
REPORT ON

Limited FCC CFR 47: Part 15 Testing in support of a Class 2 Permissive Change
of a Symbol MC9060 Mobile Computer
FCC ID: H9P2164436

Report No OR611538/02 Issue 3

February 2004

REPORT ON

FCC CFR 47: Part 15 Testing in support of a Class 2
Permissive Change of a Symbol MC9060 Mobile Computer

FCC ID: H9P2164436

Report No OR611538/02 Issue 3

February 2004

PREPARED FOR

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NY 11742-1300
New York
United States of America

APPROVED BY



C H GOULD
EMC Signatory

DATED

19-02-04

DISTRIBUTION

Symbol Technologies

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Total No of Pages 34

(Including Annex A)

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47: Part 15. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineers;



G Lawler



J Holcombe



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STATUS

OBJECTIVE	To undertake measurements to determine the Equipment Under Test's (EUT's) compliance with the specification.
MANUFACTURING DESCRIPTION	MC9060 Mobile Computer
APPLICANT	Symbol Technologies Inc One Symbol Plaza Holtsville NY 11742-1300 New York United States of America
MANUFACTURERS TYPE NUMBER	MC9060
MANUFACTURERS PART NUMBER	MC9060-GF0JAEB00WW
SERIAL NUMBER	ALP74388 ALP74387
HARDWARE VERSION	Rev 3 (Manufactured as Rev A)
DECLARED VARIANTS	None
TEST SPECIFICATION NUMBER	FCC CFR 47: Part 15 Subpart C, August 2002
REGISTRATION NUMBER	OR611538
QUANTITY OF ITEMS TESTED	One
SECURITY CLASSIFICATION OF EUT	Unclassified
INCOMING RELEASE SERIAL NUMBER DATE	Declaration of Build Status OR611538
DISPOSAL REFERENCE NUMBER DATE	Held pending disposal N/A N/A
START OF TEST FINISH OF TEST	15 th December 2003 20 th January 2004
TEST ENGINEERS	J Holcombe G Lawler
RELATED DOCUMENTS	ANSI C63.4 2001. Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz.



TEST RATIONALE

This report has been re-issued as Issue 3, the original report had a minor typing error. This report is intended to replace the original report OR611533/02 Issue 2 issued in January 2004.

The information contained within this report is intended to show verification of compliance of the Symbol Technologies Inc MC9060 Mobile Computer to the requirements of FCC Specification Part 15 C, for a Class 2 Permissive Change.

Testing was carried out in support of an application for Grant of Equipment Authorisation in the name of Symbol Technologies Inc.

FCC ID H9P2164436

The unit supplied for testing is a Symbol MC9060 Mobile Computer, which offers 2.4GHz 802.11b Wireless LAN connectivity with the following options:

- SE1224 Scan Engine
- Mono (Touch) Display
- 32/32 Memory Option
- CE net

The terminal utilizes the approved Symbol Main Terminal Module (MTM) with embedded 802.11b RLAN radio. FCC ID number is detailed below:

<u>Type:</u>	<u>Description</u>	<u>Approval</u>	<u>FCC ID</u>	<u>Date</u>
21-64436	Main Terminal Module	FCC Part15	H9P2164436	December 2003

For results of testing on this module, refer to the original TUVPS test report OR611514/02 Issue 3.

Section 3 of the report details testing carried out in accordance with:

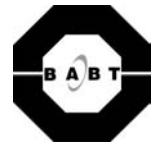
- FCC: Part 15.205, 15.209, Measurement at Band Edge
- FCC: Part 15.247(b)(3), Maximum Peak Output Power
- FCC: Part 15.247(c), Spurious Radiated Emissions

Testing was performed on two separate samples;

- Serial No ALP74388 was used for
FCC: Part 15.205, 15.209, Measurement at Band Edge (Marker Delta Method)
FCC: Part 15.247(c), Spurious Radiated Emissions
- Serial No ALP74387 was used for
FCC: Part 15.247(b)(3), Maximum Peak Output Power

Location Of Testing

BABT Engineers, Jason Holcombe and Graeme Lawler, conducted all testing at the premises BABT, Segensworth Road, Fareham, Hampshire, PO15 5RH. A complete site description is on file with the FCC Laboratory Division, Registration Number: 90987. See Annex A.



SYSTEM CONFIGURATION DURING EMC TESTING

The EUT was set-up simulating a typical user installation on the Alternative Open Field Test Site identified in Annex A, and tested in accordance with the specification.

For all tests, the Symbol MC9060 Mobile Computer was powered by its own internal battery.

The test software in the EUT enabled the Test Engineer to select full power and continuous transmit on the following channels;

Channel 1: 2412MHz
Channel 6: 2437MHz
Channel 11: 2462MHz

TEST SET UP PHOTOGRAPH

The photograph below shows the EUT configuration during Radiated Emission testing.



Photograph 1



EQUIPMENT INFORMATION

Equipment under Test (EUT):

