# TEST REPORT
# FROM
# RFI GLOBAL SERVICES LTD

Partial Test of: Motorola
PTP49600

To: FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

**Test Report Serial No:**
RFI/RPT5/RP73934JD01A

**Supersedes Test Report Serial No:**
RFI/RPT4/RP73934JD01A

| | |
|---|---|
| **This Test Report Is Issued Under The Authority Of Steve Flooks, Service Leader:** **pp**  | |
| **Checked By: Nigel Davison**  | **Report Copy No: PDF01** |
| **Issue Date: 09 December 2008** | **Test Dates: 08 October 2008 to 13 October 2008** |

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Registered in England and Wales. Company number:2117901

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## 1. Customer Information

| | |
|---|---|
| **Company Name:** | Motorola Point to Point Fixed Wireless Solutions Group |
| **Address:** | A1 Linhay Business Park<br>Eastern Road<br>Ashburton<br>Devon<br>TQ13 7UP |
| **Contact Name:** | Mr C Fisher |

# 2. Equipment Under Test (EUT)

The following information (with the exception of the Date of Receipt) has been supplied by the client:

## 2.1. Identification of Equipment Under Test (EUT)

| | |
|---|---|
| **Description:** | Wireless Ethernet Bridge - ODU |
| **Brand Name:** | Motorola |
| **Model Name or Number:** | PTP49600 |
| **Serial Number:** | 80:40:1A |
| **FCC ID Number:** | QWP49100, IC:109AO-49100 |
| **Hardware Version:** | Pilot |
| **Software Version:** | 08.00 |
| **Country of Manufacture:** | Germany |
| **Date of Receipt:** | 08 October 2008 |

## 2.2. Description of EUT

The equipment under test was a 4.9 GHz band Wireless Ethernet Bridge.

## 2.3. Modifications Incorporated in the EUT

A semi-rigid cable had been fitted to a PCB within the EUT by the customer in order to provide external access to a trigger when the transmitter was turned on. This cable was connected to an external trigger input on the measurement equipment when making power measurements.

## 2.4. Additional Information Related to Testing

| | | | |
|---|---|---|---|
| **Power Supply Requirement:** | Nominal 120 V, 60 Hz AC Mains Supply | | |
| **Intended Operating Environment:** | Residential, Commercial and Light Industry | | |
| **Equipment Category:** | Microwave fixed radio link | | |
| **Type of Unit:** | Base Station (Fixed used)<br>Transceiver | | |
| **Antenna Type:** | Flat Plate | | |
| **Antenna Gain:** | 22dBi | | |
| **Modulation Type:** | OFDM | | |
| **Channel Spacing:** | 5, 10, 20MHz | | |
| **Transmit Frequency Range:** | 4940 MHz to 4990 MHz | | |
| **Transmit Channels Tested:** | **Channel Bandwidth (MHz)** | **Bottom Channel Frequency (MHz)** | **Top Channel Frequency (MHz)** |
| | 5 | 4942.5 | 4987.5 |
| | 10 | 4945 | 4985 |
| | 20 | 4950 | 4980 |
| **Receive Frequency Range:** | 4940 MHz to 4990 MHz | | |
| **Receive Channels Tested:** | **Channel Bandwidth (MHz)** | **Bottom Channel Frequency (MHz)** | **Top Channel Frequency (MHz)** |
| | 5 | 4942.5 | 4987.5 |
| | 10 | 4945 | 4985 |
| | 20 | 4950 | 4980 |
| **Highest Fundamental Frequency:** | 5882 MHz | | |

## 2.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

| | |
|---|---|
| **Description:** | Power In Door Unit - PIDU for Master ODU (EUT) |
| **Brand Name:** | Motorola |
| **Model Name or Number:** | PTP49600 |
| **Serial Number:** | 0629259014 |
| **Cable Length and Type:** | 2 metres / CAT 5 and 2 metre mains cable |
| **Connected to Port:** | Ethernet on master Wireless Ethernet Bridge and Ethernet to laptop PC |

| | |
|---|---|
| **Description:** | Wireless Ethernet Bridge – ODU (Slave) |
| **Brand Name:** | Motorola |
| **Model Name or Number:** | PTP49600 |
| **Serial Number:** | 80:36:59 |
| **Cable Length and Type:** | 0.5 metres / coaxial and 2 metre Ethernet |
| **Connected to Port:** | To RF port on EUT master Wireless Ethernet Bridge. Ethernet to slave PIDU. |

| | |
|---|---|
| **Description:** | Power In Door Unit - PIDU for Slave ODU |
| **Brand Name:** | Motorola |
| **Model Name or Number:** | PTP49600 |
| **Serial Number:** | 0629258172 |
| **Cable Length and Type:** | 2 metres / CAT 5 and 2 metre mains cable |
| **Connected to Port:** | Ethernet on slave Wireless Ethernet Bridge and Ethernet to laptop PC |

| | |
|---|---|
| **Description:** | Laptop PC |
| **Brand Name:** | Dell |
| **Model Name or Number:** | Latitude D610 |
| **Serial Number:** | RFI PC Asset number PC370NT |
| **Cable Length and Type:** | 2 metres CAT 5 / Ethernet |
| **Connected to Port:** | Ethernet on EUT PIDU and Ethernet on slave PIDU |

# 3. Test Specification, Methods and Procedures

## 3.1. Test Specifications

| | |
|---|---|
| **Reference:** | FCC Part 90: 2008 (Chapter I) |
| **Title:** | Code Of Federal Regulations, Part 90 (47CFR90)<br>Private Land Mobile Radio Services. |

| | |
|---|---|
| **Reference:** | RSS-Gen Issue 2 June 2007 |
| **Title:** | General Requirements and Information for the Certification of Radio communication Equipment |

| | |
|---|---|
| **Reference:** | RSS-111 Issue 2 June 2007 |
| **Title:** | Broadband Public Safety Equipment Operating in the Band 4940-4990 MHz |

## 3.2. Methods and Procedures

The methods and procedures used were as detailed in:

ANSI/TIA-603-B-2003
Land Mobile Communications Equipment, Measurements and performance Standards

ANSI C63.2 (1987)
Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2001)
Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1988)
Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)
Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1: (1999)
Title: Specification For Radio Disturbance and Immunity Measuring Apparatus and Methods. Part 1: Radio Disturbance and Immunity Measuring Apparatus.

## 3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the Methods & Procedures section above. Appendix 1 contains a list of the test equipment used.

## 4. Deviations from the Test Specification

There were no deviations from the test specification.

# 5. Operation of the EUT During Testing

## 5.1. Operating Modes

The EUT was tested in the following operating modes, unless otherwise stated:

- As a master device, transmitting using one of the following modulation types; BPSK, QPSK, 16QAM, 64QAM and 256QAM.
- Operating on the bottom, centre or top channel, as per each test case requirement.
- Transmitter power tests were performed with the EUT transmitting at full power.
- No radiated testing was performed. Conducted tests only.
- AC conducted tests with the equipment connected to the mains supply were not performed.

## 5.2. Configuration and Peripherals

The EUT was tested in the following configuration:

- The EUT was connected to a slave ODU through suitably attenuated RF cables and a communications link was maintained. The integral antenna was replaced by a connector plate giving access to horizontal and vertical antenna connections. Connection to the measuring equipment was made though suitably attenuated RF cables, and/or an RF splitter/combiner connected to the RF port on the EUT.
- The ODU was powered by the PIDU through the Ethernet cable. The PIDU was powered by mains voltage.
- A laptop PC with Customer's bespoke software was used to configure the EUT and slave ODU during the testing.

# 6. Summary of Test Results

| Range of Measurements | FCC Reference | IC RSS-111 Reference | Port Type | Result |
|---|---|---|---|---|
| Transmitter Peak Carrier Output Power (Conducted) | 90.205/90.1215(a)/2.1046 | 3.1/4.3 | Antenna Terminals | Complied |
| Transmitter Peak Power Spectral Density (Conducted) | 90.205/90.1215/2.1046 | 3.2/4.3 | Antenna Terminals | Complied |
| Transmitter Occupied Bandwidth (Bandwidth Limitations) | 90.209, 2.1049 | 4.3 | Antenna Terminals | Complied |
| Transmitter Conducted Emissions Masks | 90.210 (b) Mask B<br>90.210 (d) Mask D | 4.4 High-Power | Antenna Terminals | Complied |
| Transmitter Conducted Emissions (Out of Band) (9 kHz to 40 GHz) | 90.210 | 4.4 | Antenna Terminals | Complied |
| Transmitter Frequency Stability (Temperature & Voltage Variation) | 90.213, 2.1055 | 4.2 | Antenna Terminals | Complied |

## 6.1. Location of Tests

All the measurements described in this report were performed at the premises of RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.

# 7. Measurements, Examinations and Derived Results

## 7.1. General Comments

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%.
Please refer to Section 8 for details of measurement uncertainties.

The peak carrier output power measurements were made using a Rohde & Schwarz FSUP signal source analyser, which was loaned to RFI Global Services Ltd. by the customer. This equipment was within the calibration period (Calibrated by the manufacturer on 15 May 2008, calibration due 19 May 2009). The customer requested that the procedure below was followed. This procedure has been presented to the FCC by the customer who accepted that it can be used for the product.

The Time Domain Method proposed involves setting the analyser as follows:

a) Zero span mode with the frequency of the analyser set to the centre of the emission.
b) Resolution Bandwidth RBW set to >EBW such that the RBW is wide enough that further increases do not increase the reported power.
c) Video BW set to maximum (must be > EBW).
d) Either video or externally triggered to capture the whole Tx burst.
e) Max Peak detector.
f) Single Sweep to ensure a measurement over an interval of continuous transmission.
g) Maximum number of sample points (30001) to give the most accurate measurement of the signal.
h) Select Time Domain Power Measurement and set the start and stop intervals (T1/T2) to be within the transmitted burst.
i) Set the analyser to report the RMS equivalent power in the channel.

## 7.2. Test Results

### 7.2.1. Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

Ambient Temperature: 19ºC to 22ºC Relative Humidity: 43% to 49%

The maximum output power was measured using a spectrum analyser with a Time Domain Power Measurement function. The start and stop intervals (T1/T2) were set to be within the transmitted burst. The analyser was configured to measure the RMS equivalent power in the channel and this value was recorded in the tables below.

**Results:**

**5 MHz Channel - Bottom Channel**

| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.7 | 18.4 | 21.6 | 27.0 | 5.4 |
| BPSK | 22.5 | 22.6 | 25.6 | 27.0 | 1.4 |
| QPSK | 22.6 | 22.4 | 25.5 | 27.0 | 1.5 |
| 16QAM | 22.5 | 22.4 | 25.5 | 27.0 | 1.5 |
| 64QAM | 22.6 | 22.4 | 25.5 | 27.0 | 1.5 |
| 256QAM | 22.5 | 22.4 | 25.5 | 27.0 | 1.5 |

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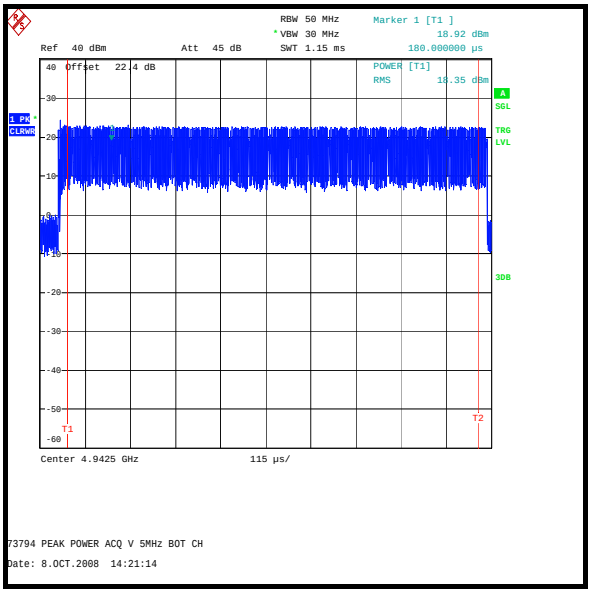
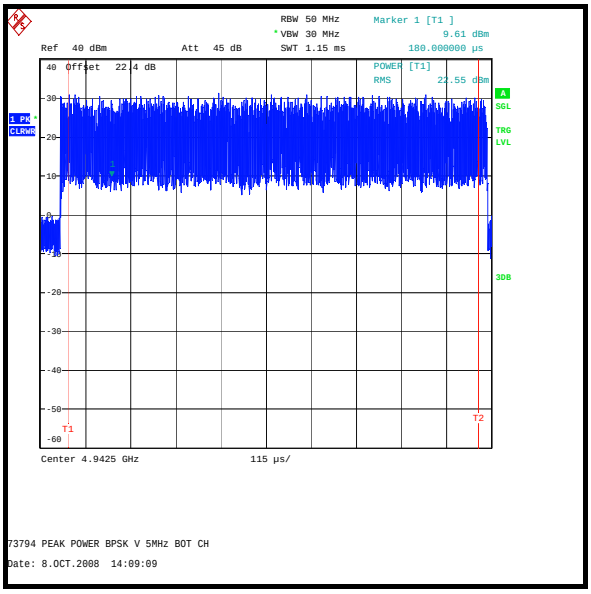
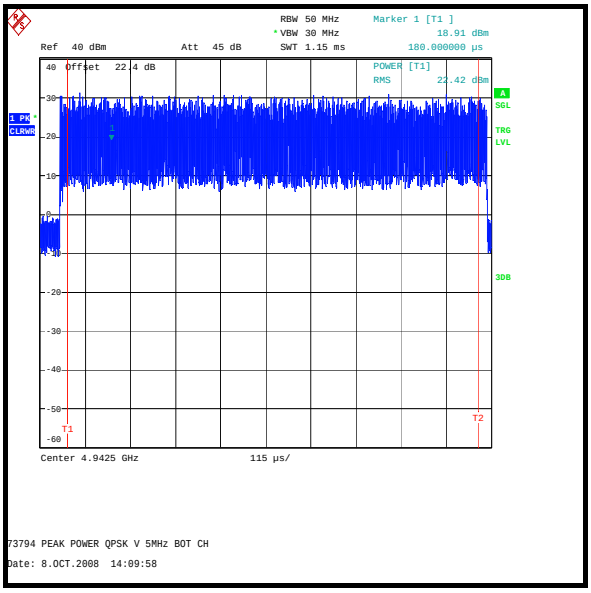
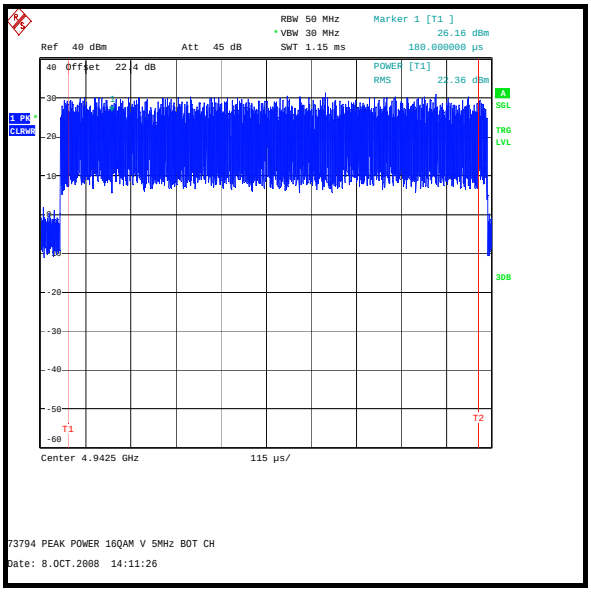
## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



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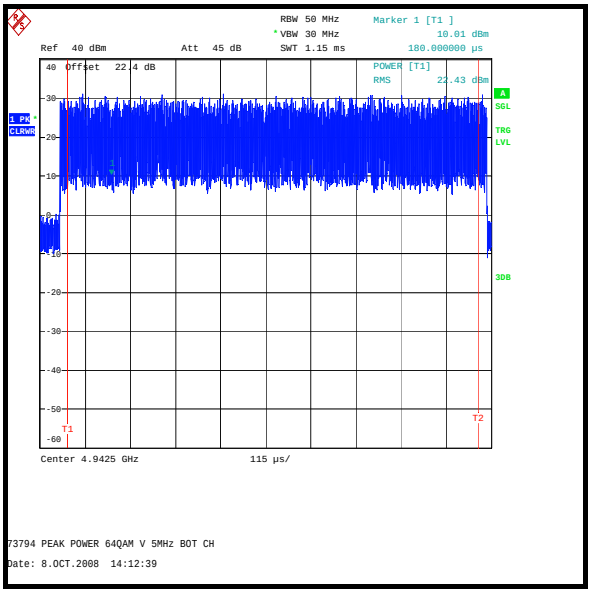


