Curtis-Straus

Worldwide Regulatory Approvals Experts

(A2LA Certificate Number 1627-01)

Technical Report

Company:	Beltronics USA, Inc.
FRN:	0007600588
Model:	Express Cordless 946
FCC ID:	QL4G5S6A
Equipment Code:	CRD

Report prepared for:
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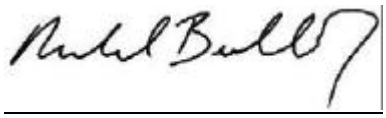


EMC Manager

Introduction

This report is an application for Certification of a Radar Detector operating pursuant to 47 CFR 15.109, as amended by ET Docket No. 01-278; FCC 02-211, published in the Federal Register Vol. 67, No. 145 on Monday July 29, 2002.

Statement of Conformity

47 CFR 15.109(h) states that "*Radar detectors shall comply with the emissions limits...of* [section 15.109(a)] *over the frequency range of 11.7 – 12.2GHz."* The applicable limit being 500µV/m measured at a distance of 3m. The Beltronics Express Cordless 946 has been tested and found to comply with this requirement:

Test Methodology

Radiated emission testing was performed according to the procedures in ANSI C63.4 (2001). The testing was performed at an antenna to EUT distance of 1 meter. Performance was investigated in the range 11.7-12.2GHz. The Express 946 was powered a R.O.C. SPN4025A 12VDC 400mA power supply using the optionally available DC input jack. Since the device is a hand-held unit, the emissions were maximized around the three orthogonal axes and the maximum reading was recorded. The integrated antenna cannot be maximized separately.

Test Equipment

SPECTRUM ANALYZERS					
x	**Analyzer**	**Model No.**	**Company**	**Serial No.**	**Calibration Due**
X	**ORANGE** 9kHz-26.5GHz	E4407B	HP	US39440975	07-JUN-2003

OPEN AREA TEST SITES (OATS)					
x	**Site**	**FCC Code**	**IC Code**	**VCCI Code**	**Calibration Due**
X	**"M"** Maine	93448	IC 2762-M	R-904/ C-480	04-FEB-2004

ANTENNAS					
x	**Antenna**	**Model No.**	**Company**	**Serial No.**	**Calibration Due**
X	**YELLOW** Horn: 1-18GHz	3115	EMCO	9608-4898	08-MAY-2003

PREAMPLIFIERS / ATTENUATORS					
x	**Preamplifier**	**Model No.**	**Company**	**Serial No.**	**Calibration Due**
X	**ORANGE-BLACK** 1-20GHz	SMC-12A	MITEQ	690639	06-SEP-2002

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard. All Open Area Test Sites are located at 527 Great Road, Littleton, MA 01460.

Setup Photo

Model: Express 946

Measurement Results

All measurements taken were peak detector readings of the noise floor.
There were no emissions detected from the EUT.

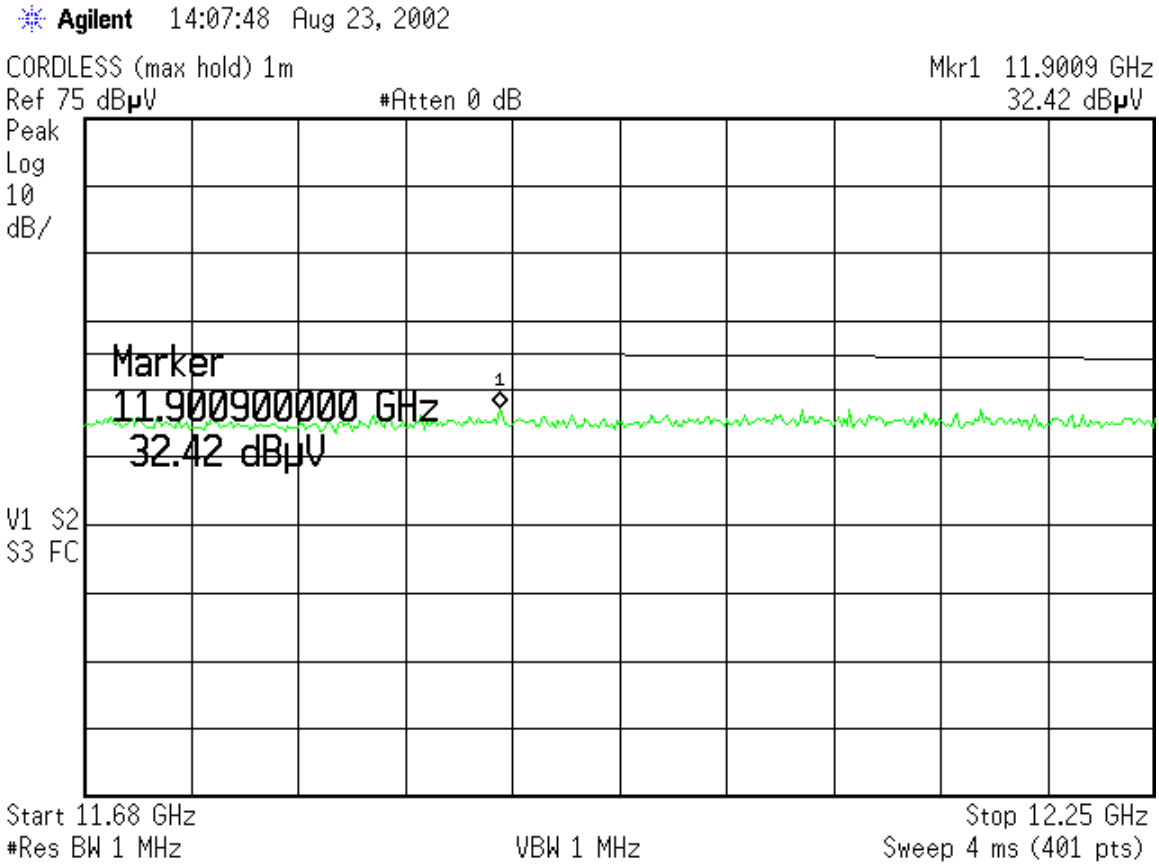
Radiated Emissions Table *Curtis-Straus LLC*

Date: 23-Aug-02 **Company:** Beltronics **Table** 1
Engineer: Evan Gould **EUT Desc:** Express Cordless 946 **Work Order:** C0610

Frequency Range: 11.7-12.2GHz **Measurement Distance:** 1 m

Notes: Emissions maximized Horizontally and Vertically.
All measurements are noise floor readings.

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.209(a) Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
E946	11901.0	32.4	20.3	39.0	4.7	55.8	63.5	-7.7	Pass

Test Sites: "M" **Pre-Amp:** Or-Blk **Cable:** 3m Microflex **Analyzer:** Orange **Antennas:** Yellow Horn

Emission Plot