DECLARATION OF BUILD STATUS

MAIN EUT	
MANUFACTURING DESCRIPTION	Mobile Computer
MANUFACTURER	Symbol Technologies Inc
TYPE	MC9060
PART NUMBER	MC9060-GF0JAE00WW
SERIAL NUMBER	FCC (ALP74388 & ALP74387) European (ALP74390)
HARDWARE VERSION	Rev 3 (Manufactured as Rev A)
TRANSMITTER OPERATING RANGE	2400 – 2483.5MHz
COUNTRY OF ORIGIN	USA
UK AGENT	SYMBOL TECHNOLOGIES INC
RECEIVER OPERATING RANGE	2400 – 2483.5MHz
INTERMEDIATE FREQUENCIES	374MHz
ITU DESIGNATION OF EMISSION	11M0F1D
POWER	7.2V
FCC ID	H9P2164436
INDUSTRY CANADA ID	1549D-2164436
TECHNICAL DESCRIPTION	The unit supplied for testing is a Symbol MC9060 Mobile Computer, which offers 2.4GHz 802.11b Wireless LAN connectivity with the following options: SE1224 Scan Engine; Mono (touch) display; 32/32 memory option; CE net.
BATTERY/POWER SUPPLY	
MANUFACTURING DESCRIPTION	Lithium Battery
MANUFACTURER	Symbol Technologies Inc.
TYPE	N/A
PART NUMBER	21-61261-01
VOLTAGE	7.2V
COUNTRY OF ORIGIN	USA
UK AGENT	SYMBOL TECHNOLOGIES LTD
MODULES	
MANUFACTURING DESCRIPTION	Main Terminal Module with Embedded RLAN Radio
MANUFACTURER	Symbol Technologies Inc
TYPE	21-64436
POWER	7 - 16V
FCC ID	H9P2164436 (26-Nov-03)
COUNTRY OF ORIGIN	USA
UK AGENT	SYMBOL TECHNOLOGIES INC
INDUSTRY CANADA ID	1549D-2164436 (Dec 03)
EMISSION DESIGNATOR	11M0F1D
DSSS/FHSS/COMBINED OR OTHER	DSSS

Signature

Date
D of B S Serial No

15 December 2003
OR611538

BABT Product Service Limited formally certifies that the manufacturer's declaration as reproduced in this report, is a true and accurate record of the original received from the applicant.
The unit used for the photographs in this report was not the EUT, but was supplied as an identical unit for photographs only. It is declared as being the same build status as the EUT.



EQUIPMENT INFORMATION - continued

Test Equipment and Ancillaries Used For Test

Instrument	Manufacturer	Type No.	EMC No.
Room 5	Siemens and Matsushita	----	2533
EMI Receiver	Hewlett Packard	8542E	2286
Bilog Antenna	Chase	CBL 6143	2860
Turntable & Controller	HD	HD 050	2528
Antenna Mast	EMCO	2070	----
Antenna Mast Controller	EMCO	2090	----
Test Receiver	Rohde & Schwarz	ESIB 40	2917
Signal Generator	Hewlett Packard	8672B	411
High Pass Filter	RLC Electronics	F-100-3000-5-R	Inv4467
Low Noise Amplifier (1GHz-8GHz)	Miteq	AMF-3D-001080-18-13P	2457
Low Noise Amplifier (8GHz-18GHz)	Miteq	AMF-3D-001080-15-10P	2430
Horn	EMCO	3115	2297
Horn	EMCO	3155	2397
Barometer	diplex	----	1938
Hygrometer	Rotronic	A1	Inv 3156
Hygrometer	Rotronic	A1	Inv 4066
ESIB Receiver	Rohde & Schwarz	ESIB 40	2972
Hygrometer	Rotronic	A1	Inv 3155
Peak Power Analyser	Hewlett Packard	8990A	1670
Peak Power Sensor	Hewlett Packard	84812A	1662

Table of Instrumentation Used for Testing

Note(s)

- 1) All items are calibrated annually, except where labelled TU (Traceability Unscheduled). These items are calibrated within the test configurations using calibrated equipment from the tables above.



MEASUREMENT AT THE BAND EDGE

TEST PROCEDURE

Testing to the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.205, for Restricted Bands of Operation was carried out on the Measurement Test Facility detailed in Annex A.

TEST RESULTS

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.205 for Band Edge Measurements.

Bottom Channel Fundamental Field Strength Measurement.

Performed in accordance with ANSI C63.4

Peak measurements performed utilising a Resolution Bandwidth and Video Bandwidth of 1MHz.

Average measurements performed utilising a Resolution Bandwidth of 1MHz and Video Bandwidth of 10Hz.

Freq	Ant Pol	Hgt	Azi	Peak Field Strength	Peak Field Strength Limit	Average Field Strength	Average Field Strength Limit
MHz	H/V	cm	deg	dBµV/m	dBµV/m	dBµV/m	dBµV/m
2412*	V	130	58	110.3	74.0	102.3	54.0
2390**	V	130	58	52.6	74.0	40.4	54.0

* Bottom Channel Frequency

** Band Edge Frequency



MEASUREMENT AT THE BAND EDGE - continued

TEST RESULTS - continued

Top Channel Fundamental Field Strength Measurement.

Peak measurements performed utilising a Resolution Bandwidth and Video Bandwidth of 1MHz.

Average measurements performed utilising a Resolution Bandwidth of 1MHz and Video Bandwidth of 10Hz.

Freq	Ant Pol	Hgt	Azi	Peak Field Strength	Peak Field Strength Limit	Average Field Strength	Average Field Strength Limit
MHz	H/V	cm	deg	dB μ V/m	dB μ V/m	dB μ V/m	dB μ V/m
2462*	V	100	55	110.9	74.0	103.6	54.0
2483.5**	V	100	55	55.2	74.0	46.9	54.0

* Top Channel Frequency

** Band Edge Frequency

Procedure: Test Performed in accordance with ANSI C63.4

Performed by: J Holcombe, EMC Engineer.



MAXIMUM PEAK OUTPUT POWER (EIRP Method)

TEST PROCEDURE

Testing to the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.247(b)(1), for Maximum Peak Output Power was carried out.

The EUT contains an integral antenna and therefore the Maximum Peak Output Power measurement was made using the EIRP method.

The Spectrum Analyser was tuned to the test frequency. The device Output Power setting was controlled as specified in the System Configuration Section 1 of this document. The device was then rotated through 360 degrees until the highest power level was observed in both planes of polarisation. The device was then replaced with a substitution antenna, the signal to the antenna was adjusted to equal the related level detected from the device.

Maximum Peak Output Power measurements were made with the EUT set to continuous transmit at maximum power on the following channels:

2412MHz
2437MHz
2462MHz

TEST RESULTS

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.247(b)(1) for Maximum Peak Output Power.

