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REPORT OF MEASUREMENTS
FOR
FITSENSE TECHNOLOGY
PERSONAL USB TRANSCEIVER

MODEL: ActiLink

FCC ID: 09DAL

Company Name: Fitsense Technology

Date of Report: December 12, 2007

Test Report No: R-4927N-1

Test Start Date: November 26, 2007

Test Finish Date: December 5, 2007

Test Technician: Matt Seamans

Lab Supervisor: Todd Hannemann

Report Prepared By: Jamie Ramsey

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Scott Wentworth
Branch Manager
NVLAP Approved Signatory



Todd Hannemann
Laboratory Supervisor

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Test Report No. R-4927N-1
FCC ID:09DAL

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

TEST PROCEDURE: ANSI C63.4:2003

TEST SAMPLE DESCRIPTION

BRANDNAME: Fitsense

MODEL: ActiLink

TYPE: Personal USB 2.4GHz Wireless Transceiver

POWER REQUIREMENTS: 5vdc via host PC USB Port

FREQUENCY BAND OF OPERATION: 2400 to 2483.5MHz

FREQUENCY OF OPERATION : 2429.0MHz

FCC ID: 09DAL

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

15.207 Conducted Emissions

TEST SAMPLE DESCRIPTION

The EUT is a FITSENSE TECHNOLOGY, USB Wireless Transceiver Transmitting at 2429MHz. The intended application is to interface a PC with the Fitsense BodyLan RF Network via 2.4GHz Radio Link and transmit data to the network. This device is powered by 5vdc via the host PC USB port.

ANTENNA DESCRIPTION

The device uses an integral PCB etch antenna with a gain of approximately 1dB and thus has no connection for external antenna.

TEST SAMPLE / TEST RESULTS SUMMARY

- The maximized fundamental field strength at 2429MHz did not exceed 50mV/M (94dBuV) at a test distance of 3 meters. The measured maximized average field strength was 59.58BuV.
- The field strength of observed 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 beyond the third harmonic (7287MHz).
- 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 maximized peak field strength of the emissions did not exceed the maximum permitted average field strength by more than 20dB.
- Radiated Emissions from the EUT were measured with the EUT plugged into the USB port of the host PC which is its only useable 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 EUT was plugged into the USB port of the host PC which was placed on a 80cm high wooden test stand located 3 meters from the test antenna on an FCC listed open area test site. Emissions from the EUT were maximized by rotating the turntable and adjusting the 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.

15.207 (a) AC Line Conducted Emissions

The test sample was plugged into the USB port of the Host PC which was placed on a 0.8m high wooden test stand above the floor of the test area (ground plane). The rear of the EUT was aligned flush with the rear of the test stand. The test stand was situated such that the EUT was located 0.4m from all other grounded surfaces. The power cord of the host PC was connected to an artificial mains network (LISN). The spectrum analyzer was connected to the RF port of the LISN and peak/quasipeak and average measurements were taken in the frequency range of 150kHz to 30MHz on each the hot and neutral leads.

Test Results: The measured AC line conducted emissions met the limit specified in 15.207 (a).

RADIATED EMISSIONS EQUIPMENT LIST

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	8/27/2007	8/27/2008
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0 A	1630	1/23/2007	1/23/2008
3430	Horn Antenna	MCS Corporation	18 GHz - 26.5 GHz	K-5039	1/23/2007	1/23/2008
4029B	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	6/20/2007	6/20/2008
4984A	High Gain Horn	Microlab/FXR	1.0 - 1.7 GHz	L638A	1/24/2007	1/24/2008
4984B	High Gain Horn	Microlab/FXR	1.7 - 2.6 GHz	R638A	1/24/2007	1/24/2008
4984C	High Gain Horn	Microlab/FXR	2.6 - 3.95 GHz	S638A	1/24/2007	1/24/2008
4984D	High Gain Horn	Microlab/FXR	3.95 - 5.85 GHz	H638A	1/24/2007	1/24/2008
4984E	High Gain Horn	Microlab/FXR	5.8 - 8.2 GHz	C638A	1/24/2007	1/24/2008
4984F	High Gain Horn	Microlab/FXR	8.2 - 12.4 GHz	X638A	1/24/2007	1/24/2008
4984G	High Gain Horn	Microlab/FXR	12.4 GHz - 18 GHz	Y638A	1/24/2007	1/24/2008
5053	Biconilog	EMCO	26 MHz - 3 GHz	3142C	10/4/2007	10/4/2008
5072	Preamplifier	Miteq	18 GHz-40 GHz	JS4-18004000-30	1/10/2007	1/10/2008
R425	Spectrum Analyzer	Agilent	100 Hz - 26.5GHz	E7405A;A	11/3/2006	12/11/2007

