# EXHIBIT VI. Supplemental Test Report For New Certification

# Of A Previously Certified OEM Module

FCC ID: AZ489FT7007

HDT 600 Handheld Data Terminal

Certification Under Part 90

Prepared On Behalf Of

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# Supplemental Test Report

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Note: *Please refer to the original Certification data for FCC ID:* AZ489FT5796, *uploaded separately with this application for all other test report Exhibits not expected to have changed with the addition of a new antenna.*

**EXHIBIT 6A TEST: RF Power Output**

| | |
|---|---|
| FCC ID: | AZ489FT7007 |
| Grantee: | Motorola, Inc. |
| Model: | F4415A |
| Maximum Mobile Output Power: | Part 90.635 allows 100 Watts (20 dBw) |
| Test Results: | The measured output power level shows compliance with the granted output in Watts referenced below. |
| Authorization Procedure: | Part 2.1046 |
| Operating Frequency Band: | 806 – 821 MHz |
| Output Power at Antenna Terminals: | 0.7 Watts 0.7 Watts *Granted* |

**Method of Measurement:**

1. The transmitter was set at maximum power level “0”, with TDMA modulation.
2. The peak output power was measured with HP438A Power Meter & HP8482H Power Sensor.
3. The measured channels covered the low, mid and high channels covering the operational frequency range of this transmitter of 806 – 821 MHz.

**MEASUREMENT DATA**

**Conducted RF Power Output Results At The Antenna Terminal**

| HDT 600 iDEN Test Mode TDMA | | | 800 MHz Internal | EIRP | |
|---|---|---|---|---|---|
| **Frequency (MHz)** | **Power (W)** | **Power (dBm)** | **Antenna Gain (dB)** | **Power (W)** | **Power (dBm)** |
| 806.0 | 0.689 | 28.38 | 0.0 | 0.689 | 28.38 |
| 813.5 | 0.690 | 28.39 | 0.0 | 0.690 | 28.39 |
| 821.0 | 0.692 | 28.40 | 0.0 | 0.692 | 28.40 |

## EXHIBIT 6G TEST: TRANSMITTER RADIATED SPURIOUS EMISSIONS

| | |
|---|---|
| FCC ID: | AZ489FT7007 |
| Applicant: | Motorola, Inc. |
| Model: | F4415A |
| Minimum Standard Specified: | Part 90.210 |
| Test Results: | Equipment complies with standard |
| Authorization Procedure: | Part 2.1053 |
| Test Equipment Set Up: | See Block Diagram in Exhibit 7 |
| Frequency Range Observed: | 30 to 8135 MHz |
| Spurious Limit = $43 + 10\text{Log}_{10}$ (PO) | or $43 + 10\log_{10}(0.7) = 41.45$ dB |

Note: 3 meters EUT to antenna distance, using 1 MHz RBW and VBW for measurements above 1 GHz. A high pass filter was used during the measurements of the harmonics to reduce the fundamental signal and avoid overloading the front end of the analyzer.

**RADIATED HARMONIC AND SPURIOUS EMISSIONS**

| Frequency GHz | SA Rdg. dBu/V | Ant. Vert. or Horz. | Peak or Average Reading | Antenna Factor dB | Cable & filter loss dB | Amp Gain | Corrected Reading dBuV/m | Margin in dB below Limit | 3m Limit dBu/Vm |
|---|---|---|---|---|---|---|---|---|---|
| **Fo – 815.00** | | | | | | | | | |
| **2Fo** 1.627 | 33.00 | V | Peak | 25.70 | 1.72 | - 0 - | 60.42 | 23.88 | 84.3 |
| **2Fo** 1.627 | 36.17 | H | Peak | 25.70 | 1.72 | - 0 - | 63.59 | 20.71 | 84.3 |
| | | | | | | | | | |
| **3Fo** 2.4405 | 36.33 | V | Peak | 28.37 | 2.05 | - 0 - | 66.75 | 17.55 | 84.3 |
| **3Fo** 2.4405 | 34.83 | H | Peak | 28.37 | 2.05 | - 0 - | 65.25 | 19.05 | 84.3 |
| | | | | | | | | | |
| **4Fo** 3.2540 | 39.67 | V | Peak | 30.5 | 2.27 | - 0 - | 72.44 | 11.86 | 84.3 |
| **4Fo** 3.2540 | 36.50 | H | Peak | 30.5 | 2.27 | - 0 - | 69.27 | 15.03 | 84.3 |
| | | | | | | | | | |

**Harmonic emissions measured on 813.50 MHz from 5Fo – 10Fo at or below noise floor**

| **Channel** | **Frequency in GHz** | **Harmonics Observed** @3m | **Limit 84.3 dBuV/m** |
|---|---|---|---|
| **Mid Ch. Fo** | | | |
| **813.500** | | | |
| **5Fo – 10Fo** | 4.0675 – 8.1350 | None measureable < noise floor | All emissions > 20 dB below the limit |
| | | | |

Note: A sample calculation on following page.

**Test: Equivalent Isotropic Radiated Power**

FCC ID: AZ489FT7007
Grantee: Motorola, Inc.
Model: F4415A

**Discussion:**

Measurements of the EIRP were made at 3 meters EUT to antenna spacing. The EUT was investigated in three mutually orthogonal planes. The maximum levels reported below were observed with the HDT 600 flat on it's back on the table and horizontal receive antenna polarization. Turntable rotation, combined with antenna height and polarization adjustments were made to maximize the measured levels. Resolution and Video Bandwidth both and 100 kHz.

| FREQUENCY MHz | Maximum Spectrum Analyzer Reading dBuV | Ant Factor D-4 Di-pole Sn:1336 Vertical Polarization | Cable Loss | dBuV/m | uV/m | EIRP Watts |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| 815.0 | 106.5 | 27.8 | -inc- | 134.3 | 5188000. | 1.32 |
| | | | | | | |
| | | | | | | |

**Sample calculation for 3 meter radiated spurious limit**

This example is based on a 1 Watt peak conducted output power and Part 90.210 (g) requirements.

43 + 10log(1 W) = 43 dB

Therefore the spurious emissions must be reduced below the carrier by 43 dB.

1 Watt or 125.2289 dBuV/m – 43 dB = 82.2 dBuV/m

Referenced to a half wavelength tuned di-pole: 82.2 dBuV/m + 2.1 dB = 84.3 dBuV/m

Therefore the 3 meter radiated spurious emissions limit is 84.3 dBuV/m.