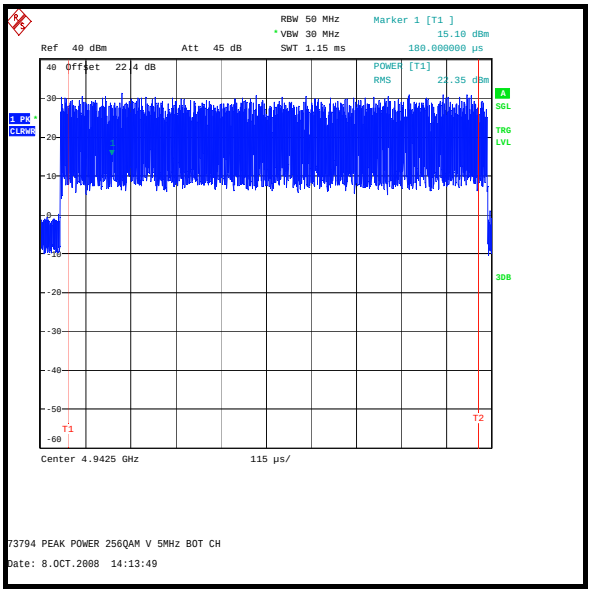


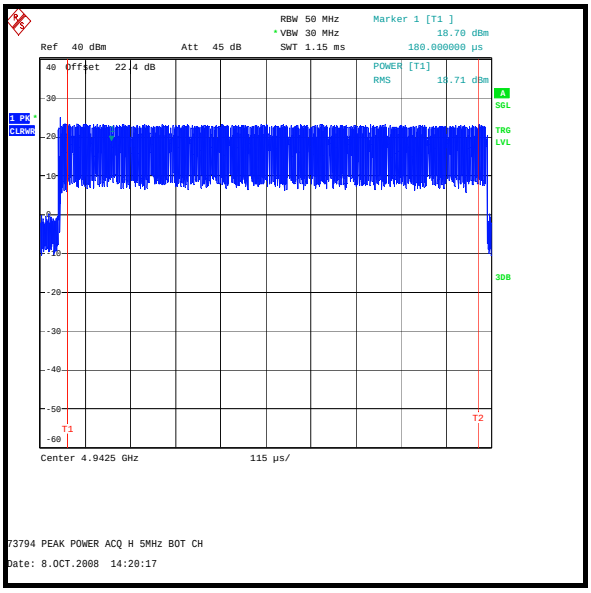


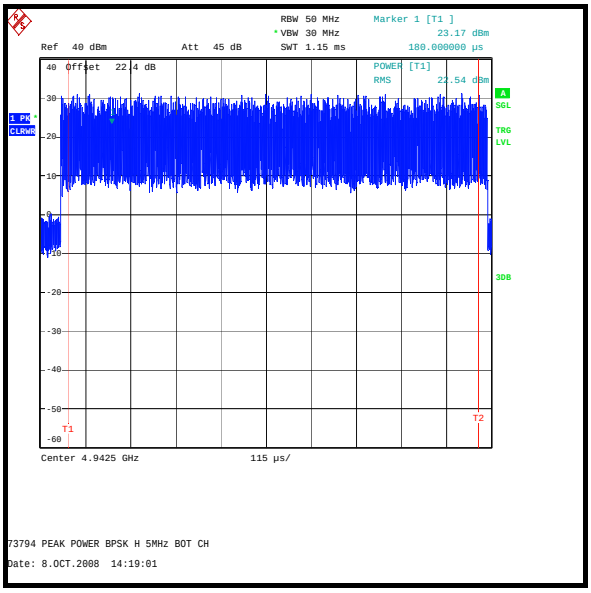

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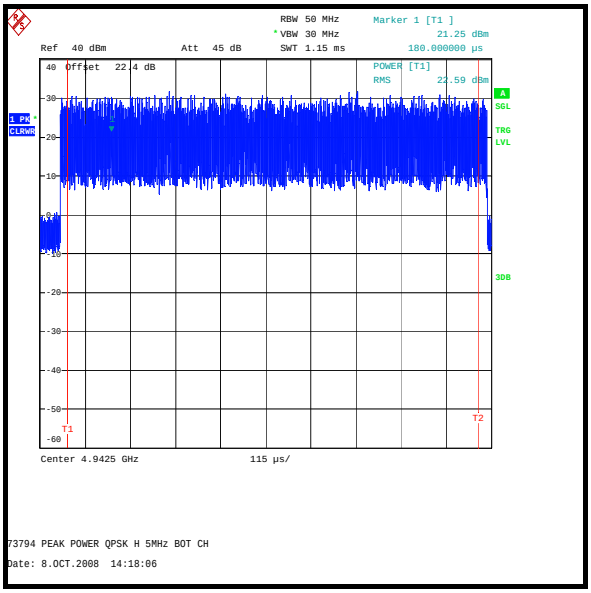


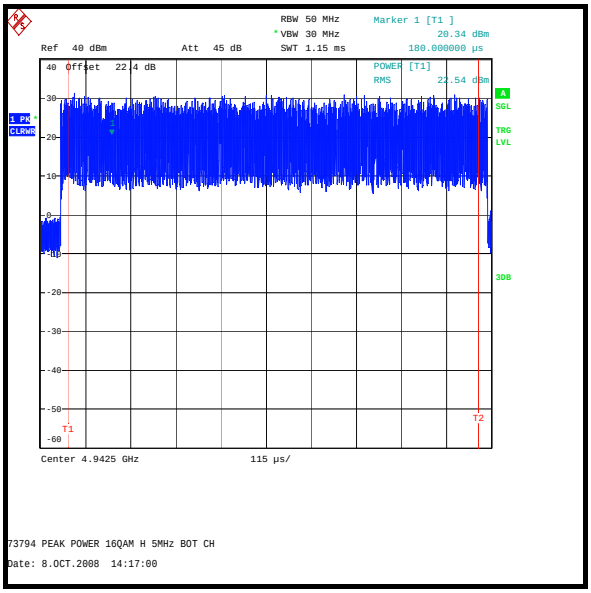


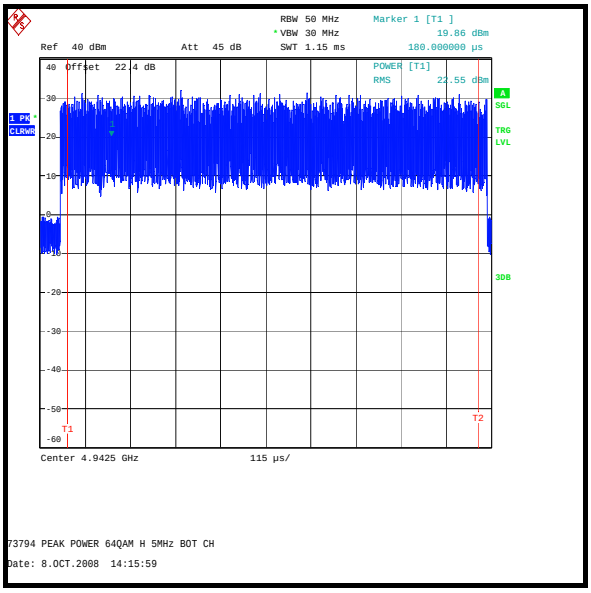


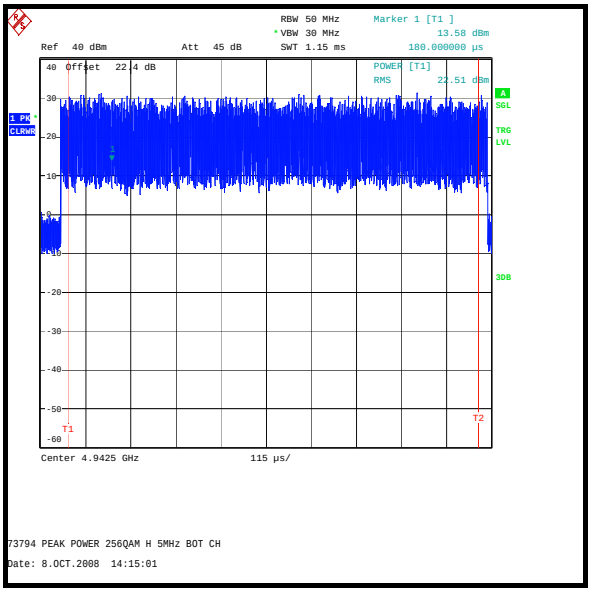

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

**Results:**

**5 MHz Channel - Centre Channel**

| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.7 | 18.6 | 21.7 | 27.0 | 5.3 |
| BPSK | 22.7 | 22.6 | 25.7 | 27.0 | 1.3 |
| QPSK | 22.7 | 22.5 | 25.6 | 27.0 | 1.4 |
| 16QAM | 22.7 | 22.5 | 25.6 | 27.0 | 1.4 |
| 64QAM | 22.5 | 22.6 | 25.6 | 27.0 | 1.4 |
| 256QAM | 22.5 | 22.5 | 25.5 | 27.0 | 1.5 |

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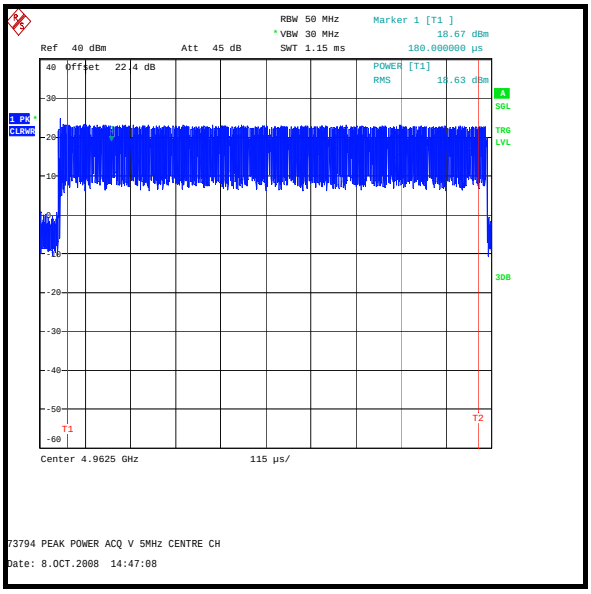


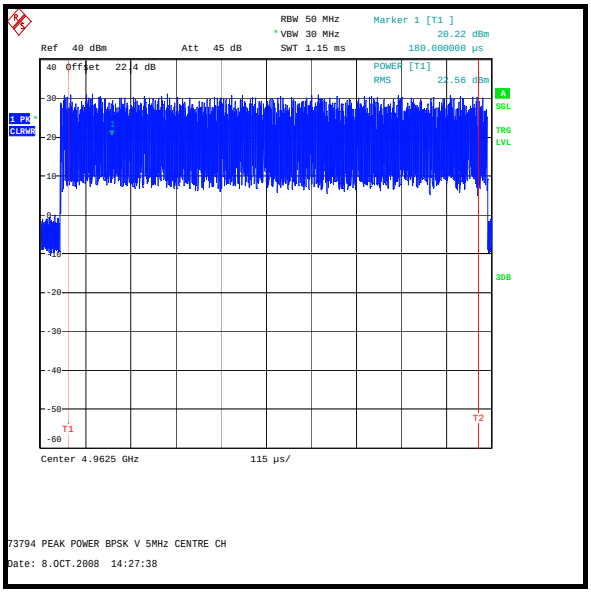


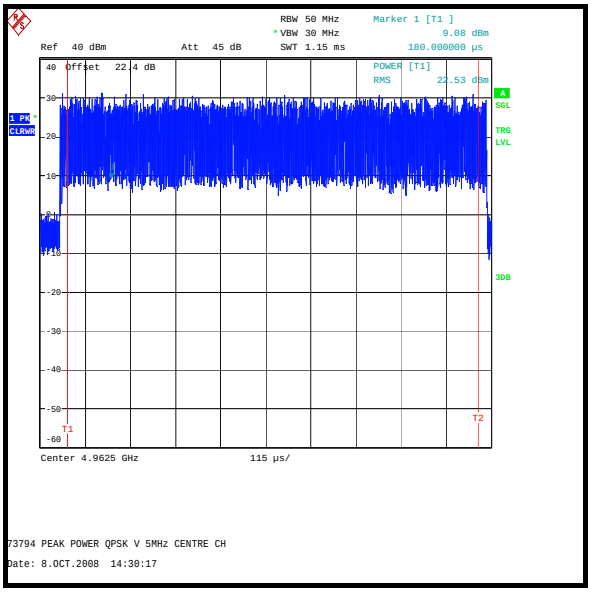


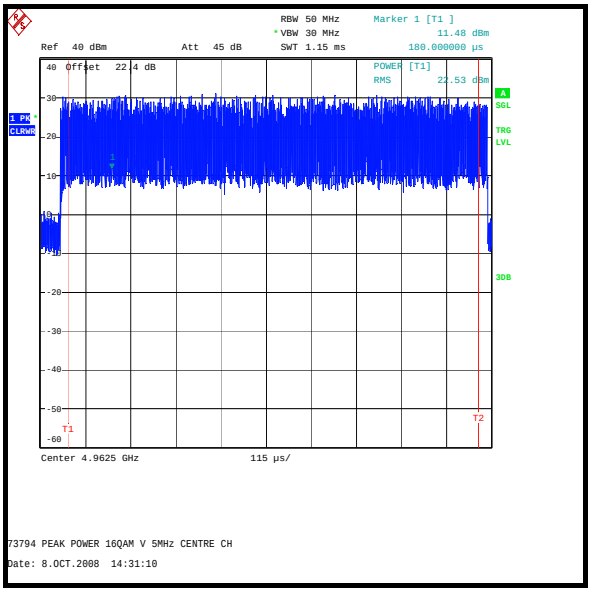

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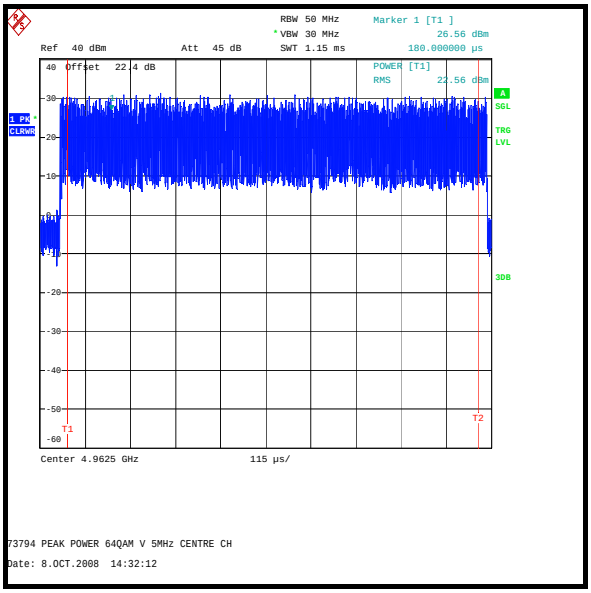