CONDUCTED EMISSIONS EQUIPMENT LIST

Manufacturer	Description	Model No.	Cal Date	EN	Type
4039	LISN	Filtron	N/A	FSR-707A	8/28/2007 8/28/2008
5030	10 DB Atten. (50 ohm)	Narda	DC - 12.4 GHz	757C-10	5/9/2007 5/9/2008
7032	LISN	Rohde & Schwarz	N/A	ESH 3-Z5	10/19/2007 10/19/2008
R425	Spectrum Analyzer	Agilent	100 Hz - 26.5GHz	E7405A;A	11/3/2006 12/11/2007

RADIATED EMISSIONS SETUP PHOTOGRAPHS





CONDUCTED EMISSIONS SETUP PHOTO



RETLIF TESTING LABORATORIES

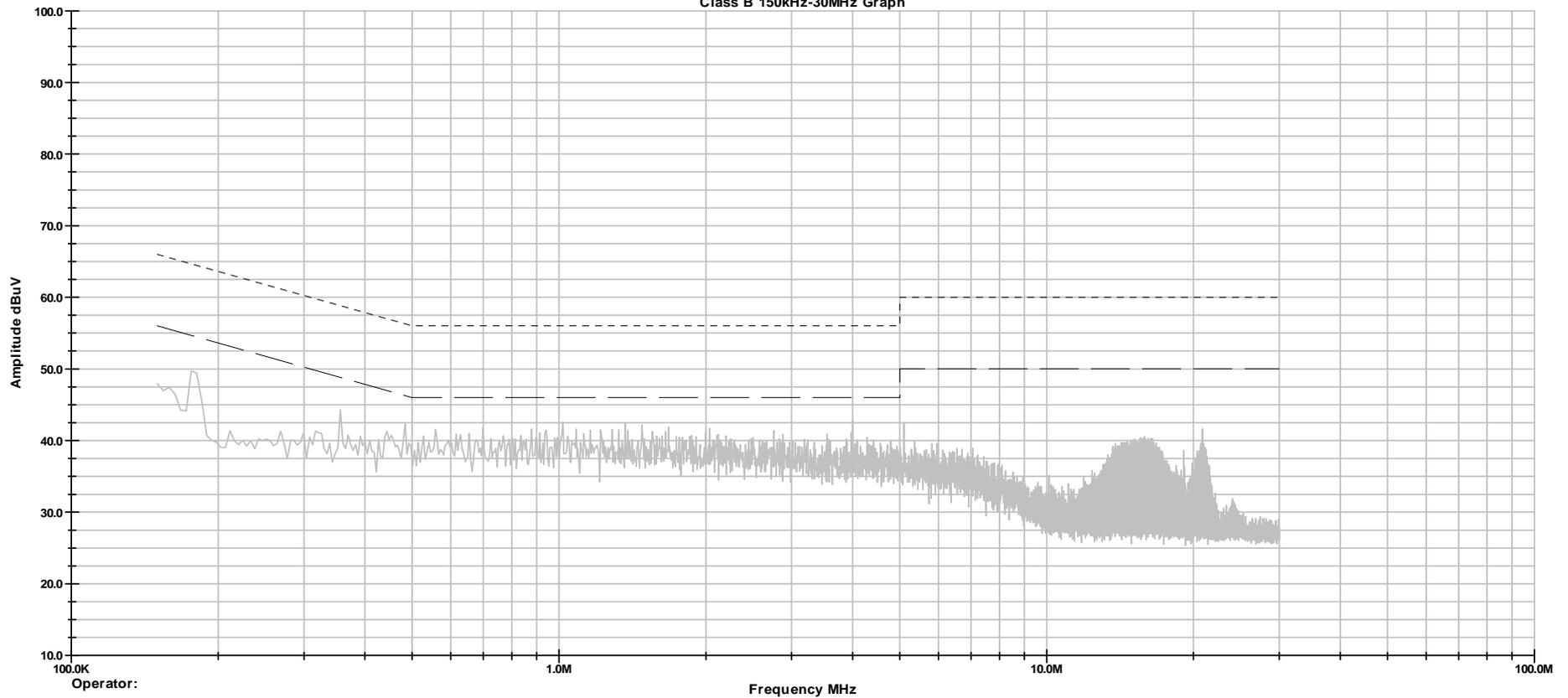
EMISSIONS DATA SHEET

Test Method:	Conducted Emissions 150 kHz to 30 MHz				
Customer:	Fitsense Technology	Test Sample:	The ActiLink Personal USB Transceiver	Job No:	R-4927N-1
Model No:	ActiLink	Serial No:	HHFP-00256-06143	Technician:	T. Hannemann
Test Specification:	FCC Part 15	15.207	Date:	December 5, 2007	
Operating Mode:	Continuously Transmitting				
Notes:	Lead Tested: 120 V 60 Hz Hot to the Host PC Peak Readings				

