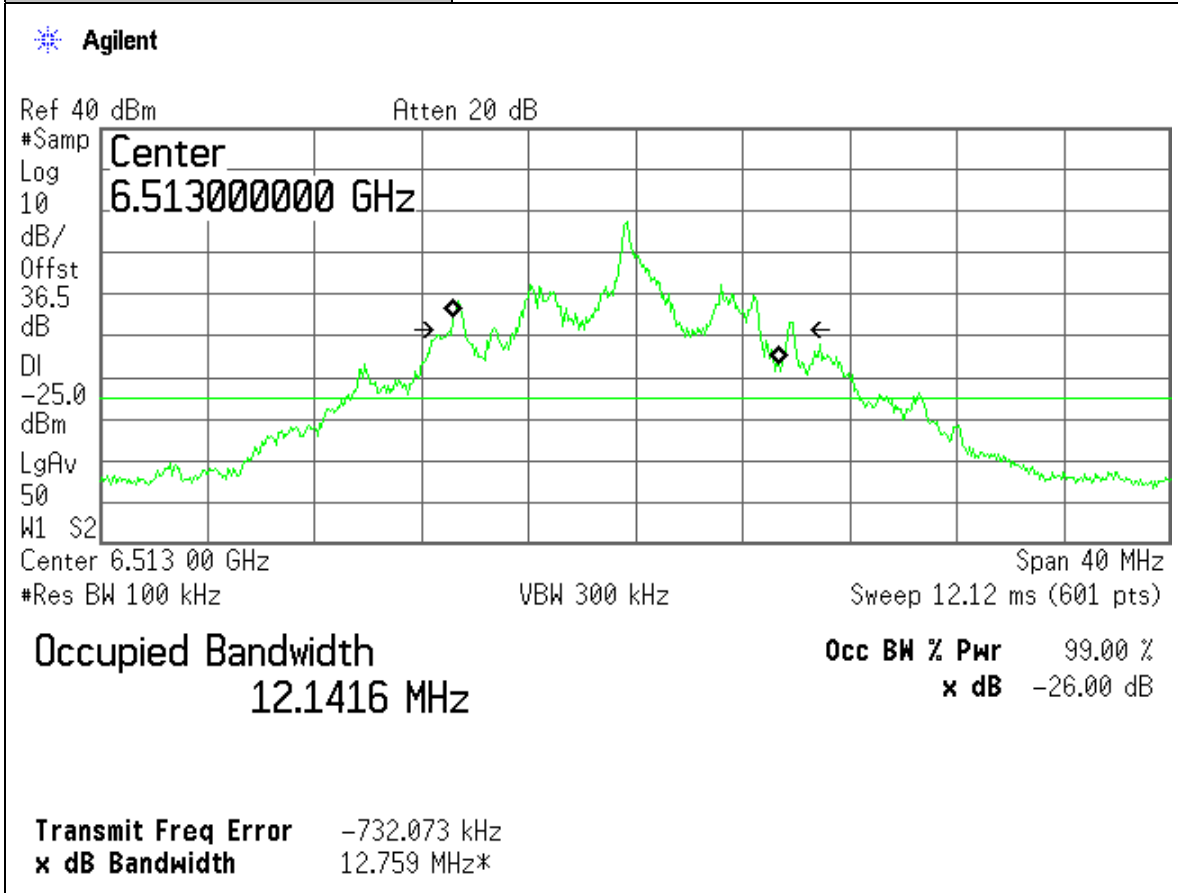
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-24, 6513MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



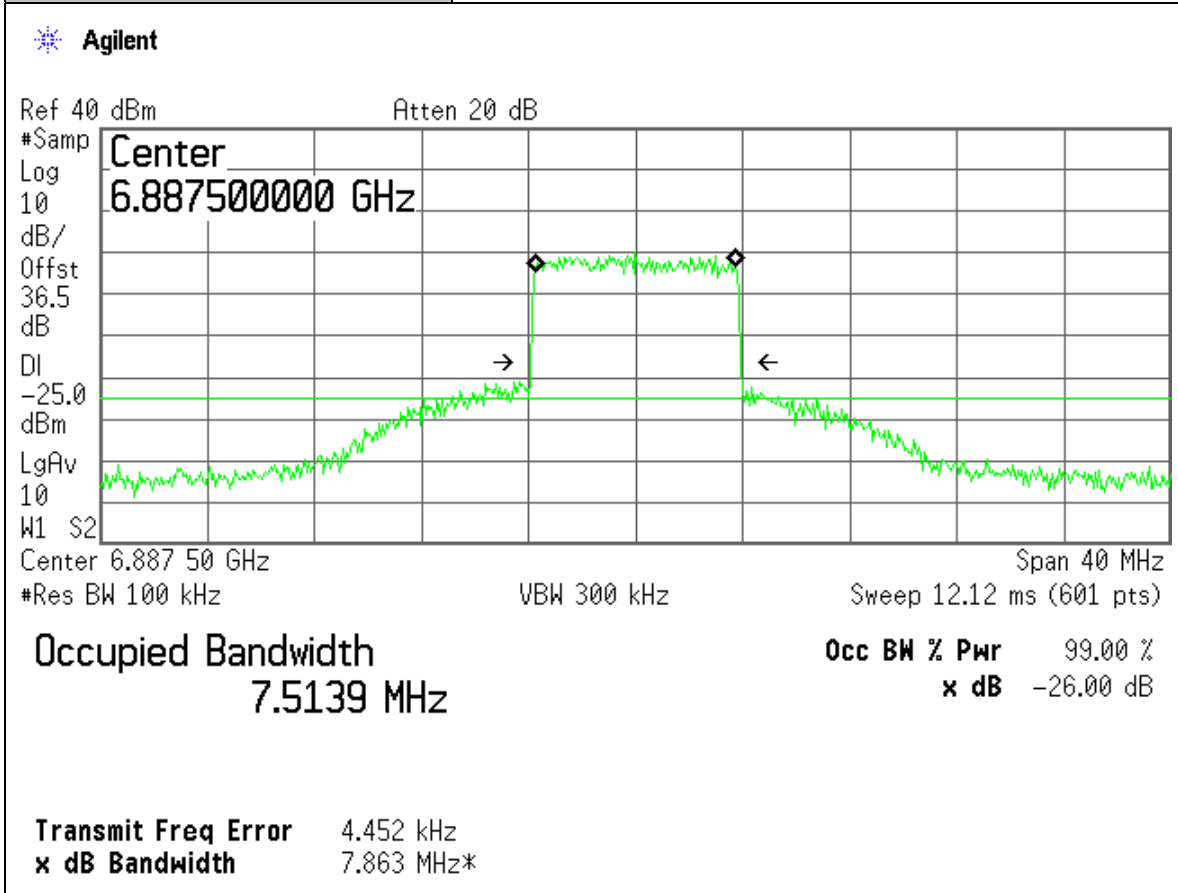
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-24, 6513MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



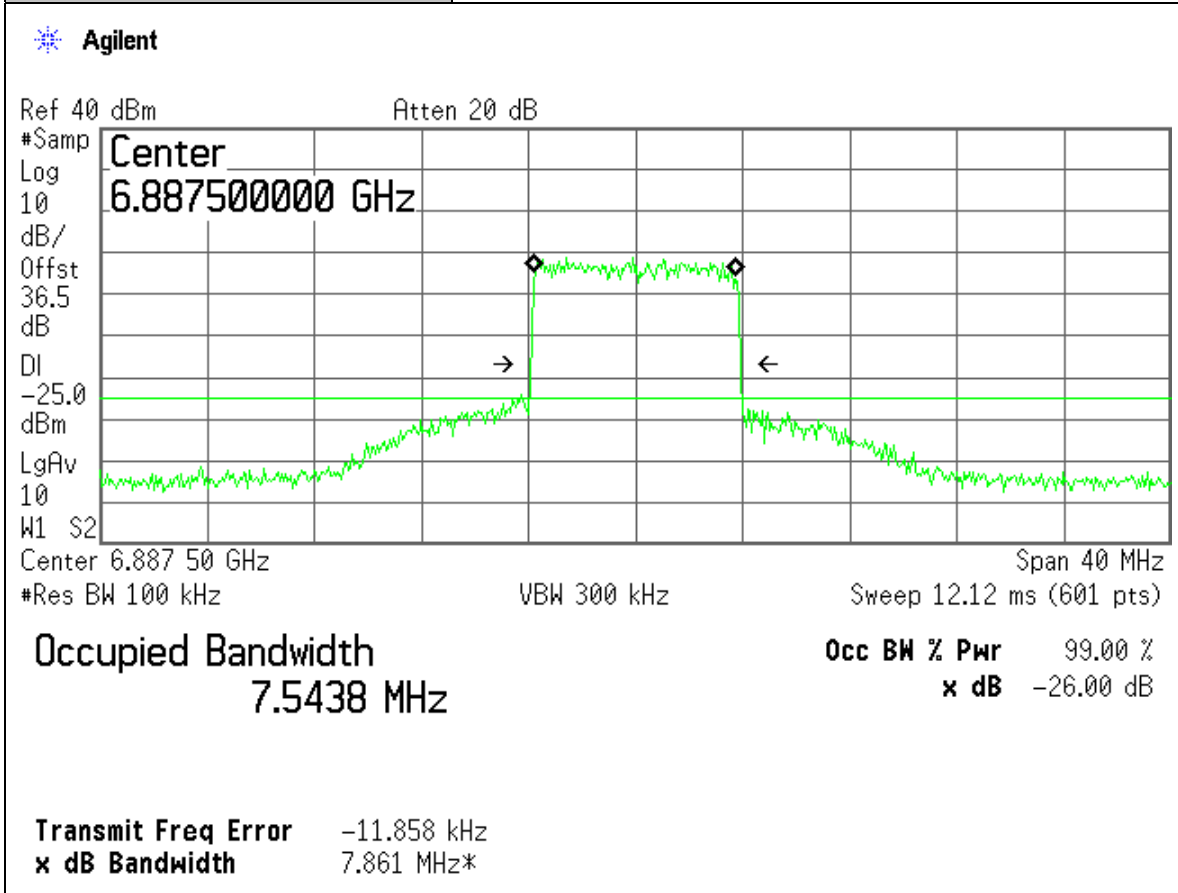
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 6887.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



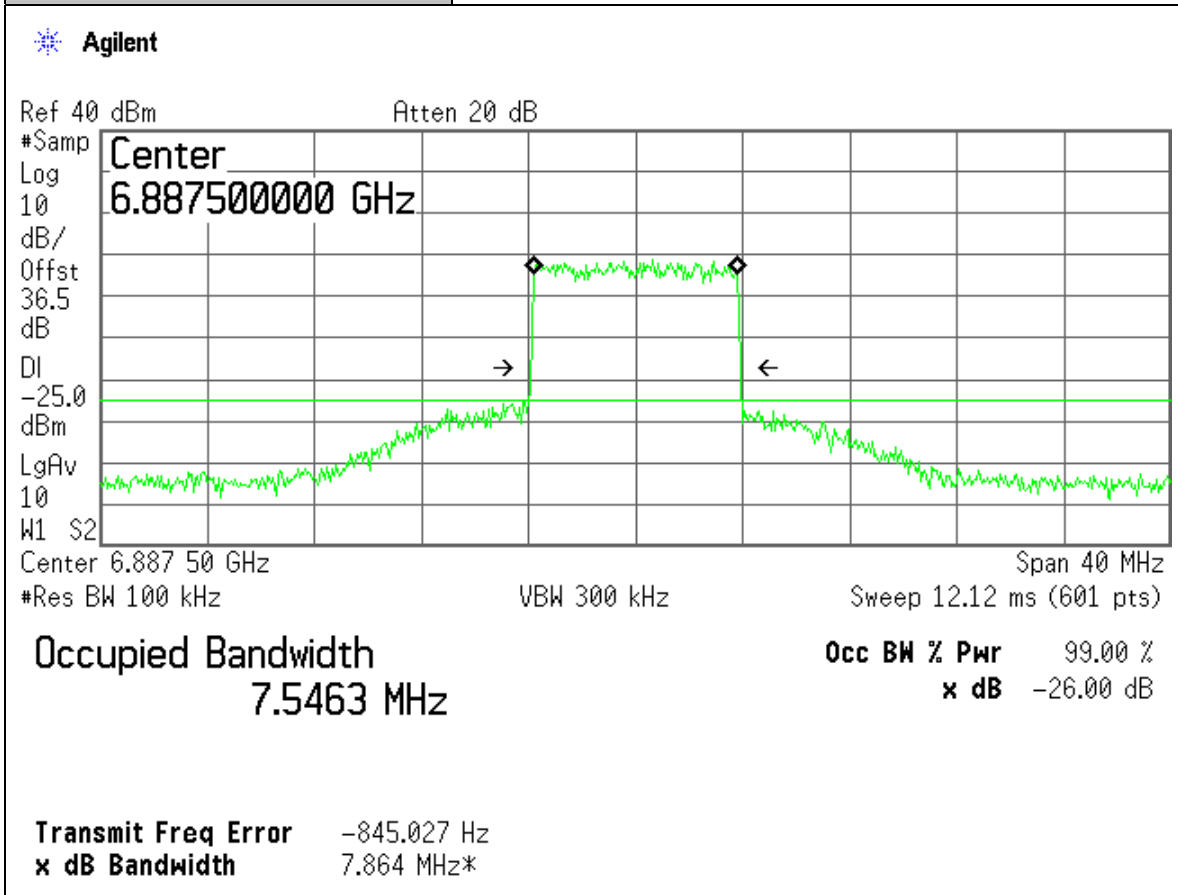
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 6887.50 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



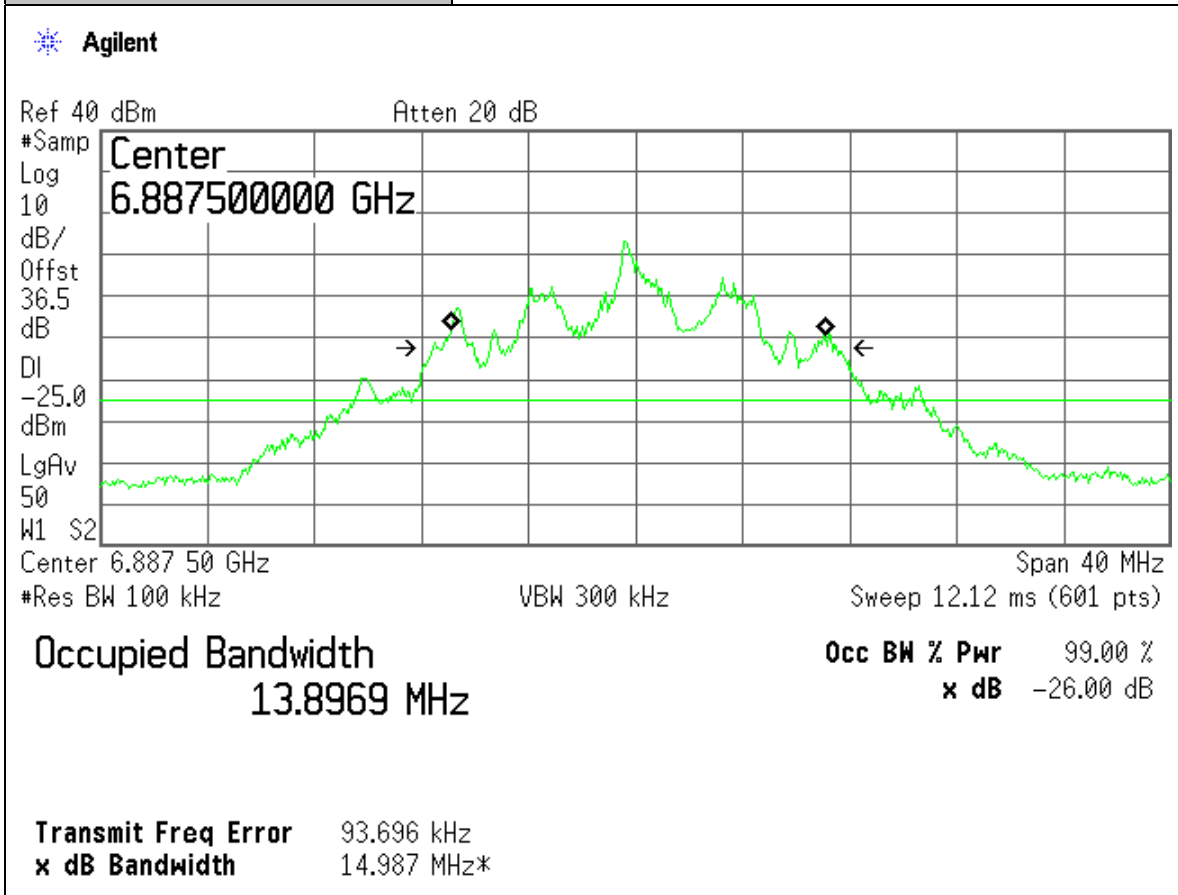
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 6887.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



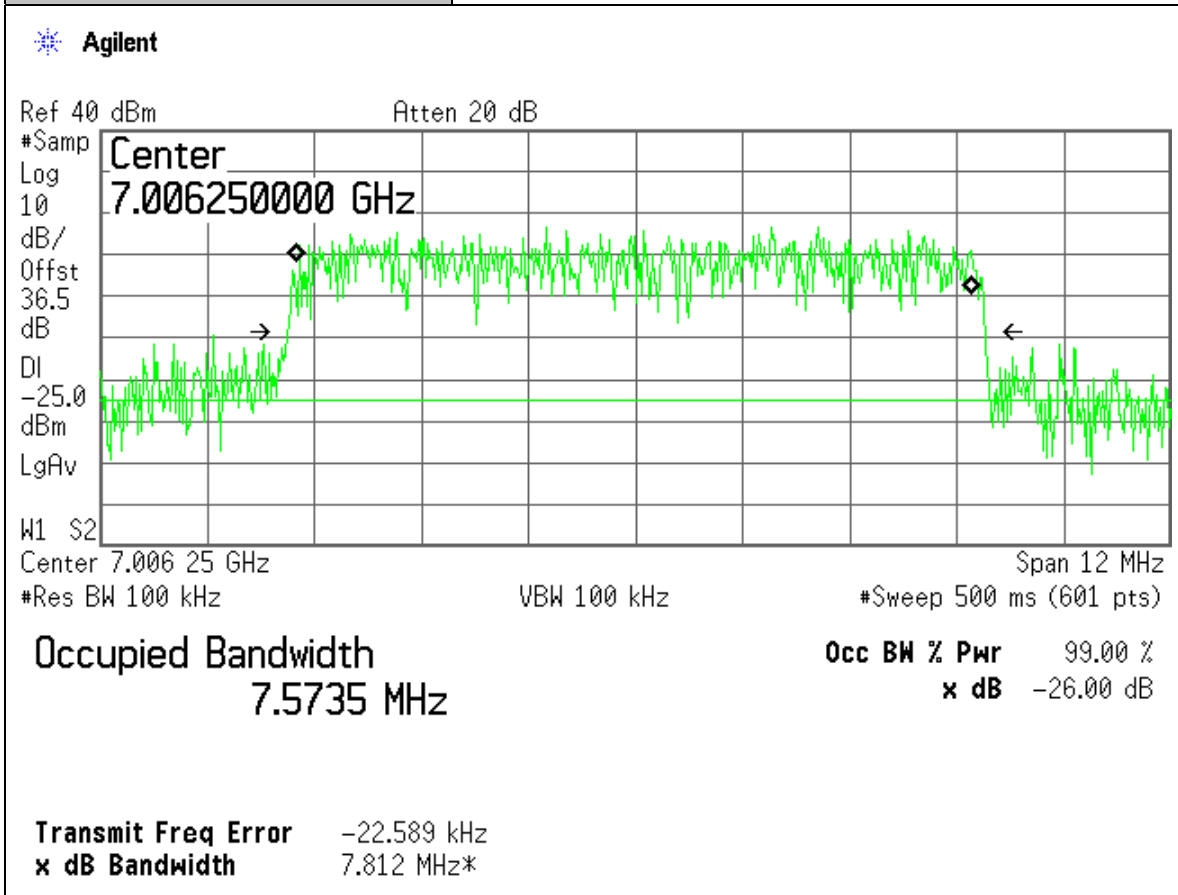
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 6887.50MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



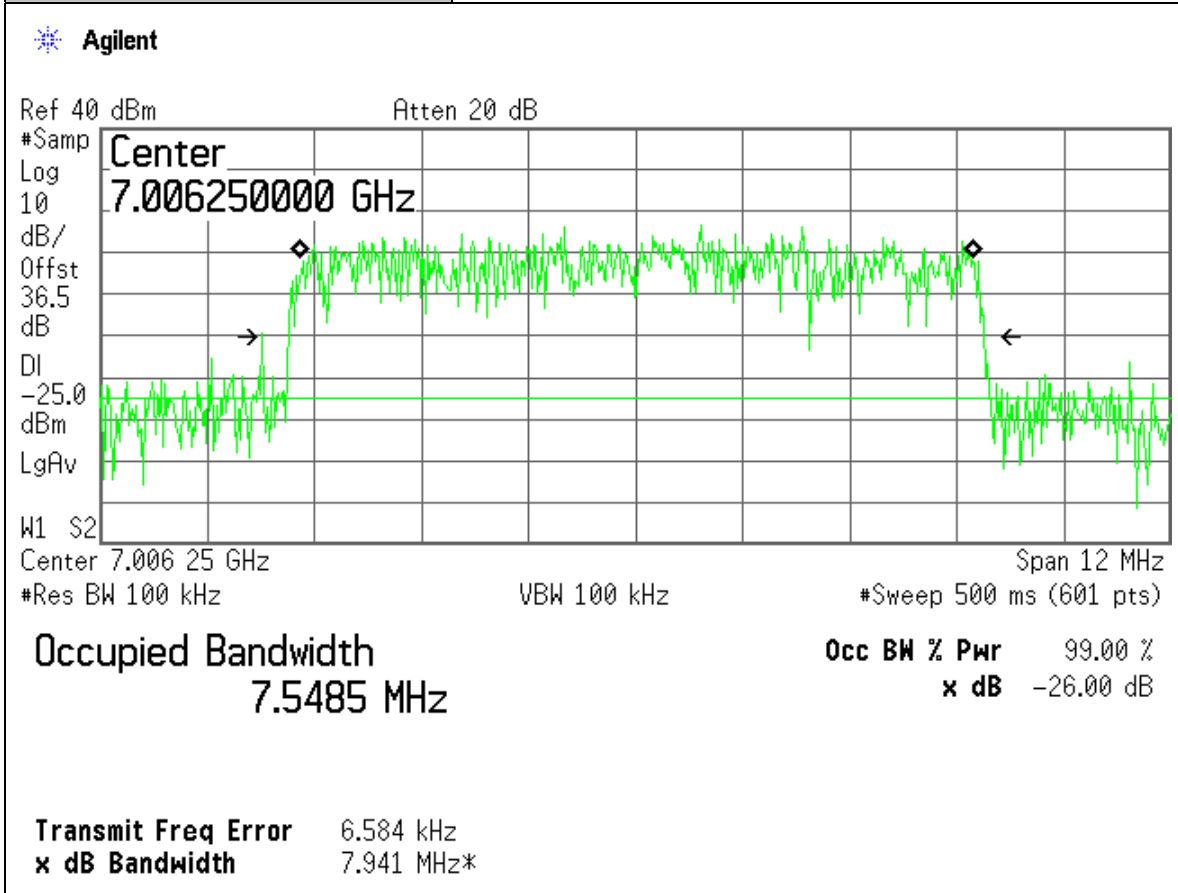
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



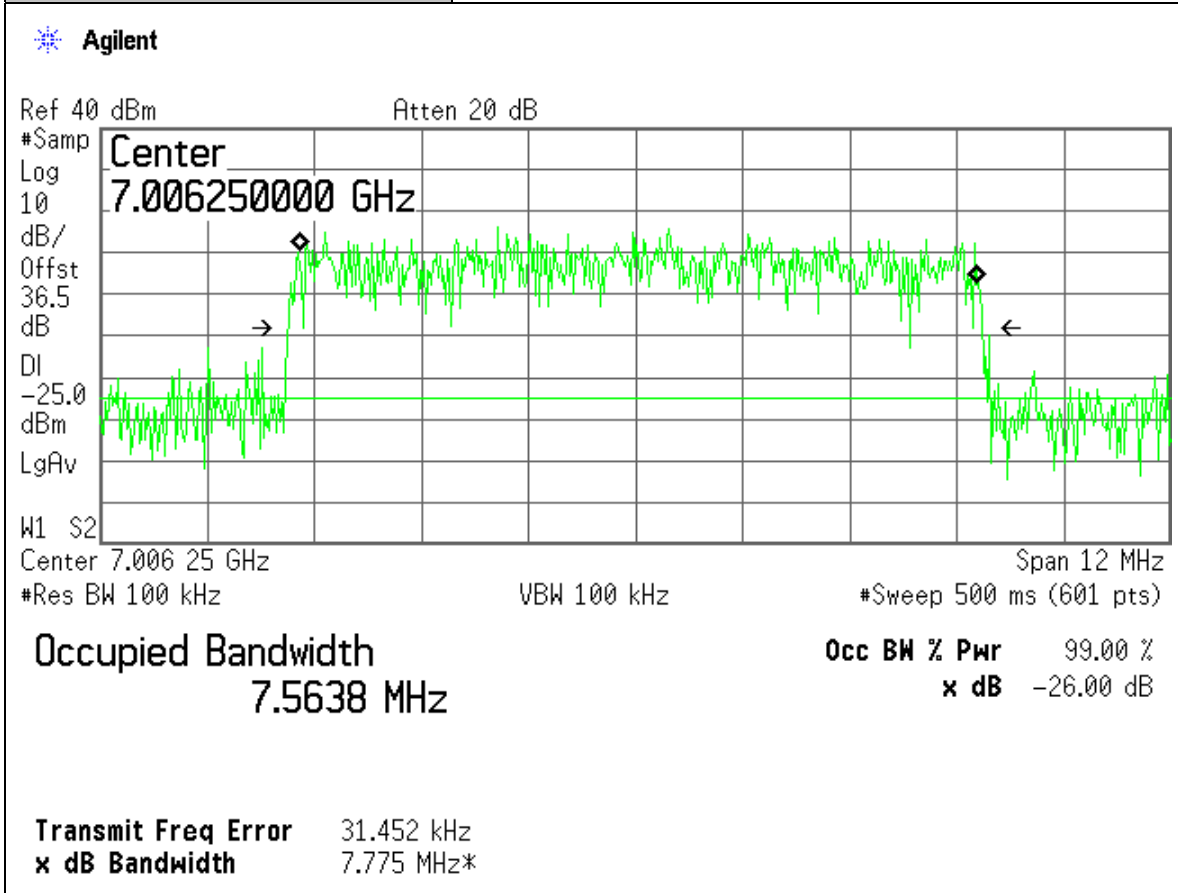
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 7006.25 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



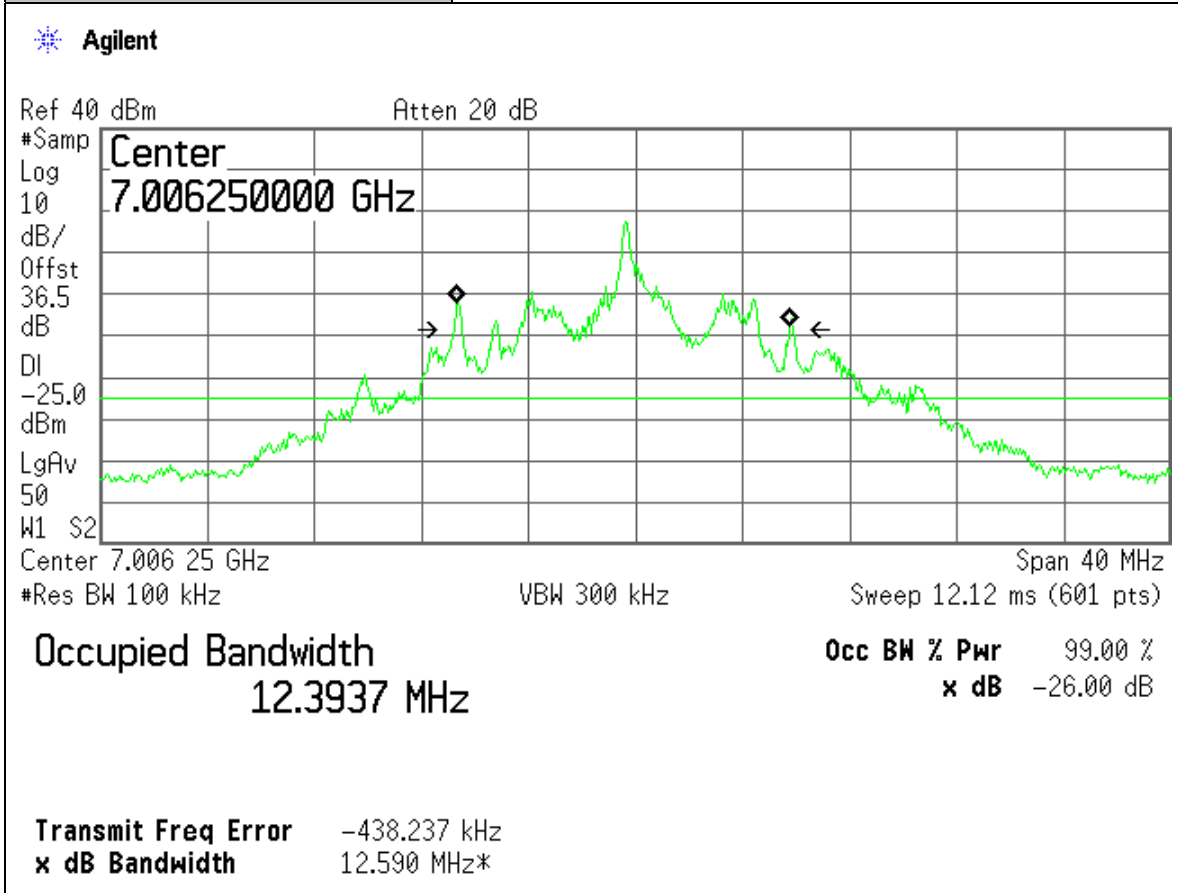
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 7006.25MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



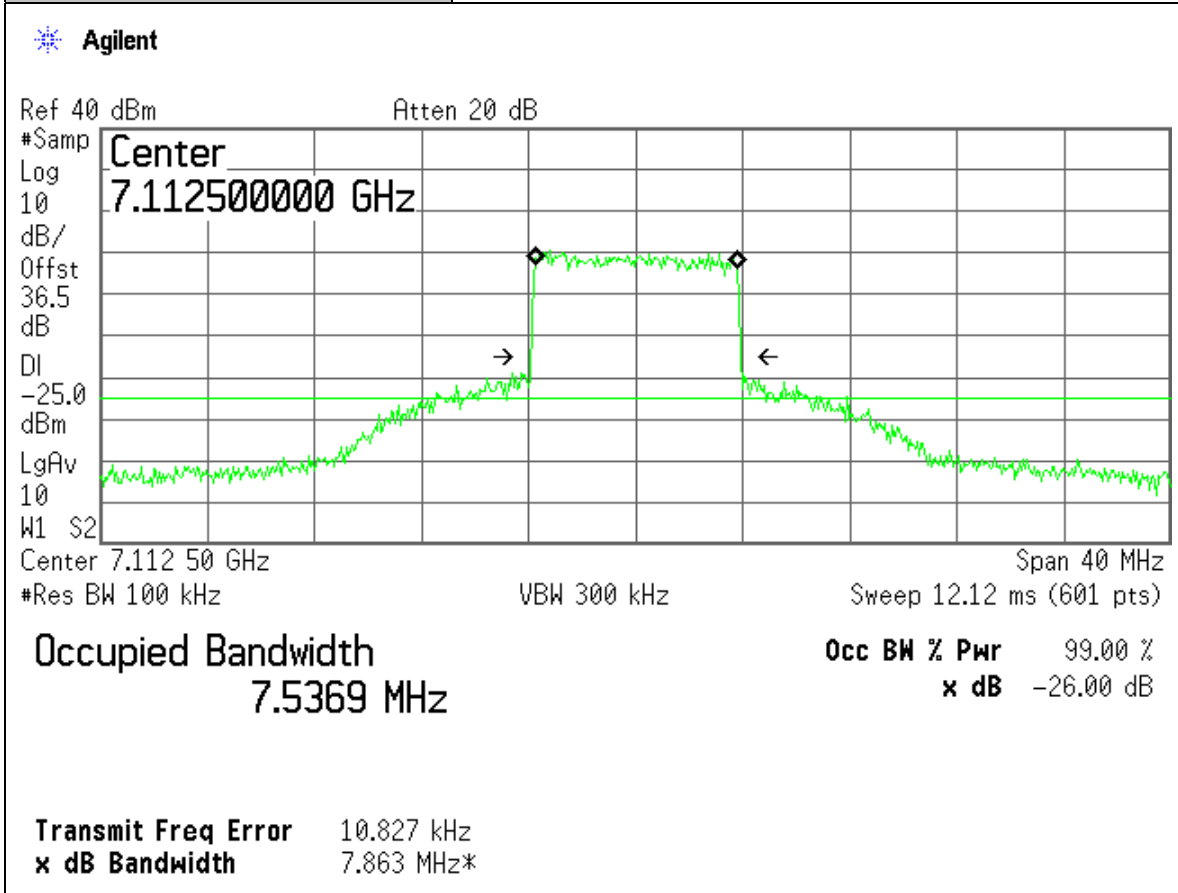
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-01, 7006.25MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



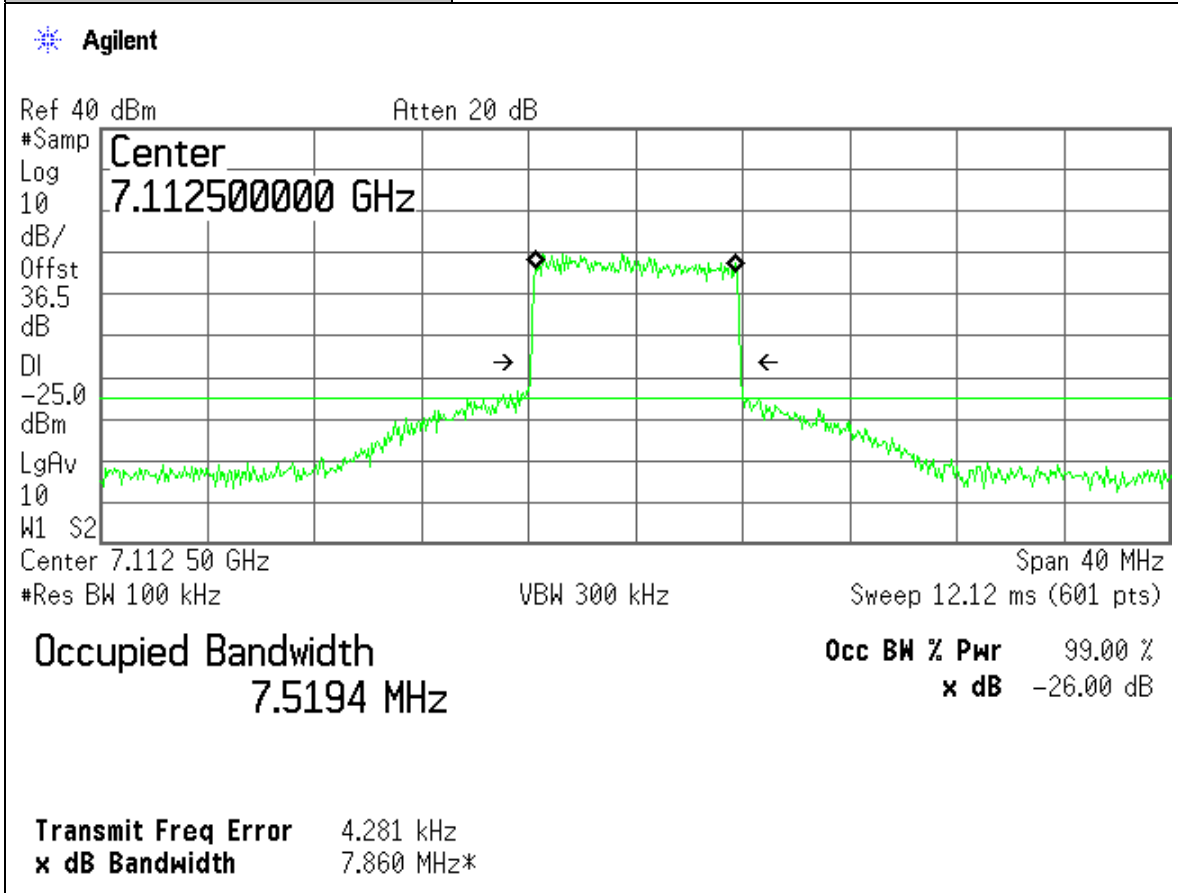
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



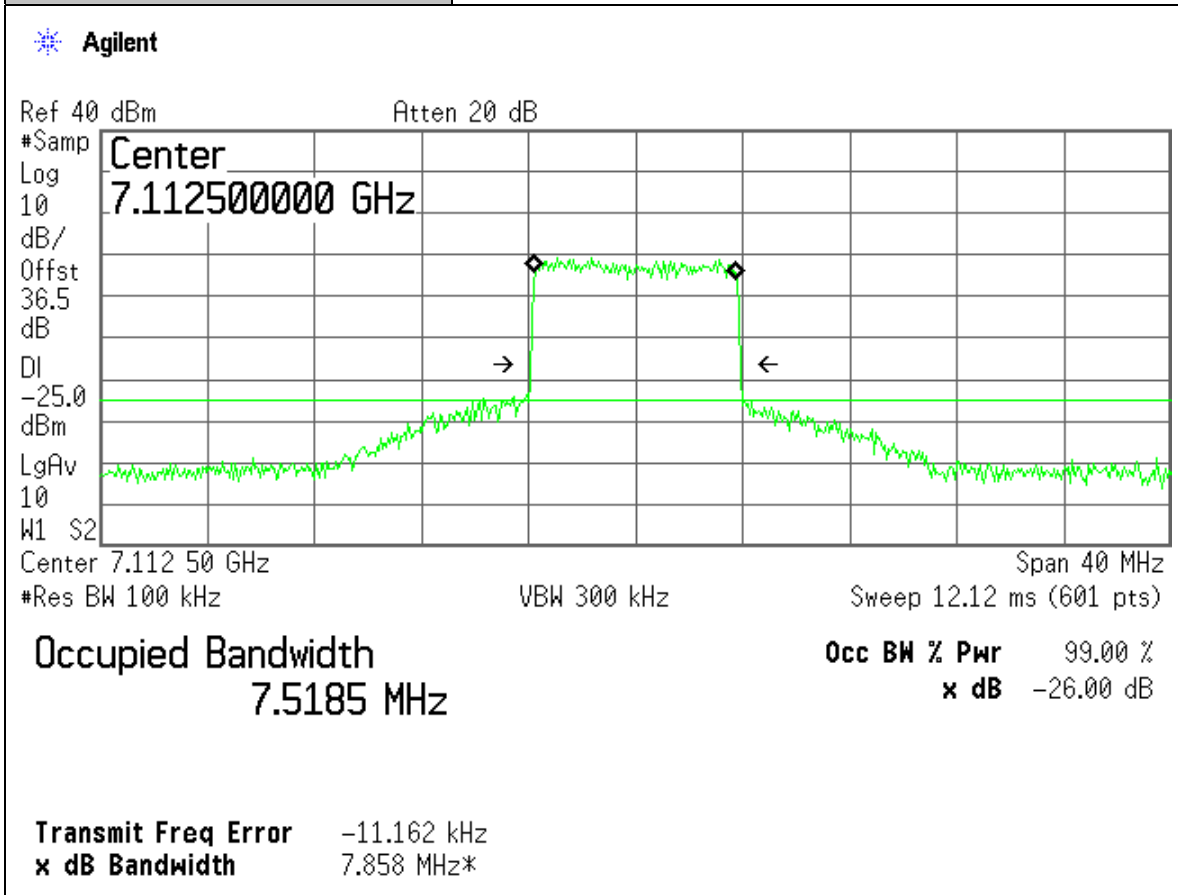
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



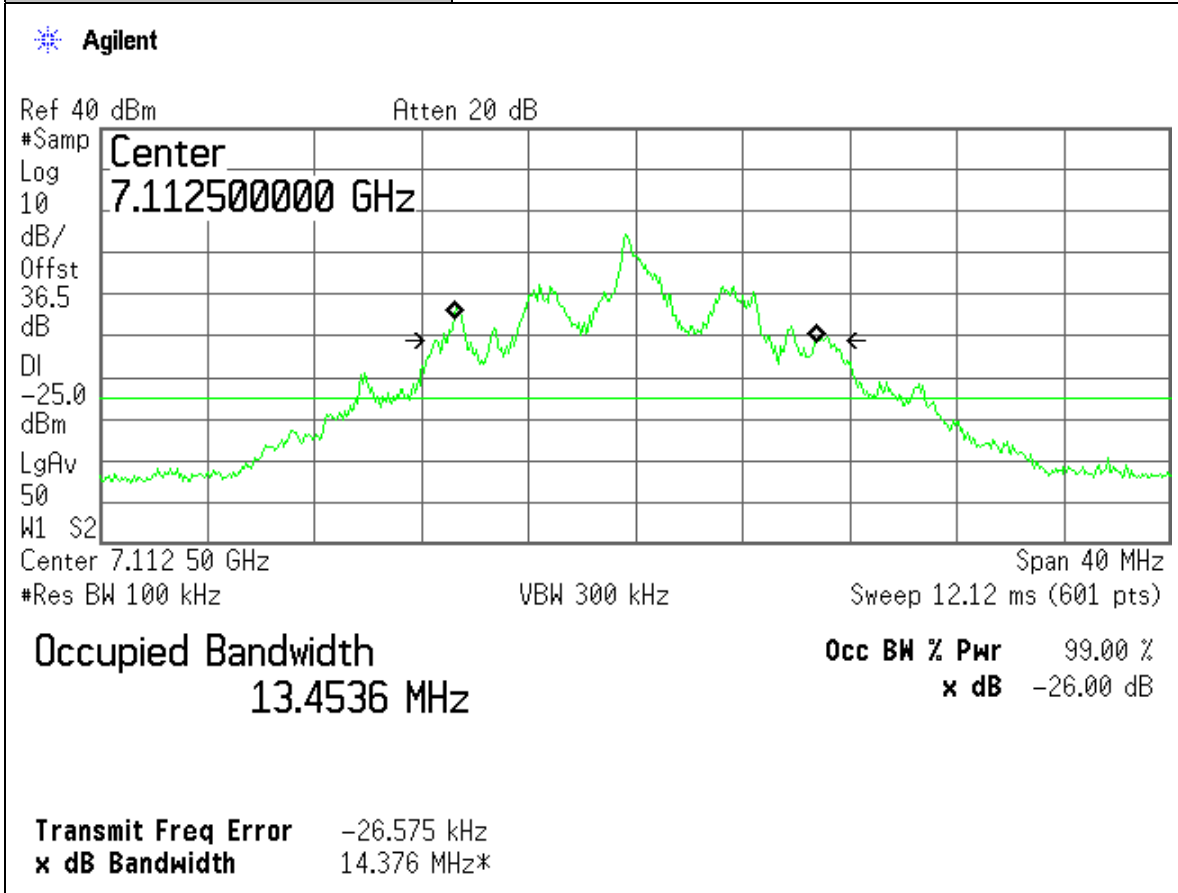
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



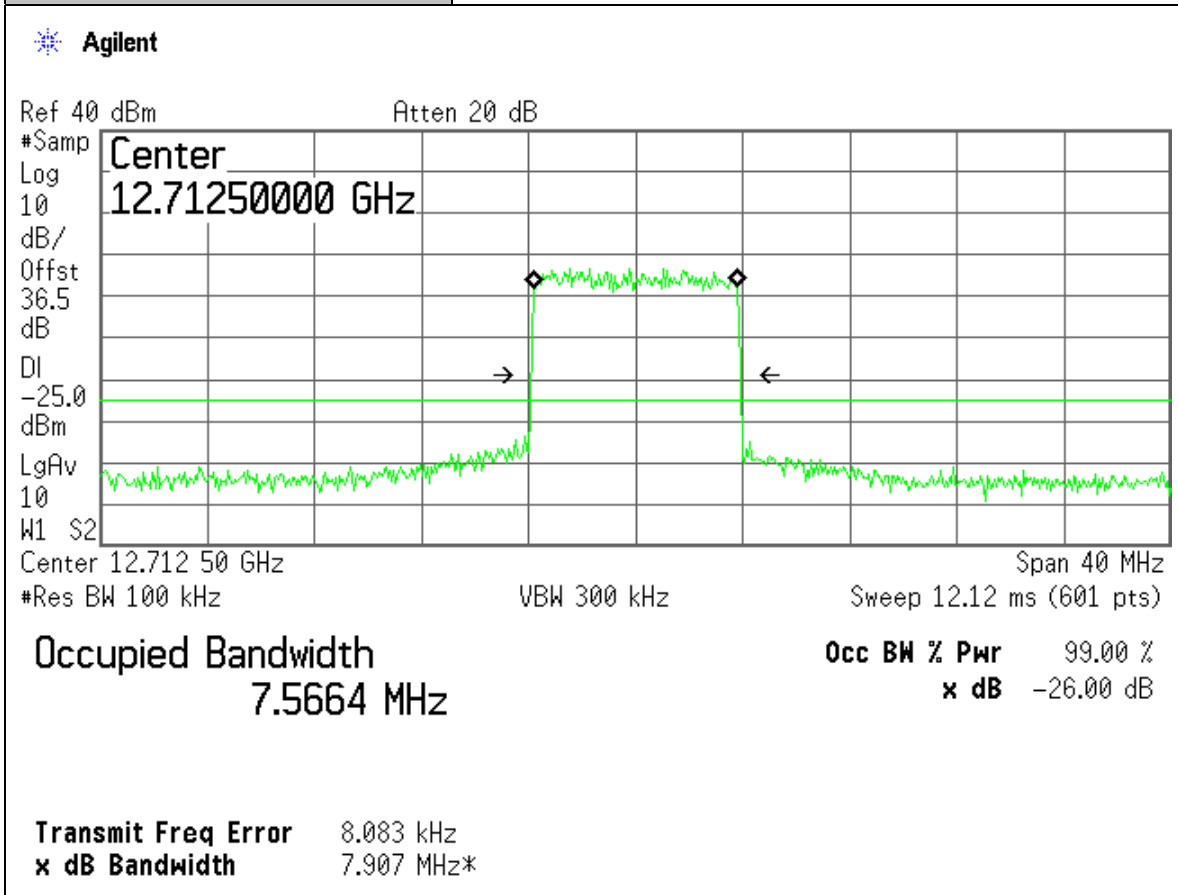
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



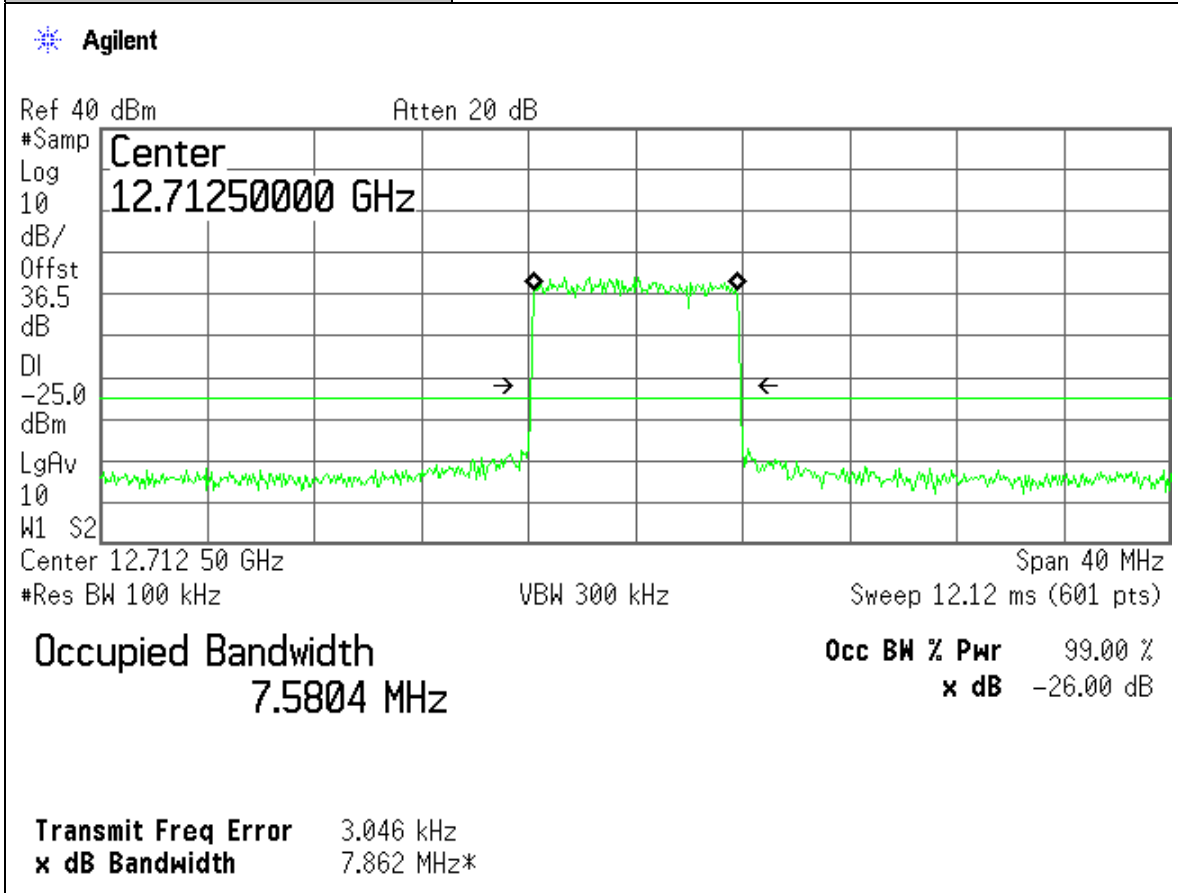
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-01, 12712.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



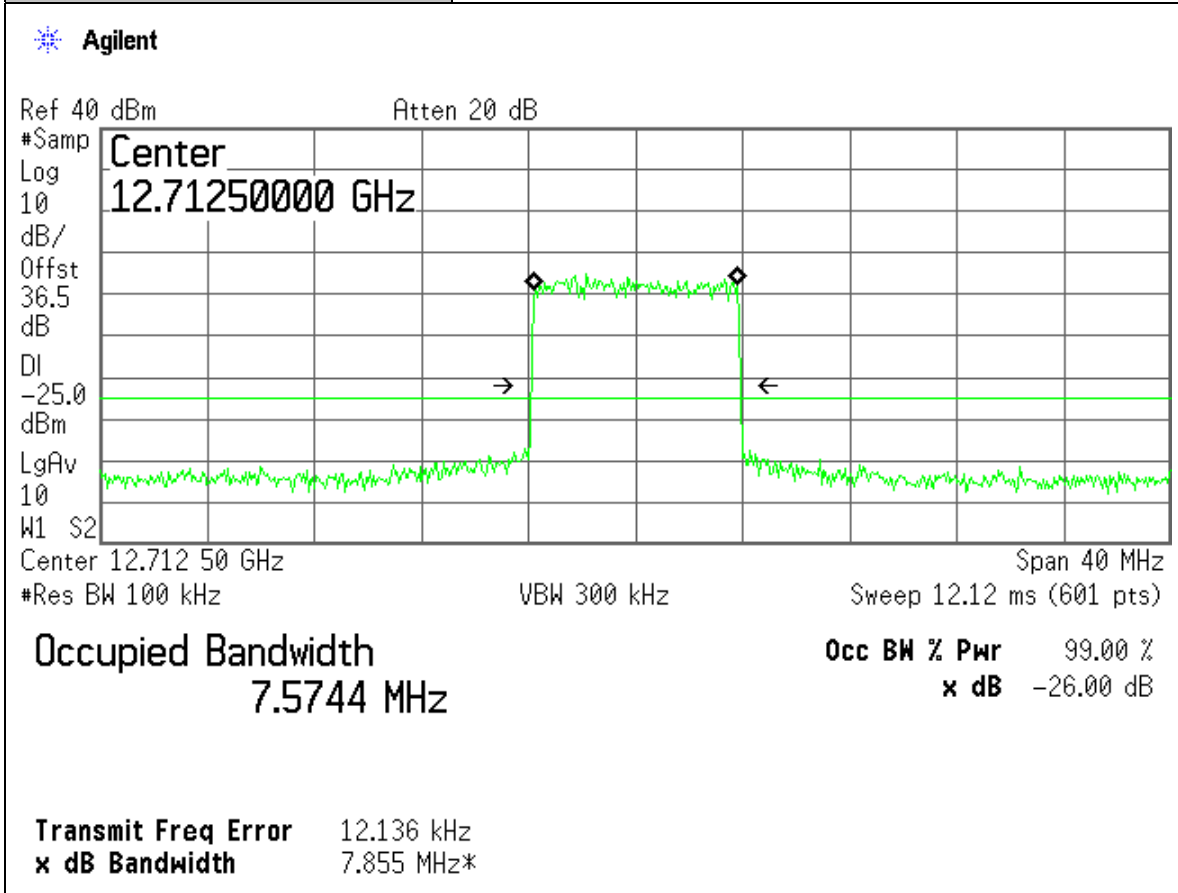
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|------------------------|---|
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-01, 12712.50 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



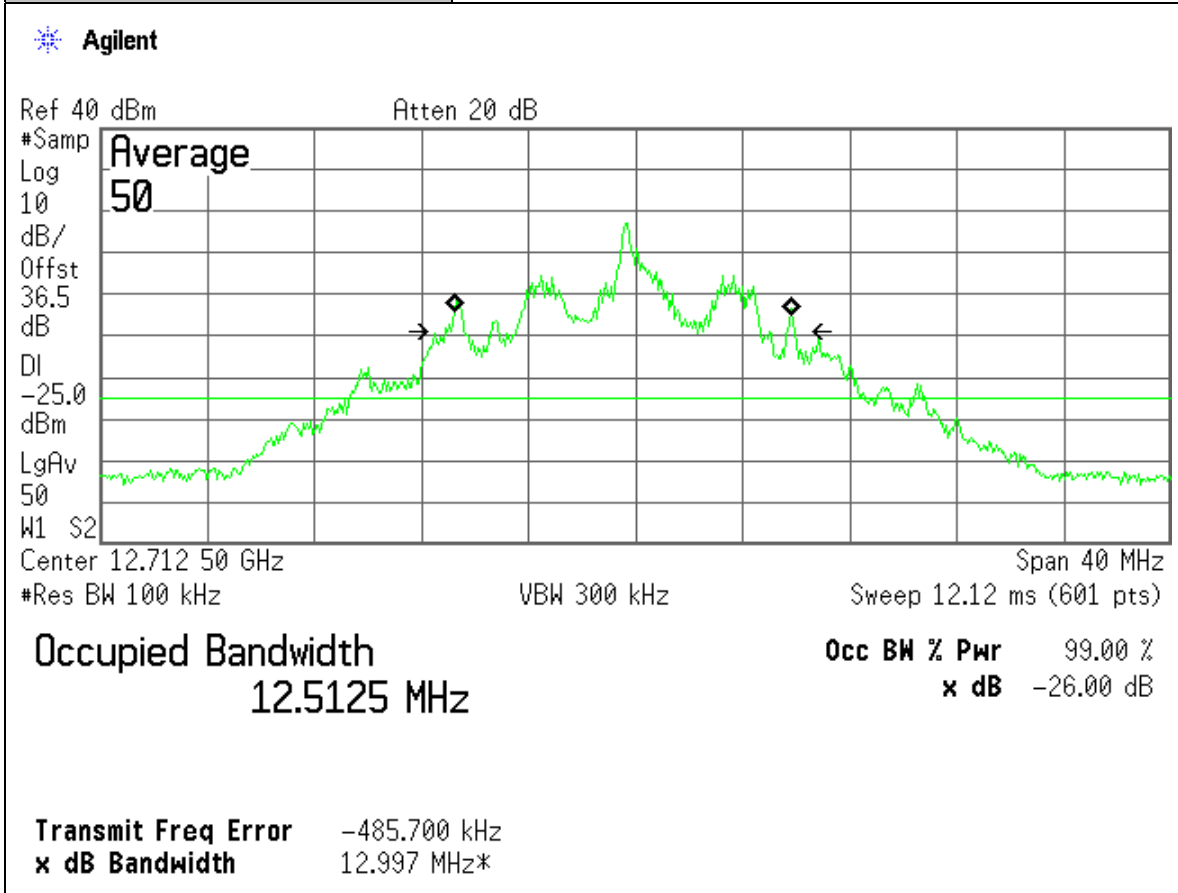
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-01, 12712.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



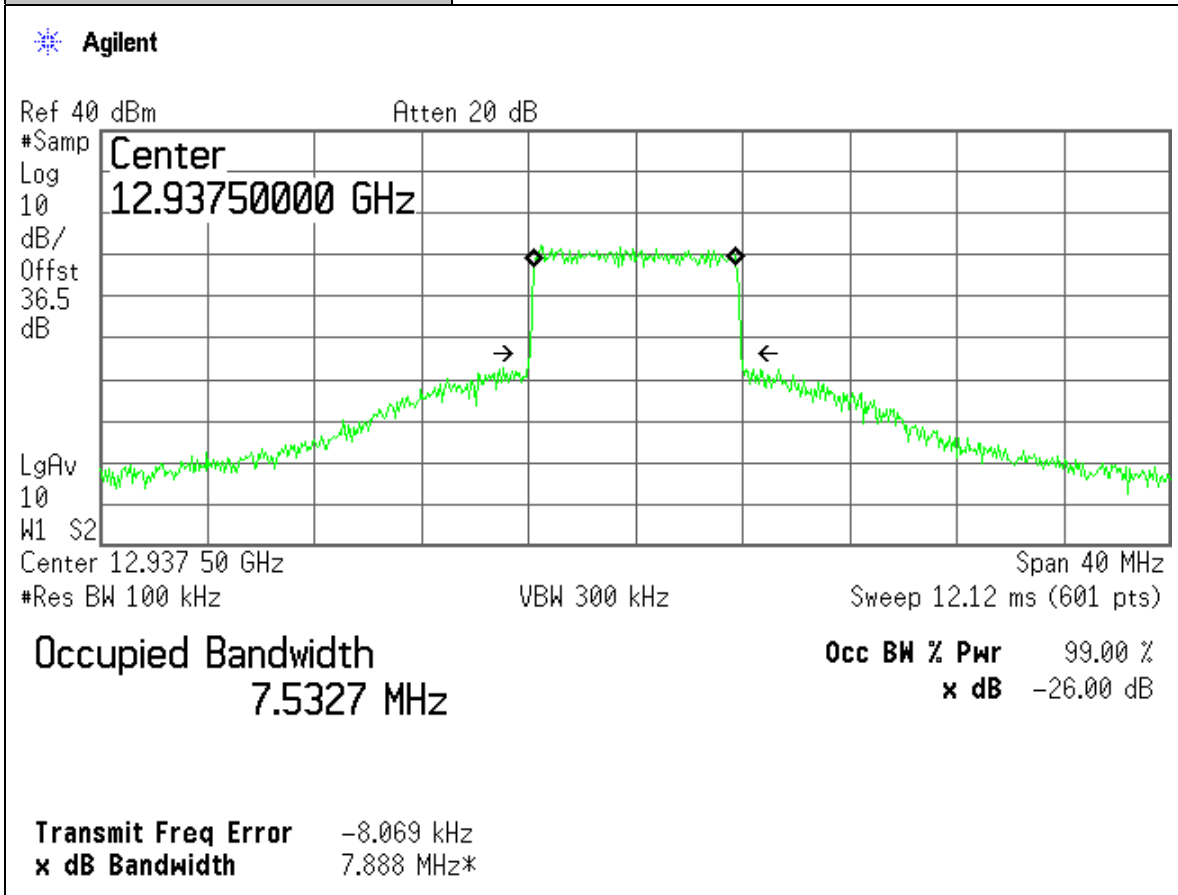
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-01, 12712.50MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