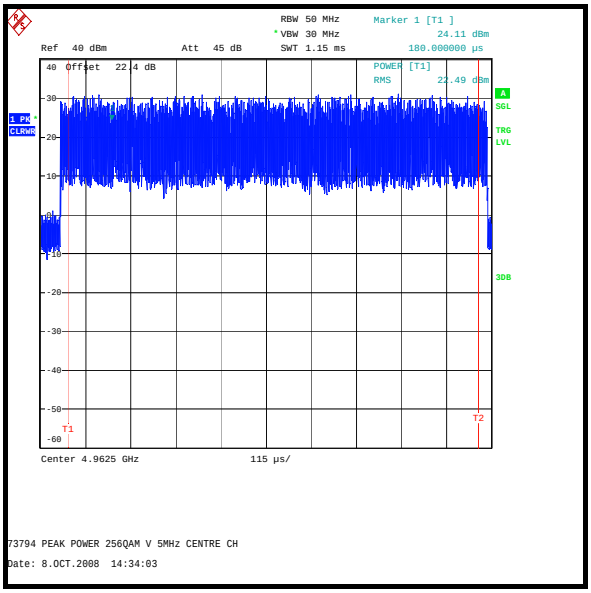


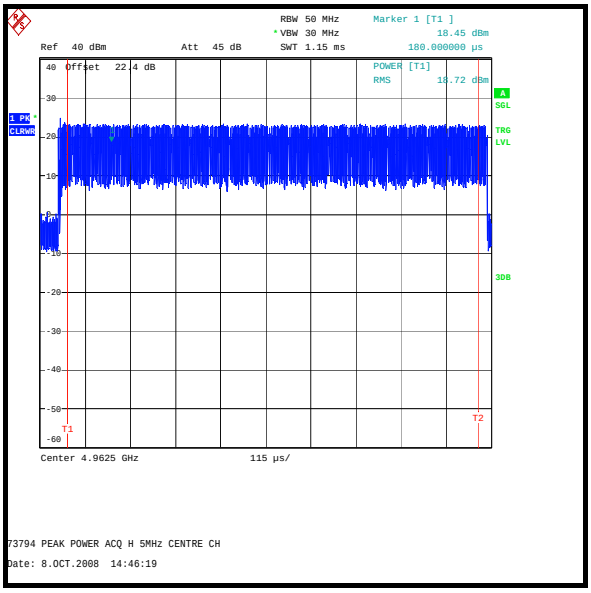


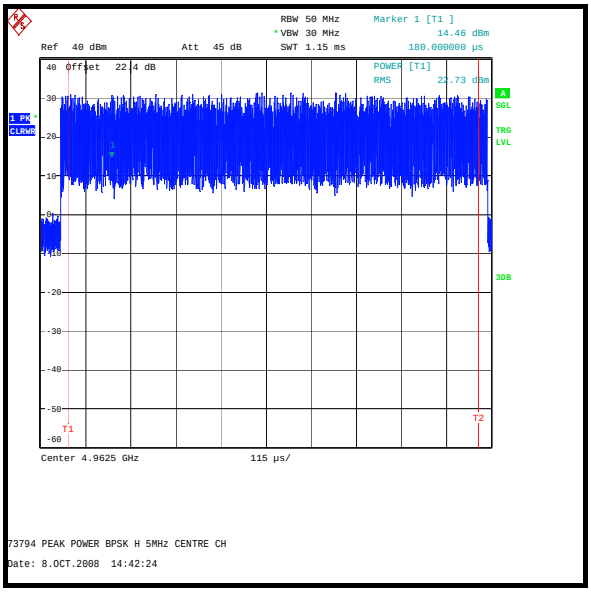

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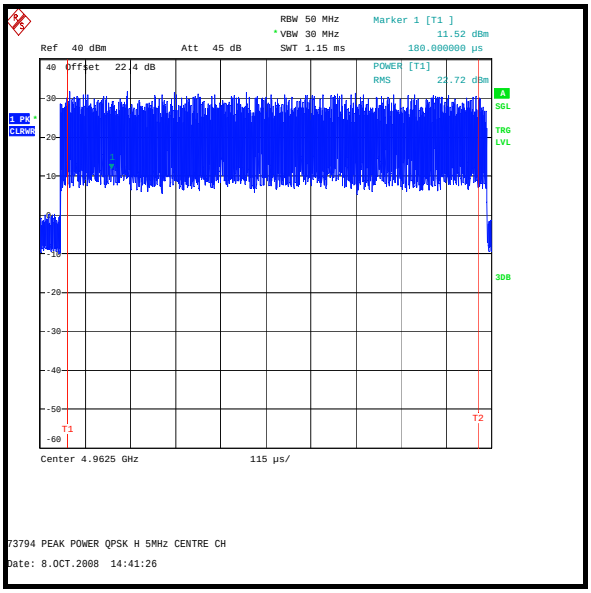
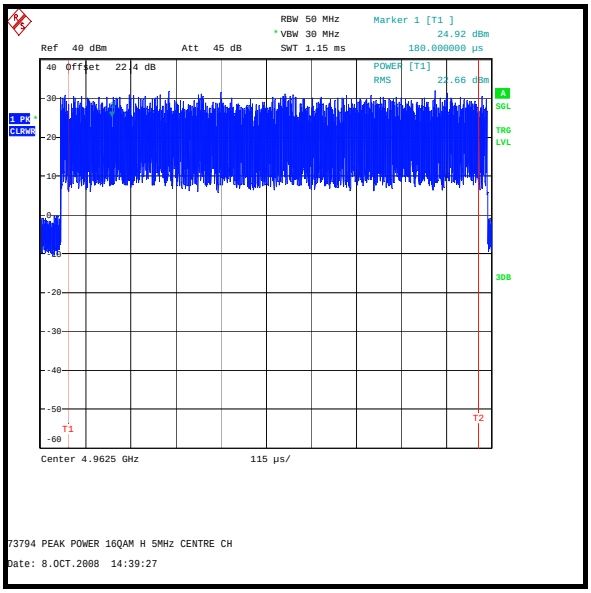
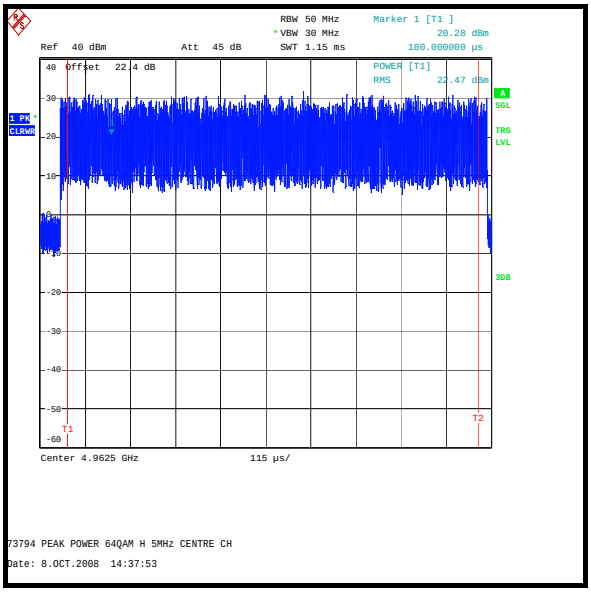
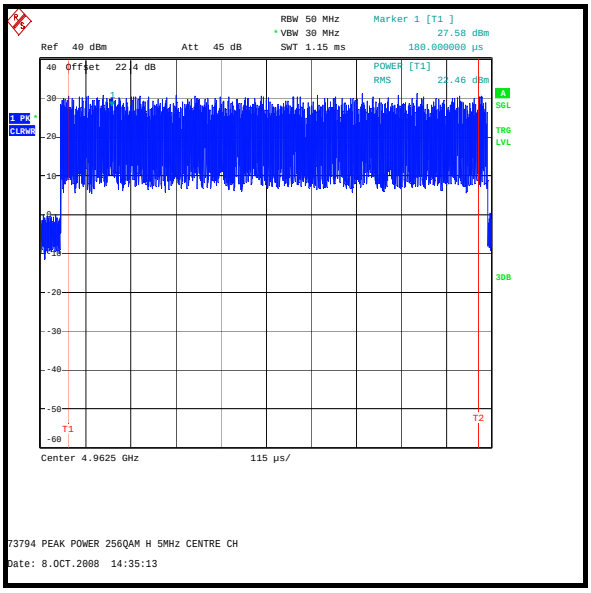


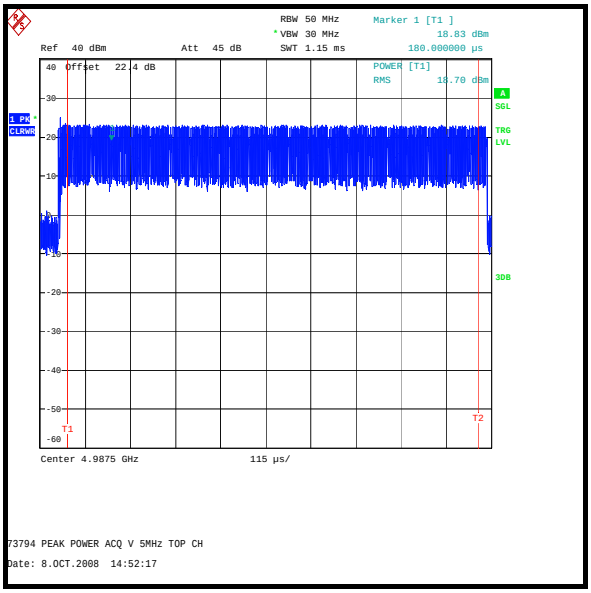
## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

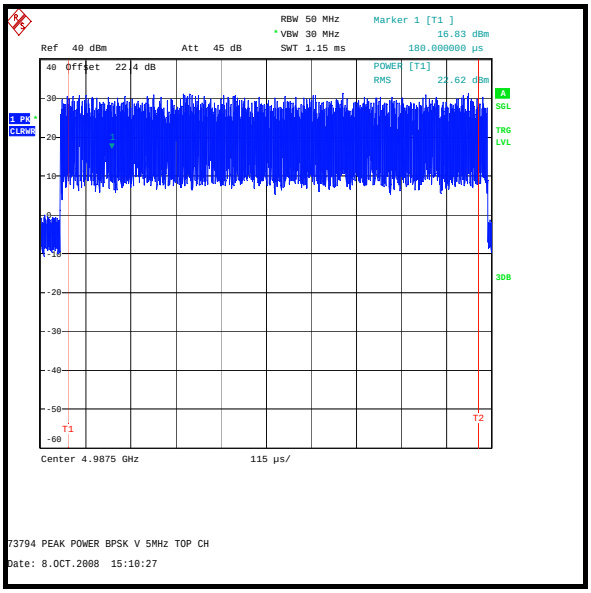
**Results:**

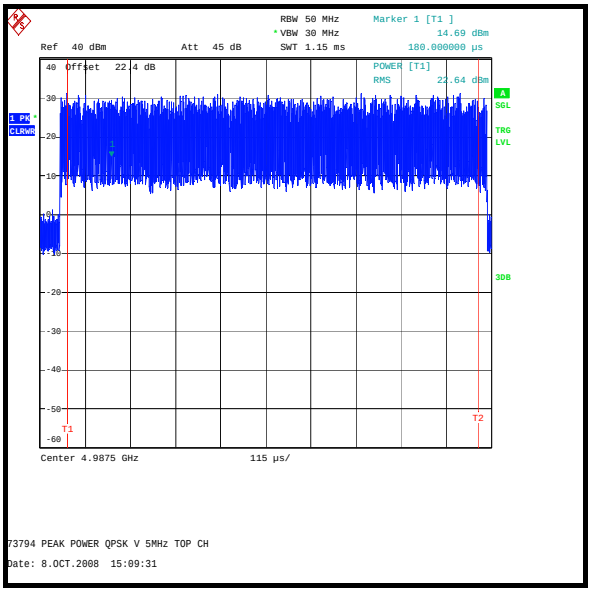
**5 MHz Channel - Top Channel**

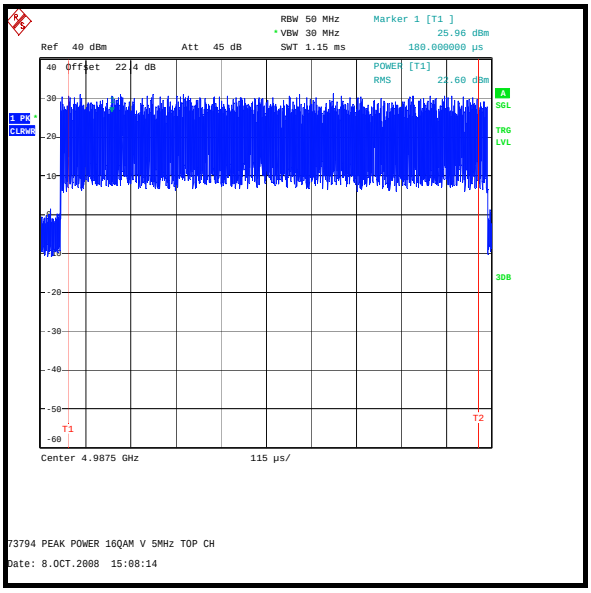
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.7 | 18.7 | 21.7 | 27.0 | 5.3 |
| BPSK | 22.8 | 22.6 | 25.7 | 27.0 | 1.3 |
| QPSK | 22.8 | 22.6 | 25.7 | 27.0 | 1.3 |
| 16QAM | 22.9 | 22.6 | 25.8 | 27.0 | 1.2 |
| 64QAM | 22.8 | 22.6 | 25.7 | 27.0 | 1.3 |
| 256QAM | 22.9 | 22.5 | 25.7 | 27.0 | 1.3 |

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



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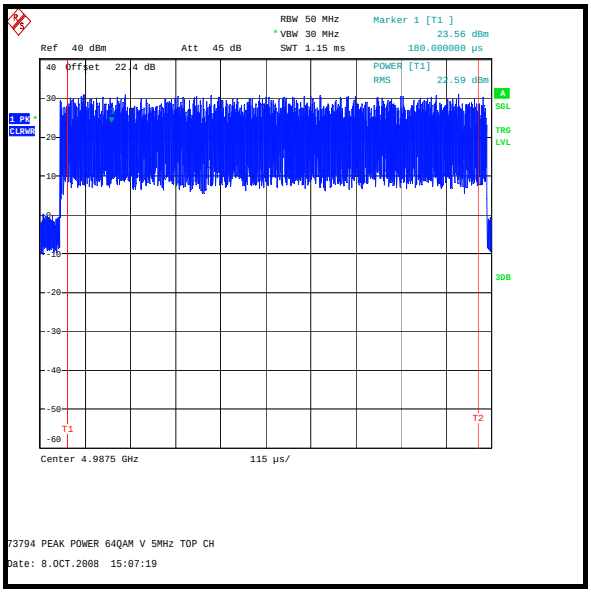
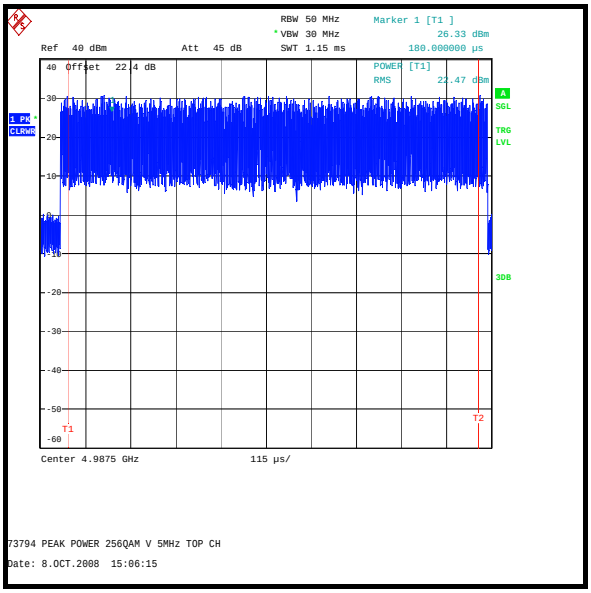
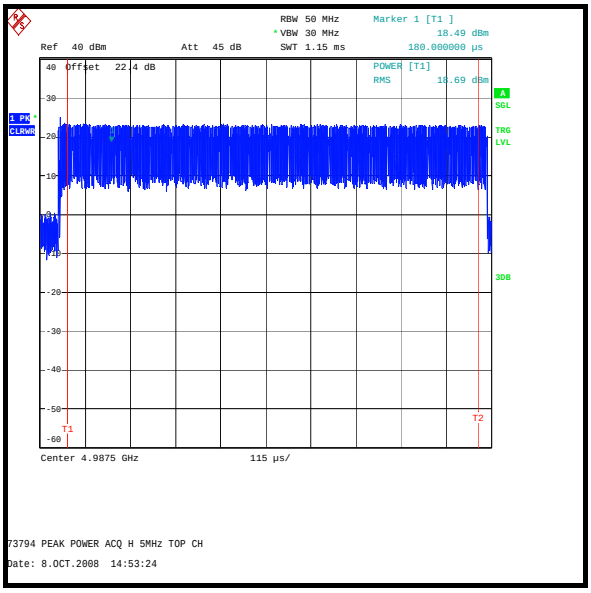
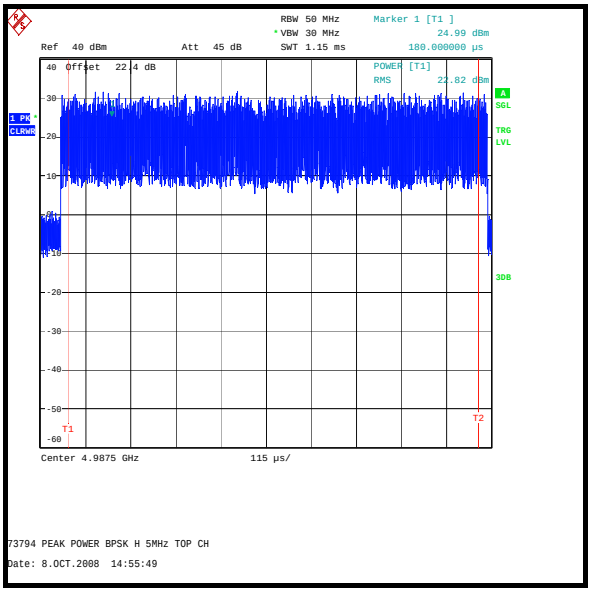
## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



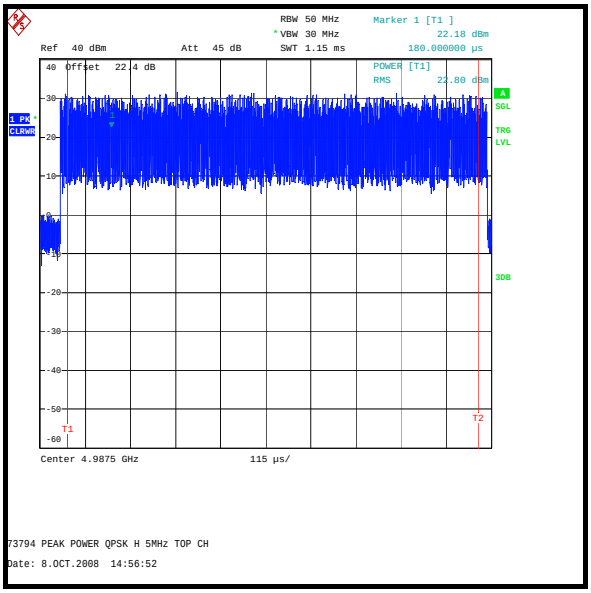



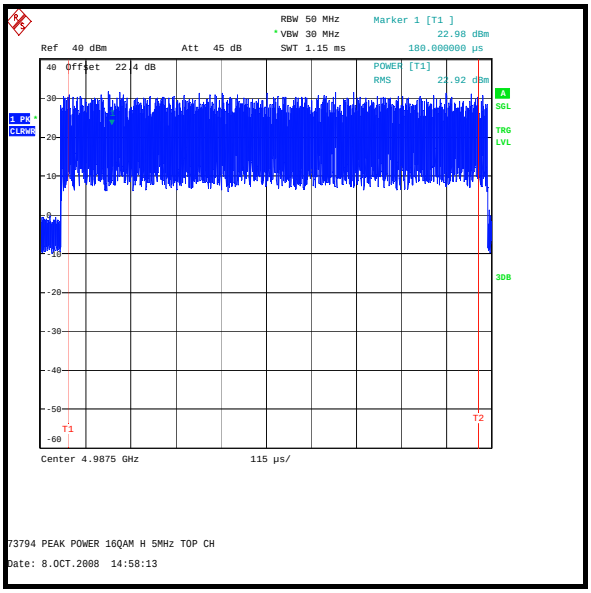



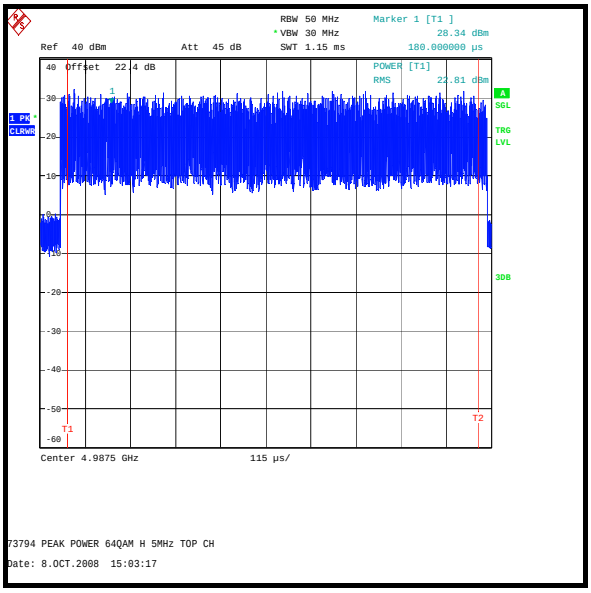
**Test of:** Motorola
PTP49600

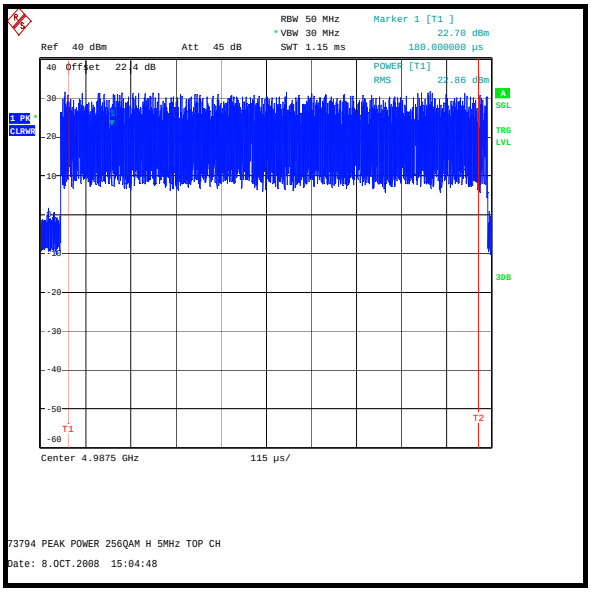
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



