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## **REPORT ON**

Limited FCC CFR 47: Parts 15 B and C and  
Industry Canada Radio Standard RSS-210 and RSS-Gen Testing  
in Support of an Application for Grant of Equipment Authorisation  
of a Bartec MC9060G ex and MC9060K ex

FCC ID: TBUMC9060K ex and TBUMC9060G ex and IC ID: 5736C-MC9060EX

**Report No OR614655/01 Issue 2**

**November 2005**

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Product Service



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FCC ID: TBUMC9060K ex and TBUMC9060G ex  
IC ID: 5736C-MC9060EX

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**DATED**

27<sup>th</sup> October 2005

This report has been re-issued as Issue 2 to update additional information supplied by the customer

**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: Parts 15 B, C & E and Industry Canada Radio Standarda RSS-210 and RSS-Gen. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineers;

  
S Hartley

  
J Holcombe



  
A Guy

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## **SECTION 1**

### **REPORT SUMMARY**

Limited FCC CFR 47: Parts 15 B and C and  
Industry Canada Radio Standards RSS-210 and RSS-Gen  
Testing in Support of an Application for Grant of Equipment Authorisation  
of a Bartec MC9060G ex and MC9060K ex

## 1.1 STATUS

|                                       |                                                                                                                                |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Equipment Under Test</b>           | MC9060G ex and MC9060K ex                                                                                                      |
| <b>Objective</b>                      | To undertake measurements to determine the Equipment Under Test's (EUT's) compliance with the specification.                   |
| <b>Name and Address of Client</b>     | Bartec GmbH<br>Team Automation<br>Max-Eyth-Strasse 16<br>97980 Bad Mergentheim<br>Germany                                      |
| <b>Type Number</b>                    | MC9060G ex and MC9060K ex                                                                                                      |
| <b>Part Number</b>                    | 17-A1260GJ0HBAAEA700, 17-A1260KH0HBAAEA700                                                                                     |
| <b>Serial Number</b>                  | 40A63C66W, 40A63C67G                                                                                                           |
| <b>Declared Variants</b>              | None                                                                                                                           |
| <b>Test Specification/Issue/Date</b>  | FCC CFR 47: Part 15, Subparts B and C, October 2003<br>RSS-Gen, Issue 1, September 2005 and RSS-210<br>Issue 6, September 2005 |
| <b>Number of Items Tested</b>         | Two                                                                                                                            |
| <b>Security Classification of EUT</b> | Commercial in Confidence                                                                                                       |
| <b>Incoming Release Date</b>          | Declaration of Build Status<br>14 <sup>th</sup> September 2005                                                                 |
| <b>Disposal Reference Number Date</b> | Held pending disposal<br>Not Applicable<br>Not Applicable                                                                      |
| <b>Order Number Date</b>              | 005-759967<br>29 <sup>th</sup> August 2005                                                                                     |
| <b>Start of Test</b>                  | 12 <sup>th</sup> September 2005                                                                                                |
| <b>Finish of Test</b>                 | 24 <sup>th</sup> September 2005                                                                                                |
| <b>Related Documents</b>              | ANSI C63.4: 2001<br>RSS-212: 1999                                                                                              |

## **1.2 INTRODUCTION**

The information contained within this report is intended to show limited verification of compliance of the Bartec GmbH Inc MC9060 to the requirements of FCC Specification Parts 15 B and C and Industry Canada Radio Specifications RSS-210 and RSS-Gen.

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

Testing has been performed under the following site accreditations

FCC Accreditation  
90987 Octagon House, Fareham Test Laboratory

Industry Canada Accreditation  
IC5208 Octagon House, Fareham Test Laboratory

### **1.3 PRODUCT INFORMATION**

#### **1.3.1 Technical Description**

The units supplied for testing were Bartec MC9060G ex and MC9060K ex Mobile Computers, which offer 2.4GHz 802.11b Wireless LAN and Bluetooth connectivity.

The terminal utilizes the approved Symbol 21-64436 Main Terminal Module with embedded RLAN Radio and the approved Symbol 21-64381 Bluetooth Module. FCC ID numbers are detailed in Section 1.2.1 "Declaration of Build Status".

Bartec have declared that the changes they have made to these units have not affected the radio parts either mechanically or electrically. Therefore limited testing has been performed to demonstrate continuing compliance.

#### **1.3.2 Modes of Operation**

Modes of operation of the EUT during testing were as follows:

Applicable testing was carried out with the EUT transmitting at maximum power or receiving as detailed in Section 1.3.3 "Test Configuration".

The Client has declared that the Symbol 21-64436 and the Symbol 21-64381 Modules are Co-Located, but that they are not capable of Simultaneously Transmitting.

#### **1.3.3 Test Configuration**

##### **RLAN Mode**

RLAN Transmitting on the following channels and frequencies;

Channel 1: 2412MHz

Channel 6: 2437MHz

Channel 11: 2462MHz

The Output Power level (controlled by application software) was set to maximum.

