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| <u>APPLICANT</u> Symbol Technologies, Inc. One Symbol Plaza Holtsville, NY 11742 | <u>Manufacturer</u> Symbol Technologies, Inc. One Symbol Plaza Holtsville, NY 11742 |
|---|--|

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C

TEST PROCEDURE: FCC 15.249(a)

TEST SAMPLE DESCRIPTION

BRANDNAME: Symbol

MODEL: PDT6845 FCC ID: H9PPDT6845

TYPE: 2.48192 GHz Pulsed Transmitter

FREQUENCY RANGE: 2.48192 GHz

POWER REQUIREMENTS: 6 VDC derived from a rechargeable NICAD 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: H9PPDT6845
Power Requirements: 6 VDC derived from a rechargeable NICAD Battery
Applicable Rule Section: Part 15, Subpart C, Section 15.249

TEST RESULTS

- 15.209(a): Field strength of emissions from the intentional radiator operating in the 2.4 to 2.4835 GHz 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.

Duty Cycle Information:

Please see attached file named Timinginfo.doc

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 2.4 to 2.4835 GHz band at a single frequency of 2.48192 GHz.
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 FundHarm.doc)

EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

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

EQUIPMENT LIST

Radiated Emissions, Fundamental and Harmonics, 2.4-25GHz

| EN | Type | Manufacturer | Description | Model No. | Cal Date | Due Date |
|------|------------------------|-----------------|---------------------|-----------|------------|------------|
| 062 | High Gain Horn Antenna | Microlab/FXR | 1.7 GHz - 2.6 GHz | R638A | 10/11/2000 | 10/11/2001 |
| 063 | High Gain Horn Antenna | Microlab/FXR | 2.6 GHz-3.95 GHz | S638A | 10/11/2000 | 10/11/2001 |
| 064 | High Gain Horn Antenna | Microlab/FXR | 3.95 GHz - 5.85 GHz | H638A | 10/11/2000 | 10/11/2001 |
| 065 | High Gain Horn Antenna | Microlab/FXR | 5.85 GHz - 8.2 GHz | C638A | 10/11/2000 | 10/11/2001 |
| 066 | High Gain Horn Antenna | Microlab/FXR | 8.2 GHz - 12.4 GHz | X638A | 10/11/2000 | 10/11/2001 |
| 067 | Open Area Test Site | Retlif | 3 Meter | RNY | 09/20/2000 | 09/20/2003 |
| 129D | High Gain Horn Antenna | Microlab/FXR | 12.4 GHz - 18 GHz | Y638A | 10/11/2000 | 10/11/2001 |
| 129E | High Gain Horn Antenna | Microlab/FXR | 18 GHz - 26.5 GHz | K638A | 09/18/2000 | 09/18/2001 |
| 141 | Spectrum Analyzer | Hewlett Packard | 100 Hz - 40 GHz | 8566B | 08/03/2000 | 02/03/2001 |
| 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 | 08/02/2000 | 02/02/2001 |
| 420 | Amplifier | Hewlett Packard | 2.0 GHz - 18 GHz | 11975A | 09/29/2000 | 09/29/2001 |
| 421 | Harmonic Mixer | Hewlett Packard | 18 GHz - 26.5 GHz | 11970K | 09/29/2000 | 09/29/2001 |
| 543 | Preamplifier | Hewlett Packard | 1.0 GHz - 26.5 GHz | 8449B | 06/16/1999 | 06/16/2001 |