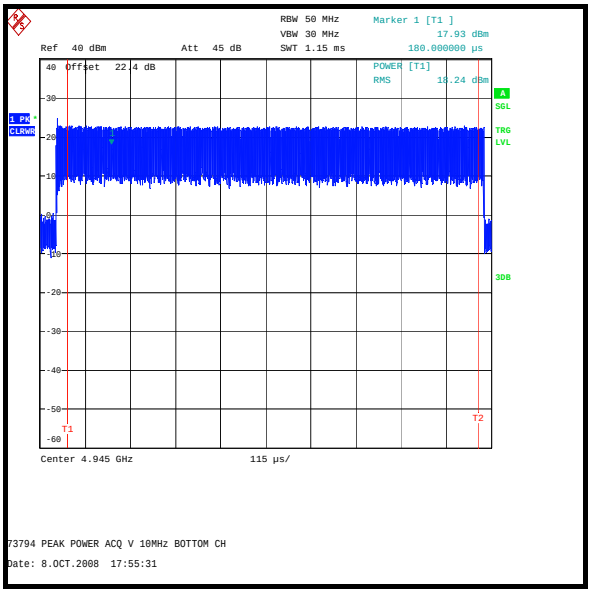
## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

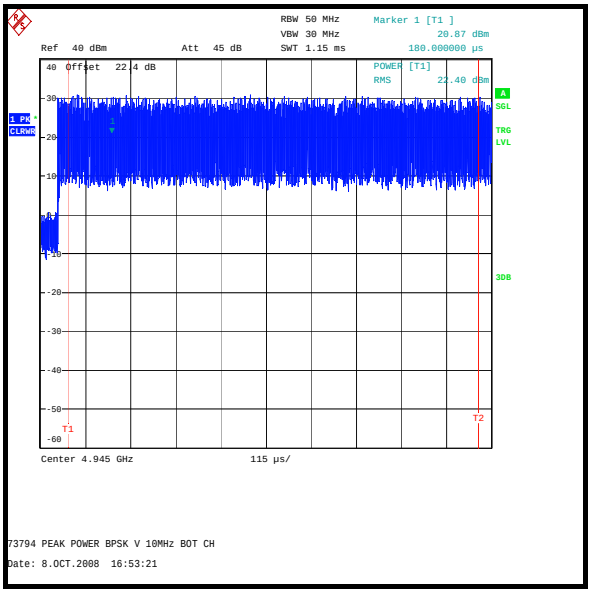
**Results:**

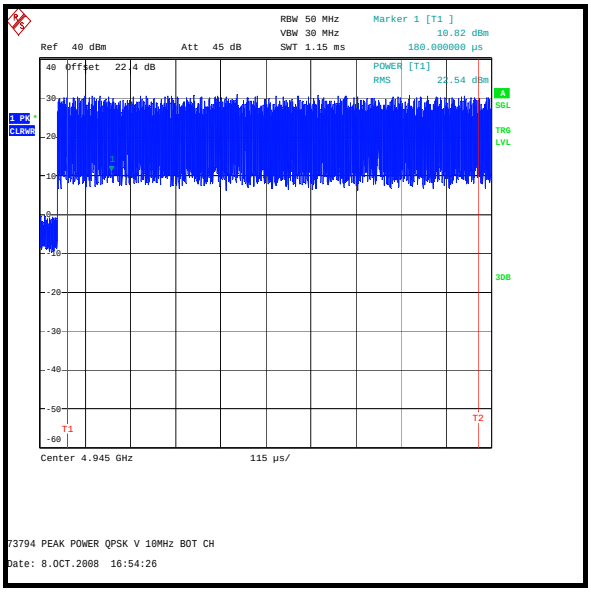
**10 MHz Channel - Bottom Channel**

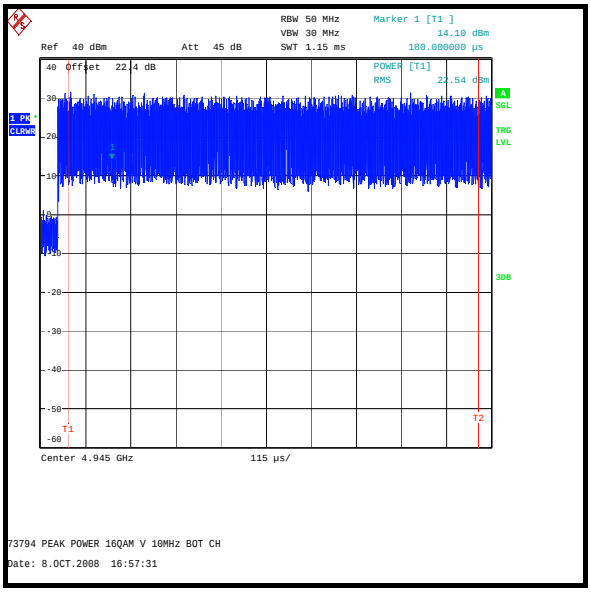
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.5 | 18.2 | 21.4 | 30.0 | 8.6 |
| BPSK | 22.6 | 22.4 | 25.5 | 30.0 | 4.5 |
| QPSK | 22.5 | 22.5 | 25.5 | 30.0 | 4.5 |
| 16QAM | 22.5 | 22.5 | 25.5 | 30.0 | 4.5 |
| 64QAM | 22.5 | 22.6 | 25.6 | 30.0 | 4.4 |
| 256QAM | 22.5 | 22.5 | 25.5 | 30.0 | 4.5 |

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



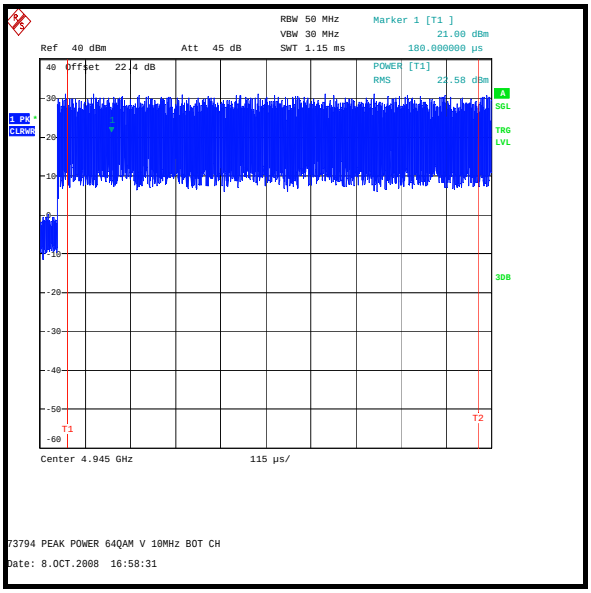



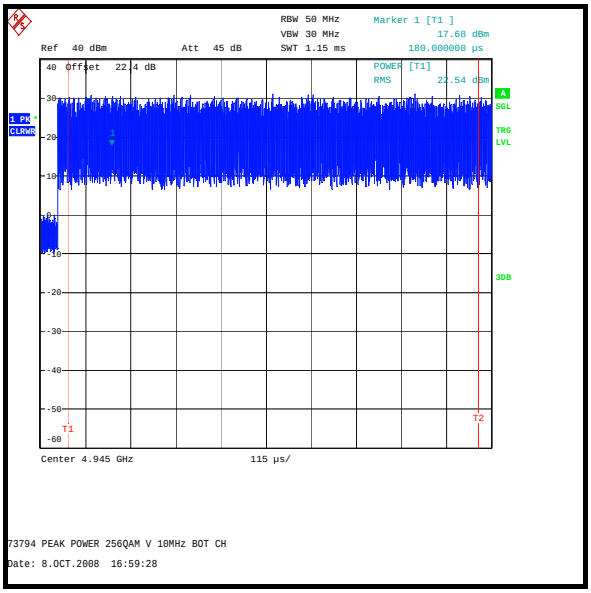



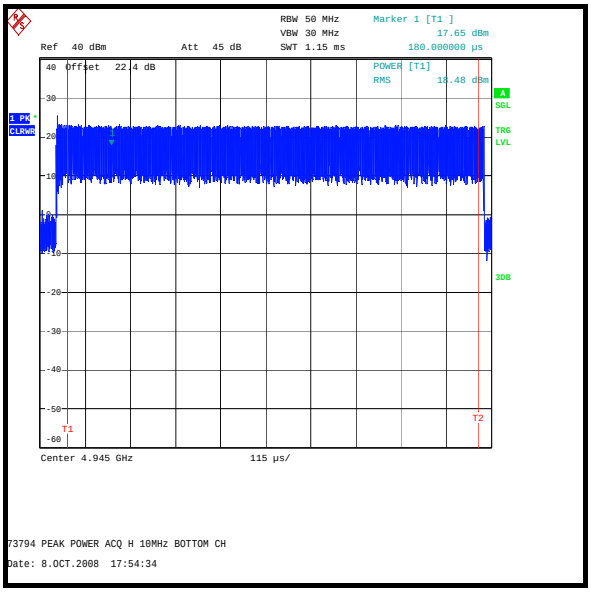



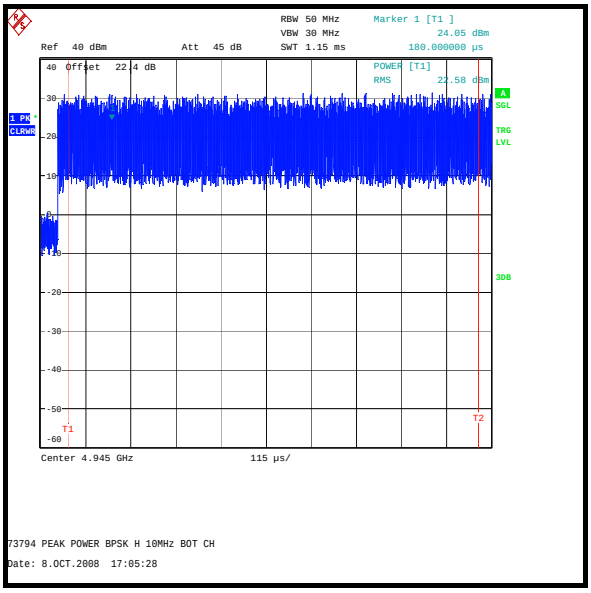
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



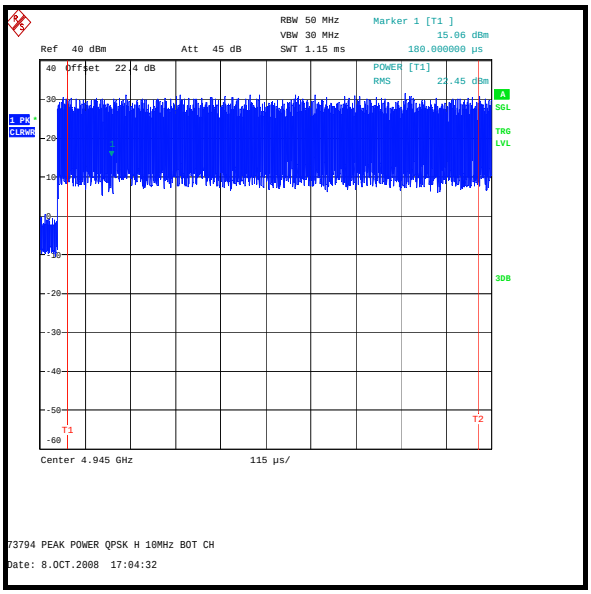



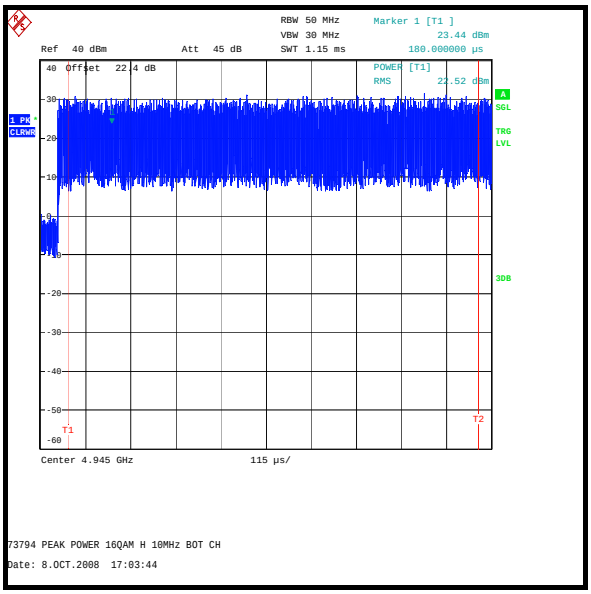



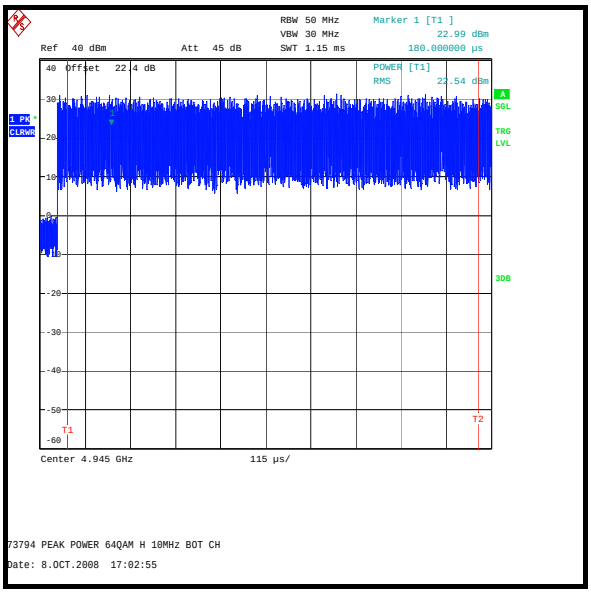



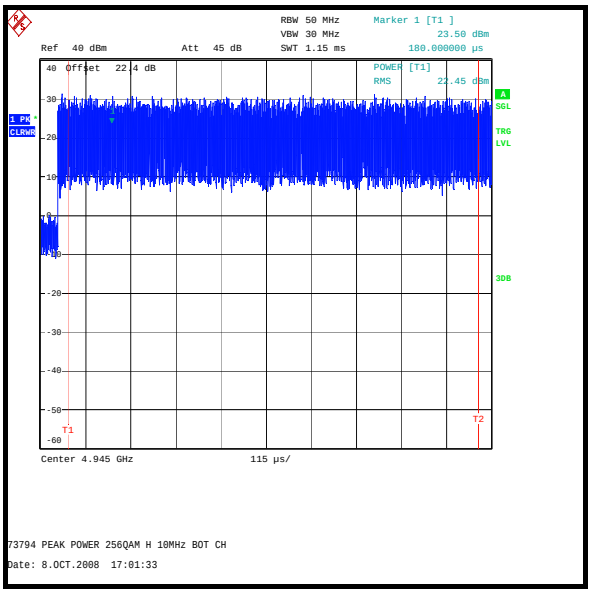
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

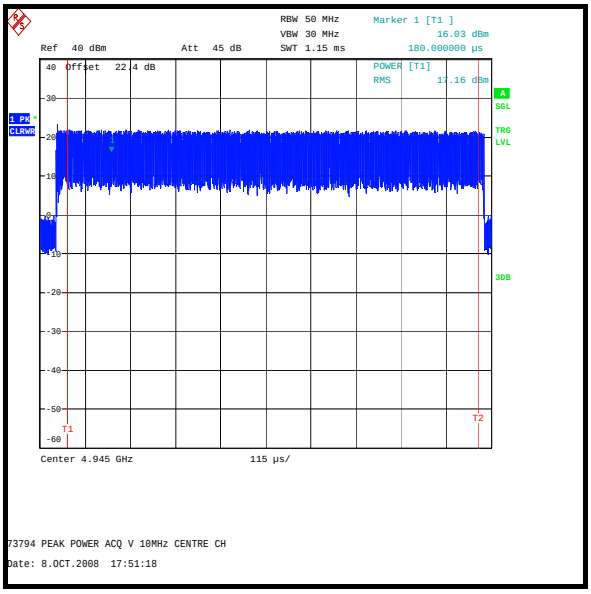
**Results:**

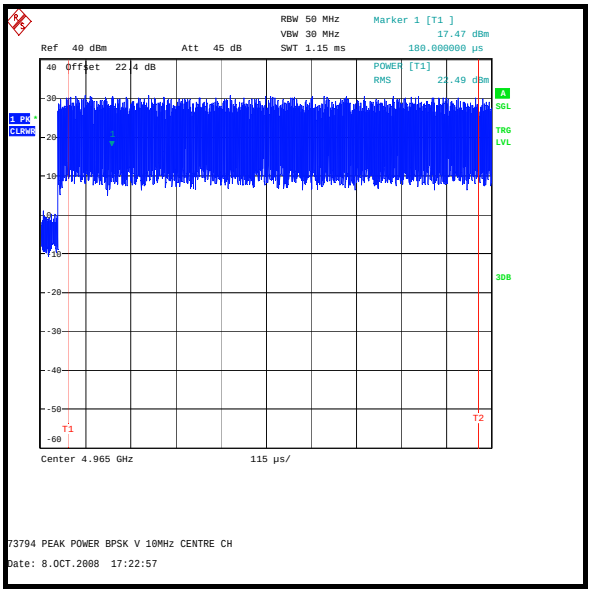
**10 MHz Channel - Centre Channel**

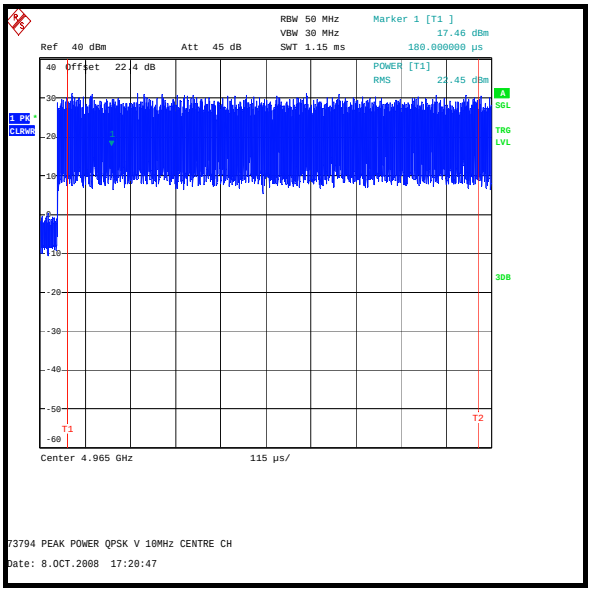
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 17.3 | 17.2 | 20.3 | 30.0 | 9.7 |
| BPSK | 22.7 | 22.5 | 25.6 | 30.0 | 4.4 |
| QPSK | 22.8 | 22.5 | 25.7 | 30.0 | 4.3 |
| 16QAM | 22.8 | 22.5 | 25.7 | 30.0 | 4.3 |
| 64QAM | 22.8 | 22.5 | 25.7 | 30.0 | 4.3 |
| 256QAM | 22.9 | 22.4 | 25.7 | 30.0 | 4.3 |

