FCC Certification Report for the **LA4111** WLAN PC Card Class II Permissive Change

EXHIBIT 2

TEST REPORT

ITS Intertek Testing Services

Symbol Technologies Inc.

Radiated Emissions in Restricted Bands
FCC Part 15.247(c)

2.4 GHz Spread Spectrum Radio
Model: LA4111

Job # J99031493
Report # J99031493c

Date of Report: January 5, 2000
Date of Test: December 27 - 29, 1999

Number of Pages: 13 + Data Pages

NVLAP®

Table of Contents

Symbol Technologies Inc. - Model No.: LA4111

TEST	REFERENCE	RESULTS
Radiated Emission in Restricted Bands	15.247(c)	Pass

Test Engineer: Ollie Moyrong Date: 1/6/00

EMC Site Mgr.: David Chernomordik Date: 1/6/10
David Chernomordik

2.0 General Description

2.1 Product Description

The Symbol Technologies model LA4111 is 2.4 GHz Spread Spectrum radio in the form of a PCMCIA card that is used for wireless communication from a computer to a LAN.

Overview of the EUT

Trade Name & Model No.	Symbol Technologies, Model No. LA3021-100
Frequency Range (MHz)	2412 - 2462
Antenna(s)	6 antennas
Manufacturer name & address	Symbol Technologies 2145 Hamilton Avenue San Jose, CA 95125

2.3 Test Methodology

Radiated emissions measurements were performed according to the procedures in ANSI C63.4 (1992). Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Data Sheet"** of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

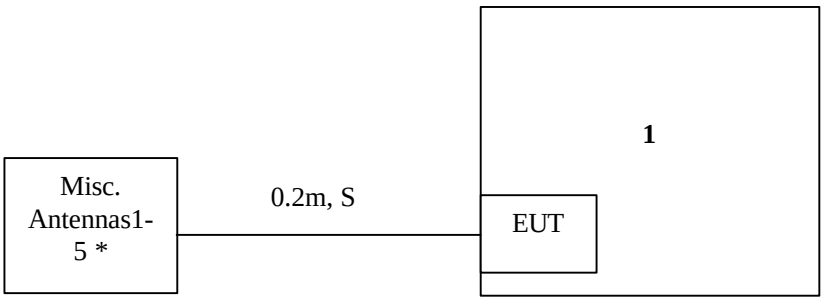
The open area test site facility used to collect the radiated data is located at 1365 Adams Court, Menlo Park, CA 94025. This test facility and site measurement data have been fully placed on file with the FCC.

3.0 System Test Configuration

3.1 Support Equipment

Item #	Description	Model No.	Serial No.	FCC ID
1	Compaq Notebook Computer	2860A	7448HJJ53R518	CNT75MB2CA

3.2 Block Diagram of Test Setup



*: Antenna #1 = Model 7546
Antenna #2 = Model 2742
Antenna #3 = Model XP
Antenna #4 = Model 7242
Antenna #5 = Model Toko
Antenna #6 = Model Vocollect MMCX

m: Length in meters
S: Shielded

3.3 Justification

For emission testing, the equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). During testing, all cables were manipulated to produce worst case emissions.

For radiated emission measurements, the EUT is attached to a cardboard box (if necessary) and placed on the wooden turntable. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). The EUT is wired to transmit full power.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

3.4 Software Exercise Program

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

3.5 Mode of Operation During Test

For emissions testing, the units were setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing.

3.6 Modifications Required for Compliance

The following modifications were installed during compliance testing in order to bring the product into compliance (Please note that this list does not include changes made specifically by Symbol Technologies Inc. prior to compliance testing):

No modifications were made to the EUT by Intertek Testing Services.

4.0 Measurement Results

4.1 Transmitter Radiated Emissions in Restricted Bands, FCC Ref: 15.247(c)

Radiated emission measurements were performed from 30 MHz to 25000 MHz. Analyzer resolution is 100 kHz or greater for frequencies from 30 MHz to 1000 MHz and 1 MHz for frequencies above 1000 MHz.

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection and average detection (above 1 GHz) unless otherwise specified.