RLAN Receiving on the following channels and frequencies;

Channel 1: 2412MHz

Channel 6: 2437MHz

Channel 11: 2462MHz

##### **Bluetooth Mode**

Bluetooth Transmitting on the following channels and frequencies;

Channel 2: 2402MHz

Channel 41: 2442MHz

Channel 80: 2480MHz

The Output Power level (controlled by application software) was set to maximum.

Bluetooth Receiving on the following channels and frequencies;

Channel 2: 2402MHz

Channel 41: 2442MHz

Channel 80: 2480MHz

### 1.3 PRODUCT INFORMATION

#### 1.3.4 DECLARATION OF BUILD STATUS

| MAIN EUT                    |                                                                                                                                                                                                                                                                                                               |                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| MANUFACTURING DESCRIPTION   | Mobile Computer                                                                                                                                                                                                                                                                                               |                         |
| MANUFACTURER                | BARTEC GmbH                                                                                                                                                                                                                                                                                                   |                         |
| TYPE                        | MC9060ex                                                                                                                                                                                                                                                                                                      |                         |
| PART NUMBER                 | 17-A126-0GJ0HBAAEA700 , 17-A126-0KH0HBAAEA700                                                                                                                                                                                                                                                                 |                         |
| SERIAL NUMBER               | 40A63C66W, 40A63C67G, EU and EU                                                                                                                                                                                                                                                                               |                         |
| HARDWARE VERSION            | Rev 6                                                                                                                                                                                                                                                                                                         |                         |
| COUNTRY OF ORIGIN           | Germany                                                                                                                                                                                                                                                                                                       |                         |
| FCC ID                      | TBUMC9060ex                                                                                                                                                                                                                                                                                                   |                         |
| INDUSTRY CANADA ID          | 5736C-MC9060ex                                                                                                                                                                                                                                                                                                |                         |
| TECHNICAL DESCRIPTION       | The unit supplied for testing is a BARTEC MC9060ex Mobile Computer certified for Class I Div 1 Groups C,D , which offers 2.4GHz 802.11b Wireless LAN and Bluetooth connectivity with the following options: Scanner; Colour (touch) display; 128/64 memory option; 28 Key Keyboard; PPC2003; Audio; Bluetooth |                         |
| BATTERY/POWER SUPPLY        |                                                                                                                                                                                                                                                                                                               |                         |
| MANUFACTURING DESCRIPTION   | Lithium Battery                                                                                                                                                                                                                                                                                               |                         |
| MANUFACTURER                | BARTEC                                                                                                                                                                                                                                                                                                        |                         |
| TYPE                        | N/A                                                                                                                                                                                                                                                                                                           |                         |
| PART NUMBER                 | 17-A1Z0-0002                                                                                                                                                                                                                                                                                                  |                         |
| VOLTAGE                     | 7.2V                                                                                                                                                                                                                                                                                                          |                         |
| COUNTRY OF ORIGIN           | Germany                                                                                                                                                                                                                                                                                                       |                         |
| MODULES                     |                                                                                                                                                                                                                                                                                                               |                         |
| MANUFACTURING DESCRIPTION   | Main Terminal Module with Embedded RLAN Radio                                                                                                                                                                                                                                                                 | Bluetooth Module        |
| MANUFACTURER                | Symbol Technologies Inc                                                                                                                                                                                                                                                                                       | Symbol Technologies Inc |
| COUNTRY OF ORIGIN           | USA                                                                                                                                                                                                                                                                                                           | USA                     |
| TYPE                        | 21-64436                                                                                                                                                                                                                                                                                                      | 21-64381                |
| POWER                       | 7 - 16V                                                                                                                                                                                                                                                                                                       | 3.3V                    |
| TRANSMITTER OPERATING RANGE | 2400 – 2483.5MHz                                                                                                                                                                                                                                                                                              | 2400 – 2483.5MHz        |
| TRANSMITTER POWER           | 100mW (+20dBm)                                                                                                                                                                                                                                                                                                | 10mW (+2dBm)            |
| RECEIVER OPERATING RANGE    | 2400 – 2483.5MHz                                                                                                                                                                                                                                                                                              | 2400 – 2483.5MHz        |
| INTERMEDIATE FREQUENCIES    | 374MHz                                                                                                                                                                                                                                                                                                        | Direct Conversion       |
| EMISSION DESIGNATOR         | 11M0F1D                                                                                                                                                                                                                                                                                                       | 1M00F1D                 |
| DHSS/FHSS/COMBINED          | DSSS                                                                                                                                                                                                                                                                                                          | FHSS                    |
| FCC ID                      | H9P2164436                                                                                                                                                                                                                                                                                                    | H9P2164381              |
| INDUSTRY CANADA ID          | 1549D-2164436                                                                                                                                                                                                                                                                                                 | 1549D-2164381           |

Signature



Date  
D of B S Serial No

11 October 2005  
OR614655-01

BABT 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.