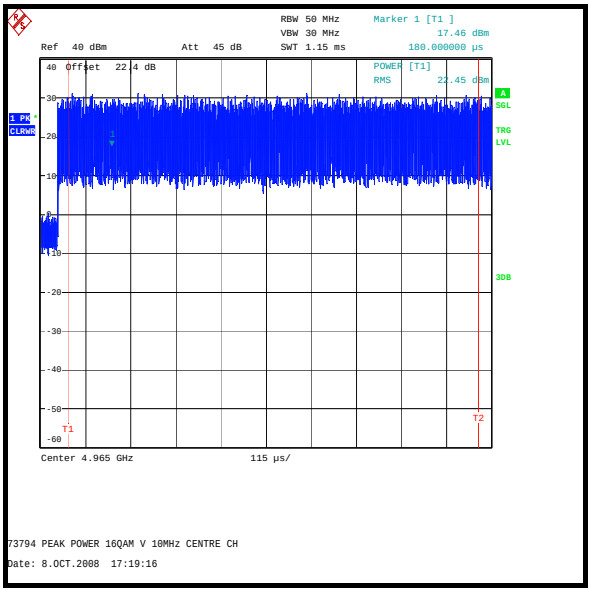
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



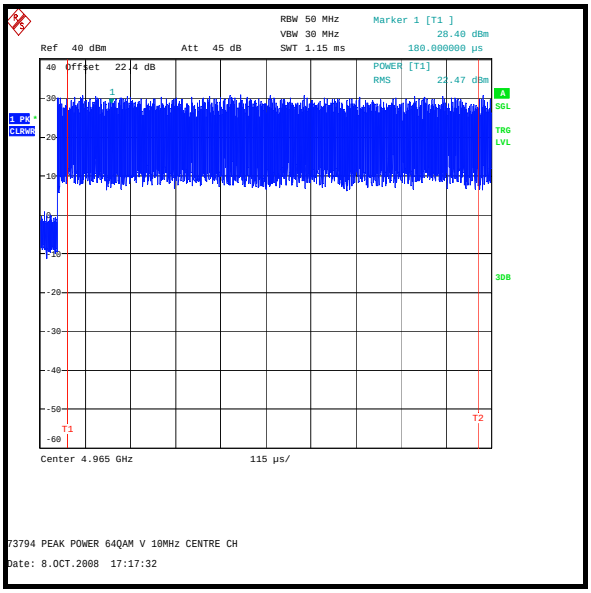



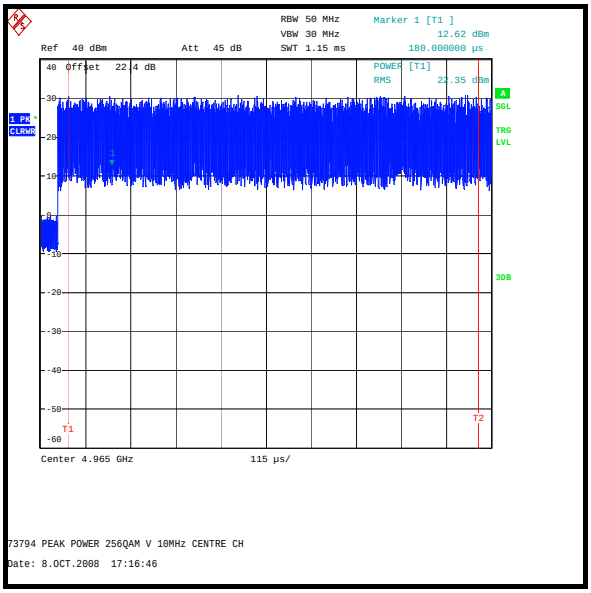



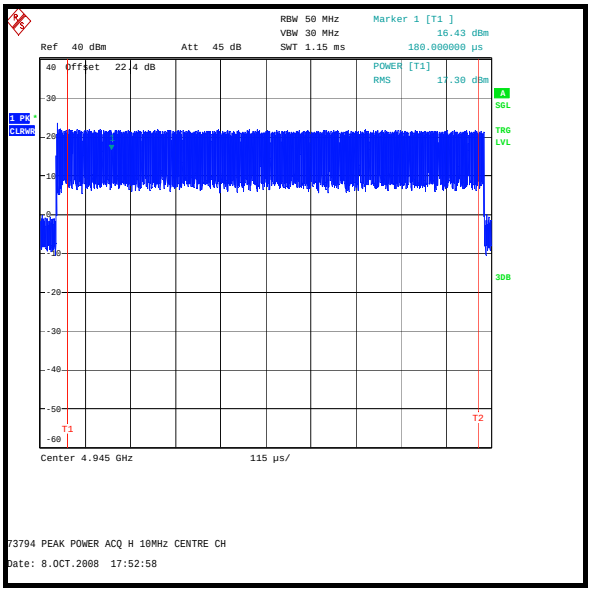
**Test of:** Motorola
PTP49600

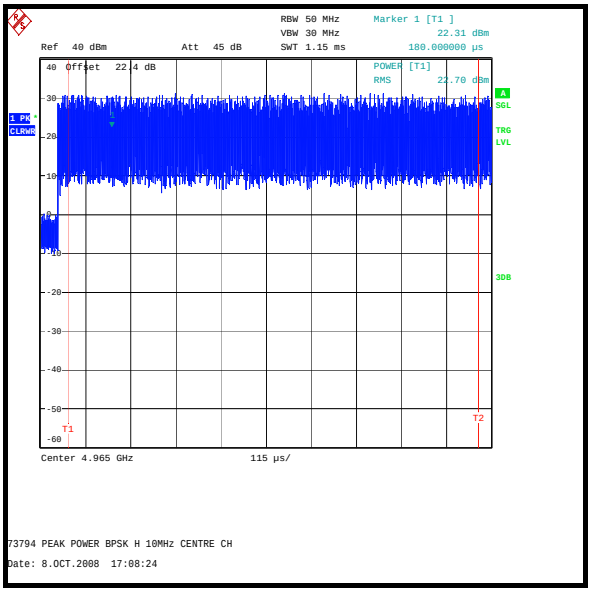
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



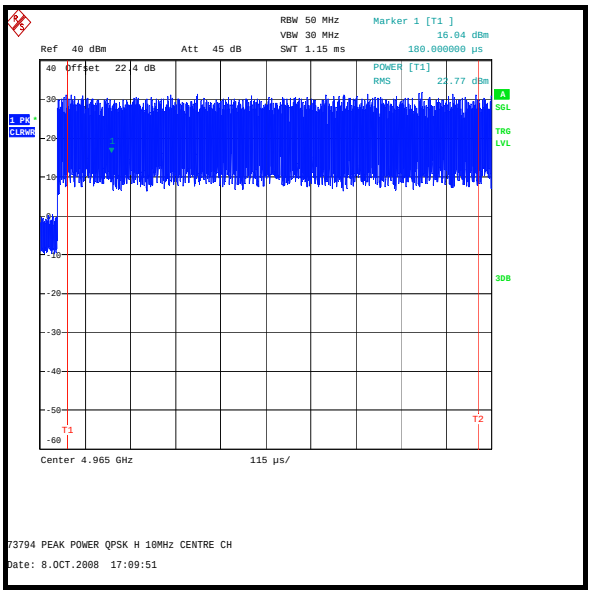



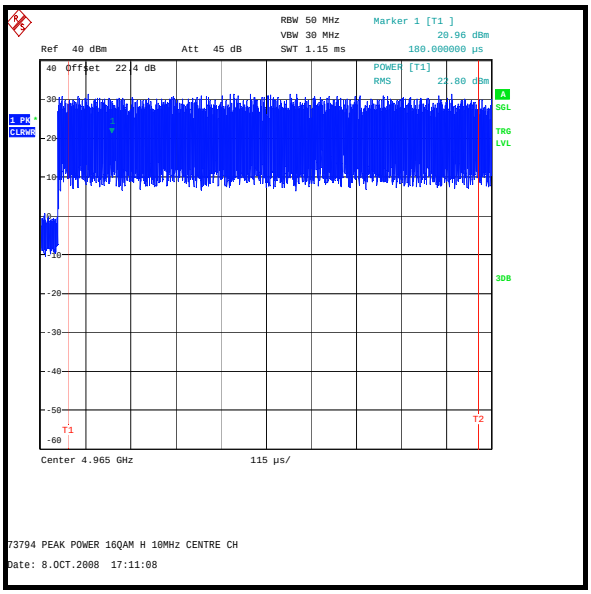



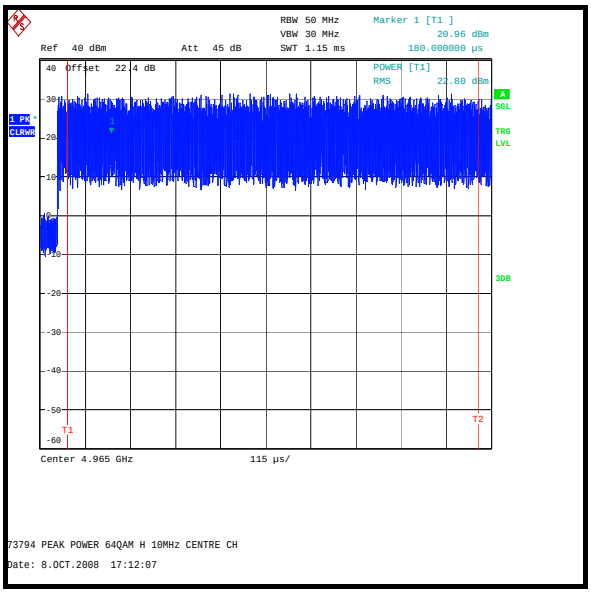



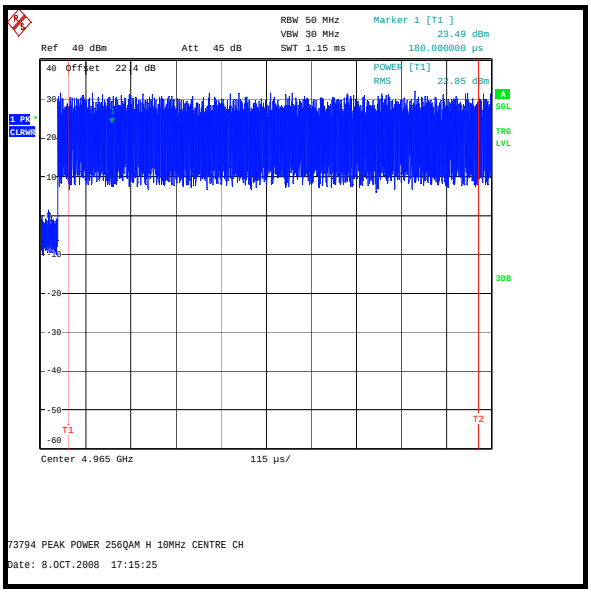
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

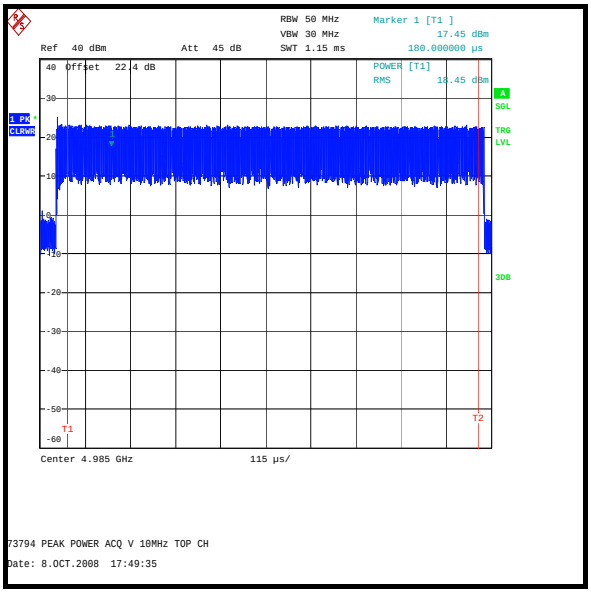
**Results:**

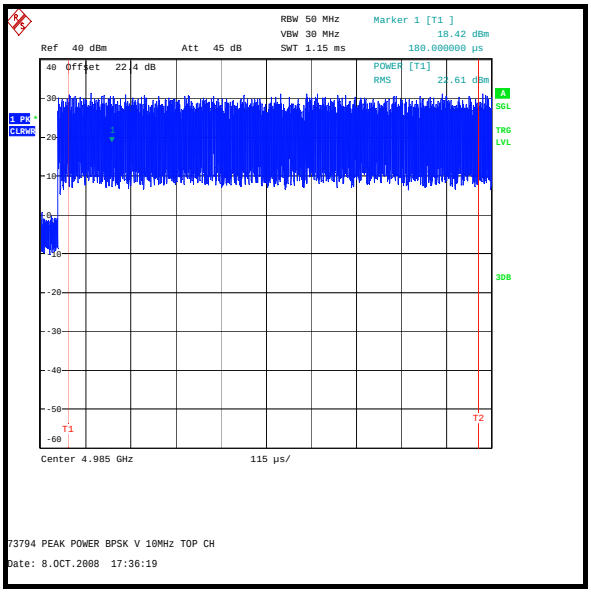
**10 MHz Channel - Top Channel**

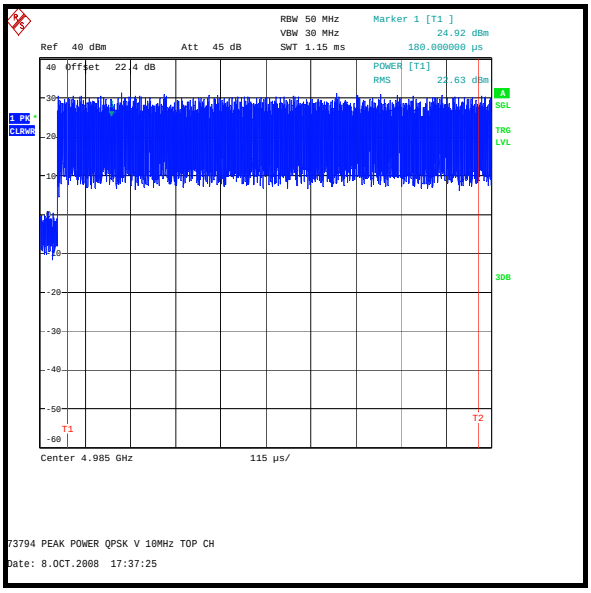
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.9 | 18.5 | 21.7 | 27.0 | 5.3 |
| BPSK | 22.6 | 22.6 | 25.6 | 27.0 | 1.4 |
| QPSK | 22.6 | 22.6 | 25.6 | 27.0 | 1.4 |
| 16QAM | 22.6 | 22.6 | 25.6 | 27.0 | 1.4 |
| 64QAM | 22.6 | 22.7 | 25.7 | 27.0 | 1.3 |
| 256QAM | 22.5 | 22.7 | 25.6 | 27.0 | 1.4 |

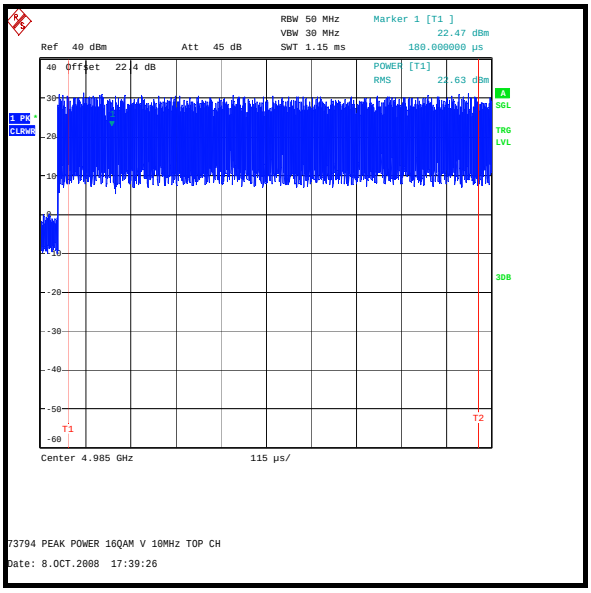
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