Radiated Emissions, Spurious Case, 30MHz-25GHz

| EN | Type | Manufacturer | Description | Model No. | Cal Date | Due Date |
|------|-------------------------|-------------------|----------------------|--------------|------------|------------|
| 062 | High Gain Horn Antenna | Microlab/FXR | 1.7 GHz - 2.6 GHz | R638A | 10/11/2000 | 10/11/2001 |
| 063 | High Gain Horn Antenna | Microlab/FXR | 2.6 GHz-3.95 GHz | S638A | 10/11/2000 | 10/11/2001 |
| 064 | High Gain Horn Antenna | Microlab/FXR | 3.95 GHz - 5.85 GHz | H638A | 10/11/2000 | 10/11/2001 |
| 065 | High Gain Horn Antenna | Microlab/FXR | 5.85 GHz - 8.2 GHz | C638A | 10/11/2000 | 10/11/2001 |
| 066 | High Gain Horn Antenna | Microlab/FXR | 8.2 GHz - 12.4 GHz | X638A | 10/11/2000 | 10/11/2001 |
| 067 | Open Area Test Site | Retlif | 3 Meter | RNY | 09/20/2000 | 09/20/2003 |
| 129D | High Gain Horn Antenna | Microlab/FXR | 12.4 GHz - 18 GHz | Y638A | 10/11/2000 | 10/11/2001 |
| 129E | High Gain Horn Antenna | Microlab/FXR | 18 GHz - 26.5 GHz | K638A | 09/18/2000 | 09/18/2001 |
| 133 | Broadband Pre-Amplifier | Electro-Metrics | 10 kHz - 1 GHz, 26dB | BPA-1000 | 06/13/2000 | 06/13/2001 |
| 141 | Spectrum Analyzer | Hewlett Packard | 100 Hz - 40 GHz | 8566B | 08/03/2000 | 02/03/2001 |
| 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 | 08/02/2000 | 02/02/2001 |
| 206B | 6.0 dB Attenuator | Texscan | 0 - 1.0 GHz | FP-50 - 6 dB | 06/13/2000 | 06/13/2001 |
| 420 | Amplifier | Hewlett Packard | 2.0 GHz - 18 GHz | 11975A | 09/29/2000 | 09/29/2001 |
| 421 | Harmonic Mixer | Hewlett Packard | 18 GHz - 26.5 GHz | 11970K | 09/29/2000 | 09/29/2001 |
| 523 | Biconilog | Electro-Mechanics | 26 - 2000 MHz | 3142B | 06/08/2000 | 06/08/2001 |
| 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 | 01/27/2001 |

