Test Standard: FCC CFR47 1.1310

Test: RF Exposure

Performance Criterion: The human RF exposure limit for uncontrolled exposure is 0.2 mW/ cm^2.

Test Environment:

Environmental Conditions During Testing:		Ambient (°C):	19 20	Humidity (%):	56 61	Pressure (hPa):	1007 996
Pretest Verification Performed		Yes		Equipment under Test:		V7E-SP	
Test Engineer(s):	Nicholas Abbondante			EUT Serial Number:		01120902900092 (V7E-SP)	
Engineer's Initials:	NNA	Date Test Performed:	06-18-2009 06-19-2009				

Test Equipment Used:

TEST EQUIPMENT LIST					
Item	**Equipment Type**	**Make**	**Model No.**	**Serial No.**	**Next Cal. Due**
1	Weather Station	Davis Instruments	7400	PE80519A93	06/10/2010
2	ANTENNA	EMCO	3142	9711-1224	12/12/2009
3	10 Meter in floor cable for site 2	ITS	RG214B/U	S2 10M FLR	02/20/2010
4	9kHz to 3GHz EMI Test Receiver	Rohde & Schwartz	ESCI 1166.5950K03	100067	02/17/2010
5	HORN ANTENNA	EMCO	3115	9602-4675	10/13/2009
6	FILTER, HIGH PASS 250 MHz	Mini-Circuits	NHP-250	882414	09/24/2009
7	1GHz High Pass Filter	Reactel, Inc	7HS-1G/10G-S11	06-1	10/15/2009
8	Synthesized Sweep Generator	Hewlett Packard	83620A	3213A01244	03/19/2010
9	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	12/10/2009
10	BROADBAND ANTENNA	Compliance Design	B100	1649	10/14/2009
11	BROADBAND ANTENNA	Compliance Design	B200	1650	10/02/2009
12	BROADBAND ANTENNA	Compliance Design	B300	00668	10/02/2009
13	HORN ANTENNA	EMCO	3115	9610-4980	02/25/2010

Software Utilized:

Name	Manufacturer	Version
EXCEL 2003	Microsoft Corporation	11.5612.5606
EMI BOXBOROUGH	Intertek	4/17/09 Revision

Test Results:

Radiated Emissions, Substitution

Company: LoJack Corporation
Model #: V7E-SP
Serial #: 01120902900092 (V7E-SP)
Engineer(s): Nicholas Abbondante Location: Site 2
Project #: 3178506 Date(s): 06/18/09 6/19/2009
Standard: FCC Part 90
Barometer: DAV002 Temp/Humidity/Pressure: 19c/20c 56%/61% 1007/996mB

Rx Antenna: LOG3 MIN14
Rx Cable(s): S2 10M FLR HORN2 REA003
Rx Preamp: NONE Receiver: ROS002
Tx Antenna: ANT1A,B,C HORN3
Tx Cable(s): CBL030
Tx Signal Generator: HEW62
ERP or EIRP?: ERP

Test Distance (m): 10 Voltage/Frequency: Fresh Battery Frequency Range: 30 MHz-1.8 GHz

Net = Generator Level (0.00 dBm) + (EUT reading - Generator reading) - Cable Loss + Antenna Gain (dBi or dBd)

Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	EUT Reading dB(uV)	Generator Reading dB(uV)	Transmit Cable Loss dB	Transmit Antenna dBi	Generator Level dBm	Net dBm	Limit dBm	Margin dB	Bandwidth
Note: MSK Modulation (10m)											
PK	V	173.075	104.88	74.04	0.26	-2.31	0.00	26.12	34.00	-7.88	120/300 kHz
Note: FSK Modulation (10m)											
PK	V	173.075	104.97	74.04	0.26	-2.31	0.00	26.21	34.00	-7.79	120/300 kHz

Notes: Output power of the V7E-SP was measured to be 26.21 dBm ERP (28.35 dBm EIRP) for FSK modulation and 26.12 dBm ERP (28.26 dBm EIRP) for MSK modulation.

The human RF exposure limit is 0.2 mW/cm^2. The power density S generated by some value of EIRP at a given distance d is related by the equation:

$S=EIRP / (4\pi d^2)$

The distance, given an EIRP of 28.35 dBm (683.9 mW), at which the radiated power density of the EUT is equal to the human RF exposure limit is 16.5 cm from the antenna. This value was obtained using the standard V7E-SP wire whip antenna harness.