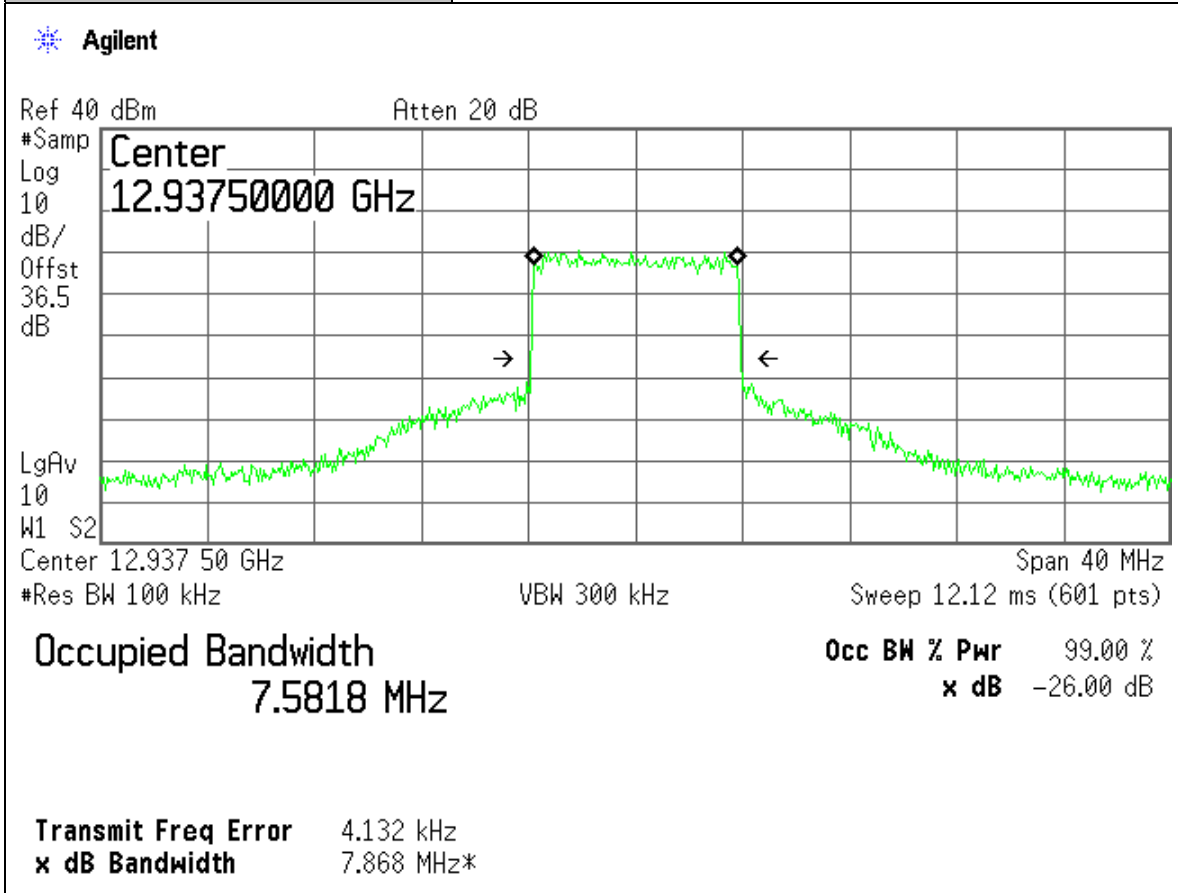
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



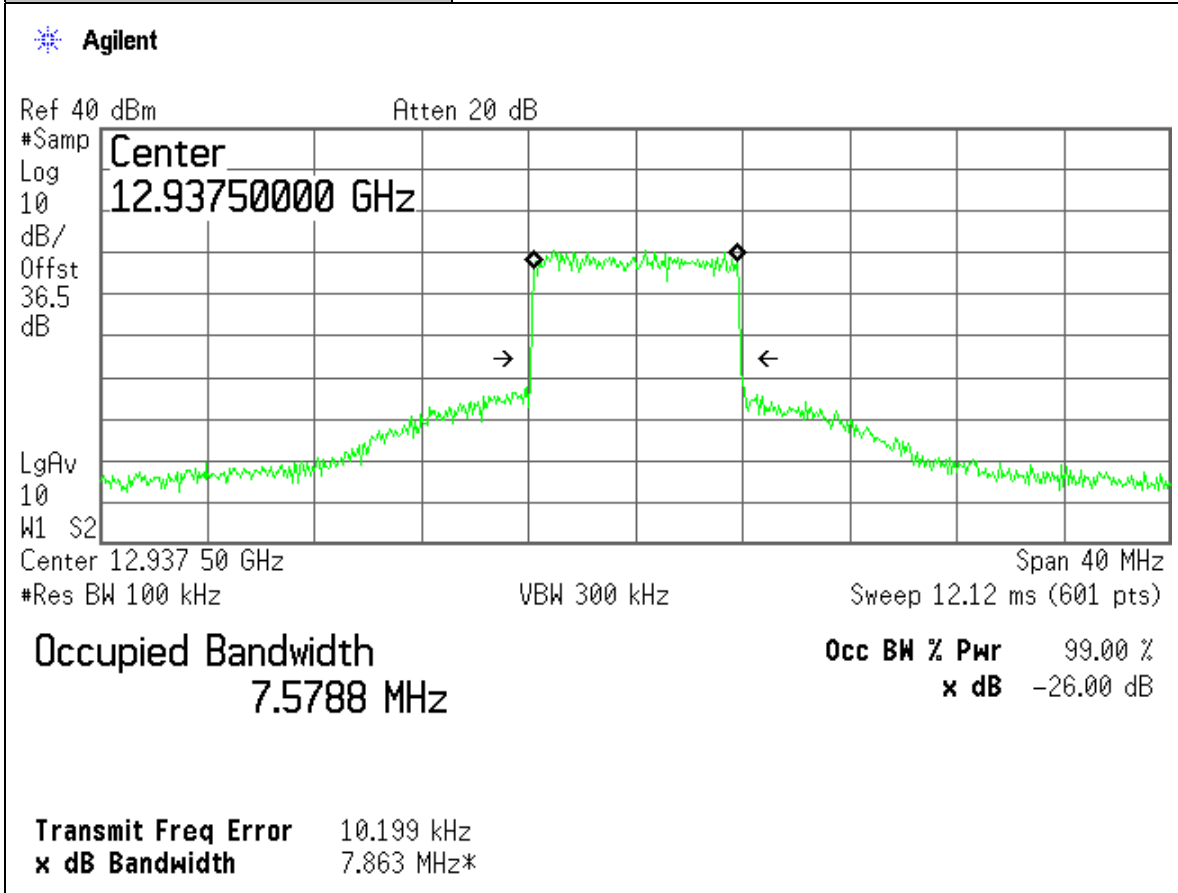
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| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-10, 12937.50 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



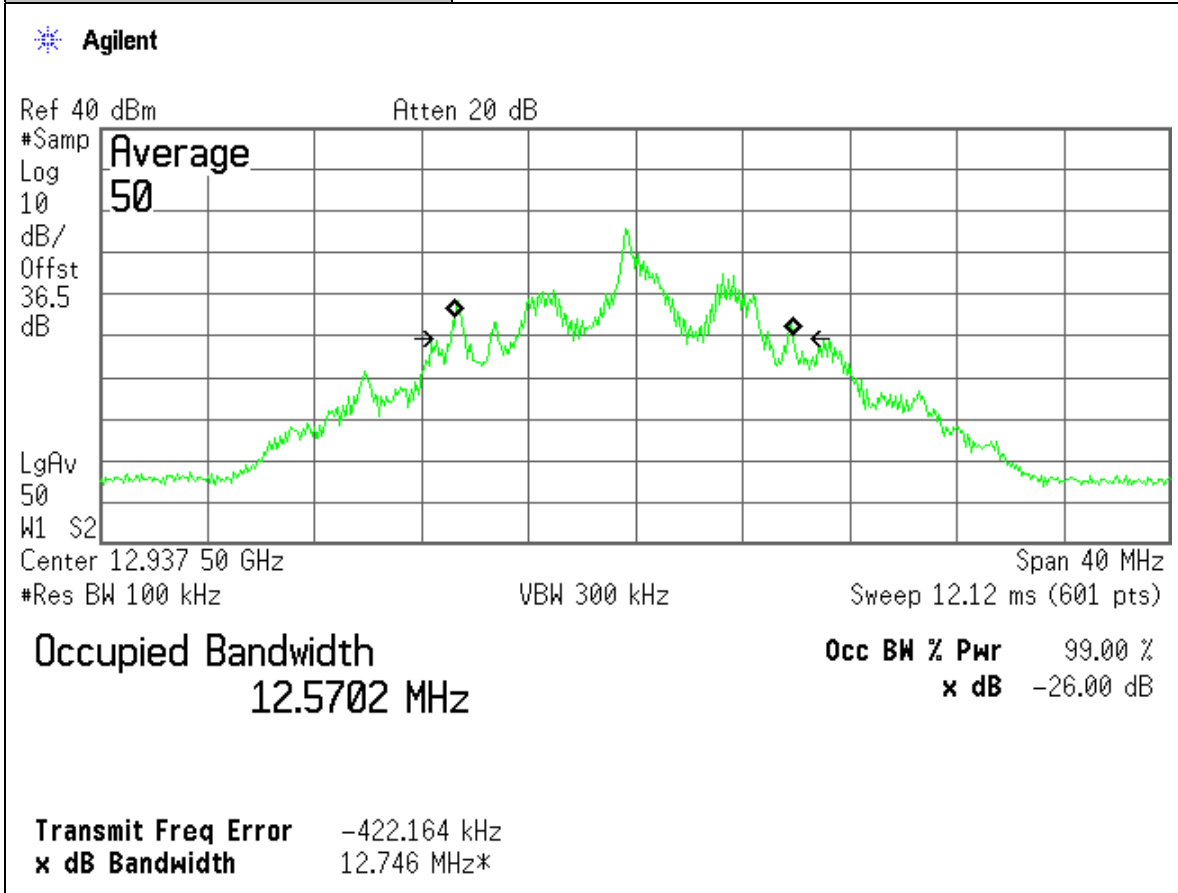
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| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



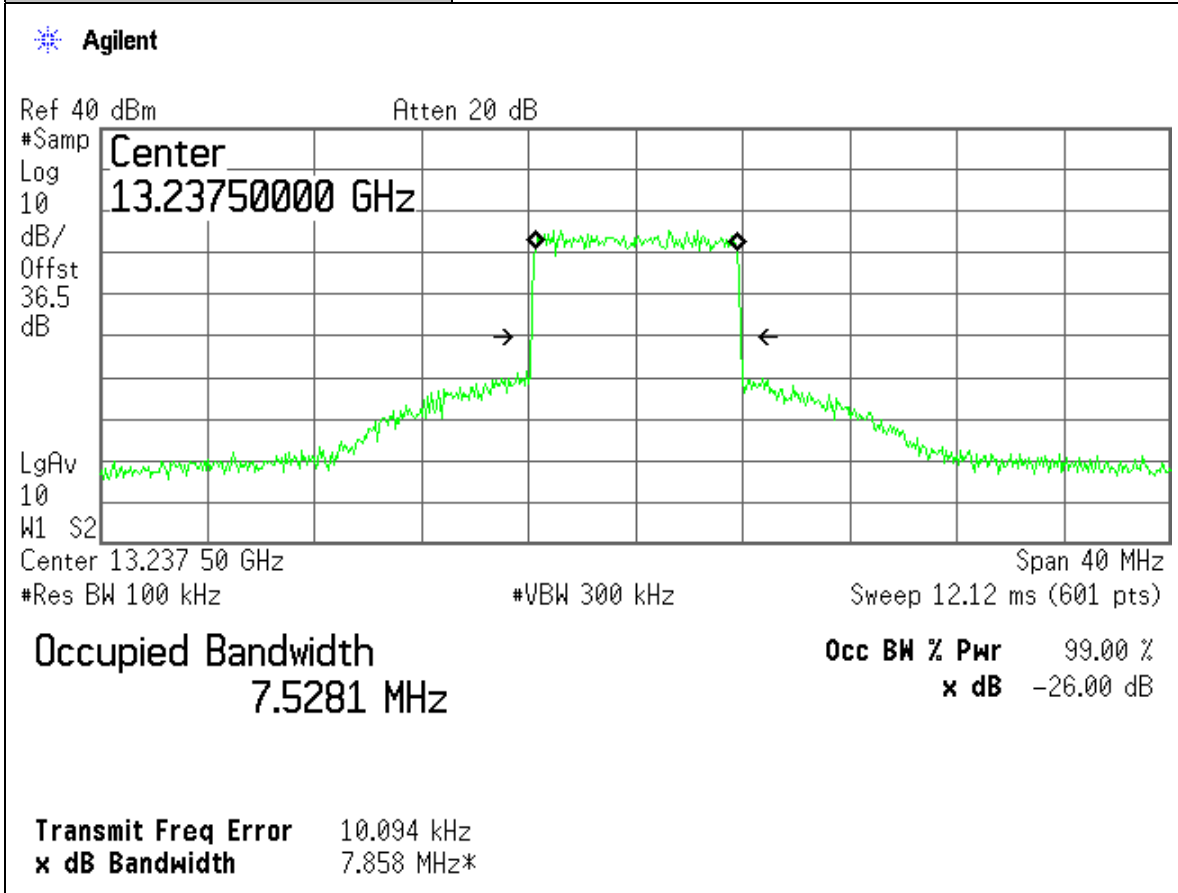
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, , FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



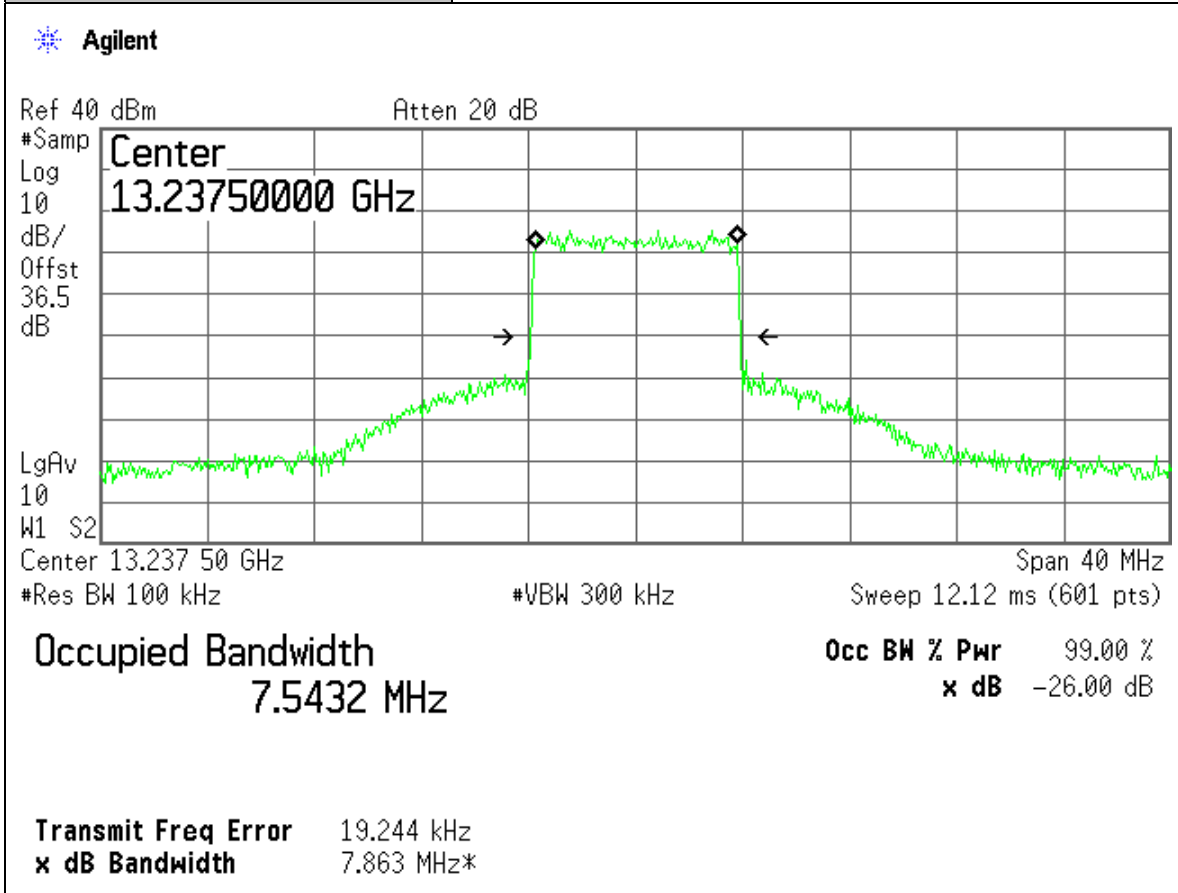
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



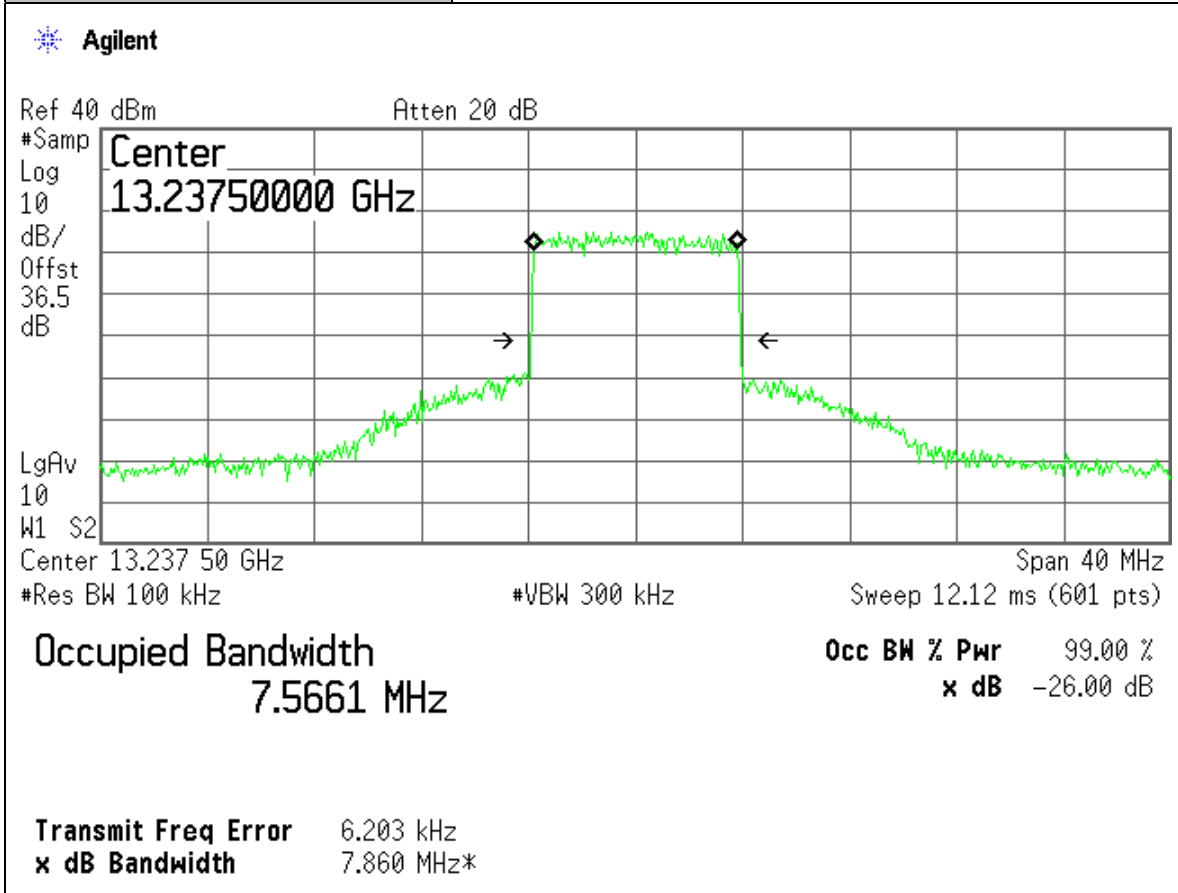
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-22, 13237.50 MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



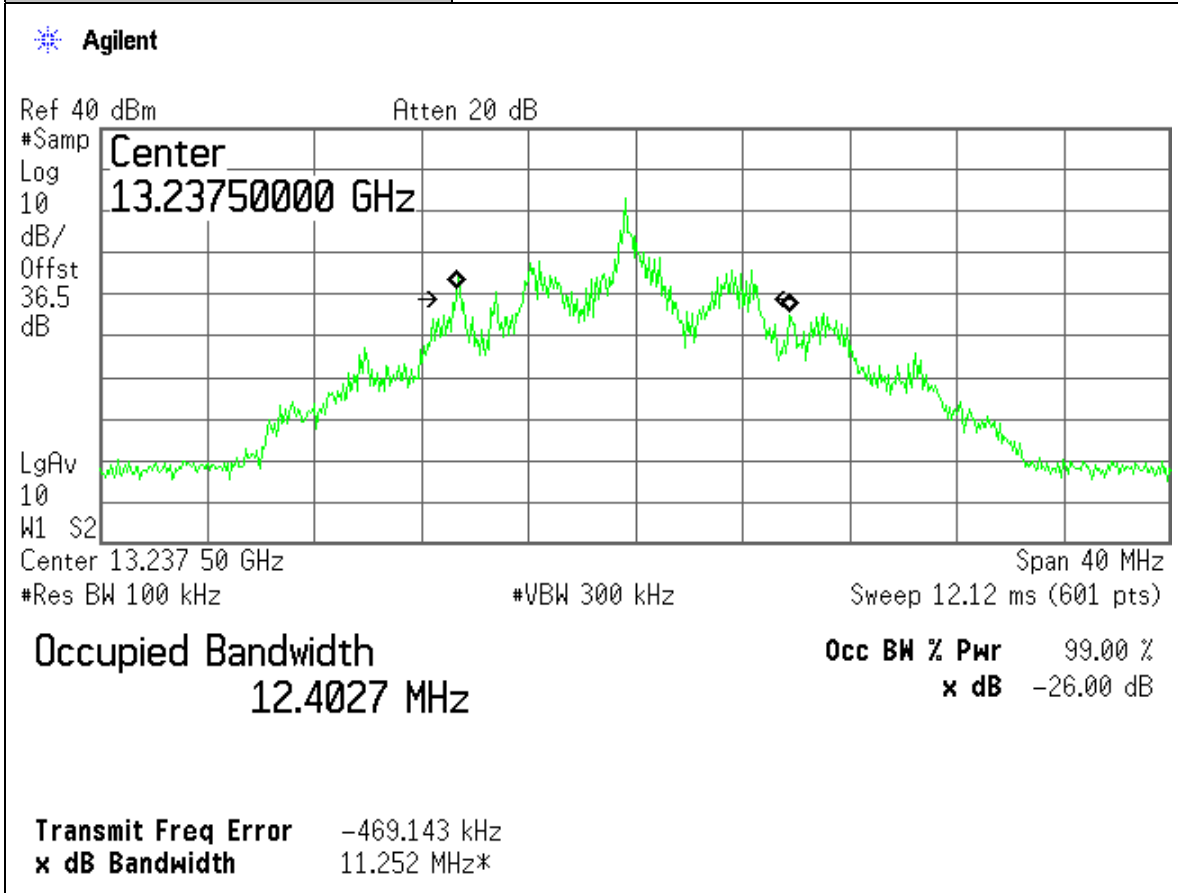
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth:13G Band |
| Plot Name: | CH-22, 13237.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



| | |
|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---------------------------------------|
| Section: | Occupied Bandwidth: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar. Output Port: EUT |



Section 5. Spurious Emissions at Antenna Terminals

| | | | |
|----------------------|--|-----------------------|-----------------------|
| Name of Test: | <i>Spurious Emissions at Antenna Terminals</i> | Test Standard: | <i>74.637/2.1051</i> |
| Tested By: | WEI LI DAVID TU | Test Date: | 05/28/2009-06/15/2009 |

Minimum Refer to Part 74.637:

Standard: *The mean power of emissions shall be attenuated below the mean transmitter power (PMEAN) in accordance with the following schedule:*

In any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth:

At least $43 + 10 \text{ Log}_{10}$ (PMEAN in watts) decibels(-13dBm), or 80 decibels, whichever is the lesser attenuation.

Method of Spectrum Analyzer Settings:

Measurement: RBW: 100 kHz&1MHz. As required for digital modulations.

VBW: >=RBW

Start Frequency: 9kHz or lowest EUT clock frequency.

Stop Frequency: up to 10th Harmonics or 40GHz highest.

Sweep: Auto

Test Result:

Complies

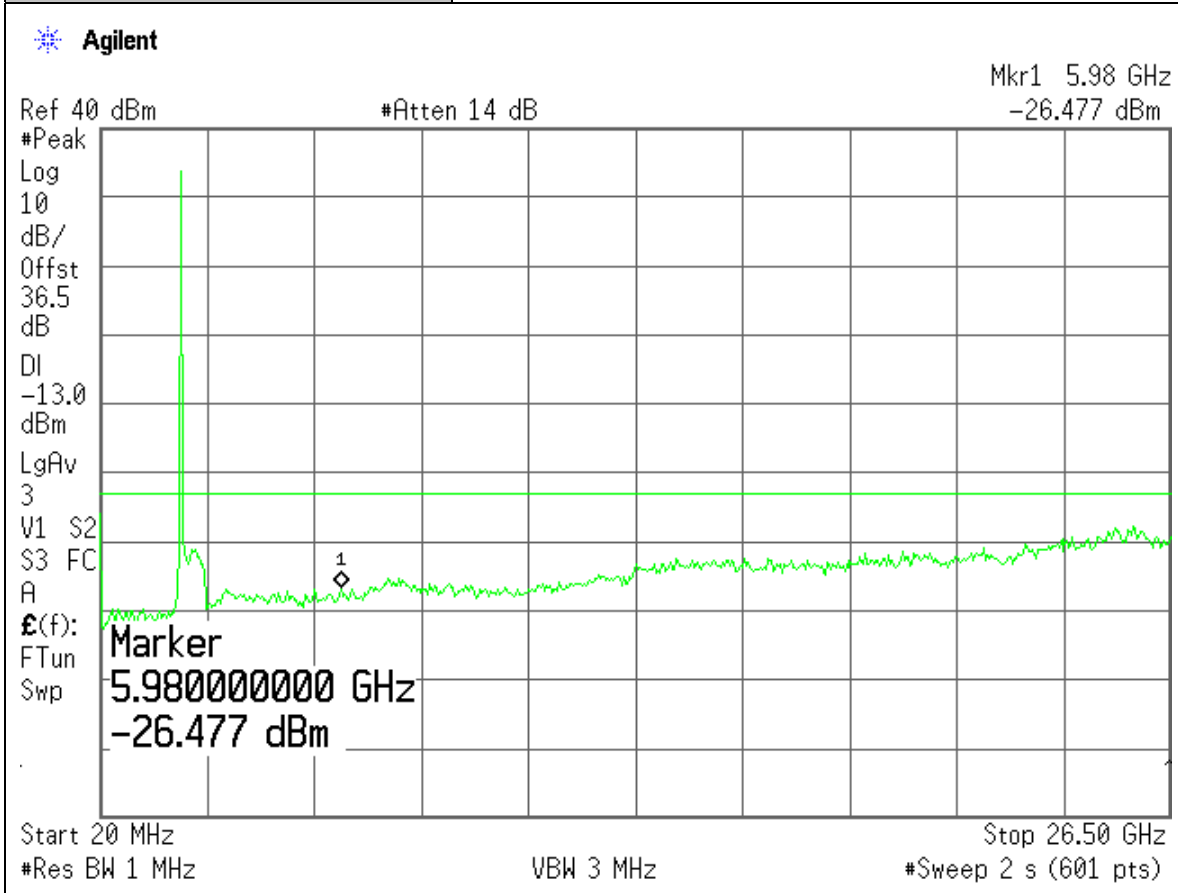
Test Data:

Attached Plots

***No significant signals were found above 26GHz frequency range.**

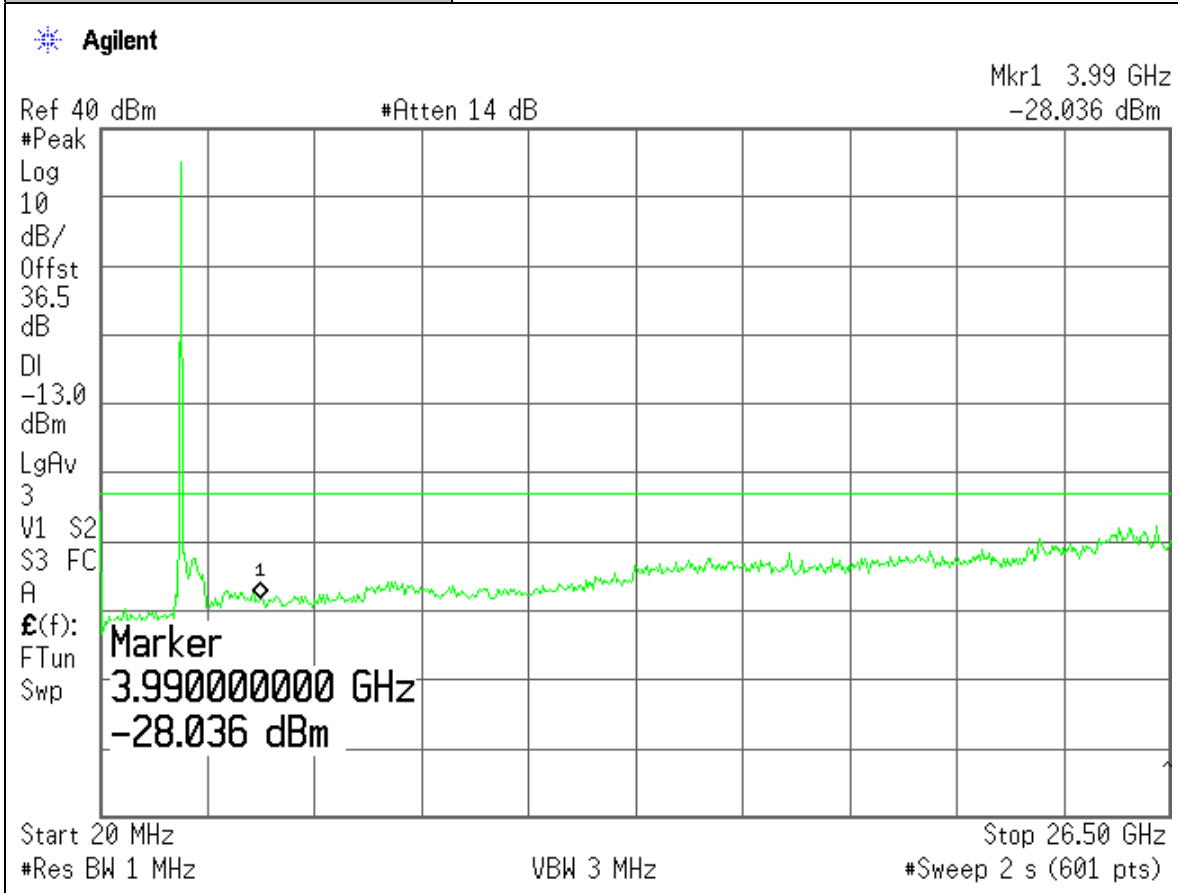
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-1, 1999MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



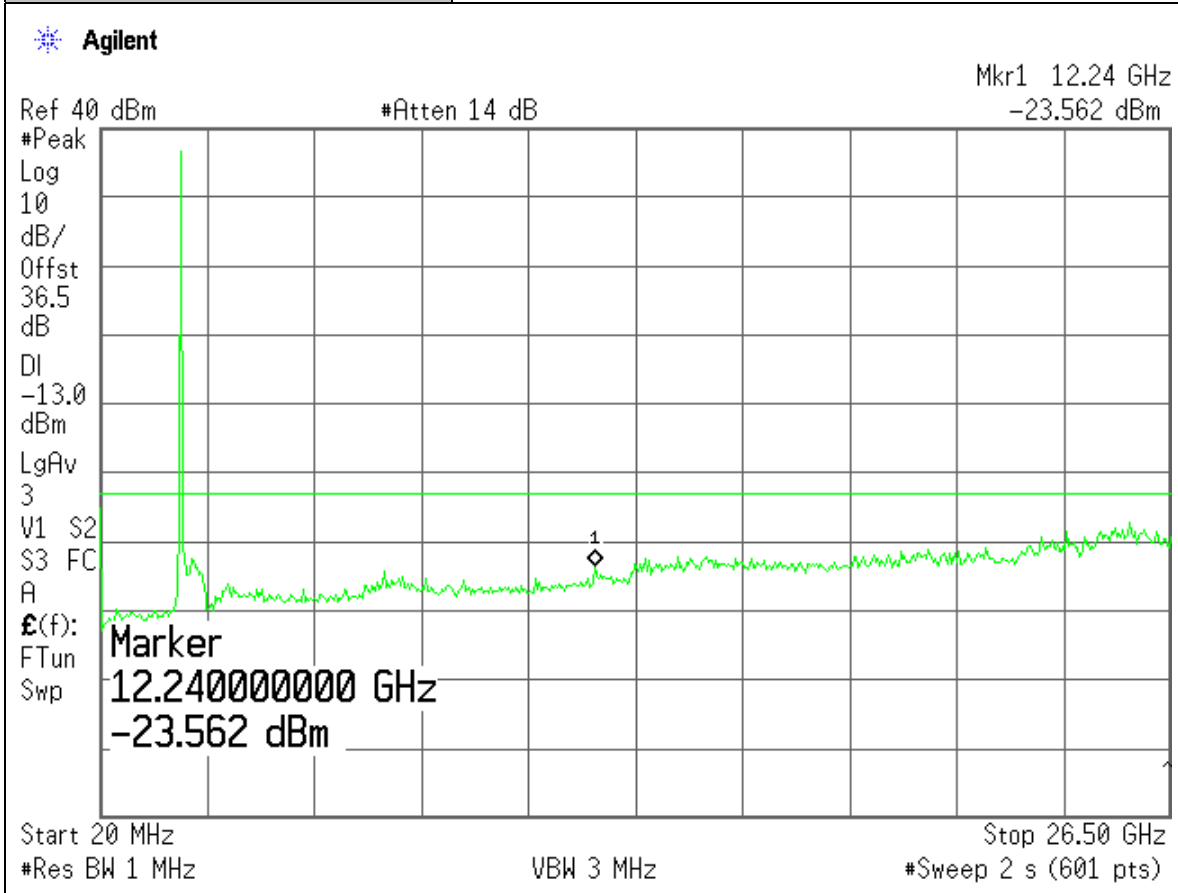
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-1, 1999MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



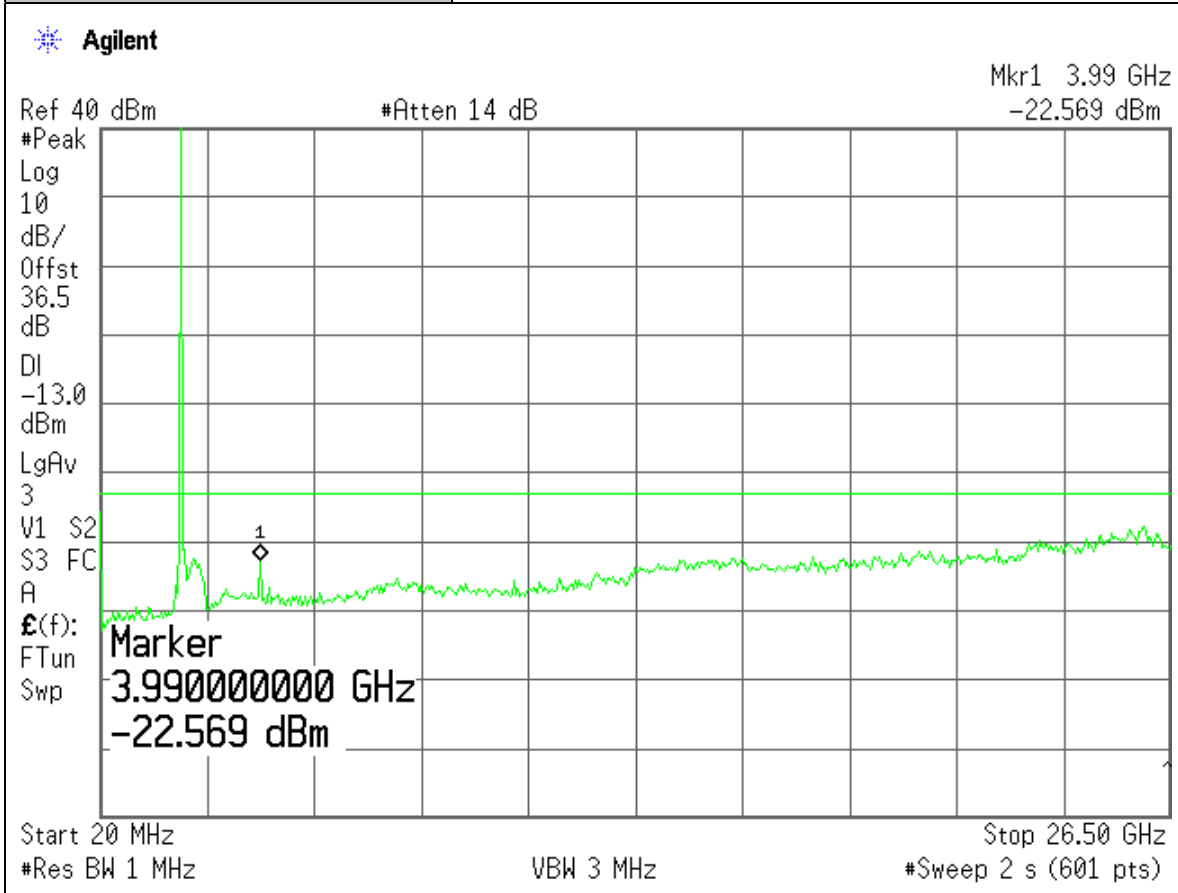
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-1, 1999MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



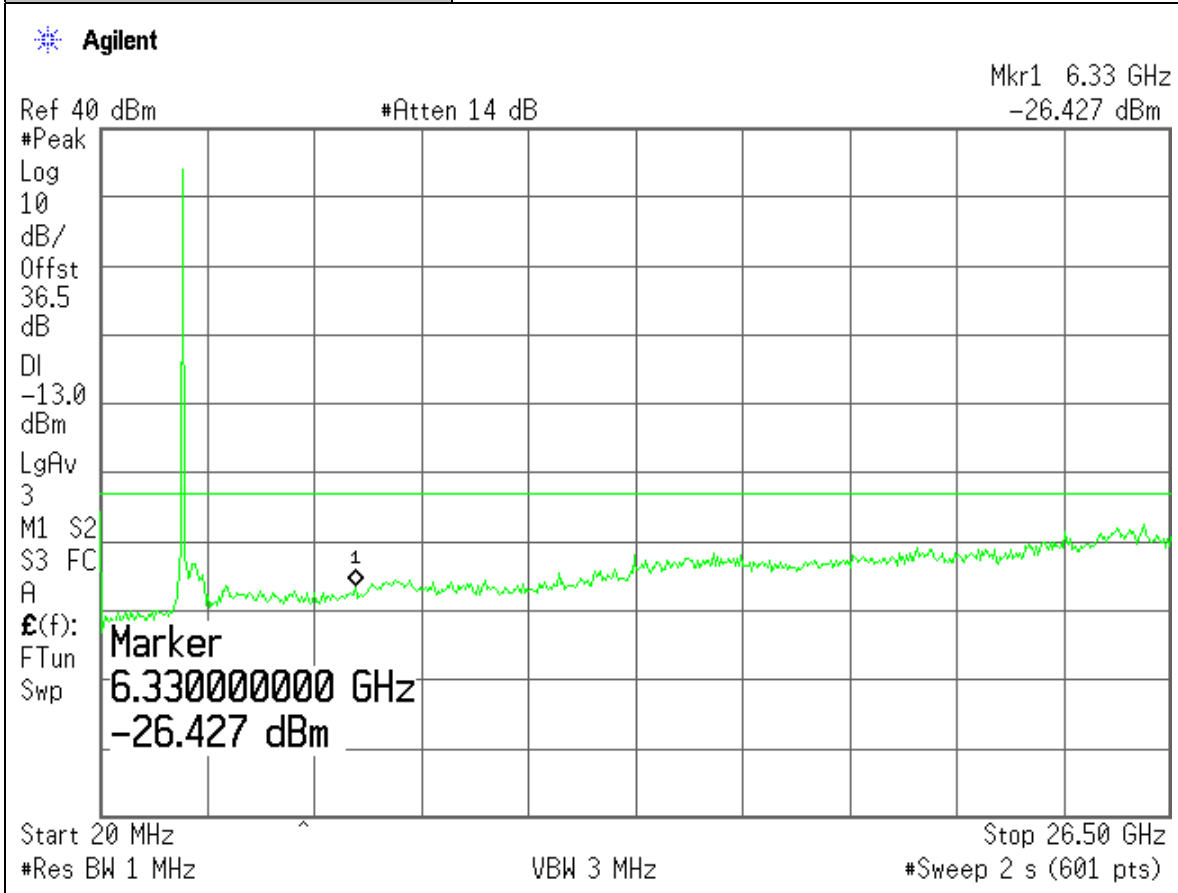
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-1, 1999MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



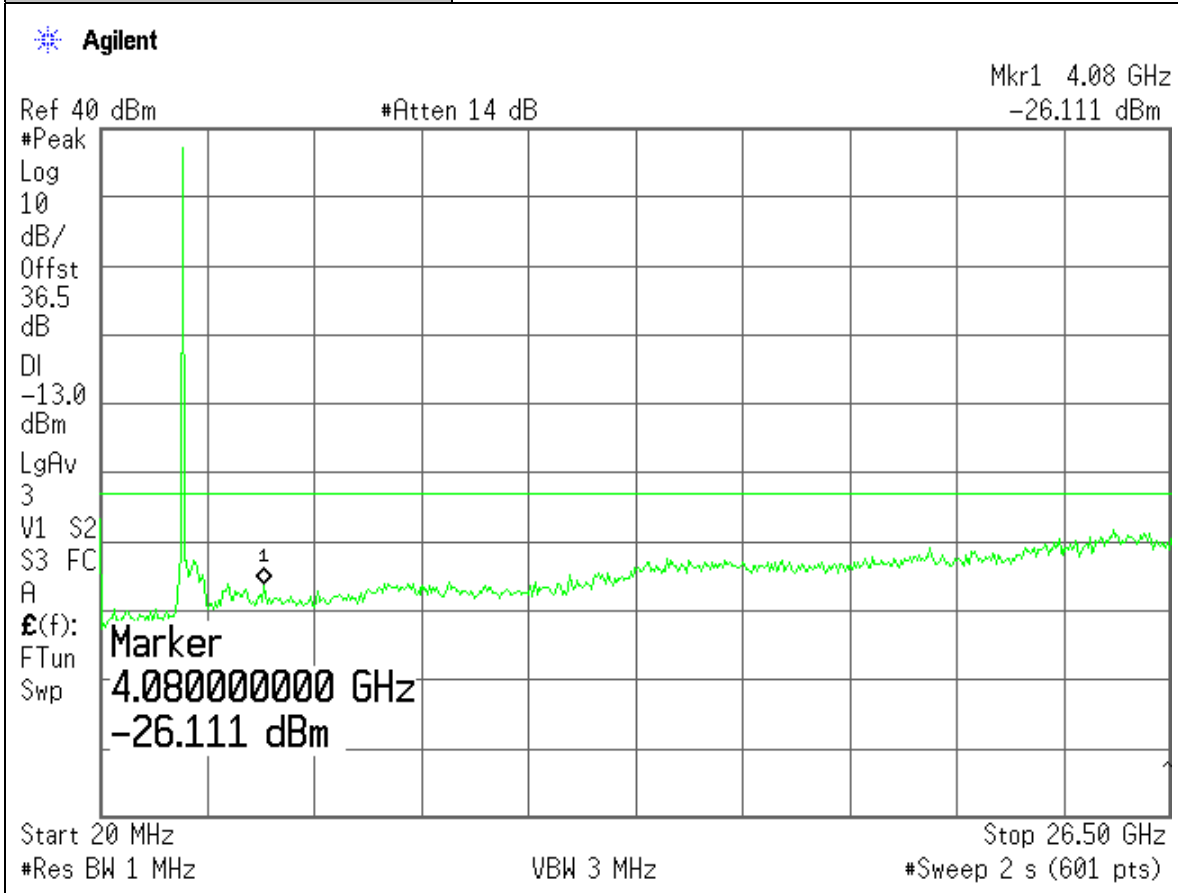
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



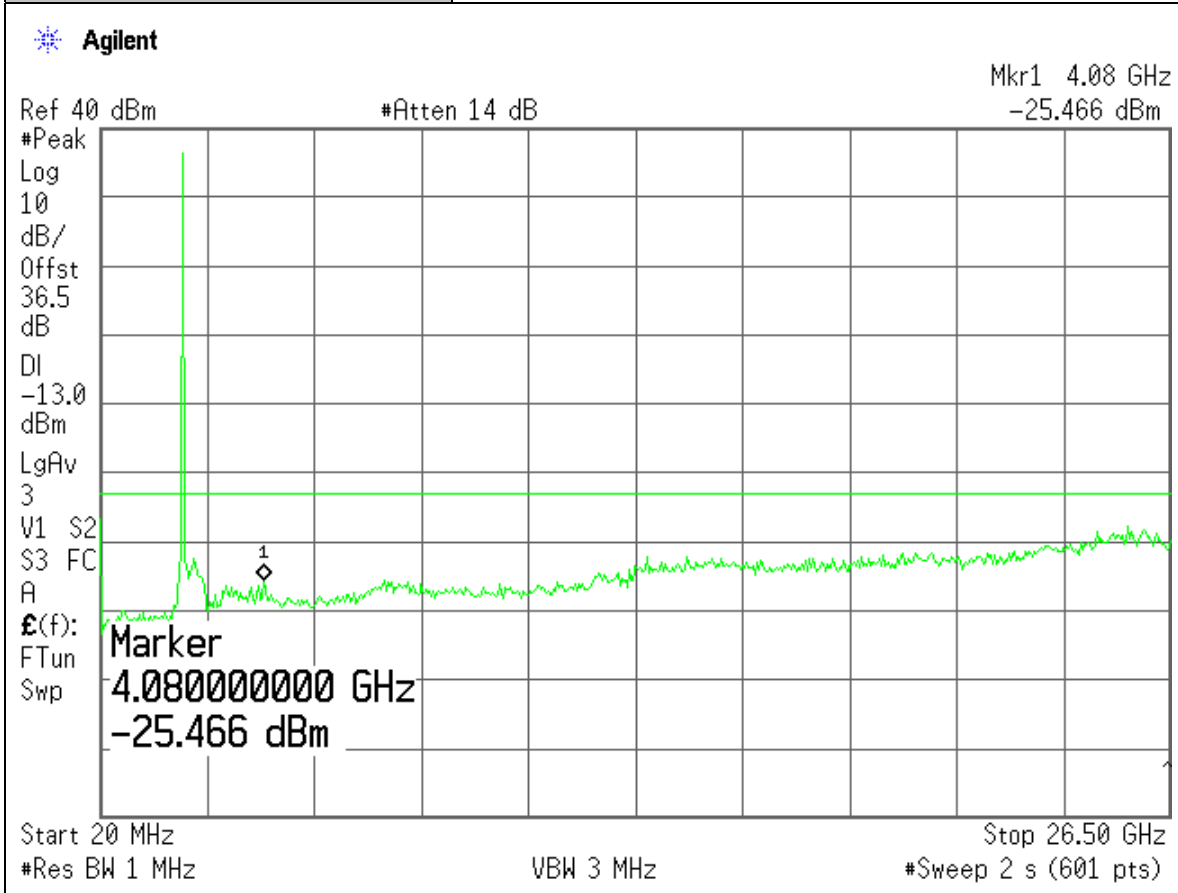
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



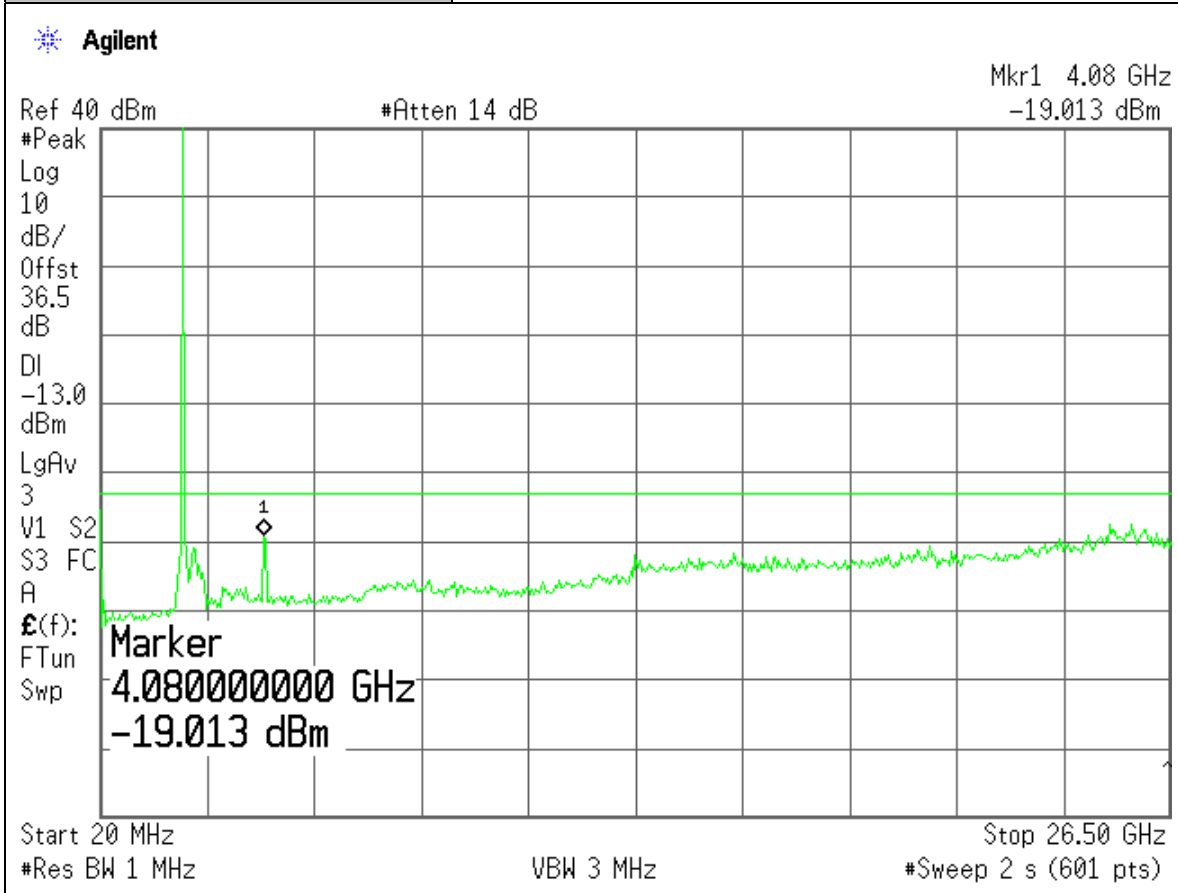
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



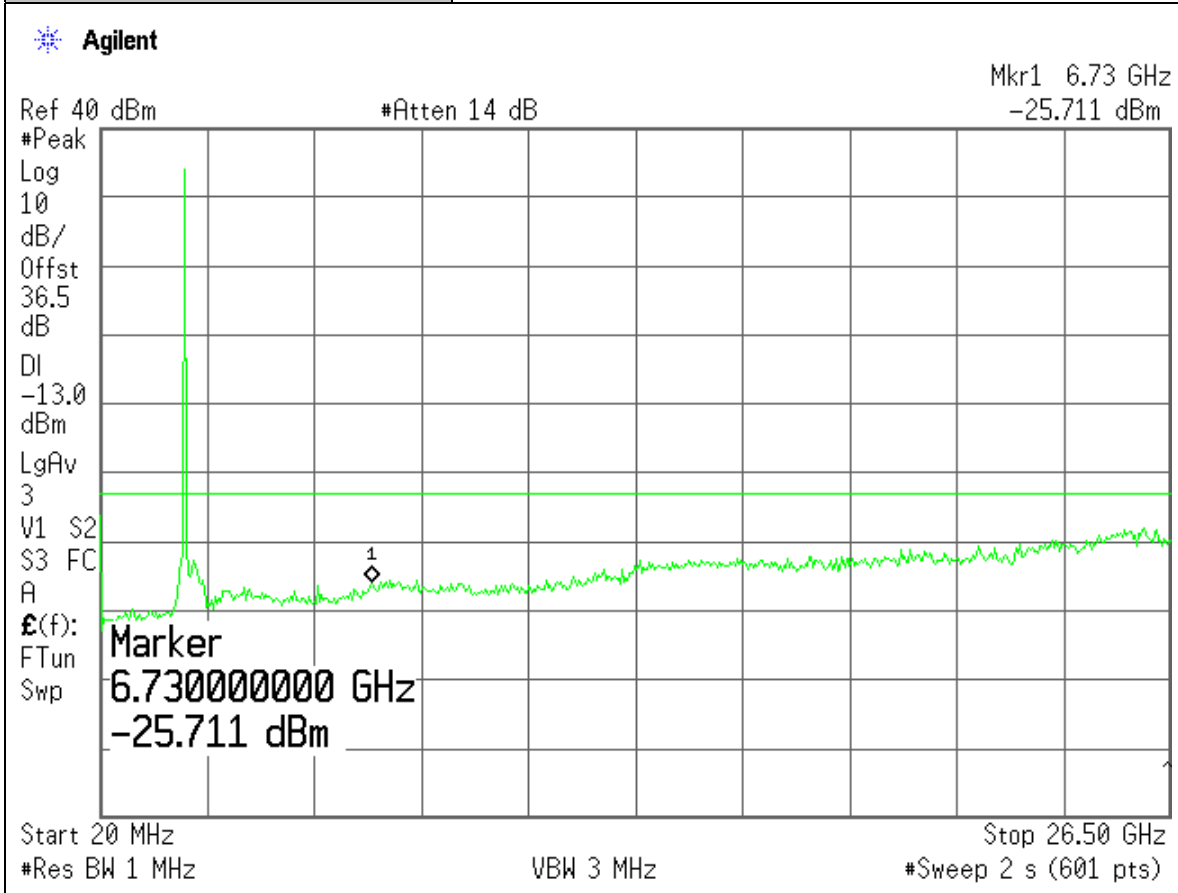
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



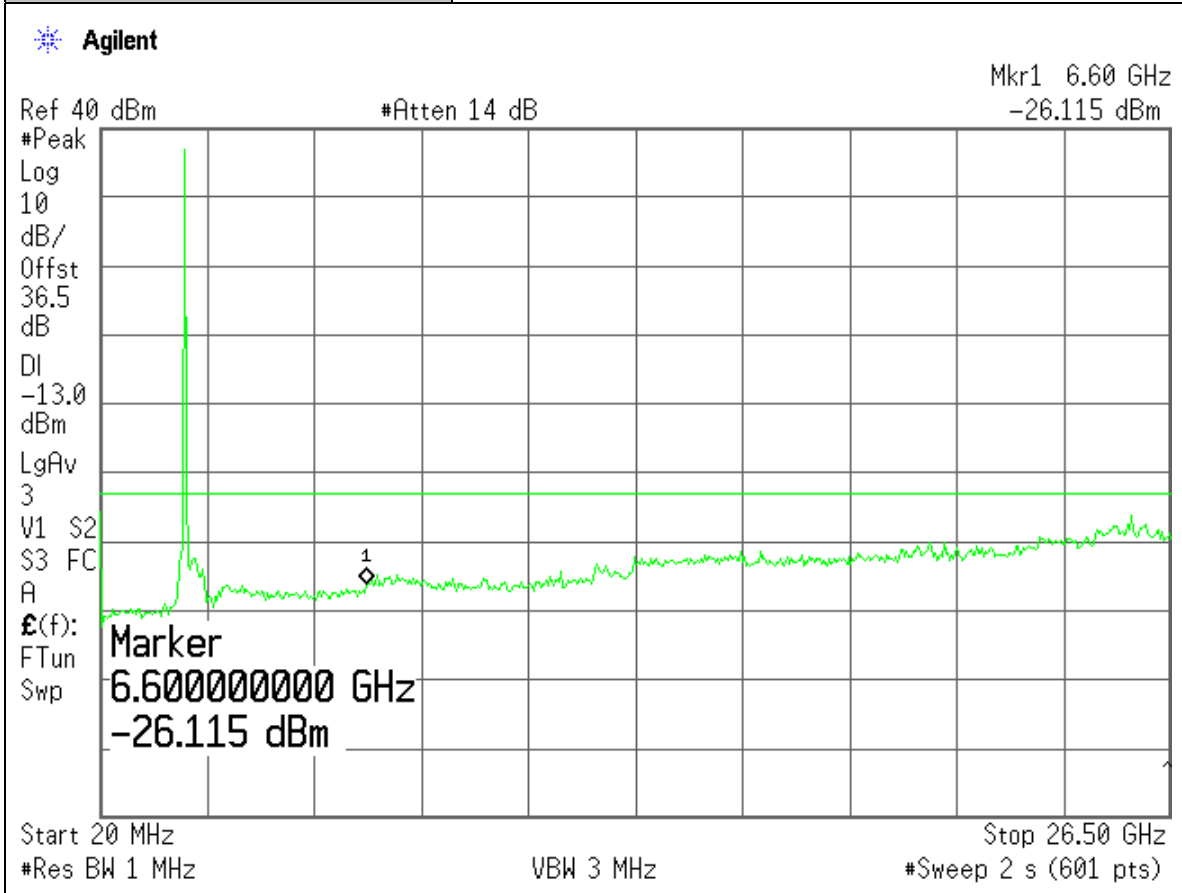
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



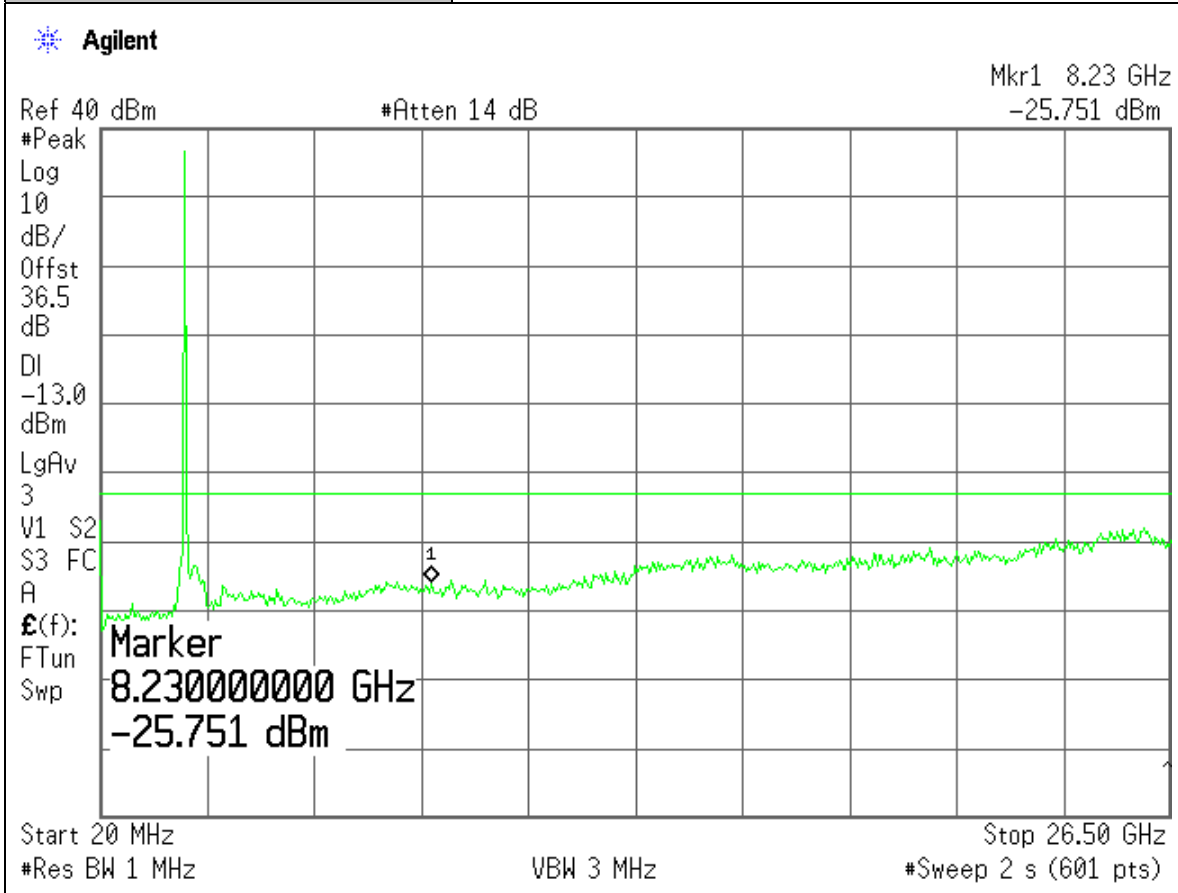
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



