

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

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: Symbol

MODEL: P470

FCC ID: H9PP470

TYPE: 2.4 GHz Pulsed Transmitter

FREQUENCY RANGE: 2480 to 2483.5 MHz

POWER REQUIREMENTS: 4 VDC derived from rechargeable battery pack

TESTS PERFORMED

- 15.249(a) Radiated Emissions, Fundamental and Harmonics
- 15.249(c)/15.209 Out-of-Band Radiated Emissions
- 15.249(c) Occupied Bandwidth

## REPORT OF MEASUREMENTS

Applicant: Symbol Technologies, Inc.  
Device: 2.4 GHz Pulsed Transmitter  
FCC ID: H9PP470  
Power Requirements: 4 VDC derived from rechargeable battery pack  
Applicable Rule Section: Part 15, Subpart C, Section 15.249

### TEST RESULTS

- 15.203: The intentional radiator is designed to ensure that no antenna other than that furnished by the applicant can be used with the device.
- 15.249(a): The unit operates in the 2400-2483.5MHz band. The field strength of the fundamental did not exceed 50mV/M AVERAGE. The field strength of the harmonics did not exceed 500 $\mu$ V/M AVERAGE.
- 15.249(b): Field strength readings were taken at three meters unless otherwise noted.
- 15.249(c): Emissions radiated outside the specified frequency band were attenuated in accordance with the general radiated emissions limits of 15.209.
- 15.249(d): The peak field strength of any emission did not exceed the maximum permitted average field strength by more than 20dB under any condition of modulation.

### GENERAL NOTES

1. All user accessible controls were adjusted to produce maximum emissions.
2. The device utilize a pulsed emission which has a worst case duty cycle of 30%. All readings above 1000 MHz were taken using a peak detector, were found to comply with the average limits.
3. The frequency range was scanned from 30MHz to 24.82 GHz. All emissions not reported were more than 20dB below the specified limit.

EXHIBIT 4

Radiated Emissions, Fundamental & Harmonics

Para. 15.249(a)

(Please see separate e-file attachments named FundHarmCh1.doc,  
FundHarmCh2.doc and FundHarmCh3.doc)

EXHIBIT 4

Out-of-Band Radiated Emissions

Para. 15.249(c)/15.209

(Please see separate e-file attachments named REData1.doc,  
REData2.doc and REData3.doc)

EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

(Please see separate e-file attachments named OccBw1.pdf,  
OccBw2.pdf and OccBw3.pdf)

EXHIBIT 4

Duty Cycle Determination

(Please see separate e-file attachments named Dutycycle.pdf)

## EQUIPMENT LIST

### FCC Part 15 Subpart C Radiated Emissions Paragraph 15.249

EN	Type	Manufacturer	Frequency Range	Model No.	Cal Date	Due Date
032G	H.P. Filter	Microlab/FXR	3 GHz - 6 GHz	HA-30N	4/29/98	4/29/99
032I	H.P. Filter	Microlab/FXR	5 GHz - 10 GHz	HA-50N	6/23/98	6/23/99
032J	H.P. Filter	Microlab/FXR	6 GHz - 12 GHz	HD-60N	6/23/98	6/23/99
065	High Gain Horn Antenna	Microlab/FXR	5.85 GHz - 8.2 GHz	C638A	1/25/99	1/25/00
066	High Gain Horn Antenna	Microlab/FXR	8.2 GHz - 12.4 GHz	X638A	1/25/99	1/25/00
067	Open Area Test Site	Retlif	3 Meter	RNY	8/30/97	8/30/99
129C	High Gain Horn Antenna	Microlab/FXR	12.4 GHz - 18 GHz	Y638A	1/25/99	1/25/00
129F	High Gain Horn Antenna	Microlab/FXR	18 GHz - 26.5 GHz	K638A	10/14/98	10/14/99
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/22/98	6/22/99
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	3/16/99	9/16/99
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/5/99	3/5/00
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	3/16/99	9/16/99
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/22/98	6/22/99
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	12/3/98	12/3/99
420	Amplifier	Hewlett Packard	2.0 GHz - 18 GHz	11975A	7/16/98	7/16/99
421	Harmonic Mixer	Hewlett Packard	18 GHz - 26.5 GHz	11970K	7/2/97	7/2/99
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/22/98	4/22/00