

RETLIF TESTING LABORATORIES
TEST REPORT R-4494N1
October 15, 2005

FCC COMPLIANCE TEST REPORT
ON

FITSENSE TECHNOLOGY, INC.
PALM TUNGSTEN E PDA WITH SDIO WIRELESS TRANSCEIVER
FCC ID: 09DSD

APPLICANT FITSENSE TECHNOLOGY 21 Boston Road Southborough, MA 01772	MANUFACTURER SAME
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TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C, Para. 15.249

TEST PROCEDURE: ANSI C63.4:2001

TEST SAMPLE DESCRIPTION

BRANDNAME: Fitsense MODEL: 71000020-01

TYPE: PALM TUNGSTEN E PDA WITH SDIO WIRELESS TRANSCEIVER

POWER REQUIREMENTS: Internal Battery

FREQUENCY BAND OF OPERATION: 2400 to 2483.5MHz

FREQUENCY OF OPERATION : 2425.15MHz

FCC ID: 09DSD

APPLICABLE RULE SECTION: Part 15, Subpart C, Section 15.249

TESTS PERFORMED

15.249 (a) Fundamental & Harmonic Emissions

15.249 (d) Out of Band/Bandedge Emissions

15.249 (e) Peak Field Strength

TEST SAMPLE DESCRIPTION

The EUT is a PALM TUNGSTEN E PDA with FITSENSE TECHNOLOGY, SDIO Wireless Transceiver Transmitting at 2425.15MHz. The intended application is to interface the PALM TUNGSTEN E PDA with the Fitsense BodyLan RF Network via 2.4GHz Radio Link and pass data packets between the PDA and another external device. This device is powered by 3VDC via the PDA (internal battery). The application for this PDA with SDIO Wireless Card is strictly portable with no connection to AC mains during use.

ANTENNA DESCRIPTION

The device uses an integral Chip Antenna with a gain of approximately 6dB and thus has no connection for external antenna.

TEST SAMPLE / TEST RESULTS SUMMARY

- The fundamental field strength at 2415.25MHz did not exceed 50mV/M at a test distance of 3 meters.
- The field strength of harmonic emissions did not exceed 500 μ V/M. No harmonic emissions were observed within 10dB of the specified limit at 3 meter or 1 meter test distances above the second harmonic (4850.30MHz).
- The field strength of non-harmonic out of band/bandedge emissions were attenuated more than 50dB below the level of the fundamental or to the limits of 15.209 as applicable. No out of band spurious emissions were observed within 10dB of the specified limit at 3 meter or 1 meter test distances.
- The peak field strength of the fundamental emission did not exceed the maximum permitted average field strength by more than 20dB.
- Radiated Emissions from the EUT were measured in all three axis. Worst case emissions were found with the EUT in the "Z" Access. The attached Radiated Emissions test data is representative of this worst case orientation.

MEASUREMENT PROCEDURES

15.249 (a/d) Field Strength of Fundamental, Harmonic and Out of Band/Band Edge Emissions

The field strength of the fundamental, harmonic and out of band/bandedge emissions were measured. The transceiver was placed on a 80cm high wooden test stand which was located 3 meters from the test antenna on an FCC listed open area test site. Emissions from the EUT were maximized by rotating the test sample and adjusting the test sample orientation and antenna polarization. The maximized field strength of each observed emission was measured, recorded and compared to the specified limits of 15.249 (a), (d)/15.209 as appropriate. Peak field strength of emissions were measured, recorded and verified to meet the specified limit (limit corresponds to 20dB above the maximum permitted average limit). When necessary the marker/delta method was used to verify bandedge compliance.

RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

Test Method:

Fundamental Field Strength & Harmonics

Customer:

Fitsense Technology

Job No:

R-4494N1

Test Sample:

Palm Tungsten E with SDIO Wireless Transceiver

Model No:

71000020-01

Serial No:

34

Test Specification:

FCC Part 15

Paragraph: 15.249 (a)

Operating Mode:

Continuously Transmitting

Technician:

T. Firkowski

Date:

8/30/2005

Notes:

Peak Readings to Average Limits

[illegible]

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:

Out of Band Radiated Emissions 30 MHz to 26.5 GHz

Customer

Fitsense Technology

Job No.

R-4494N1

Test Sample

Palm Tungsten E with SDIO Wireless Transceiver

Model No.

71000020-01

Serial No.

34

Test Specification:

FCC Part 15 Subpart C

Paragraph: 15.249 (d)

Operating Mode:

Continuously Transmitting

Technician:

T. Firkowski

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Date:

August 31, 2005

Notes:

Test Distance: 3 Meters

[illegible]

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:

Band Edge Data 2400 MHz to 2483.5 MHz

Customer:

Fitsense Technology

Job No:

R-4494N1

Test Sample:

Palm Tungsten E with SDIO Wireless Transceiver

Model No:

71000020-01

Serial No:

34

Test Specification:

FCC Part 15

Paragraph: 15.209

Operating Mode:

Continuously Transmitting

Technician:

T. Firkowski

Date:

8/31/2005

Notes:

Test Distance = 3 meters

[illegible]

The EUT is compliant at the band edges with 15.209 radiated emissions limits.

EQUIPMENT LIST

Fundamental, Harmonic and Out of Band Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
3430	Horn Antenna	MCS Corporation	18 GHz - 26.5 GHz	K-5039	1/25/2005	1/25/2006
4029B	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	12/3/2004	12/3/2005
4984B	High Gain Horn	Microlab/FXR	1.7 - 2.6 GHz	R638A	1/25/2005	1/25/2006
4984D	High Gain Horn	Microlab/FXR	3.95 - 5.85 GHz	H638A	1/25/2005	1/25/2006
4984E	High Gain Horn	Microlab/FXR	5.8 - 8.2 GHz	C638A	1/25/2005	1/25/2006
4984F	High Gain Horn	Microlab/FXR	8.2 - 12.4 GHz	X638A	1/25/2005	1/25/2006
4984G	High Gain Horn	Microlab/FXR	12.4 GHz - 18 GHz	Y638A	1/25/2005	1/25/2006
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ES126	3/22/2005	3/22/2006
4202	Biconilog	EMCO	26 MHz - 2 GHz	3142	12/13/2004	12/13/2005
4984A	High Gain Horn	Microlab/FXR	1.0 - 1.7 GHz	L638A	1/25/2005	1/25/2006
R120	Preamplifier	Hewlett Packard	1.0 -26.5 GHz	8449B	7/08/2005	7/08/2006



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TEST SETUP PHOTOGRAPHS



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