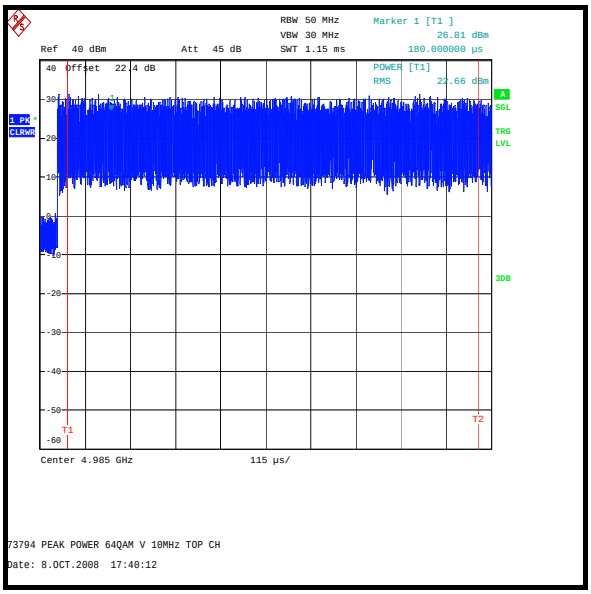



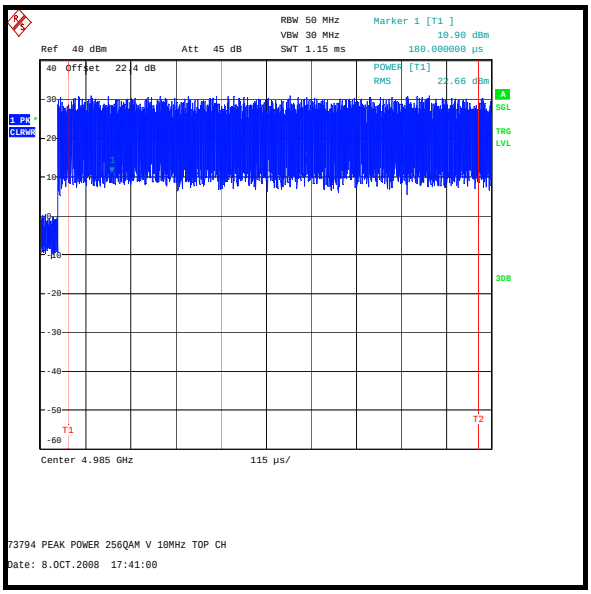



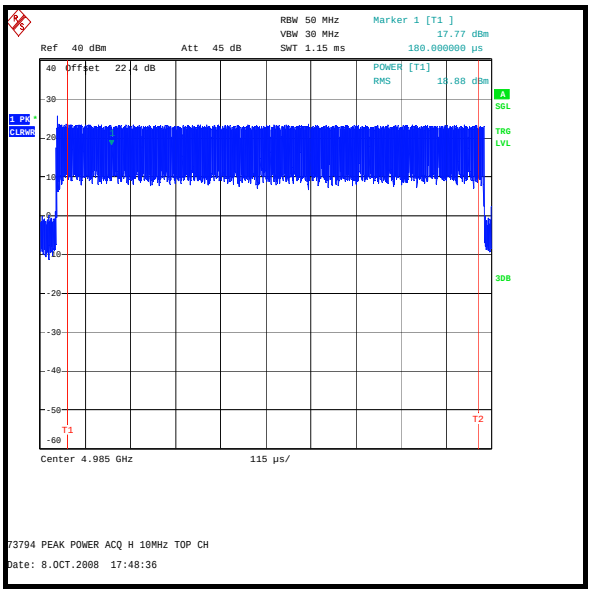



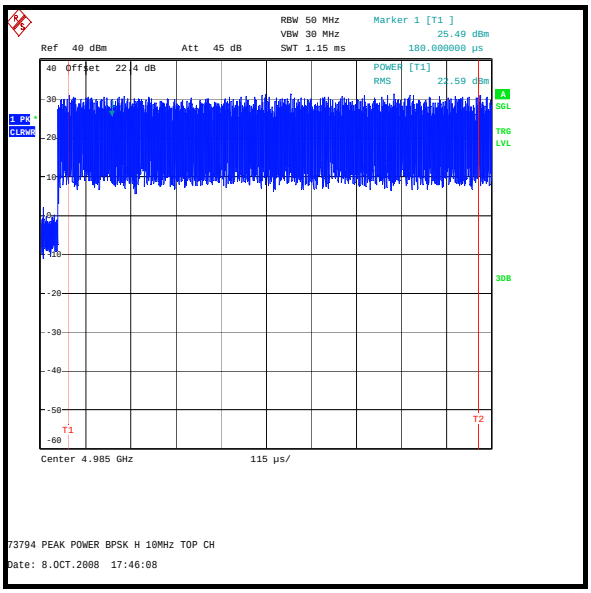
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)

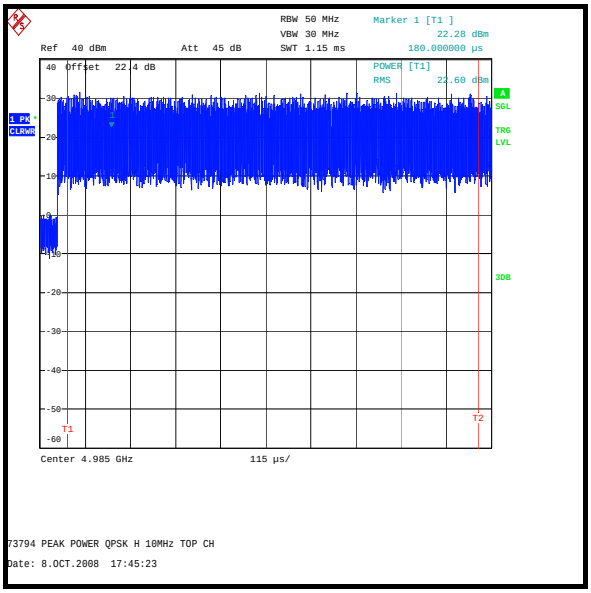


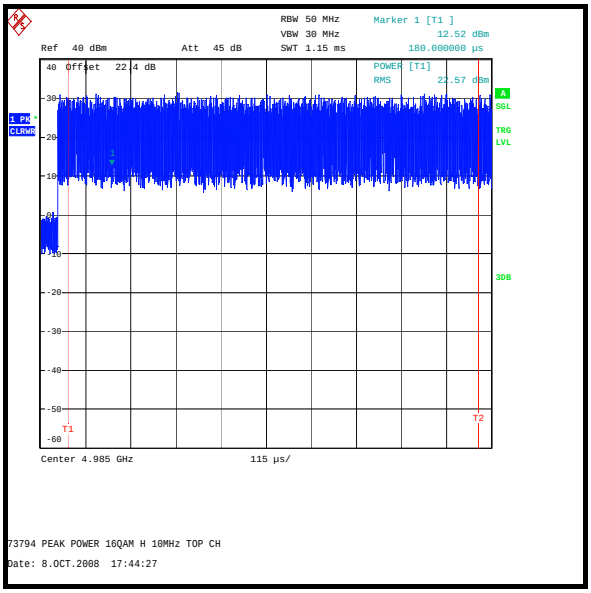



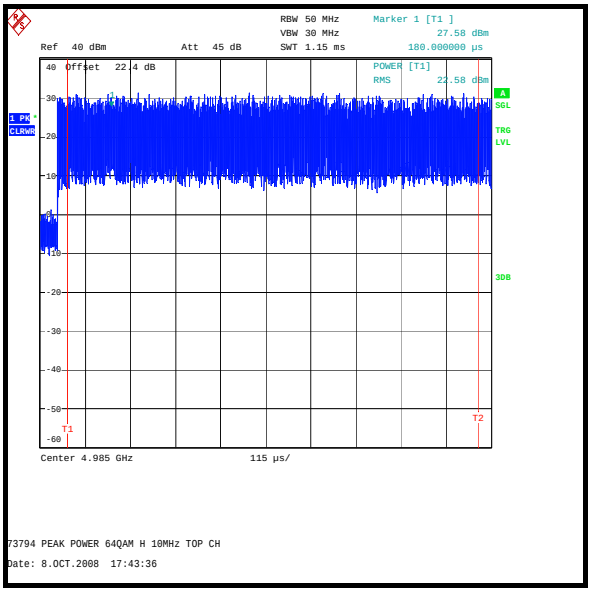



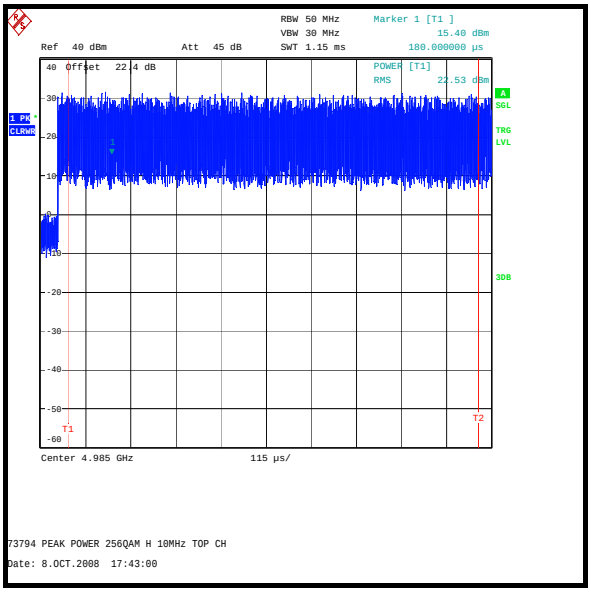



## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

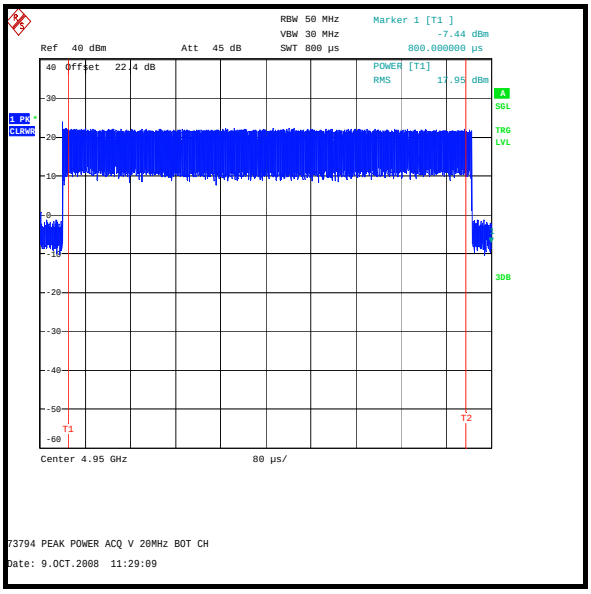
**Results:**

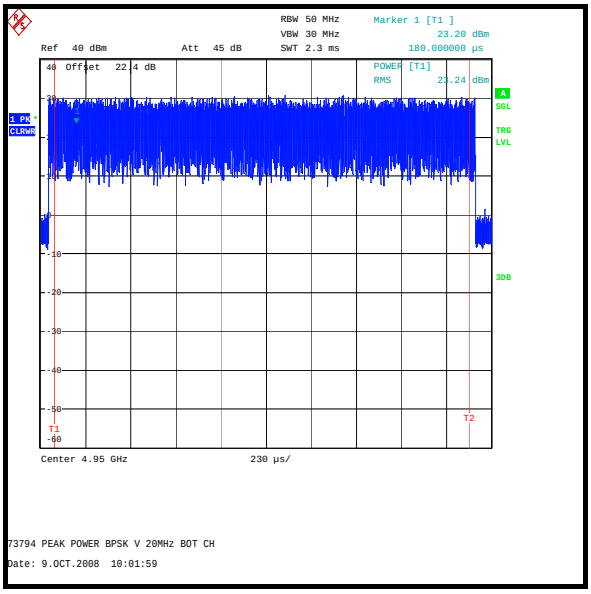
**20 MHz Channel - Bottom Channel**

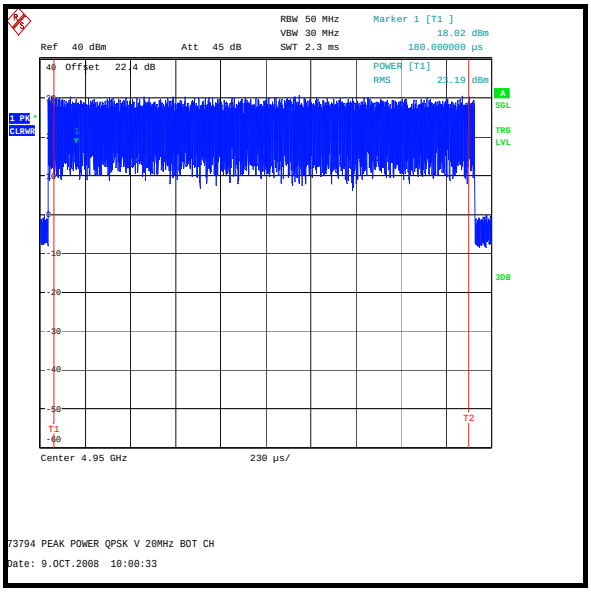
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| **Mode** | **Port H** | **Port V** | **Aggregate** | **(dBm)** | **(dB)** |
| ACQ | 18.0 | 18.0 | 21.0 | 33.0 | 12.0 |
| BPSK | 23.2 | 23.3 | 26.3 | 33.0 | 6.7 |
| QPSK | 23.2 | 23.3 | 26.3 | 33.0 | 6.7 |
| 16QAM | 23.2 | 23.3 | 26.3 | 33.0 | 6.7 |
| 64QAM | 23.2 | 23.3 | 26.3 | 33.0 | 6.7 |
| 256QAM | 23.2 | 23.3 | 26.3 | 33.0 | 6.7 |

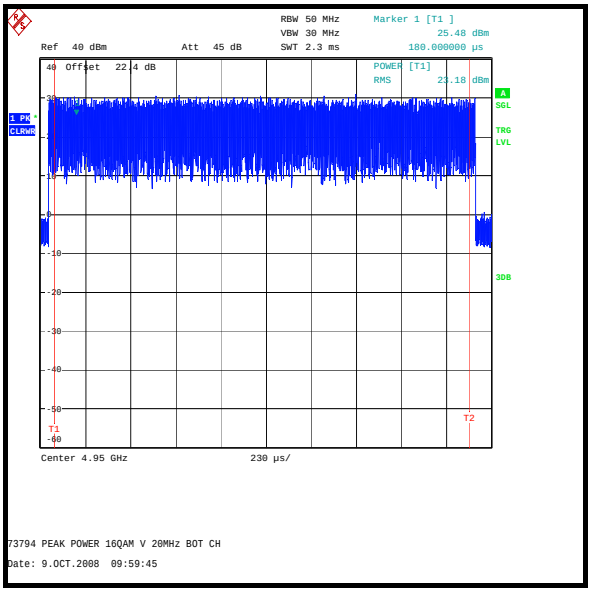
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



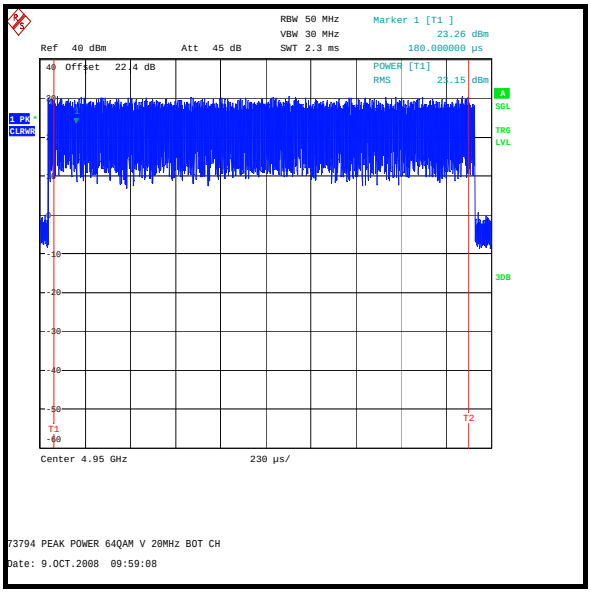



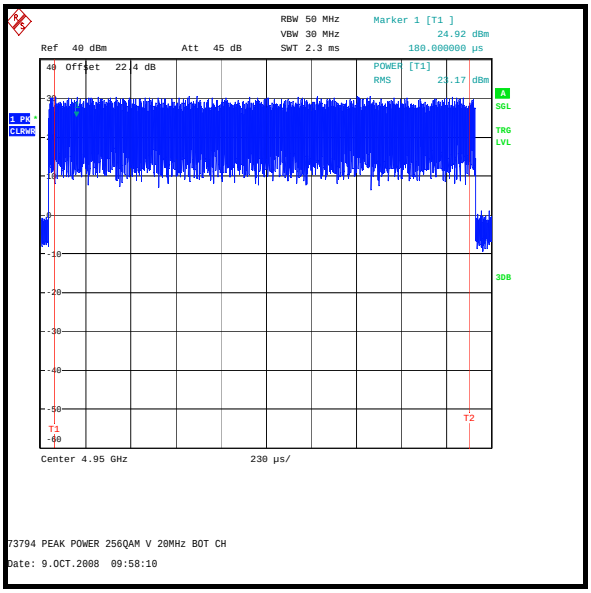



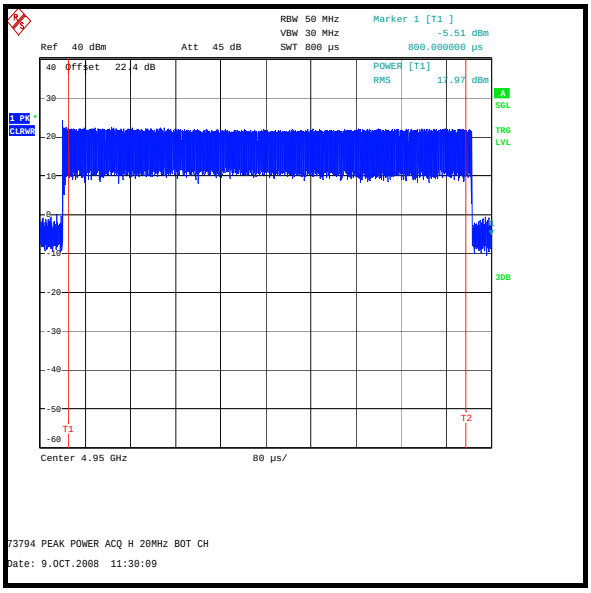
**Test of:** Motorola
PTP49600

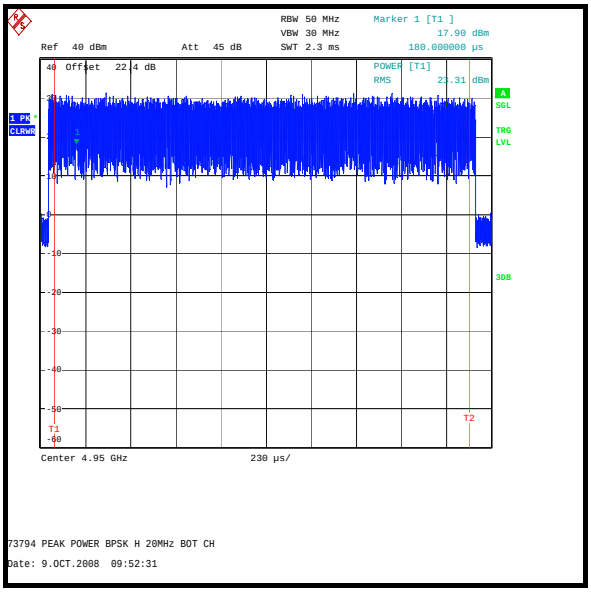
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