#### 1.4 BRIEF SUMMARY OF RESULTS

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

A brief summary of the tests carried out is shown below.

| Test | Spec Clause      |                 | Test Description                     | Result |           | Comments          |
|------|------------------|-----------------|--------------------------------------|--------|-----------|-------------------|
|      | FCC              | Industry Canada |                                      | RLAN   | Bluetooth |                   |
| 2.1  | 15.109(a) or (b) | RSS-Gen, 6.0    | Spurious Radiated Emissions          | Pass   | Pass      | See Section 2.1.5 |
| 2.2  | 15.247(b)(2)     | RSS-210, A8.4   | Maximum Peak Output Power (Radiated) | Pass   | Pass      |                   |
| 2.3  | 15.247(c)        | RSS-210, A8.5   | Spurious Radiated Emissions          | Pass   | Pass      |                   |

#### 1.5 TEST CONDITIONS

The EUT was set-up simulating a typical user installation and was tested in accordance with the applicable specification.

For all tests, the Bartec MC9060G ex and MC9060K ex were powered by their own internal batteries.

#### 1.6 DEVIATIONS FROM THE STANDARD

Limited tests were applied in accordance with Bartec requirements.

#### 1.7 MODIFICATION RECORD

Not Applicable.

## **SECTION 2**

### **TEST DETAILS**

Limited FCC CFR 47: Part 15 B and Industry Canada Radio Standard RSS-Gen  
Testing in Support of an Application for Grant of Equipment Authorisation  
of a Bartec MC9060

## **2.1 SPURIOUS RADIATED EMISSIONS – ENCLOSURE PORT**

### **2.1.1 Specification Reference**

FCC CFR 47: Part 15 Subpart B, Section 15.109(a) and  
Industry Canada Radio Standard RSS-Gen, 6.0

### **2.1.2 Equipment Under Test**

MC9060G ex and MC9060K ex

### **2.1.3 Date of Test**

13<sup>th</sup> September 2005

### **2.1.4 Test Equipment Used**

The major items of test equipment used for the above tests are identified as “Section 2.1” within the Test Equipment Used table shown in Section 3.1.

### **2.1.5 Test Procedure**

Test Performed in accordance with ANSI C63.4 and RSS-212.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within an anechoic chamber. 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. The list of emissions was then confirmed or updated under anechoic chamber (3 metres) conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 30MHz – 1GHz were then formally measured using a CISPR Quasi-Peak detector.

The measurements were performed at a 3m distance and the results extrapolated to 10m.

This test was performed in Idle mode only, therefore both RLAN and Bluetooth were in Idle mode at the same time.

## 2.1 SPURIOUS RADIATED EMISSIONS – ENCLOSURE PORT

### 2.1.6 Test Results

Equipment Designation: Unintentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15 Subpart B, Section 15.109 (a) and Industry Canada Radio Standard RSS-Gen, 6.0 for Spurious Radiated Emissions (30MHz – 1GHz).

Measurements were made with the EUT in Idle Mode.

#### MC9060G ex

The levels of the highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency | Polarisation            | Height | Azimuth | Field Strength |      | Limit  |       |
|--------------------|-------------------------|--------|---------|----------------|------|--------|-------|
| MHz                | Horizontal/<br>Vertical | cm     | degree  | dBµV/m         | µV/m | dBµV/m | µV/m  |
| 285.99             | Horizontal              | 100    | 190     | 30.7           | 34.3 | 46.0   | 200.0 |
| 388.51             | Horizontal              | 100    | 331     | 27.7           | 24.3 | 46.0   | 200.0 |
| 395.18             | Horizontal              | 100    | 328     | 27.5           | 23.7 | 46.0   | 200.0 |
| 407.21             | Horizontal              | 100    | 335     | 27.8           | 24.5 | 46.0   | 200.0 |
| 527.30             | Horizontal              | 182    | 200     | 34.3           | 51.9 | 46.0   | 200.0 |

#### MC9060K ex

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency | Polarisation            | Height | Azimuth | Field Strength |      | Limit  |       |
|--------------------|-------------------------|--------|---------|----------------|------|--------|-------|
| MHz                | Horizontal/<br>Vertical | cm     | degree  | dBµV/m         | µV/m | dBµV/m | µV/m  |
| 286.00             | Horizontal              | 100    | 070     | 32.5           | 42.6 | 46.0   | 200.0 |
| 307.99             | Horizontal              | 100    | 073     | 28.6           | 26.9 | 46.0   | 200.0 |
| 383.88             | Horizontal              | 100    | 117     | 26.2           | 20.4 | 46.0   | 200.0 |
| 413.40             | Horizontal              | 100    | 250     | 29.8           | 30.9 | 46.0   | 200.0 |
| 432.00             | Horizontal              | 100    | 251     | 29.2           | 28.8 | 46.0   | 200.0 |
| 447.90             | Horizontal              | 100    | 251     | 32.3           | 41.2 | 46.0   | 200.0 |

## **SECTION 2**

### **TEST DETAILS**

Limited FCC CFR 47: Part 15 C and  
Industry Canada Radio Standards RSS-210 and RSS-Gen  
Testing in Support of an Application for Grant of Equipment Authorisation  
Of a a Bartec MC9060G ex and MC9060K ex