On the following pages, the emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter is in full radiated power.

The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz.

The transmitter was setup to transmit at the highest channel. The spectrum analyzer with resolution bandwidth 1 MHz was connected to the antenna terminal of the transmitter. The antenna conducted emissions in the band 2400 - 2483.5 MHz were measured and plotted. The difference (delta) between the levels on fundamental frequency and on the frequency 2483.5 MHz was determined. Then the field strength (E_0 in dBuV/m) of radiated emission at the fundamental frequency at 3 m was measured.
The radiated emission (E_1 in dBuV/m) at 2483.5 MHz was calculated as follows:

$$E_1 = E_0 - \text{delta}.$$

The same procedure was used to measure the radiated emissions at the frequency 2390 MHz and down to 2310 MHz.

For the test results, refer to the attached radiated emission measurements and the antenna conducted emission plots from the original application.

For transmitters with hopping channel ON times < 100 msec, DUTY CYCLE
CORRECTION is permitted for emissions above 1000 MHz: Duty Cycle of 0 dB was used.

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #1
Test Mode:	Tx @ Low Channel 2412 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2412.0	P	3.0	V	74.8	30.4	0.0	0.0	2.3	0.0	107.5	N/A	N/A	
4824.0	A	3.0	V	24.3	35.4	-28.1	0.0	3.5	0.0	35.1	54.0	-18.9	
4824.0	P	3.0	V	33.7	35.4	-28.1	0.0	3.5	0.0	44.5	74.0	-29.5	
12060.0	A	1.0	V	25.7	42.3	-33.0	-9.5	5.9	0.0	31.4	54.0	-22.6	*
12060.0	P	1.0	V	35.9	42.3	-33.0	-9.5	5.9	0.0	41.6	74.0	-32.4	*
14472.0	A	1.0	V	29.0	41.1	-33.0	-9.5	6.7	0.0	34.3	54.0	-19.7	*
14472.0	P	1.0	V	40.1	41.1	-33.0	-9.5	6.7	0.0	45.4	74.0	-28.6	*
19296.0	A	1.0	V	30.0	40.2	-24.0	-9.5	7.7	0.0	44.4	54.0	-9.6	**
19296.0	P	1.0	V	40.8	40.2	-24.0	-9.5	7.7	0.0	55.2	74.0	-18.8	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.: J99031493
Company: Symbol Technologies
Model: LA4111 w/ Antenna #1
Test Mode: Tx @ Mid Channel 2437 MHz
Engineer: Ollie Moyrong
Date: December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
4874.0	A	3.0	V	22.5	35.4	-28.1	0.0	3.5	0.0	33.3	54.0	-20.7	
4874.0	P	3.0	V	32.4	35.4	-28.1	0.0	3.5	0.0	43.2	74.0	-30.8	
7311.0	A	3.0	V	25.1	37.8	-28.0	0.0	4.6	0.0	39.5	54.0	-14.5	
7311.0	P	3.0	V	35.3	37.8	-28.0	0.0	4.6	0.0	49.7	74.0	-24.3	
12185.0	A	1.0	V	25.8	42.3	-33.0	-9.5	5.9	0.0	31.5	54.0	-22.5	*
12185.0	P	1.0	V	35.8	42.3	-33.0	-9.5	5.9	0.0	41.5	74.0	-32.5	*
19496.0	A	1.0	V	30.3	40.2	-24.0	-9.5	7.7	0.0	44.7	54.0	-9.3	**
19496.0	P	1.0	V	40.9	40.2	-24.0	-9.5	7.7	0.0	55.3	74.0	-18.7	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.: J99031493
Company: Symbol Technologies
Model: LA4111 w/ Antenna #1