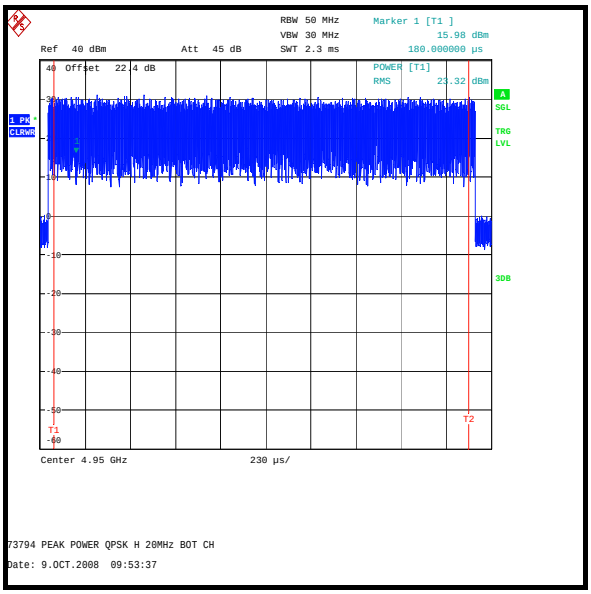



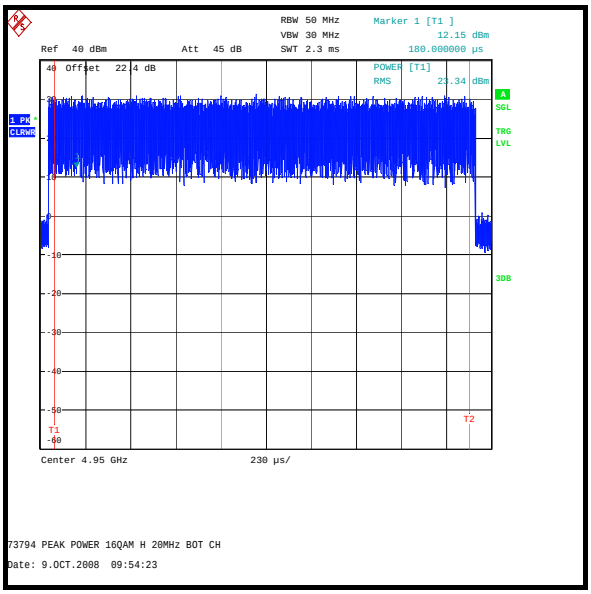



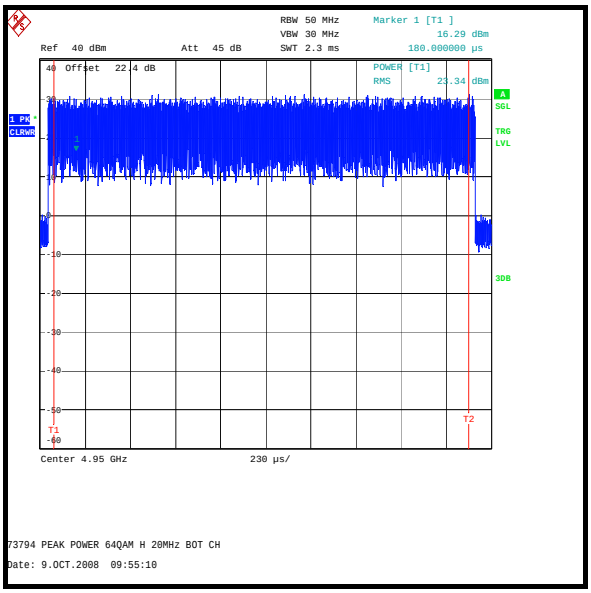



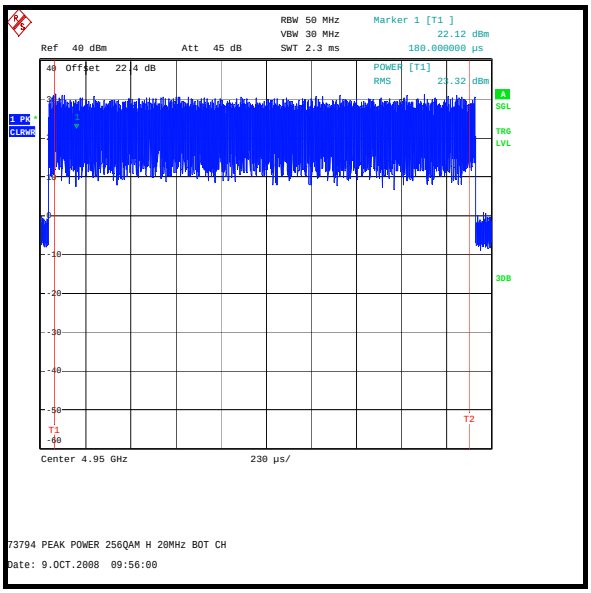
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

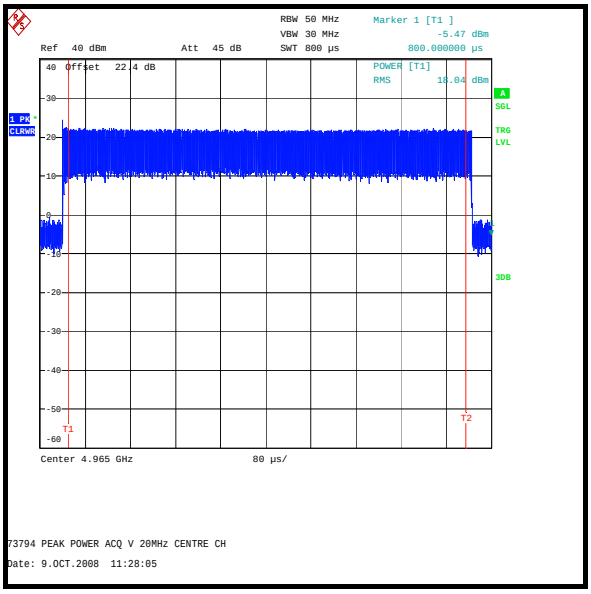
**Results:**

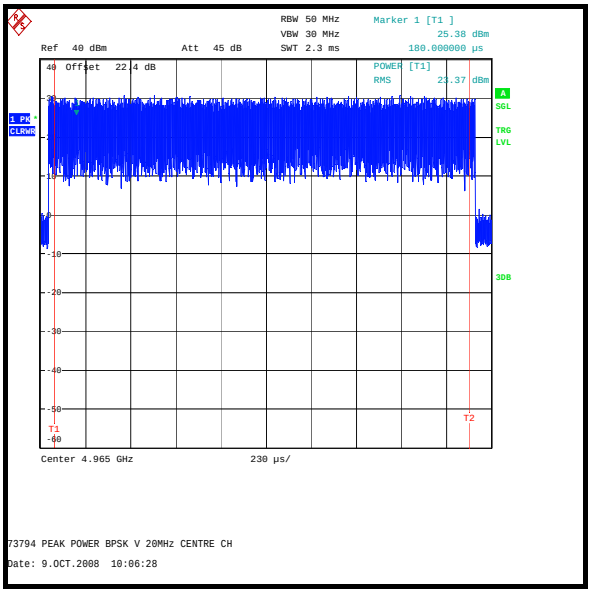
**20 MHz Channel - Centre Channel**

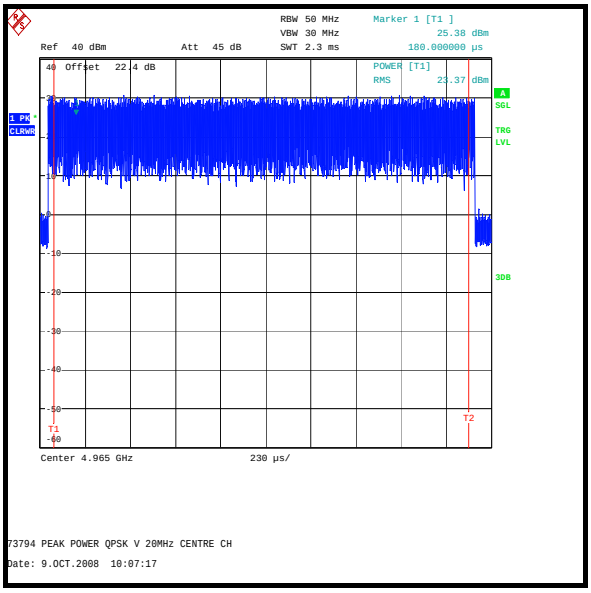
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.6 | 18.0 | 21.3 | 33.0 | 11.7 |
| BPSK | 23.7 | 23.4 | 26.6 | 33.0 | 6.4 |
| QPSK | 23.7 | 23.4 | 26.6 | 33.0 | 6.4 |
| 16QAM | 23.7 | 23.4 | 26.6 | 33.0 | 6.4 |
| 64QAM | 23.7 | 23.4 | 26.6 | 33.0 | 6.4 |
| 256QAM | 23.7 | 23.4 | 26.6 | 33.0 | 6.4 |

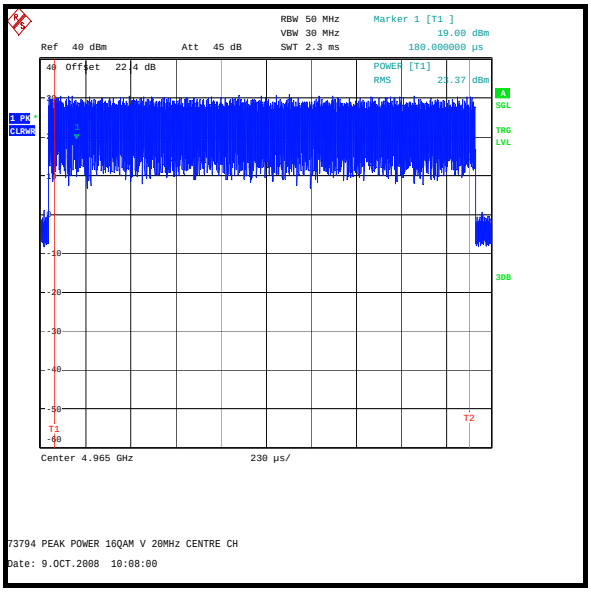
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)

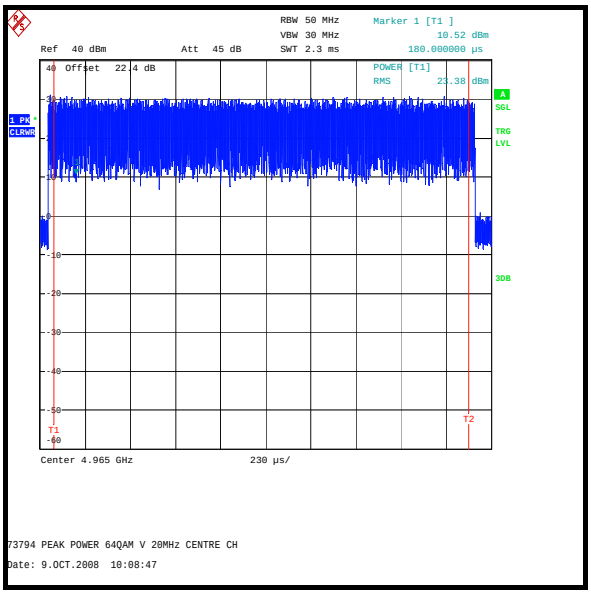


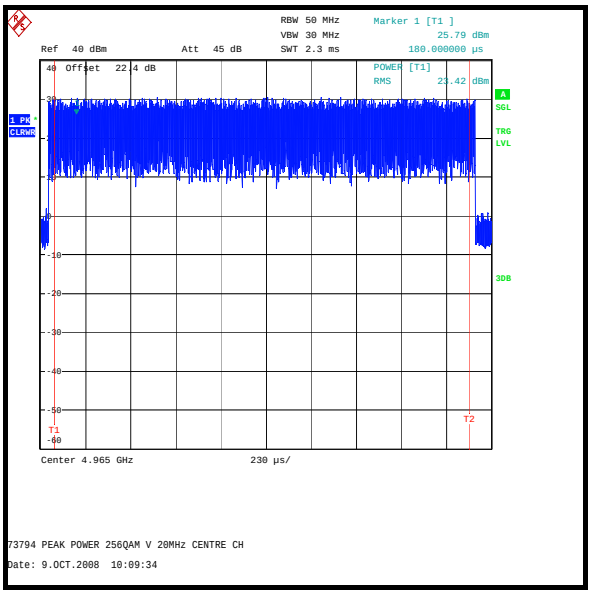



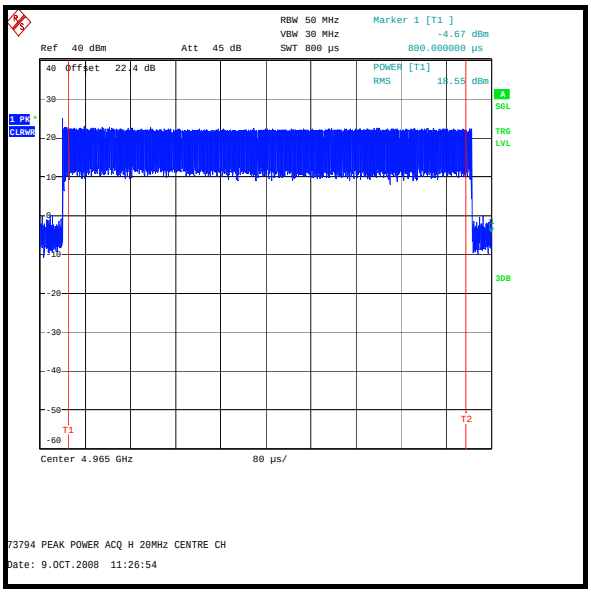



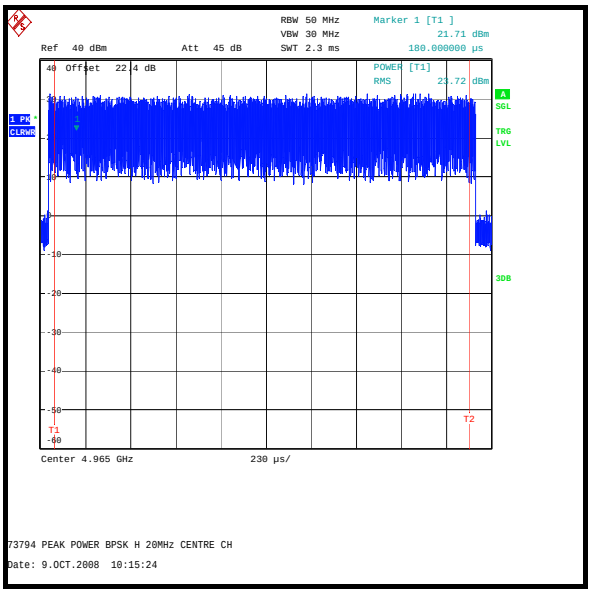



## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



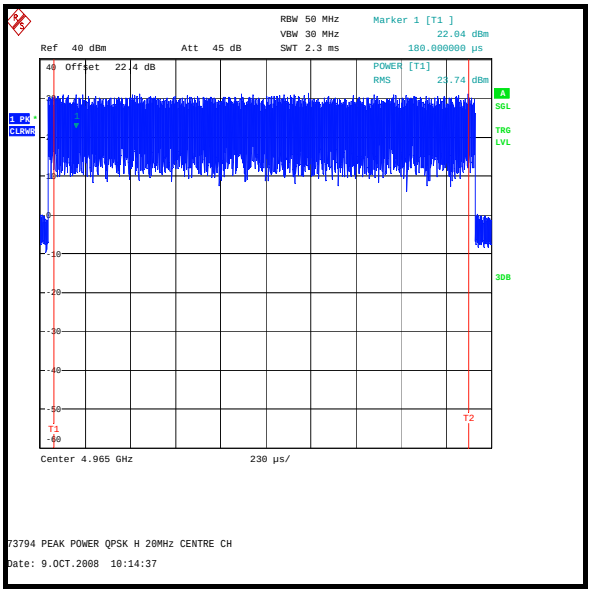



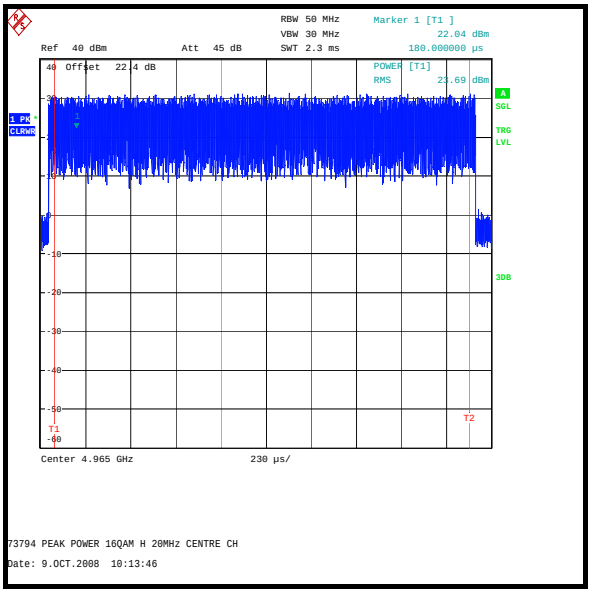



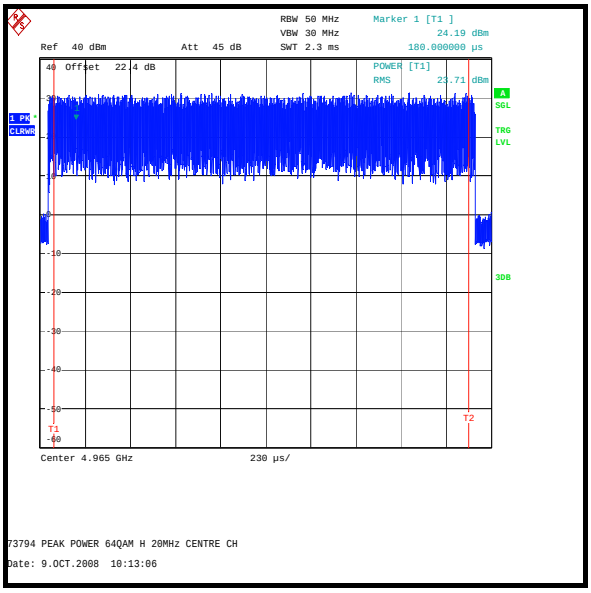



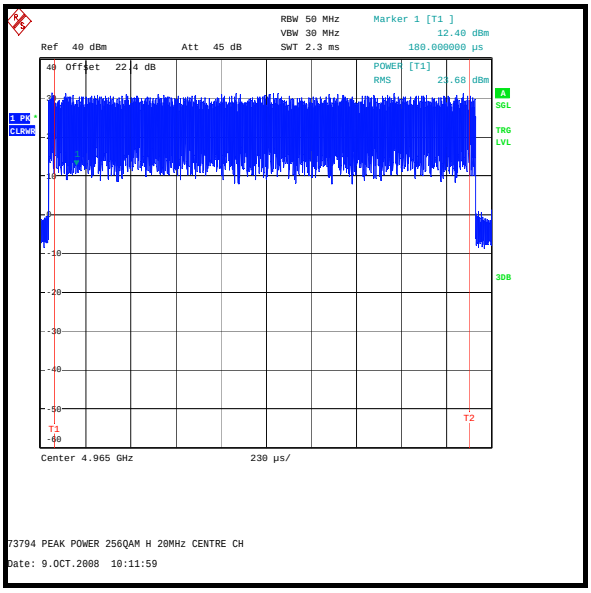
**Test of:** Motorola
PTP49600
**To:** FCC Part 90: 2007, RSS-Gen Issue 2 June 2007
and RSS-111 Issue 2 June 2007