Frequency (MHz)	Result EIRP (dBm)	Result EIRP (mW)
2412	17.9	61.7
2437	18.2	66.1
2462	16.8	47.9
Limit	<+36dBm or <4W	

Table of Results for Maximum Peak Output Power

Procedure: Test Performed in accordance with FCC CFR 47: Part 15.247(b)(1) for Maximum Peak Output Power.

Performed by: G Lawler, EMC Engineer.



SPURIOUS RADIATED EMISSIONS

TEST PROCEDURE

Testing to the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.247(c), for Radiated Emissions was carried out on the Measurement Test Facility detailed in Annex A. Section 15.247(c) also requires Sections 15.205 and 15.209 to be applied.

A preliminary profile of the Radiated Emissions was obtained by operating the Equipment Under Test (EUT) on a remotely controlled turntable within a semi-anechoic chamber; measurements were taken at a 3m distance unless otherwise stated. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT, a search was made in the frequency range 30MHz to 25GHz. The list of worst-case emissions was then confirmed or updated under Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

30MHz - 1GHz emissions levels were then formally measured a CISPR Quasi-Peak detector.
1GHz - 25GHz emissions levels were then formally measured a Peak and Average detectors.
(Note: Peak measurements performed using a Resolution and Video Bandwidth of 1MHz, Average measurements performed using a Resolution Bandwidth of 1MHz and a Video Bandwidth of 10Hz)

The EUT was operating off its internal battery; the battery was replaced at regular intervals to ensure optimum performance of the EUT.

Measurements were made with the EUT transmitting on the following channels.

2412MHz
2437MHz
2462MHz

Radiated Emissions from 30MHz to 1GHz were made using a HP 8542E Test Receiver.

Radiated Emissions from 1GHz to 25GHz were made using a Rhode and Schwarz ESIB 40 Test Receiver.

The measurements were performed at a 3m distance unless otherwise stated.



SPURIOUS RADIATED EMISSIONS - continued

TEST RESULTS

30MHz - 1GHz Frequency Range

Equipment Designation: Intentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.247(c), 15.205 and 15.209 for Radiated Emissions (30MHz – 1GHz).

EUT Tx on Bottom Channel (2412MHz)

30MHz – 1GHz Alternative Open Area Test Site Results: The levels of the 6 highest emissions measured in accordance with the specification are presented below: -

Emission Frequency	Pol	Hgt	Azm	Field Strength at 3m		Specification Limit	
MHz	H/V	cm	deg	dBμV/m	μV/m	dBμV/m	μV/m
484.0	V	100	269	31.8	38.9	46.0	200.0
527.2	V	100	193	28.3	26.0	46.0	200.0
528.0	V	100	193	28.5	26.6	46.0	200.0
597.2	V	100	185	27.3	23.2	46.0	200.0
616.0	V	100	16	30.2	32.4	46.0	200.0
748.0	H	100	63	27.7	24.3	46.0	200.0

Table of Results for Spurious Radiated Emissions

EUT Tx on Middle Channel (2437MHz)

30MHz – 1GHz Alternative Open Area Test Site Results: The levels of the 6 highest emissions measured in accordance with the specification are presented below: -

Emission Frequency	Pol	Hgt	Azm	Field Strength at 3m		Specification Limit	
MHz	H/V	cm	deg	dBμV/m	μV/m	dBμV/m	μV/m
484.0	V	100	264	31.8	39.0	46.0	200.0
527.1	V	100	190	28.2	25.7	46.0	200.0
528.0	V	100	190	28.4	26.3	46.0	200.0
616.0	V	100	11	29.8	30.9	46.0	200.0
623.1	V	100	98	27.2	22.9	46.0	200.0
748.0	H	100	45	29.8	30.9	46.0	200.0

Table of Results for Spurious Radiated Emissions



SPURIOUS RADIATED EMISSIONS - continued

TEST RESULTS - continued

30MHz - 1GHz Frequency Range

EUT Tx on Top Channel (2462MHz)

30MHz – 1GHz Alternative Open Area Test Site Results: The levels of the 6 highest emissions measured in accordance with the specification are presented below: -

Emission Frequency	Pol	Hgt	Azm	Field Strength at 3m		Specification Limit	
MHz	H/V	cm	deg	dBµV/m	µV/m	DBµV/m	µV/m
484.0	V	100	270	31.7	38.5	46.0	200.0
527.1	V	100	192	27.7	24.3	46.0	200.0
528.0	V	100	192	26.8	21.9	46.0	200.0
597.2	V	100	190	27.3	23.2	46.0	200.0
616.0	V	100	33	28.9	27.9	46.0	200.0
748.0	H	100	52	29.9	31.3	46.0	200.0

Table of Results for Spurious Radiated Emissions

ABBREVIATIONS FOR ABOVE TABLES

H Horizontal Polarisation
Pol Polarisation
deg degree

V Vertical Polarisation
Hgt Height
Azm Azimuth

Procedure: Test Performed in accordance with ANSI C63.4.

Performed by: G Lawler, EMC Engineers.



SPURIOUS RADIATED EMISSIONS - continued

TEST RESULTS - continued

1GHz - 25GHz Range

Equipment Designation: Intentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15.247(c), 15.205 and 15.209 for Spurious Radiated Emissions (1GHz – 25GHz).