Test Mode: Tx @ High Channel 2462 MHz
Engineer: Ollie Moyrong
Date: December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2462.0	P	3.0	V	71.2	30.4	0.0	0.0	2.3	0.0	103.9	N/A	N/A	
4924.0	A	3.0	V	22.5	35.4	-28.3	0.0	3.5	0.0	33.1	54.0	-20.9	
4924.0	P	3.0	V	32.7	35.4	-28.3	0.0	3.5	0.0	43.3	74.0	-30.7	
7386.0	A	3.0	V	25.0	37.8	-28.0	0.0	4.6	0.0	39.4	54.0	-14.6	
7386.0	P	3.0	V	34.6	37.8	-28.0	0.0	4.6	0.0	49.0	74.0	-25.0	
12310.0	A	1.0	V	25.8	41.1	-33.0	-9.5	6.1	0.0	30.5	54.0	-23.5	*
12310.0	P	1.0	V	36.0	41.1	-33.0	-9.5	6.1	0.0	40.7	74.0	-33.3	*
19696.0	A	1.0	V	30.4	40.2	-24.0	-9.5	6.5	0.0	43.6	54.0	-10.4	**
19696.0	P	1.0	V	41.3	40.2	-24.0	-9.5	6.5	0.0	54.5	74.0	-19.5	**
22158.0	A	1.0	V	33.1	40.3	-24.0	-9.5	7.5	0.0	47.4	54.0	-6.6	**
22158.0	P	1.0	V	44.4	40.3	-24.0	-9.5	7.5	0.0	58.7	74.0	-15.3	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #2
Test Mode:	Tx @ Low Channel 2412 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2412.0	P	3.0	V	73.0	30.4	0.0	0.0	2.3	0.0	105.7	N/A	N/A	
4824.0	A	3.0	V	24.1	35.4	-28.1	0.0	3.5	0.0	34.9	54.0	-19.1	
4824.0	P	3.0	V	32.7	35.4	-28.1	0.0	3.5	0.0	43.5	74.0	-30.5	
12060.0	A	1.0	V	25.7	42.3	-33.0	-9.5	5.9	0.0	31.4	54.0	-22.6	*
12060.0	P	1.0	V	35.7	42.3	-33.0	-9.5	5.9	0.0	41.4	74.0	-32.6	*
14472.0	A	1.0	V	28.9	41.1	-33.0	-9.5	6.7	0.0	34.2	54.0	-19.8	*
14472.0	P	1.0	V	40.1	41.1	-33.0	-9.5	6.7	0.0	45.4	74.0	-28.6	*
19296.0	A	1.0	V	30.1	40.2	-24.0	-9.5	7.7	0.0	44.5	54.0	-9.5	**
19296.0	P	1.0	V	40.2	40.2	-24.0	-9.5	7.7	0.0	54.6	74.0	-19.4	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #2
Test Mode:	Tx @ Mid Channel 2437 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
4874.0	A	3.0	V	23.3	35.4	-28.1	0.0	3.5	0.0	34.1	54.0	-19.9	
4874.0	P	3.0	V	32.1	35.4	-28.1	0.0	3.5	0.0	42.9	74.0	-31.1	
7311.0	A	3.0	V	25.2	37.8	-28.0	0.0	4.6	0.0	39.6	54.0	-14.4	
7311.0	P	3.0	V	34.7	37.8	-28.0	0.0	4.6	0.0	49.1	74.0	-24.9	
12185.0	A	1.0	V	25.8	42.3	-33.0	-9.5	5.9	0.0	31.5	54.0	-22.5	*
12185.0	P	1.0	V	36.0	42.3	-33.0	-9.5	5.9	0.0	41.7	74.0	-32.3	*
19496.0	A	1.0	V	30.2	40.2	-24.0	-9.5	7.7	0.0	44.6	54.0	-9.4	**
19496.0	P	1.0	V	40.8	40.2	-24.0	-9.5	7.7	0.0	55.2	74.0	-18.8	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #2
Test Mode:	Tx @ High Channel 2462 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2462.0	P	3.0	V	72.5	30.4	0.0	0.0	2.3	0.0	105.2	N/A	N/A	
4924.0	A	3.0	V	23.0	35.4	-28.3	0.0	3.5	0.0	33.6	54.0	-20.4	
4924.0	P	3.0	V	32.4	35.4	-28.3	0.0	3.5	0.0	43.0	74.0	-31.0	
7386.0	A	3.0	V	24.9	37.8	-28.0	0.0	4.6	0.0	39.3	54.0	-14.7	
7386.0	P	3.0	V	34.8	37.8	-28.0	0.0	4.6	0.0	49.2	74.0	-24.8	
12310.0	A	1.0	V	25.7	41.1	-33.0	-9.5	6.1	0.0	30.4	54.0	-23.6	*
12310.0	P	1.0	V	36.1	41.1	-33.0	-9.5	6.1	0.0	40.8	74.0	-33.2	*
19696.0	A	1.0	V	30.1	40.2	-24.0	-9.5	6.5	0.0	43.3	54.0	-10.7	**