## **2.2 MAXIMUM PEAK OUTPUT POWER (Radiated Method) – ENCLOSURE PORT**

### **2.2.1 Specification Reference**

FCC CFR 47: Part 15 Subpart C, Section 15.247(b)(2) and Industry Canada Radio Standard RSS-210, A8.4

### **2.2.2 Equipment Under Test**

MC9060G ex and MC9060K ex

### **2.2.3 Date of Test**

14<sup>th</sup> September 2005

18<sup>th</sup> September 2005

20<sup>th</sup> September 2005

### **2.2.4 Test Equipment Used**

The major items of test equipment used for the above tests are identified as “Section 2.2” within the Test Equipment Used table shown in Section 3.1.

### **2.2.5 Test Procedure**

Test Performed in accordance with ANSI C63.4 and RSS-212.

The EUT contains an integral antenna and therefore the Maximum Peak Output Power 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 Product Information, Section 1.5 of this document. The device was then rotated through 360 degrees until the highest power level was observed in both horizontal and vertical polarisation. The device was then replaced with a substitution antenna, whose input signal level into the antenna was adjusted until the received level matched that of the previously detected emission.

## 2.2 MAXIMUM PEAK OUTPUT POWER (Radiated Method) – ENCLOSURE PORT

### 2.2.6 Test Results - continued

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.247(b)(2) and Industry Canada Radio Standard RSS-210, A8.4 for Maximum Peak Output Power.

Measurements were made with the EUT in RLAN Mode (see Section 1.3.3 for details).

#### MC9060G ex

| Frequency (MHz) | Result EIRP (dBm) | Result EIRP (mW) |
|-----------------|-------------------|------------------|
| 2412            | 16.3              | 42.66            |
| 2437            | 15.8              | 38.02            |
| 2462            | 15.5              | 35.48            |
| Limit           | <+36dBm or <4W    |                  |

#### MC9060K ex

| Frequency (MHz) | Result EIRP (dBm) | Result EIRP (mW) |
|-----------------|-------------------|------------------|
| 2412            | 12.8              | 19.05            |
| 2437            | 15.0              | 31.62            |
| 2462            | 15.6              | 36.31            |
| Limit           | <+36dBm or <4W    |                  |

Measurements were made with the EUT in Bluetooth Mode (see Section 1.3.3 for details).

#### MC9060G ex

| Frequency (MHz) | Result EIRP (dBm) | Result EIRP (mW) |
|-----------------|-------------------|------------------|
| 2402            | 3.2               | 2.09             |
| 2442            | 2.3               | 1.70             |
| 2480            | 0.1               | 1.00             |
| Limit           | <+36dBm or <4W    |                  |

#### MC9060K ex

| Frequency (MHz) | Result EIRP (dBm) | Result EIRP (mW) |
|-----------------|-------------------|------------------|
| 2402            | -4.5              | 0.35             |
| 2442            | 1.9               | 1.55             |
| 2480            | -0.7              | 0.85             |
| Limit           | <+36dBm or <4W    |                  |

## **2.3 SPURIOUS RADIATED EMISSIONS – ENCLOSURE PORT**

### **2.3.1 Specification Reference**

FCC CFR 47: Part 15 Subpart C, Section 15.247(c) and Industry Canada Radio Standard RSS-210, A8.5

### **2.3.2 Equipment Under Test**

MC9060G ex and MC9060K ex

### **2.3.3 Date of Test**

12<sup>th</sup> September 2005 to 15<sup>th</sup> September 2005  
18<sup>th</sup> September 2005  
20<sup>th</sup> September 2005  
24<sup>th</sup> September 2005

### **2.3.4 Test Equipment Used**

The major items of test equipment used for the above tests are identified as “Section 2.3” within the Test Equipment Used table shown in Section 3.1.

### **2.3.5 Test Procedure**

Test Performed in accordance with ANSI C63.4 and RSS-212.

FCC CFR 47: Part 15 Subpart C, Section 15.247(c) and Industry Canada Radio Standard RSS-210, A8.5, for Radiated Emissions also requires Sections 15.205, 15.209 and RSS-210, 2.7, Table 2 to be applied.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisation. 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. The list of emissions was then confirmed or updated under Anechoic Chamber (3 metres) conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 30MHz – 1GHz were then formally measured using a CISPR Quasi-Peak detector.

Emissions identified within the range 1GHz – 26GHz were then formally measured using Peak and Average Detectors, as appropriate.