EUT Tx on Bottom Channel (2412MHz)

Note: measurement of the carrier frequency (2412MHz) produced a Field Strength of 104.8dB μ V/m. Therefore the specification limit for any spurious emissions found outside of the Restricted Band table (Section 15.205) is 84.8dB μ V/m (carrier level minus 20dB)

Frequency	Antenna		Turntable	Peak Field Strength	Peak Limit	Average Field Strength	Average Limit
	Polarisation	Height	Azimuth				
GHz	H/V	cm	deg	dB μ V/m	dB μ V/m	dB μ V/m	dB μ V/m
2.486	V	128	64	58.1	74.0	44.4	54.0
4.076	V	100	40	58.1	74.0	51.1	54.0
4.824	V	100	11	52.0	74.0	38.8	54.0
10.698	V	100	0	60.1	74.0	45.7	54.0

Table of Results for Spurious Radiated Emissions

EUT Tx on Middle Channel (2437MHz)

Note: measurement of the carrier frequency (2437MHz) produced a Field Strength of 103.1dB μ V/m. Therefore the specification limit for any spurious emissions found outside of the Restricted Band table (Section 15.205) is 85.1dB μ V/m (carrier level minus 20dB)

Frequency	Antenna		Turntable	Peak Field Strength	Peak Limit	Average Field Strength	Average Limit
	Polarisation	Height	Azimuth				
GHz	H/V	cm	deg	dB μ V/m	dB μ V/m	dB μ V/m	dB μ V/m
2.327	V	134	65	55.0	74.0	42.4	54.0
2.484	V	126	57	58.2	74.0	40.3	54.0
4.874	V	100	297	56.3	74.0	41.8	54.0
10.628	V	100	0	59.1	74.0	44.9	54.0
10.917	V	100	0	58.9	74.0	46.3	54.0

Table of Results for Radiated Emissions



SPURIOUS RADIATED EMISSIONS - continued

TEST RESULTS

1GHz - 25GHz Range

EUT Tx on Top Channel (2462MHz)

Note: measurement of the carrier frequency (2462MHz) produced a Field Strength of 105.0dB μ V/m. Therefore the specification limit for any spurious emissions found outside of the Restricted Band table (Section 15.205) is 85.0dB μ V/m (carrier level minus 20dB)

Frequency	Antenna		Turntable	Peak Field Strength	Peak Limit	Average Field Strength	Average Limit
	Polarisation	Height	Azimuth				
GHz	H/V	cm	deg	dB μ V/m	dB μ V/m	dB μ V/m	dB μ V/m
2.353	V	133	60	58.3	74.0	47.9	54.0
4.924	V	100	296	57.2	74.0	42.2	54.0
10.622	H	100	0	59.7	74.0	45.7	54.0
10.914	V	100	0	60.5	74.0	46.2	54.0
10.937	V	100	0	60.3	74.0	46.3	54.0

Table of Results for Spurious Radiated Emissions

Procedure: Test Performed in accordance with ANSI C63.4.

Performed by: J Holcombe, EMC Engineers.