Test Setup Photograph for Radiated Emissions

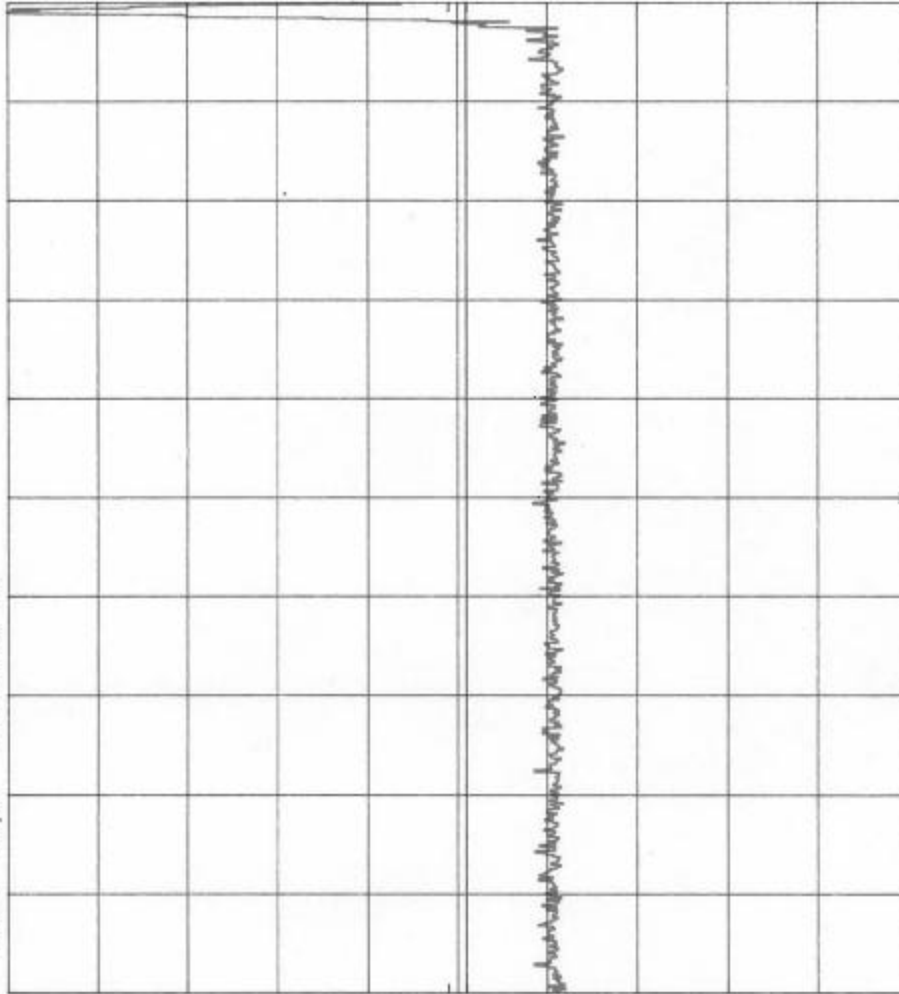


R-8874 Symbol Occupied Bandwidth PL 1/18/01

REF 80.8 dB μ W ATTEN 0 dB

hp
10 dB/

DL
29.8
dB μ W



STOP 2.483 5 GHz
SWP 25.1 msec

VBW 300 kHz

START 2.400 0 GHz
RES BW 100 kHz

| | |
|--------------|---|
| Customer: | Symbol Technologies |
| Test Sample: | 2.48150GHz Transmitter |
| Model No.: | PDT6845 |
| Test Method: | FCC 15.249(c) Occupied Bandwidth/Bandedge Compliance, 2.4-2.4835GHz |
| Notes: | FCC M. HRP/PDT6845 |
| Date: | January 18, 2001 |
| Tech: | Peter Lenarra |
| Sheet: | 1 of 2 |

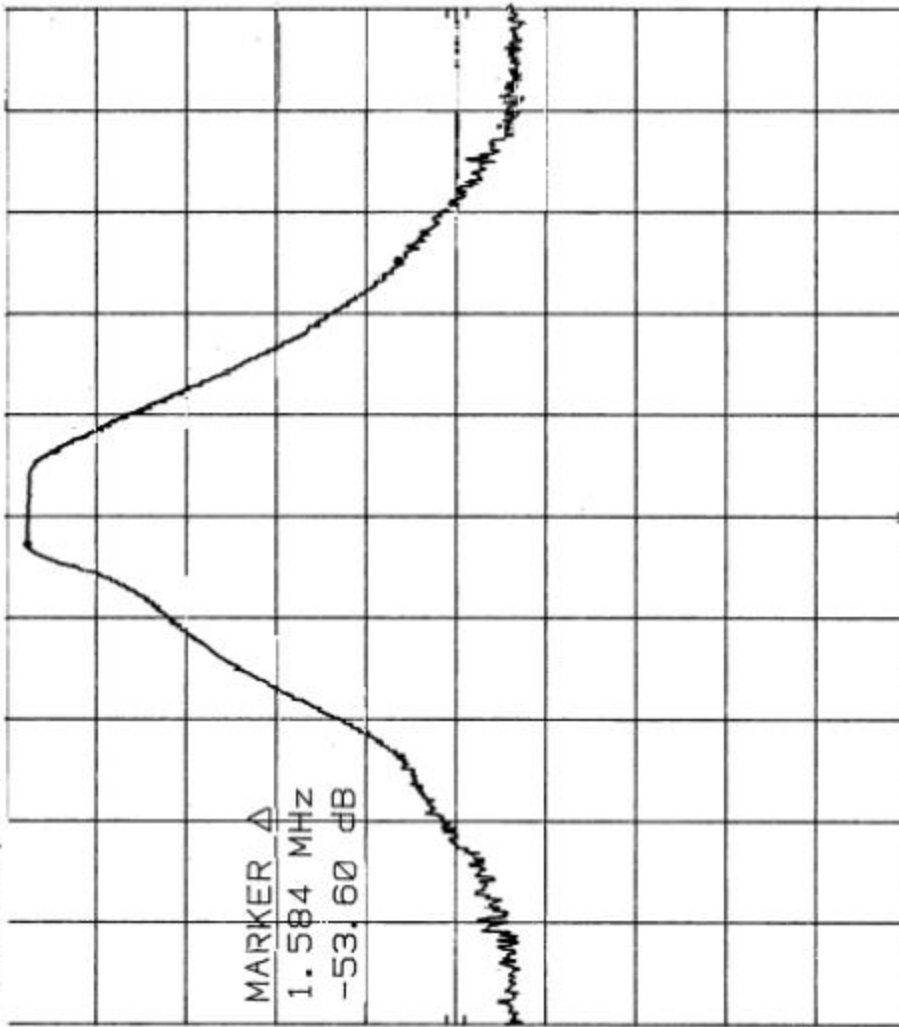


Retlif Testing Laboratories

Report No. R-8874-1

R-8874 Symbol Bandedge Measurement 1/18/01 MKR Δ 1.584 MHz
REF 90.0 dB μ V AILEN 10 dB