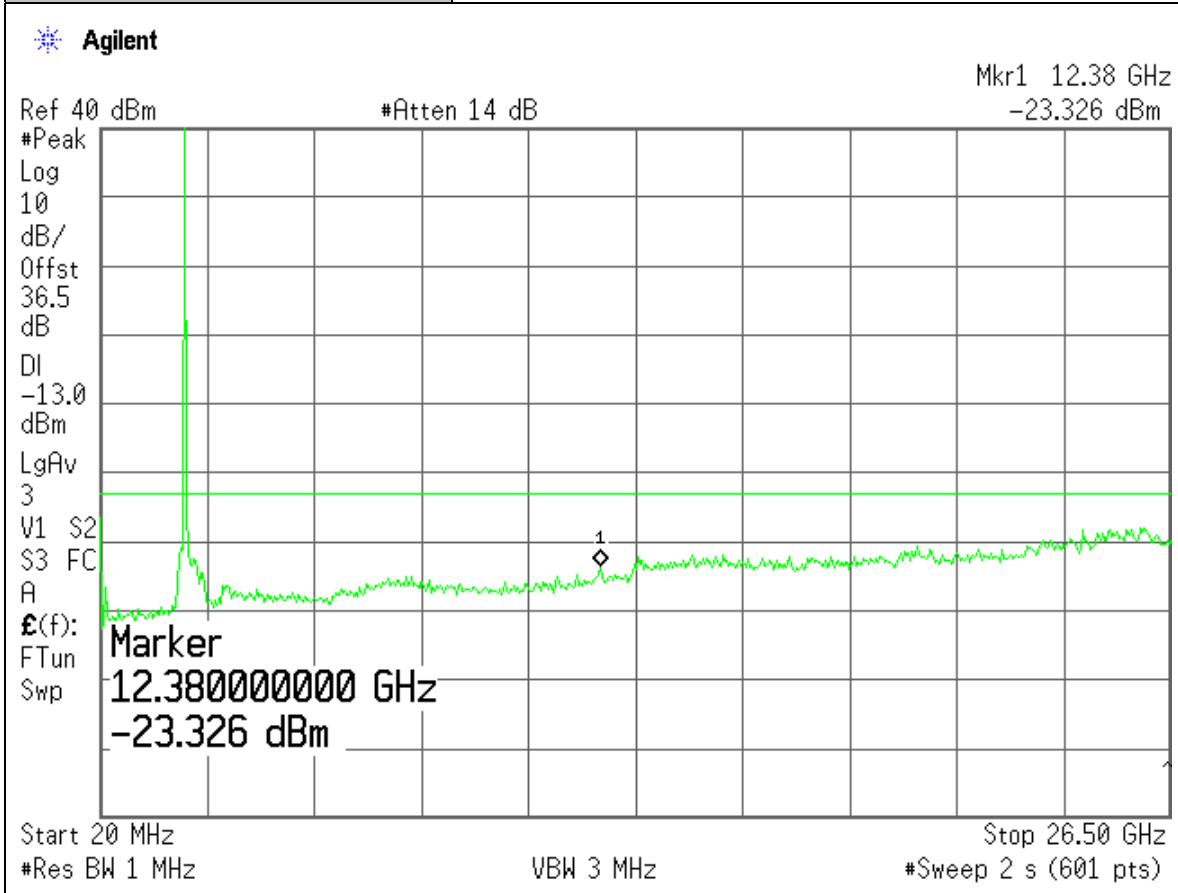
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



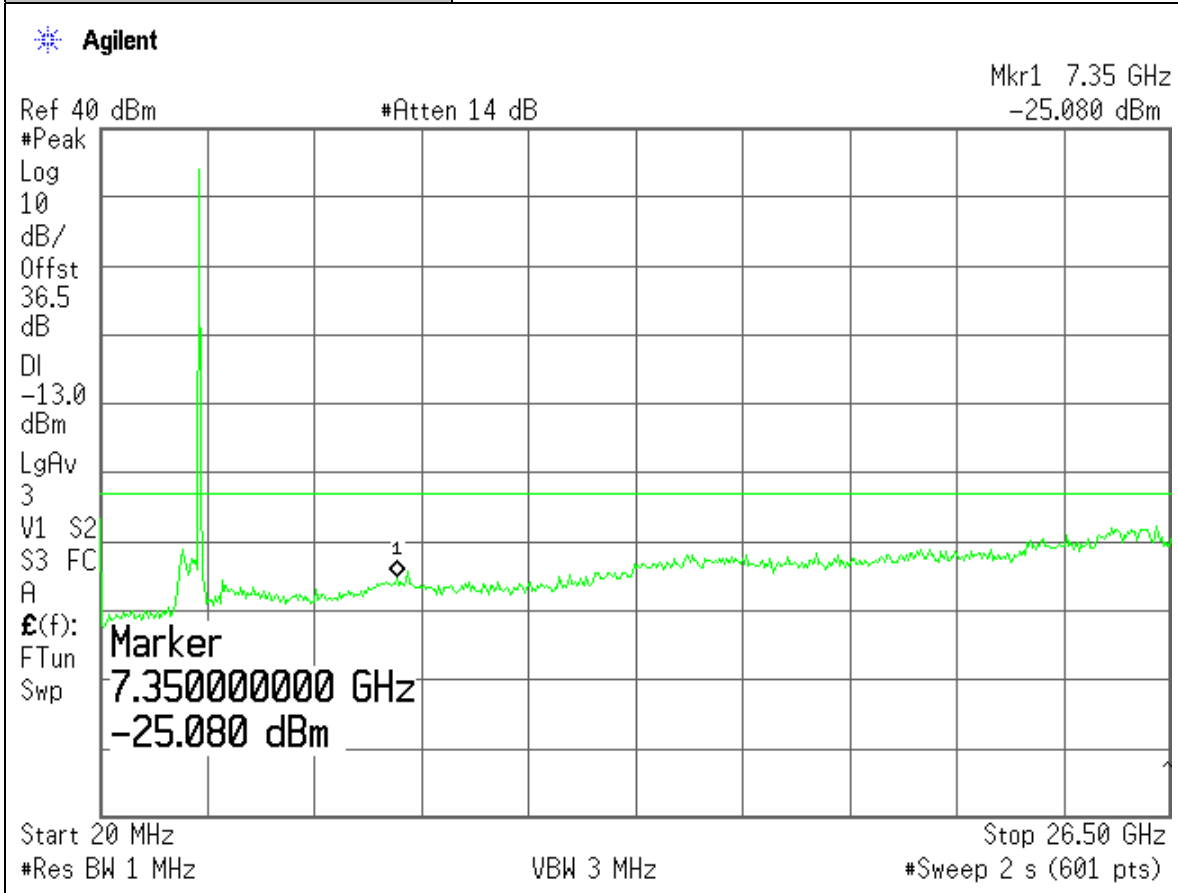
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



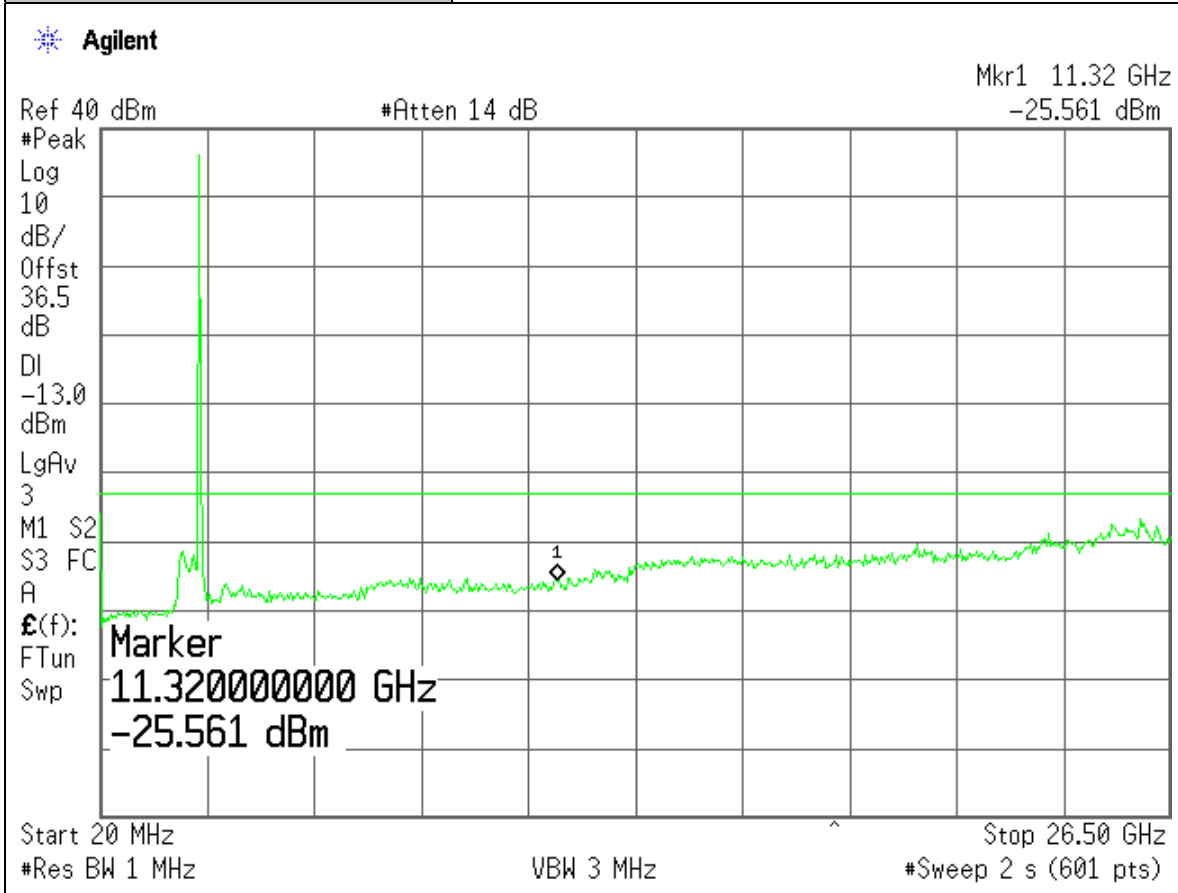
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



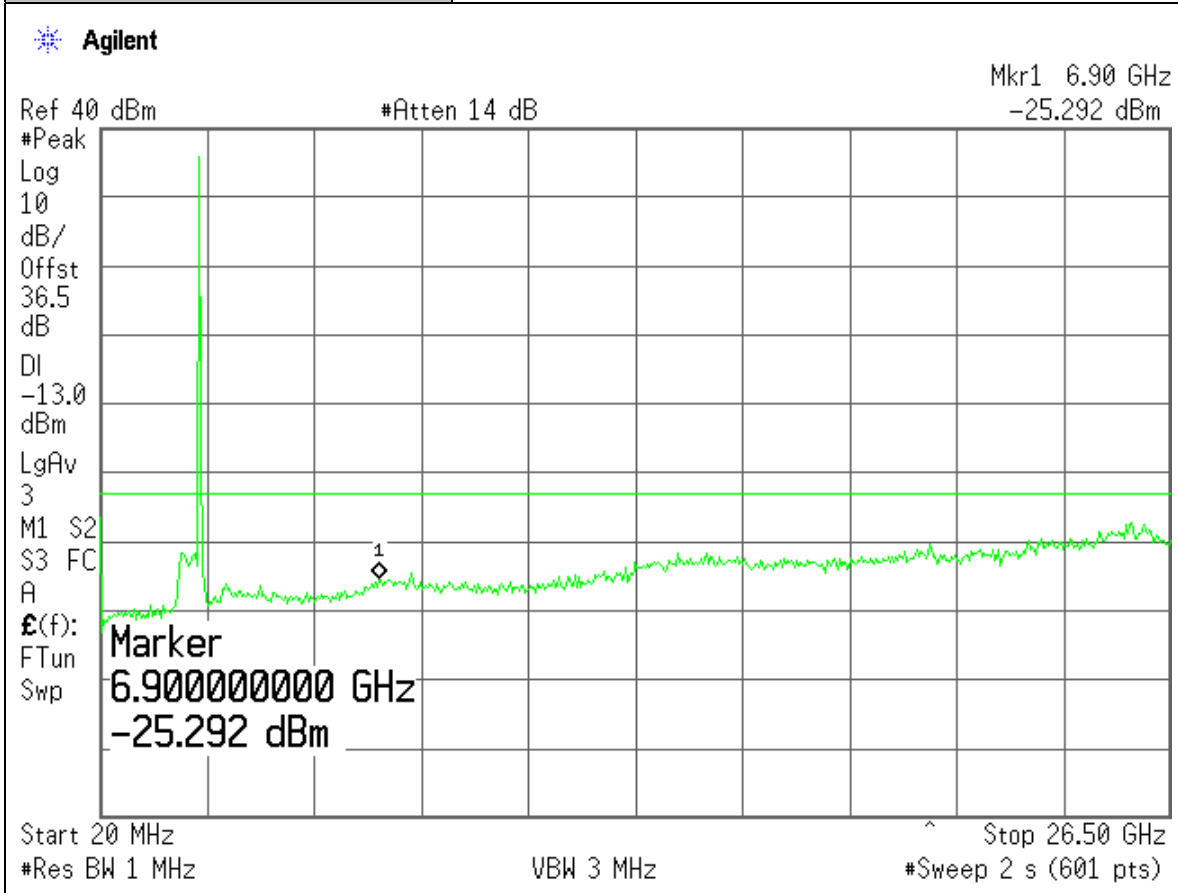
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



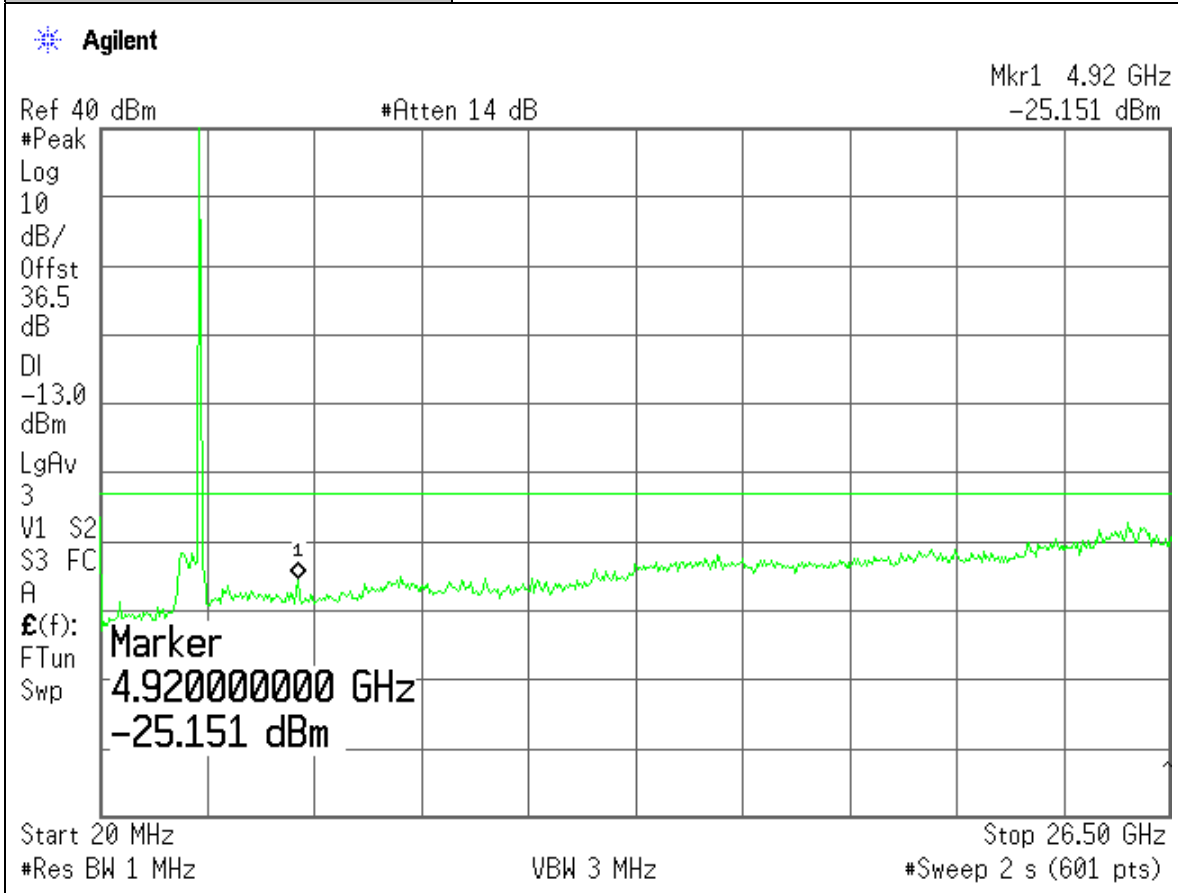
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



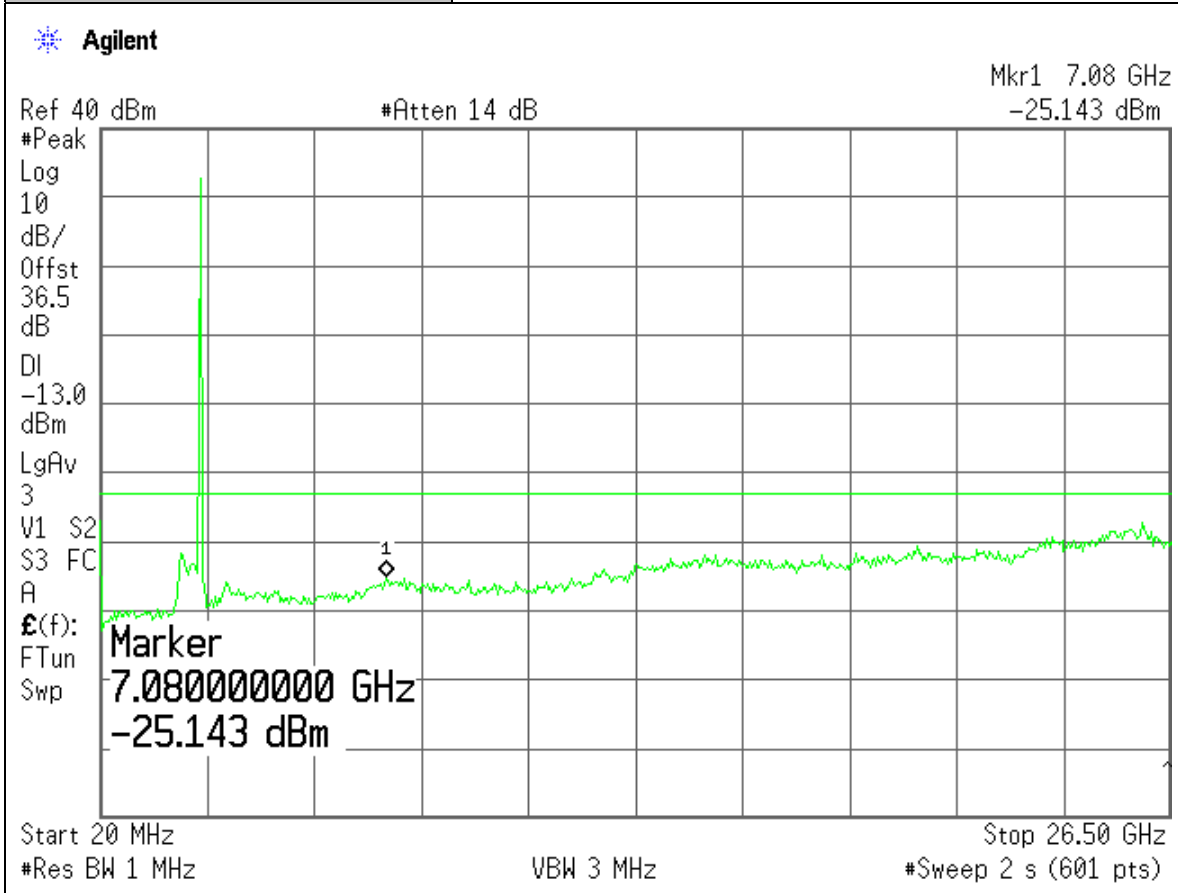
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



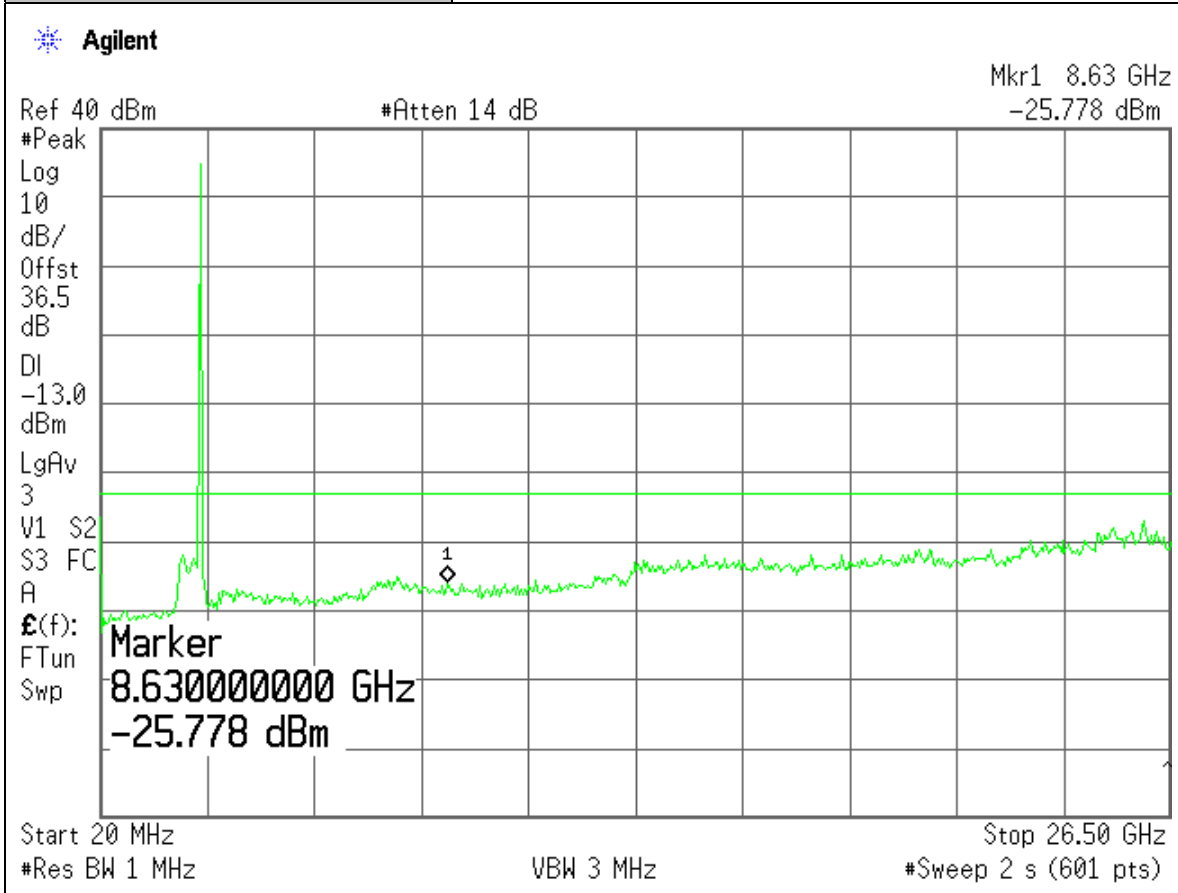
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



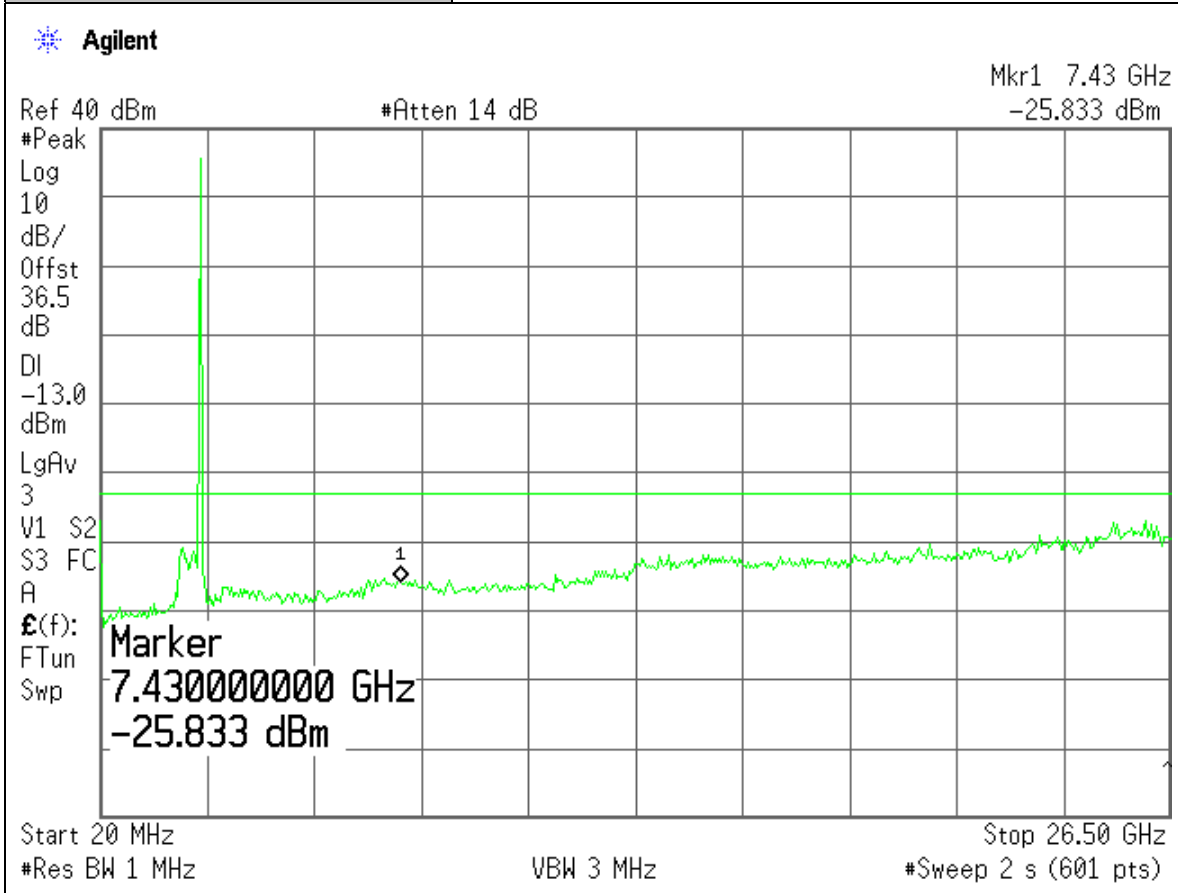
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



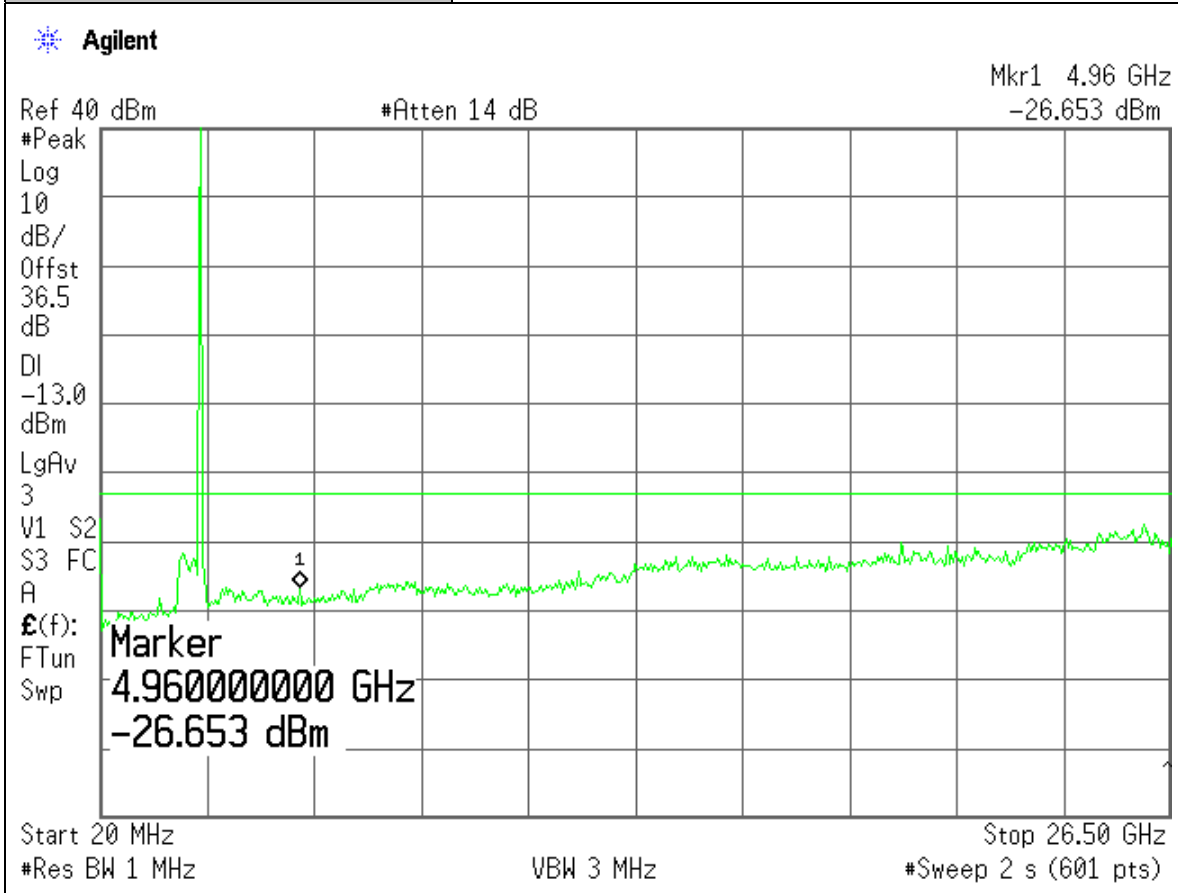
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|------------------------|---|
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



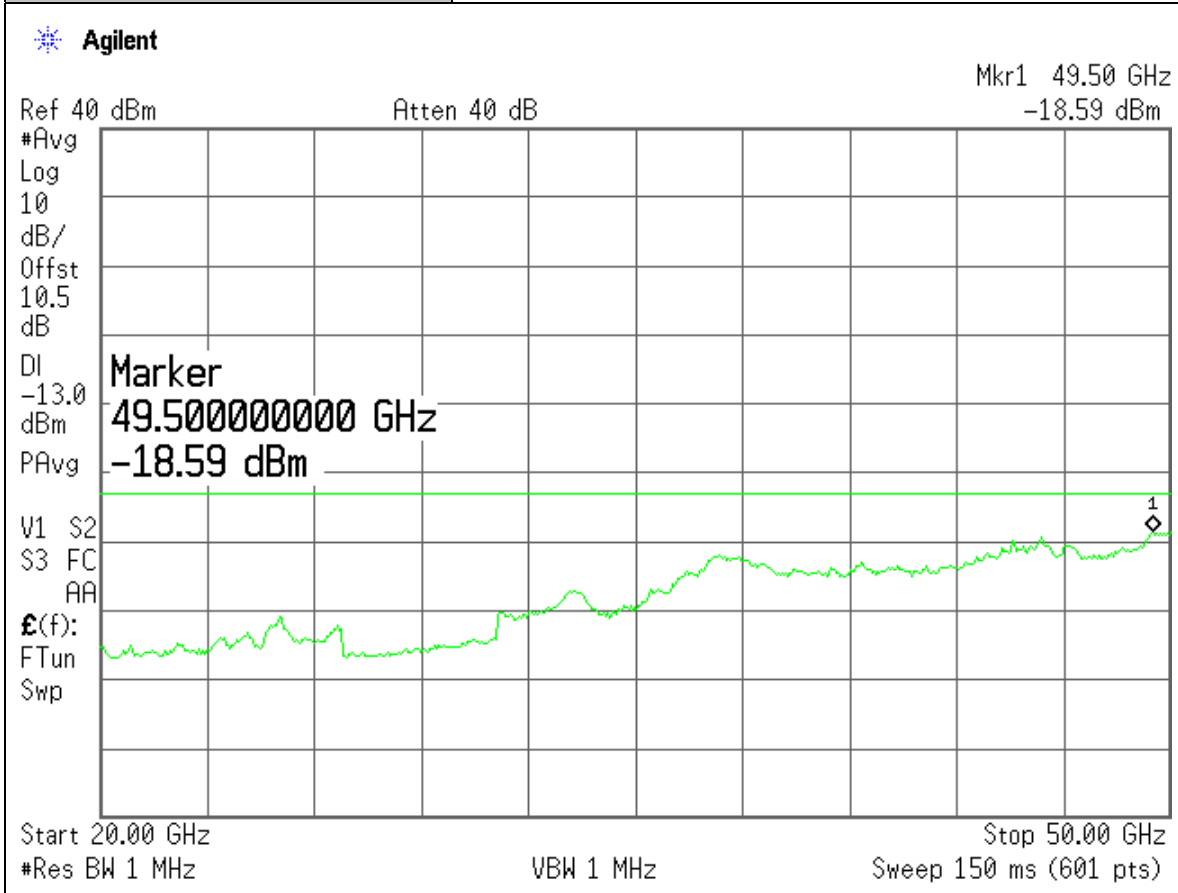
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



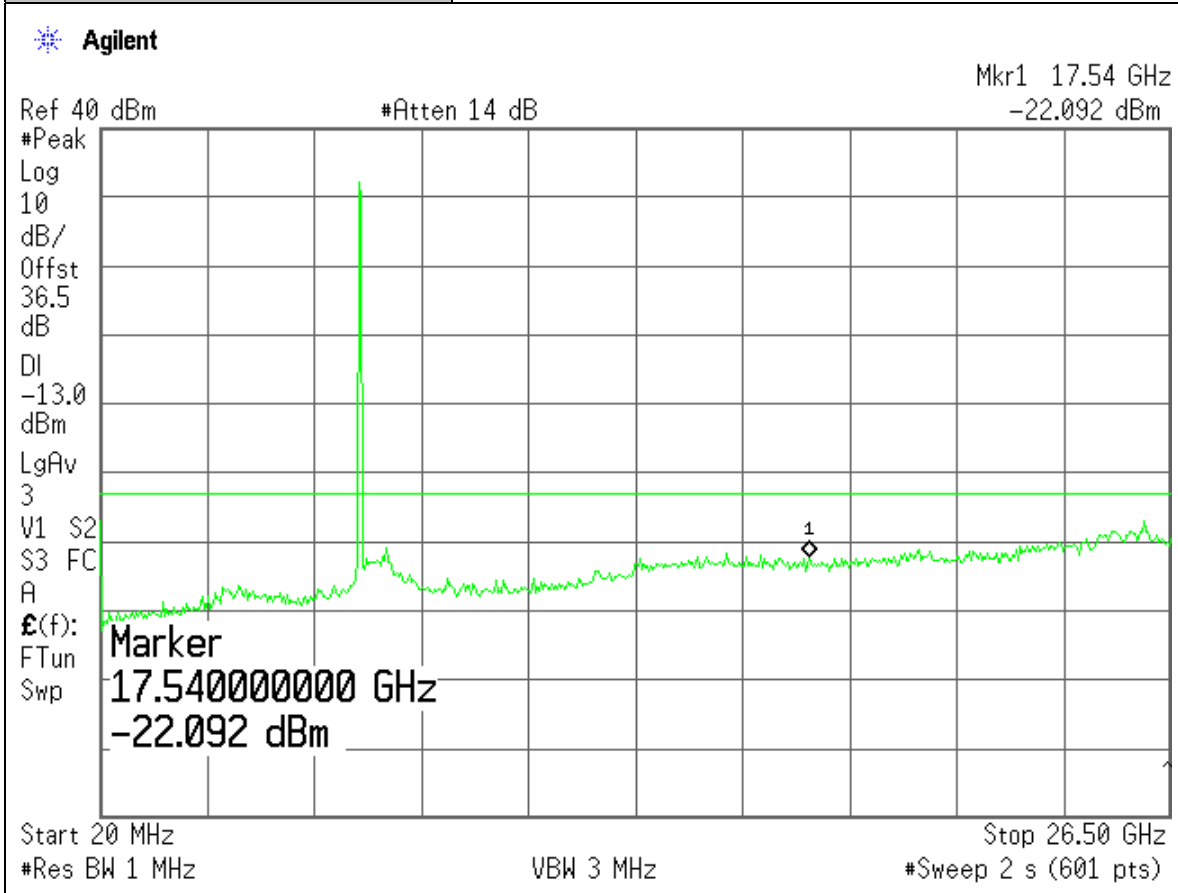
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---|
| Section: | Spurious Emissions: 2G Band (worst case for above 20GHz range) |
| Plot Name: | CH-9, 2475.25MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



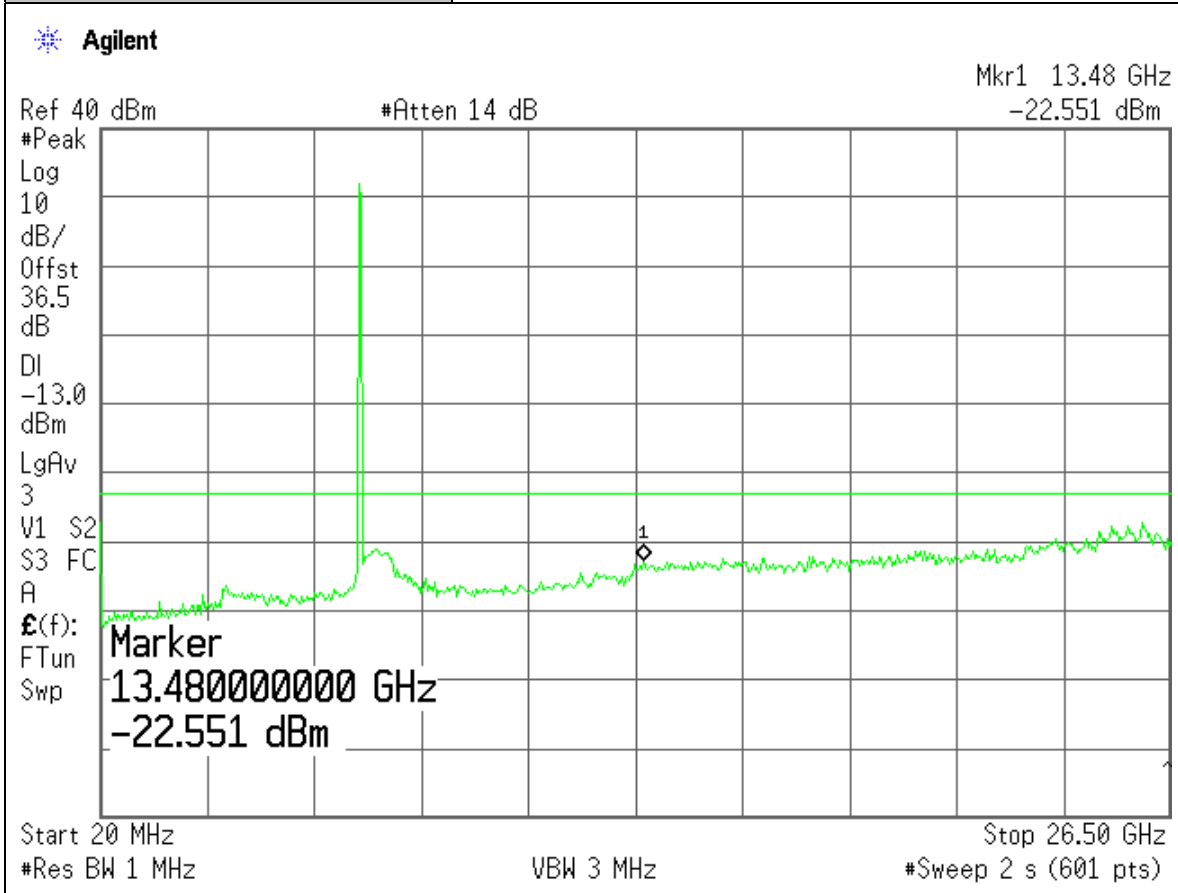
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-21, 6438MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



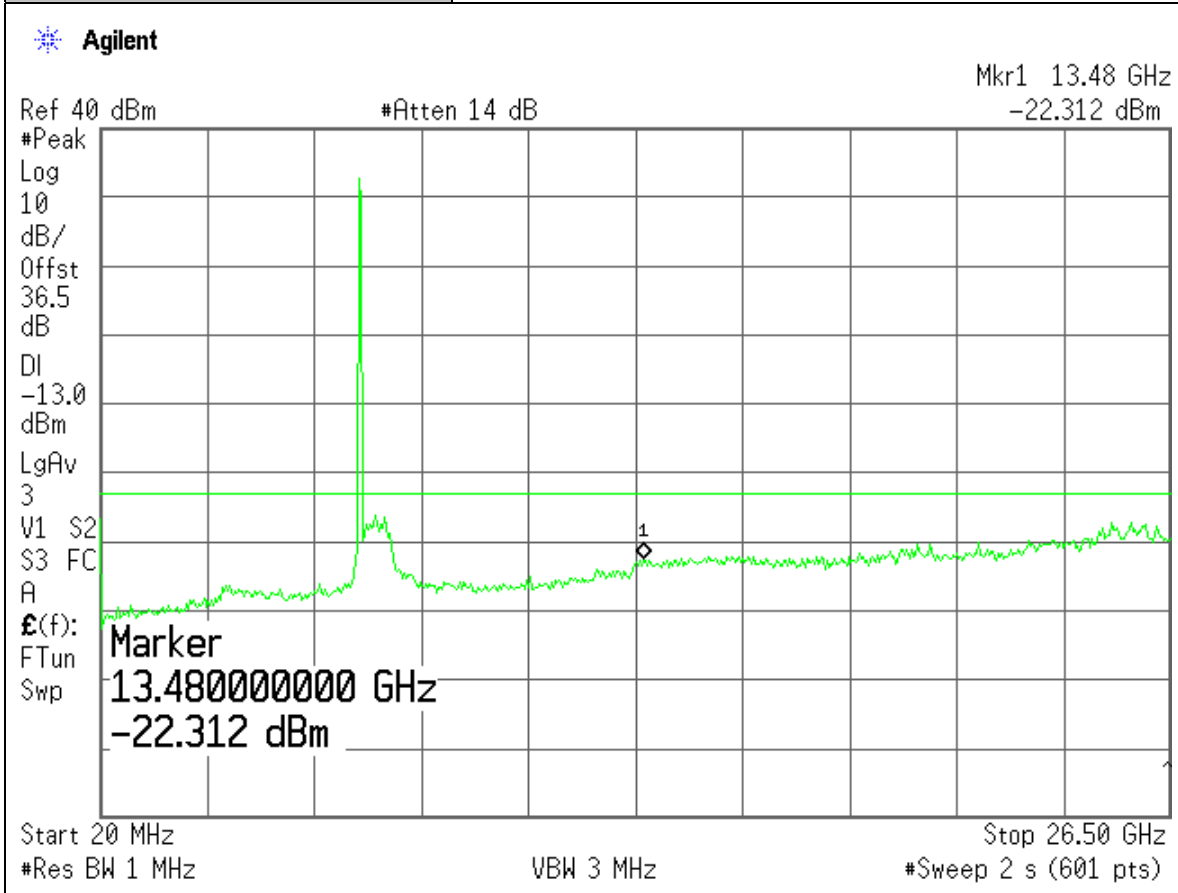
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-21, 6438MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



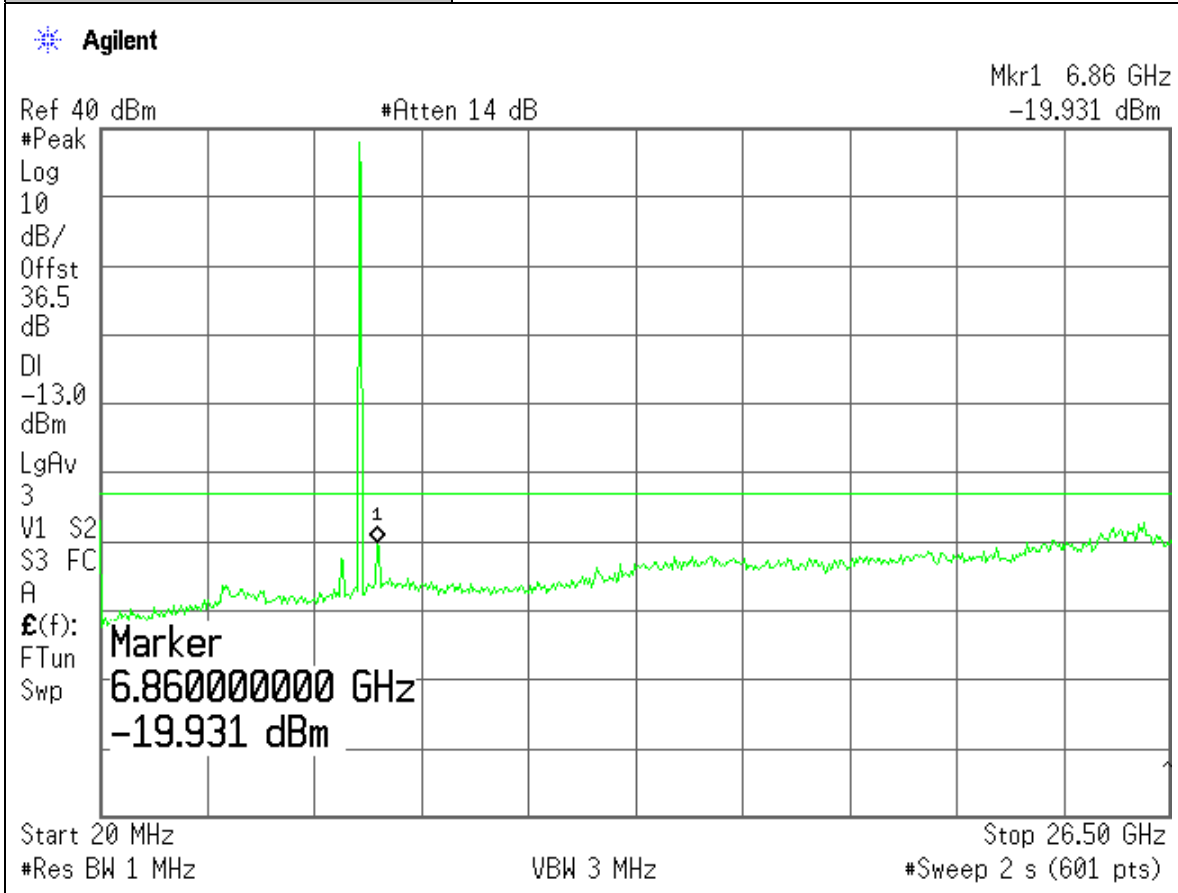
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-21, 6438MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



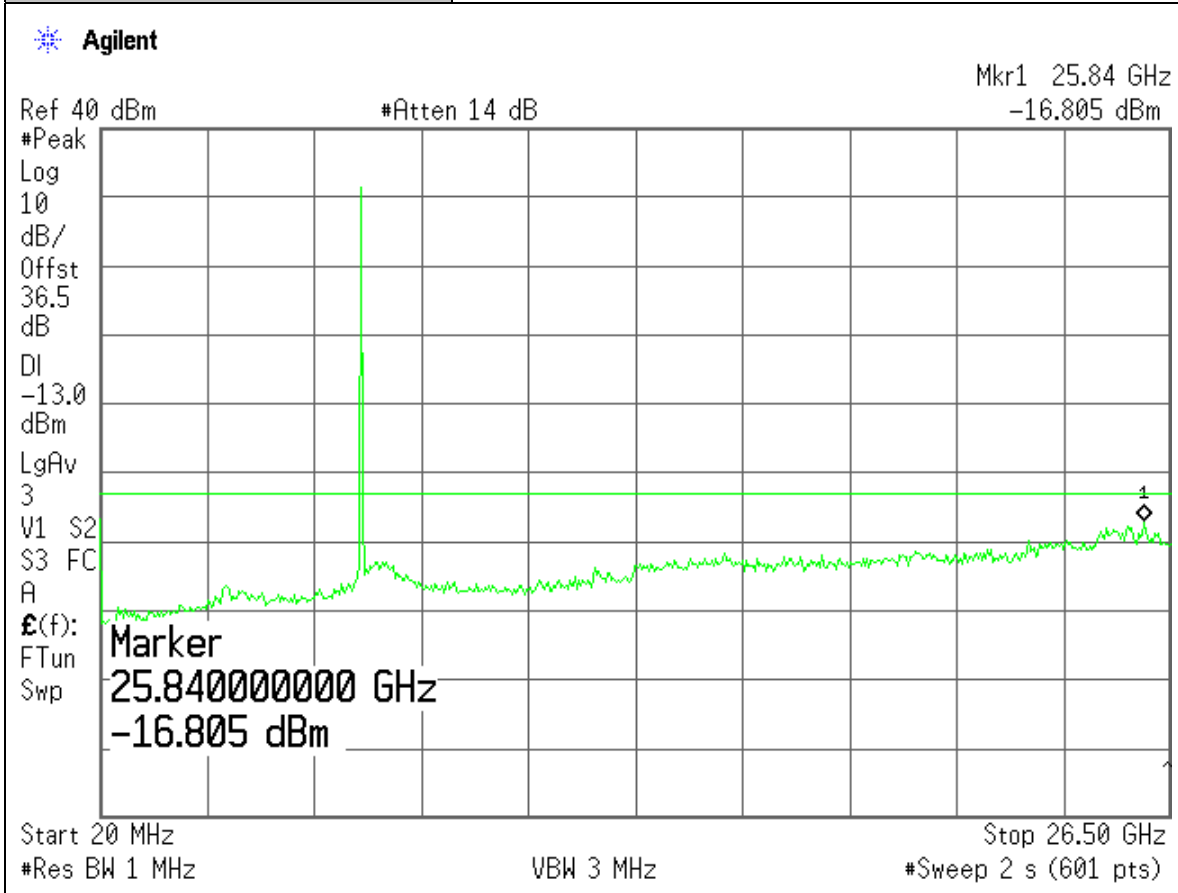
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-21, 6438MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



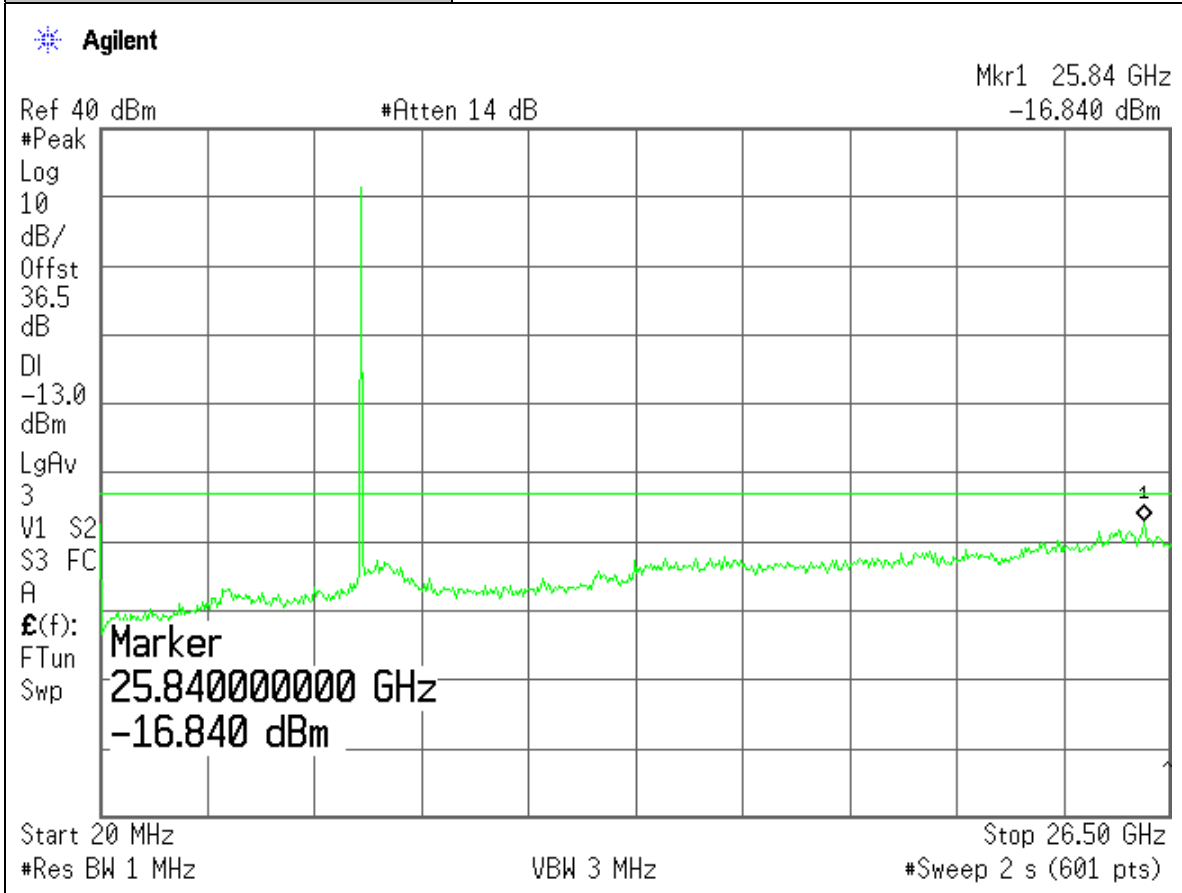
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| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-22+, 6471MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



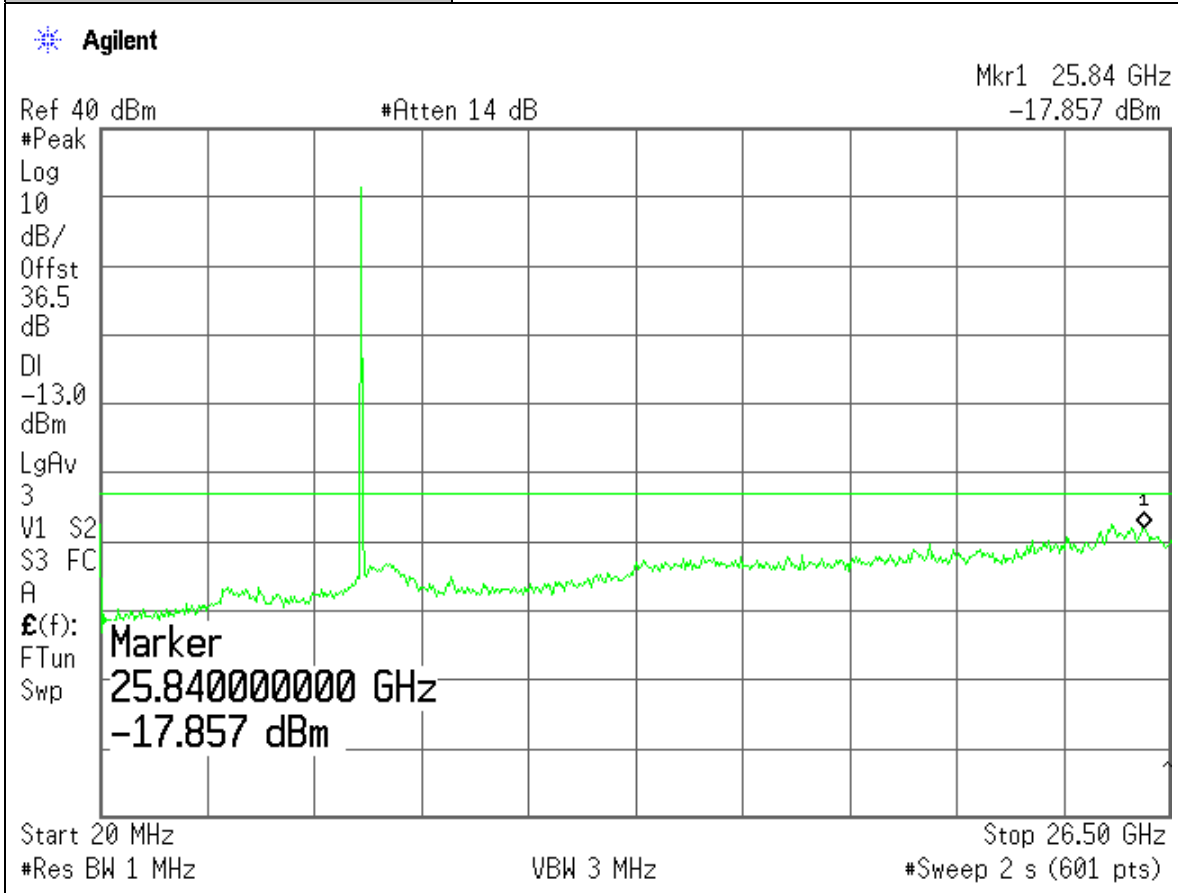
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-22+, 6471MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



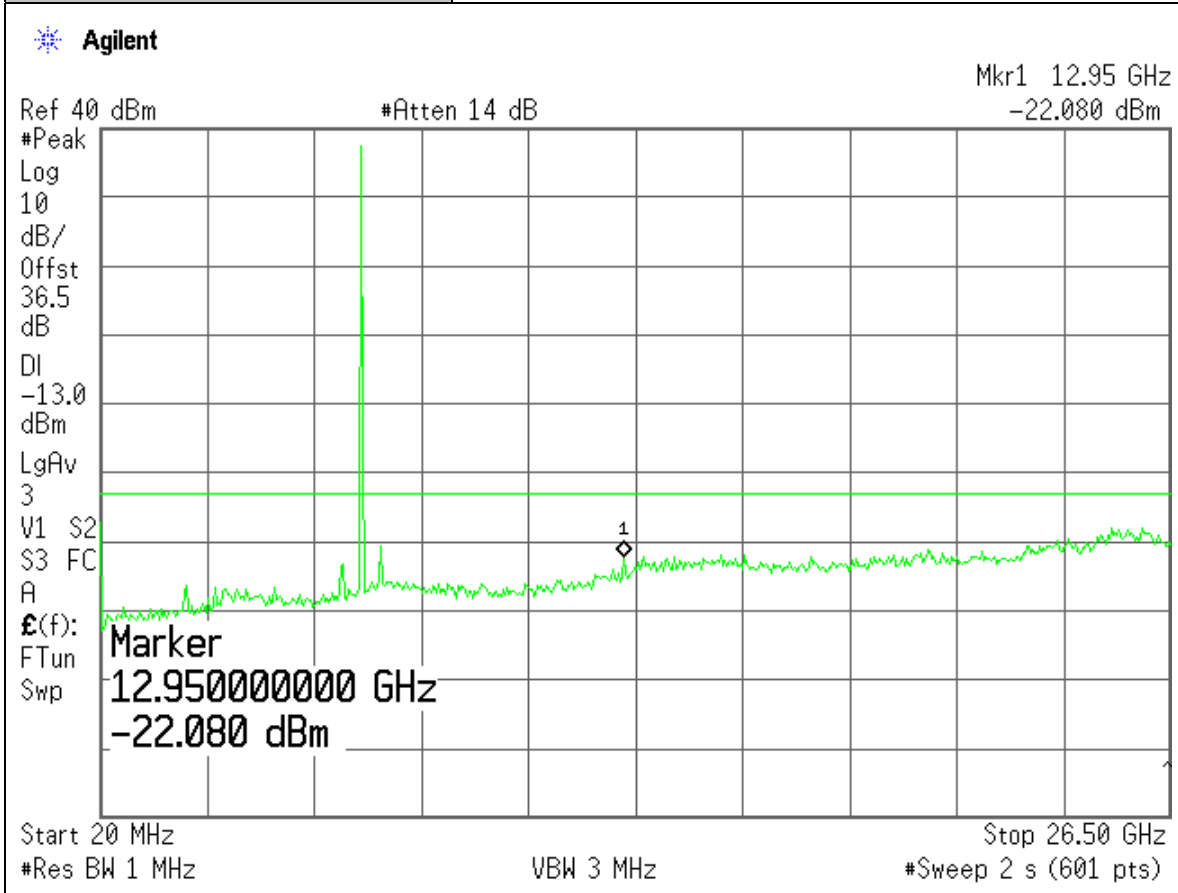
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-22+, 6471MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



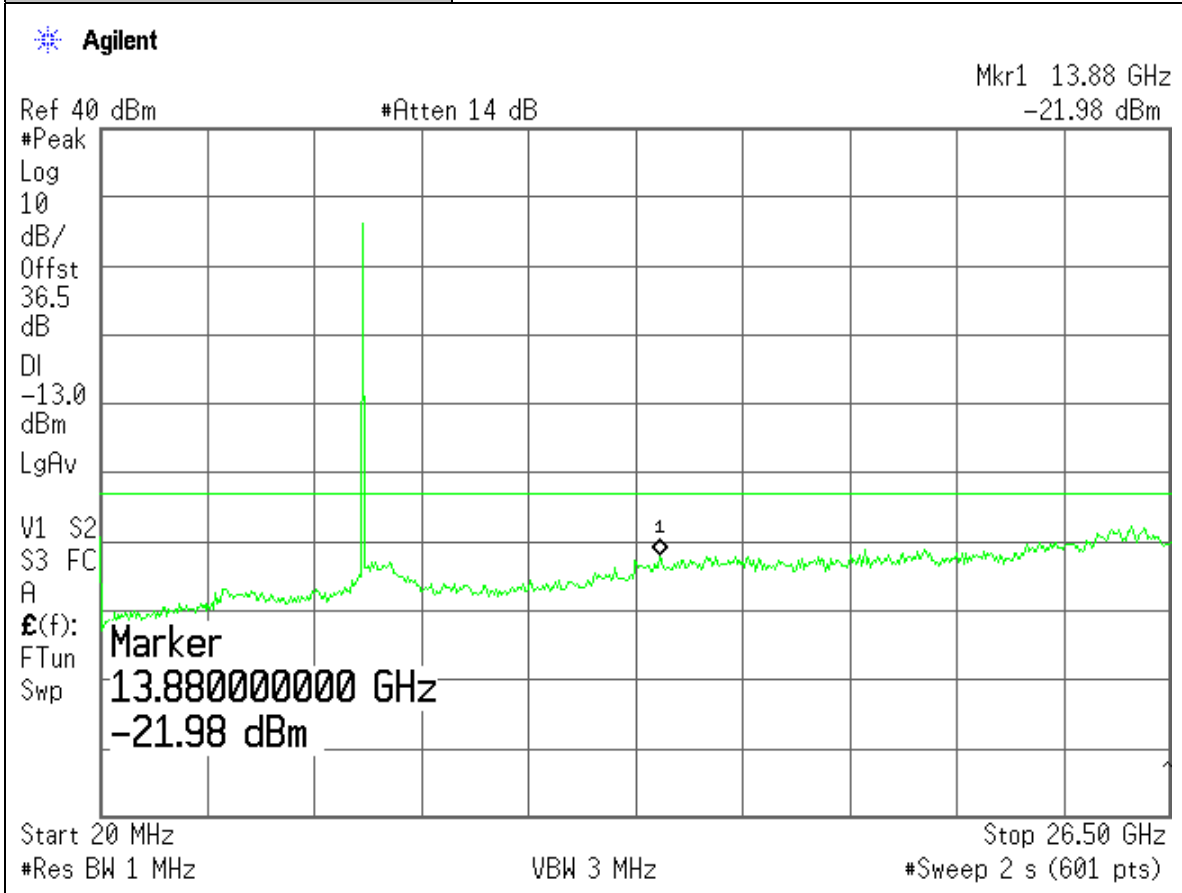
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-22+, 6471MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



