

<u>APPLICANT</u> Symbol Technologies, Inc. One Symbol Plaza Holtsville, NY 11742	<u>Manufacturer</u> Symbol Technologies, Inc. One Symbol Plaza Holtsville, NY 11742
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TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C

TEST PROCEDURE: FCC 15.249(a)

TEST SAMPLE DESCRIPTION

BRANDNAME: Symbol

MODEL: PDT6844 FCC ID: H9P6844

TYPE: 2.4 GHz Pulsed RF Transmitter

FREQUENCY RANGE: 2481.92 MHz

POWER REQUIREMENTS: NICAD Re-Chargeable Battery

TESTS PERFORMED

- 15.209(a) Radiated Emissions, Spurious Case
- 15.249(a) Radiated Emissions, Fundamental and Harmonics
- 15.249(c) Occupied Bandwidth

## REPORT OF MEASUREMENTS

Applicant: Symbol Technologies, Inc..  
Device: Pulsed RF Transmitter  
FCC ID: H9P6844  
Power Requirements: NICAD Re-Chargeable Battery  
Applicable Rule Section: Part 15, Subpart C, Section 15.249

### TEST RESULTS

- 15.249(a): Field strength of emissions from the intentional radiator operating in the 2400-2483.5 MHz frequency band did not exceed 50 mV/m average for the fundamental and 500 uV/m average for harmonics.
- 15.249(b): Field strength readings were recorded at a distance of three meters from the Intentional Radiator unless otherwise specified.
- 15.249(c): Emissions radiated outside the specified frequency band except for harmonics, were attenuated by at least 50dB or to the emissions limits of 15.209, whichever was the lesser attenuation.
- 15.249(d): All measurements were taken utilizing a peak detector. The peak field strength did not exceed the average limits under any condition of modulation.

### SPECTRUM ANALYZER DESENSITIZATION CONSIDERATIONS

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized:

The device has maximum data rate of 19.2 Kbps. Therefore a minimum pulse width is  $1/\text{max. data rate} = 1/19.2 \text{ kHz} = 52 \text{ microseconds}$ .

Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of  $52\mu\text{s}$  yields a minimum required bandwidth of 12.8 kHz. FCC specified bandwidths of 100kHz and 1MHz were utilized below and above 1GHz, respectively.

### GENERAL NOTES

1. All user accessible controls were adjusted to produce maximum emissions.
2. The unit operates in the band of 2400-2483.5 MHz band at a single frequency of 2481.92 MHz.
3. The frequency range was scanned from 30 MHz to 25 GHz. All emissions not reported were more than 10dB below the specified limit.

EXHIBIT 4

Radiated Emissions, Spurious Case

Para. 15.209(a)

(Please see separate e-file attachment named RE Spurious.doc)

EXHIBIT 4

Radiated Emissions, Fundamental & Harmonic

Para. 15.249(a)

(Please see separate e-file attachment named RE Fund & Harm.doc)

EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

(Please see separate e-file attachment named OccBw.pdf)

## EQUIPMENT LIST

### Radiated Emissions and Fundamental and Harmonics

EN	Type	Manufacturer	Frequency Range	Model No.	Cal Date	Due Date
061	High Gain Horn Antenna	Microlab/FXR	1 GHz - 1.7 GHz	L638A	01/25/2000	01/25/2001
062	High Gain Horn Antenna	Microlab/FXR	1.7 GHz - 2.6 GHz	R638A	01/25/2000	01/25/2001
063	High Gain Horn Antenna	Microlab/FXR	2.6 GHz-3.95 GHz	S638A	01/26/2000	01/26/2001
064	High Gain Horn Antenna	Microlab/FXR	3.95 GHz - 5.85 GHz	H638A	01/26/2000	01/26/2001
065	High Gain Horn Antenna	Microlab/FXR	5.85 GHz - 8.2 GHz	C638A	01/26/2000	01/26/2001
066	High Gain Horn Antenna	Microlab/FXR	8.2 GHz - 12.4 GHz	X638A	01/26/2000	01/26/2001
067	Open Area Test Site	Retlif	3 Meter	RNY	10/15/1997	10/15/2000
128C	Double Ridge Guide	Eaton Corporation	1 GHz - 18 GHz	96001	09/16/1999	09/16/2000
129D	High Gain Horn Antenna	Microlab/FXR	12.4 GHz - 18 GHz	Y638A	01/26/2000	01/26/2001
129F	High Gain Horn Antenna	Microlab/FXR	18 GHz - 26.5 GHz	K638A	09/16/1999	09/16/2000
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	06/22/1999	06/22/2000
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	09/20/1999	03/20/2000
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	03/08/2000	03/08/2001
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	09/20/1999	03/20/2000
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	06/22/1999	06/22/2000
298	Waveguide Twist	FXR	12.4 GHz - 18 GHz	Y625A	09/16/1999	09/16/2000
420	Amplifier	Hewlett Packard	2.0 GHz - 18 GHz	11975A	03/09/2000	03/09/2001
421	Harmonic Mixer	Hewlett Packard	18 GHz - 26.5 GHz	11970K	03/09/2000	03/09/2001
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/22/1998	04/22/2000
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	06/16/1999	06/16/2001
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	01/17/2000	01/17/2001
R089	Spectrum Analyzer	Hewlett Packard	30 Hz - 2.9 GHz	8560E	09/16/1999	09/16/2001