hp
10 dB/



START 2.480 50 GHz RES BW 100 kHz VBW 300 kHz
STOP 2.483 50 GHz SWP 20.0 msec

| | |
|--------------|--|
| Customer: | Symbol Technologies |
| Test Sample: | 2.48192GHz Transmitter |
| Model No.: | POT9845 |
| Test Method: | FCC15.249(c) Occupied Bandwidth/Bandedge Compliance, 2.4-2.4835GHz |
| Notes: | FCC M.10PPD9845 |
| | EUT more than 50dB down at bandedge in accordance with 15.249(c). |
| Date: | January 18, 2001 |
| Tech: | Peter Lanzetta |
| Sheet: | 2 of 2 |



Retlif Testing Laboratories

Report No. R-8874-1

| Test Method: | FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions | | | | | | |
|--|--|-------------------|------------------|-------------------|-------------------|-------------------|------------|
| Customer: | Symbol Technologies | Job No. | R-8874-1 | | | | |
| Test Sample: | 2.48192GHz Transmitter | Paragraph: | 15.249 | | | | |
| Model No.: | PDT6845 | FCC ID: | H9PPDT6845 | | | | |
| Operating Mode: | Continuously Transmitting a 2.48192GHz Signal | | | | | | |
| Technician: | Peter Lananna | Date: | January 18, 2001 | | | | |
| Notes: | Test Distance: 3 Meters Detector: Peak, Unless otherwise specified | | | | | | |
| Test Freq. | Antenna Pol./Height | EUT Orientation | Meter Reading | Correction Factor | Corrected Reading | Converted Reading | Peak Limit |
| GHz | (V/H)/Meters | X / Y / Z | dBuV | dB | dBuV/m | uV/m | uV/m |
| 2.48192 | H / 1.3 | X | 87.1 | 4.2 | 91.3 | 36728.2 | 500000 |
| | H / 1.3 | Y | 79.2 | 4.2 | 83.4 | 14791.1 | |
| | H / 1.3 | Z | 88.0 | 4.2 | 92.2 | 40738.0 | |
| | V / 1.3 | X | 84.4 | 4.2 | 88.6 | 26915.3 | |
| | V / 1.5 | Y | 81.8 | 4.2 | 86.0 | 19952.6 | |
| 2.48192 | V / 1.3 | Z | 80.2 | 4.2 | 84.4 | 16595.9 | 500000 |
| 4.96384 | H / 1.0 | X | 42.0 | -4.1 | 37.9 | 78.5* | 5000 |
| | H / 1.0 | Y | 42.0 | -4.1 | 37.9 | 78.5* | |
| | H / 1.0 | Z | 42.0 | -4.1 | 37.9 | 78.5* | |
| | V / 1.0 | X | 42.0 | -4.1 | 37.9 | 78.5* | |
| | V / 1.0 | Y | 42.0 | -4.1 | 37.9 | 78.5* | |
| 4.96384 | V / 1.0 | Z | 42.0 | -4.1 | 37.9 | 78.5* | 5000 |
| 7.44576 | H / 1.0 | X | 42.0 | -2.0 | 40.0 | 100.0* | 5000 |
| | H / 1.0 | Y | 42.0 | -2.0 | 40.0 | 100.0* | |
| | H / 1.0 | Z | 42.0 | -2.0 | 40.0 | 100.0* | |
| | V / 1.0 | X | 42.0 | -2.0 | 40.0 | 100.0* | |
| | V / 1.0 | Y | 42.0 | -2.0 | 40.0 | 100.0* | |
| 7.44576 | V / 1.0 | Z | 42.0 | -2.0 | 40.0 | 100.0* | 5000 |
| 9.92768 | H / 1.0 | X | 42.0 | -1.9 | 40.1 | 101.2* | 5000 |
| | H / 1.0 | Y | 42.0 | -1.9 | 40.1 | 101.2* | |
| | H / 1.0 | Z | 42.0 | -1.9 | 40.1 | 101.2* | |
| | V / 1.0 | X | 42.0 | -1.9 | 40.1 | 101.2* | |
| | V / 1.0 | Y | 42.0 | -1.9 | 40.1 | 101.2* | |
| 9.92768 | V / 1.0 | Z | 42.0 | -1.9 | 40.1 | 101.2* | 5000 |
| 12.4096 | H / 1.0 | X | 42.0 | 3.8 | 45.8 | 195.0* | 5000 |
| | H / 1.0 | Y | 42.0 | 3.8 | 45.8 | 195.0* | |
| | H / 1.0 | Z | 42.0 | 3.8 | 45.8 | 195.0* | |
| | V / 1.0 | X | 42.0 | 3.8 | 45.8 | 195.0* | |
| | V / 1.0 | Y | 42.0 | 3.8 | 45.8 | 195.0* | |
| 12.4096 | V / 1.0 | Z | 42.0 | 3.8 | 45.8 | 195.0* | 5000 |
| The frequency range was scanned from 30 MHz to 25 GHz. All emissions not recorded were more Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits. | | | | | | | |
| *=-Noise Floor Measurements (Minimum system sensitivity) | | | | | | | |