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

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

The limits for Spurious Emissions Outside the Restricted Bands have been measured and calculated as shown in the table below:

| Test Mode                      | Carrier Frequency<br>GHz | Carrier Field Strength<br>dBμV/m | Limit for Spurious Outside<br>Restricted Band<br>(Carrier F S -20dB)<br>dBμV/m |
|--------------------------------|--------------------------|----------------------------------|--------------------------------------------------------------------------------|
| Mode 1 (RLAN), MC9060G ex      | 2412                     | 102.5                            | 82.5                                                                           |
| Mode 1 (RLAN), MC9060G ex      | 2437                     | 102.2                            | 82.2                                                                           |
| Mode 1 (RLAN), MC9060G ex      | 2462                     | 101.7                            | 81.7                                                                           |
| Mode 1 (RLAN), MC9060K ex      | 2412                     | 99.7                             | 79.7                                                                           |
| Mode 1 (RLAN), MC9060K ex      | 2437                     | 99.9                             | 79.9                                                                           |
| Mode 1 (RLAN), MC9060K ex      | 2462                     | 100.8                            | 80.8                                                                           |
| Mode 2 (Bluetooth), MC9060G ex | 2402                     | 101.9                            | 81.9                                                                           |
| Mode 2 (Bluetooth), MC9060G ex | 2442                     | 101.5                            | 81.5                                                                           |
| Mode 2 (Bluetooth), MC9060G ex | 2480                     | 100.3                            | 80.3                                                                           |
| Mode 2 (Bluetooth), MC9060K ex | 2402                     | 102.4                            | 82.4                                                                           |
| Mode 2 (Bluetooth), MC9060K ex | 2442                     | 101.1                            | 81.1                                                                           |
| Mode 2 (Bluetooth), MC9060K ex | 2480                     | 99.5                             | 79.5                                                                           |

The limits for Spurious Emissions Inside the Restricted Bands are in accordance with 15.205 (a) & (b) and RSS-210, A8.5, which call up the limits in 15.209 (a) and RSS-210, 2.7, Table 2.

| Frequency Range<br>MHz | Field Strength<br>μV/m | Quasi Peak Field Strength<br>dBμV/m |                                  |
|------------------------|------------------------|-------------------------------------|----------------------------------|
| 30-88                  | 100                    | 40.0                                |                                  |
| 88-216                 | 150                    | 43.5                                |                                  |
| 216-960                | 200                    | 46.0                                |                                  |
| 960-1000               | 500                    | 54.0                                |                                  |
| Above 1000             | 500                    | Average Field Strength<br>dBμV/m    | Peak Field<br>Strength<br>dBμV/m |
|                        |                        | 54.0                                | 74.0                             |

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

In accordance with FCC Public Notice DA 00-705, Released 30th March 2000, Section 15.247(c) Spurious Radiated Emissions "If the dwell time per channel of the hopping signal is less than 100ms, then the reading obtained with the 10Hz VBW may be further adjusted by a "duty cycle correction factor", derived from  $20\log(\text{dwell time}/100\text{ms})$ , in an effort to demonstrate compliance with the 15.209 limit the following adjustment has been calculated for use with Average Measurements only;

Dwell Time = 5.81ms this is derived from;

Total slot time per time slot for DH5 packet  $625\mu\text{s} \times 5 = 3.125\text{ms}$

Actual transmit time during this time slot is 2.905ms and the reply time slot after each DH5 packet is 625 $\mu\text{s}$ .

Total time slot length per channel  $3.125 + 0.625 = 3.75\text{ms}$ .

Multiply Total time slot length per channel by 32 channels per hop sequence  
 $32 \times 3.75 = 120\text{ms}$

It is therefore possible to have a maximum of two hop sequences in any given 100ms period, a single channel could occur twice within any 100ms time window.  $2 \times 2.905 = 5.81\text{ms}$

Therefore; the Bluetooth Duty Cycle Correction Factor for the EUT is  $20 \log (5.81/100) = -$   
24.7dB

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (30MHz – 1GHz).

Measurements were made with the EUT in RLAN Mode (see Section 1.3.3 for details).

#### **MC9060G EX Tx on Bottom Channel (2412MHz)**

| Emission Frequency | Pol      | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|----------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |          | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 526.9              | Vertical | 100    | 145     | 32.6                 | 42.7 | 46.0                | 200.0 |
| 623.0              | Vertical | 100    | 000     | 34.5                 | 53.1 | 46.0                | 200.0 |
| 630.3              | Vertical | 100    | 000     | 33.6                 | 47.9 | 46.0                | 200.0 |
| 637.7              | Vertical | 100    | 000     | 33.5                 | 47.3 | 46.0                | 200.0 |
| 645.1              | Vertical | 100    | 000     | 33.2                 | 45.7 | 46.0                | 200.0 |
| 659.0              | Vertical | 100    | 000     | 32.1                 | 40.3 | 46.0                | 200.0 |

#### **MC9060G EX Tx on Middle Channel (2437MHz)**

| Emission Frequency | Pol      | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|----------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |          | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 527.0              | Vertical | 100    | 145     | 32.3                 | 41.2 | 46.0                | 200.0 |
| 623.0              | Vertical | 100    | 000     | 34.5                 | 53.1 | 46.0                | 200.0 |
| 630.4              | Vertical | 100    | 000     | 34.2                 | 51.3 | 46.0                | 200.0 |
| 637.7              | Vertical | 100    | 000     | 33.7                 | 48.4 | 46.0                | 200.0 |
| 645.1              | Vertical | 100    | 000     | 33.0                 | 44.7 | 46.0                | 200.0 |
| 659.8              | Vertical | 100    | 000     | 32.1                 | 40.3 | 46.0                | 200.0 |

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S –20dB limit as shown in 2.3.5.