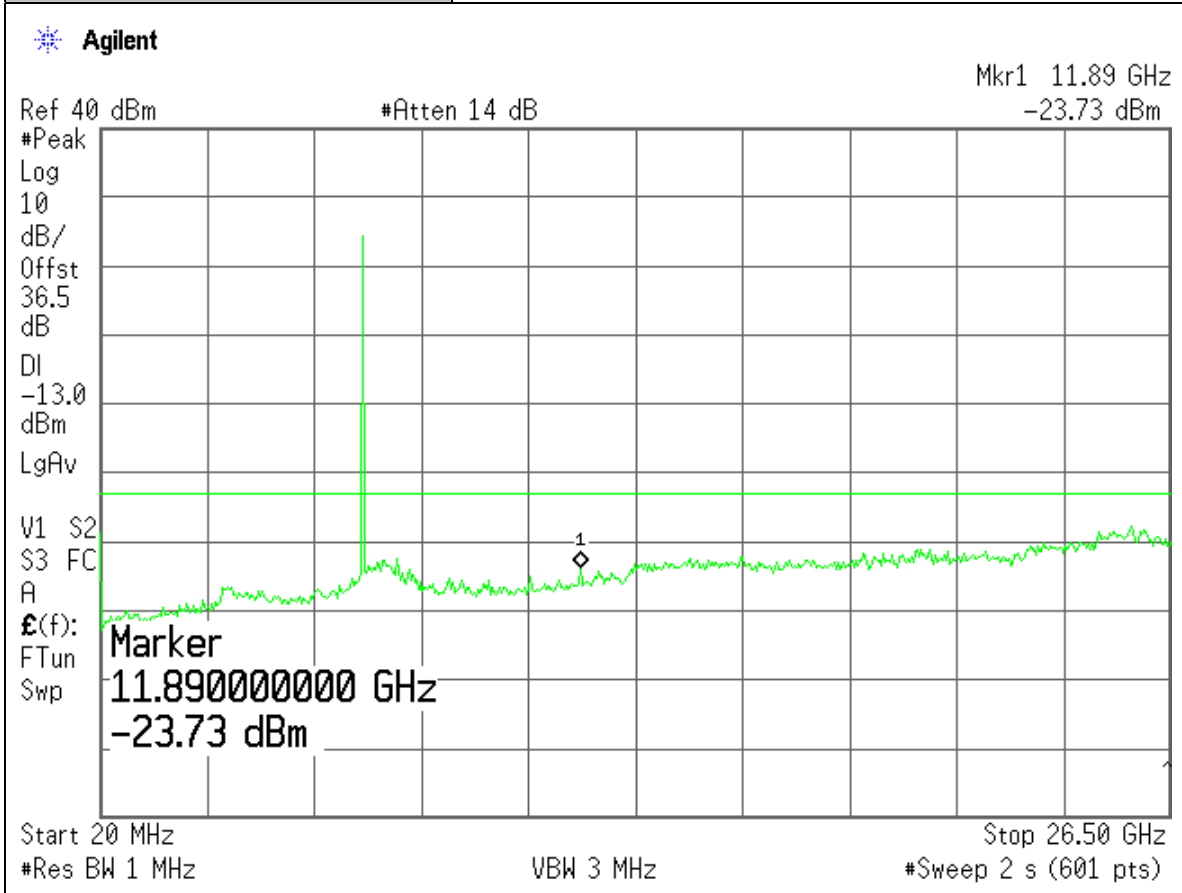
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-24, 6513MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



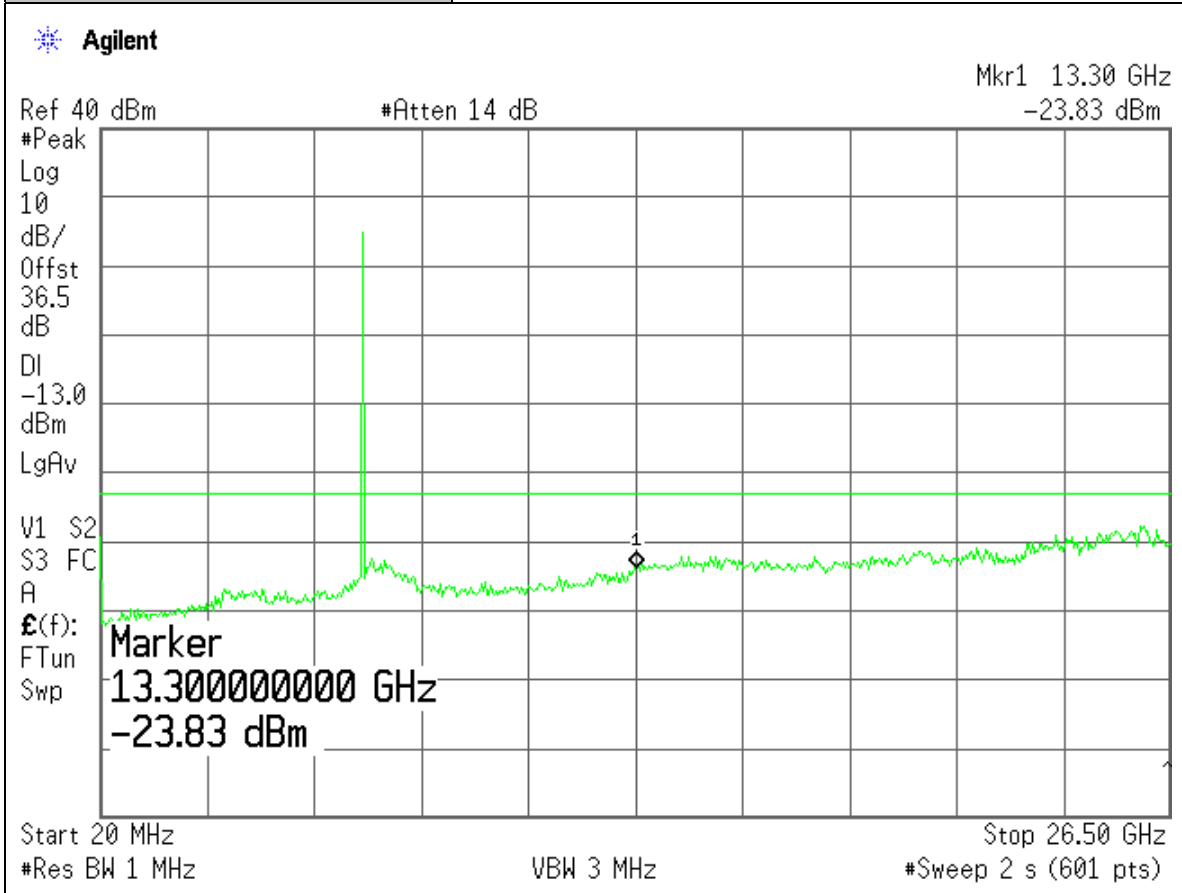
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-24, 6513MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



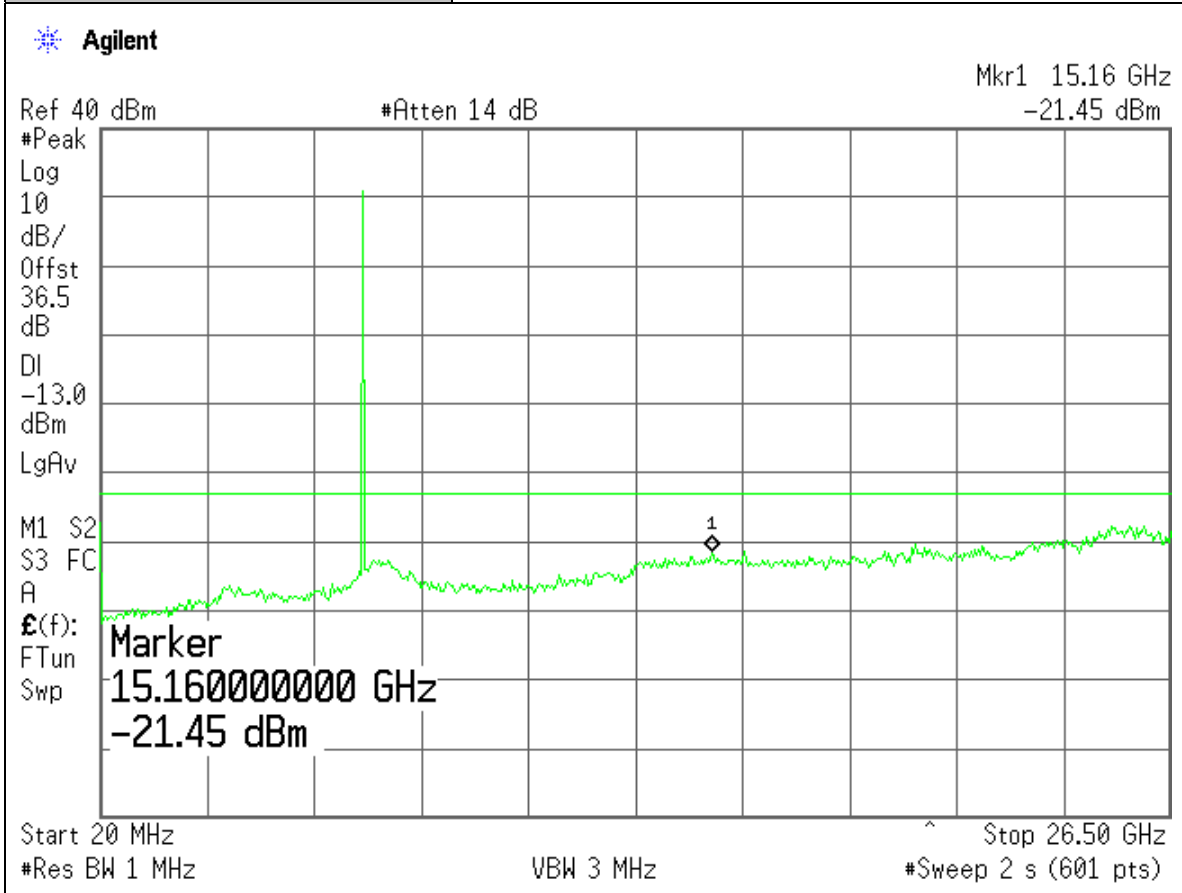
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-24, 6513MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



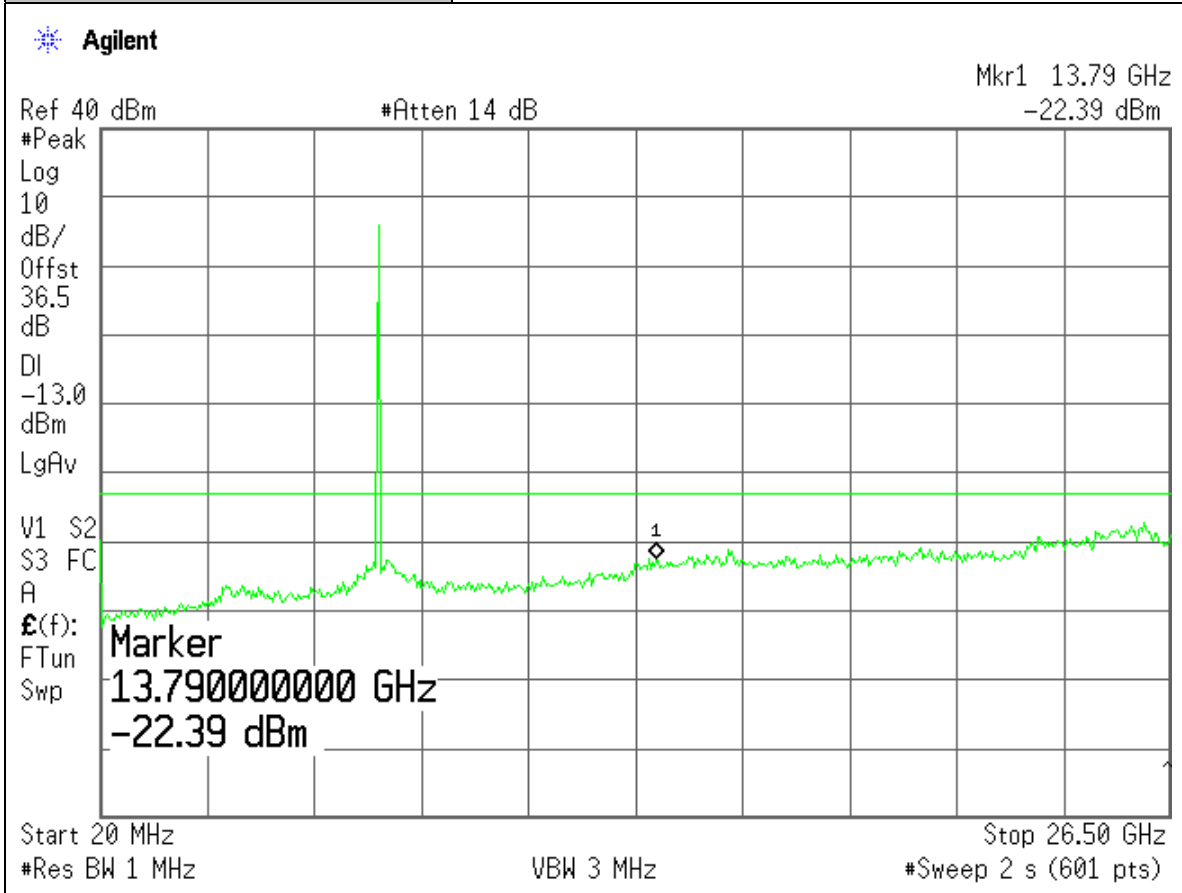
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-24, 6513MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



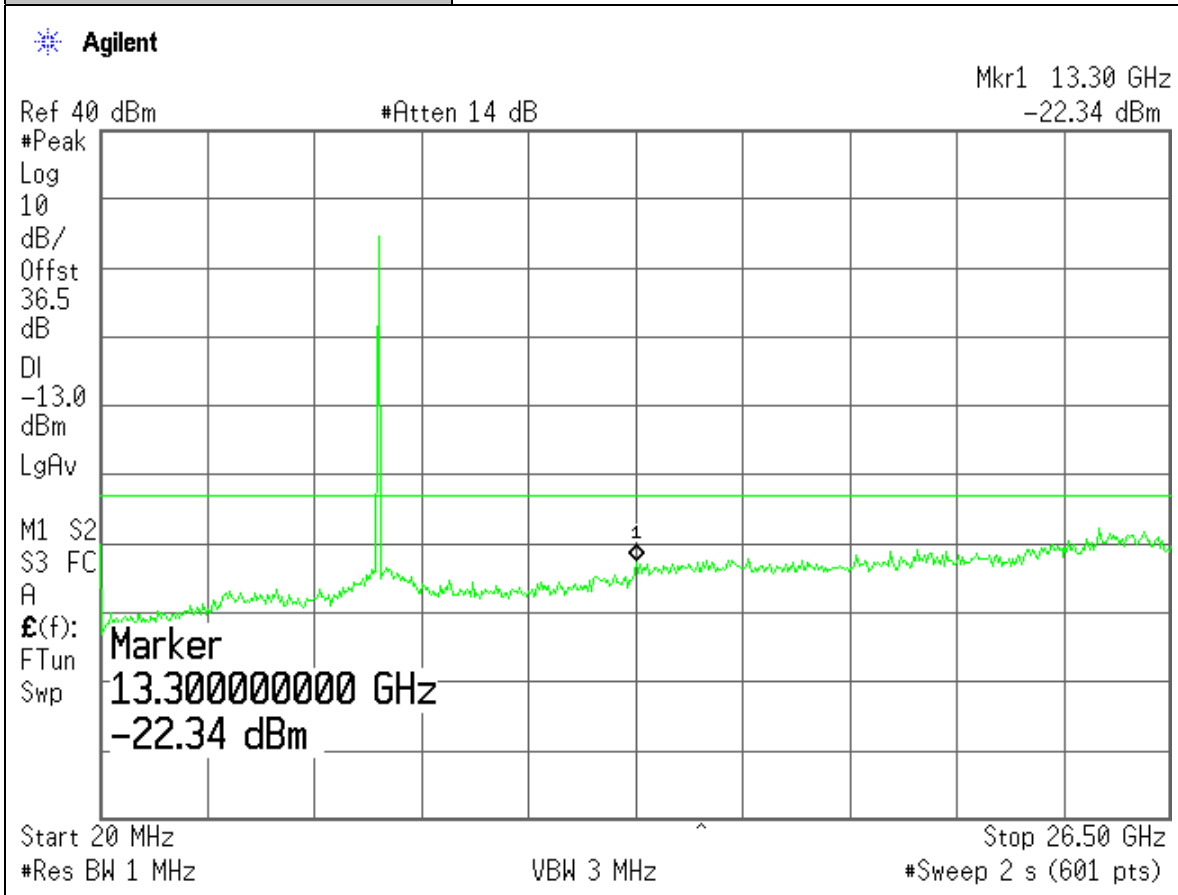
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



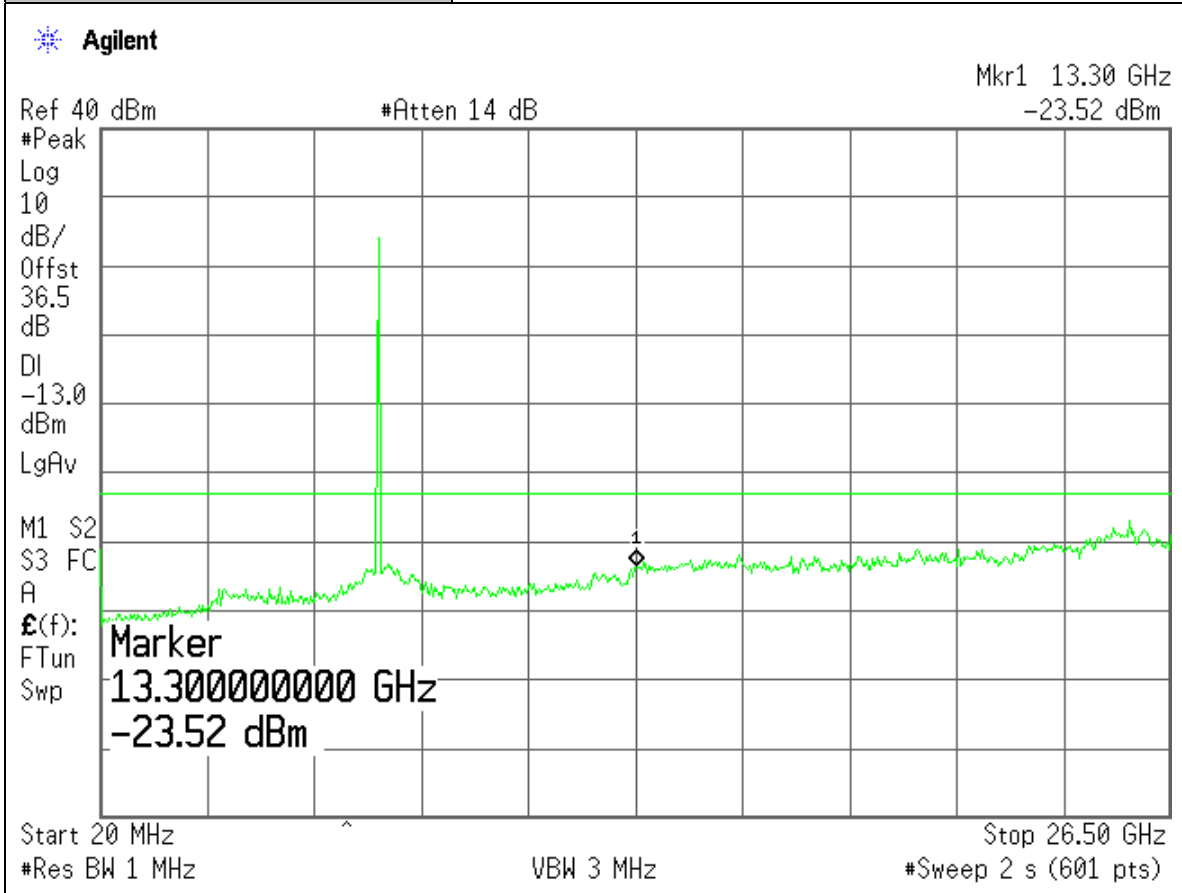
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



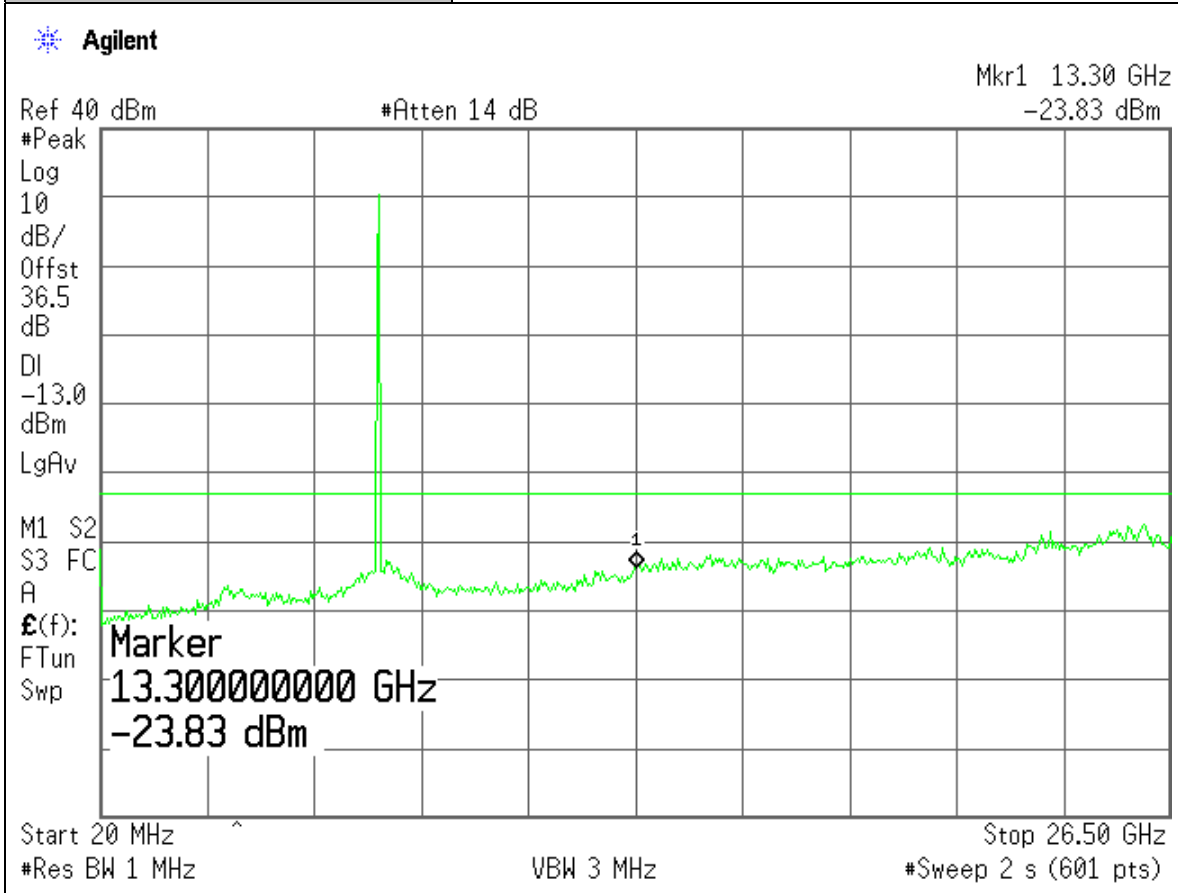
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



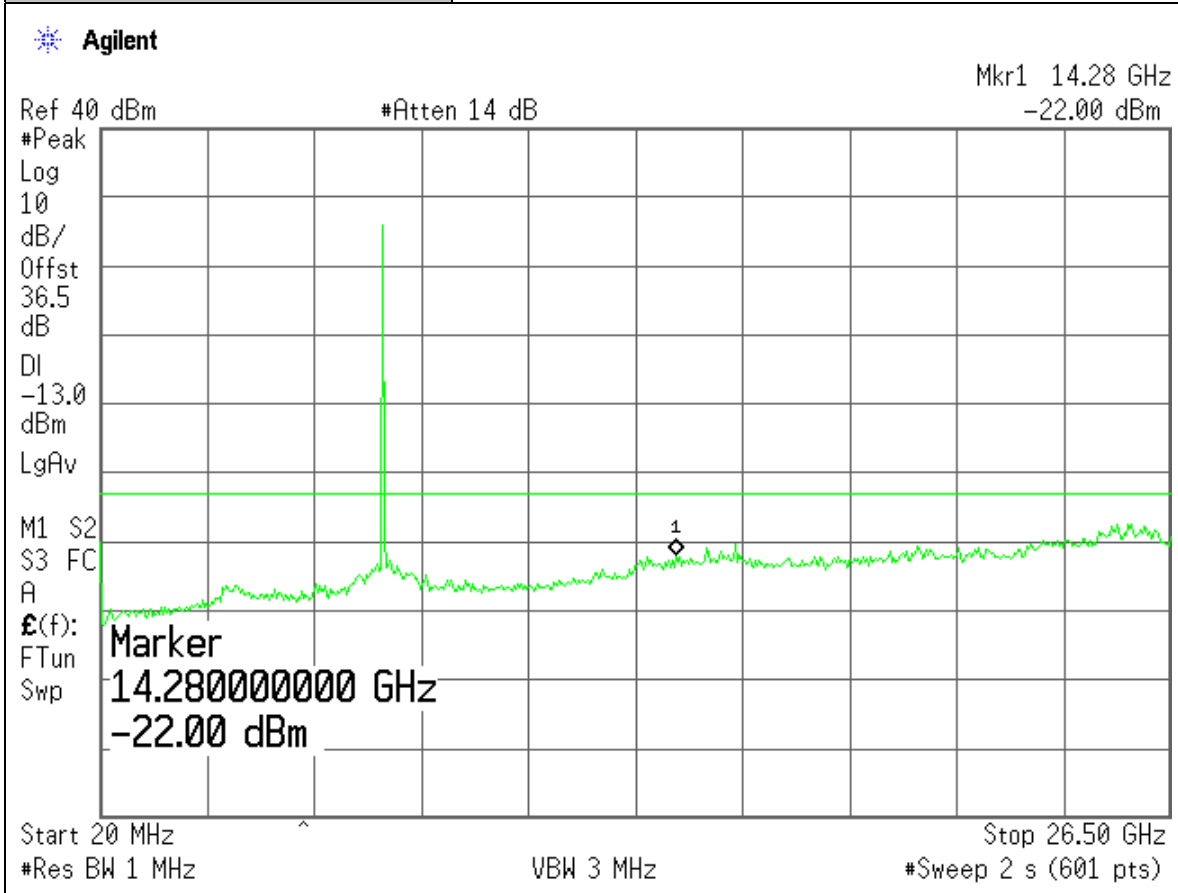
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



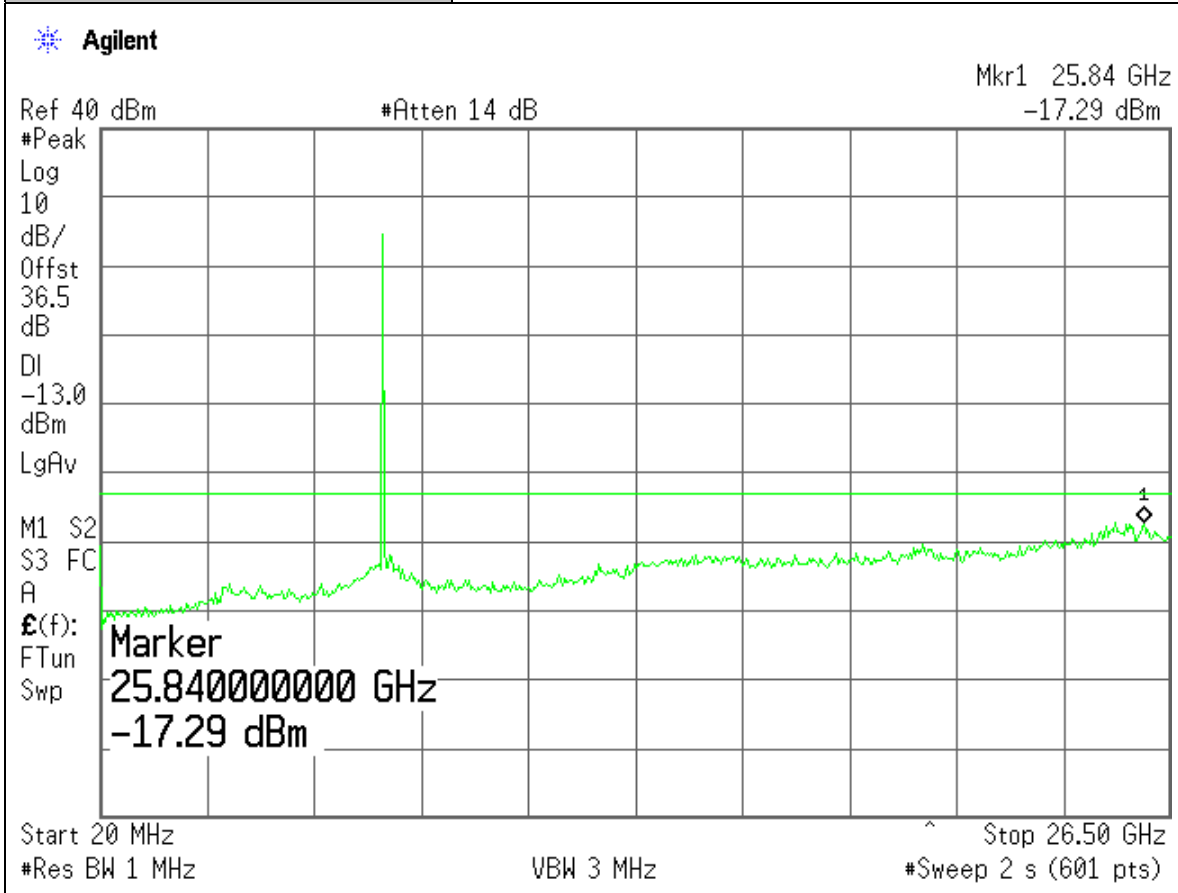
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



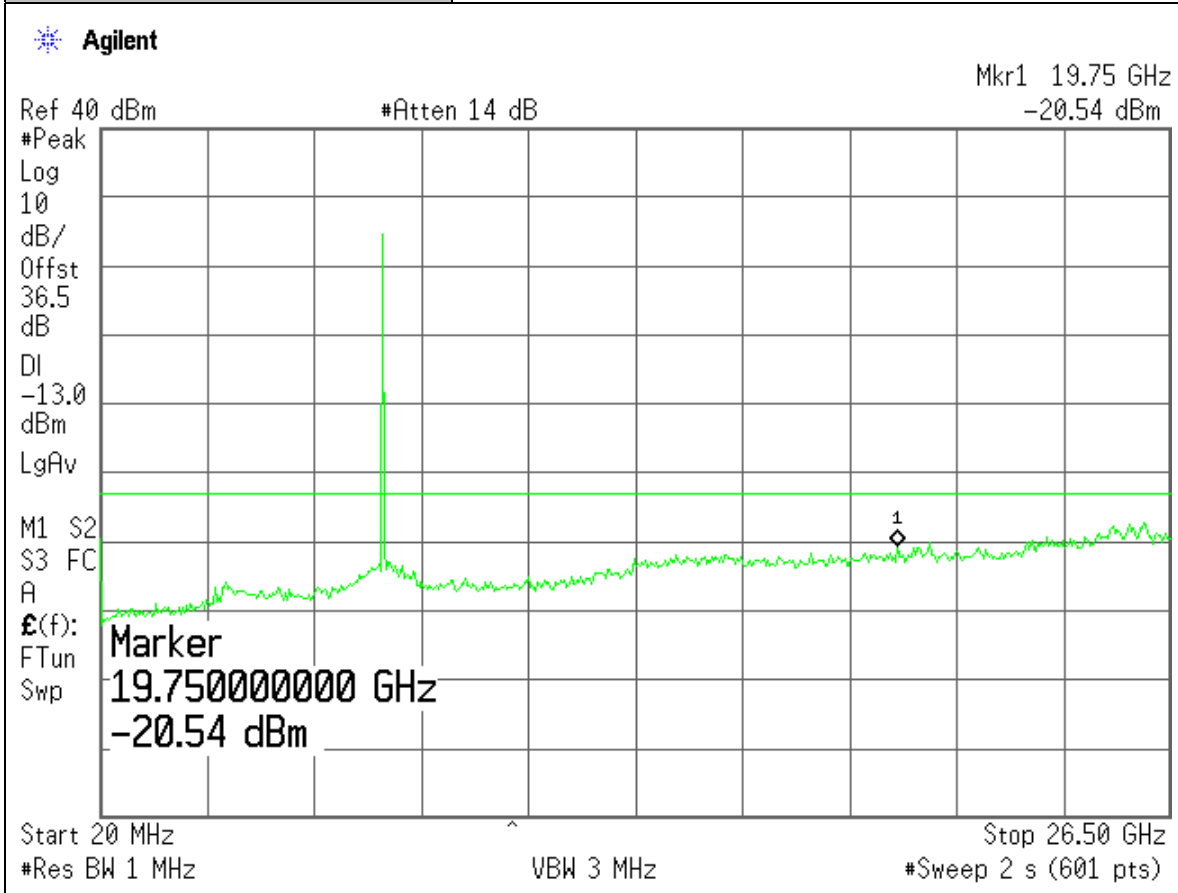
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



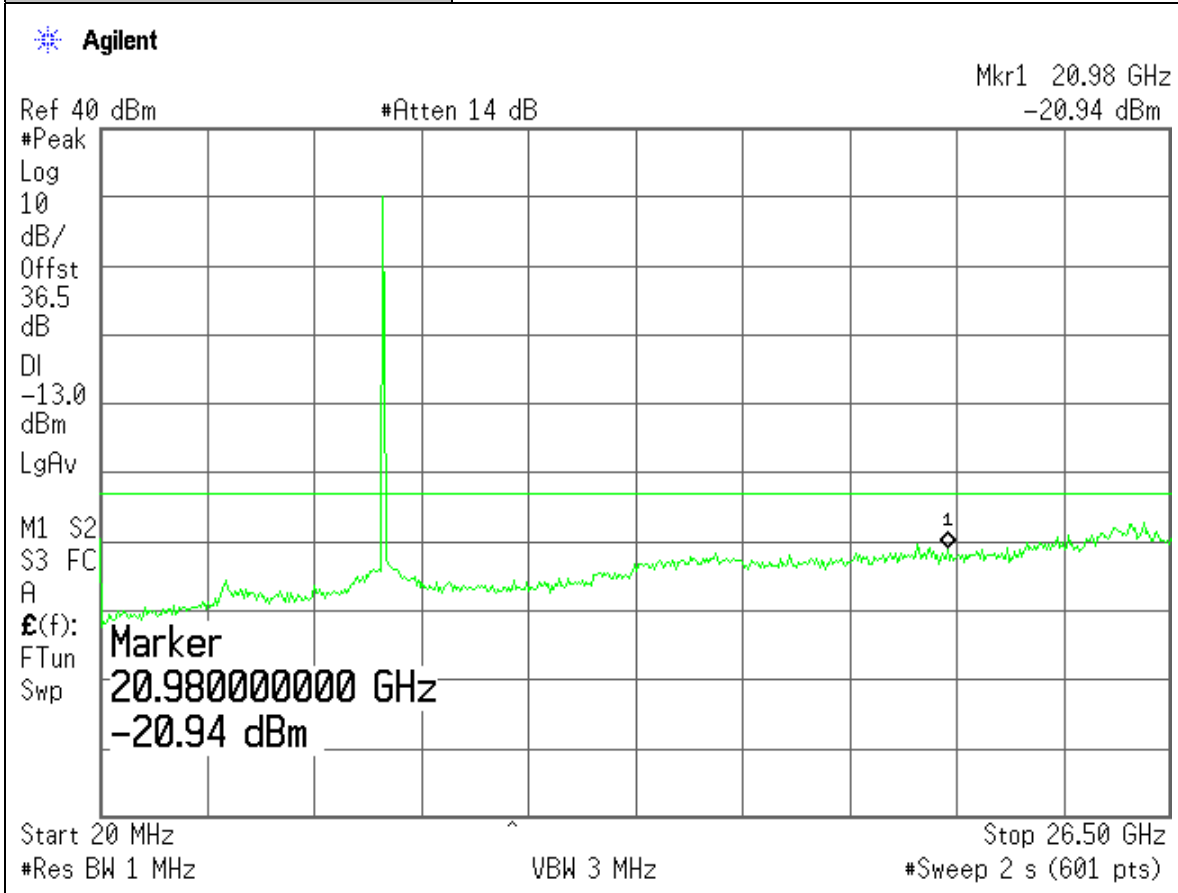
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



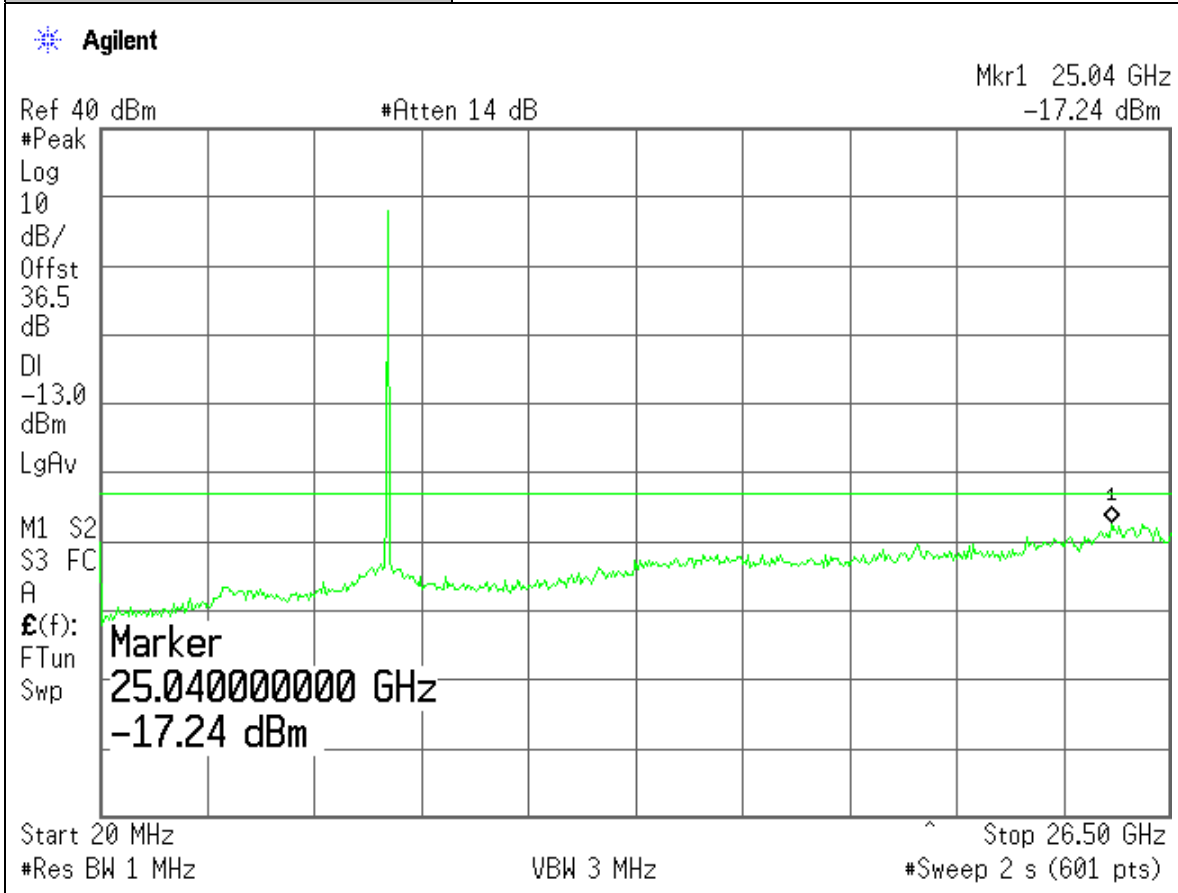
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



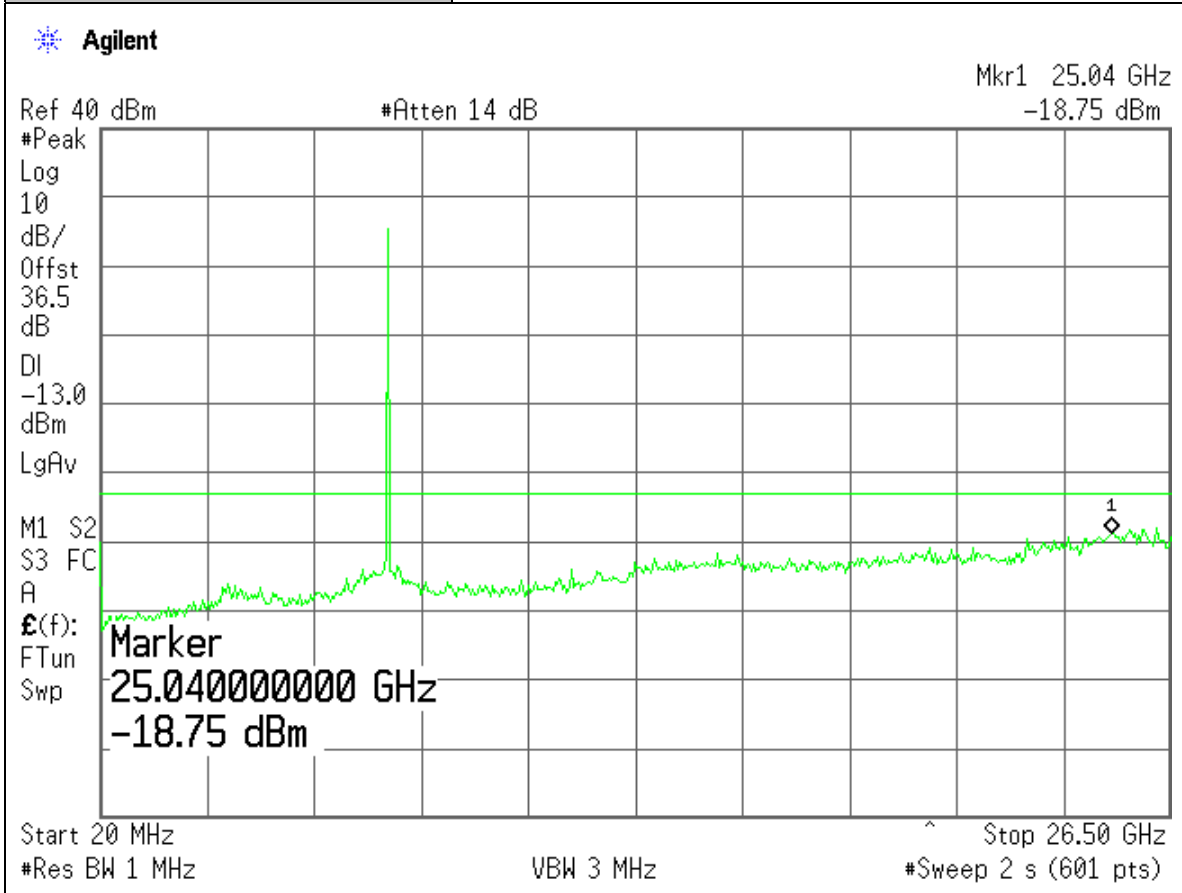
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



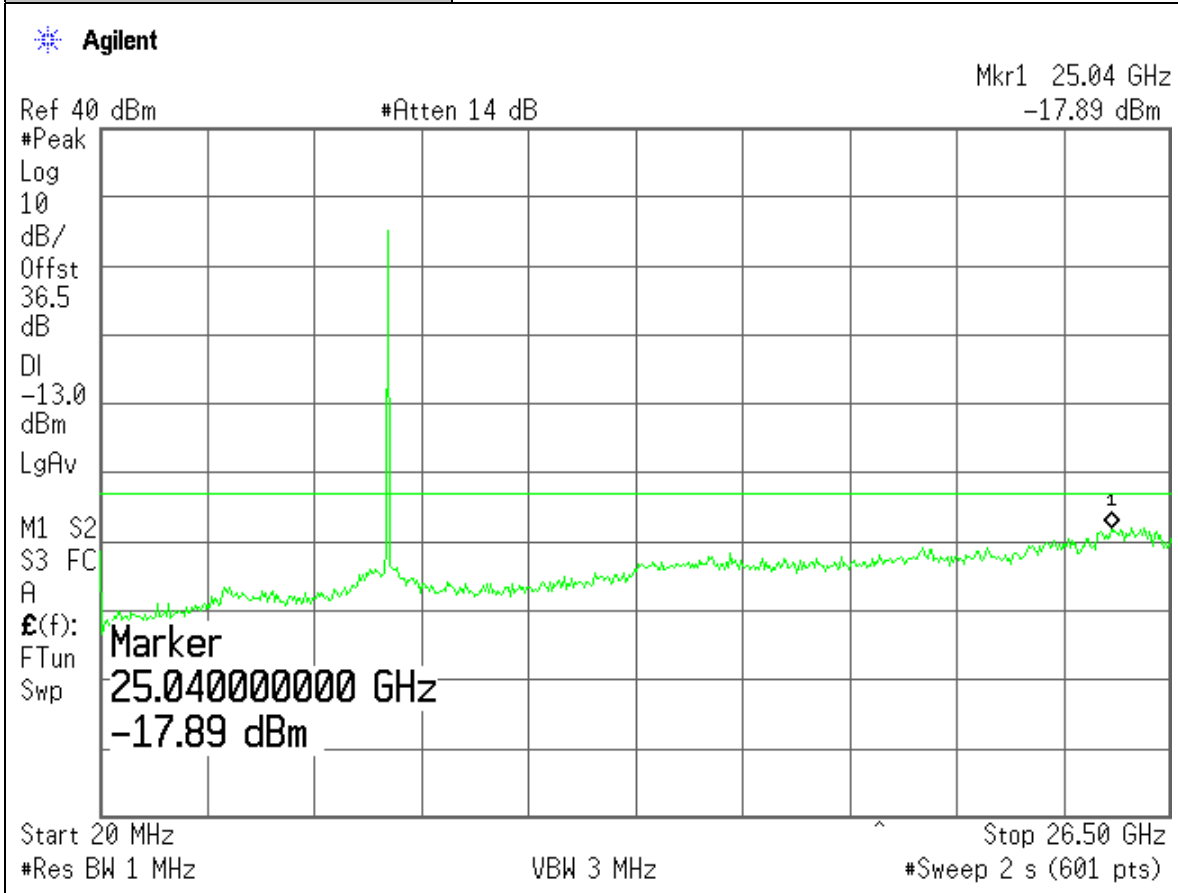
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



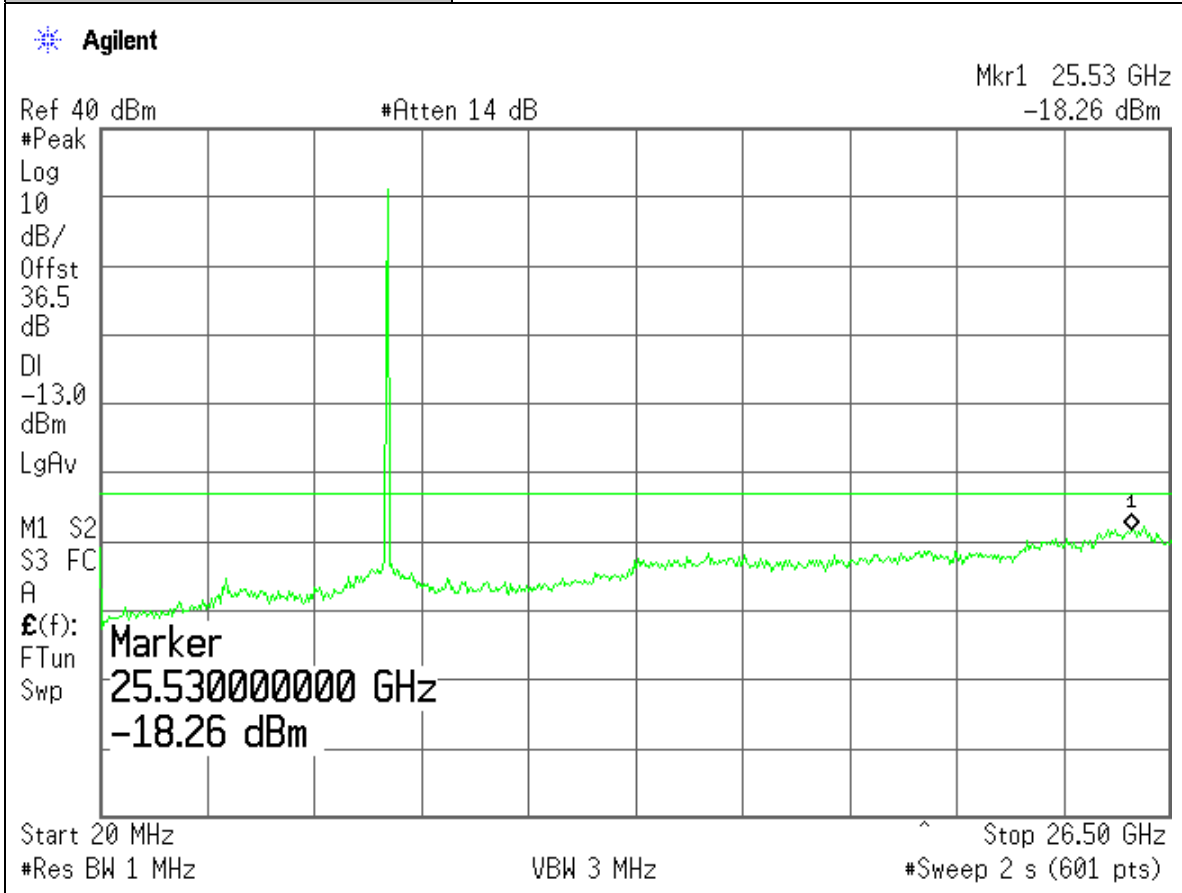
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



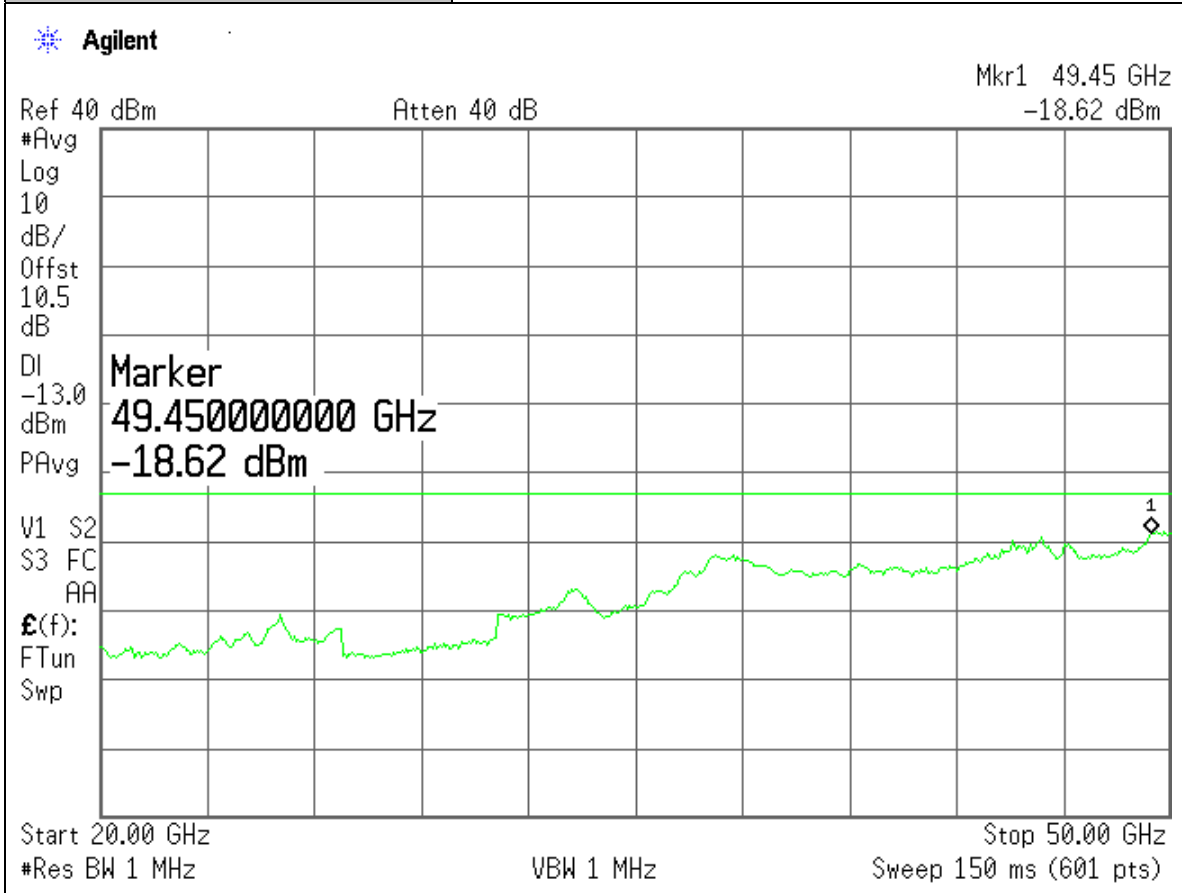
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



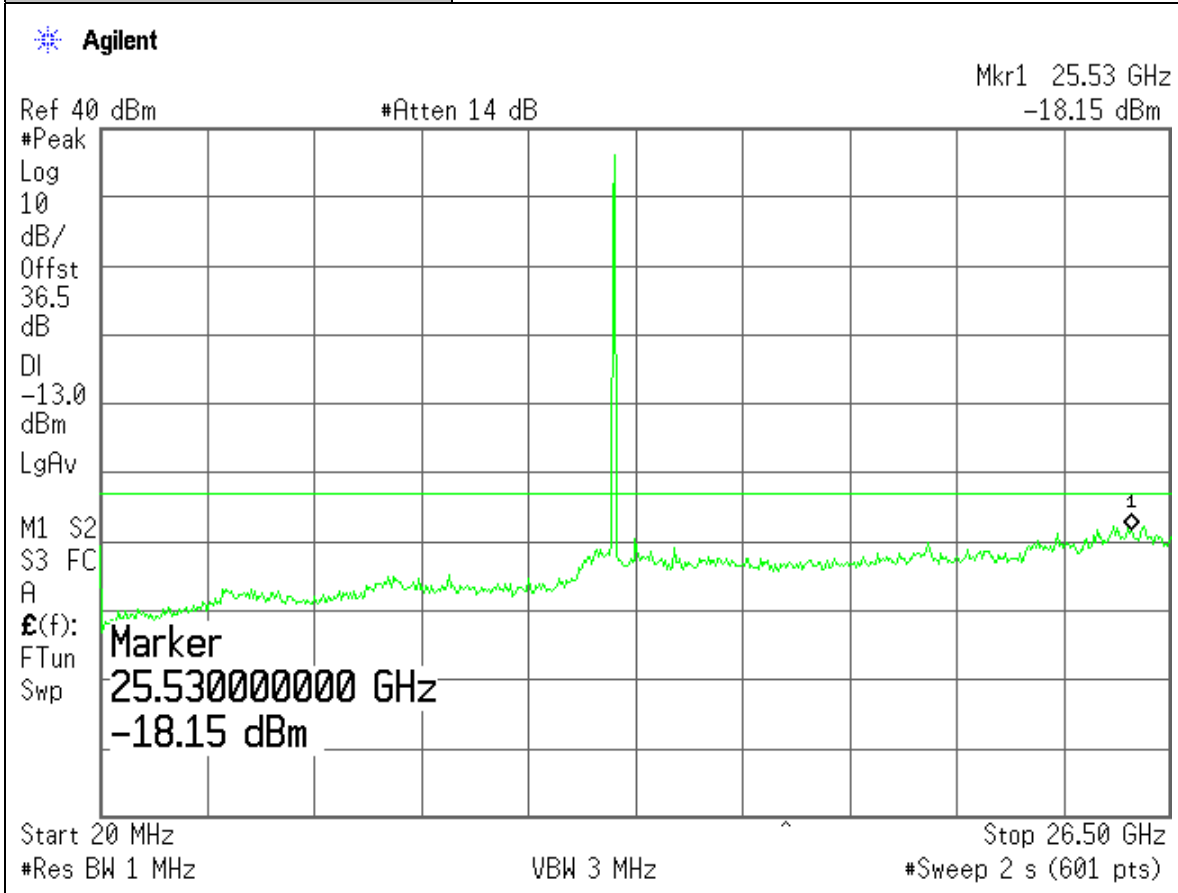
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---|
| Section: | Spurious Emissions: 7G Band (worst Case for above 20GHz range) |
| Plot Name: | CH-10, 7112.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



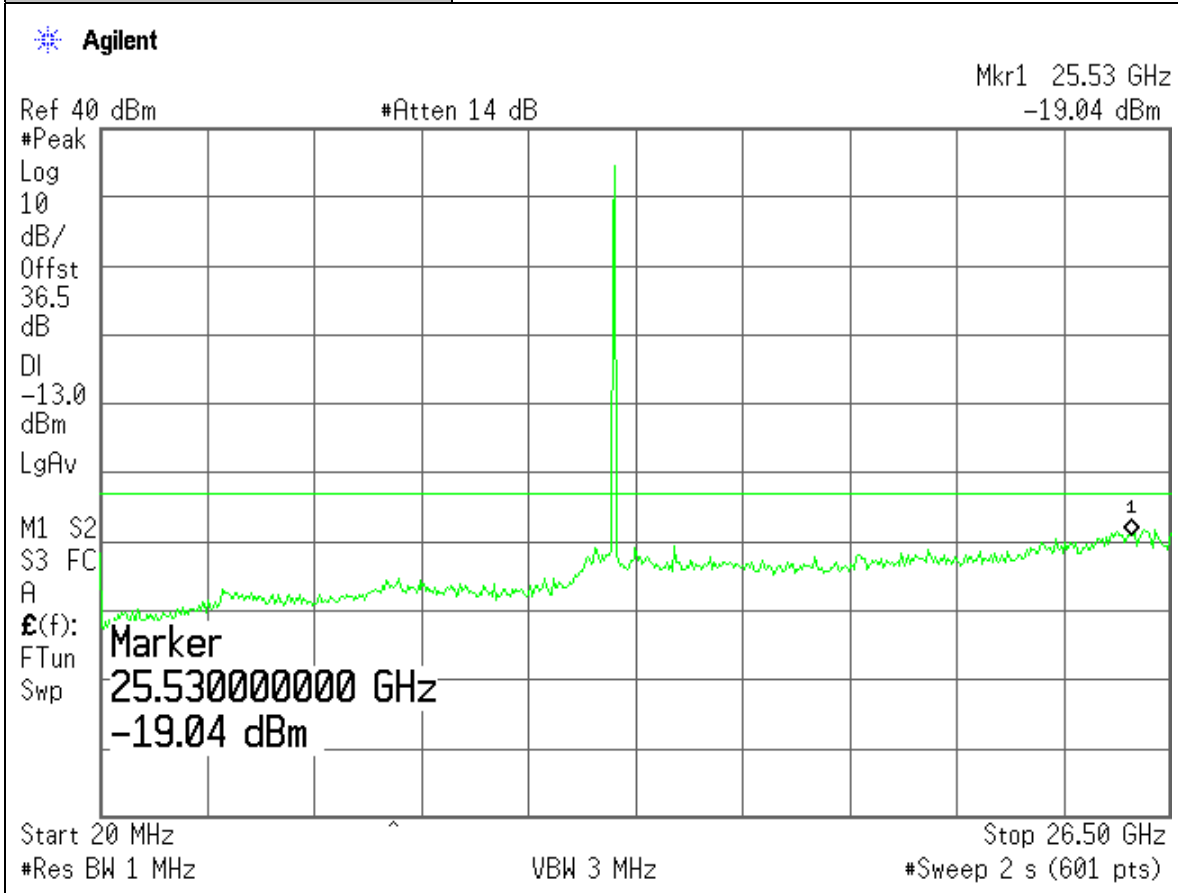
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-1, 12712.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