Retlif Testing Laboratories

Retlif Job Number R-8874-1

| Test Method: | FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions | | | | | | |
|---|---|-------------------|------------------|-------------------|-------------------|-------------------|------------|
| Customer: | Symbol Technologies | Job No.: | R-8874-1 | | | | |
| Test Sample: | 2.48192GHz Transmitter | Paragraph: | 15.249 | | | | |
| Model No.: | PDT6845 | FCC ID: | H9PPDT6845 | | | | |
| Operating Mode: | Continuously Transmitting a 2.48192GHz Signal | | | | | | |
| Technician: | Peter Lananna | Date: | January 18, 2001 | | | | |
| Notes: | Test Distance: 3 Meters **=Correction factor includes correction for distance at 1 meter. Detector: Peak, unless otherwise specified | | | | | | |
| Test Freq. | Antenna Pol./Height | EUT Orientation | Meter Reading | Correction Factor | Corrected Reading | Converted Reading | Peak Limit |
| MHz | (V/H)-Meters | X / Y / Z | dBuV | dB | dBuV/m | uV/m | uV/m |
| 14.89152 | H / 1.0 | X | 47.0 | 1.3** | 48.3 | 260.0* | 5000 |
| | H / 1.0 | Y | 47.0 | 1.3** | 48.3 | 260.0* | |
| | H / 1.0 | Z | 47.0 | 1.3** | 48.3 | 260.0* | |
| | V / 1.0 | X | 47.0 | 1.3** | 48.3 | 260.0* | |
| | V / 1.0 | Y | 47.0 | 1.3** | 48.3 | 260.0* | |
| 14.89152 | V / 1.0 | Z | 47.0 | 1.3** | 48.3 | 260.0* | 5000 |
| 17.37344 | H / 1.0 | X | 47.0 | 6.0** | 53.0 | 446.7* | 5000 |
| | H / 1.0 | Y | 47.0 | 6.0** | 53.0 | 446.7* | |
| | H / 1.0 | Z | 47.0 | 6.0** | 53.0 | 446.7* | |
| | V / 1.0 | X | 47.0 | 6.0** | 53.0 | 446.7* | |
| | V / 1.0 | Y | 47.0 | 6.0** | 53.0 | 446.7* | |
| 17.37344 | V / 1.0 | Z | 47.0 | 6.0** | 53.0 | 446.7* | 5000 |
| 19.85536 | H / 1.0 | X | 30.0 | 22.9** | 52.9 | 441.6* | 5000 |
| | H / 1.0 | Y | 30.0 | 22.9** | 52.9 | 441.6* | |
| | H / 1.0 | Z | 30.0 | 22.9** | 52.9 | 441.6* | |
| | V / 1.0 | X | 30.0 | 22.9** | 52.9 | 441.6* | |
| | V / 1.0 | Y | 30.0 | 22.9** | 52.9 | 441.6* | |
| 19.85536 | V / 1.0 | Z | 30.0 | 22.9** | 52.9 | 441.6* | 5000 |
| 22.33728 | H / 1.0 | X | 30.0 | 23.2** | 53.2 | 457.1* | 5000 |
| | H / 1.0 | Y | 30.0 | 23.2** | 53.2 | 457.1* | |
| | H / 1.0 | Z | 30.0 | 23.2** | 53.2 | 457.1* | |
| | V / 1.0 | X | 30.0 | 23.2** | 53.2 | 457.1* | |
| | V / 1.0 | Y | 30.0 | 23.2** | 53.2 | 457.1* | |
| 22.33728 | V / 1.0 | Z | 30.0 | 23.2** | 53.2 | 457.1* | 5000 |
| 24.8192 | H / 1.0 | X | 30.0 | 23.4** | 53.4 | 467.7* | 5000 |
| | H / 1.0 | Y | 30.0 | 23.4** | 53.4 | 467.7* | |
| | H / 1.0 | Z | 30.0 | 23.4** | 53.4 | 467.7* | |
| | V / 1.0 | X | 30.0 | 23.4** | 53.4 | 467.7* | |
| | V / 1.0 | Y | 30.0 | 23.4** | 53.4 | 467.7* | |
| 24.8192 | V / 1.0 | Z | 30.0 | 23.4** | 53.4 | 467.7* | 5000 |
| The frequency range was scanned from 30 MHz to 25GHz. All emissions not recorded were more Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits. | | | | | | | |
| *=Noise Floor Measurements (Minimum system sensitivity) | | | | | | | |