19696.0	P	1.0	V	40.9	40.2	-24.0	-9.5	6.5	0.0	54.1	74.0	-19.9	**
22158.0	A	1.0	V	33.1	40.3	-24.0	-9.5	7.5	0.0	47.4	54.0	-6.6	**
22158.0	P	1.0	V	44.2	40.3	-24.0	-9.5	7.5	0.0	58.5	74.0	-15.5	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #3
Test Mode:	Tx @ Low Channel 2412 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2412.0	P	3.0	V	72.0	30.4	0.0	0.0	2.3	0.0	104.7	N/A	N/A	
4824.0	A	3.0	V	24.3	35.4	-28.1	0.0	3.5	0.0	35.1	54.0	-18.9	
4824.0	P	3.0	V	33.4	35.4	-28.1	0.0	3.5	0.0	44.2	74.0	-29.8	
12060.0	A	1.0	V	25.7	42.3	-33.0	-9.5	5.9	0.0	31.4	54.0	-22.6	*
12060.0	P	1.0	V	35.5	42.3	-33.0	-9.5	5.9	0.0	41.2	74.0	-32.8	*
14472.0	A	1.0	V	29.1	41.1	-33.0	-9.5	6.7	0.0	34.4	54.0	-19.6	*
14472.0	P	1.0	V	39.4	41.1	-33.0	-9.5	6.7	0.0	44.7	74.0	-29.3	*
19296.0	A	1.0	V	30.1	40.2	-24.0	-9.5	7.7	0.0	44.5	54.0	-9.5	**
19296.0	P	1.0	V	40.6	40.2	-24.0	-9.5	7.7	0.0	55.0	74.0	-19.0	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #3
Test Mode:	Tx @ Mid Channel 2437 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
4874.0	A	3.0	V	22.9	35.4	-28.1	0.0	3.5	0.0	33.7	54.0	-20.3	
4874.0	P	3.0	V	32.0	35.4	-28.1	0.0	3.5	0.0	42.8	74.0	-31.2	
7311.0	A	3.0	V	25.3	37.8	-28.0	0.0	4.6	0.0	39.7	54.0	-14.3	
7311.0	P	3.0	V	35.2	37.8	-28.0	0.0	4.6	0.0	49.6	74.0	-24.4	
12185.0	A	1.0	V	25.9	42.3	-33.0	-9.5	5.9	0.0	31.6	54.0	-22.4	*
12185.0	P	1.0	V	35.4	42.3	-33.0	-9.5	5.9	0.0	41.1	74.0	-32.9	*
19496.0	A	1.0	V	30.3	40.2	-24.0	-9.5	7.7	0.0	44.7	54.0	-9.3	**
19496.0	P	1.0	V	41.2	40.2	-24.0	-9.5	7.7	0.0	55.6	74.0	-18.4	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #3
Test Mode:	Tx @ High Channel 2462 MHz
Engineer:	Ollie Moyrong
Date:	December_27_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2462.0	P	3.0	V	70.5	30.4	0.0	0.0	2.3	0.0	103.2	N/A	N/A	
4924.0	A	3.0	V	22.7	35.4	-28.3	0.0	3.5	0.0	33.3	54.0	-20.7	
4924.0	P	3.0	V	32.0	35.4	-28.3	0.0	3.5	0.0	42.6	74.0	-31.4	
7386.0	A	3.0	V	24.9	37.8	-28.0	0.0	4.6	0.0	39.3	54.0	-14.7	
7386.0	P	3.0	V	34.2	37.8	-28.0	0.0	4.6	0.0	48.6	74.0	-25.4	
12310.0	A	1.0	V	25.9	41.1	-33.0	-9.5	6.1	0.0	30.6	54.0	-23.4	*
12310.0	P	1.0	V	35.5	41.1	-33.0	-9.5	6.1	0.0	40.2	74.0	-33.8	*
19696.0	A	1.0	V	30.5	40.2	-24.0	-9.5	6.5	0.0	43.7	54.0	-10.3	**
19696.0	P	1.0	V	41.6	40.2	-24.0	-9.5	6.5	0.0	54.8	74.0	-19.2	**
22158.0	A	1.0	V	33.0	40.3	-24.0	-9.5	7.5	0.0	47.3	54.0	-6.7	**
22158.0	P	1.0	V	43.6	40.3	-24.0	-9.5	7.5	0.0	57.9	74.0	-16.1	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #4
Test Mode:	Tx @ Low Channel 2412 MHz
Engineer:	Ollie Moyrong
Date:	December_29_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2412.0	P	3.0	V	71.8	30.4	0.0	0.0	2.3	0.0	104.5	N/A	N/A	
4824.0	A	3.0	V	24.5	35.4	-28.1	0.0	3.5	0.0	35.3	54.0	-18.7	
4824.0	P	3.0	V	33.5	35.4	-28.1	0.0	3.5	0.0	44.3	74.0	-29.7	
12060.0	A	1.0	V	26.1	42.3	-33.0	-9.5	5.9	0.0	31.8	54.0	-22.2	*