### 2.3.5 Test Procedure - continued

### MC9060G ex Tx on Top Channel (2462MHz)

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S -20dB limit as shown in 2.3.5.

|     |              |     |        |
|-----|--------------|-----|--------|
| Pol | Polarisation | deg | degree |
|-----|--------------|-----|--------|

## 2.3 SPURIOUS RADIATED EMISSIONS – ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### **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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (30MHz – 1GHz).

Measurements were made with the EUT in RLAN Mode (see Section 1.3.3 for details).

#### **MC9060K ex Tx on Bottom Channel (2412MHz)**

| Emission Frequency | Pol      | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|----------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |          | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 426.10             | Vertical | 100    | 281     | 32.9                 | 44.2 | 46.0                | 200.0 |
| 432.30             | Vertical | 100    | 259     | 33.8                 | 49.0 | 46.0                | 200.0 |
| 438.50             | Vertical | 100    | 304     | 34.3                 | 51.9 | 46.0                | 200.0 |
| 444.70             | Vertical | 100    | 274     | 34.4                 | 52.5 | 46.0                | 200.0 |
| 457.10             | Vertical | 100    | 315     | 33.5                 | 47.3 | 46.0                | 200.0 |
| 469.60             | Vertical | 100    | 314     | 33.0                 | 44.7 | 46.0                | 200.0 |

#### **MC9060K ex Tx on Middle Channel (2437MHz)**

| Emission Frequency | Pol      | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|----------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |          | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 413.60             | Vertical | 100    | 312     | 31.6                 | 38.0 | 46.0                | 200.0 |
| 419.80             | Vertical | 100    | 332     | 31.6                 | 38.0 | 46.0                | 200.0 |
| 426.10             | Vertical | 100    | 293     | 32.5                 | 42.2 | 46.0                | 200.0 |
| 438.50             | Vertical | 100    | 345     | 33.7                 | 48.4 | 46.0                | 200.0 |
| 444.70             | Vertical | 100    | 318     | 34.4                 | 52.5 | 46.0                | 200.0 |
| 457.10             | Vertical | 100    | 325     | 33.1                 | 42.2 | 46.0                | 200.0 |

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S –20dB limit as shown in 2.3.5.

## 2.3 SPURIOUS RADIATED EMISSIONS – ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 30MHz - 1GHz Frequency Range

#### **MC9060K ex Tx on Top Channel (2462MHz)**

| Emission Frequency | Pol      | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|----------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |          | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 413.60             | Vertical | 100    | 318     | 31.1                 | 35.9 | 46.0                | 200.0 |
| 426.10             | Vertical | 100    | 322     | 32.6                 | 42.7 | 46.0                | 200.0 |
| 438.50             | Vertical | 100    | 335     | 33.4                 | 46.8 | 46.0                | 200.0 |
| 444.70             | Vertical | 100    | 339     | 33.9                 | 49.5 | 46.0                | 200.0 |
| 457.10             | Vertical | 100    | 323     | 32.9                 | 44.2 | 46.0                | 200.0 |
| 469.60             | Vertical | 100    | 338     | 32.5                 | 42.2 | 46.0                | 200.0 |

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S –20dB limit as shown in 2.3.5.

#### ABBREVIATIONS FOR ABOVE TABLES

Pol      Polarisation                      deg      degree

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (1GHz – 26GHz).

Measurements were made with the EUT in RLAN Mode (see Section 1.3.3 for details).

#### **MC9060G ex Tx on Bottom Channel (2412MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |            |                        |               |
| GHz       |            | cm     | deg       | dBμV/m              | dBμV/m     | dBμV/m                 | dBμV/m        |
| 4.076     | Vertical   | 100    | 236       | 48.9                | 74.0       | 44.1                   | 54.0          |
| 4.824     | Horizontal | 100    | 223       | 53.8                | 74.0       | 39.2                   | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

#### **MC9060G exTx on Middle Channel (2437MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |            |                        |               |
| GHz       |            | cm     | deg       | dBμV/m              | dBμV/m     | dBμV/m                 | dBμV/m        |
| 4.126     | Vertical   | 100    | 229       | 47.0                | 74.0       | 40.7                   | 54.0          |
| 4.874     | Horizontal | 100    | 220       | 54.5                | 74.0       | 40.5                   | 54.0          |
| 7.311     | Vertical   | 100    | 231       | 56.9                | 74.0       | 45.0                   | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz Frequency Range

#### MC9060G ex Tx on Top Channel (2462MHz)

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit   | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|--------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |              |                        |               |
| GHz       |            | cm     | deg       | dB $\mu$ V/m        | dB $\mu$ V/m | dB $\mu$ V/m           | dB $\mu$ V/m  |
| 4.176     | Vertical   | 100    | 230       | 45.4                | 74.0         | 37.9                   | 54.0          |
| 4.924     | Horizontal | 100    | 217       | 55.1                | 74.0         | 41.0                   | 54.0          |
| 7.386     | Vertical   | 100    | 213       | 58.6                | 74.0         | 46.1                   | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

#### ABBREVIATIONS FOR ABOVE TABLES

Pol      Polarisation                      deg      degree

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (1GHz – 26GHz).