Retlif Testing Laboratories

Retlif Job Number R-8874-1

| Test Method: | FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions | | | | | | |
|--|--|-------------------|---------------------------------|-------------------|-------------------|-------------------|------------|
| Customer: | Symbol Technologies | Job No.: | R-8874-1 | | | | |
| Test Sample: | 2.48192GHz Transmitter | Paragraph: | 15.249 | | | | |
| Model No.: | PDT6845 | FCC ID: | H9PPDT6845 | | | | |
| Operating Mode: | Continuously Transmitting a 2.48192GHz Signal | | | | | | |
| Technician: | Peter Lananna | Date: | January 18, 2001 | | | | |
| Notes: | Test Distance: 3 Meters | | Duty Cycle: 50% | | | | |
| | Detector: Peak, unless otherwise specified | | Duty Cycle Correction: - 6.0 dB | | | | |
| Test Freq. | Antenna Pol./Height | EUT Orientation | Peak Reading | Correction Factor | Corrected Reading | Converted Reading | Avg. Limit |
| MHz | (V/H)-Meters | X / Y / Z | dBuV | dB | dBuV/m | uV/m | uV/m |
| 2.48192 | H / 1.3 | X | 91.3 | -6.0 | 85.3 | 18407.7 | 50000 |
| | H / 1.3 | Y | 83.4 | -6.0 | 77.4 | 7413.1 | |
| | H / 1.3 | Z | 92.2 | -6.0 | 86.2 | 20417.4 | |
| | V / 1.3 | X | 88.6 | -6.0 | 82.6 | 13489.6 | |
| | V / 1.5 | Y | 86.0 | -6.0 | 80.0 | 10000.0 | |
| 2.48192 | V / 1.3 | Z | 84.4 | -6.0 | 78.4 | 8317.6 | 50000 |
| 4.96384 | H / 1.0 | X | 37.9 | -6.0 | 31.9 | 39.4* | 500 |
| | H / 1.0 | Y | 37.9 | -6.0 | 31.9 | 39.4* | |
| | H / 1.0 | Z | 37.9 | -6.0 | 31.9 | 39.4* | |
| | V / 1.0 | X | 37.9 | -6.0 | 31.9 | 39.4* | |
| | V / 1.0 | Y | 37.9 | -6.0 | 31.9 | 39.4* | |
| 4.96384 | V / 1.0 | Z | 37.9 | -6.0 | 31.9 | 39.4* | 500 |
| 7.44576 | H / 1.0 | X | 40.0 | -6.0 | 34.0 | 50.1* | 500 |
| | H / 1.0 | Y | 40.0 | -6.0 | 34.0 | 50.1* | |
| | H / 1.0 | Z | 40.0 | -6.0 | 34.0 | 50.1* | |
| | V / 1.0 | X | 40.0 | -6.0 | 34.0 | 50.1* | |
| | V / 1.0 | Y | 40.0 | -6.0 | 34.0 | 50.1* | |
| 7.44576 | V / 1.0 | Z | 40.0 | -6.0 | 34.0 | 50.1* | 500 |
| 9.92768 | H / 1.0 | X | 40.1 | -6.0 | 34.1 | 50.7* | 500 |
| | H / 1.0 | Y | 40.1 | -6.0 | 34.1 | 50.7* | |
| | H / 1.0 | Z | 40.1 | -6.0 | 34.1 | 50.7* | |
| | V / 1.0 | X | 40.1 | -6.0 | 34.1 | 50.7* | |
| | V / 1.0 | Y | 40.1 | -6.0 | 34.1 | 50.7* | |
| 9.92768 | V / 1.0 | Z | 40.1 | -6.0 | 34.1 | 50.7* | 500 |
| 12.4096 | H / 1.0 | X | 45.8 | -6.0 | 39.8 | 97.7* | 500 |
| | H / 1.0 | Y | 45.8 | -6.0 | 39.8 | 97.7* | |
| | H / 1.0 | Z | 45.8 | -6.0 | 39.8 | 97.7* | |
| | V / 1.0 | X | 45.8 | -6.0 | 39.8 | 97.7* | |
| | V / 1.0 | Y | 45.8 | -6.0 | 39.8 | 97.7* | |
| 12.4096 | V / 1.0 | Z | 45.8 | -6.0 | 39.8 | 97.7* | 500 |
| The frequency range was scanned from 30 MHz to 25 GHz. All emissions not recorded were more | | | | | | | |
| Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits. | | | | | | | |
| *=Noise Floor Measurements (Minimum system sensitivity) | | | | | | | |