12060.0	P	1.0	V	36.5	42.3	-33.0	-9.5	5.9	0.0	42.2	74.0	-31.8	*
14472.0	A	1.0	V	29.4	41.1	-33.0	-9.5	6.7	0.0	34.7	54.0	-19.3	*
14472.0	P	1.0	V	40.7	41.1	-33.0	-9.5	6.7	0.0	46.0	74.0	-28.0	*
19296.0	A	1.0	V	29.8	40.2	-24.0	-9.5	7.7	0.0	44.2	54.0	-9.8	**
19296.0	P	1.0	V	40.0	40.2	-24.0	-9.5	7.7	0.0	54.4	74.0	-19.6	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #4
Test Mode:	Tx @ Mid Channel 2437 MHz
Engineer:	Ollie Moyrong
Date:	December_29_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
4874.0	A	3.0	V	22.8	35.4	-28.1	0.0	3.5	0.0	33.6	54.0	-20.4	
4874.0	P	3.0	V	31.8	35.4	-28.1	0.0	3.5	0.0	42.6	74.0	-31.4	
7311.0	A	3.0	V	27.3	37.8	-28.0	0.0	4.6	0.0	41.7	54.0	-12.3	
7311.0	P	3.0	V	36.5	37.8	-28.0	0.0	4.6	0.0	50.9	74.0	-23.1	
12185.0	A	1.0	V	25.8	42.3	-33.0	-9.5	5.9	0.0	31.5	54.0	-22.5	*
12185.0	P	1.0	V	35.5	42.3	-33.0	-9.5	5.9	0.0	41.2	74.0	-32.8	*
19496.0	A	1.0	V	29.5	40.2	-24.0	-9.5	7.7	0.0	43.9	54.0	-10.1	**
19496.0	P	1.0	V	39.1	40.2	-24.0	-9.5	7.7	0.0	53.5	74.0	-20.5	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #4
Test Mode:	Tx @ High Channel 2462 MHz
Engineer:	Ollie Moyrong
Date:	December_29_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2462.0	P	3.0	V	68.4	30.4	0.0	0.0	2.3	0.0	101.1	N/A	N/A	
4924.0	A	3.0	V	22.7	35.4	-28.3	0.0	3.5	0.0	33.3	54.0	-20.7	
4924.0	P	3.0	V	32.3	35.4	-28.3	0.0	3.5	0.0	42.9	74.0	-31.1	
7386.0	A	3.0	V	26.6	37.8	-28.0	0.0	4.6	0.0	41.0	54.0	-13.0	
7386.0	P	3.0	V	35.8	37.8	-28.0	0.0	4.6	0.0	50.2	74.0	-23.8	
12310.0	A	1.0	V	25.7	41.1	-33.0	-9.5	6.1	0.0	30.4	54.0	-23.6	*
12310.0	P	1.0	V	36.0	41.1	-33.0	-9.5	6.1	0.0	40.7	74.0	-33.3	*
19696.0	A	1.0	V	29.5	40.2	-24.0	-9.5	6.5	0.0	42.7	54.0	-11.3	**
19696.0	P	1.0	V	40.2	40.2	-24.0	-9.5	6.5	0.0	53.4	74.0	-20.6	**
22158.0	A	1.0	V	32.7	40.3	-24.0	-9.5	7.5	0.0	47.0	54.0	-7.0	**
22158.0	P	1.0	V	42.6	40.3	-24.0	-9.5	7.5	0.0	56.9	74.0	-17.1	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #5
Test Mode:	Tx @ Low Channel 2412 MHz
Engineer:	Ollie Moyrong
Date:	December_29_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2412.0	P	3.0	V	73.7	30.4	0.0	0.0	2.3	0.0	106.4	N/A	N/A	
4824.0	A	3.0	V	26.7	35.4	-28.1	0.0	3.5	0.0	37.5	54.0	-16.5	
4824.0	P	3.0	V	34.4	35.4	-28.1	0.0	3.5	0.0	45.2	74.0	-28.8	
12060.0	A	1.0	V	25.7	42.3	-33.0	-9.5	5.9	0.0	31.4	54.0	-22.6	*
12060.0	P	1.0	V	35.9	42.3	-33.0	-9.5	5.9	0.0	41.6	74.0	-32.4	*
14472.0	A	1.0	V	29.0	41.1	-33.0	-9.5	6.7	0.0	34.3	54.0	-19.7	*
14472.0	P	1.0	V	40.1	41.1	-33.0	-9.5	6.7	0.0	45.4	74.0	-28.6	*
19296.0	A	1.0	V	30.0	40.2	-24.0	-9.5	7.7	0.0	44.4	54.0	-9.6	**
19296.0	P	1.0	V	40.8	40.2	-24.0	-9.5	7.7	0.0	55.2	74.0	-18.8	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #5
Test Mode:	Tx @ Mid Channel 2437 MHz
Engineer:	Ollie Moyrong C. M.
Date:	December_29_1999

