FCC Certification Report for the **LA24001AZL** WLAN PC Card Class II Permissive Change

EXHIBIT 2

TEST REPORT

ITS Intertek Testing Services
ETL SEMKO

Class II Permissive Change Report
(FCC Part 15.247 (c) Radiated Emissions
in Restricted Bands)
for
Symbol Technologies
on the
Spread Spectrum Transmitter
Model: LA24001AZL

Test Report #: 20130353
Date of Report: May 15, 2000

Job #: J20013035-A
Date of Test: May 3, 2000

Total No. of Pages Contained in this Report: 11 + data pages

NVLAP®

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Warnock Hersey®

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1.0 Summary of Tests

Symbol Technologies Inc. - Model No.: LA24001AZ:

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

Test Engineer: Barry E. Smith Date: 5/18/00

EMC Site Mgr.: David Chernomordik Date: 5/18/00
David Chernomordik

2.0 General Description

2.1 Product Description

The Symbol Technologies model LA24001AZL 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. LA24001AZL
Frequency Range (MHz)	2402 - 2480
Antenna(s)	1 antenna
Manufacturer name & address	Symbol Technologies 6480 Via Del Oro San Jose CA 95119

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.

2.4 Test Facility

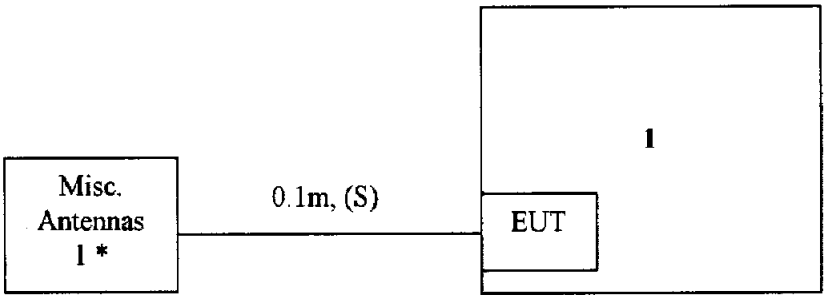
The open area test site facility used to collect the radiated data is located at 1365 Adams Court, Menlo Park, CA 94025. This test facility and site measurement data have been fully placed on file with the FCC.

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 = Oniel BFA

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.

For the test results, refer to the attached radiated emission data sheets.

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

Radiated Emissions Test Data

Company:	Symbol	Model #:	50-21900-023	Standard	FCC § 15.247 (R.B.)
EUT:	Spread Sprectum Radio LA2400	S/N #:		Limits	11
Project #:	J20000	Test Date:	May 3, 2000	Test Distance	3 meters
Test Mode:	CW Xmit antenna 30 Oniel BFA	Engineer:	Barry Smith	Duty Relaxation	0 dB