PHOTOGRAPHS OF EQUIPMENT



Photograph 2
Front view

PHOTOGRAPHS OF EQUIPMENT



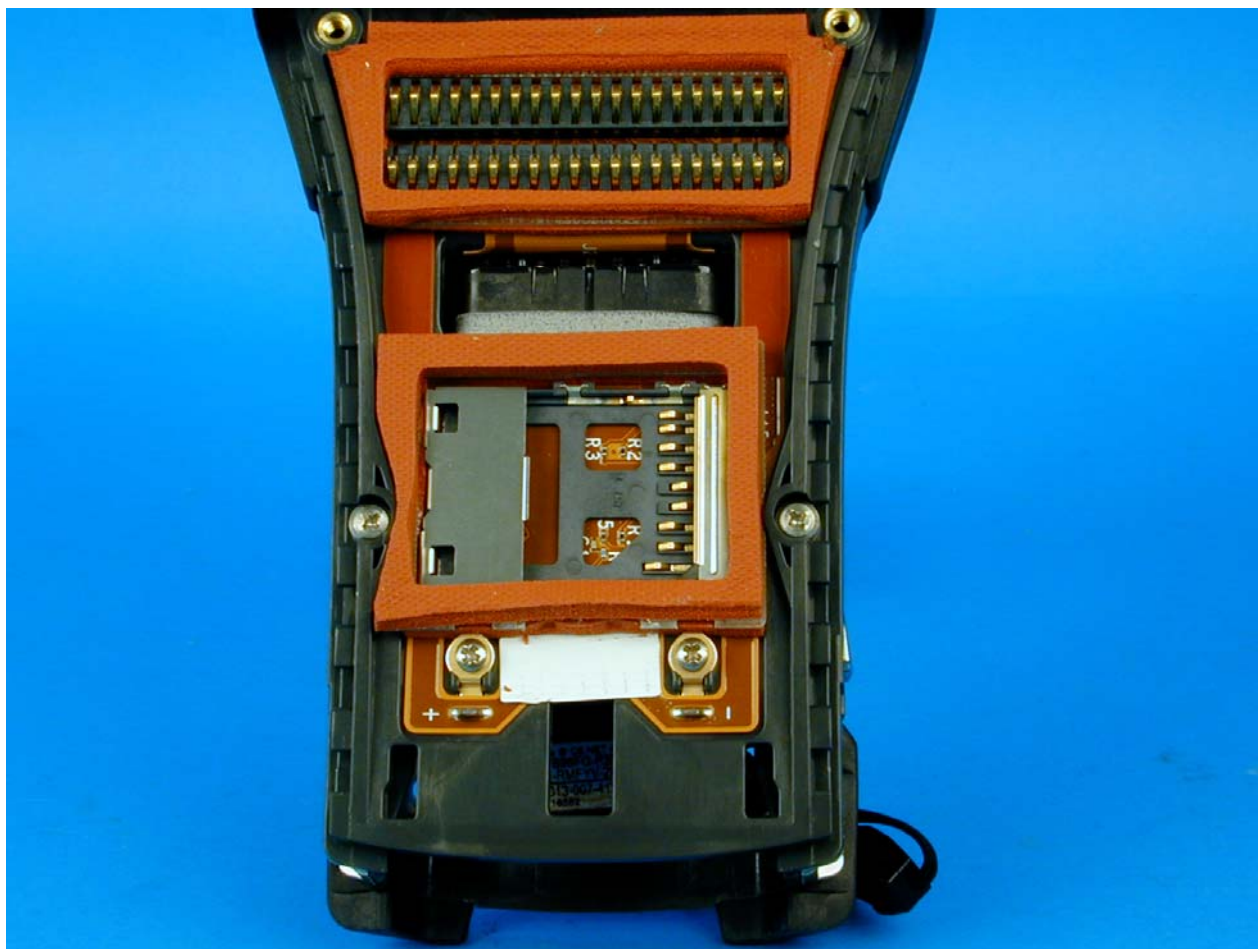
Photograph 3
Rear view

PHOTOGRAPHS OF EQUIPMENT



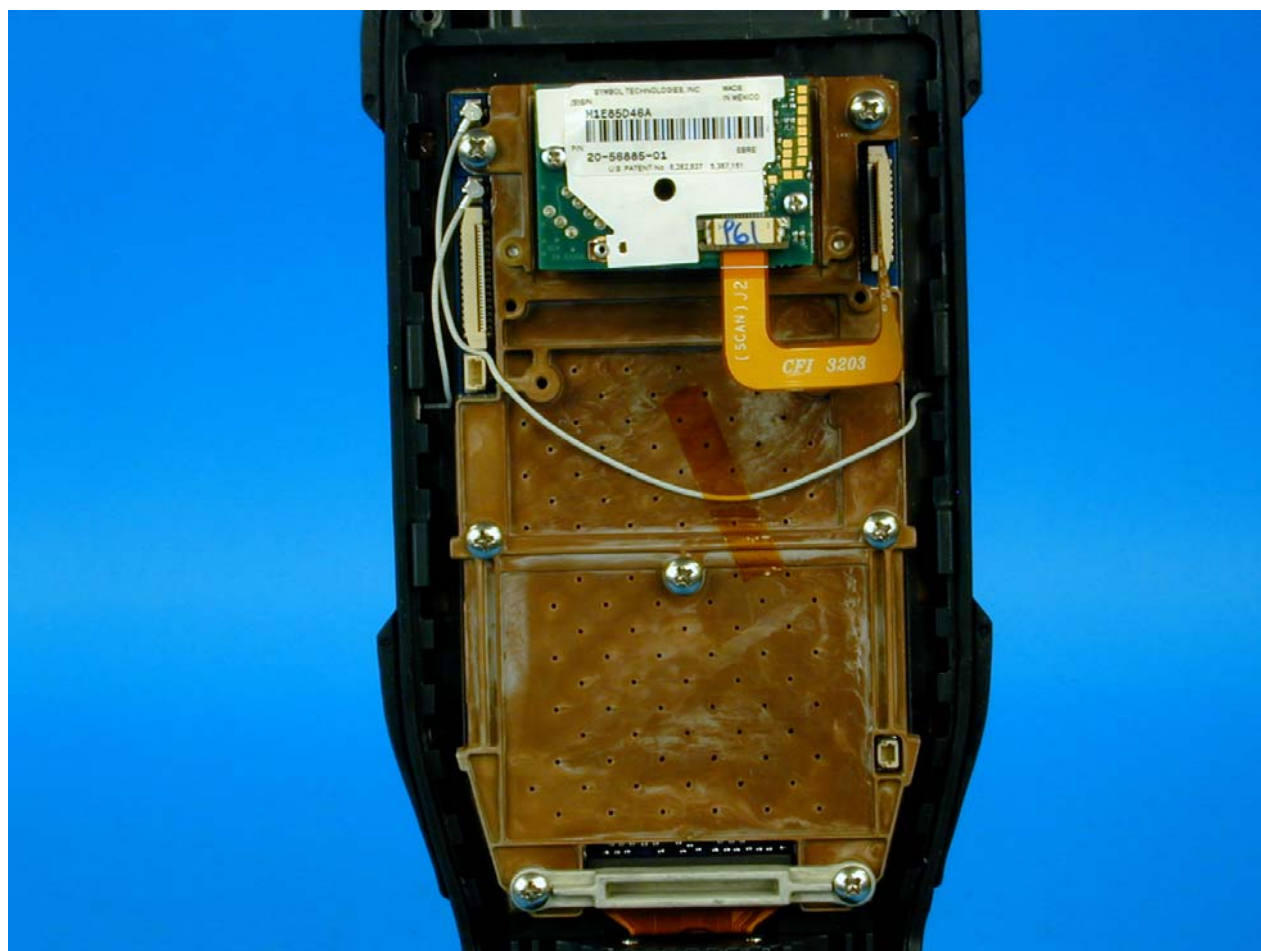
Photograph 4
Internal View 1

PHOTOGRAPHS OF EQUIPMENT



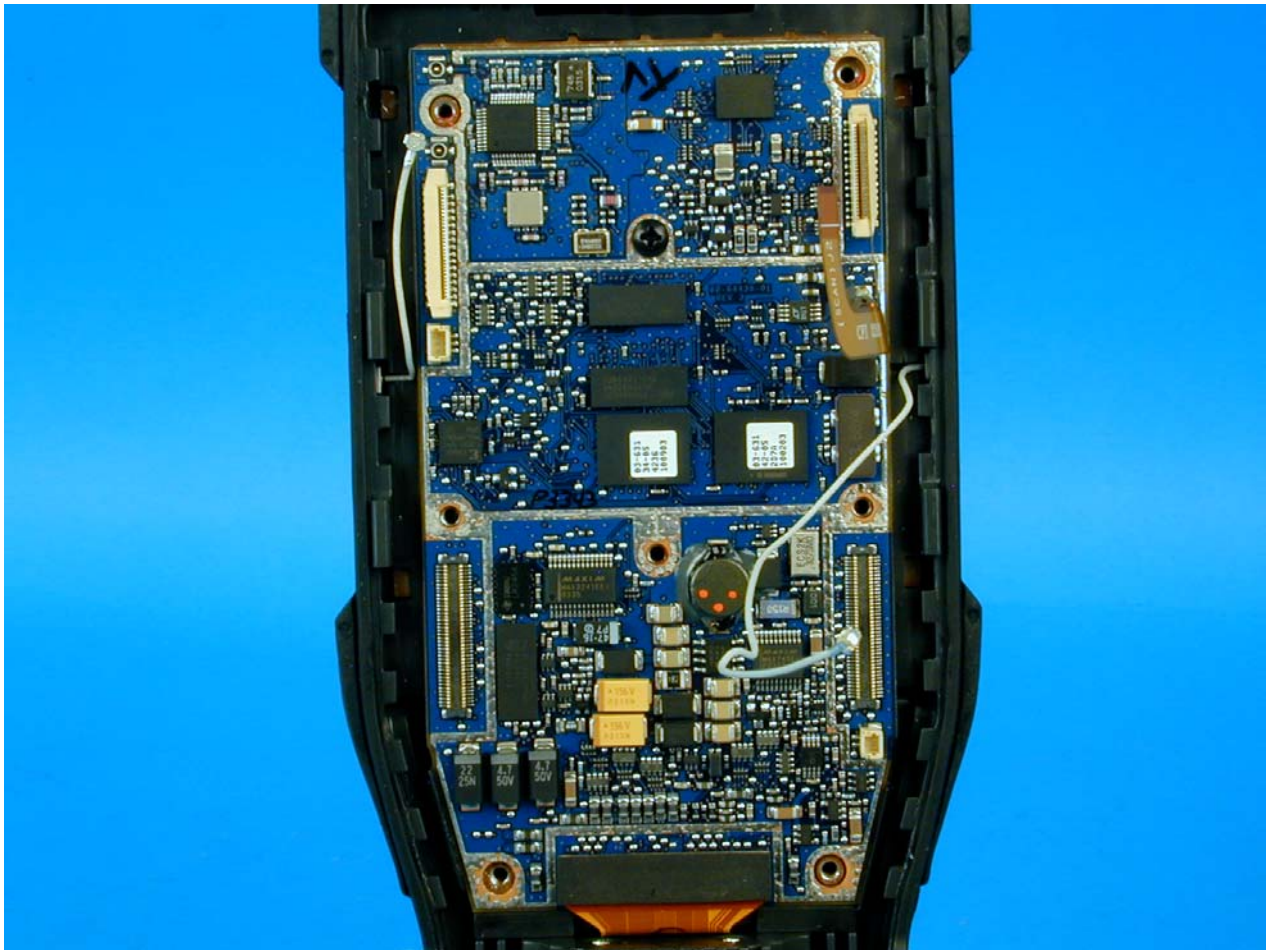
Photograph 5
Internal View 2

PHOTOGRAPHS OF EQUIPMENT



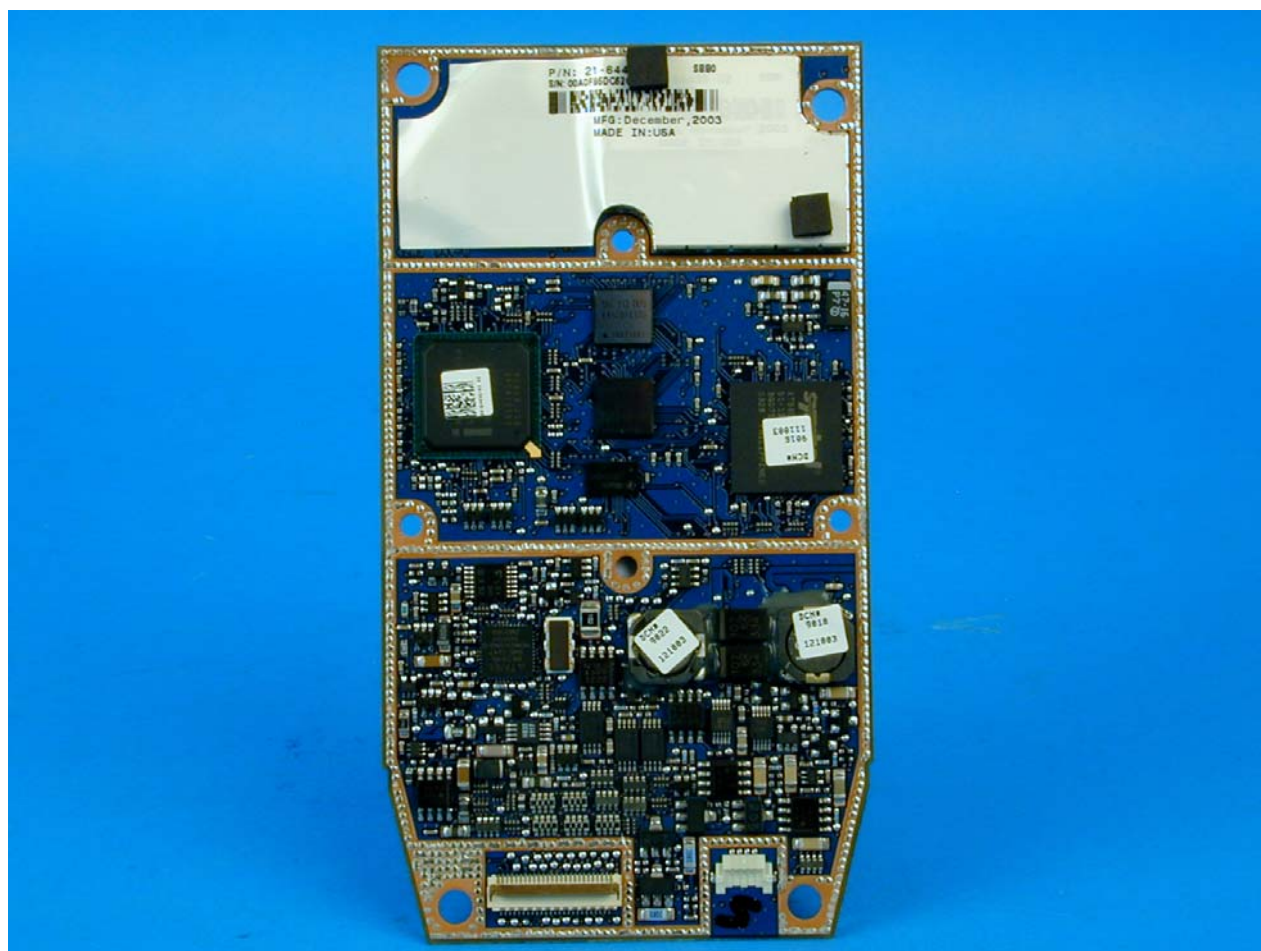
Photograph 6
Internal View 3

PHOTOGRAPHS OF EQUIPMENT

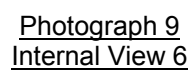


Photograph 7
Internal View 4

PHOTOGRAPHS OF EQUIPMENT

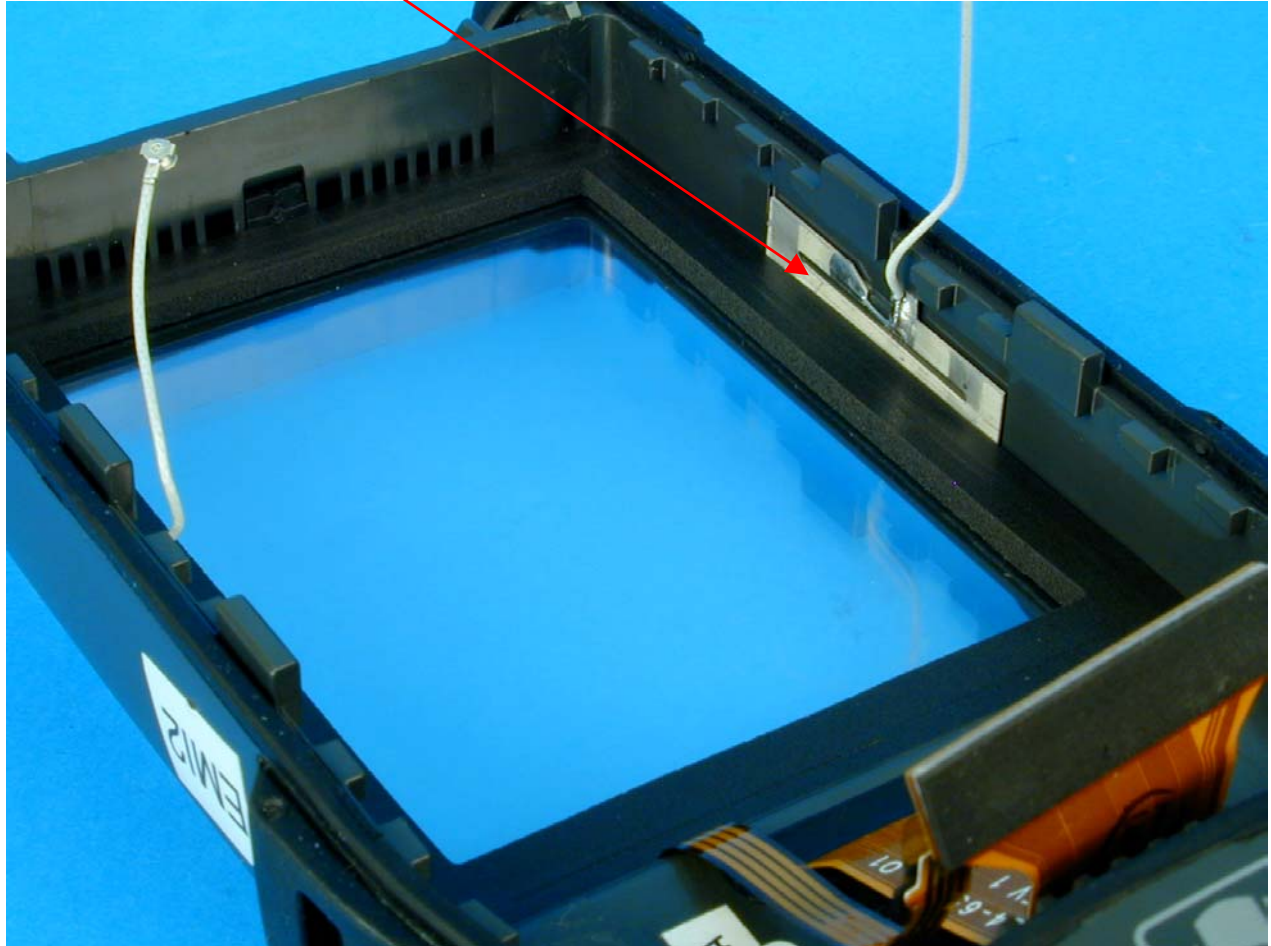


Photograph 8
Internal View 5



PHOTOGRAPHS OF EQUIPMENT

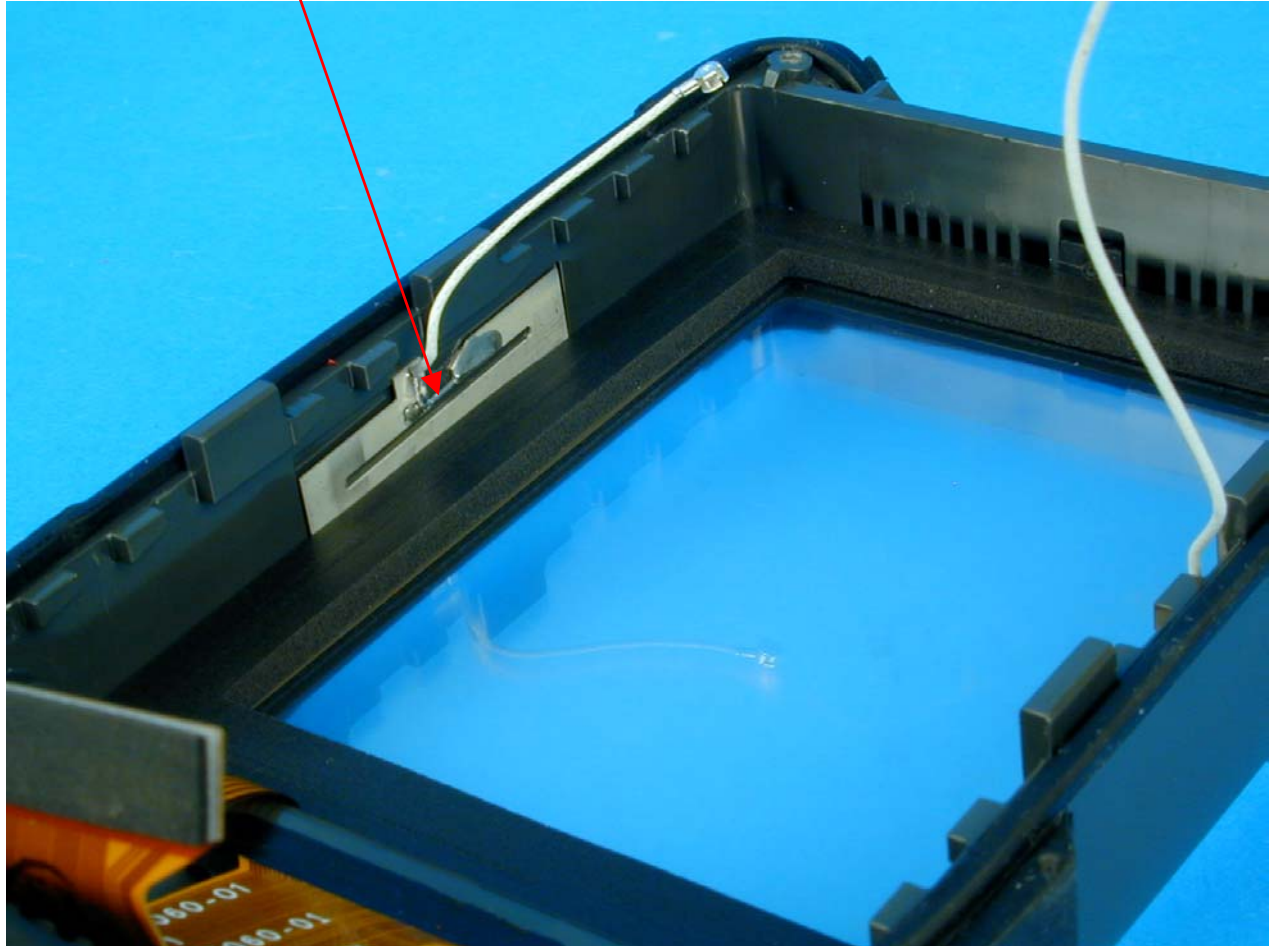
2.4GHz RLAN Antenna



Photograph 10
Antenna View 1