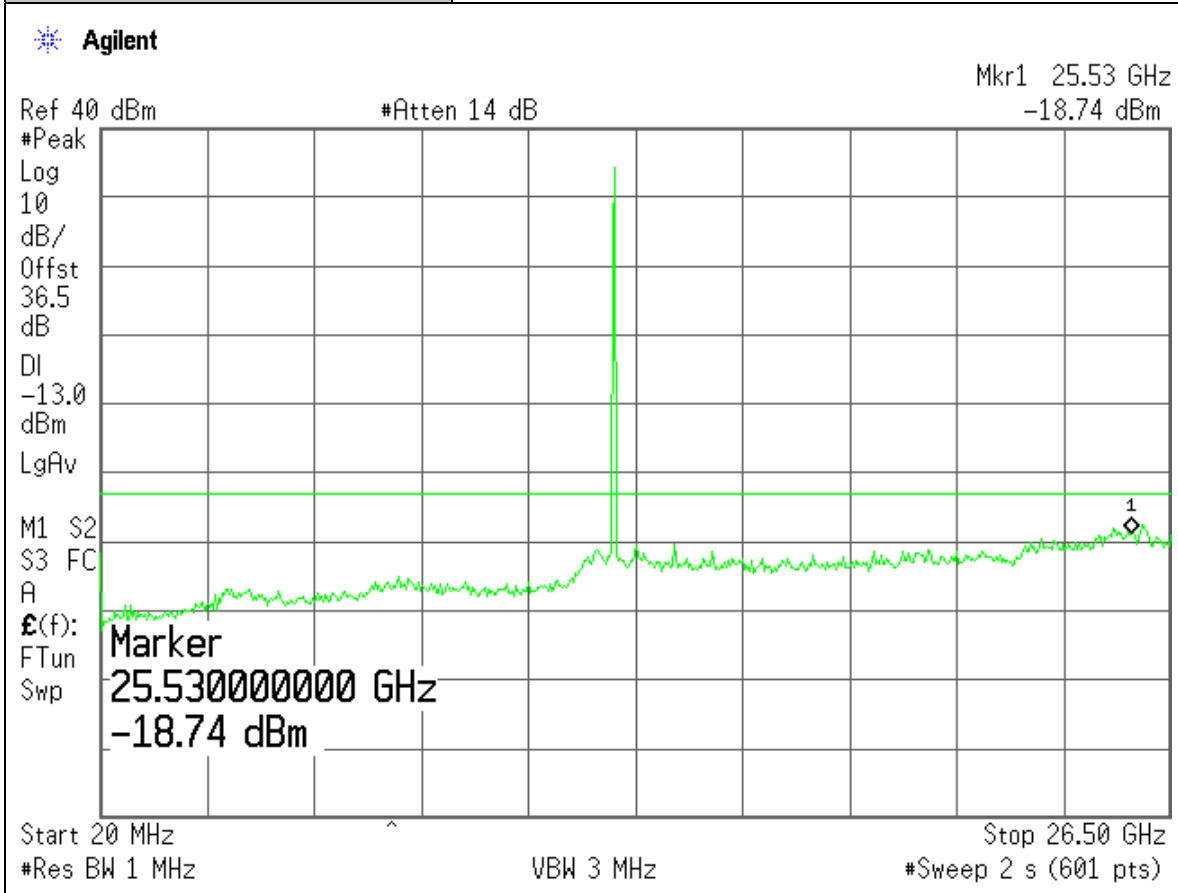
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-1, 12712.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



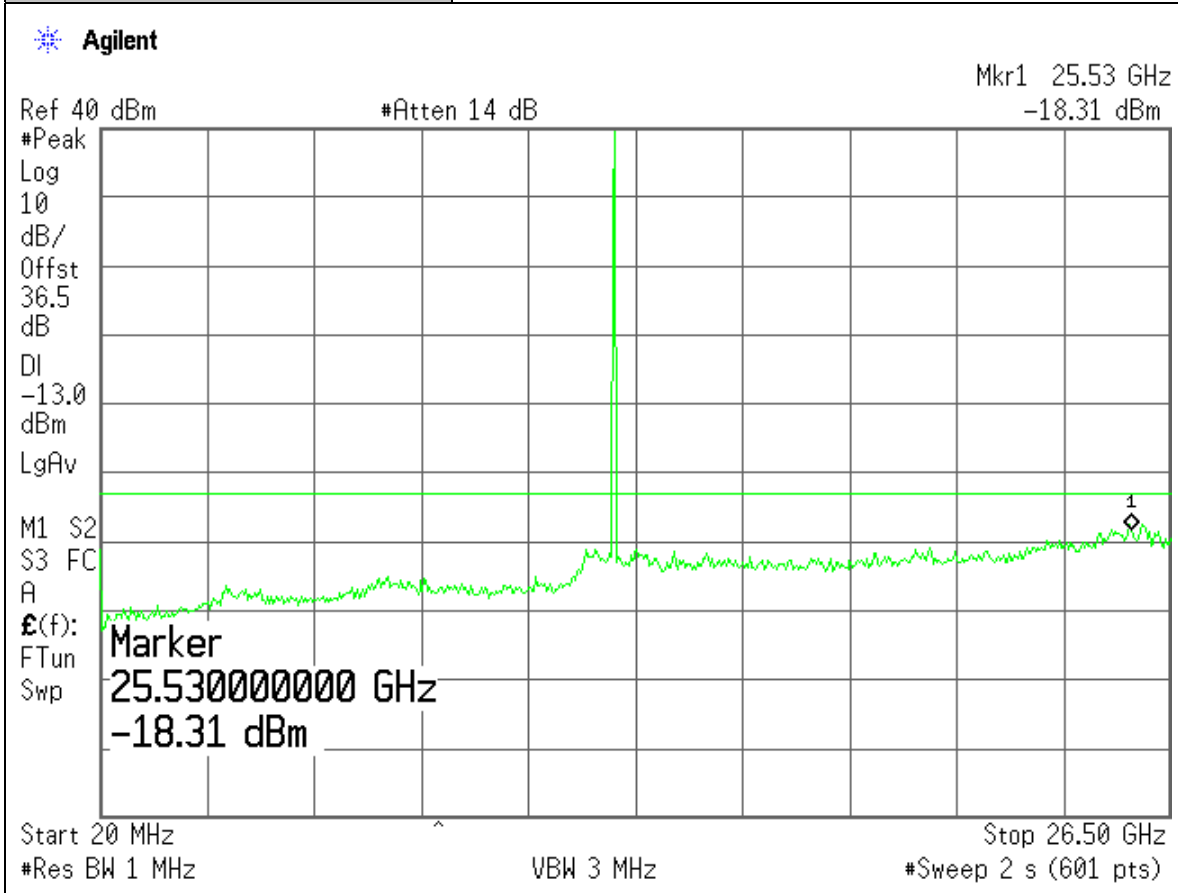
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-1, 12712.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



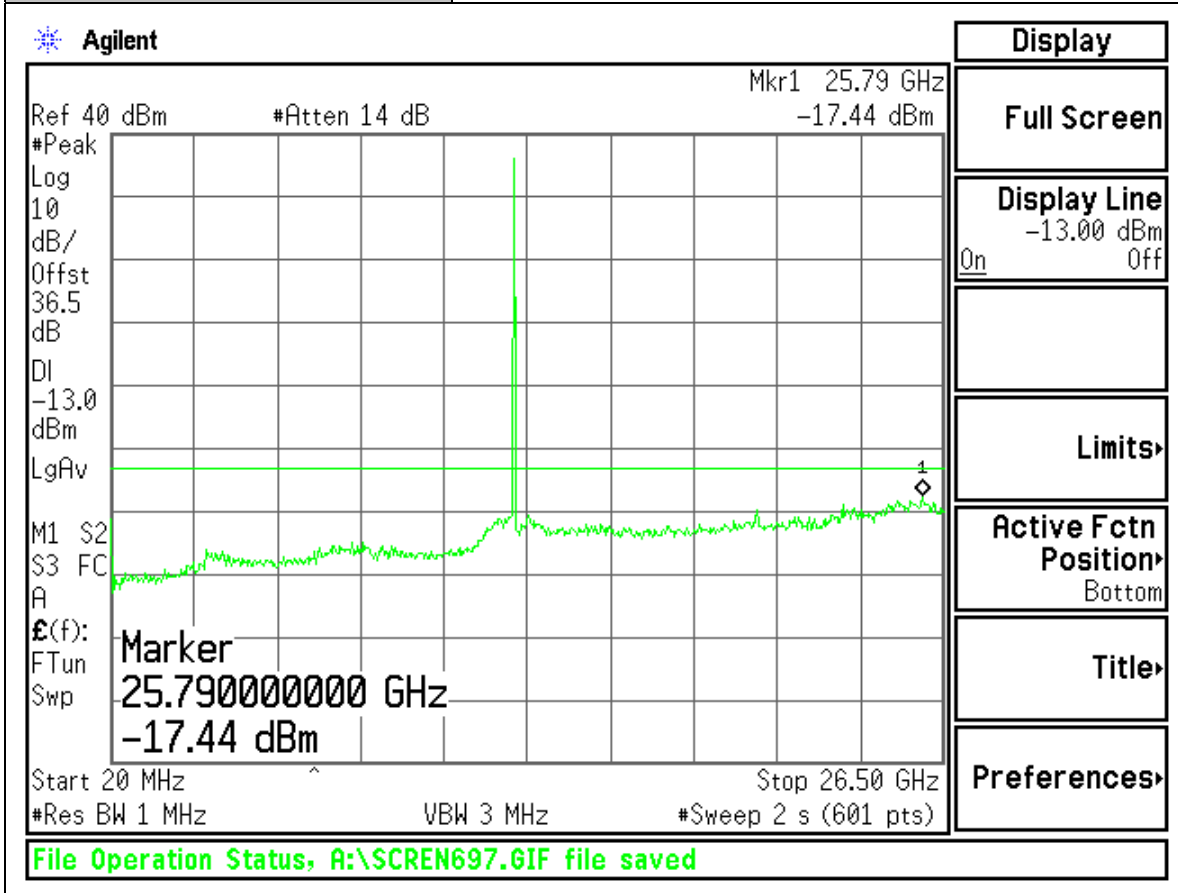
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-1, 12712.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



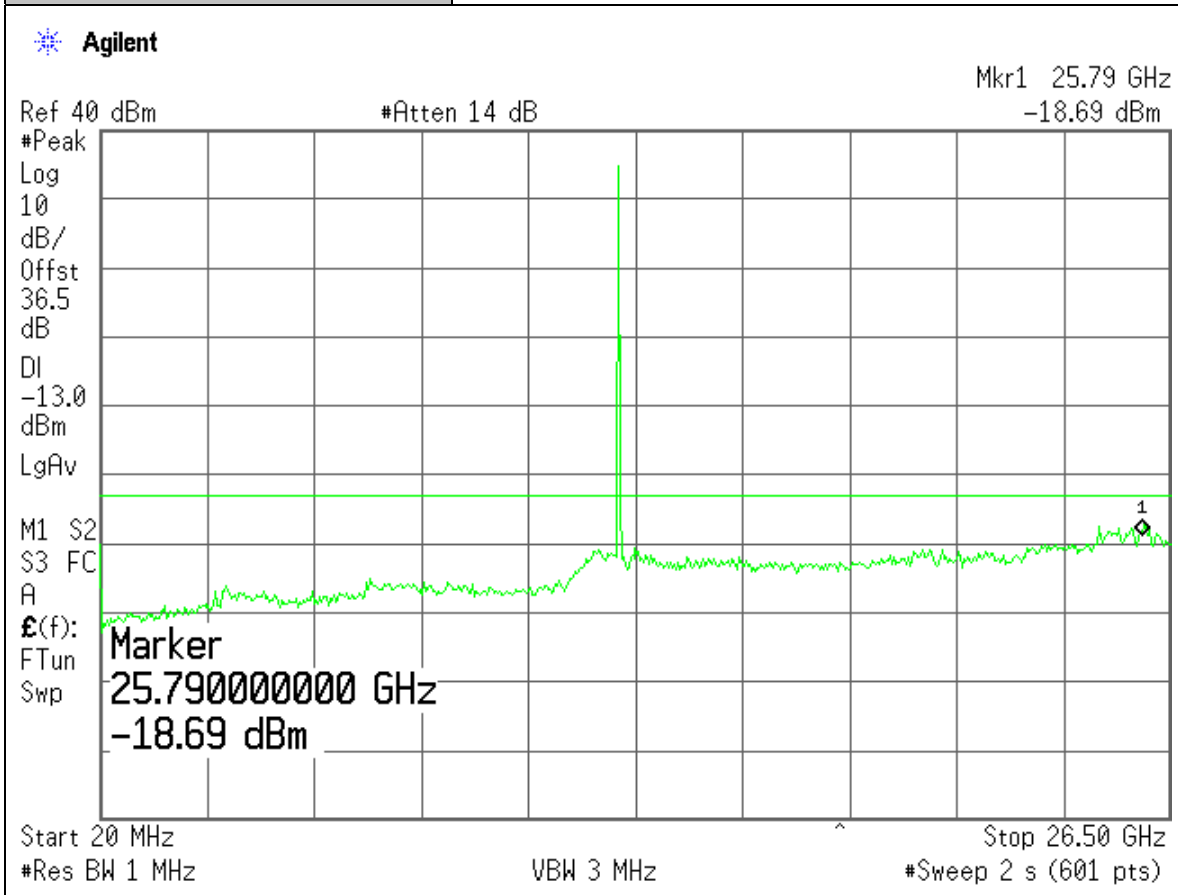
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



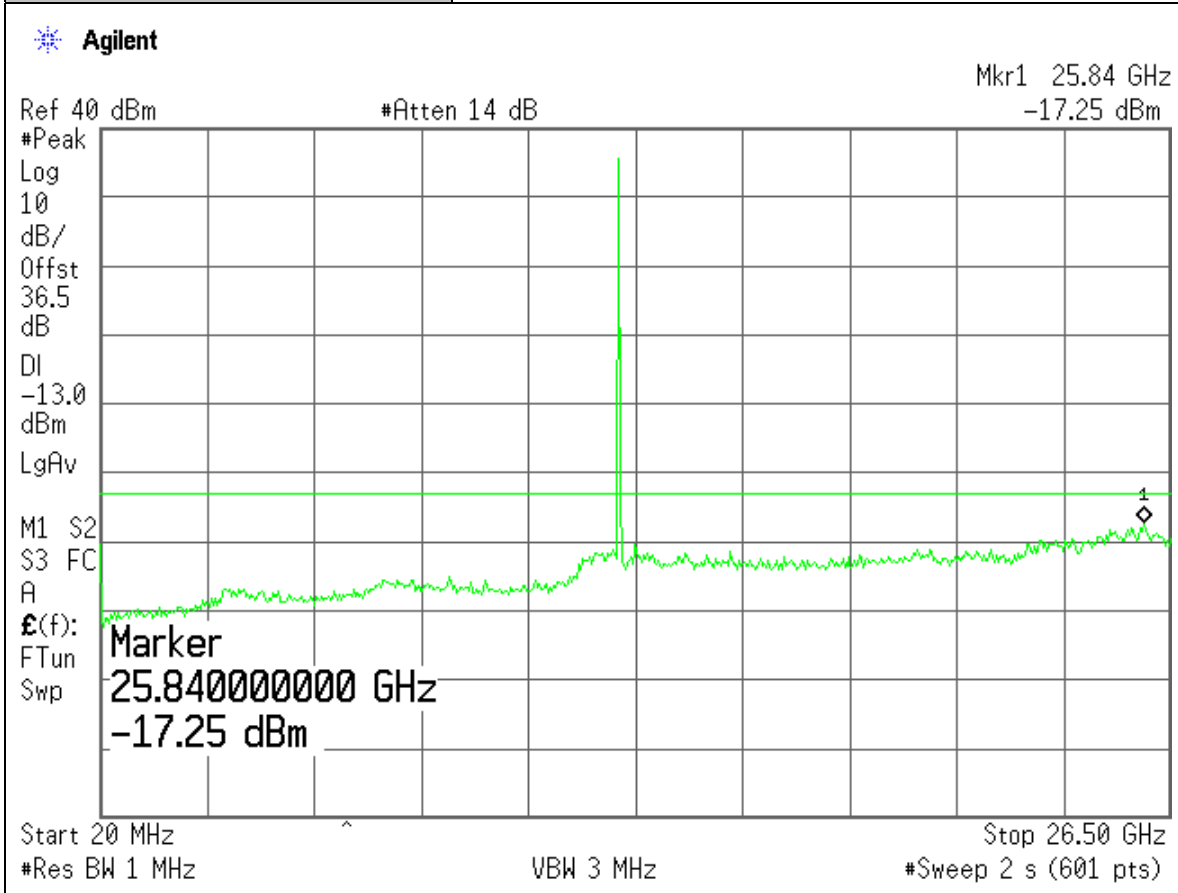
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



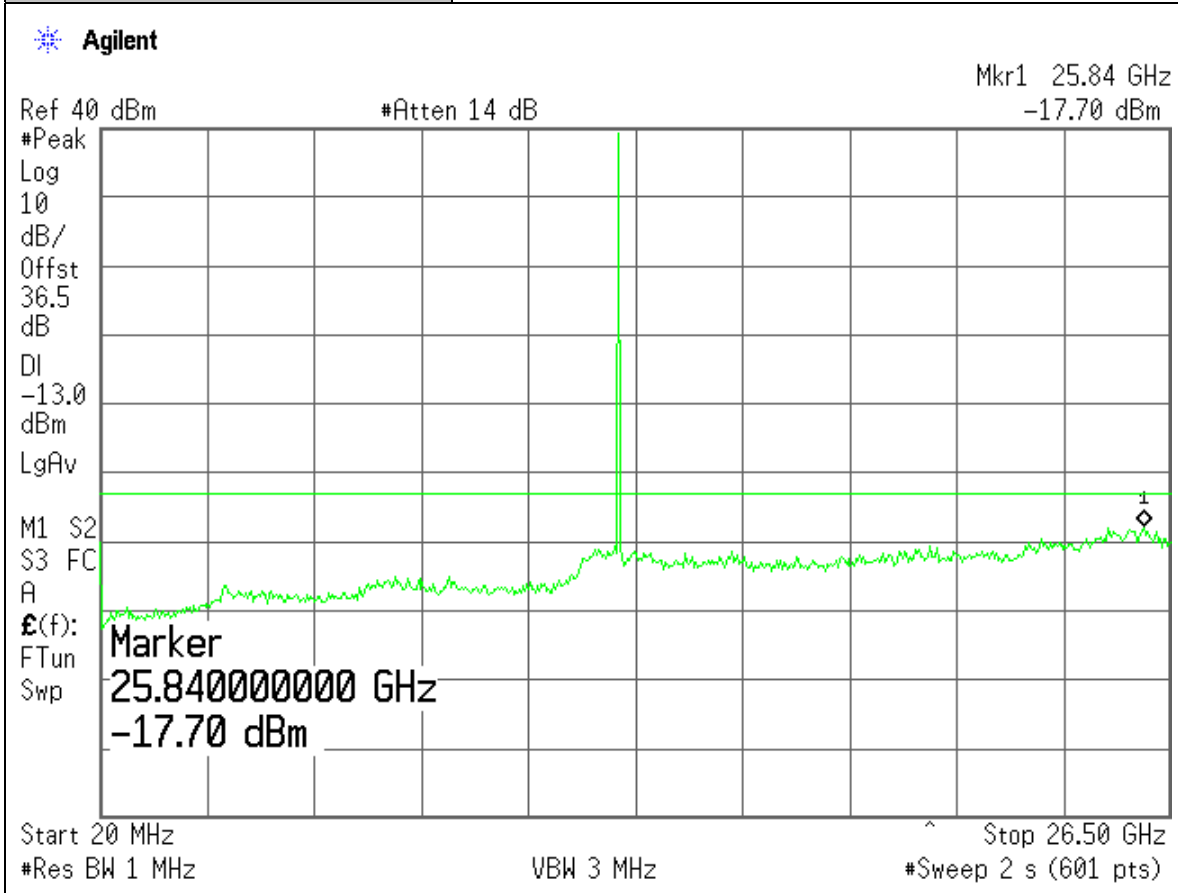
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



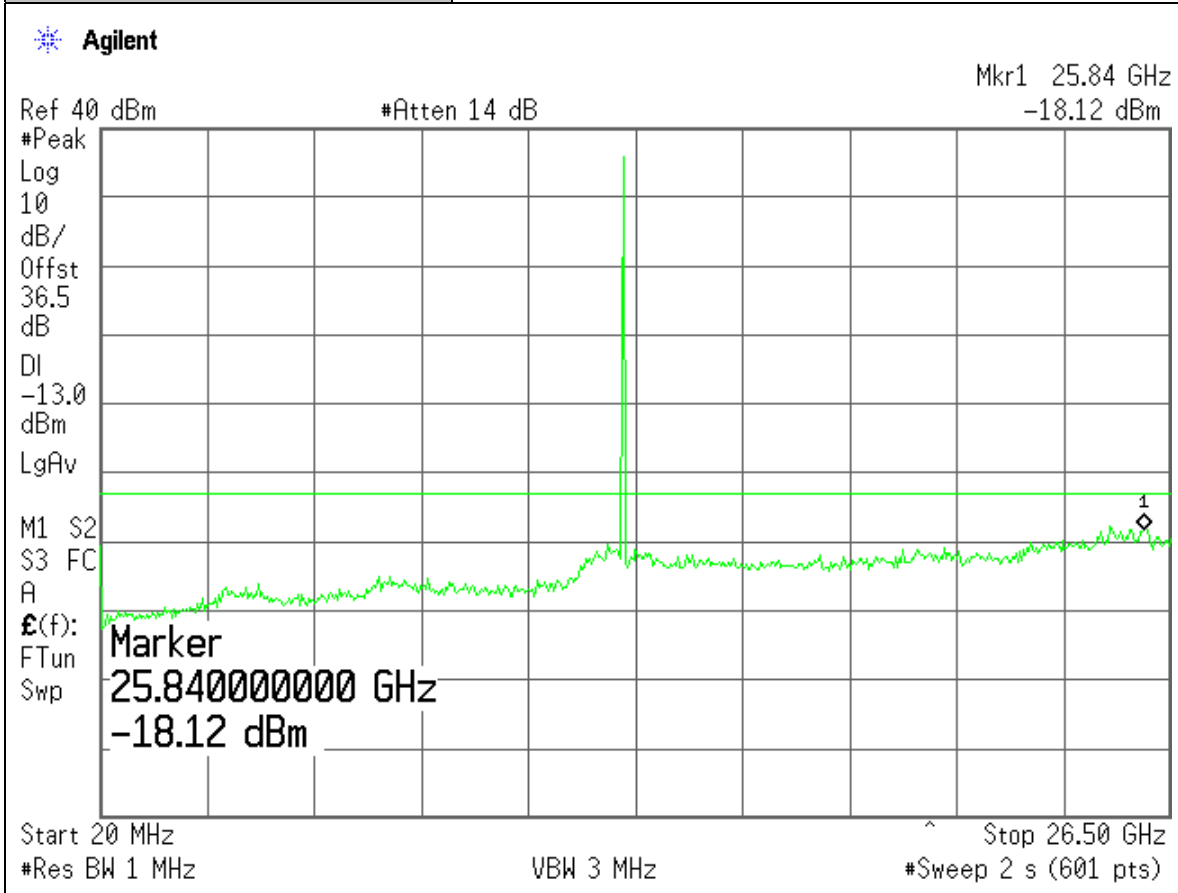
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-10, 12937.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



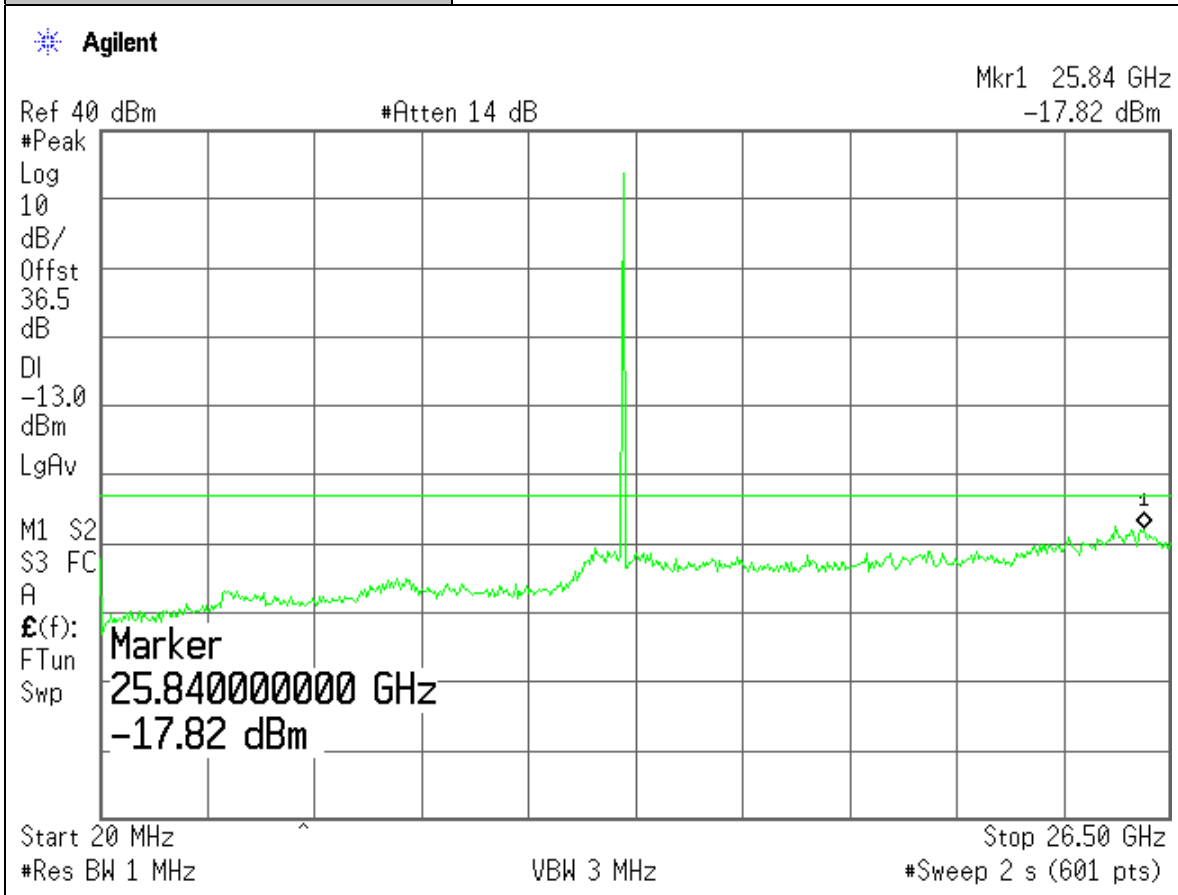
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



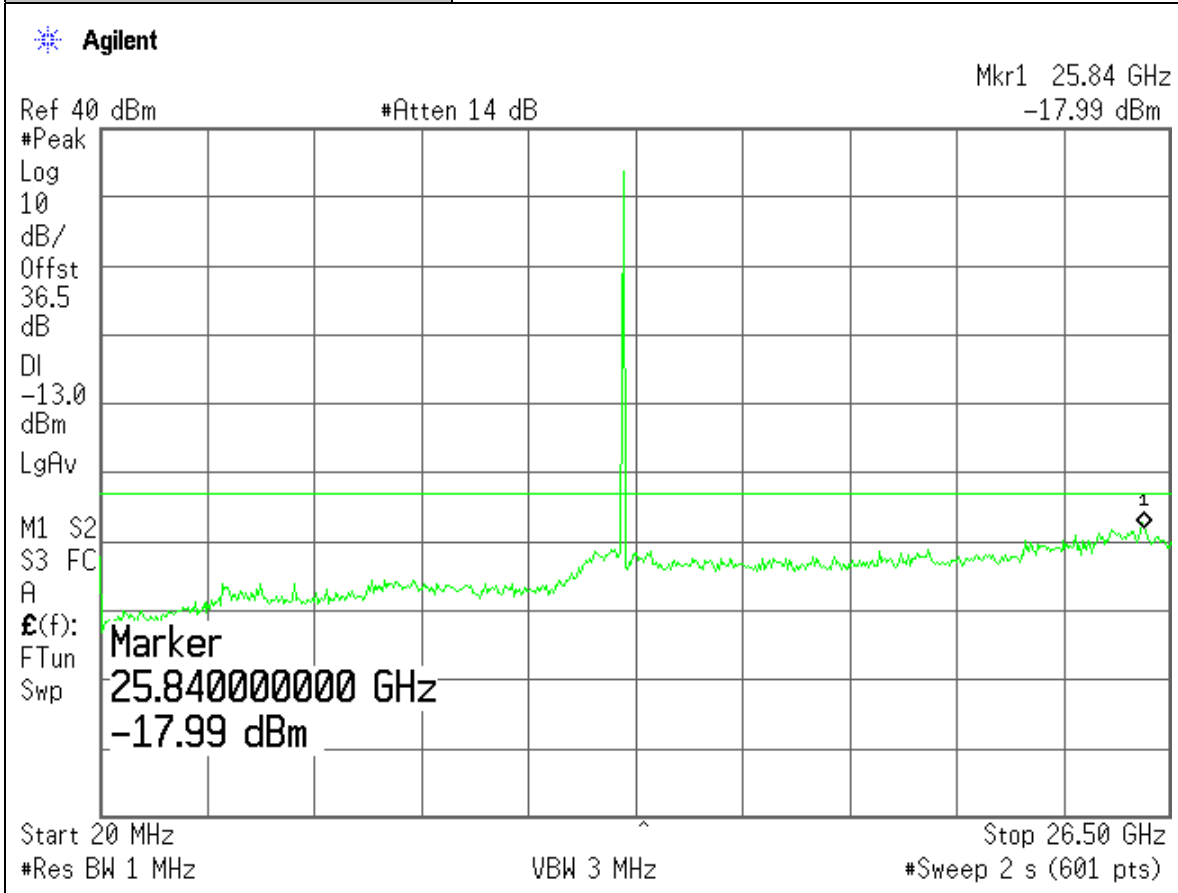
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



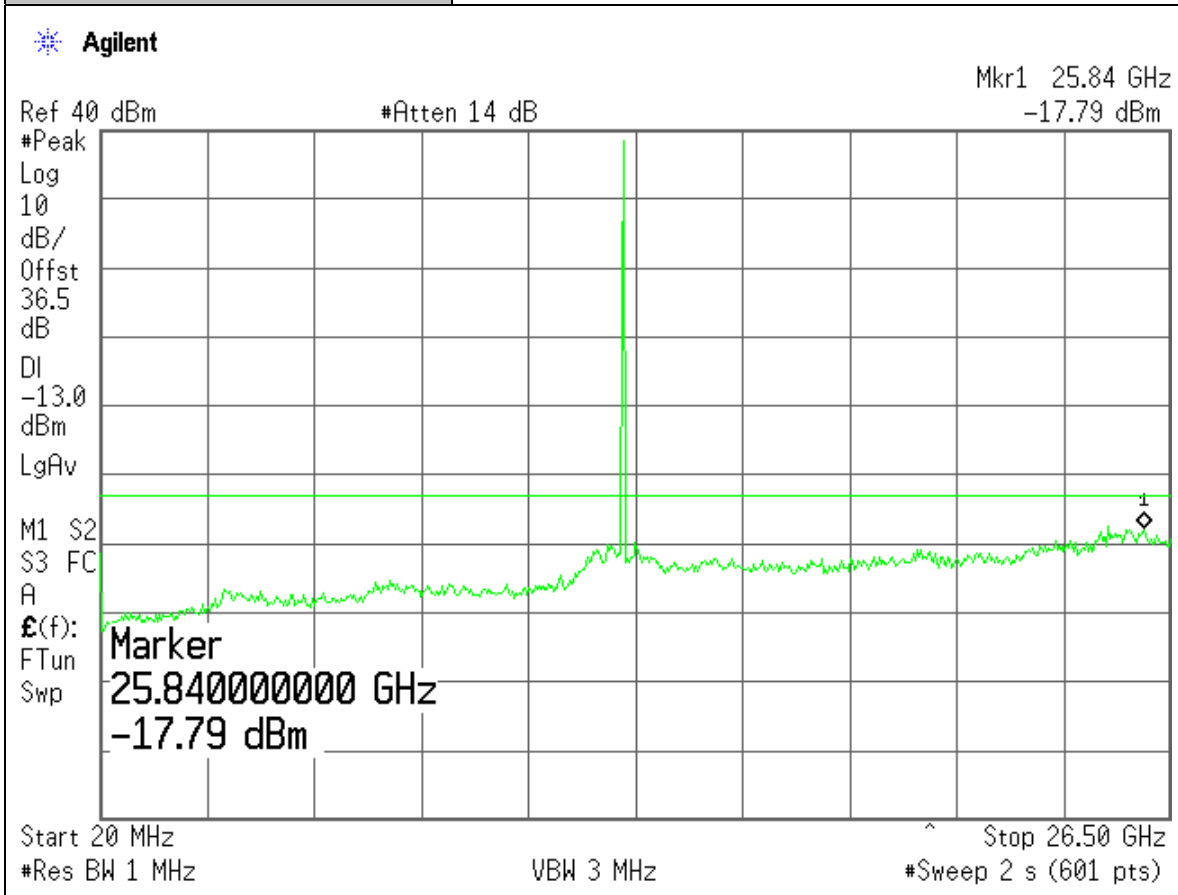
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



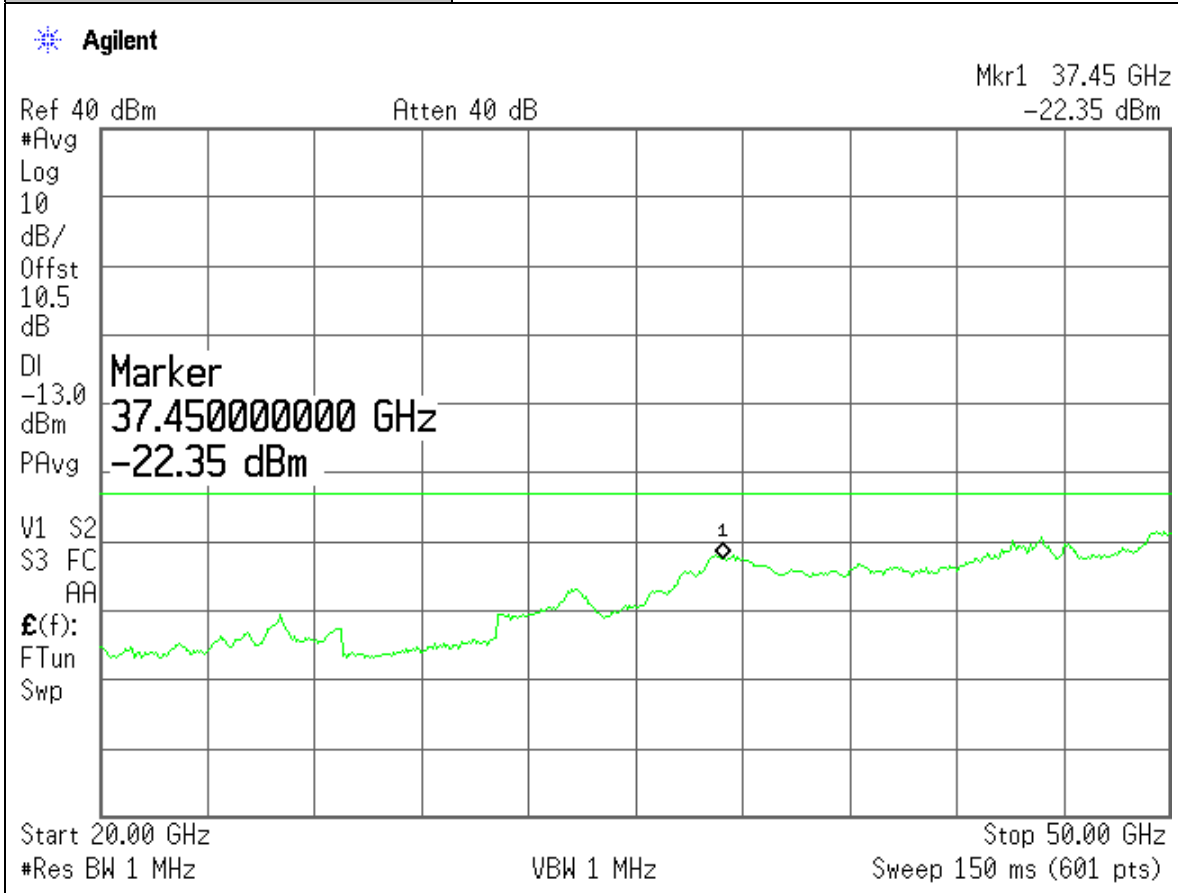
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Spurious Emissions: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



| | |
|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Tested By: | Wei Li |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|---|
| Section: | Spurious Emissions: 13G Band (Worst Case for above 20GHz Range) |
| Plot Name: | CH-22, 13237.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



Section 6. Field Strength of Spurious

| | | | |
|----------------------|-----------------------------------|-----------------------|-----------------------|
| Name of Test: | <i>Field Strength of Spurious</i> | Test Standard: | 74.637/2.1053 |
| Tested By: | DAVID TU | Test Date: | 05/28/2009-06/15/2009 |

Minimum Refer to Part 74.637:

Standard: *The mean power of emissions shall be attenuated below the mean transmitter power (PMEAN) in accordance with the following schedule:*

In any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth:

At least $43 + 10 \text{ Log}_{10}$ (PMEAN in watts) decibels(-13dBm), or 80 decibels, whichever is the lesser attenuation.

Method of TIA/EIA-603-C-2004, Section 2.2.12

Measurement: The antenna substitution method was used to determine the equivalent radiated power at spurious frequencies. The spurious emissions were measured at a distance of 3 meters. The EUT was then replaced with a reference substitution antenna with a known gain referenced to a dipole. This antenna was fed with a signal at the spurious frequency. The level of the signal was adjusted to repeat the previously measured level. The resulting ERP is the signal level fed to the reference antenna corrected for gain referenced to a dipole.

Test Result:

Complies

Test Data:

See Attached Table(s)

*** The pre-scan investigation shows that different digital modulation mode has no evident effect on spurious measurements and the worst case is the high power analog FM modulation mode, which is chosen for final data collection.**

| | |
|----------------------|----------------------|
| Configuration | Analog FM Modulation |
| Band | 2G Band |
| Channel | CH-1 & CH-4 & CH-7 |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 4101.0 | V | 48.7 | -68 | 1.8 | 10.0 | -61.95 | -13 | -48.95 |
| 6151.5* | V | 41.9 | -79 | 2.4 | 11.0 | -72.55 | -13 | -59.55 |
| | | | | | | | | |
| | | | | | | | | |

NO significant spurious which are under FCC limit by less than 20dB margin were founded.

NOTE:

* **Measured noise floor**
SA: Spectrum Analyzer
SG: Signal Generator
CL: SMA cable loss (6ft)

Worse case selected
H=horizontal and V=vertical
ERP = SG reading - CL + Gain (dBi)-2.15
Margin = ERP - Limit

| | |
|----------------------|----------------------|
| Configuration | Analog FM Modulation |
| Band | 2G Band |
| Channel | CH-8 & CH-9 |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 4950.5 | V | 47.5 | -67 | 2.0 | 10.0 | -61.15 | -13 | -48.15 |
| 7425.75* | V | 43.8 | -76 | 2.7 | 10.3 | -70.55 | -13 | -57.55 |
| | | | | | | | | |
| | | | | | | | | |

NO other significant spurious which are under FCC limit by less than 20dB margin were founded.

NOTE:

* **Measured noise floor**
SA: Spectrum Analyzer
SG: Signal Generator
CL: SMA cable loss (6ft)

Worse case selected
H=horizontal and V=vertical
ERP = SG reading - CL + Gain (dBi)-2.15
Margin = ERP - Limit

| | |
|----------------------|----------------------|
| Configuration | Analog FM Modulation |
| Band | 7G Band |
| Channel | CH-21 & CH-22 & CH24 |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NO Significant spurious which are under FCC limit by less than 20dB margin were founded.

NOTE:

* **Measured noise floor**
SA: Spectrum Analyzer
SG: Signal Generator
CL: SMA cable loss (6ft)

Worse case selected
H=horizontal and V=vertical
ERP = SG reading - CL + Gain (dBi)-2.15
Margin = ERP - Limit

| | |
|----------------------|----------------------|
| Configuration | Analog FM Modulation |
| Band | 7G Band |
| Channel | CH-1 & CH6 & CH-10 |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NO Significant spurious which are under FCC limit by less than 20dB margin were founded.

NOTE:

* **Measured noise floor**
SA: Spectrum Analyzer
SG: Signal Generator
CL: SMA cable loss (6ft)

Worse case selected
H=horizontal and V=vertical
ERP = SG reading - CL + Gain (dBi)-2.15
Margin = ERP - Limit

| | |
|----------------------|----------------------|
| Configuration | Analog FM Modulation |
| Band | 13G Band |
| Channel | CH-1 & 10 & 22 |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NO Significant spurious which are under FCC limit by less than 20dB margin were founded.

NOTE:

* **Measured noise floor**
SA: Spectrum Analyzer
SG: Signal Generator
CL: SMA cable loss (6ft)

Worse case selected
H=horizontal and V=vertical
ERP = SG reading - CL + Gain (dBi)-2.15
Margin = ERP - Limit

Section 7. Emission Limitation Mask

| | | | |
|----------------------|----------------------|-----------------------|-----------------------|
| Name of Test: | <i>Emission Mask</i> | Test Standard: | <i>74.637</i> |
| Tested By: | David Tu | Test Date: | 05/28/2009-06/15/2009 |

Minimum Standard: *Refer to Part 74.637*
The mean power of emissions shall be attenuated below the mean transmitter power (PMEAN) in accordance with the following schedule:
For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:
$$A = 35 + 0.8 (G - 50) + 10 \text{ Log}_{10} B$$
(Attenuation greater than 80 decibels is not required.)

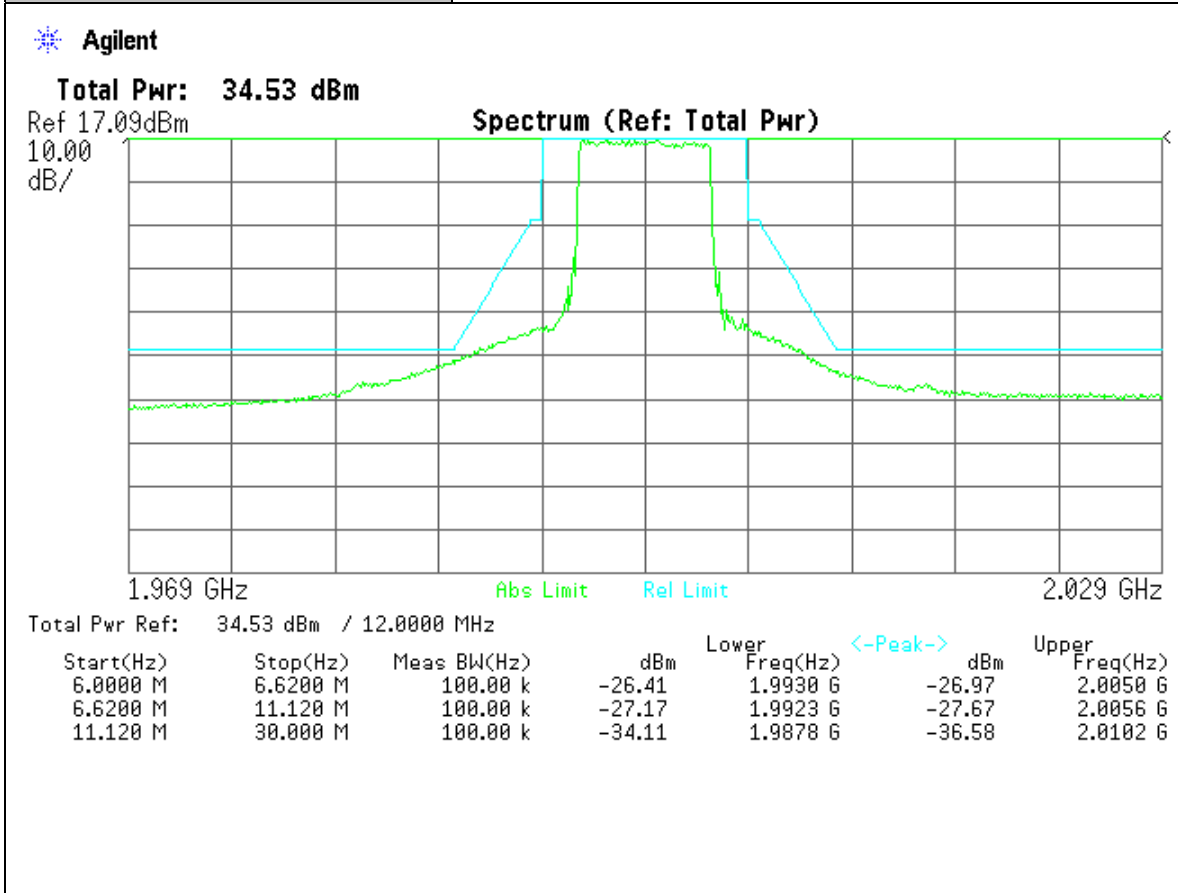
Method of Measurement: **12MHz and 17MHz measurement BW for 2G Band**
25MHz measurement BW for 7G and 13G Bands

Test Result: **Complies**

Test Data: See Attached Table(s)

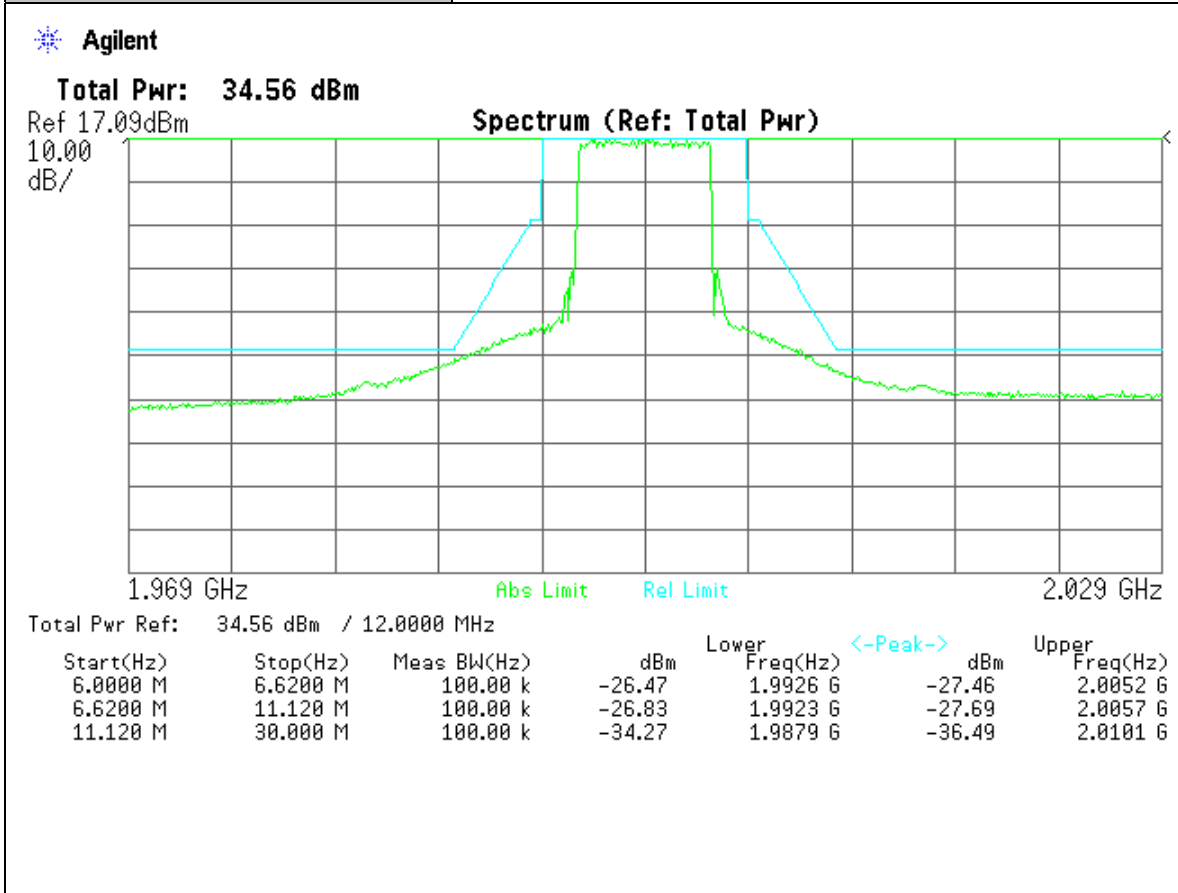
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-1, 1999MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



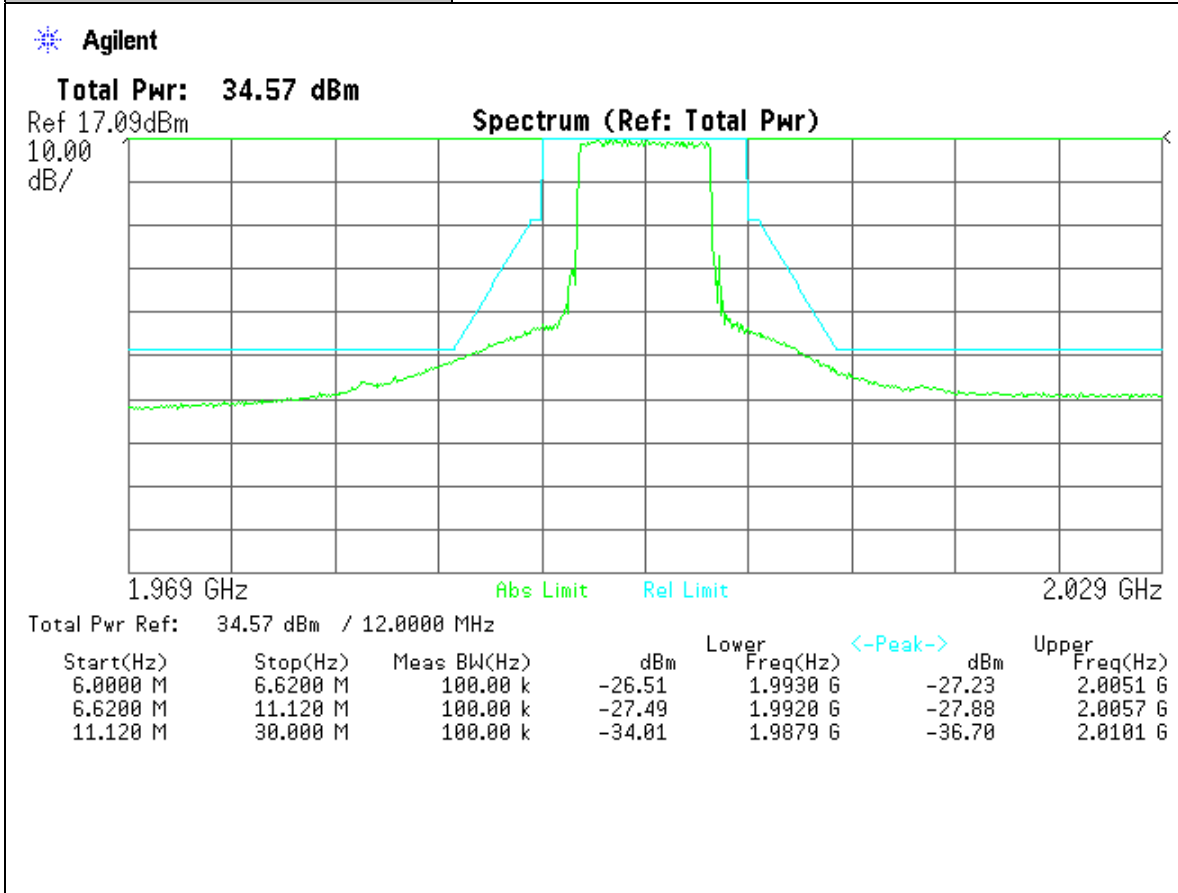
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-1, 1999MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



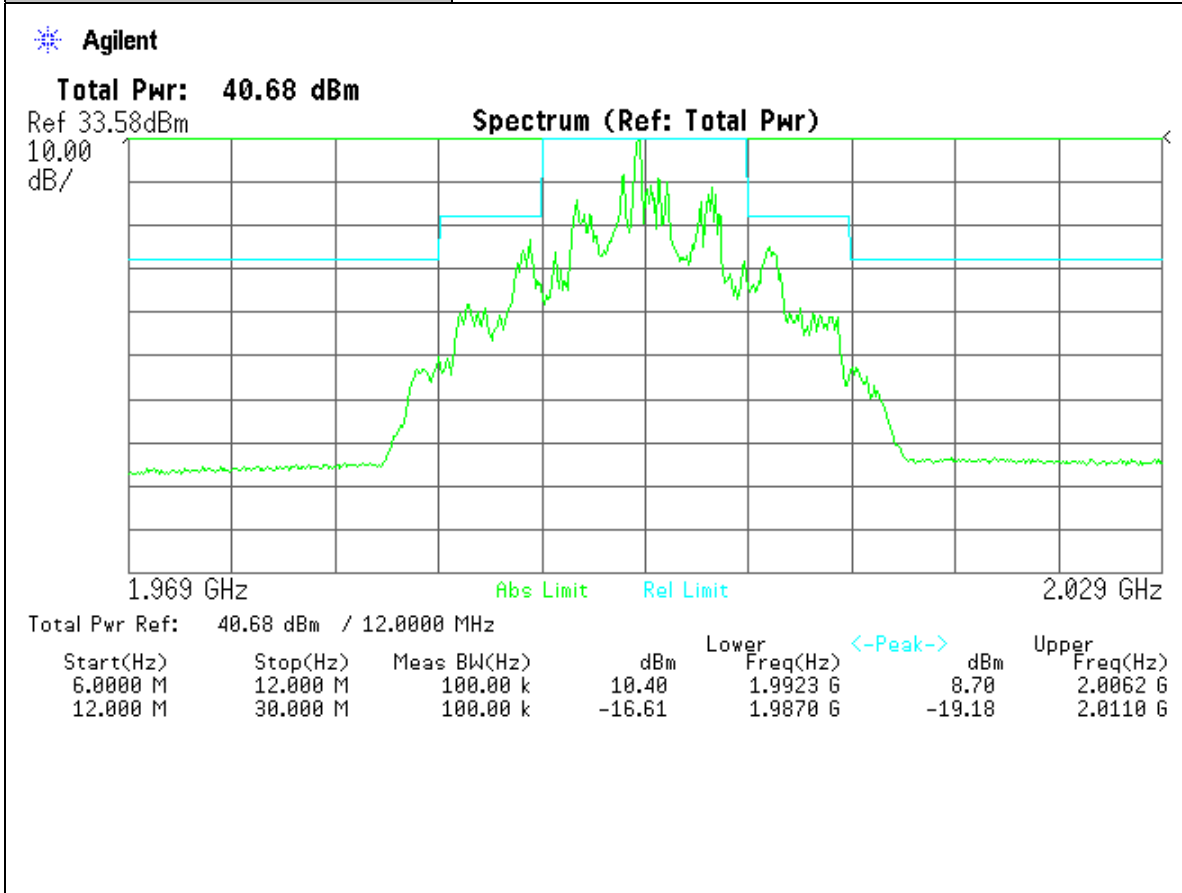
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-1, 1999MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



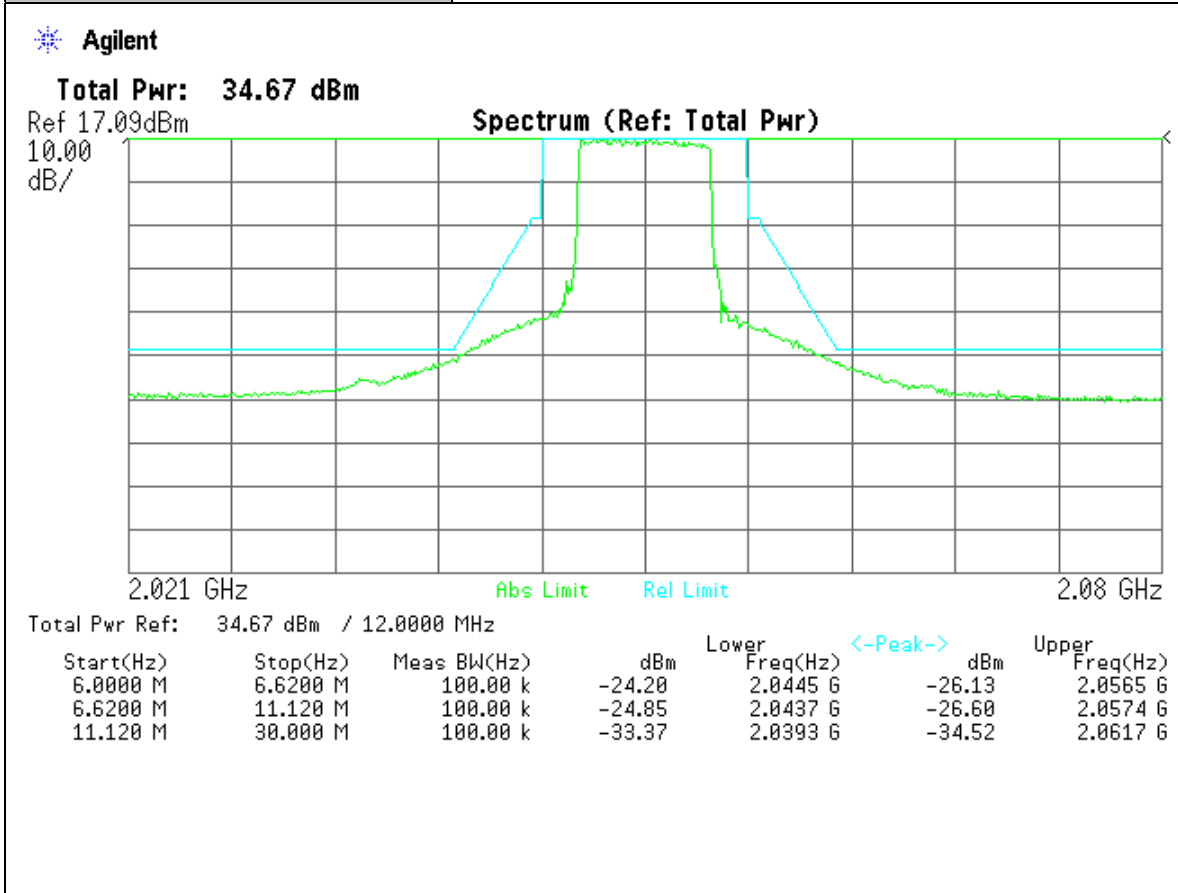
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-1, 1999MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



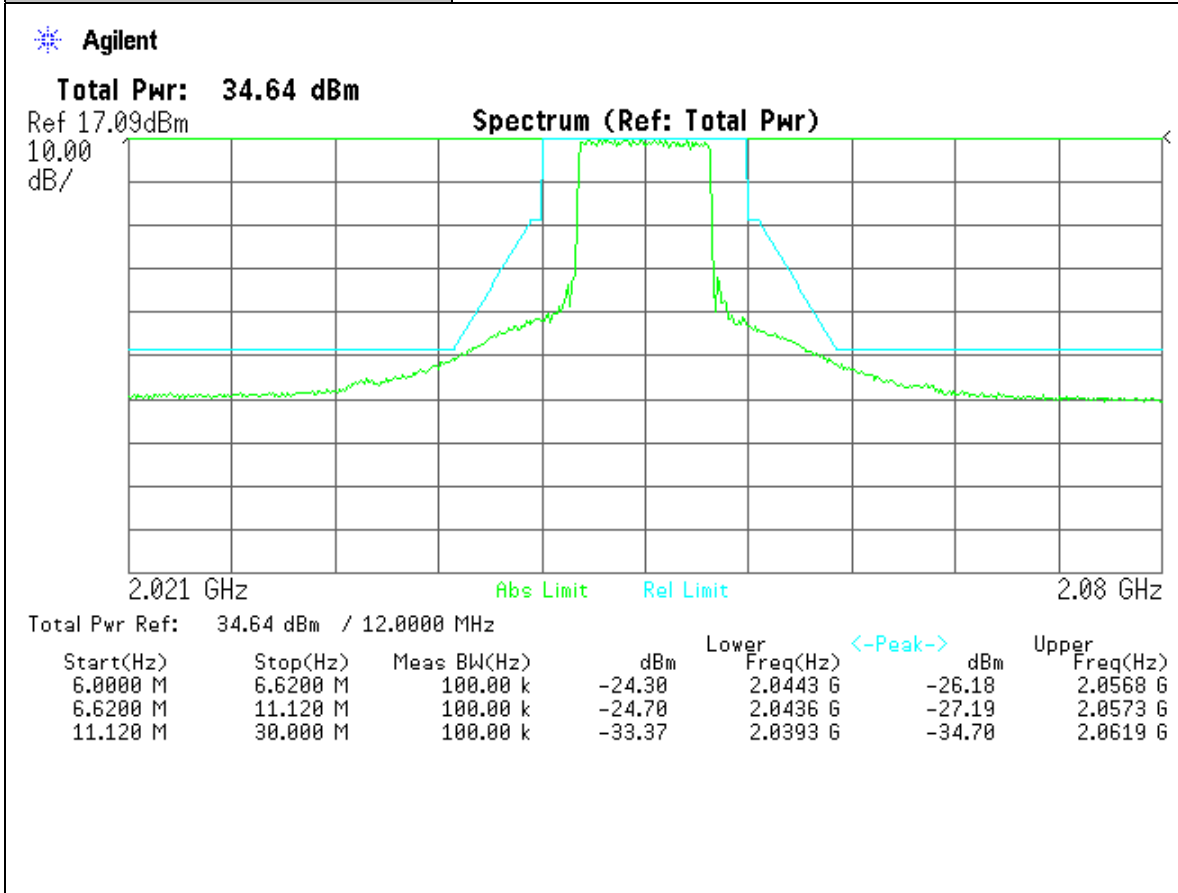
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



