

EXHIBIT VI.

Supplemental Test Report For New Certification Of A Previously Certified OEM Module

FCC ID: AZ489FT7008

Enhanced PowerPad Portable Data Terminal

Certification Under Parts 22 & 24
For Dual-band GPRS Transceiver

Prepared On Behalf Of

Motorola, Inc.
8000 West Sunrise Blvd.
Ft. Lauderdale, Florida 33322

Prepared

By

Spectrum Technology, Inc.
209 Dayton Street, Suite 205
Edmonds, WA 98020
425 771-4482

November 21, 2003
(Rev 2, Feb 05, 2004)

Supplemental Test Report

TABLE OF CONTENTS

Cover Page	1
Table Of Contents	2
Exhibit 6A – RF Power Output (2.1046)	3
Exhibit 6G – Transmitter Radiated Spurious Emissions (2.1053)	4
Exhibit 6G – Transmitter Radiated Spurious Emissions (2.1053)	4
Exhibit 6G – Effective Radiated Power	6
Exhibit 6G - Equivalent Isotropic Radiated Power	7

Note: Please refer to the original Certification data for FCC ID: IHDT56DB1 uploaded with this application for all original test report Exhibits.

EXHIBIT 6A TEST: RF Power Output

FCC ID: AZ489FT7008
 Grantee: Motorola, Inc.
 Model: F4421A

Authorization Procedure: Part 2.1046

Test Period: 9/06/03 – 9/08/03 & 10/02/03

Radio	Band	Tx Frequency MHz	Max Tx Power
g20	850MHz	824.2 - 848.8	0.6 W
	PCS1900	1850.2 - 1909.8	1 W

Method of Measurement

The RF output port of the equipment under test is directly coupled to the input of the an Agilent power meter through a specialized RF connector. The power meter is set for Modulated Average Power (MAP) mode. The power output is measured for low, mid and high channels.

MEASUREMENT DATA

Data supplied by Motorola Communications Israel, Ltd

Test Mode GSM800 Cellular		
Frequency (MHz)	Power (W)	Power (dBm)
824.20	0.738	28.68
836.60	0.731	28.64
848.80	0.738	28.68

Test Mode GSM1900 PCS1900		
Frequency (MHz)	Power (W)	Power (dBm)
1850.2 (Ch.512)	0.944	29.75
1880.0 (Ch.661)	0.929	29.68
1909.8 (Ch.810)	0.938	29.72

EXHIBIT 6G TEST: TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: AZ489FT7008
 Grantee: Motorola, Inc.
 Model: F4421A
 Serial No.: ESN

Minimum Standard Specified: Part 22.917e

Test Results: Equipment complies with standard

Authorization Procedure: Part 2.1053

Test Equipment Set Up: See Block Diagram in Exhibit 7

Frequency Range Observed: 0 to 8.5 GHz

Test Frequencies: 824.20, 836.60, 848.80 MHz

Power Output: 0.631 Watts

Spurious Limit = $43 + 10\log_{10} PO$ = 41 dB below the carrier

Test date: 11/04/03 Location: OATS Fluke Park II Everett, WA

	Frequency in MHz	Level (dB below carrier)	Harmonics observed within 20 dB of Limit
Fo	824.20	-0-	
2Fo - 10Fo	16484 - 8242	> 63	All harmonics > 20 below limit
Fo	836.60	-0-	
2Fo - 10Fo	1673.2 - 8366	> 63	All harmonics > 20 below limit
Fo	848.80	-0-	
2Fo - 10Fo	1697.6 - 8488	> 63	All harmonics > 20 below limit

At 3 meters EUT to antenna distance, using 1 MHz RBW and VBW all harmonic and spurious emissions up to 8.5 GHz were at least 20 dB below the limit. Only the second and third harmonics were just visible at .5 meters and 120 kHz RBW & VBW. 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.