PHOTOGRAPHS OF EQUIPMENT

2.4GHz RLAN Antenna



Photograph 11
Antenna View 2

PHOTOGRAPHS OF EQUIPMENT



Photograph 12
Battery View

PHOTOGRAPHS OF EQUIPMENT



Photograph 13
Labeling View 1



PHOTOGRAPHS OF EQUIPMENT



Photograph 14
Labeling View 2



MANUFACTURER'S LABEL DRAWING

LASERLICHT - NICHT IN DEN STRAHL BLICKEN. LASER KLASSE 2 LUMIÈRE LASER - NE PAS REGARDER DANS LE FAISCEAU APPAREIL À LASER DE CLASSE 2. CAUTION-LASER LIGHT. DO NOT STARE INTO BEAM. CLASS 2 LASER PRODUCT 630-680 nm, 1 mW		
SYMBOL TECHNOLOGIES INC., HOLTSVILLE, N.Y. P/N: MC9060-GXXXXXXXXXWW MFD: XXXXXXXXXX,XXXX (S)S/N:XXXXXXXXXXXXXXXXXXXX		
BAR CODE		
MADE IN XXXXXXXX		XXXX
THIS DEVICE CONTAINS AN APPROVED RADIO MODULE TYPE: 21-64436 FCC ID: H9P2164436 IC: 1549D-2164436 SEE REGULATORY GUIDE FOR PATENT INFORMATION		