Measurements were made with the EUT in RLAN Mode (see Section 1.3.3 for details).

#### **MC9060K ex Tx on Bottom Channel (2412MHz)**

| Frequency | Antenna  |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|----------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol      | Height | Azimuth   |                     |            |                        |               |
| GHz       |          | cm     | deg       | dBµV/m              | dBµV/m     | dBµV/m                 | dBµV/m        |
| 4.076     | Vertical | 100    | 240       | 49.4                | 74.0       | 44.9                   | 54.0          |
| 7.236     | Vertical | 100    | 002       | 49.6                | 79.7       | N/A                    | N/A           |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

#### **MC9060K ex Tx on Middle Channel (2437MHz)**

| Frequency | Antenna  |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|----------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol      | Height | Azimuth   |                     |            |                        |               |
| GHz       |          | cm     | deg       | dBµV/m              | dBµV/m     | dBµV/m                 | dBµV/m        |
| 4.126     | Vertical | 100    | 236       | 50.3                | 74.0       | 43.6                   | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz Frequency Range

#### MC9060K ex Tx on Top Channel (2462MHz)

| Frequency | Antenna  |        | Turntable | Peak Field Strength | Peak Limit   | Average Field Strength | Average Limit |
|-----------|----------|--------|-----------|---------------------|--------------|------------------------|---------------|
|           | Pol      | Height | Azimuth   |                     |              |                        |               |
| GHz       |          | cm     | deg       | dB $\mu$ V/m        | dB $\mu$ V/m | dB $\mu$ V/m           | dB $\mu$ V/m  |
| 4.176     | Vertical | 100    | 238       | 50.4                | 74.0         | 45.9                   | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

#### ABBREVIATIONS FOR ABOVE TABLES

Pol      Polarisation                      deg      degree

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (30MHz – 1GHz).

Measurements were made with the EUT in Bluetooth Mode (see Section 1.3.3 for details).

#### **MC9060G ex Tx on Bottom Channel (2402MHz)**

| Emission Frequency | Pol        | Height | Azimuth | Field Strength at 3m |       | Specification Limit |       |
|--------------------|------------|--------|---------|----------------------|-------|---------------------|-------|
| MHz                |            | cm     | deg     | dBμV/m               | μV/m  | dBμV/m              | μV/m  |
| 239.11             | Horizontal | 100    | 351     | 25.3                 | 18.4  | 46.0                | 200.0 |
| 394.68             | Horizontal | 100    | 360     | 26.3                 | 20.65 | 46.0                | 200.0 |
| 527.15             | Horizontal | 192    | 151     | 36.7                 | 68.4  | 46.0                | 200.0 |
| 575.07             | Vertical   | 100    | 333     | 30.4                 | 33.1  | 46.0                | 200.0 |
| 623.02             | Vertical   | 100    | 000     | 33.7                 | 48.4  | 46.0                | 200.0 |

#### **MC9060G ex Tx on Middle Channel (2441MHz)**

| Emission Frequency | Pol        | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|------------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |            | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 239.14             | Horizontal | 106    | 000     | 23.9                 | 15.7 | 46.0                | 200.0 |
| 398.13             | Horizontal | 100    | 035     | 30.0                 | 31.6 | 46.0                | 200.0 |
| 527.14             | Horizontal | 183    | 170     | 38.0                 | 79.4 | 46.0                | 200.0 |
| 575.04             | Vertical   | 100    | 000     | 30.6                 | 33.9 | 46.0                | 200.0 |
| 623.00             | Vertical   | 100    | 001     | 34.4                 | 52.5 | 46.0                | 200.0 |

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S –20dB limit as shown in 2.3.5.

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 30MHz - 1GHz Frequency Range

#### **MC9060G ex Tx on Top Channel (2480MHz)**

| Emission Frequency | Pol      | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|----------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |          | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 239.16             | Vertical | 114    | 000     | 25.5                 | 18.8 | 46.0                | 200.0 |
| 431.30             | Vertical | 100    | 174     | 30.0                 | 31.6 | 46.0                | 200.0 |
| 527.15             | Vertical | 185    | 170     | 34.8                 | 55.0 | 46.0                | 200.0 |
| 575.07             | Vertical | 100    | 000     | 29.5                 | 29.9 | 46.0                | 200.0 |
| 622.99             | Vertical | 100    | 360     | 33.6                 | 47.9 | 46.0                | 200.0 |

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S –20dB limit as shown in 2.3.5.

#### ABBREVIATIONS FOR ABOVE TABLES

Pol      Polarisation                      deg      degree

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (30MHz – 1GHz).