EXHIBIT 6G TEST: TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: AZ489FT7008
 Grantee: Motorola, Inc.
 Model: F4421A
 Serial No.: ESN

Minimum Standard Specified: Part 24.238

Test Results: Equipment complies with standard

Authorization Procedure: Part 2.1053

Test Equipment Set Up: See Block Diagram in Exhibit 7

Frequency Range Observed: 0 to 20 GHz

Test Frequencies: 1850.2, 1880, & 1909.8 MHz

Power Output: 0.809 Watts

Spurious Limit = $43 + 10\log_{10} PO =$ = 42 dB below the carrier

Test date: 11/04/03 Location: OATS Fluke Park II Everett, WA

Channel	Frequency in MHz	Level (dB below carrier)	Harmonics observed within 20 dB of Limit
Ch. 512	1850.20	-0-	
2Fo - 10Fo	3700.40 – 18502.0	> 63	All harmonics > 20 below limit
Ch. 661	1880.00	-0-	
2Fo - 10Fo	3760.00 – 18800.0	> 63	All harmonics > 20 below limit
Ch. 810	1909.80	-0-	
2Fo - 10Fo	381960 – 19098.0	> 63	All harmonics > 20 below limit

At 3 meters EUT to antenna distance, using 1 MHz RBW and VBW. all harmonic and spurious emissions up to 20 GHz were at least 20 dB below the limit. The second harmonic was barely measurable at .5 meter with 1 MHz RBW & VBW however, not at 3 meters. 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.

EXHIBIT 6G TEST: Effective Radiated Power (ERP) Output

Grantee: Motorola, Inc.
FCC ID: AZ489FT7008

Effective Radiated Power Output measurements by Substitution Method according to ANSI/TIA-603-B, approved November 7, 2002.

The measurements were made as prescribed in TIA-603-B 2.2.17.2.2, a – f. The EUT was set up at the OATS facility on the non conductive turntable 3 meters from the receive antenna. The height and turntable rotation were adjusted for the maximum reading on the spectrum analyzer for each antenna polarization. Only the polarization with the highest levels observed are reported below. The EUT was removed and a half wave dipole antenna, adjusted for each frequency, was substituted in it's place with the height of this antenna consistent with the position of the EUT antenna. The RF signal generator with a known output fed a signal to the dipole antenna to obtain and record the path loss in dB as *LOSS*. $LOSS = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$.

The ERP was determined by the formula referenced below.

$$\text{ERP (dBm)} = \text{LVL (dBm)} + \text{LOSS (dB)}$$

Freq. MHz	ERP (W)	ERP (dBm)	Ref. Level (dBm)	Path <i>LOSS</i>	Ant. Pol. H / V
824.20	0.347	25.40	-7.57	32.97	H
836.60	0.269	24.30	-8.08	32.38	H
848.80	0.237	23.75	-8.82	32.57	H

Measured at 3 meters EUT to receive antenna distance.
Location: Spectrum Technology Inc., Fluke Park II OATS facility
Date: Feb 3, 2004
EUT tuned to max. power
Test made with a fully charged standard battery.

EXHIBIT 6G TEST: Equivalent Isotropic Radiated Power (EIRP) Output

Grantee: Motorola, Inc.
FCC ID: AZ489FT7008

Equivalent Isotropic Radiated Power Output measurements by Substitution Method according to ANSI/TIA-603-B, approved November 7, 2002.

The measurements were made as prescribed in TIA-603-B 2.2.17.2.2, a – f. The EUT was set up at the OATS facility on the non conductive turntable 3 meters from the receive antenna. The height and turntable rotation were adjusted for the maximum reading on the spectrum analyzer for each antenna polarization. Only the polarization with the highest levels observed are reported. The EUT was removed and a horn antenna was substituted in it's place with the height of this antenna constant with the position of the EUT antenna. The RF signal generator with a known output fed a signal to the horn antenna to obtain and record the path loss in dB as *LOSS*. $LOSS = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$.

The difference between the gain of the horn antenna and an isotropic antenna is taken into account and the EIRP is recorded.

Freq. MHz	EIRP (W)	EIRP (dBm)	Ref. Level (dBm)	Path <i>LOSS</i>	Ant. Pol. H / V
1850.20	0.628	27.98	-4.46	32.44	V
1800.00	0.535	27.27	-4.78	32.05	V
1909.80	0.355	25.51	-5.49	31.00	V

Measured at 3 meters EUT to receive antenna distance.
Location: Spectrum Technology Inc., Fluke Park II OATS facility
Date: Feb 3, 2004
EUT tuned to max. power
Test made with a fully charged standard battery.