		11-16V $\equiv$ /2A

Not to scale



SYSTEM MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are: -

In the frequency range 30MHz to 1000MHz

For 6dB Bandwidth

Frequency $\pm 210.894\text{kHz}$

Amplitude $\pm 0.5\text{dB}$

For Maximum Output Power

Amplitude $\pm 0.5\text{dB}$

For Spurious Conducted Emissions

Amplitude $\pm 3.0\text{dB}$

For Radiated Emissions, Quasi-Peak Measurements using the ESVP Test Receiver and Bilog Antenna: -

Frequency $\pm 5\text{ppm} + 500\text{Hz}$

Amplitude $\pm 4.1\text{dB}$

In the frequency range 1GHz to 25GHz

For Spurious Radiated Emissions measurements: -

Frequency $\pm 2 \times 10^{-7} \times \text{Centre Frequency}$

Amplitude $\pm 3.4\text{dB}$

For Peak Power Spectral Density

Amplitude $\pm 1.8\text{dB}$



This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA
(Not UKAS Accredited).

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ANNEX A
FCC SITE COMPLIANCE LETTER



FEDERAL COMMUNICATIONS COMMISSION

**Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046**

October 18, 2002

Registration Number: 90987

**TUV Product Service Ltd
Segensworth Road
Titchfield
Fareham, Hampshire, PO15 5RH
United Kingdom
Attention: Kevan Adsetts**

**Re: Measurement facility located at Titchfield
Anechoic chamber (3 meters) and 3 & 10 meter OATS
Date of Listing: October 18, 2002**

Gentlemen:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

**Thomas W Phillips
Electronics Engineer**