

# 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 500 $\mu$ V/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

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

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

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

<b>PREAMPLIFIERS / ATTENUATORS</b>					
x	Preamplifier	Model No.	Company	Serial No.	Calibration Due
X	<b>ORANGE-BLACK</b> 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

Agilent 14:07:48 Aug 23, 2002

CORDLESS (max hold) 1m

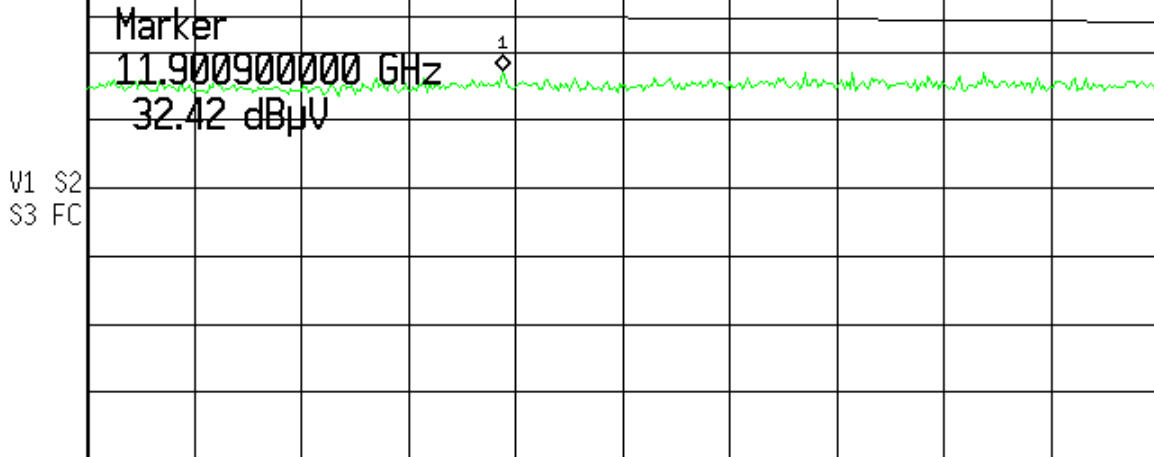
Mkr1 11.9009 GHz

Ref 75 dB $\mu$ V

#Atten 0 dB

32.42 dB $\mu$ V

Peak  
Log  
10  
dB/



Start 11.68 GHz

Stop 12.25 GHz

#Res BW 1 MHz

VBW 1 MHz

Sweep 4 ms (401 pts)