Retlif Testing Laboratories

Retlif Job Number R-8874-1

| Test Method: | FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions | | | | | | |
|--|--|-------------------|---------------------------------|-------------------|-------------------|-------------------|------------|
| Customer: | Symbol Technologies | Job No.: | R-8874-1 | | | | |
| Test Sample: | 2.48192GHz Transmitter | Paragraph: | 15.249 | | | | |
| Model No.: | PDT6845 | FCC ID: | H9PPDT6845 | | | | |
| Operating Mode: | Continuously Transmitting a 2.48192GHz Signal | | | | | | |
| Technician: | Peter Lananna | Date: | January 18, 2001 | | | | |
| Notes: | Test Distance: 3 Meters | | Duty Cycle: 50% | | | | |
| | Detector: Peak, unless otherwise specified | | Duty Cycle Correction: - 6.0 dB | | | | |
| Test Freq. | Antenna Pol./Height | EUT Orientation | Peak Reading | Correction Factor | Corrected Reading | Converted Reading | Avg. Limit |
| MHz | (V/H)-Meters | X / Y / Z | dBuV | dB | dBuV/m | uV/m | uV/m |
| 14.89152 | H / 1.0 | X | 48.3 | -6.0 | 42.3 | 130.3* | 500 |
| | H / 1.0 | Y | 48.3 | -6.0 | 42.3 | 130.3* | |
| | H / 1.0 | Z | 48.3 | -6.0 | 42.3 | 130.3* | |
| | V / 1.0 | X | 48.3 | -6.0 | 42.3 | 130.3* | |
| | V / 1.0 | Y | 48.3 | -6.0 | 42.3 | 130.3* | |
| 14.89152 | V / 1.0 | Z | 48.3 | -6.0 | 42.3 | 130.3* | 500 |
| 17.37344 | H / 1.0 | X | 53.0 | -6.0 | 47.0 | 223.9* | 500 |
| | H / 1.0 | Y | 53.0 | -6.0 | 47.0 | 223.9* | |
| | H / 1.0 | Z | 53.0 | -6.0 | 47.0 | 223.9* | |
| | V / 1.0 | X | 53.0 | -6.0 | 47.0 | 223.9* | |
| | V / 1.0 | Y | 53.0 | -6.0 | 47.0 | 223.9* | |
| 17.37344 | V / 1.0 | Z | 53.0 | -6.0 | 47.0 | 223.9* | 500 |
| 19.85536 | H / 1.0 | X | 52.9 | -6.0 | 46.9 | 221.3* | 500 |
| | H / 1.0 | Y | 52.9 | -6.0 | 46.9 | 221.3* | |
| | H / 1.0 | Z | 52.9 | -6.0 | 46.9 | 221.3* | |
| | V / 1.0 | X | 52.9 | -6.0 | 46.9 | 221.3* | |
| | V / 1.0 | Y | 52.9 | -6.0 | 46.9 | 221.3* | |
| 19.85536 | V / 1.0 | Z | 52.9 | -6.0 | 46.9 | 221.3* | 500 |
| 22.33728 | H / 1.0 | X | 53.2 | -6.0 | 47.2 | 229.1* | 500 |
| | H / 1.0 | Y | 53.2 | -6.0 | 47.2 | 229.1* | |
| | H / 1.0 | Z | 53.2 | -6.0 | 47.2 | 229.1* | |
| | V / 1.0 | X | 53.2 | -6.0 | 47.2 | 229.1* | |
| | V / 1.0 | Y | 53.2 | -6.0 | 47.2 | 229.1* | |
| 22.33728 | V / 1.0 | Z | 53.2 | -6.0 | 47.2 | 229.1* | 500 |
| 24.8192 | H / 1.0 | X | 53.4 | -6.0 | 47.4 | 234.4* | 500 |
| | H / 1.0 | Y | 53.4 | -6.0 | 47.4 | 234.4* | |
| | H / 1.0 | Z | 53.4 | -6.0 | 47.4 | 234.4* | |
| | V / 1.0 | X | 53.4 | -6.0 | 47.4 | 234.4* | |
| | V / 1.0 | Y | 53.4 | -6.0 | 47.4 | 234.4* | |
| 24.8192 | V / 1.0 | Z | 53.4 | -6.0 | 47.4 | 234.4* | 500 |
| The frequency range was scanned from 30 MHz to 25 GHz. All emissions not recorded were more Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits. | | | | | | | |
| *=Noise Floor Measurements (Minimum system sensitivity) | | | | | | | |