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Conducted Emissions

Class B 150kHz-30MHz Graph



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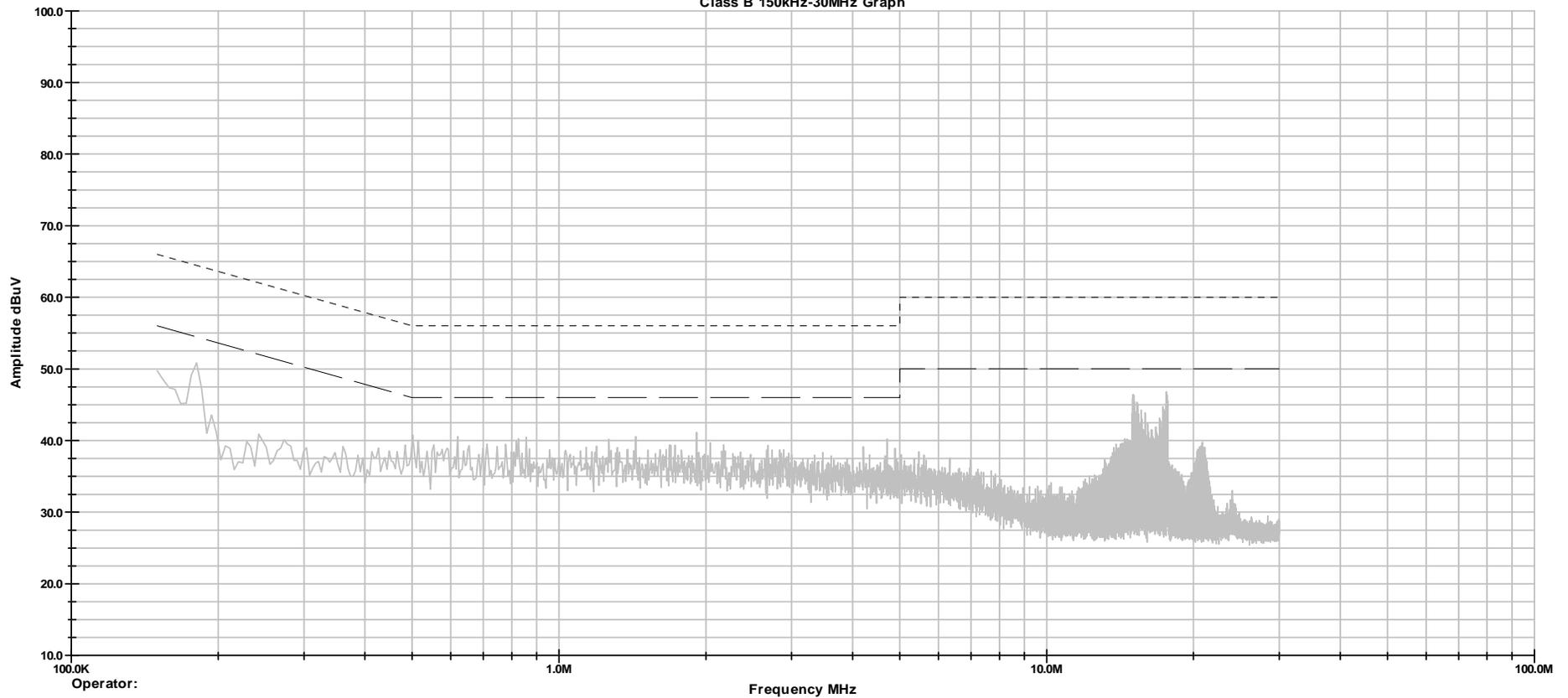
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Model No:	ActiLink	Serial No:	HHFP-00256-06143	Technician:	T. Hannemann
Test Specification:	FCC Part 15	15.207	Date:	December 5, 2007	
Operating Mode:	Continuously Transmitting				
Notes:	Lead Tested: 120 V 60 Hz Neutral to the Host PC Peak Readings				

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Conducted Emissions

Class B 150kHz-30MHz Graph



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