FCC Part 15.247 Radiated Emissions

Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
4874.0	A	3.0	V	23.6	35.4	-28.1	0.0	3.5	0.0	34.4	54.0	-19.6	
4874.0	P	3.0	V	32.0	35.4	-28.1	0.0	3.5	0.0	42.8	74.0	-31.2	
7311.0	A	3.0	V	26.2	37.8	-28.0	0.0	4.6	0.0	40.6	54.0	-13.4	
7311.0	P	3.0	V	35.5	37.8	-28.0	0.0	4.6	0.0	49.9	74.0	-24.1	
12185.0	A	1.0	V	25.8	42.3	-33.0	-9.5	5.9	0.0	31.5	54.0	-22.5	*
12185.0	P	1.0	V	35.8	42.3	-33.0	-9.5	5.9	0.0	41.5	74.0	-32.5	*
19496.0	A	1.0	V	30.3	40.2	-24.0	-9.5	7.7	0.0	44.7	54.0	-9.3	**
19496.0	P	1.0	V	40.9	40.2	-24.0	-9.5	7.7	0.0	55.3	74.0	-18.7	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

ITS Intertek Testing Services

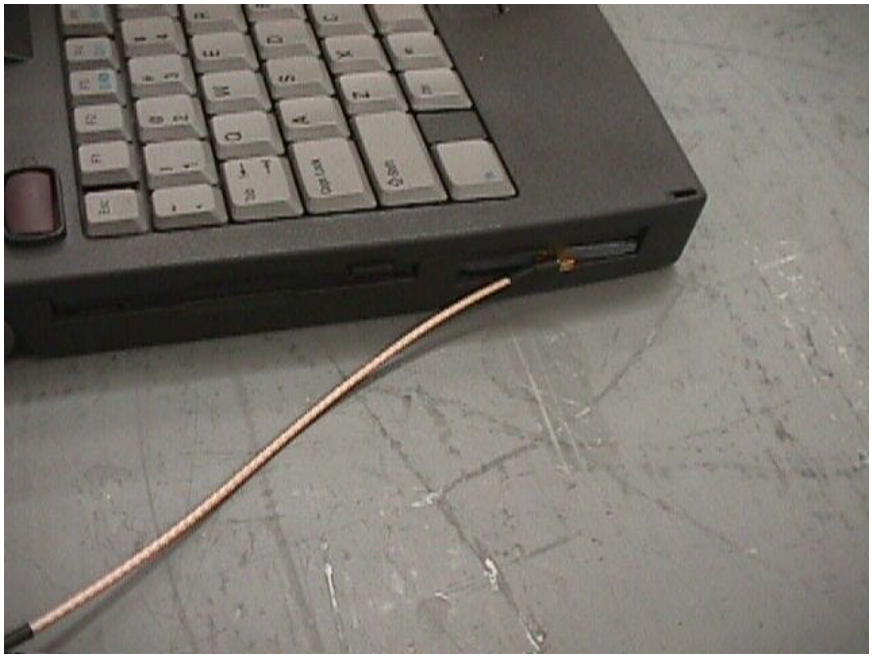
Job No.:	J99031493
Company:	Symbol Technologies
Model:	LA4111 w/ Antenna #5
Test Mode:	Tx @ High Channel 2462 MHz
Engineer:	Ollie Moyrong
Date:	December_29_1999

FCC Part 15.247 Radiated Emissions

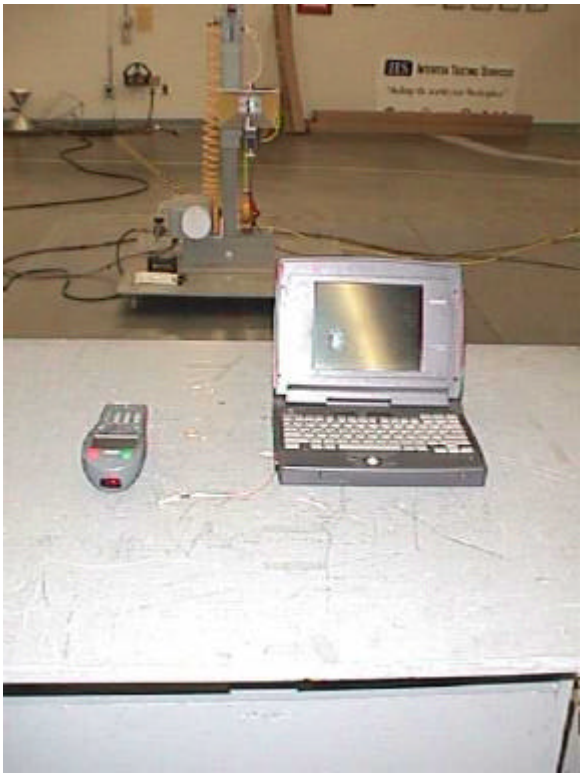