Retlif Testing Laboratories


Retlif Job Number R-8874-1

| | | | |
|------------------------|--|-----------------|------------------|
| Test Method: | FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a) | | |
| Customer: | Symbol Technologies | Job No.: | R-8874-1 |
| Test Sample: | 2.48192GHz Transmitter | | |
| Model No.: | PDT6845 | FCC Id.: | H9PPDT6845 |
| Operating Mode: | Continuously transmitting a 2.48192GHz signal. | | |
| Technician: | Peter Lananna | Date: | January 18, 2001 |

Notes: Test Distance: 3 Meters Temp:7C Humidity:88%
 Detector: Peak

| Test Freq. | Antenna Position | EUT Orientation | Meter Readings | Correction Factor | Corrected Reading | Converted Reading | LIMIT |
|------------|------------------|-----------------|----------------|-------------------|-------------------|-------------------|-------|
| MHz | (V/H) / Meters | Degrees | dBuV | dB | dBuV/m | uV/m | uV/m |
| 30.00 | | | | | | | 100 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 88.00 | | | | | | | 100 |
| 88.00 | | | | | | | 150 |
| | | | | | | | |
| | | | | | | | |
| 200.0 | V/1.8 | 225 | 39.1 | -7.4 | 31.7 | 38.5 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 216.00 | | | | | | | 150 |
| 216.00 | | | | | | | 200 |
| | | | | | | | |
| 425.0 | V/1.0 | 023 | 37.9 | -0.6 | 37.3 | 73.3 | |
| 440.0 | V/1.0 | 203 | 36.5 | -0.6 | 35.9 | 62.4 | |
| | | | | | | | |
| 960.00 | | | | | | | 200 |
| 960.00 | | | | | | | 500 |
| | | | | | | | |
| | | | | | | | |
| 25000.0 | | | | | | | 500 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

The EUT was scanned from 30 MHz to 25 GHz
 The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded were more than 10dB under the specified limit

| | |
|---|------------------------------------|
|  | Retlif Testing Laboratories |
| | Retlif Job Number R-8874-1 |

Timing and Data Transmission Information for H9PPDT6845

Information is transmitted in packets. The packets of longest duration are DATA packets. After sending a DATA packet, the transmitter waits to hear an ACK packet from the intended receiving unit before it can proceed with another transmission.

Within the packets, data is formatted in bytes which are bracketed with start (RF carrier transmitted) and stop (RF carrier off) bits as is standard in asynchronous transmission. Data in the bytes is broken into four consecutive pairs of contiguous dibits. Each dibit is either a "one" dibit (carrier on bit followed by a carrier off bit) or a "zero" dibit (carrier off bit followed by a carrier on bit). Thus, the duty cycle of all bytes is 50%. The rate of occurrence of "one" and "zero" dibits is entirely dependent on the data being sent by the application.

Bit rate can be 19.2, 9.6, 4.8 or 2.4 kilobits per second. 9.6Kbps is the standard rate. At this standard rate, DATA packets can last up to 260mS. ACK packets last 40mS. There is no fixed limit to the number of DATA packets which can be sent consecutively. In practical applications, there are seldom more than 15 packets of DATA.

Considering the densest possible transmission of continuous data packets, RF duty cycle will always be less than 45% ((50% duty cycle of each byte) x DATA / (DATA + ACK)).

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