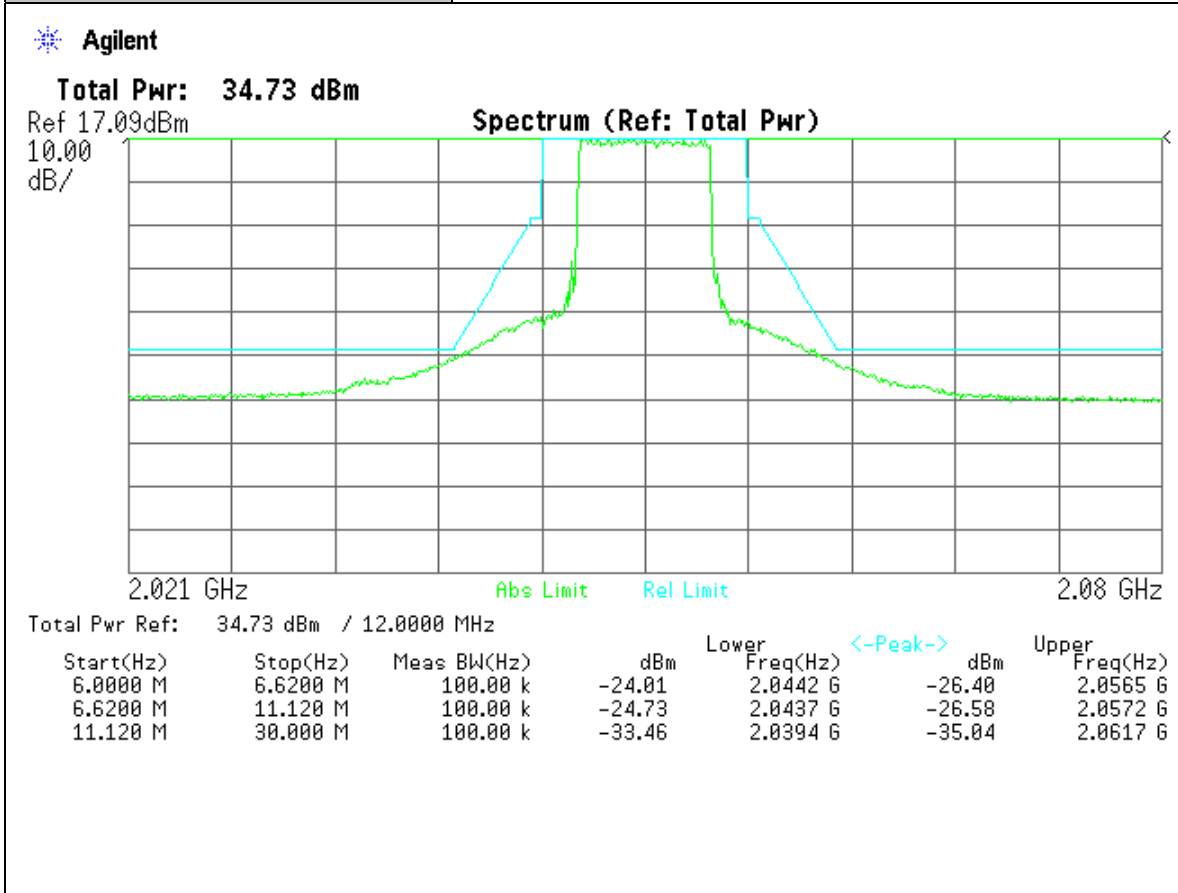
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



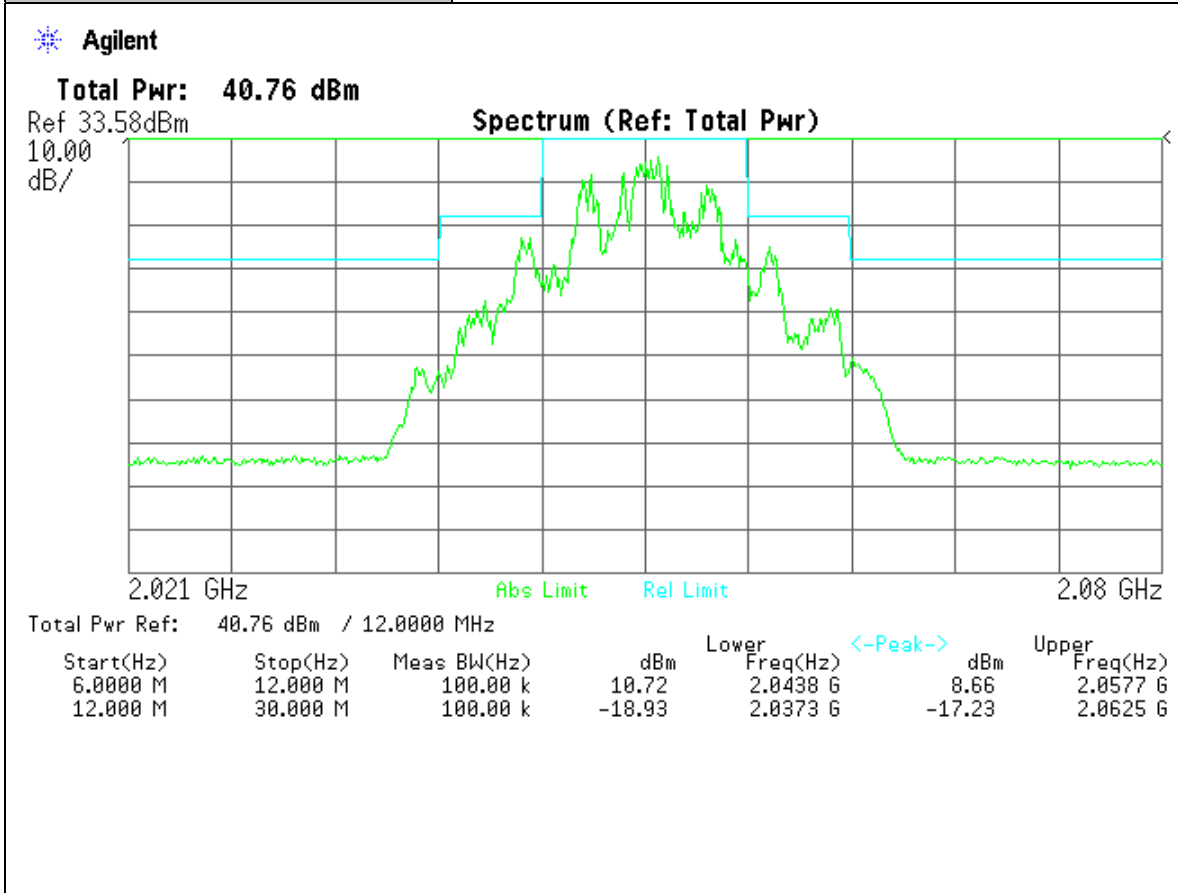
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



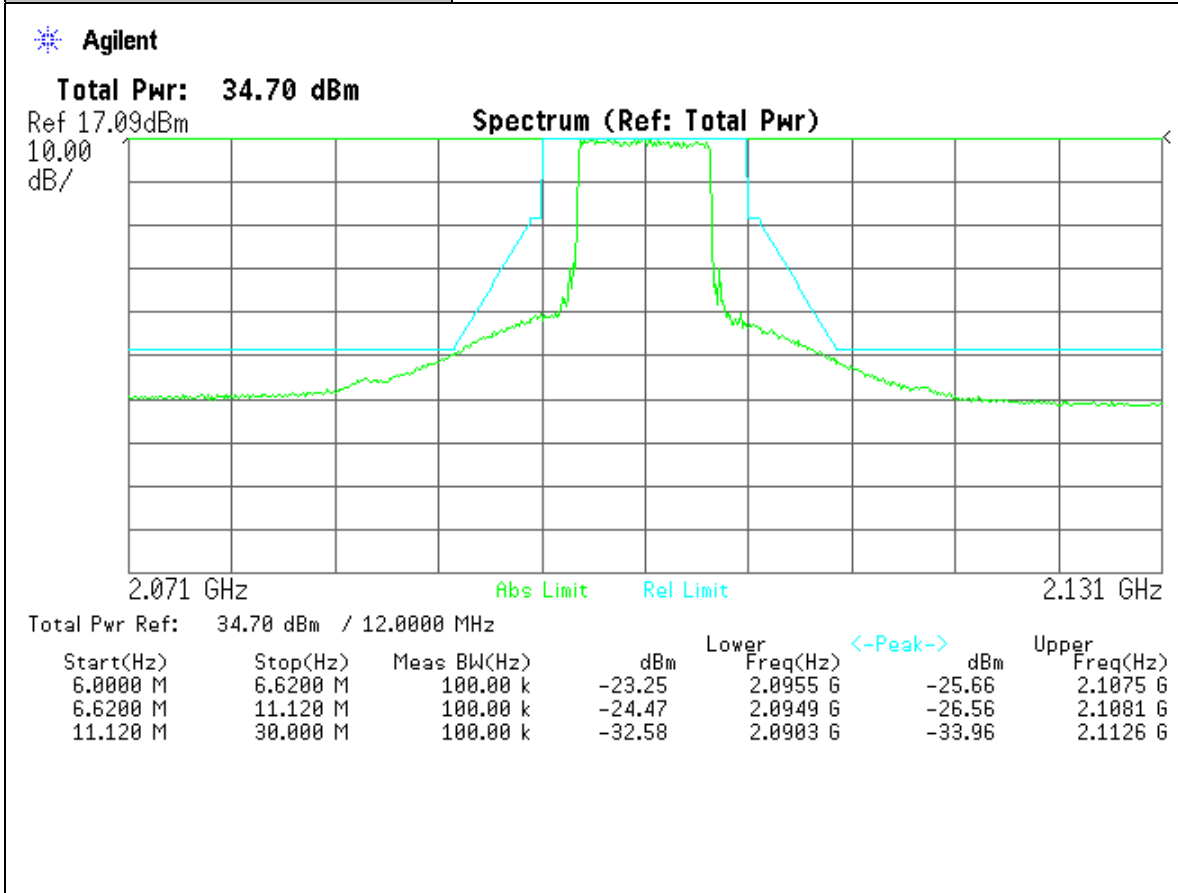
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-4, 2050.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



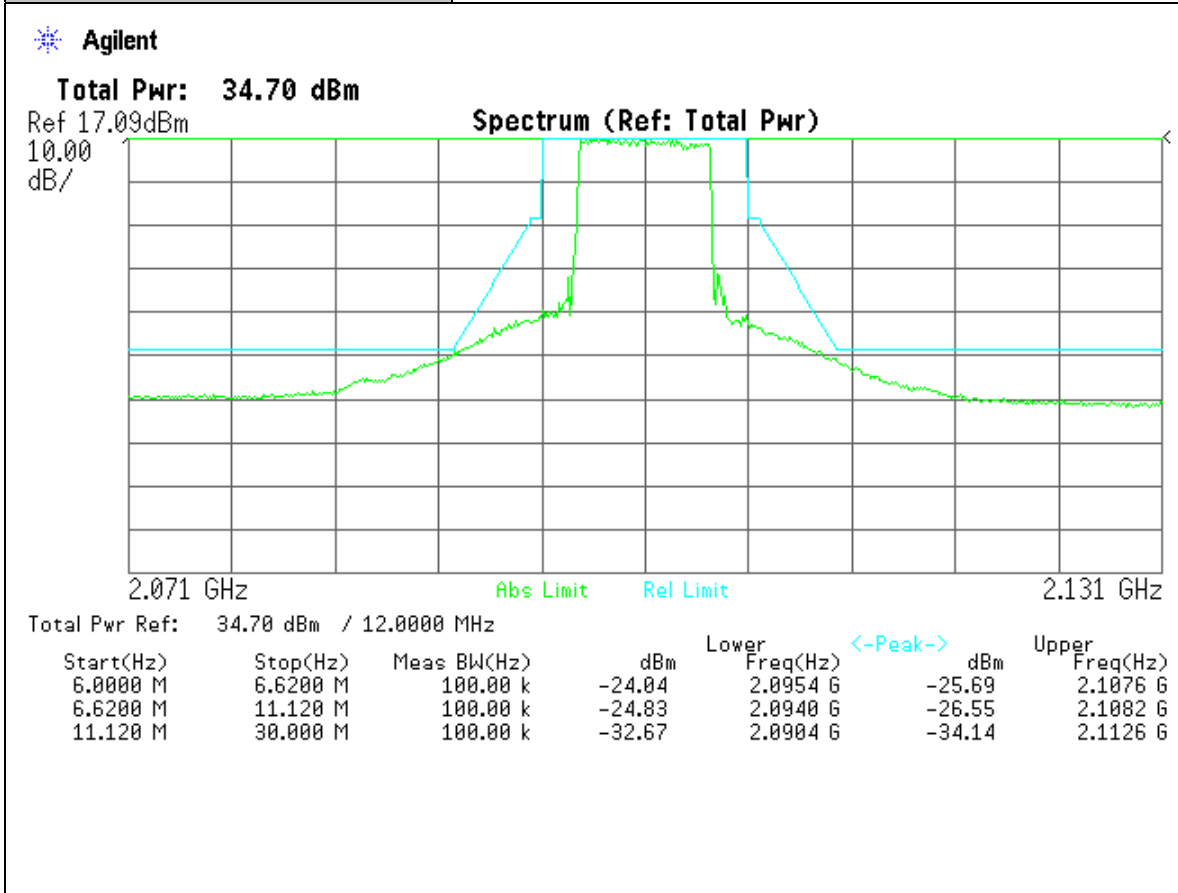
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



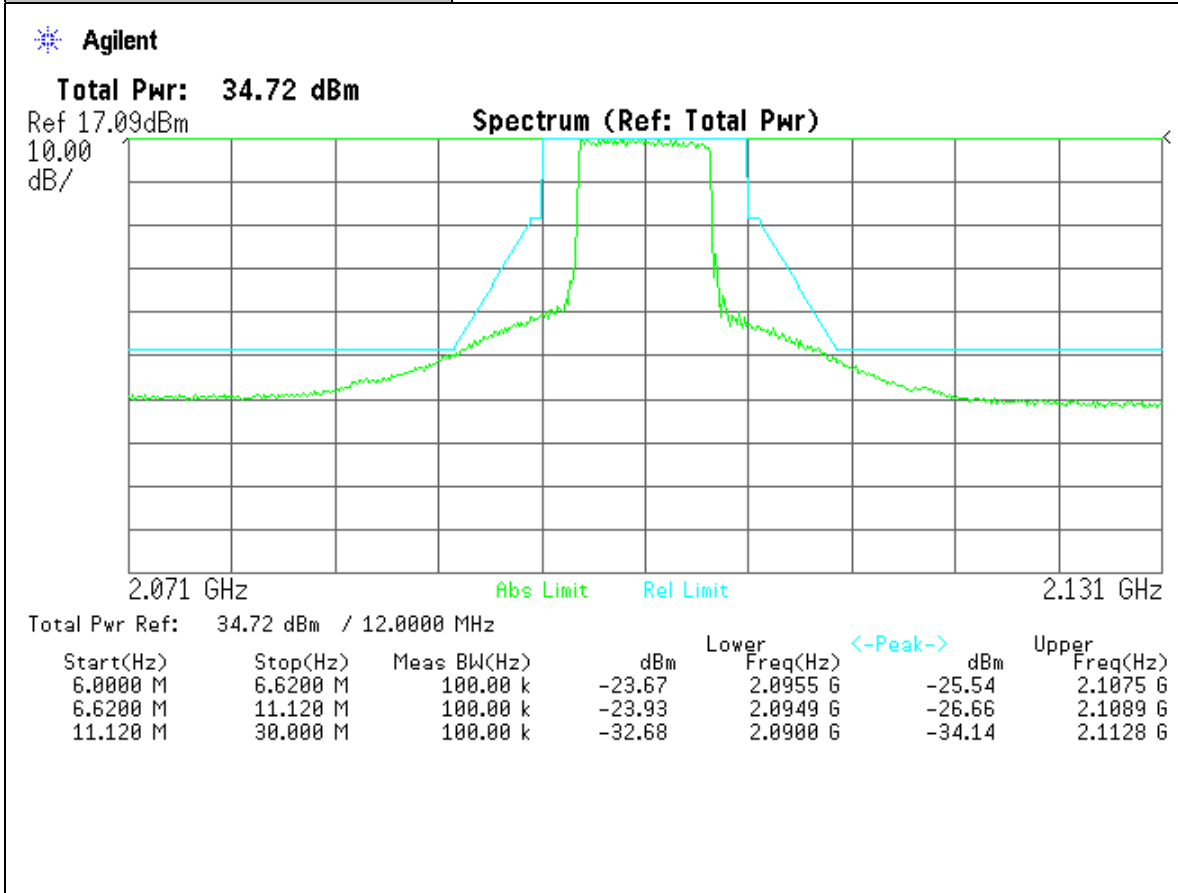
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



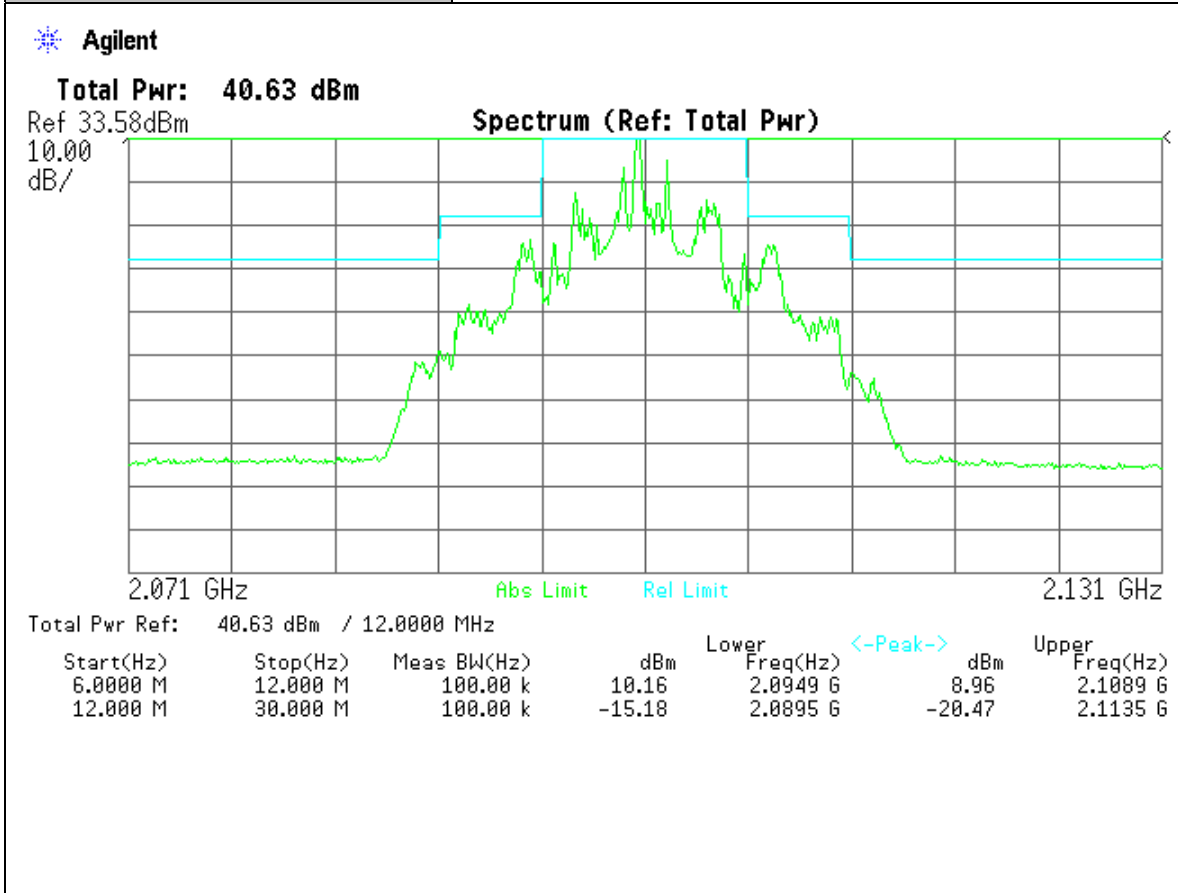
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



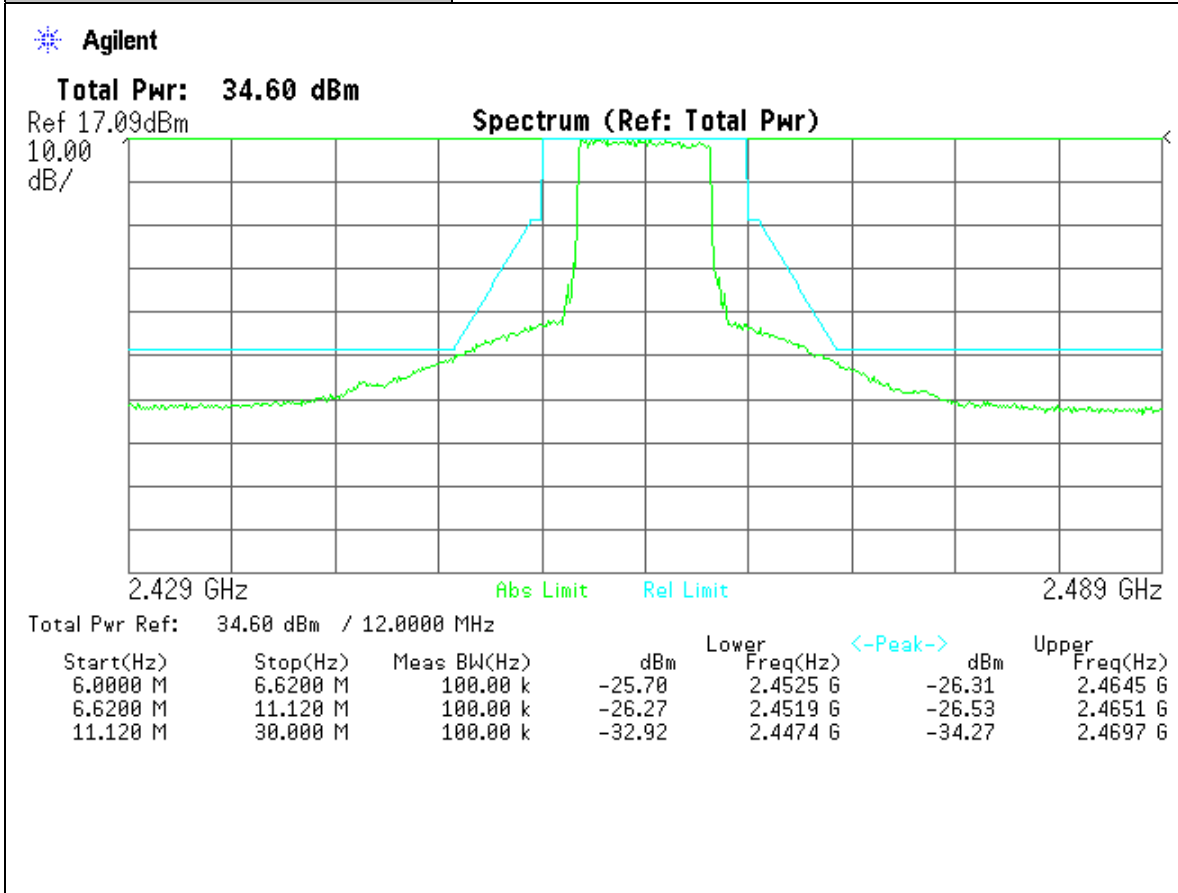
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-7, 2101.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



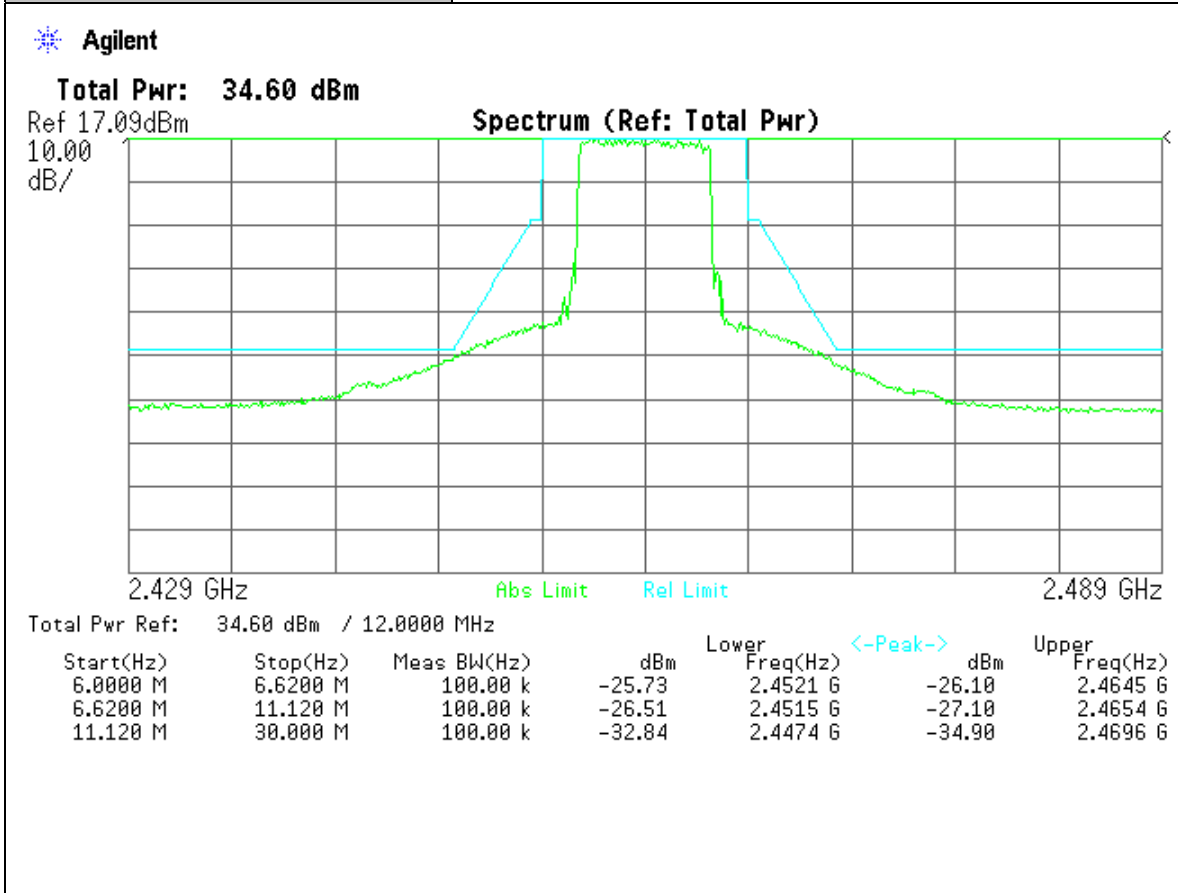
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



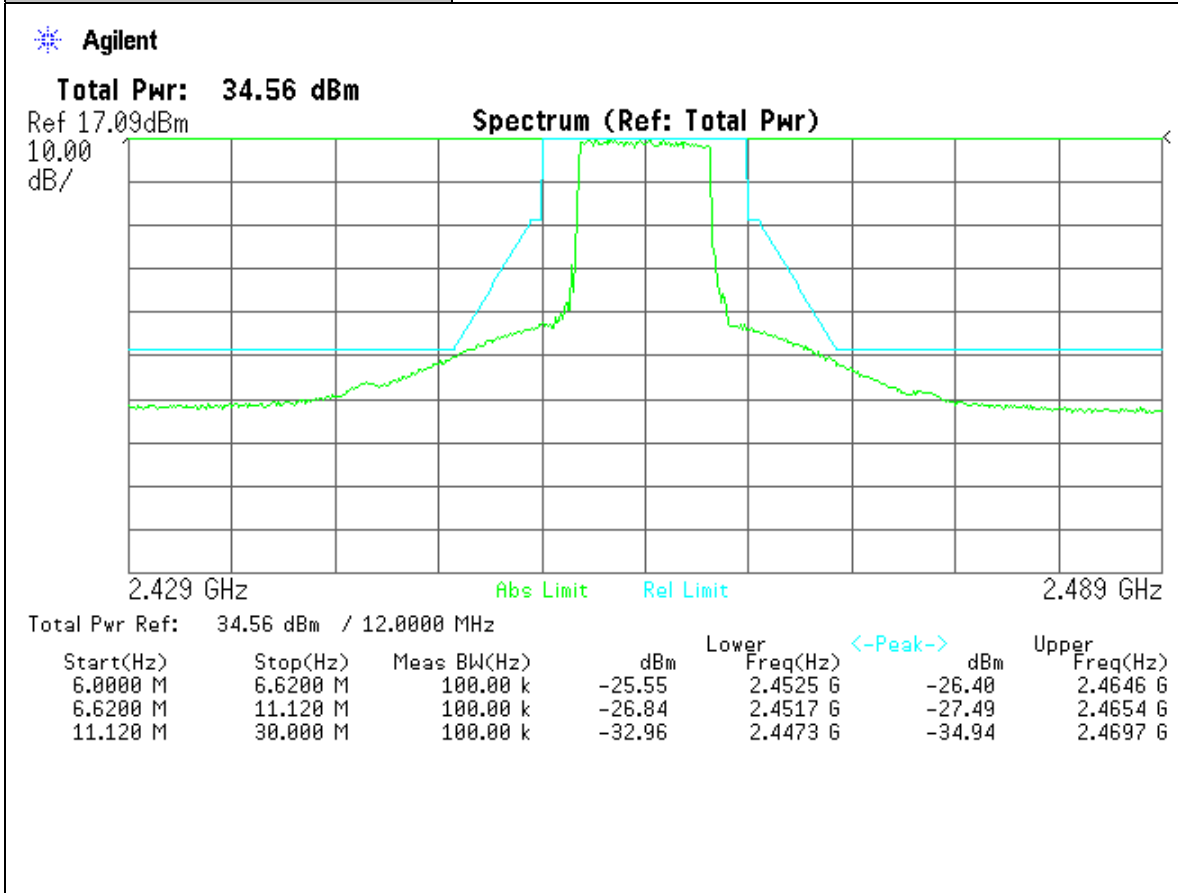
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



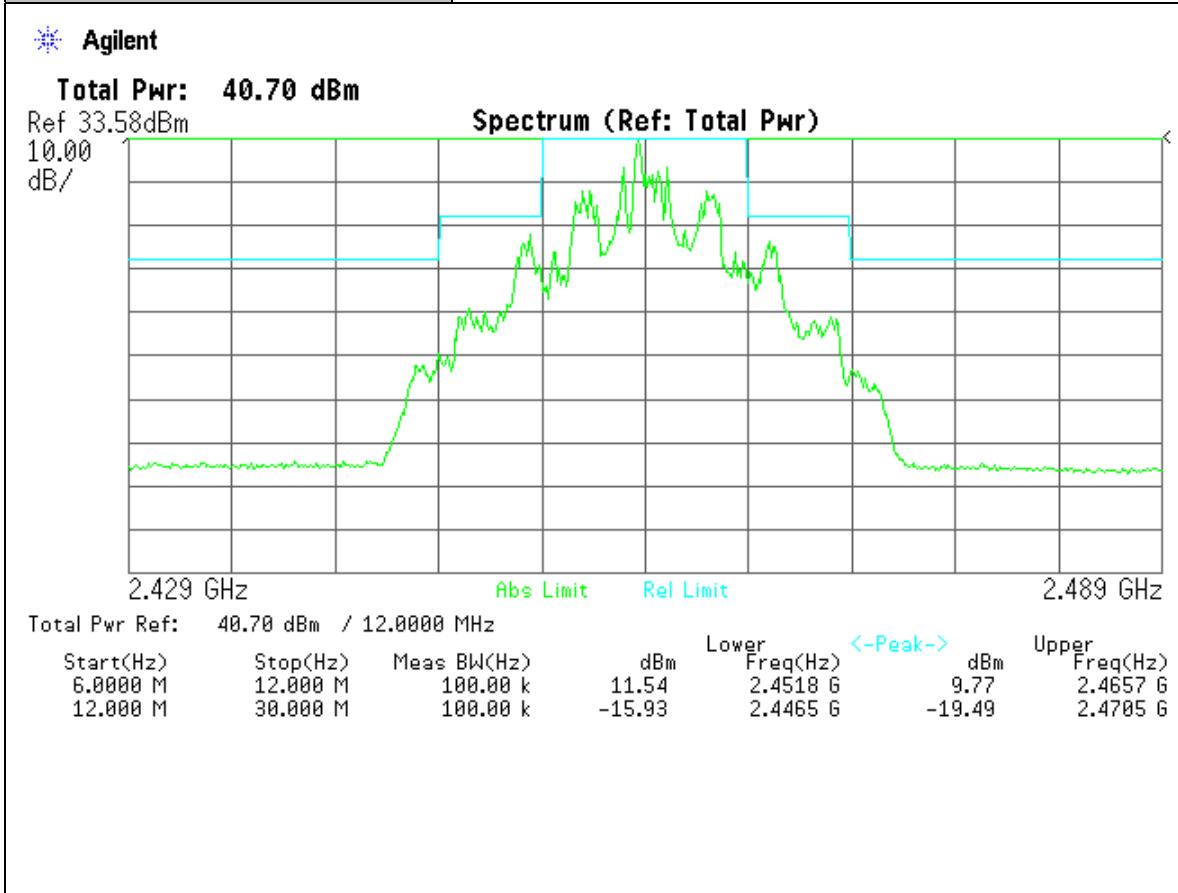
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



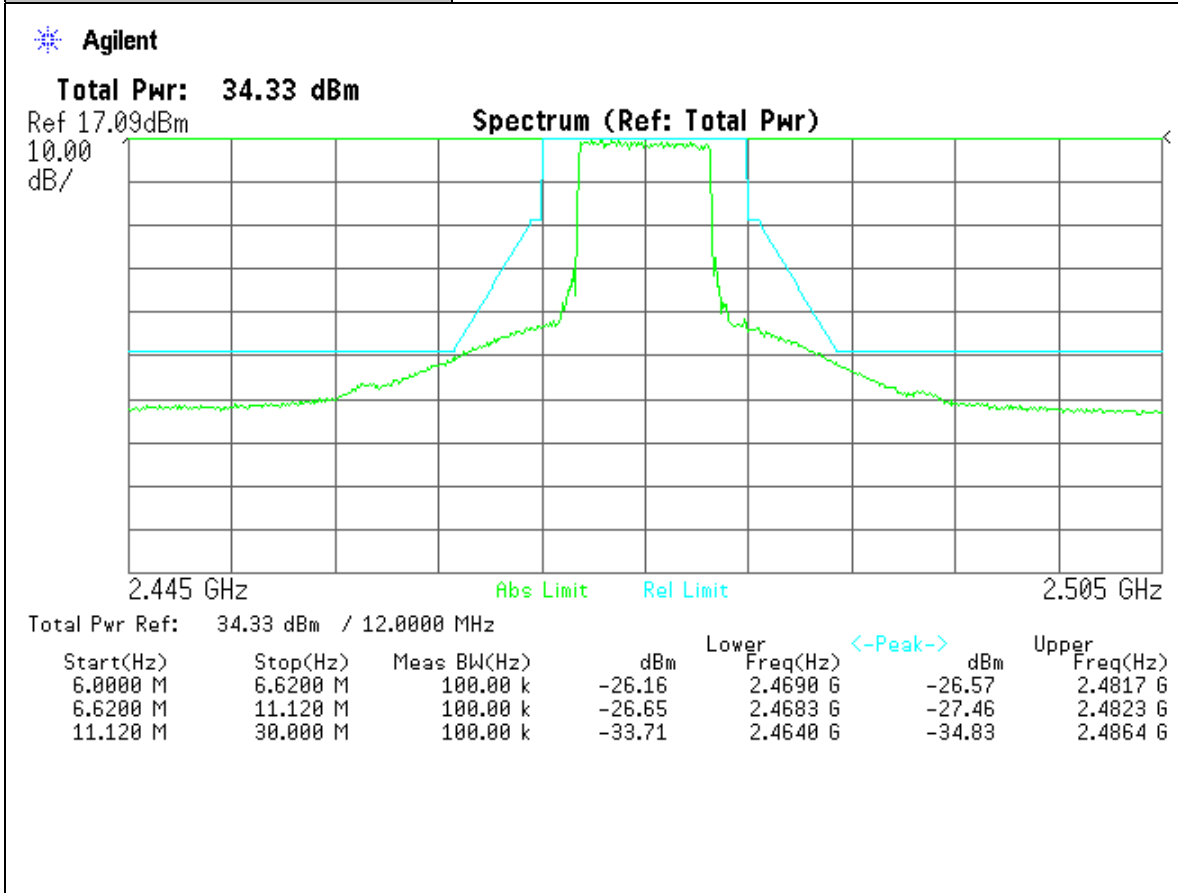
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-8, 2458.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



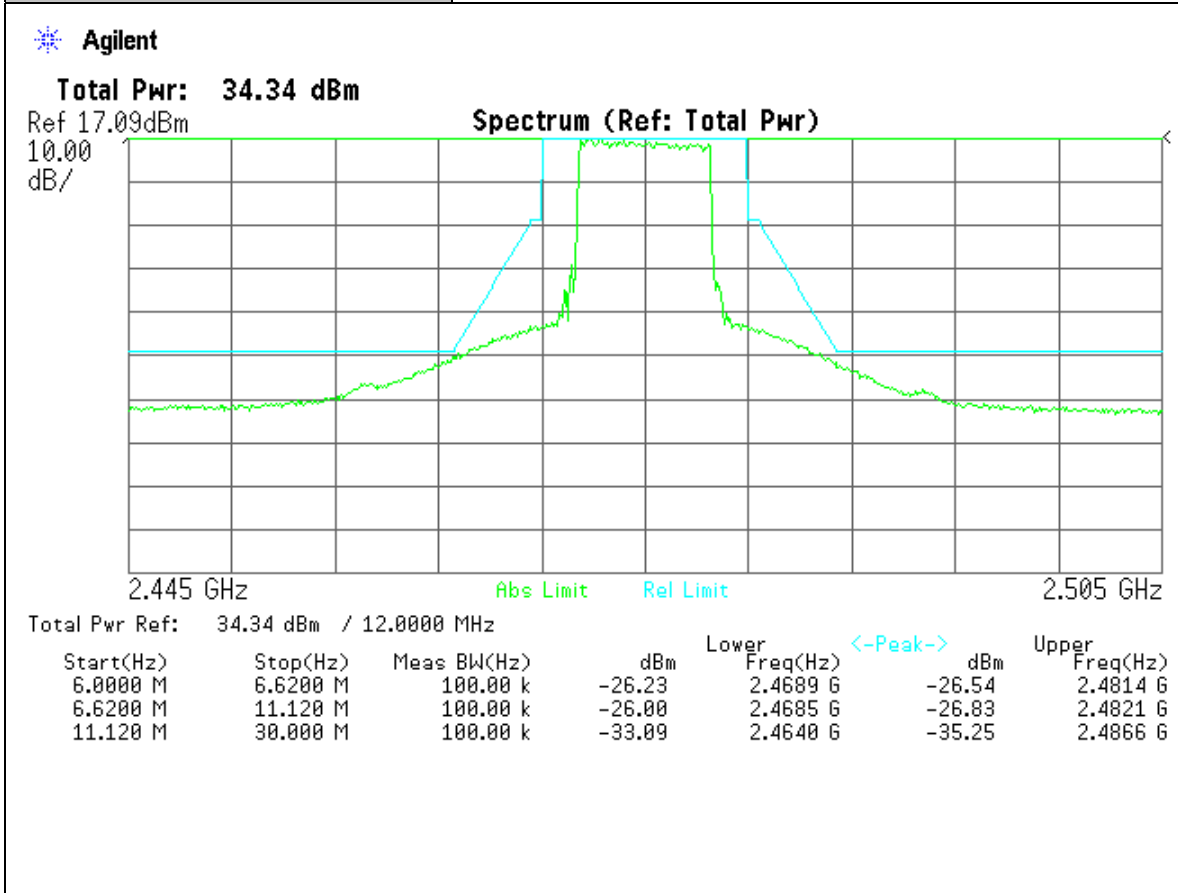
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



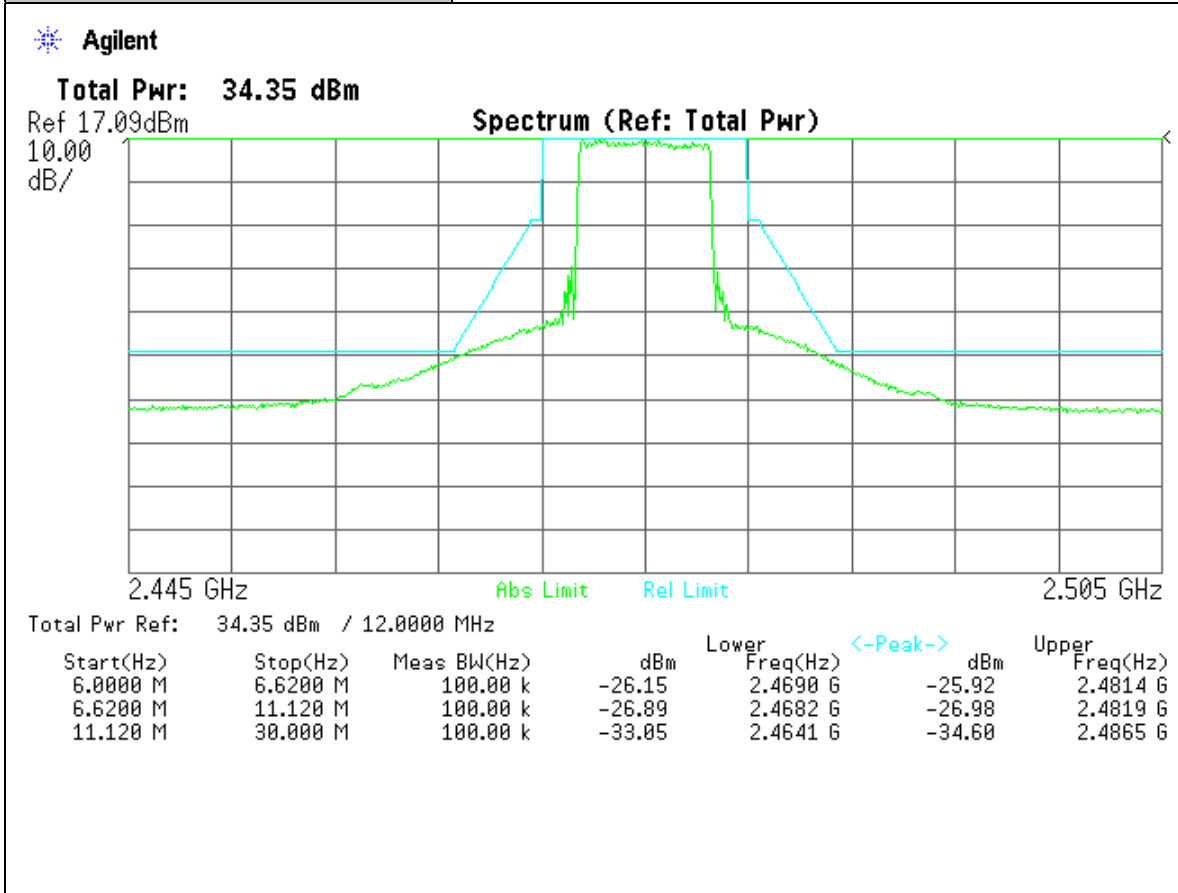
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



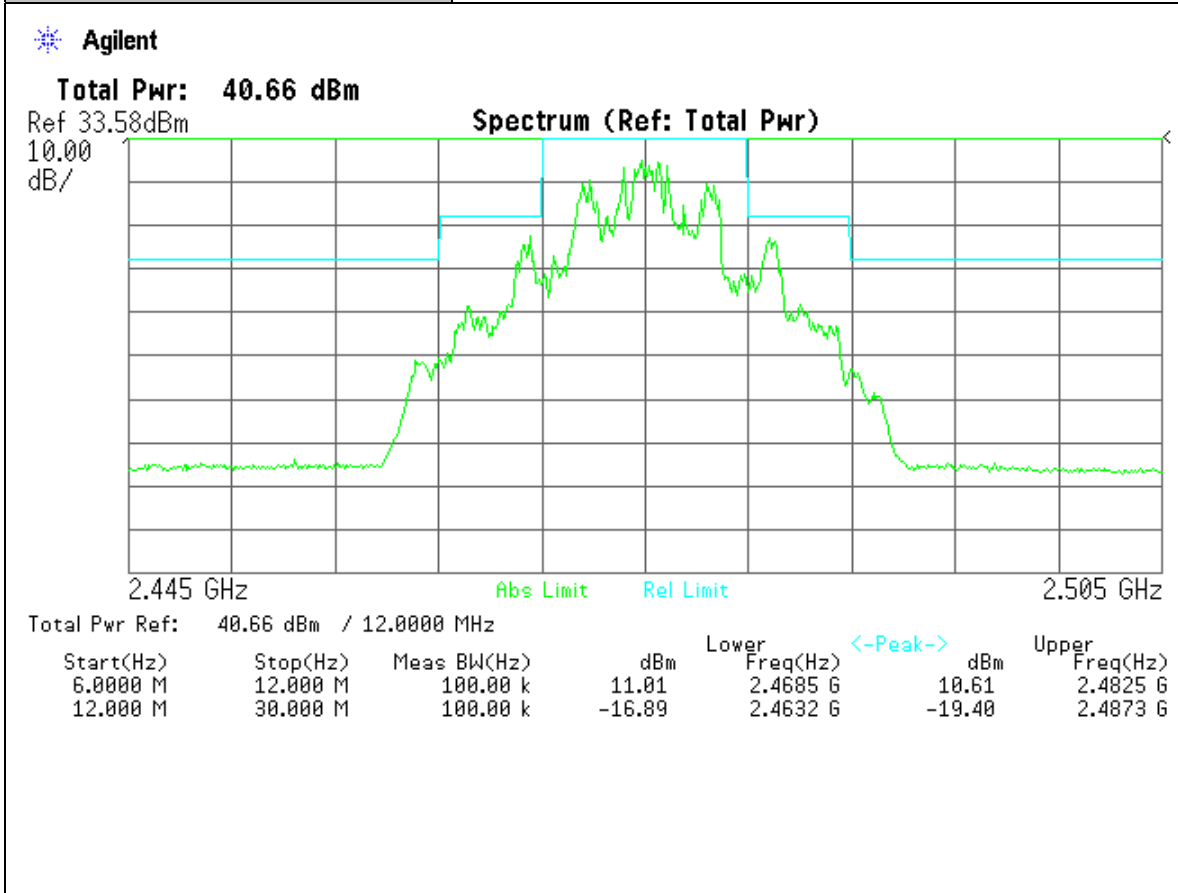
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



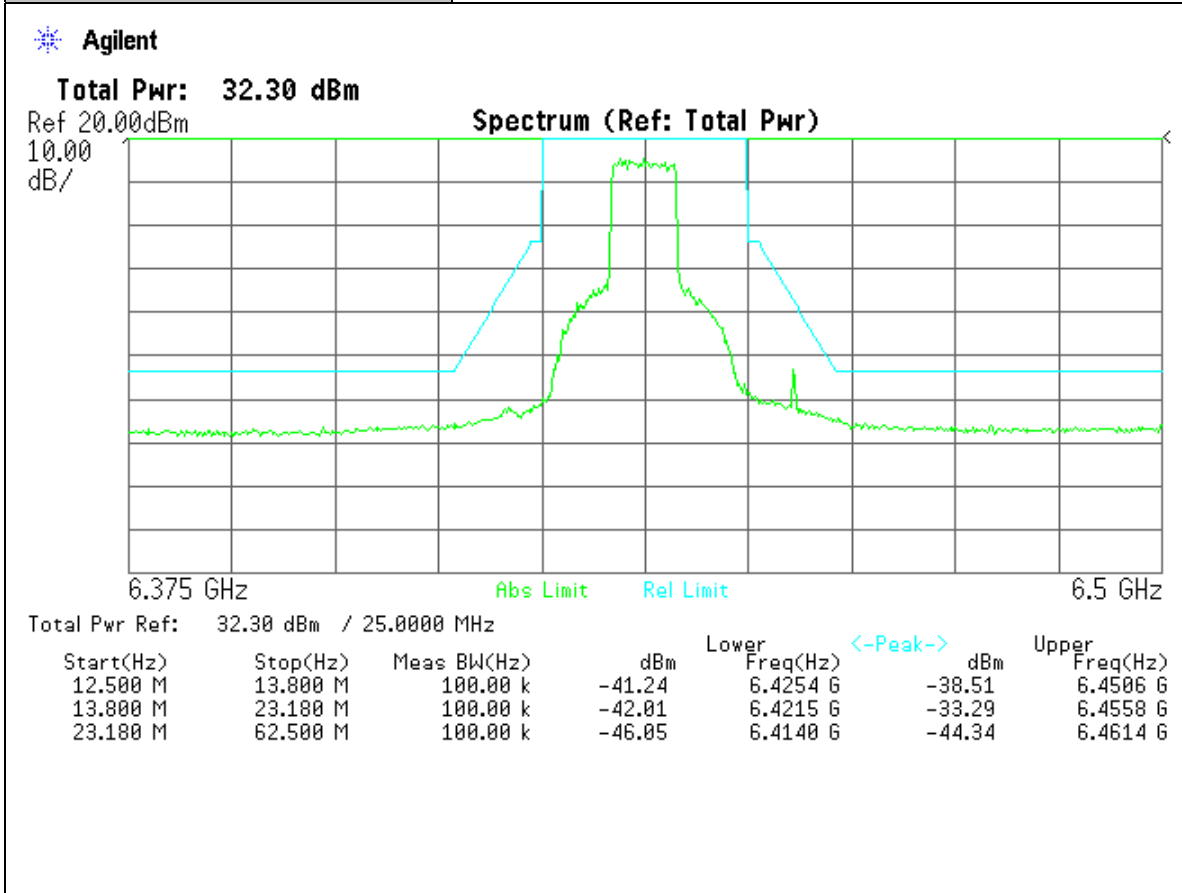
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|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 2G Band |
| Plot Name: | CH-9, 2475.25MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



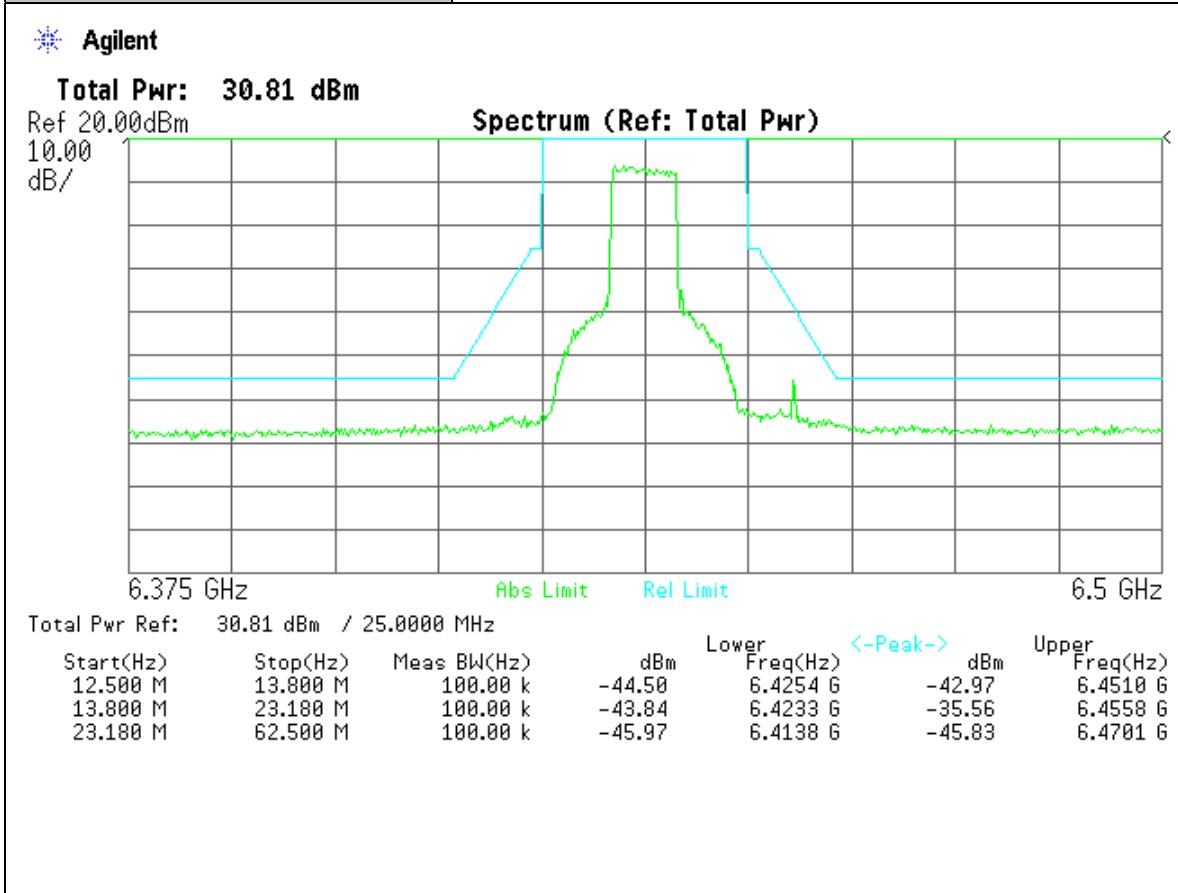
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-21, 6438MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



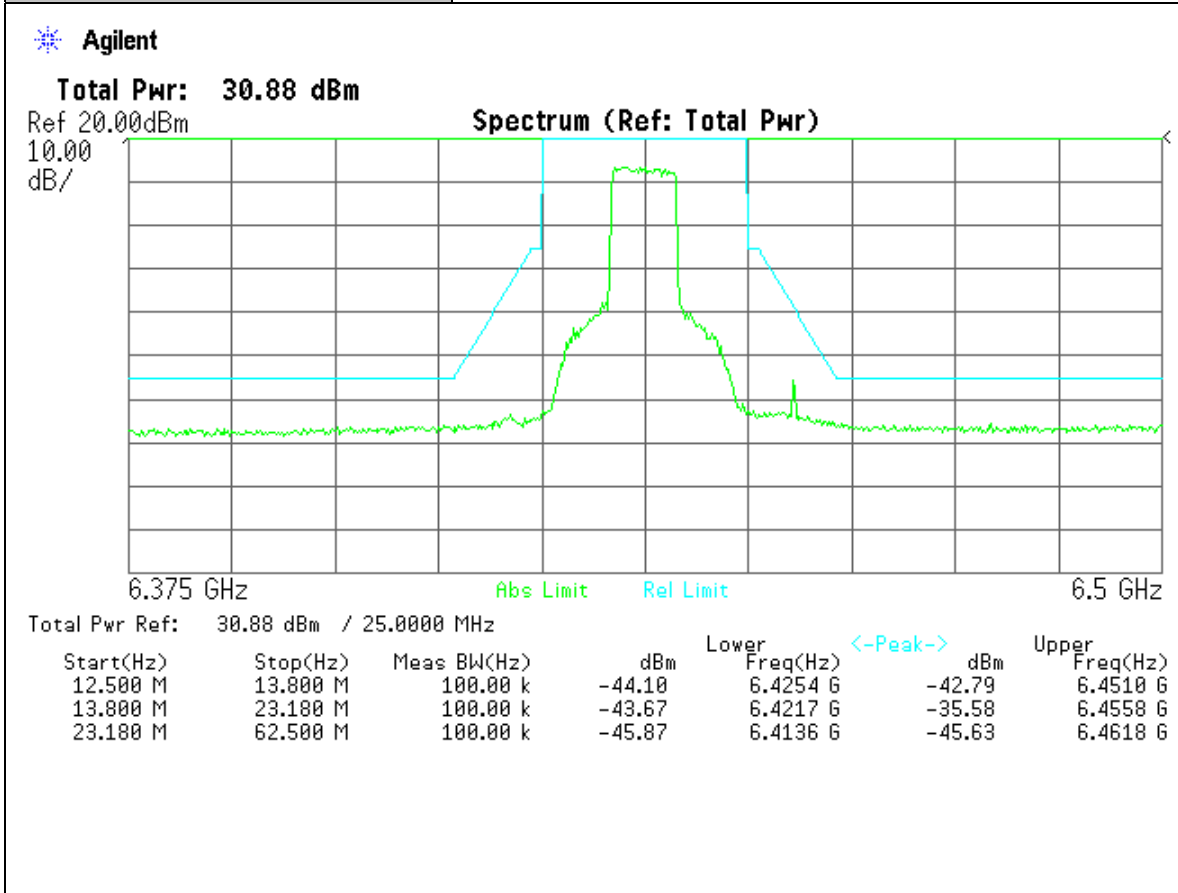
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-21, 6438MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



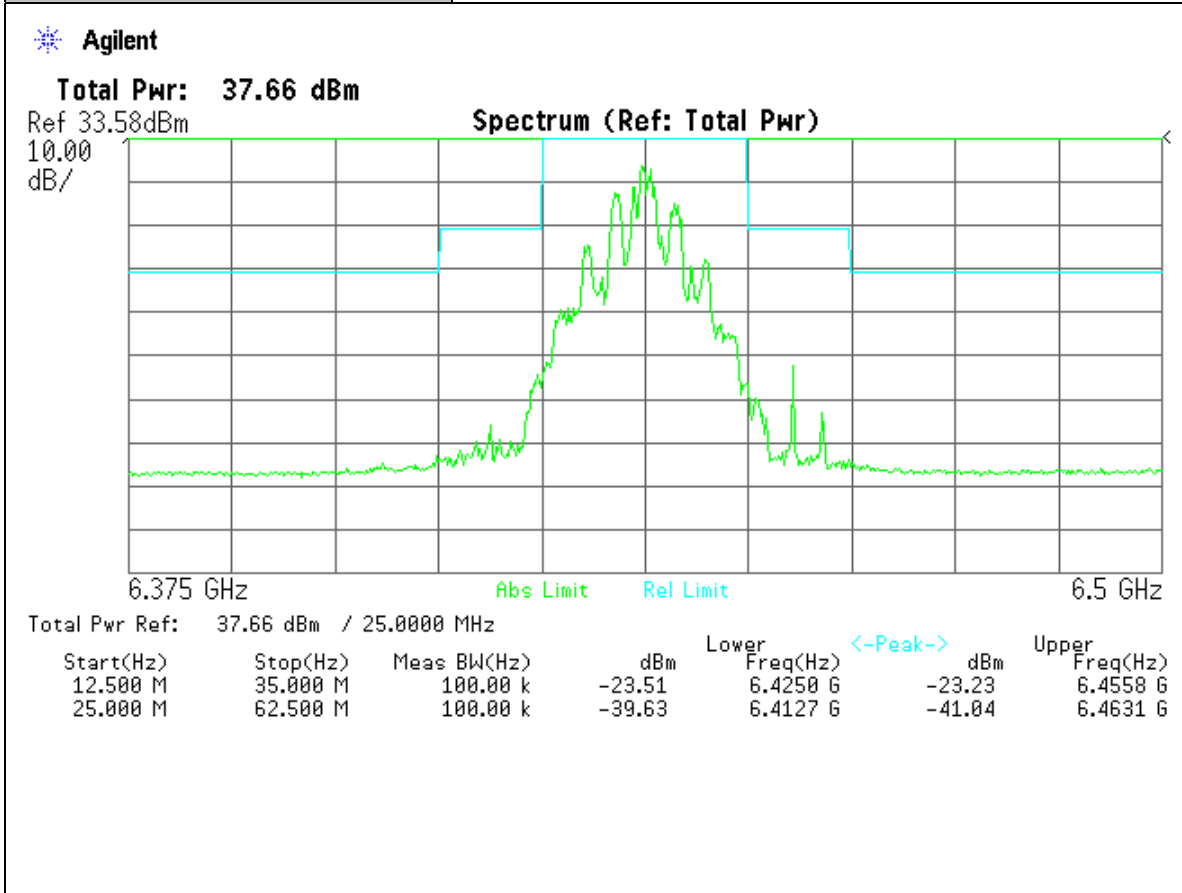
| | |
|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-21, 6438MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