Frequency (MHz)	Spec. Analyz. Detector	Antenna Location (m)	Antenna Polariz. (H/V)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Correction Factor (dB)	Cable Loss (dB)	Duty Cycle (dB)	Corrected Reading (dBuV/m)	Limit At 3 m (dBuV/m)	Margin (dB)	
2462.0	P	3.0	V	72.7	30.4	0.0	0.0	2.3	0.0	105.4	N/A	N/A	
4924.0	A	3.0	V	23.7	35.4	-28.3	0.0	3.5	0.0	34.3	54.0	-19.7	
4924.0	P	3.0	V	33.1	35.4	-28.3	0.0	3.5	0.0	43.7	74.0	-30.3	
7386.0	A	3.0	V	25.1	37.8	-28.0	0.0	4.6	0.0	39.5	54.0	-14.5	
7386.0	P	3.0	V	35.6	37.8	-28.0	0.0	4.6	0.0	50.0	74.0	-24.0	
12310.0	A	1.0	V	25.8	41.1	-33.0	-9.5	6.1	0.0	30.5	54.0	-23.5	*
12310.0	P	1.0	V	36.0	41.1	-33.0	-9.5	6.1	0.0	40.7	74.0	-33.3	*
19696.0	A	1.0	V	30.4	40.2	-24.0	-9.5	6.5	0.0	43.6	54.0	-10.4	**
19696.0	P	1.0	V	41.3	40.2	-24.0	-9.5	6.5	0.0	54.5	74.0	-19.5	**
22158.0	A	1.0	V	33.1	40.3	-24.0	-9.5	7.5	0.0	47.4	54.0	-6.6	**
22158.0	P	1.0	V	44.4	40.3	-24.0	-9.5	7.5	0.0	58.7	74.0	-15.3	**