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



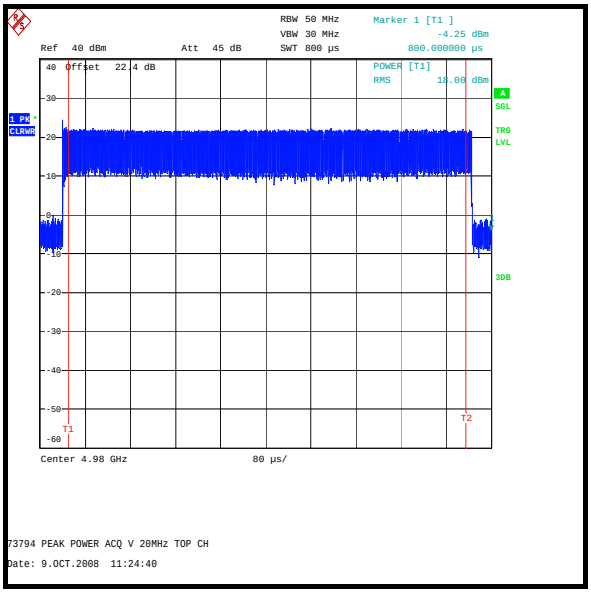
## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046

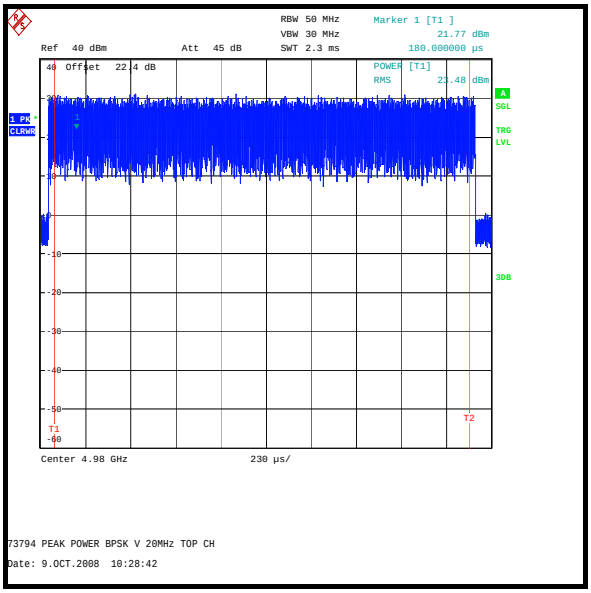
**Results:**

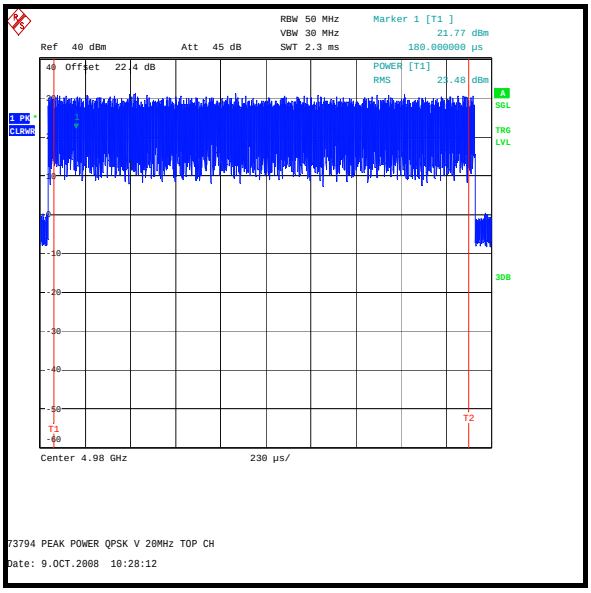
**20 MHz Channel - Top Channel**

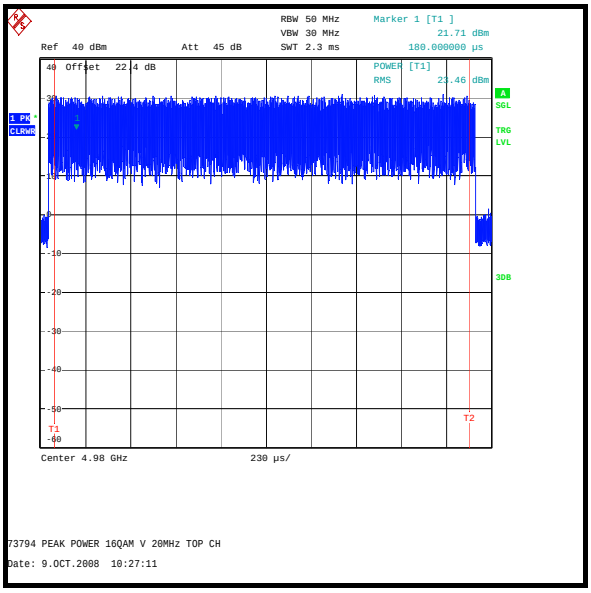
| Maximum Output Power (dBm) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 18.4 | 18.0 | 21.2 | 33.0 | 11.8 |
| BPSK | 23.9 | 23.5 | 26.7 | 33.0 | 6.3 |
| QPSK | 23.9 | 23.5 | 26.7 | 33.0 | 6.3 |
| 16QAM | 23.8 | 23.5 | 26.7 | 33.0 | 6.3 |
| 64QAM | 23.9 | 23.5 | 26.7 | 33.0 | 6.3 |
| 256QAM | 23.9 | 23.4 | 26.7 | 33.0 | 6.3 |

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



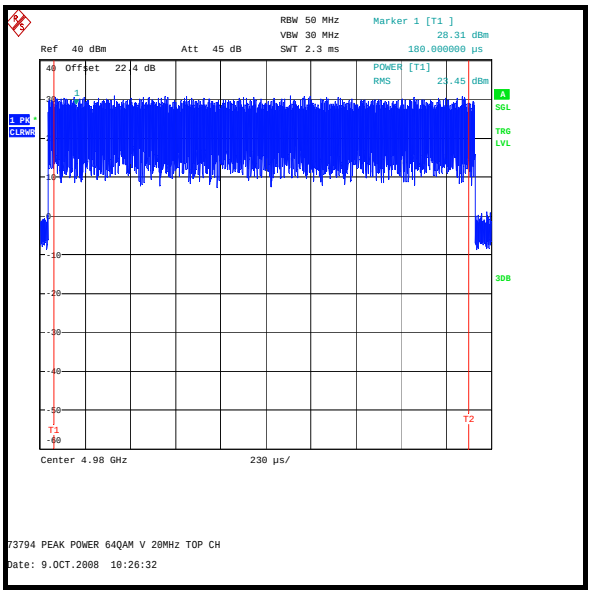



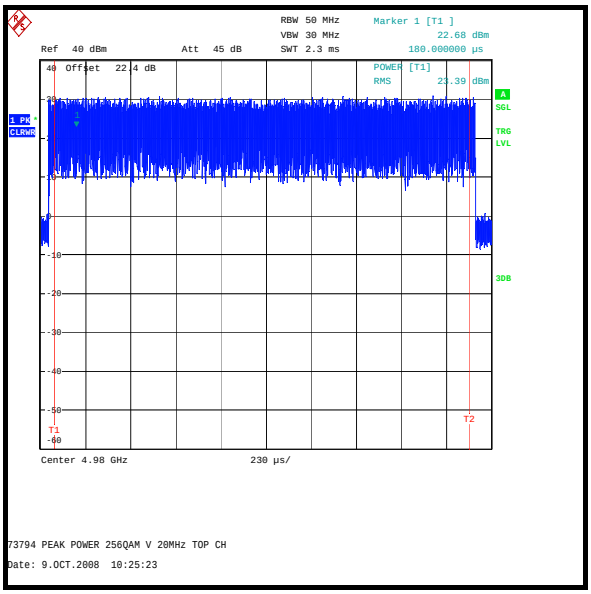



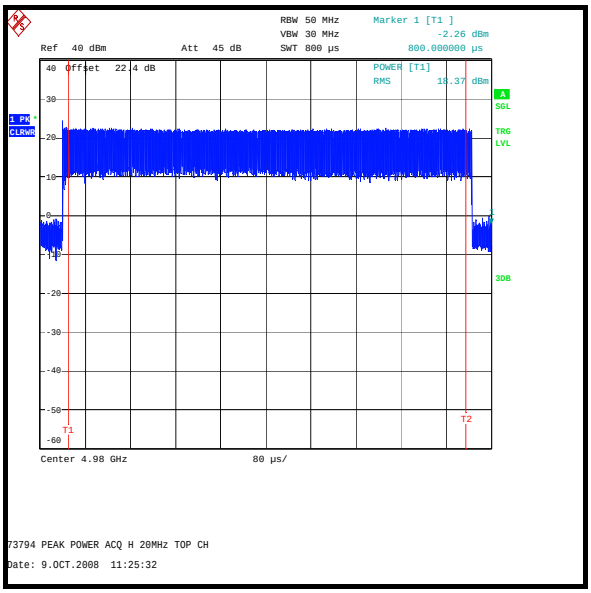



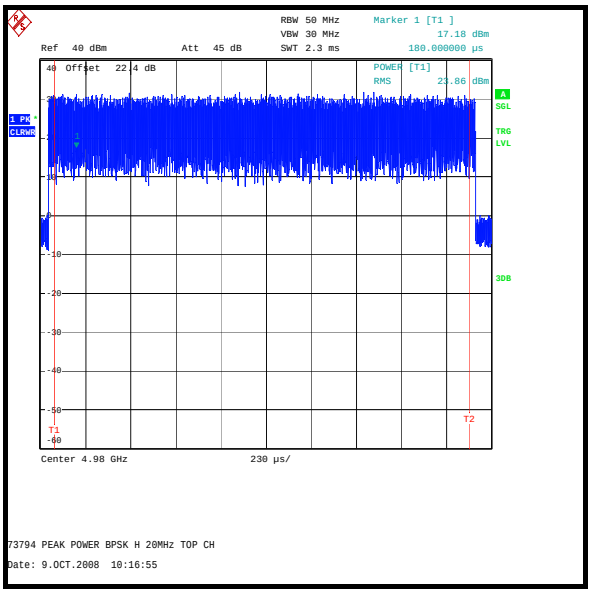

*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)



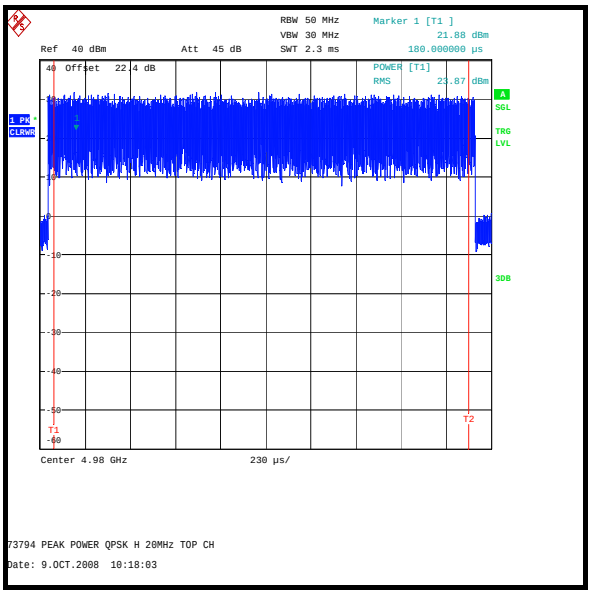



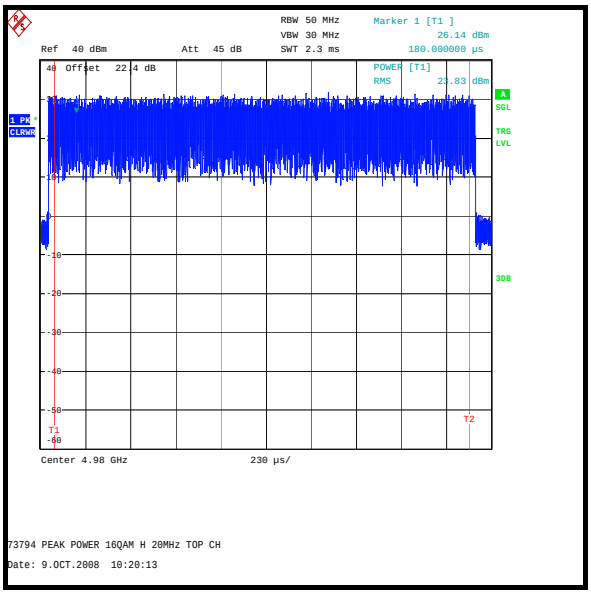



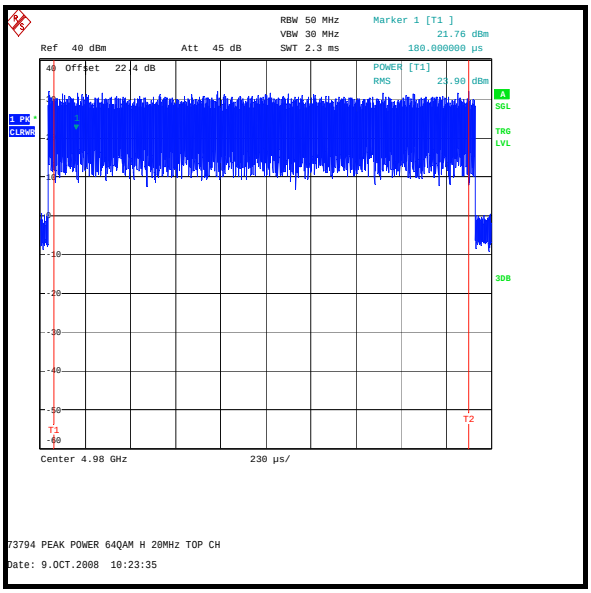



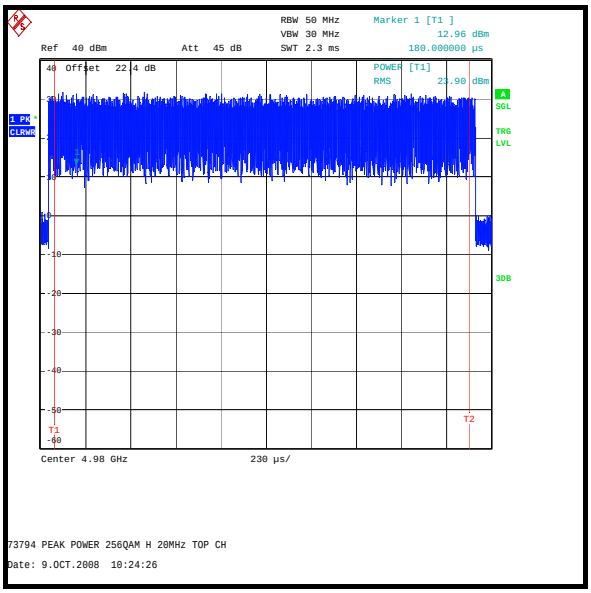

*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

## Transmitter Peak Carrier Output Power (Conducted) Sections 90.205/90.1215(a)/2.1046 (Continued)




*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

## 7.2.2. Transmitter Peak Power Spectral Density (Conducted): Sections 90.205/90.1215(a)/2.1046

Ambient Temperature: 22ºC Relative Humidity: 49%

The transmitter peak power spectral density was measured by setting the spectrum analyser resolution bandwidth to the 1MHz and video bandwidth to 3MHz. The EUT was operated at maximum power and the result was read directly from the display as dBm/MHz.

**Results:**

**5 MHz Channel - Bottom Channel**

| Peak Power Spectral Density (dBm/MHz) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 16.5 | 16.0 | 19.3 | 21.0 | 1.7 |
| BPSK | 16.4 | 16.1 | 19.3 | 21.0 | 1.7 |
| QPSK | 16.4 | 16.1 | 19.3 | 21.0 | 1.7 |
| 16QAM | 16.5 | 16.0 | 19.3 | 21.0 | 1.7 |
| 64QAM | 16.4 | 16.1 | 19.3 | 21.0 | 1.7 |
| 256QAM | 16.3 | 16.2 | 19.3 | 21.0 | 1.7 |

**5 MHz Channel - Centre Channel**

| Peak Power Spectral Density (dBm/MHz) | | | | Limit | Margin |
|---|---|---|---|---|---|
| Mode | Port H | Port V | Aggregate | (dBm) | (dB) |
| ACQ | 16.4 | 16.4 | 19.4 | 21.0 | 1.6 |
| BPSK | 16.6 | 16.2 | 19.4 | 21.0 | 1.6 |
| QPSK | 16.6 | 16.2 | 19.4 | 21.0 | 1.6 |
| 16QAM | 16.6 | 16.1 | 19.4 | 21.0 | 1.6 |
| 64QAM | 16.7 | 16.1 | 19.4 | 21.0 | 1.6 |
| 256QAM | 16.5 | 16.3 | 19.4 | 21.0 | 1.6 |