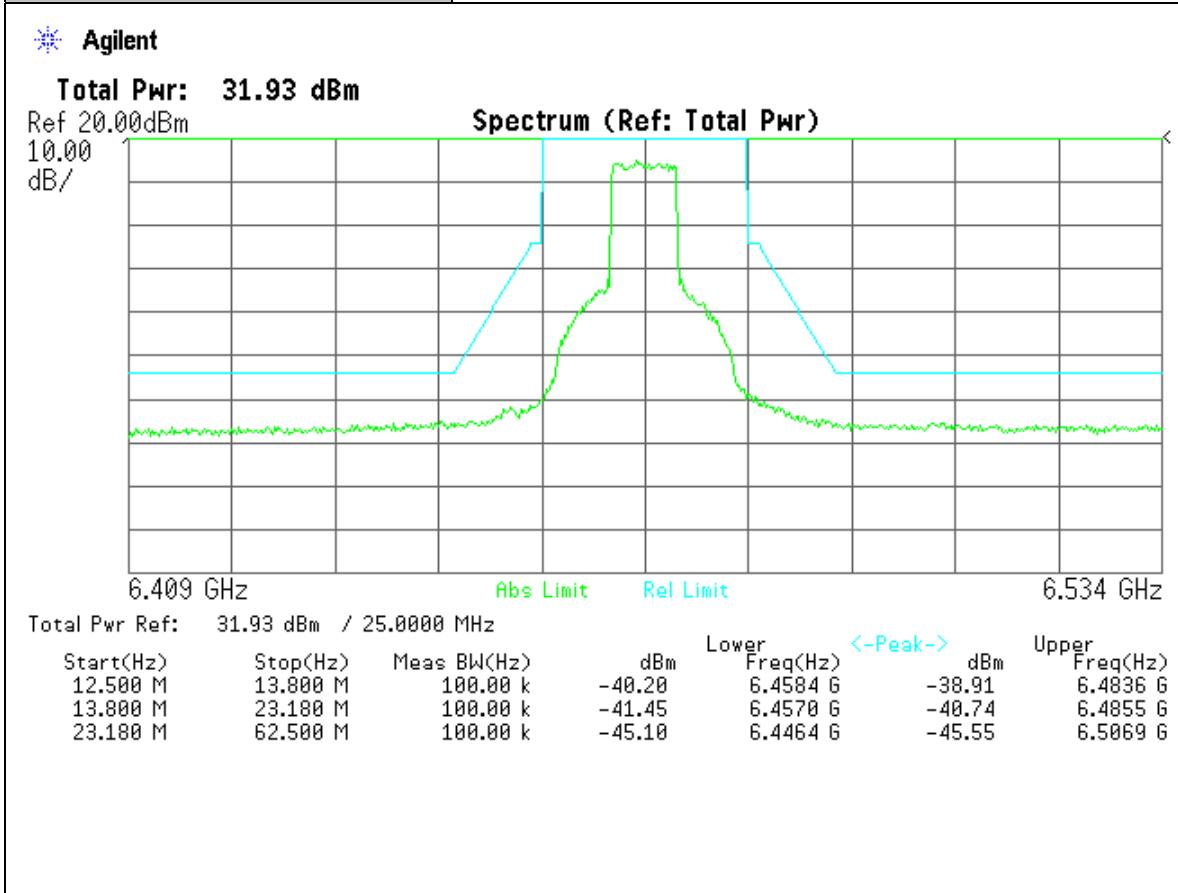
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-21, 6438MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



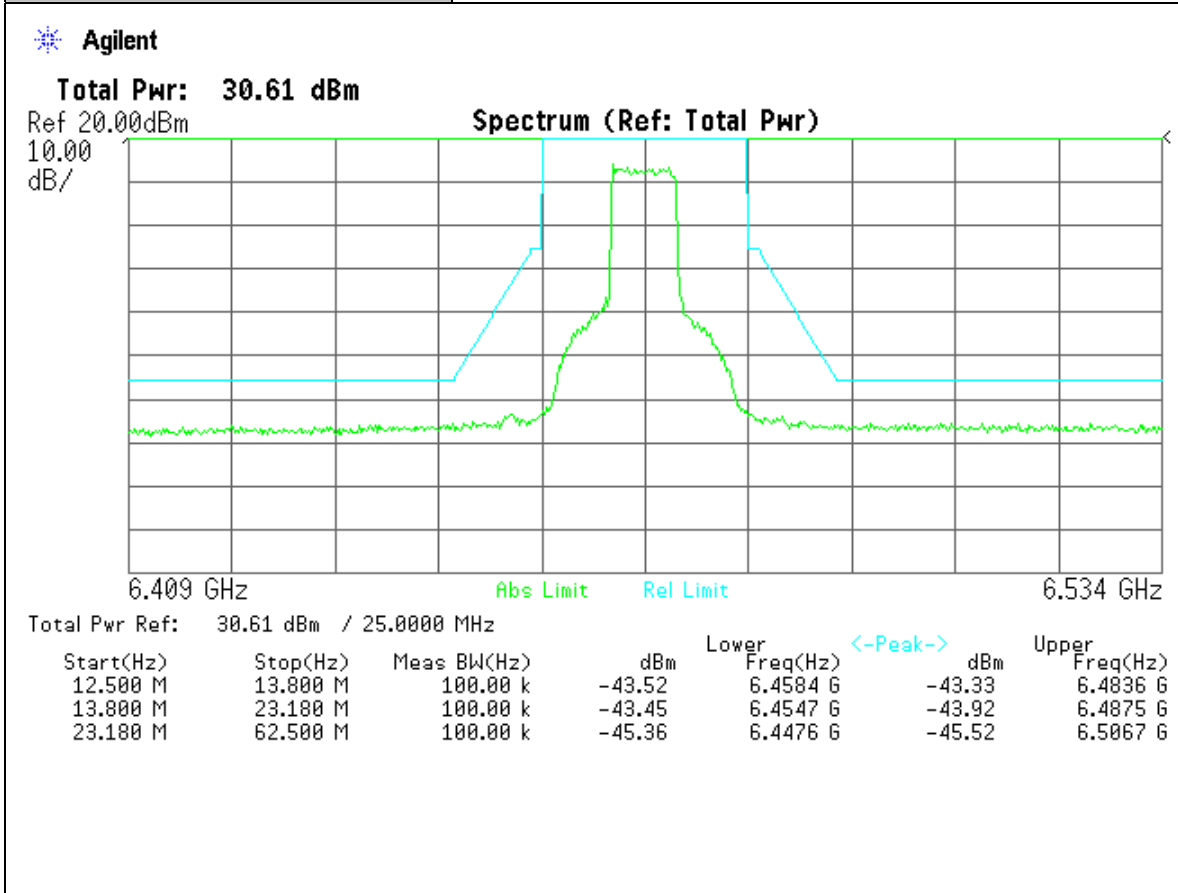
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22+, 6471MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



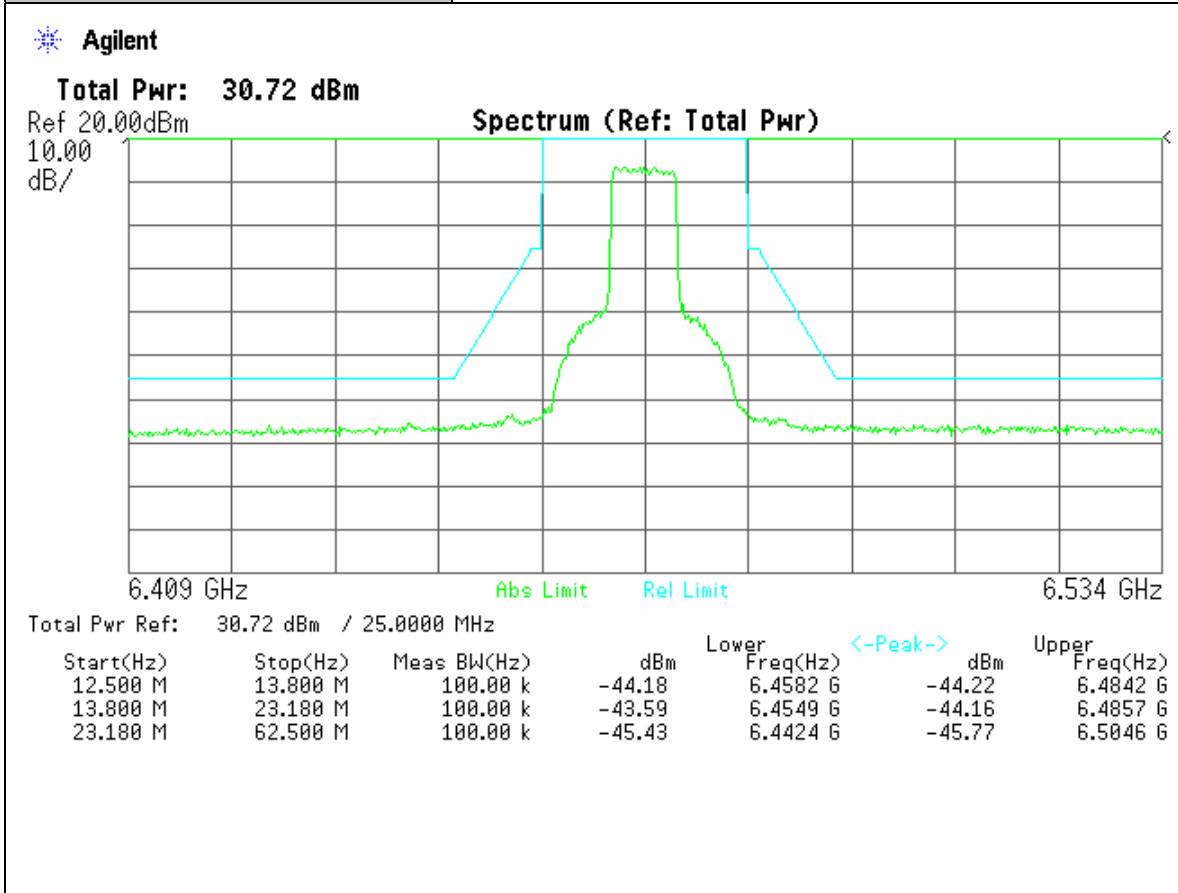
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22+, 6471MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



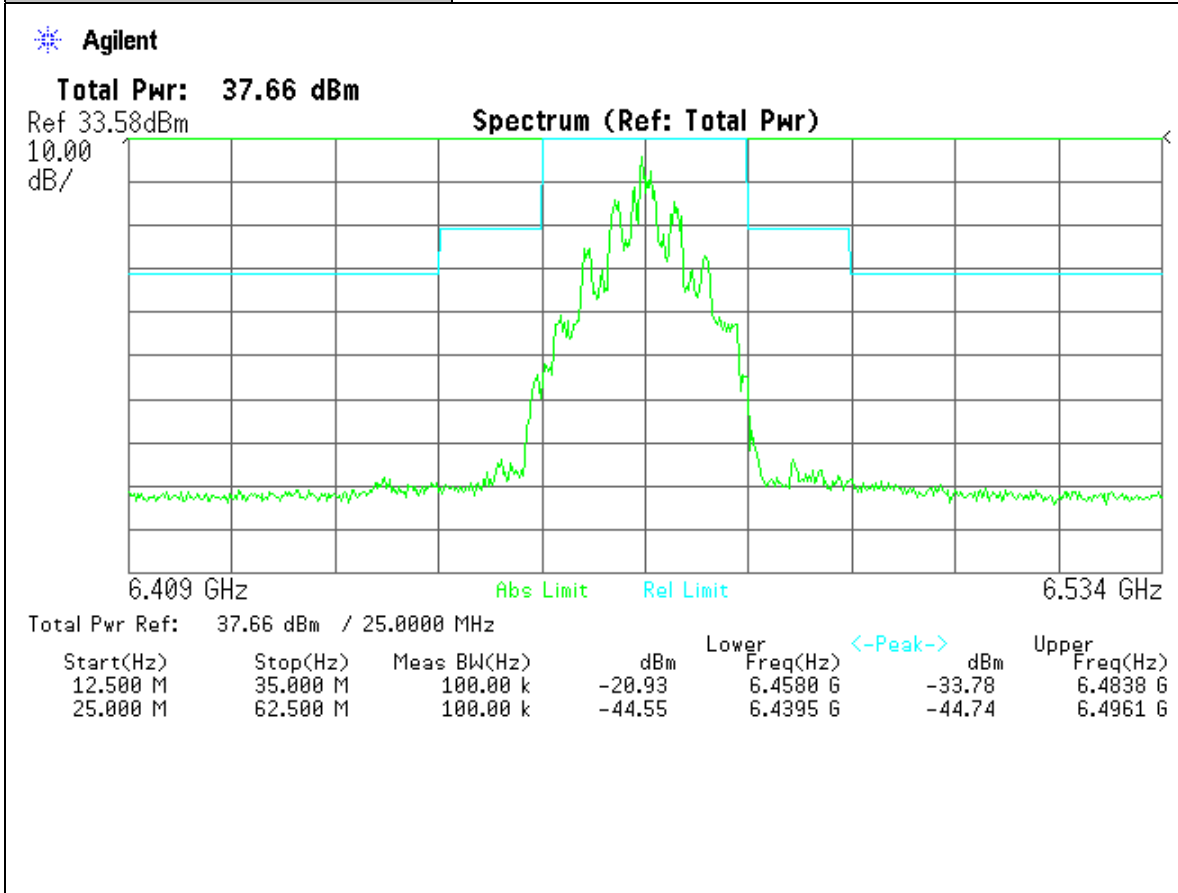
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22+, 6471MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



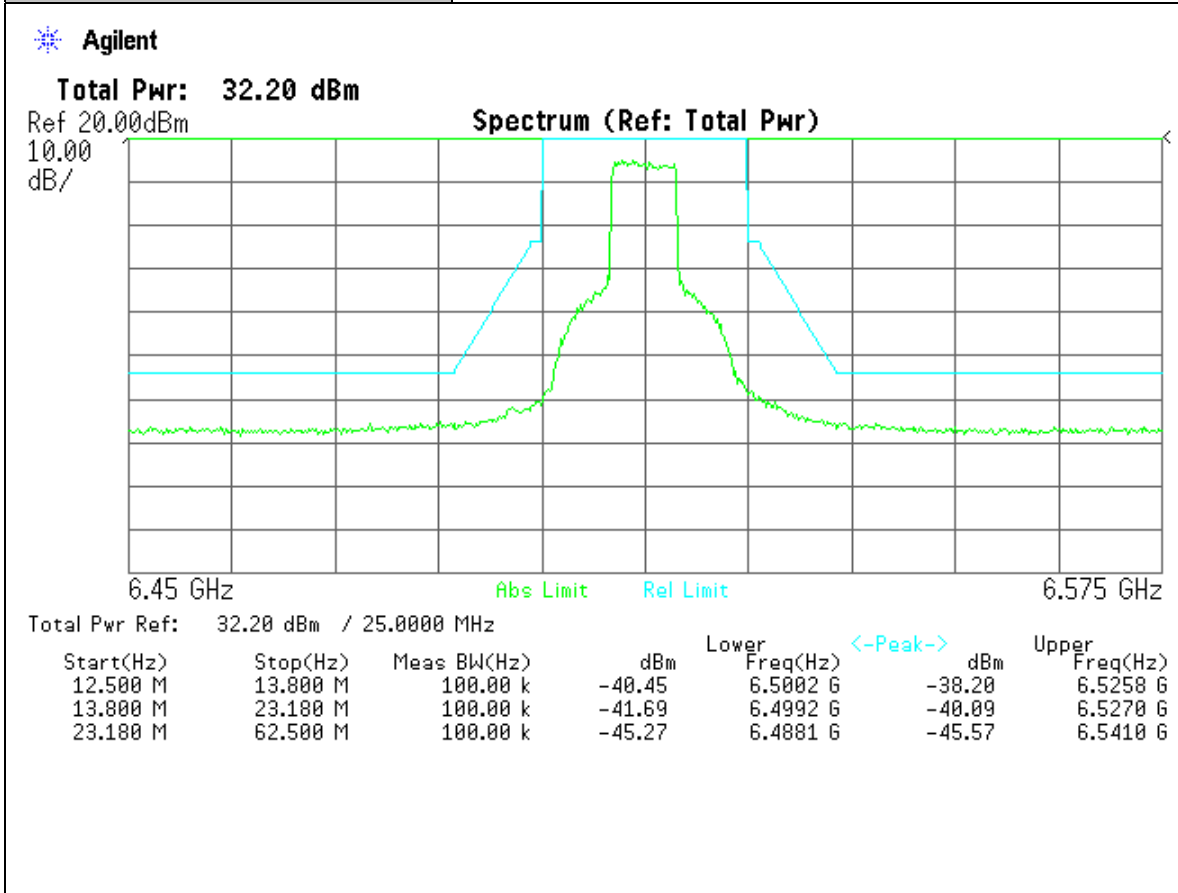
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22+, 6471MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



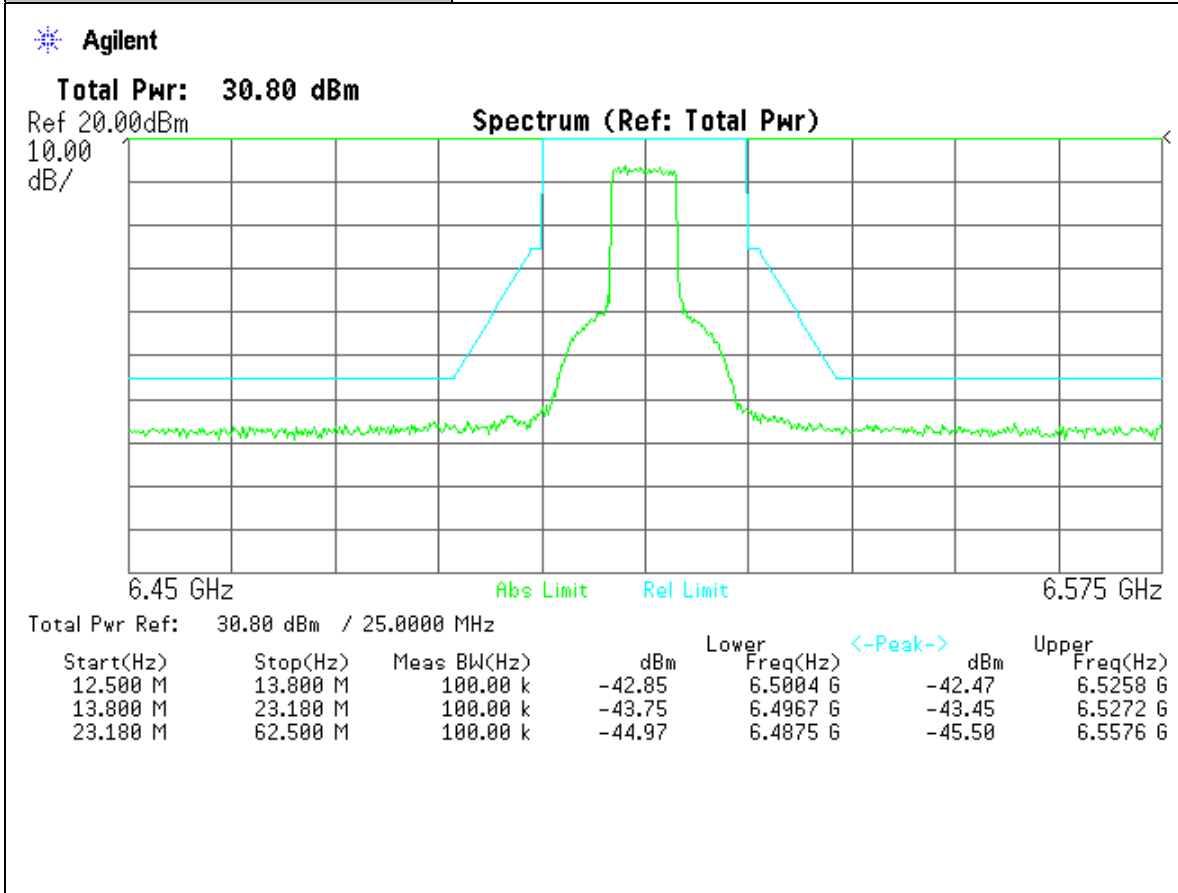
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-24, 6513MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



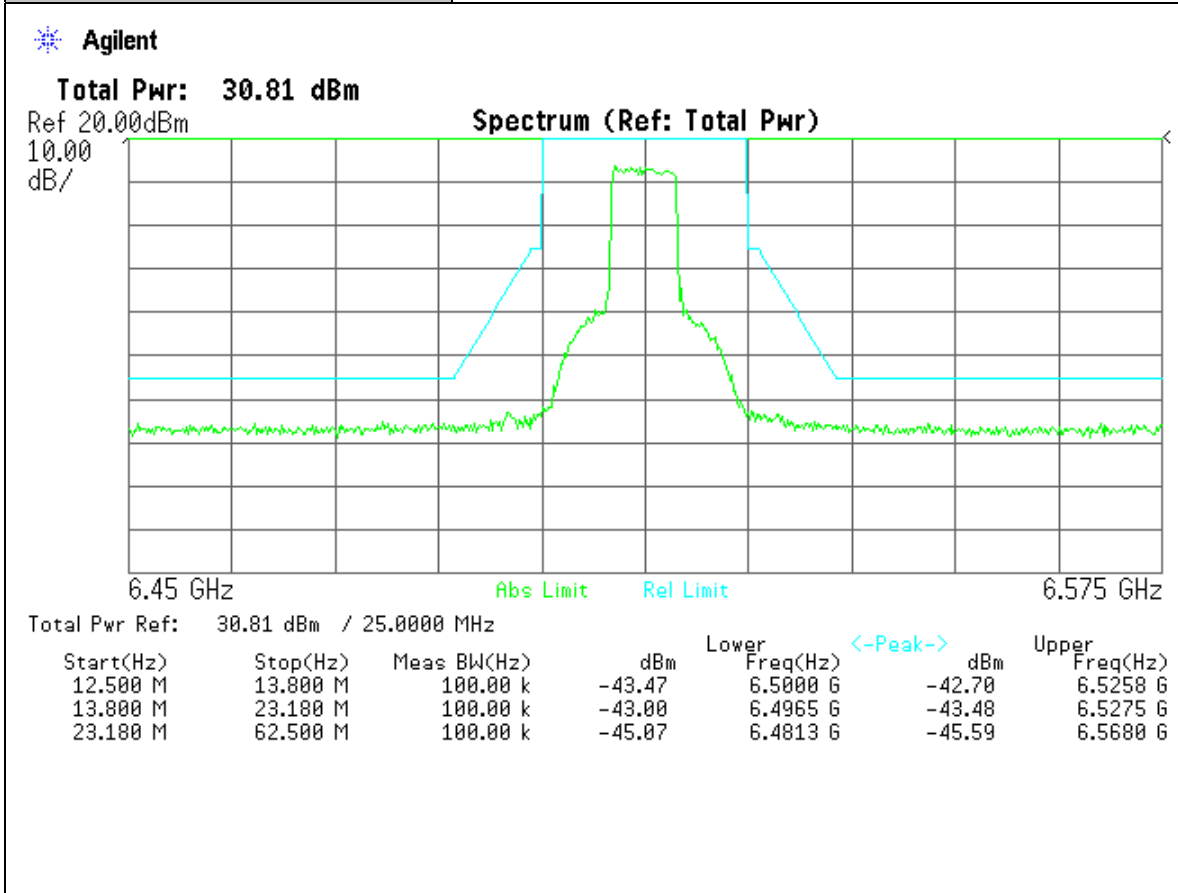
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-24, 6513MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



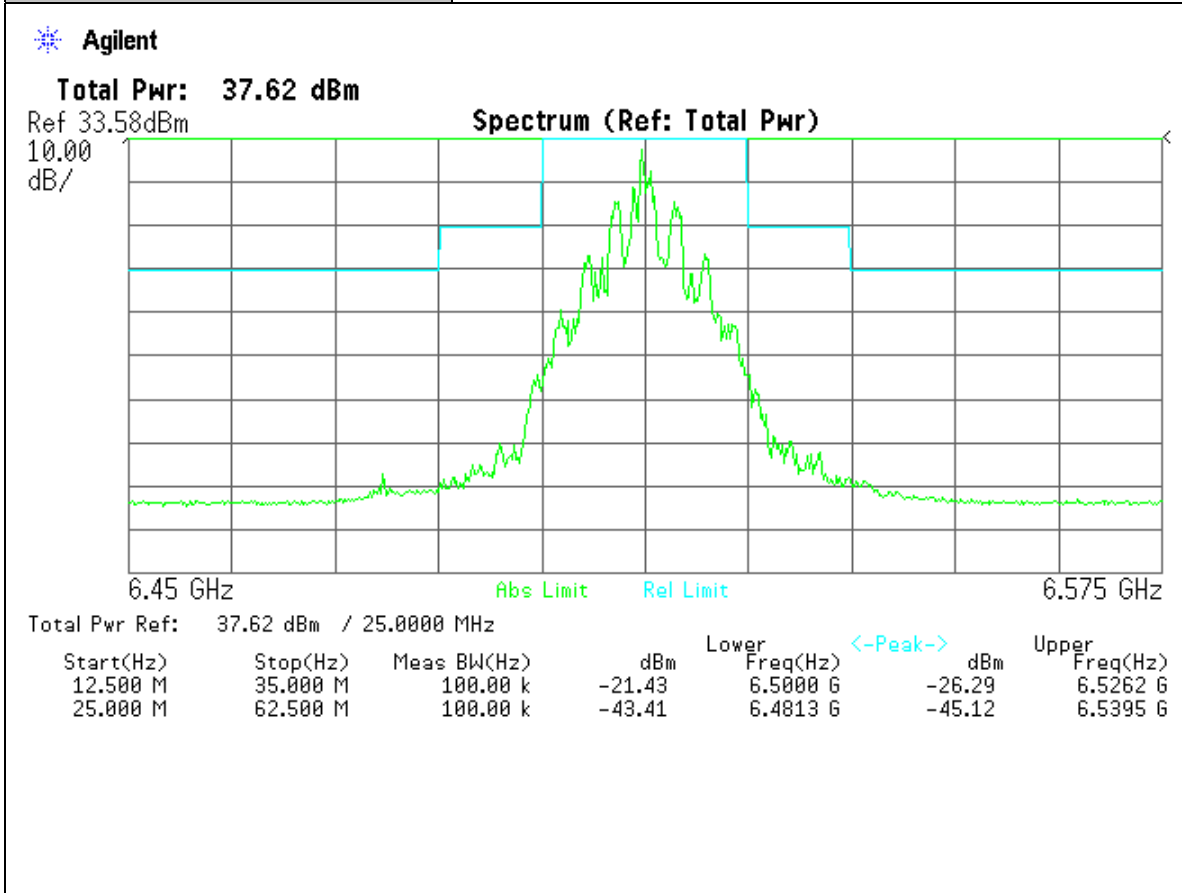
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-24, 6513MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



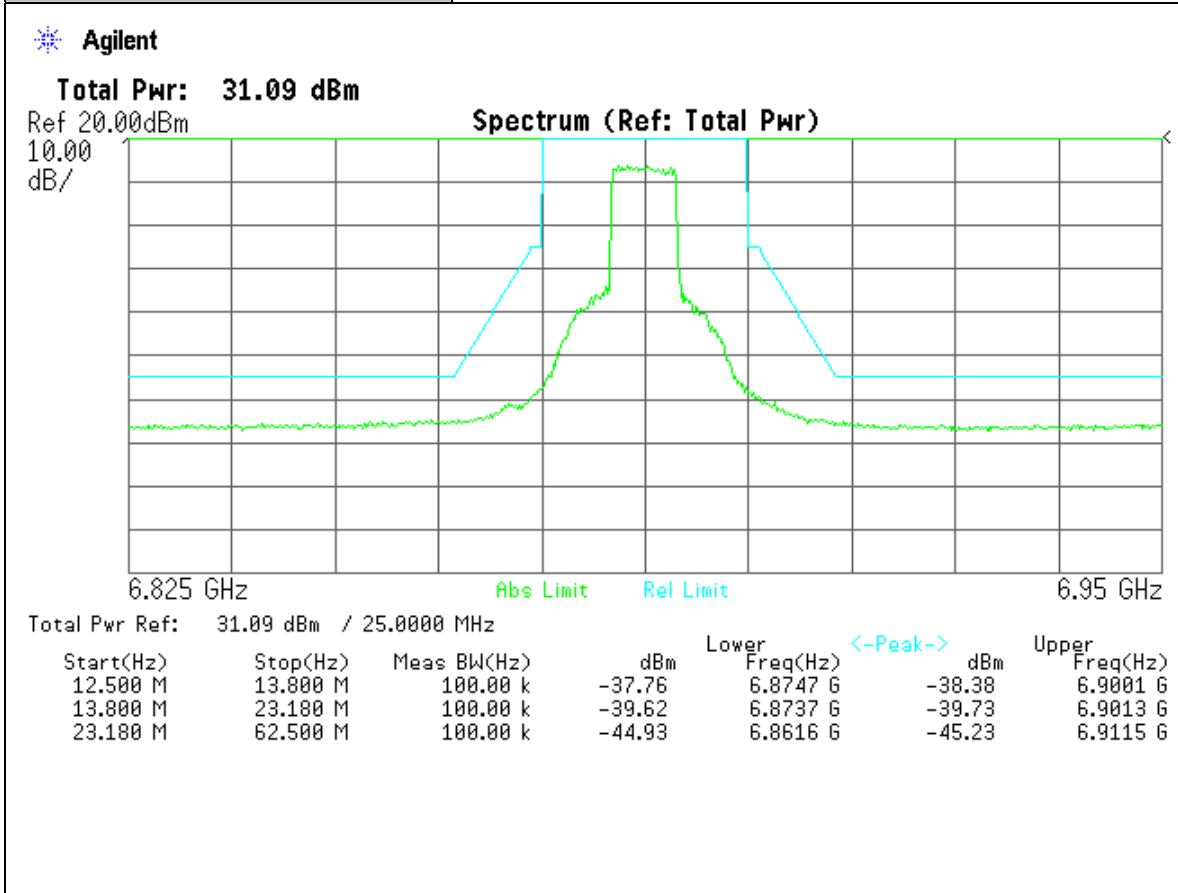
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-24, 6513MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



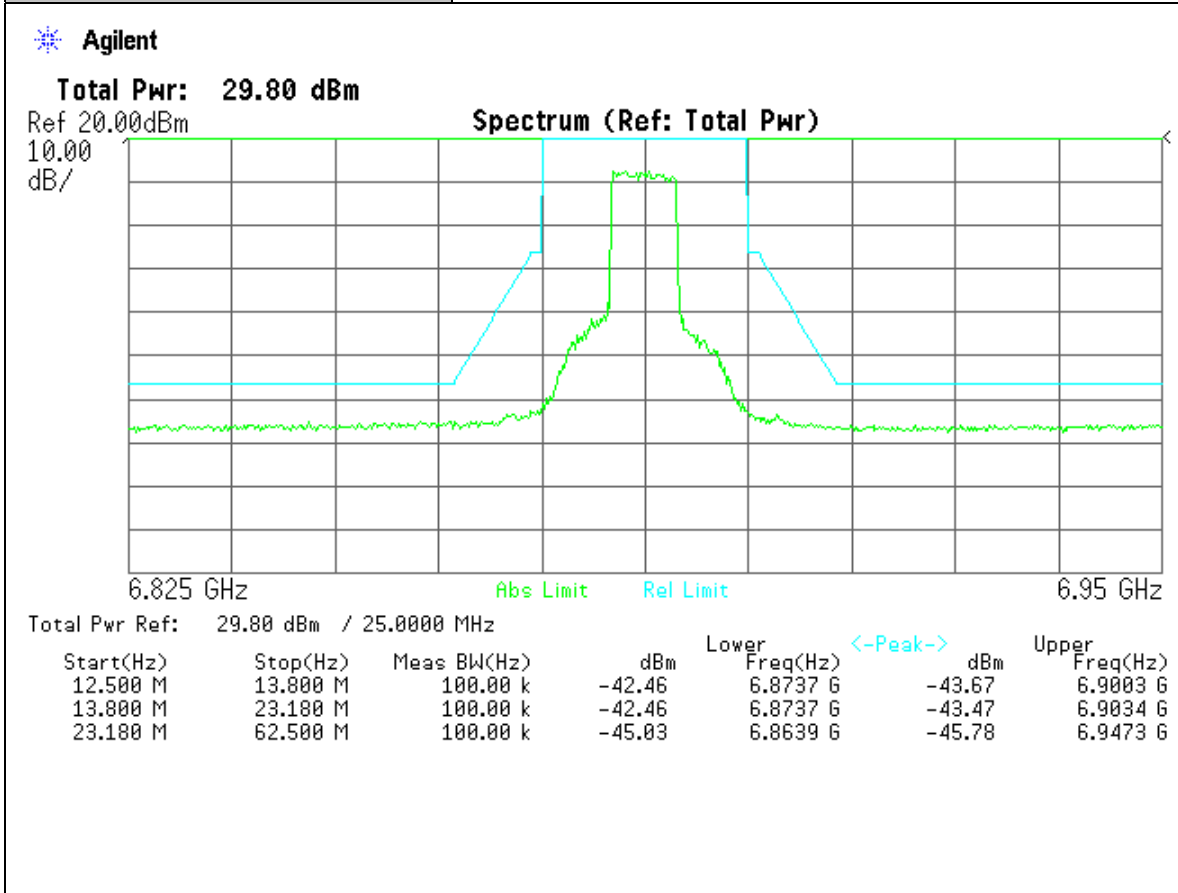
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



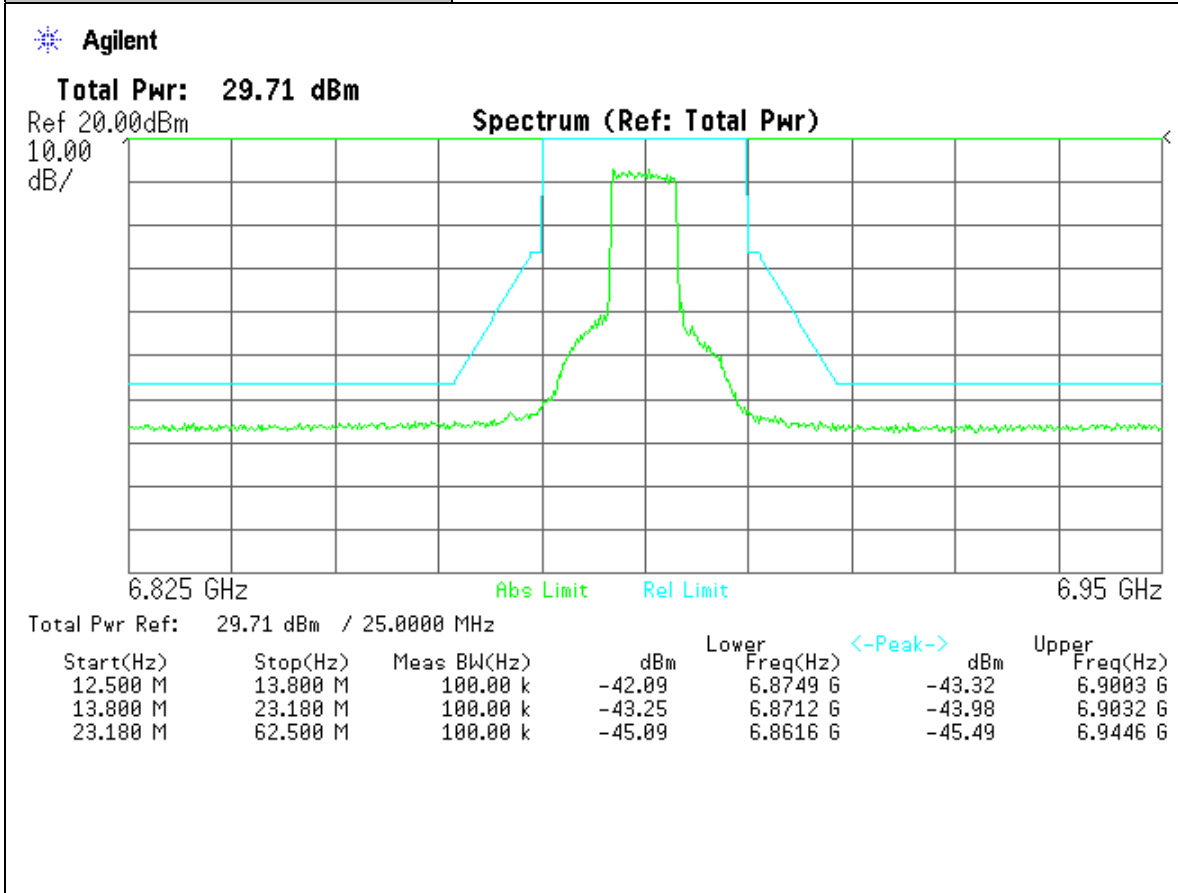
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



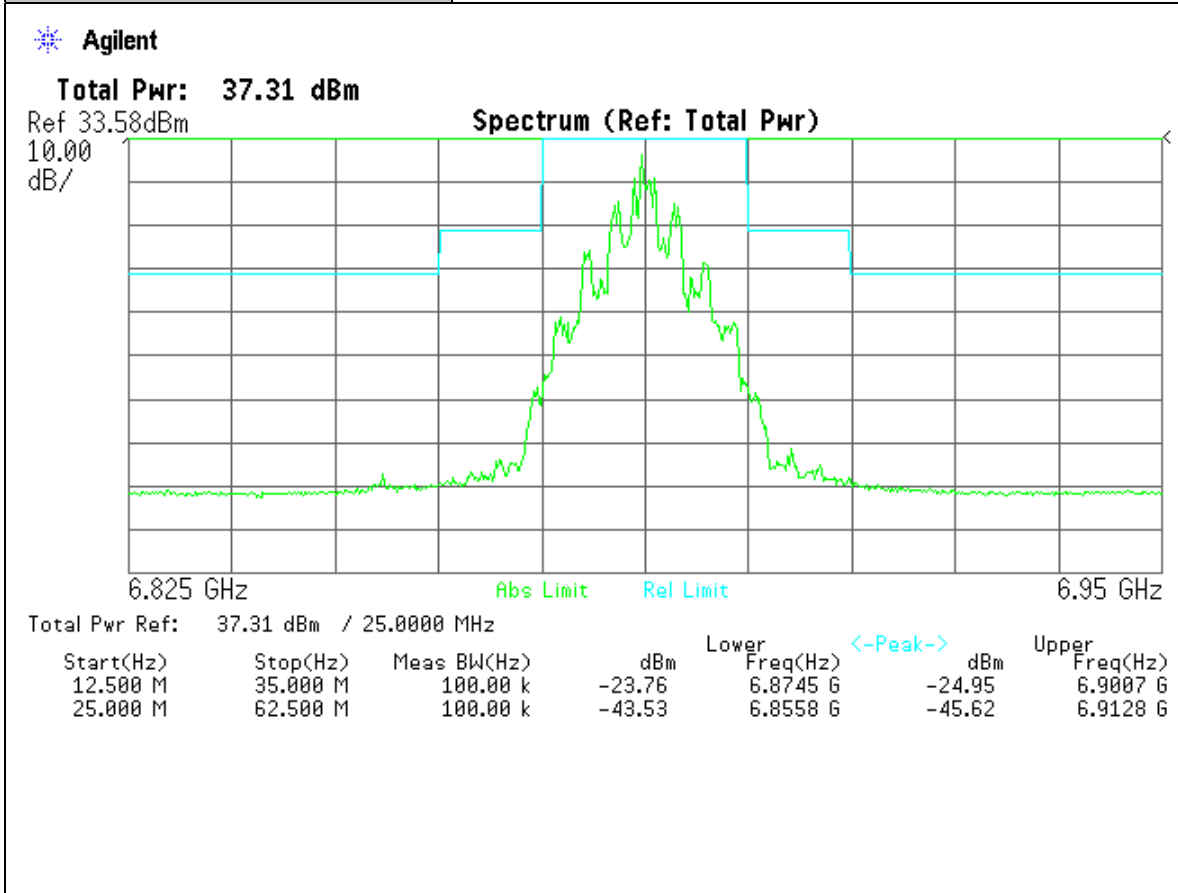
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



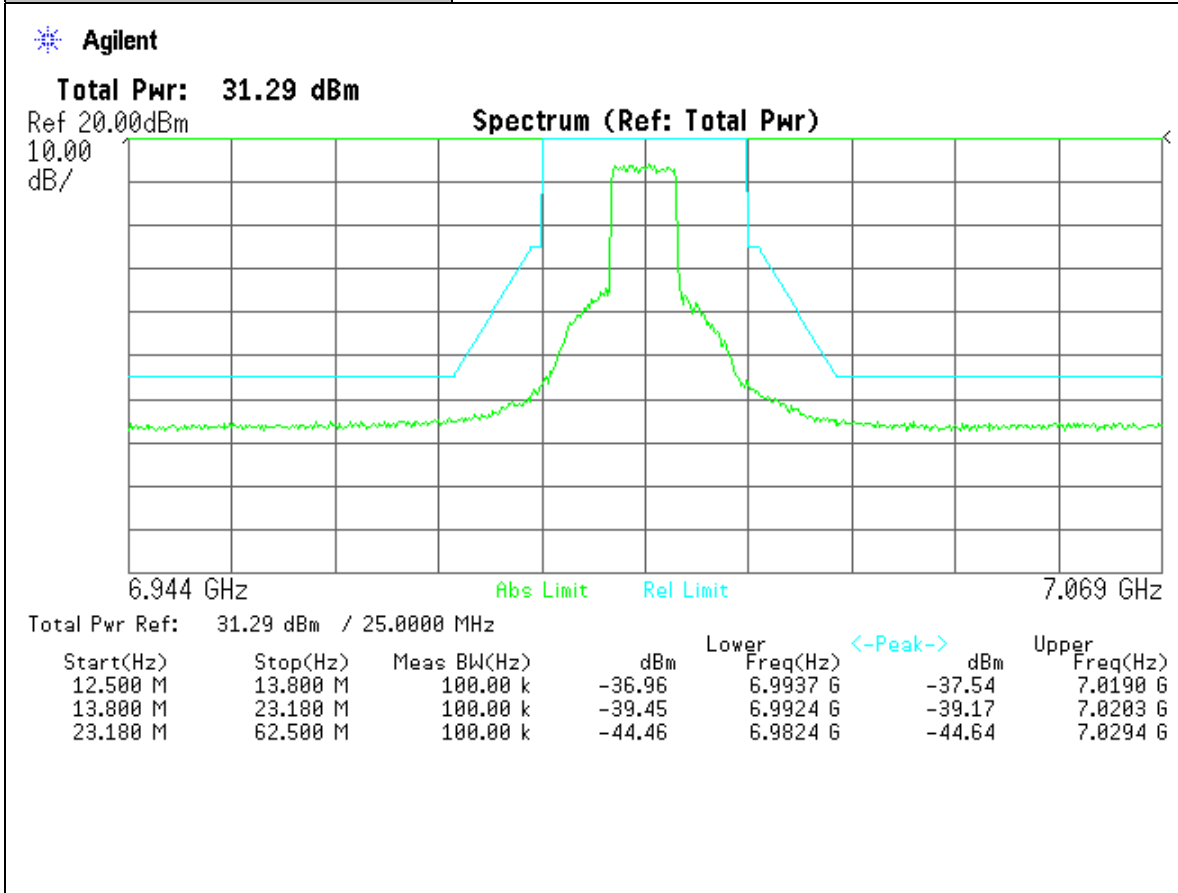
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 6887.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



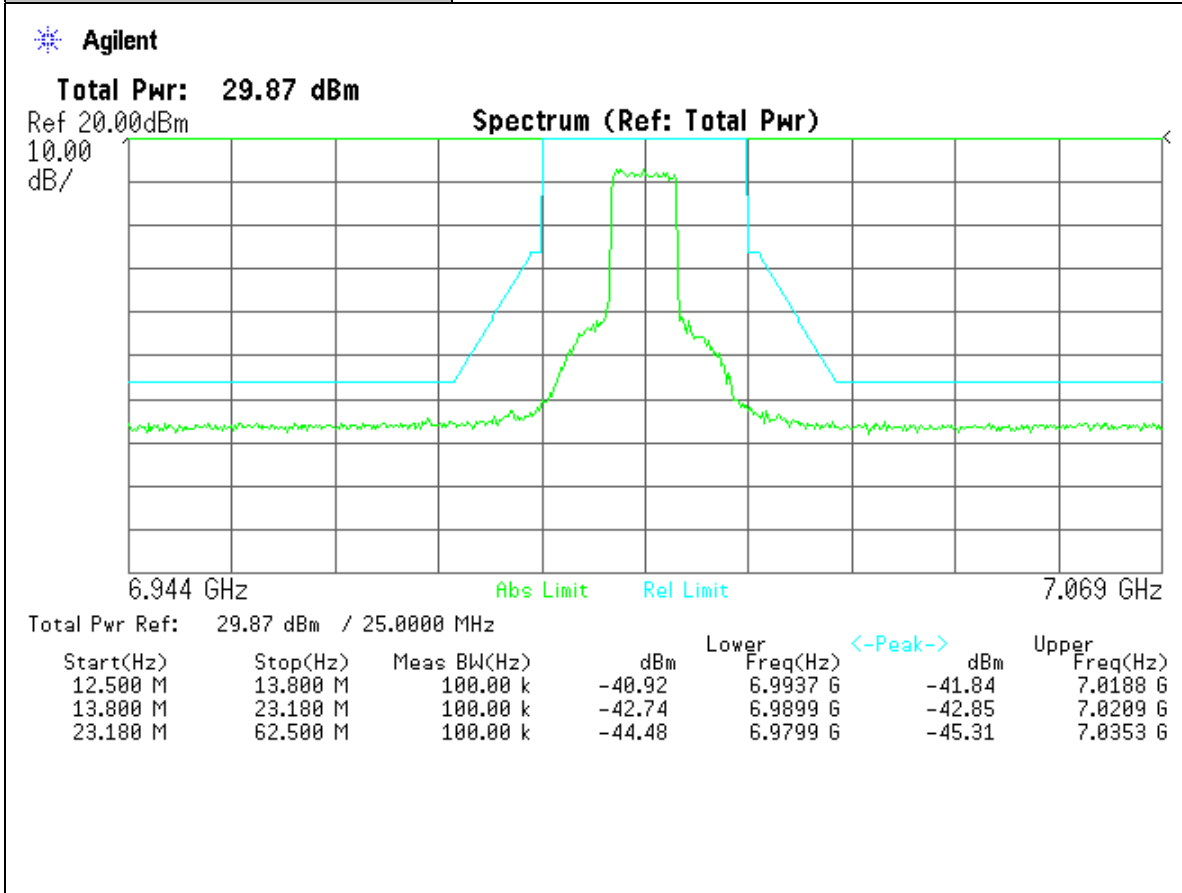
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



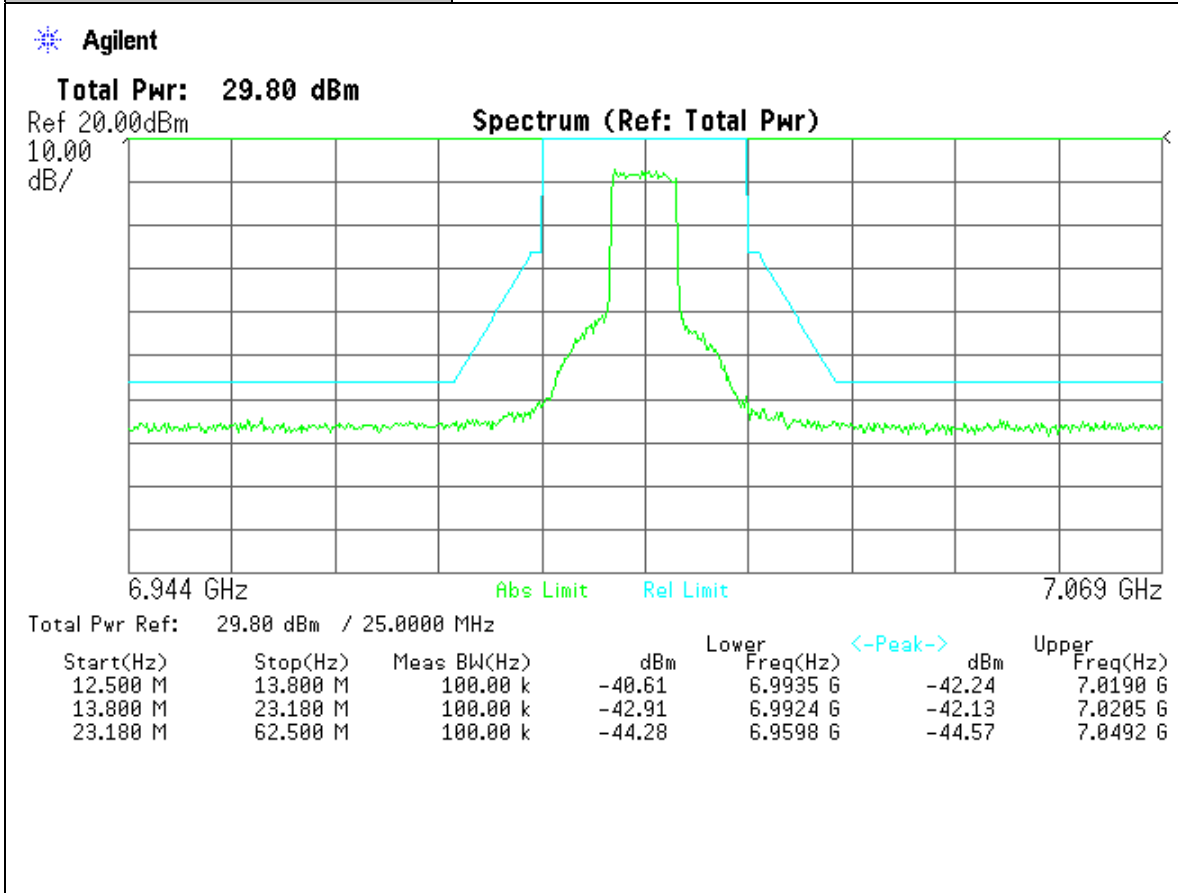
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



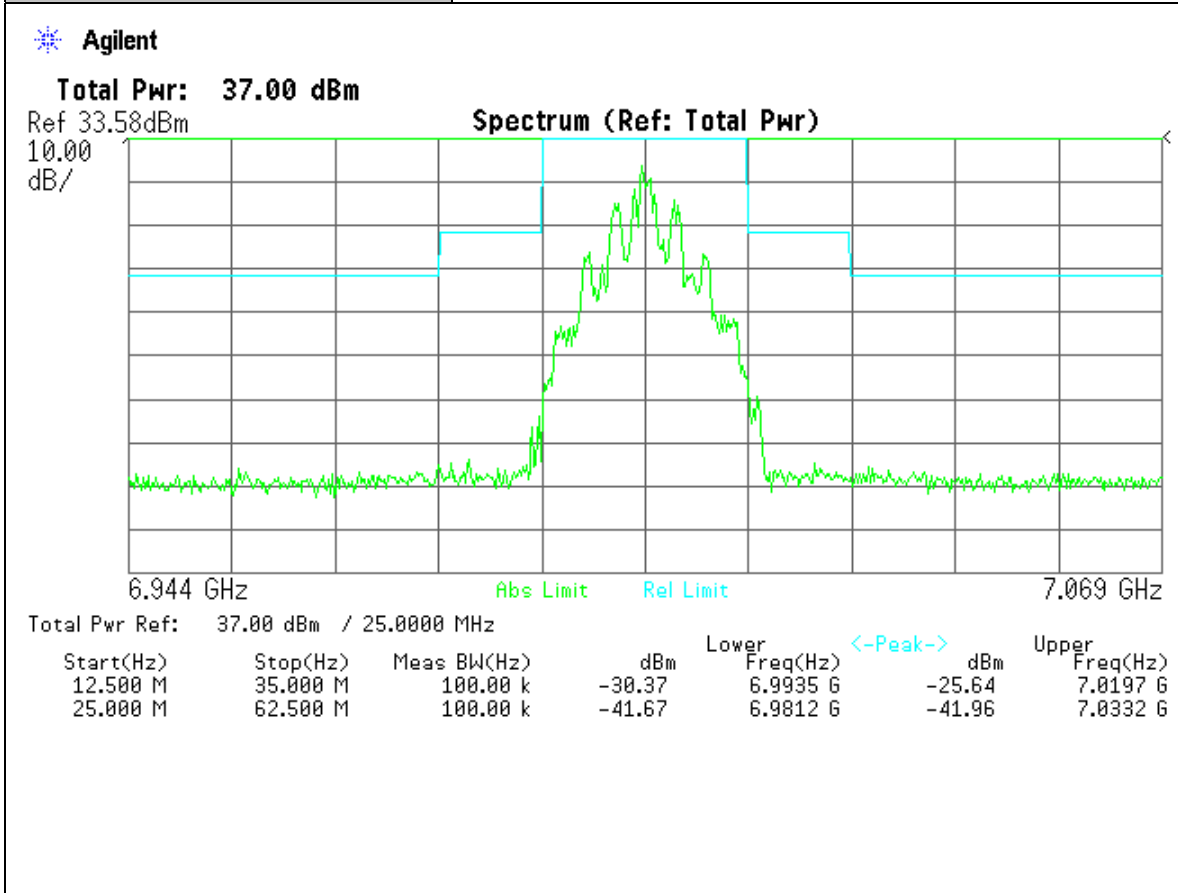
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



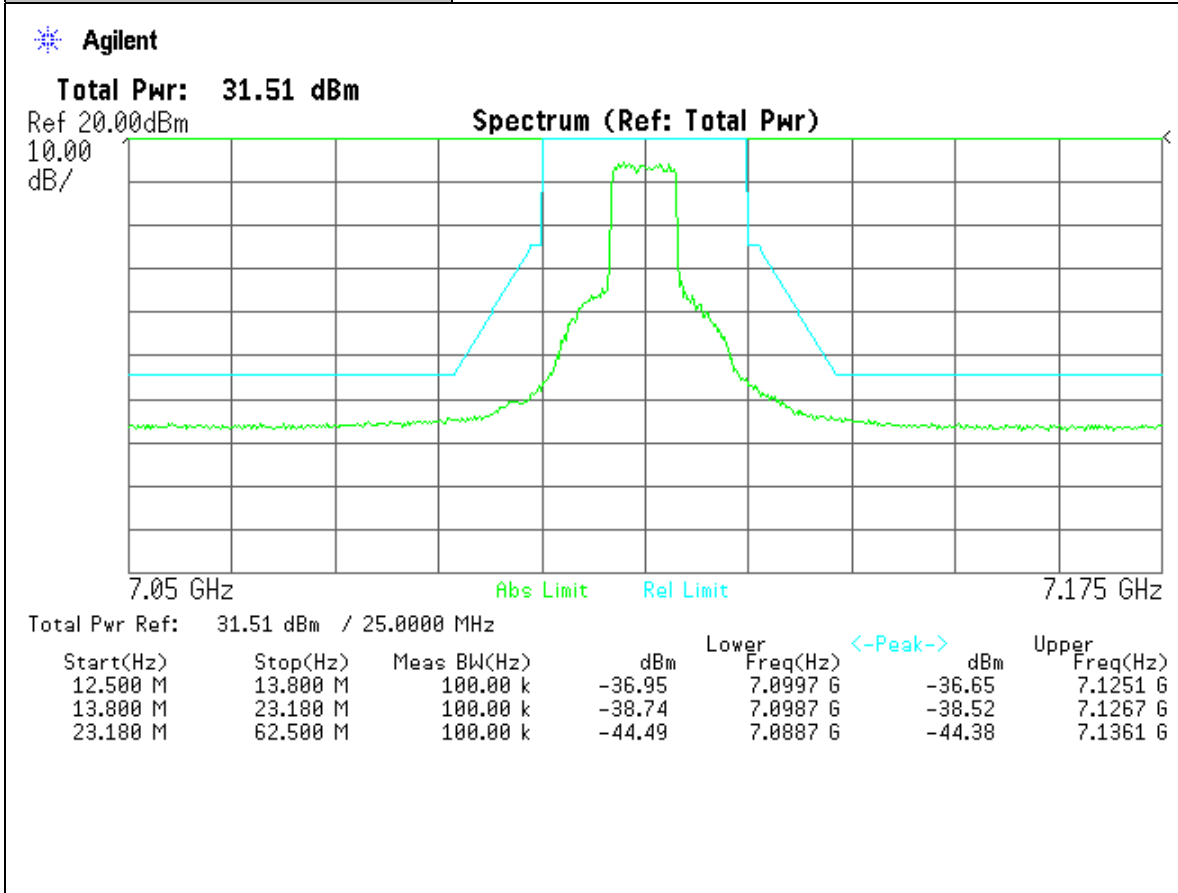
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-6-, 7006.25MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



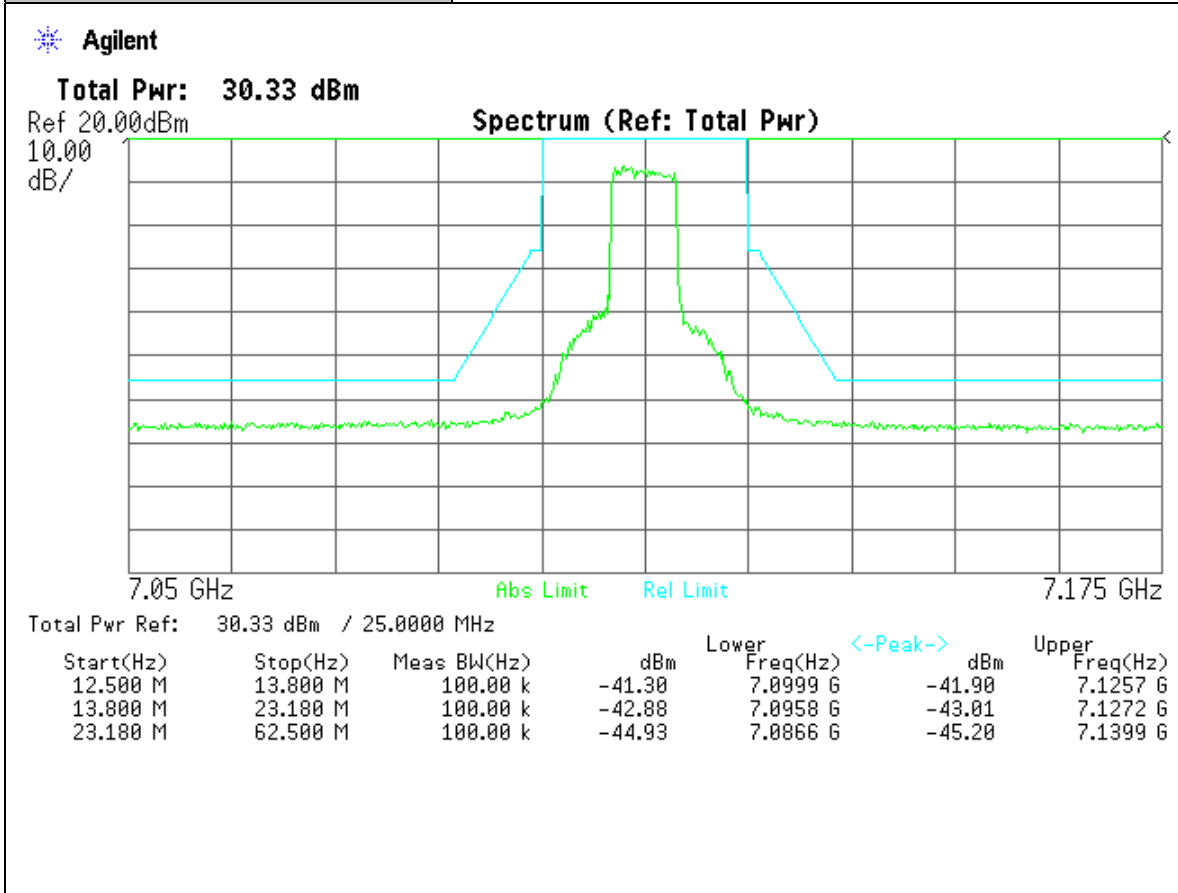
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