Notes: *: indicates noise floor measurements with RBW @ 1MHz
**: indicates noise floor measurements with RBW @ 300 kHz

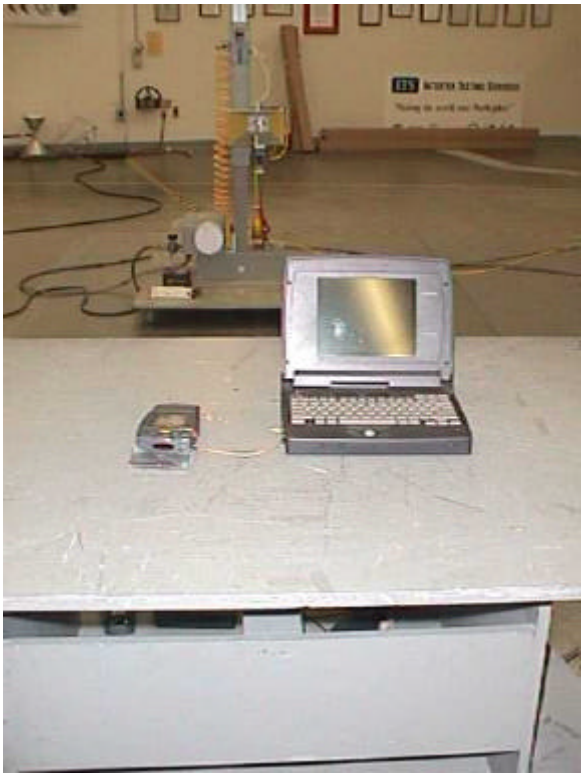
4.2 Radiated Emission Configuration Photograph



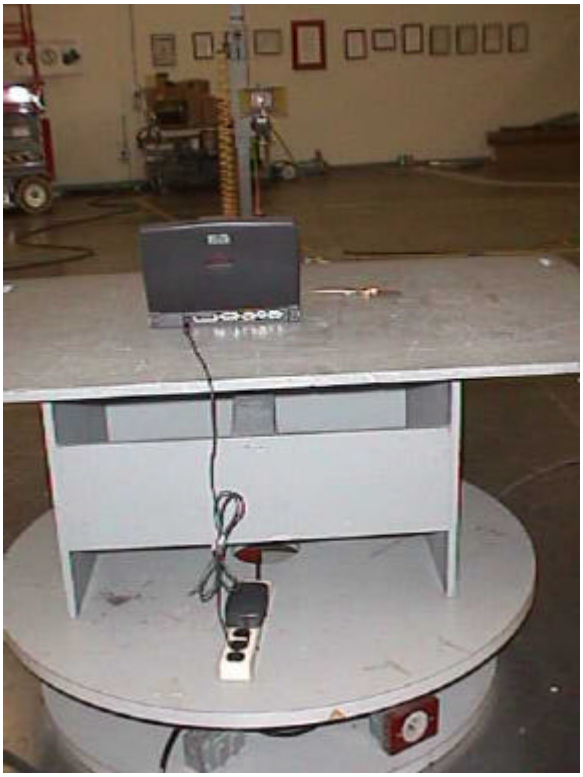
4.2 Radiated Emission Configuration Photograph



4.2 Radiated Emission Configuration Photograph



4.2 Radiated Emission Configuration Photograph



4.2 Radiated Emission Configuration Photograph