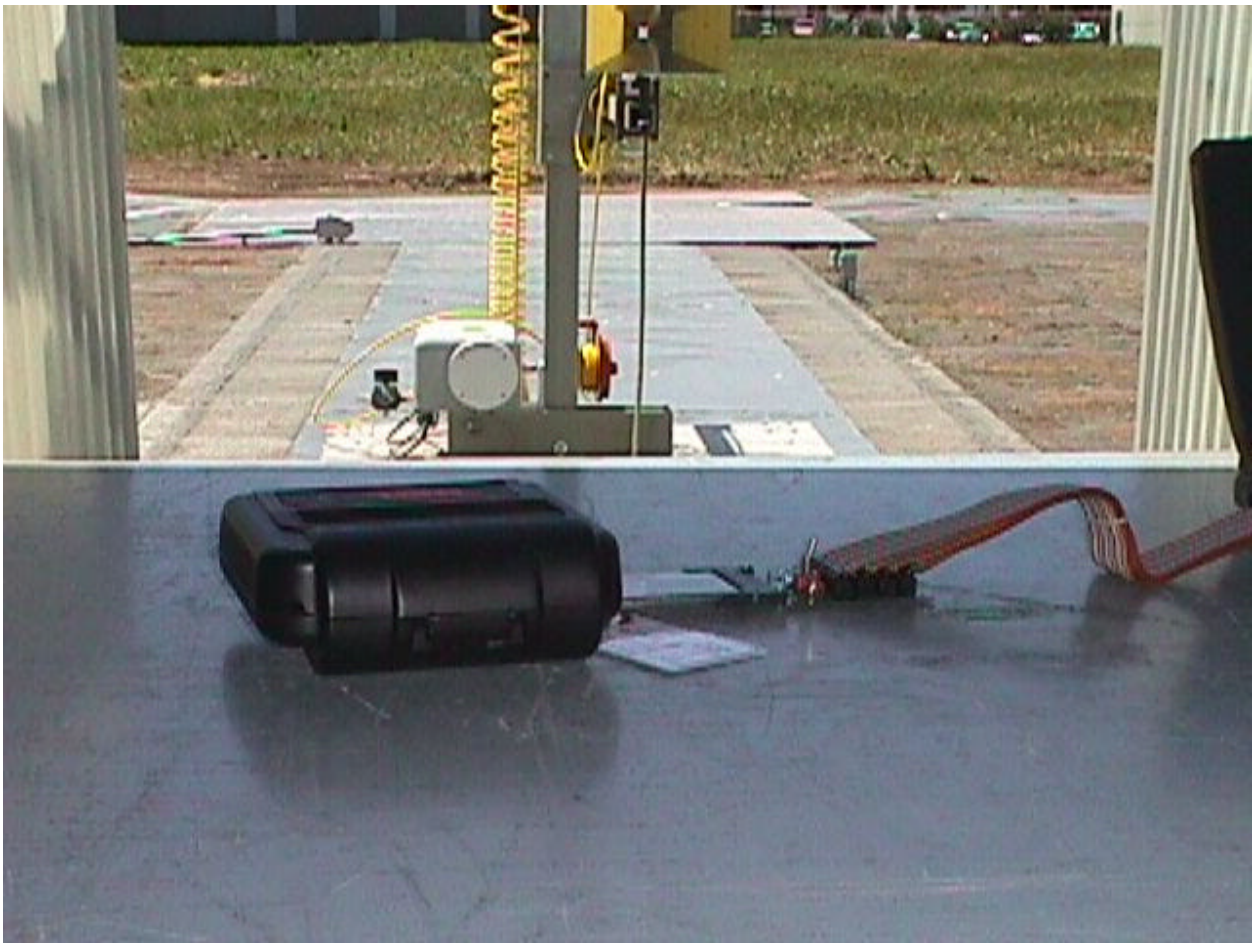
Frequency	Reading	Detector	Ant.	Amp.	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	D. C. F.	Net	Limit @3m	Margin **
MHz	dB(µV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB	dB(µV/m)	dB(µV/m)	dB
2402	82.6	Peak	8		H	29.1	0.0	2.3	0.0	114.0		
2402	82.3	Ave.	8		H	29.1	0.0	2.3	0.0	113.7		
4804	42.3	Peak	8	8	H	33.9	28.1	3.2	0.0	51.3	74.0	-22.7
4804	40.5	Ave.	8	8	H	33.9	28.1	3.2	0.0	49.5	54.0	-4.5
7206	41.4	Peak	8	8	H	36.8	28.0	4.3	0.0	54.5	74.0	-19.5
7206	36.6	Ave.	8	8	H	36.8	28.0	4.3	0.0	49.7	54.0	-4.3
12010	46.4	Peak	8	10	H	42.1	39.1	5.9	0.0	55.3	74.0	-18.7
12010	40.4	Ave.	8	10	H	42.1	39.1	5.9	0.0	49.3	54.0	-4.7
19216 *	35.4	Peak	21	13	V	40.2	23.3	7.7	0.0	60.0	74.0	-14.0
19216 *	23.0	Ave.	21	13	V	40.2	23.3	7.7	0.0	47.6	54.0	-6.4
2440	82.5	Peak	8		H	29.1	0.0	2.3	0.0	113.9		
2440	82.2	Ave.	8		H	29.1	0.0	2.3	0.0	113.6		
4880	39.2	Peak	8	8	H	33.9	28.1	3.2	0.0	48.2	74.0	-25.8
4880	36.9	Ave.	8	8	H	33.9	28.1	3.2	0.0	45.9	54.0	-8.1
7320	40.5	Peak	8	8	H	36.8	28.0	4.3	0.0	53.6	74.0	-20.4
7320	35.8	Ave.	8	8	H	36.8	28.0	4.3	0.0	48.9	54.0	-5.1
12200	46.7	Peak	8	10	H	42.1	39.1	5.9	0.0	55.6	74.0	-18.4
12200	40.3	Ave.	8	10	H	42.1	39.1	5.9	0.0	49.2	54.0	-4.8
19520 *	37.7	Peak	21	13	H	40.2	23.3	7.7	-9.5	52.8	74.0	-21.2
19520 *	30.0	Ave.	21	13	H	40.2	23.3	7.7	-9.5	45.1	54.0	-8.9
2480	79.9	Peak	8		H	29.1	0.0	2.3	0.0	111.3		
2480	79.6	Ave.	8		H	29.1	0.0	2.3	0.0	111.0		
4960	35.3	Peak	8	8	H	33.9	28.1	3.2	0.0	44.3	74.0	-29.7
4960	21.5	Ave.	8	8	H	33.9	28.1	3.2	0.0	30.5	54.0	-23.5
7440	32.4	Peak	8	8	H	36.8	28.0	4.3	0.0	45.5	74.0	-28.5
7440	25.0	Ave.	8	8	H	36.8	28.0	4.3	0.0	38.1	54.0	-15.9
12400	49.8	Peak	8	10	H	42.1	39.1	5.9	0.0	58.7	74.0	-15.3
12400	43.1	Ave.	8	10	H	42.1	39.1	5.9	0.0	52.0	54.0	-2.0
19840*	40.5	Peak	21	13	H	40.3	23.3	7.7	-9.5	55.7	74.0	-18.3
19840*	30.6	Ave.	21	13	H	40.3	23.3	7.7	-9.5	45.8	54.0	-8.2
22320 *	43.8	Peak	21	13	H	40.3	23.3	7.9	-9.5	59.2	74.0	-14.8
22320 *	33.7	Ave.	21	13	H	40.3	23.3	7.9	-9.5	49.1	54.0	-4.9

* Noise floor with RBW 300kHz

4.2 Radiated Emission Configuration Photograph

4.2 Radiated Emission Configuration Photograph

4.2 Radiated Emission Configuration Photograph



5.0 Document History

Revision/Job Number	Date	Change
1.0 / J20013035	May 15, 2000	Original document