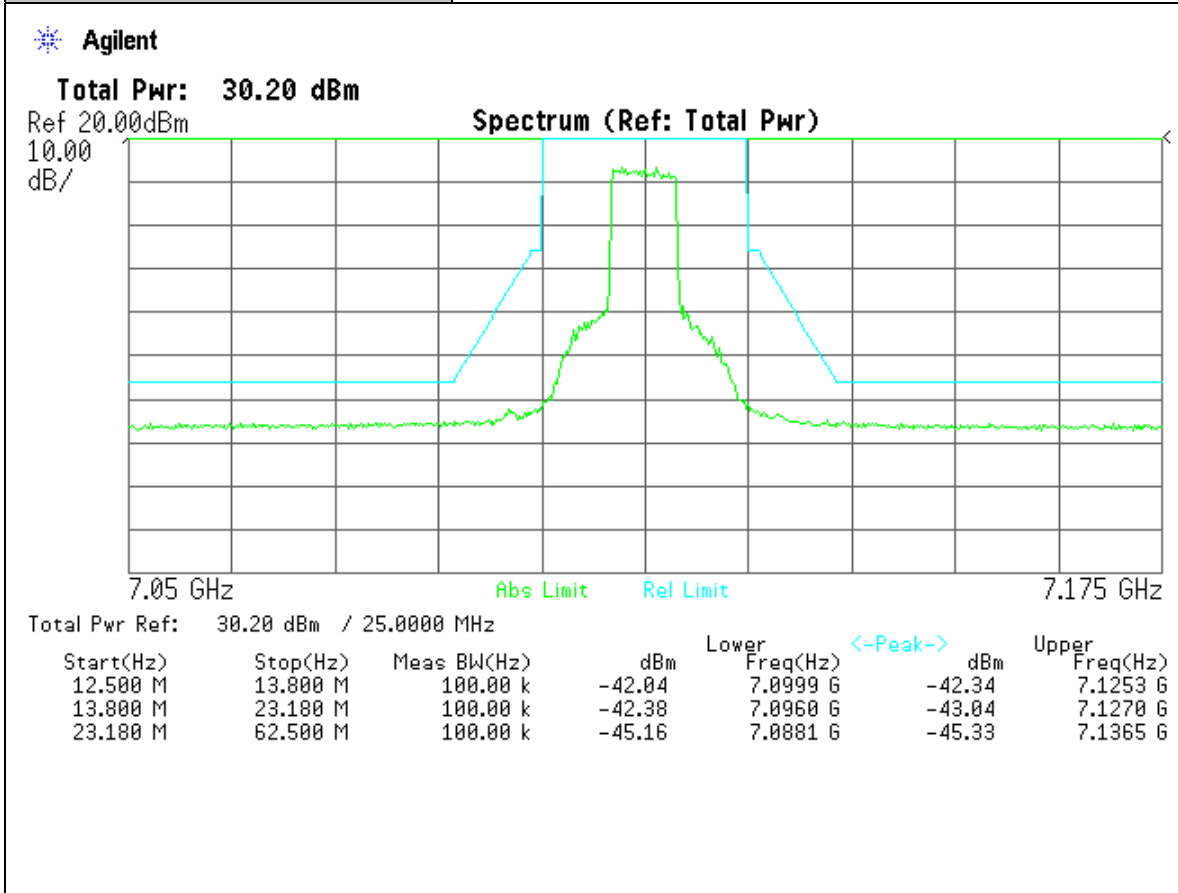
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



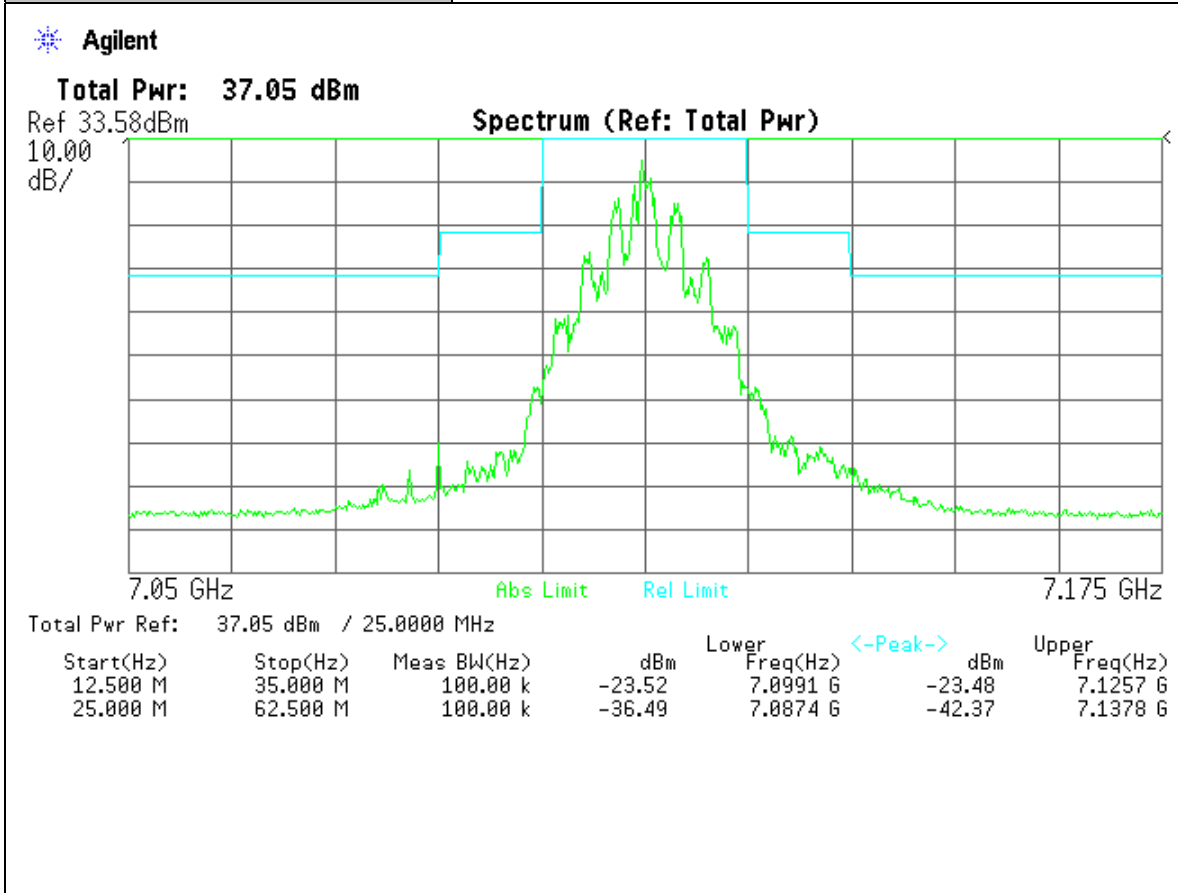
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



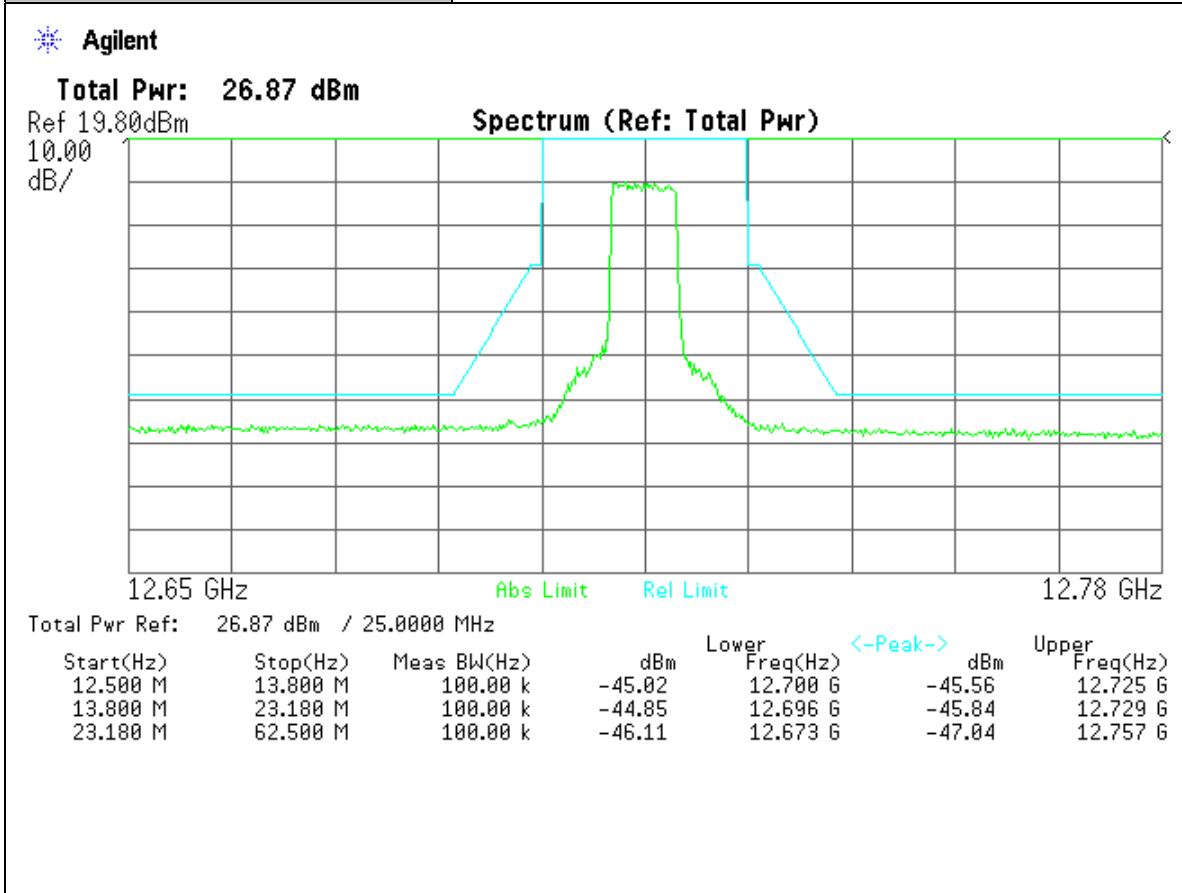
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 7112.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



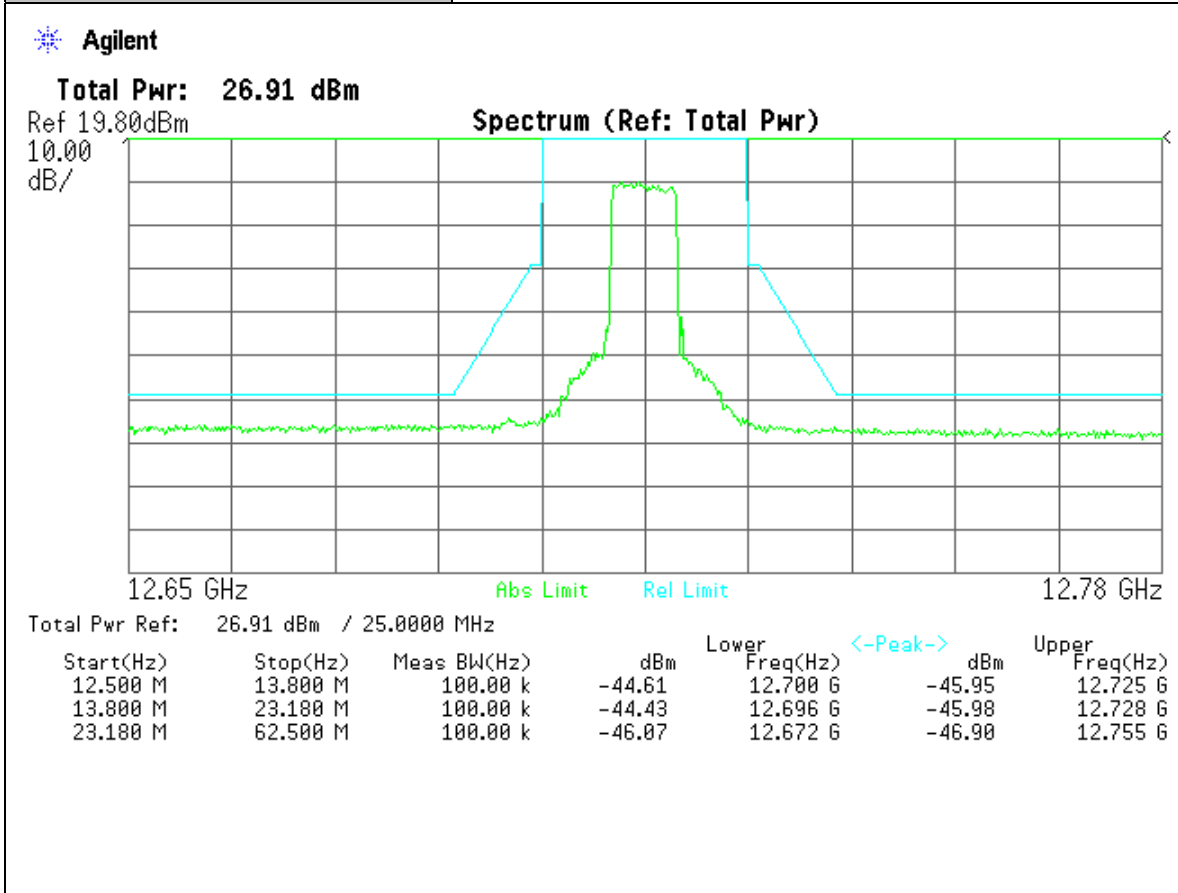
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 13G Band |
| Plot Name: | CH-1, 12712.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



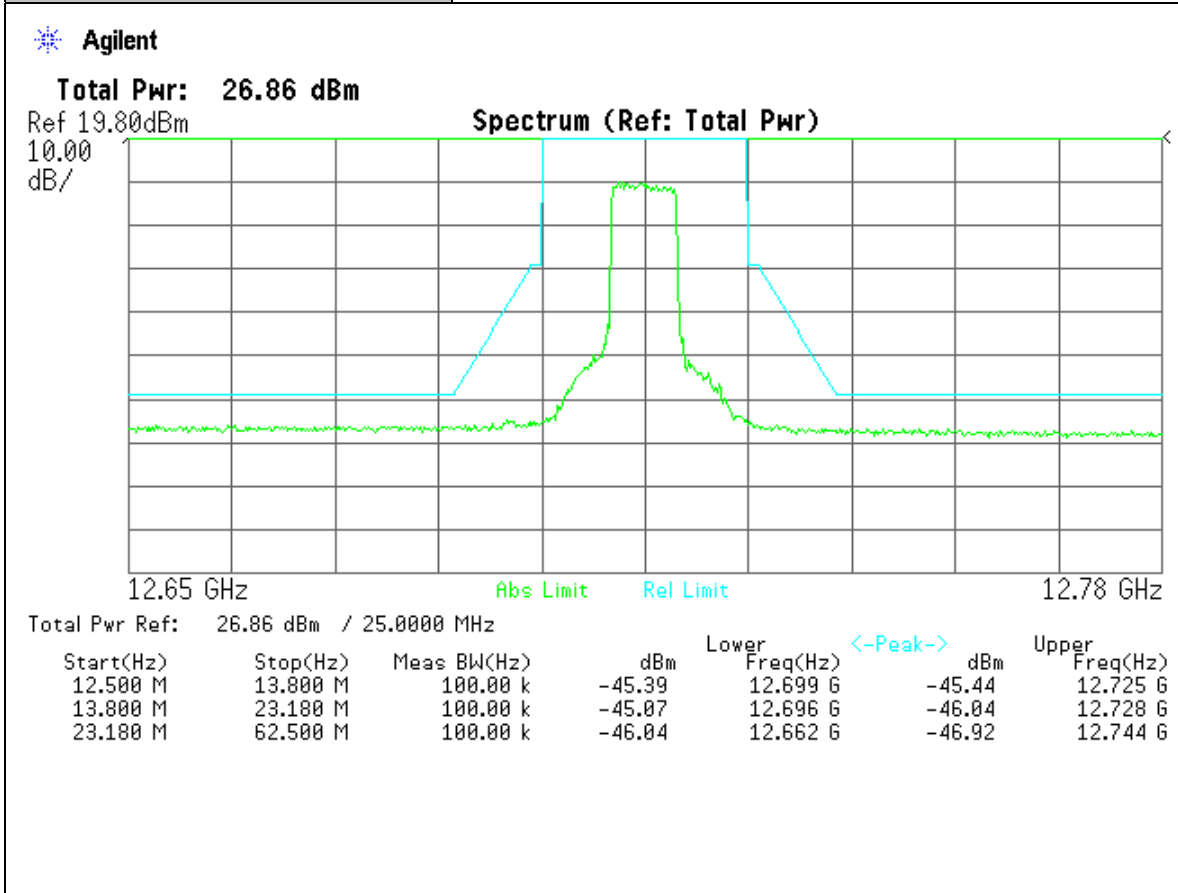
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 12712.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



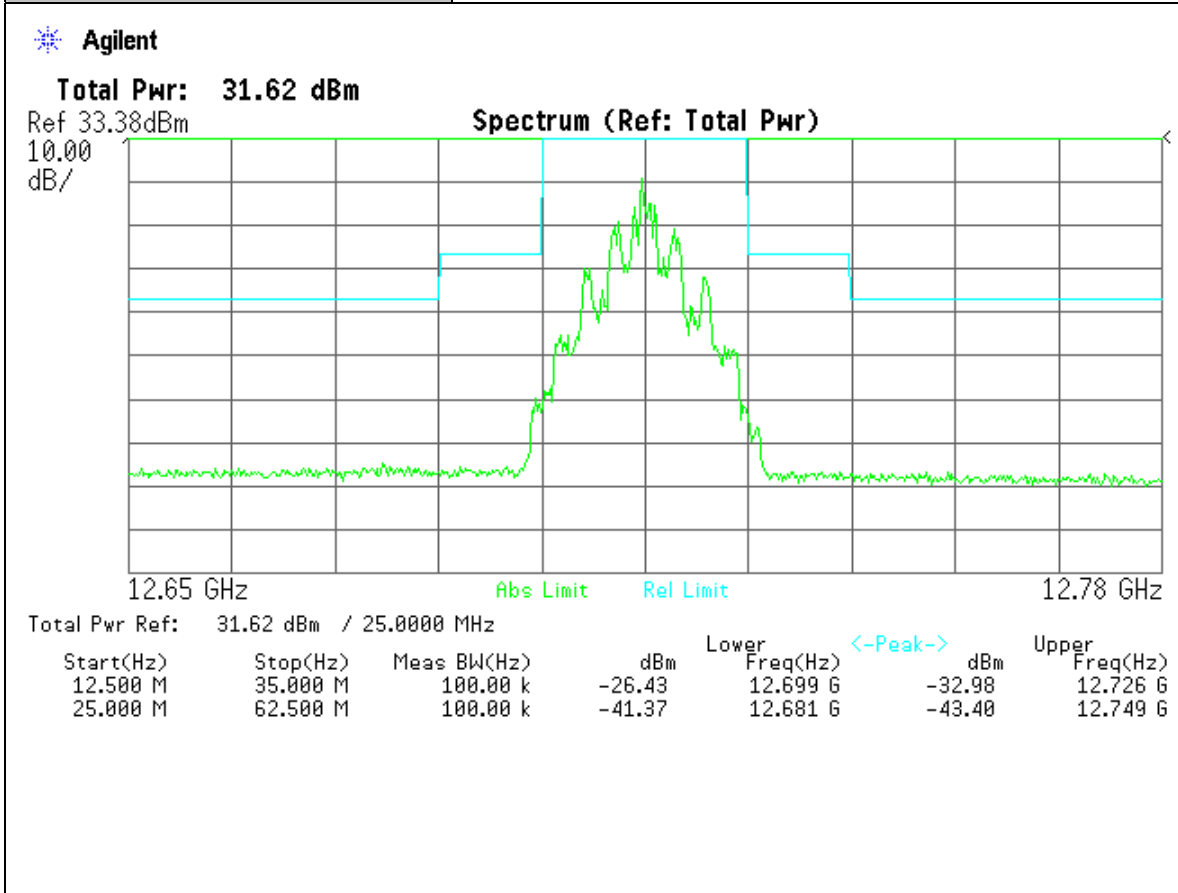
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 12712.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



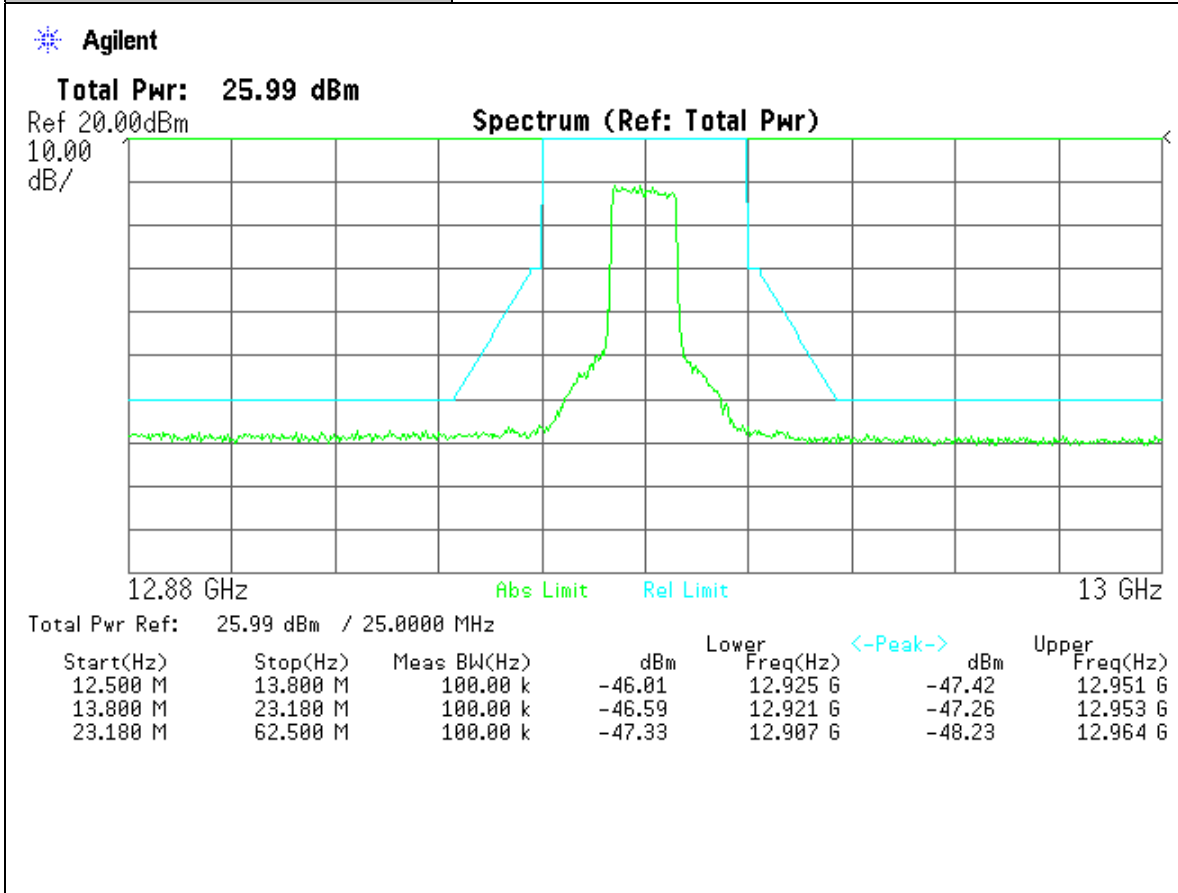
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-1, 12712.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



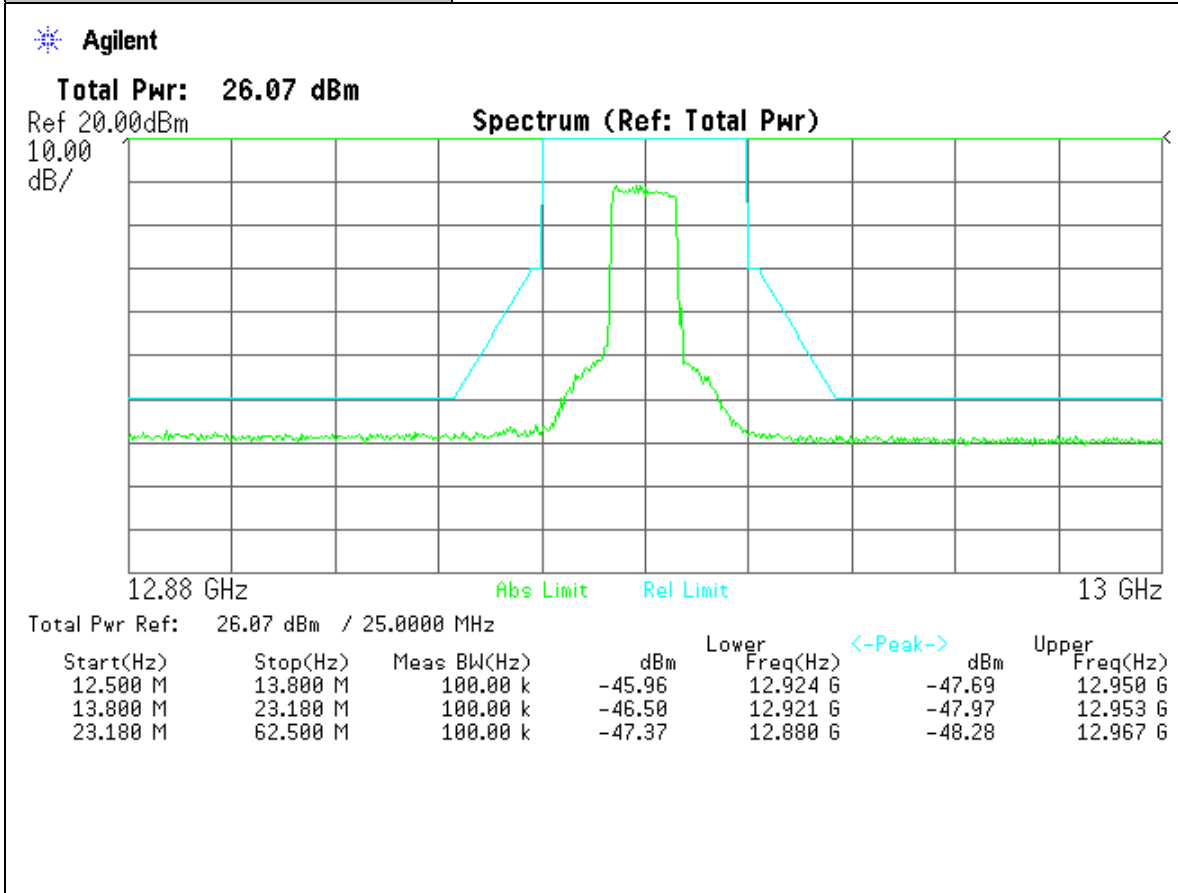
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| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 13G Band |
| Plot Name: | CH-10, 12973.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



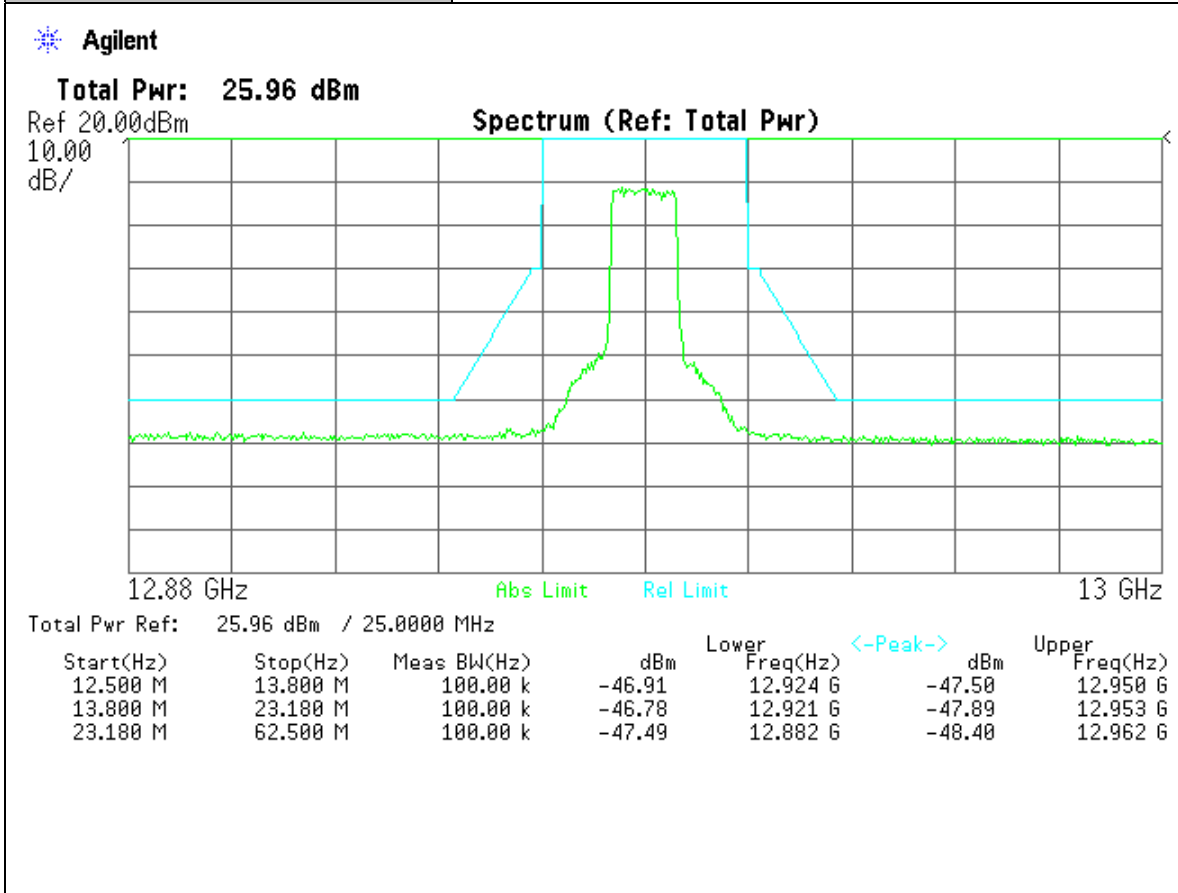
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 12973.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



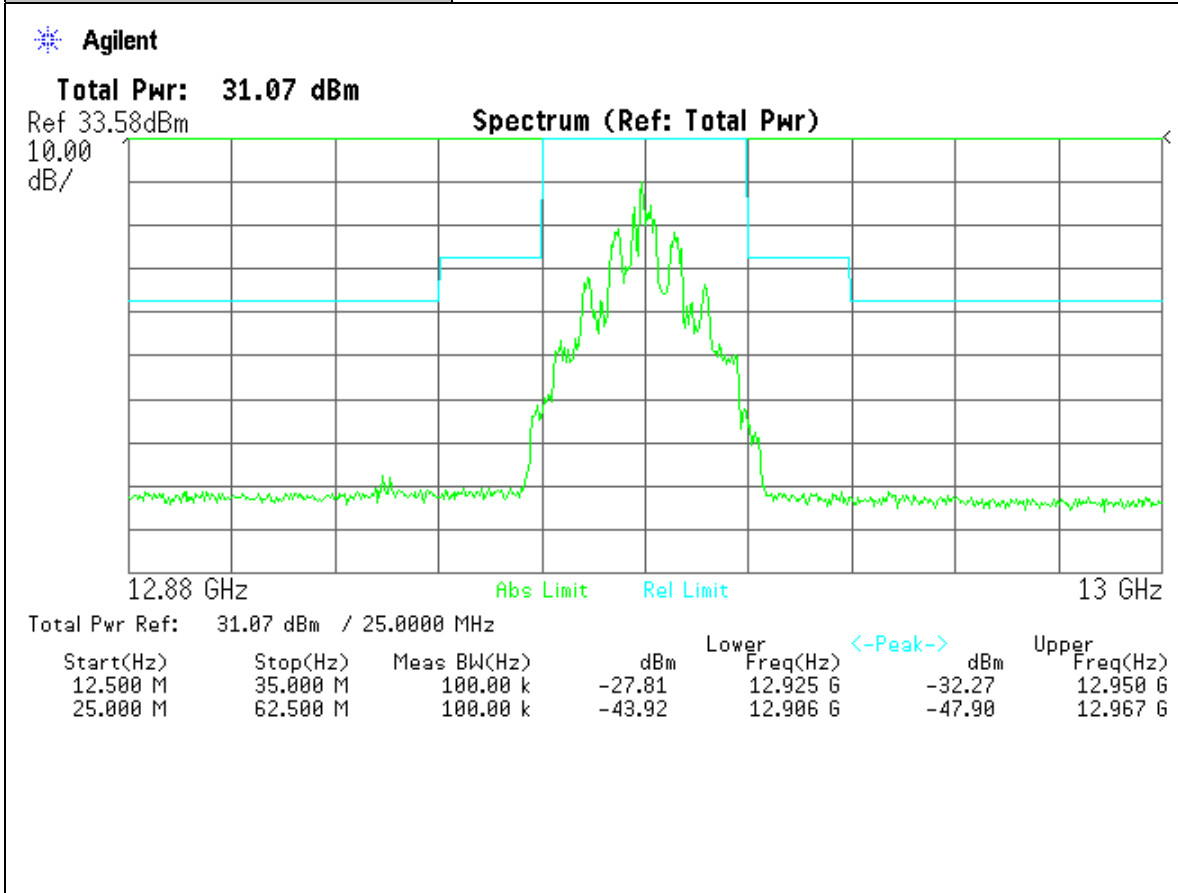
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 12973.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



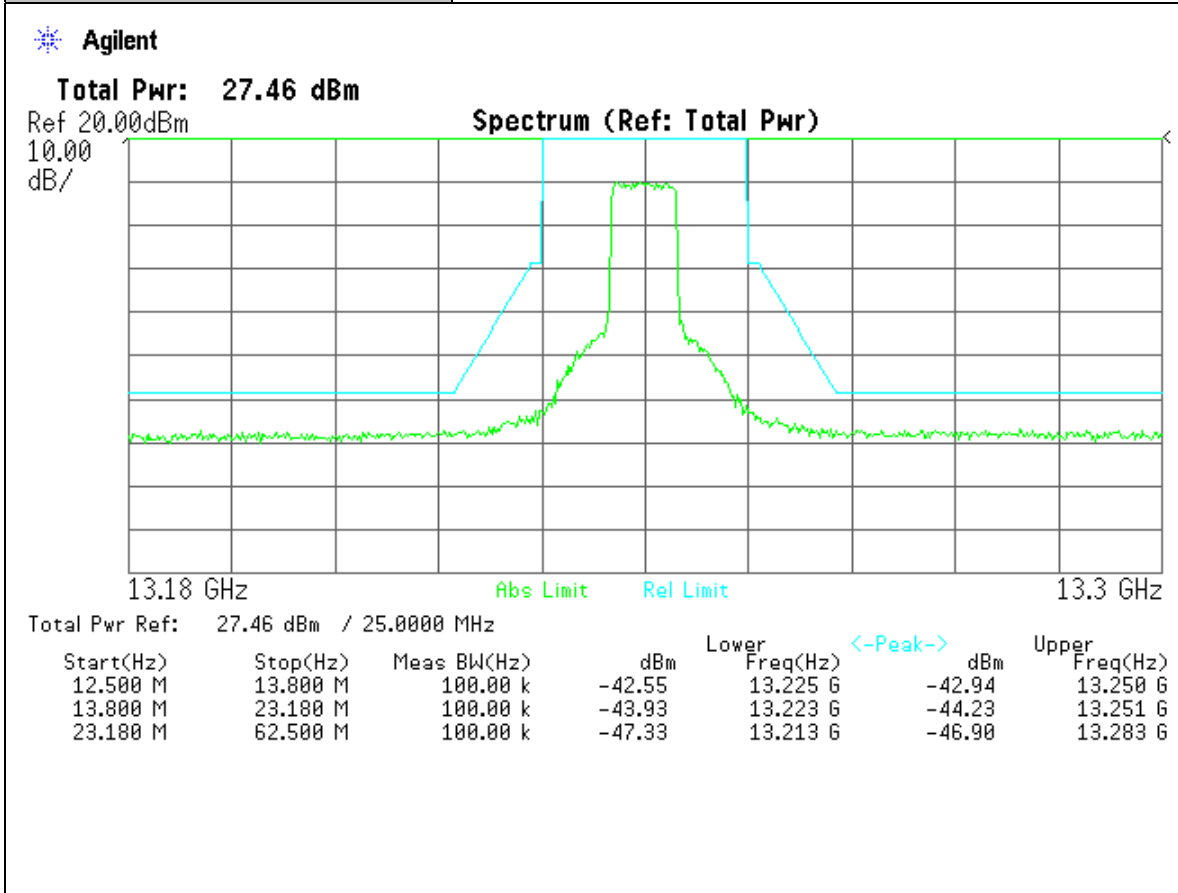
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| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-10, 12973.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



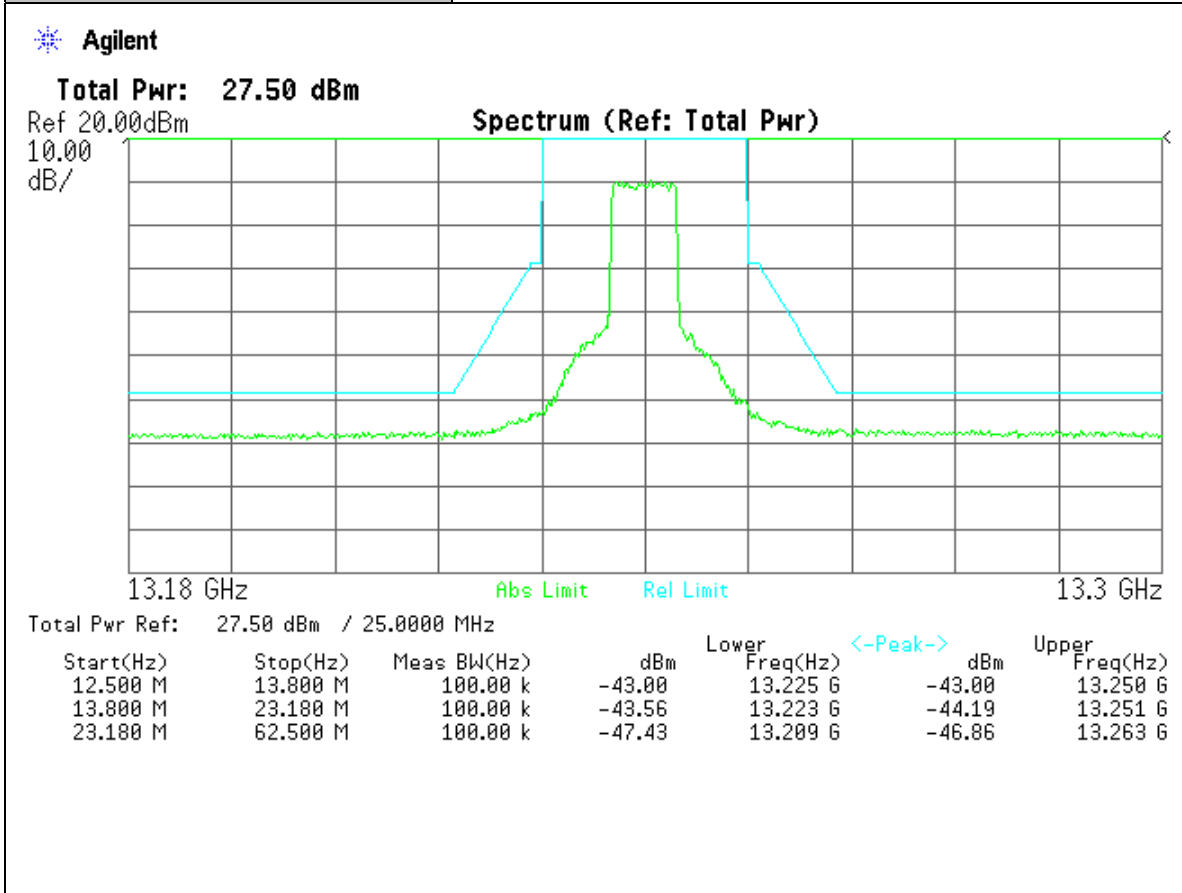
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 13G Band |
| Plot Name: | CH-22, 13237.50MHz, QPSK Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



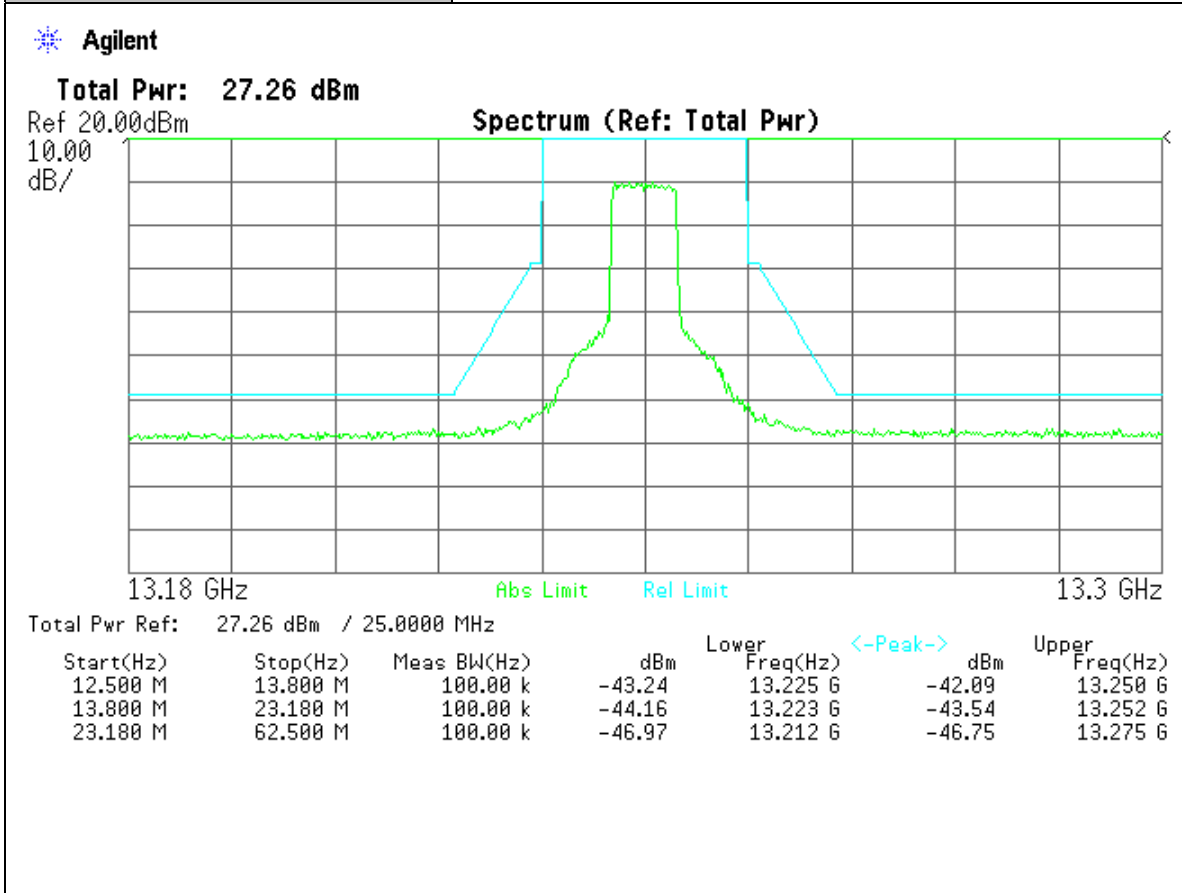
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22, 13237.50MHz, 16QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



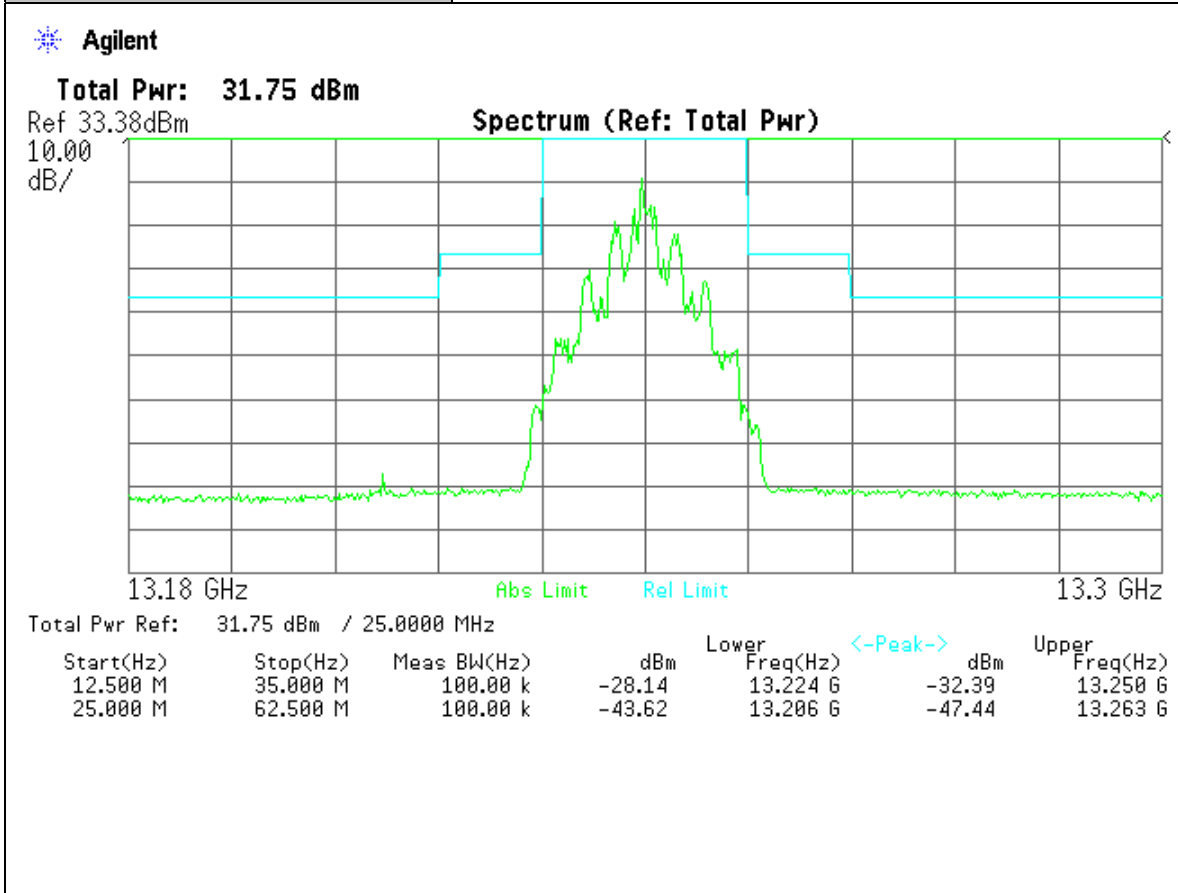
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| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22, 13237.50MHz, 64QAM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



| | |
|------------------------|---|
| Project Number: | 0048-090528-01 |
| EUT: | RF Extreme Tri-Band ChannelMaster Transmitter TRICMTX7-L5E1.5C.5 |
| SN: | ENGUNIT |
| Test By: | David Tu |
| Temperature: | 70°F |
| Humidity: | 30% |

| | |
|-----------------------|--|
| Section: | Emission Limitation Mask: 7G Band |
| Plot Name: | CH-22, 13237.50MHz, FM Modulation |
| Configuration: | SG Input: Color Bar, Output Port: Antenna Port |



Section 8. Frequency Stability

| | | | |
|----------------------|----------------------------|-----------------------|-----------------------|
| Name of Test: | <i>Frequency Stability</i> | Test Standard: | <i>74.661/2.1055</i> |
| Tested By: | WEI LI | Test Date: | 05/28/2009-06/15/2009 |

Minimum Standard: Refer to Part 74.661/2.1055
Frequency Stability vs Temperature Variation and Power Supply Voltage Variation.

| Frequency Band (MHz) | Maximum Frequency Tolerance(%) |
|----------------------|--------------------------------|
| 1,990 to 2,110 | 0.005 (50ppm) |
| 2,450 to 2,483.5 | 0.001 (10ppm) |
| 6,425 to 6,525 | 0.005 (50ppm) |
| 6,875 to 7,125 | 0.005 (50ppm) |
| 12,700 to 13,250 | 0.005 (50ppm) |

Method of Measurement: Frequency Stability With Voltage Variation:
 The E.U.T. is placed in an environmental chamber and allowed to stabilize at +20 degrees Celsius for at least 15 minutes. Set SA resolution bandwidth low enough (30Hz) to obtain the desired frequency resolution. (Using frequency counter method: The frequency counter and signal generator are phase locked with the same 10 MHz reference frequency by connecting the 10 MHz ref. out of the counter to the 10MHz ref, in of the signal generator). With the voltage input to the E.U.T. set to 85% S.T.V., the frequency is measured in 30 second intervals for a period of 5 minutes. This procedure is repeated at 100% S.T.V. and 115% S.T.V.

Frequency Stability With Temperature Variation:
 The input voltage to the E.U.T. is set to S.T.V. and the temperature of the environmental chamber is varied in 10 degree steps from -30 degrees C to +50 degrees C (+60 degree per manufacturer’s spec.). The E.U.T. is allowed to stabilize at each temperature and the frequency is measured in 30 second intervals for a period of 5 minutes.

Test Result: **Complies**

Test Data:

See Attached Table(s)

*** The modulation mode has no evident effect on frequency stability measurements. Mid Channel frequency in each band was selected for measurement.**

8.1. Frequency Stability vs . Voltage

Nominal voltage =115Vac

| Voltage (Vac) | Channel | Nominal Channel Frequency | Measured Frequency (MHz) | Frequency Error (KHz) | Error in ppm | Limit in ppm |
|---------------|---------|---------------------------|---------------------------|------------------------|-----------------|--------------|
| 115 | 2G-4 | 2050.50 | 2050.502020 | +2.02 | 0.985126 | 50 |
| 115 | 2G-9 | 2475.25 | 2475.252271 | +2.271 | 0.917483 | 10 |
| 115 | 7G-22 | 6471.00 | 6471.005396 | +5.396 | 0.833874 | 50 |
| 115 | 7G-6 | 7006.25 | 7006.256009 | +6.009 | 0.857663 | 50 |
| 115 | 13G-10 | 12937.50 | 12937.510587 | +10.587 | 0.818319 | 50 |
| 97.7 | 2G-4 | 2050.50 | 2050.502034 | +2.034 | 0.991953 | 50 |
| 97.7 | 2G-9 | 2475.25 | 2475.252286 | +2.286 | 0.923543 | 10 |
| 97.7 | 7G-22 | 6471.00 | 6471.005409 | +5.409 | 0.835883 | 50 |
| 97.7 | 7G-6 | 7006.25 | 7006.256016 | +6.016 | 0.858662 | 50 |
| 97.7 | 13G-10 | 12937.50 | 12937.510590 | +10.59 | 0.818551 | 50 |
| 132.3 | 2G-4 | 2050.50 | 2050.502040 | +2.04 | 0.994879 | 50 |
| 132.3 | 2G-9 | 2475.25 | 2475.252294 | +2.294 | 0.926775 | 10 |
| 132.3 | 7G-22 | 6471.00 | 6471.005420 | +5.42 | 0.837583 | 50 |
| 132.3 | 7G-6 | 7006.25 | 7006.256022 | +6.022 | 0.859518 | 50 |
| 132.3 | 13G-10 | 12937.50 | 12937.510592 | +10.592 | 0.818705 | 50 |

8.2. Frequency Stability vs. Temperature

A. 2G Band: CH-4= 2050.50MHz

| Temperature © | Measured Frequency (MHz) | Frequency Error (KHz) | Error in ppm | Limit |
|---------------|--------------------------|------------------------|--------------|-----------|
| +60 | 2050.503881 | +3.881 | 1.892709 | 50 |
| +50 | 2050.502815 | +2.815 | 1.372836 | 50 |
| +40 | 2050.502648 | +2.648 | 1.291392 | 50 |
| +30 | 2050.502312 | +2.312 | 1.127530 | 50 |
| +20 | 2050.502600 | +2.600 | 1.267983 | 50 |
| +10 | 2050.502510 | +2.510 | 1.224092 | 50 |
| 0 | 2050.502398 | +2.398 | 1.169471 | 50 |
| -10 | 2050.502538 | +2.538 | 1.237747 | 50 |
| -20 | 2050.502640 | +2.640 | 1.287491 | 50 |
| -30 | 2050.502717 | +2.717 | 1.325043 | 50 |

B. 2G Band: CH-8= 2458.5MHz

| Temperature © | Measured Frequency (MHz) | Frequency Error (KHz) | Error in ppm | Limit |
|---------------|--------------------------|------------------------|--------------|-----------|
| +60 | 2458.504179 | 4.179 | 1.699817 | 10 |
| +50 | 2458.503191 | 3.191 | 1.297946 | 10 |
| +40 | 2458.502981 | 2.981 | 1.212528 | 10 |
| +30 | 2458.502659 | 2.659 | 1.081554 | 10 |
| +20 | 2458.502914 | 2.914 | 1.185276 | 10 |
| +10 | 2458.502852 | 2.852 | 1.160057 | 10 |
| 0 | 2458.502812 | 2.812 | 1.143787 | 10 |
| -10 | 2458.502923 | 2.923 | 1.188936 | 10 |
| -20 | 2458.503020 | 3.020 | 1.228391 | 10 |
| -30 | 2458.503097 | 3.097 | 1.259711 | 10 |

C. 7G Band: CH-22+= 6471.0MHz

| Temperature © | Measured Frequency (MHz) | Frequency Error (KHz) | Error in ppm | Limit |
|---------------|--------------------------|------------------------|--------------|-----------|
| +60 | 6471.006850 | 6.85 | 1.058569 | 50 |
| +50 | 6471.006256 | 6.256 | 0.9667748 | 50 |
| +40 | 6471.005928 | 5.928 | 0.9160872 | 50 |
| +30 | 6471.005736 | 5.736 | 0.8864163 | 50 |
| +20 | 6471.005983 | 5.983 | 0.9245866 | 50 |
| +10 | 6471.006070 | 6.07 | 0.9380312 | 50 |
| 0 | 6471.006517 | 6.517 | 1.0071086 | 50 |
| -10 | 6471.006652 | 6.652 | 1.0279709 | 50 |
| -20 | 6471.006713 | 6.713 | 1.0373976 | 50 |
| -30 | 6471.006820 | 6.82 | 1.0539329 | 50 |

D. 7G Band: CH-6= 7006.25MHz

| Temperature © | Measured Frequency (MHz) | Frequency Error (KHz) | Error in ppm | Limit |
|---------------|--------------------------|------------------------|--------------|-----------|
| +60 | 7006.257273 | 7.273 | 1.0380731 | 50 |
| +50 | 7006.256580 | 6.58 | 0.9391615 | 50 |
| +40 | 7006.256373 | 6.373 | 0.9096164 | 50 |
| +30 | 7006.256173 | 6.173 | 0.8810705 | 50 |
| +20 | 7006.256419 | 6.419 | 0.916182 | 50 |
| +10 | 7006.256526 | 6.526 | 0.9314541 | 50 |
| 0 | 7006.257032 | 7.032 | 1.0036753 | 50 |
| -10 | 7006.257114 | 7.114 | 1.0153791 | 50 |
| -20 | 7006.257246 | 7.246 | 1.0342194 | 50 |
| -30 | 7006.257321 | 7.321 | 1.0449242 | 50 |

E. 13G Band: CH-10= 12937.50MHz

| Temperature © | Measured Frequency (MHz) | Frequency Error (KHz) | Error in ppm | Limit |
|---------------|--------------------------|------------------------|--------------|-----------|
| +60 | 12937.511740 | 11.74 | 0.9074396 | 50 |
| +50 | 12937.511554 | 11.554 | 0.8930628 | 50 |
| +40 | 12937.511269 | 11.269 | 0.8710338 | 50 |
| +30 | 12937.511096 | 11.096 | 0.8576618 | 50 |
| +20 | 12937.511393 | 11.393 | 0.8806184 | 50 |
| +10 | 12937.511598 | 11.598 | 0.8964638 | 50 |
| 0 | 12937.512716 | 12.716 | 0.9828792 | 50 |
| -10 | 12937.512775 | 12.775 | 0.9874396 | 50 |
| -20 | 12937.512829 | 12.829 | 0.9916135 | 50 |
| -30 | 12937.512914 | 12.914 | 0.9981836 | 50 |

Section 9. Maximum Permissible Exposure

MPE estimate is given per 2.1091 of FCC Rules:

Given

$$E = \sqrt{30 * P * G} / d$$

and

$$S = E^2 / 3770$$

where

E = Field Strength in Volts/meter
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:

$$d = \sqrt{(30 * P * G) / (3770 * S)}$$

Changing to units of Power to mW and Distance to cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$
$$d \text{ (cm)} = 100 * d \text{ (m)}$$

yields

$$d = 100 * \sqrt{(30 * (P / 1000) * G) / (3770 * S)}$$
$$d = 0.282 * \sqrt{(P * G / S)}$$

where

d = distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power Density in mW/cm²

Substituting the logarithmic form of power and gain using:

$$P \text{ (mW)} = 10^{(P \text{ (dBm)} / 10)} \text{ and}$$
$$G \text{ (numeric)} = 10^{(G \text{ (dBi)} / 10)}$$

yields

$$d = 0.282 * 10^{((P + G) / 20)} / \sqrt{S} \quad \text{Equation (1)}$$

$$S = 0.796 * 10^{((P + G) / 10)} / d^2 \quad \text{Equation (2)}$$

where

d = MPE distance in cm
P = Power in dBm
G = Antenna Gain in dBi
S = Power Density Limit in mW/cm²

Equation (1) and the measured peak power is used to calculate the MPE distance.
Equation (2) and the measured peak power is used to calculate the Power density.

Limit:

$$S = 1.0 \text{ mW/cm}^2$$

*1mW/ cm² is the reference level for general public exposure according to the OET Bulletin 65, Edition 97-01 Table 1.

Results:

NOT APPLICABLE TO THIS EUT SINCE ALL THE CONDUCTED MEASUREMENTS WERE TAKEN AT THE ANTANNA PORT. THIS APPLICATION IS FOR TRANSMITTER ONLY. ANTENNA IS NOT INCLUDED.

Section 10. Test Equipment List

| Manufacture | Model | Serial No. | Description | Last Cal dd/mm/ yy | Cal Due dd/mm/ yy |
|--------------------|-----------------|------------|---------------------------------------|--------------------------|-------------------------|
| HP | HP8546A | 3448A00290 | EMI Receiver | 12/01/09 | 12/01/10 |
| HP | E4432B | US38220355 | 250K-3GHz Signal Generator | 17/09/08 | 17/09/09 |
| Agilent | E4440A | US40420700 | 3Hz-26.5GHz Spec. Analyzer | 12/05/09 | 12/05/10 |
| R &S | ESPI7 | 6001 | 9KHz-7GHz EMI Receiver | 11/06/08 | 11/06/09 |
| EMCO | 3104C | 9307-4396 | 20-300MHz Biconical Antenna | 12/02/09 | 12/02/10 |
| EMCO | 3146 | 9008-2860 | 200-1000MHz Log-Periodic Antenna | 09/02/09 | 09/02/10 |
| Fischer Custom | LISN-2 | 900-4-0008 | Line Impedance Stabilization Networks | 23/08/08 | 23/08/09 |
| Fischer Custom | LISN-2 | 900-4-0009 | Line Impedance Stabilization Networks | 23/08/08 | 23/08/09 |
| EMCO | 6502 | 2665 | 10KHz-30MHz Active Loop Antenna | 27/02/09 | 27/02/10 |
| EMCO | 3115 | 4945 | Double Ridge Guide Horn Antenna | 11/08/08 | 11/08/09 |
| HP | 8569B | 2607A02802 | 1GHz-22GHz Spectrum Analyzer | 10/02/09 | 10/02/10 |
| Advantest | R3271 | 5003583 | 100Hz-26.5GHz Spectrum Analyzer | 30/04/09 | 30/04/10 |
| HP | E8254A | US42110367 | Signal Generator | 23/03/09 | 23/03/10 |
| Scientific-Atlanta | 12A-18 | 441 | Wave Guide Horn Antenna | 04/08/08 | 04/08/09 |
| Agilent | E4448A | MY45300108 | 3Hz-50GHz Spectrum Analyzer | 05/09/09 | 05/09/10 |
| Agilent | 83650B | 3844A01114 | 50G Swept Signal Generator | 29/01/09 | 29/01/10 |
| HP | 5361B | 3023A01322 | 20G Pulse/CW Microwave Counter | 10/06/09 | 10/06/10 |
| HP | 4419A | US37292112 | RF Power Meter w/ Sensor Probe | 20/06/08 | 20/06/09 |
| EMCO | 3116 | 4943 | Double Ridge Guide Horn Antenna | 11/01/09 | 11/01/10 |
| SUNSYS | EC127 | 96025 | Temperature Test Chamber | 30/06/08 | 30/06/09 |
| HP | 4419A | US37292112 | RF Power Meter w/ Sensor Probe | 20/07/08 | 20/07/09 |
| Lorch Microwave | 5NF-800/1000-S | AC3 | Notch Filter | | |
| Lorch Microwave | 5NF-1800/2200-S | AE10 | Notch Filter | | |
| RES-NET | RFA500NFF30 | 0108 | 30dB in-line Power Attenuator | | |
| Narda | 3022 | 80986 | Directional Coupler | | |