Measurements were made with the EUT in Bluetooth Mode (see Section 1.3.3 for details).

#### **MC9060K ex Tx on Bottom Channel (2402MHz)**

| Emission Frequency | Pol        | Height | Azimuth | Field Strength at 3m |       | Specification Limit |       |
|--------------------|------------|--------|---------|----------------------|-------|---------------------|-------|
| MHz                |            | cm     | deg     | dBμV/m               | μV/m  | dBμV/m              | μV/m  |
| 215.90             | Horizontal | 100    | 084     | 21.1                 | 11.35 | 43.5                | 150.0 |
| 232.90             | Horizontal | 100    | 266     | 25.5                 | 18.8  | 46.0                | 200.0 |
| 286.00             | Horizontal | 100    | 235     | 32.7                 | 43.2  | 46.0                | 200.0 |
| 308.00             | Horizontal | 100    | 234     | 29.7                 | 30.5  | 46.0                | 200.0 |
| 330.00             | Horizontal | 100    | 238     | 28.2                 | 25.7  | 46.0                | 200.0 |
| 425.78             | Horizontal | 100    | 282     | 32.1                 | 40.3  | 46.0                | 200.0 |

#### **MC9060K ex Tx on Middle Channel (2441MHz)**

| Emission Frequency | Pol        | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|------------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |            | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 215.90             | Horizontal | 100    | 090     | 20.6                 | 10.7 | 43.5                | 150.0 |
| 232.80             | Horizontal | 100    | 262     | 25.4                 | 18.6 | 46.0                | 200.0 |
| 286.00             | Horizontal | 100    | 234     | 32.2                 | 40.7 | 46.0                | 200.0 |
| 308.00             | Horizontal | 100    | 232     | 29.8                 | 30.9 | 46.0                | 200.0 |
| 330.00             | Horizontal | 100    | 235     | 27.8                 | 24.5 | 46.0                | 200.0 |
| 398.13             | Horizontal | 100    | 099     | 33.5                 | 47.3 | 46.0                | 200.0 |

\* Any emissions which are related to the EUT's transmitter circuitry, that are outside of the Restricted Band of Operation, table (15.205 and Table 2) are compared against the Carrier F S –20dB limit as shown in 2.3.5.

### 2.3.5 Test Procedure - continued

### MC9060K EX Tx on Top Channel (2480MHz)

| Emission Frequency | Pol        | Height | Azimuth | Field Strength at 3m |      | Specification Limit |       |
|--------------------|------------|--------|---------|----------------------|------|---------------------|-------|
| MHz                |            | cm     | deg     | dBμV/m               | μV/m | dBμV/m              | μV/m  |
| 216.00             | Horizontal | 100    | 087     | 21.9                 | 12.4 | 43.5                | 150.0 |
| 232.90             | Horizontal | 100    | 261     | 25.0                 | 17.8 | 46.0                | 200.0 |
| 286.00             | Horizontal | 100    | 235     | 32.7                 | 43.2 | 46.0                | 200.0 |
| 308.00             | Horizontal | 100    | 237     | 29.9                 | 32.3 | 46.0                | 200.0 |
| 330.00             | Horizontal | 100    | 233     | 27.9                 | 24.8 | 46.0                | 200.0 |
| 398.32             | Horizontal | 100    | 099     | 33.0                 | 44.7 | 46.0                | 200.0 |

### ABBREVIATIONS FOR ABOVE TABLES

|     |              |     |        |
|-----|--------------|-----|--------|
| Pol | Polarisation | deg | degree |
|-----|--------------|-----|--------|

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (1GHz – 26GHz).

Measurements were made with the EUT in Bluetooth Mode (see Section 1.3.3 for details).

#### **MC9060G ex Tx on Bottom Channel (2402MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |            |                        |               |
| GHz       |            | cm     | deg       | dBμV/m              | dBμV/m     | dBμV/m                 | dBμV/m        |
| 4.804     | Horizontal | 130    | 231       | 72.8                | 74.0       | 38.6*                  | 54.0          |
| 7.205     | Vertical   | 100    | 348       | 58.4                | 81.9       | N/A                    | N/A           |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

#### **MC9060G ex Tx on Middle Channel (2441MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |            |                        |               |
| GHz       |            | cm     | deg       | dBμV/m              | dBμV/m     | dBμV/m                 | dBμV/m        |
| 4.885     | Horizontal | 100    | 234       | 71.0                | 74.0       | 37.1*                  | 54.0          |
| 7.328     | Horizontal | 132    | 207       | 58.1                | 74.0       | 33.4*                  | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

Note: The Measurements in the above tables marked N/A are Not Applicable because the frequency does not fall within the Restricted Band (15.205 and Table 2) and hence Average Measurements are not required.

\* Note these results have been corrected using the Bluetooth Duty Cycle Correction Factor for the EUT, as calculated on page 18 of this report.

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz Frequency Range

#### **MC9060G ex Tx on Top Channel (2480MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit   | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|--------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |              |                        |               |
| GHz       |            | cm     | deg       | dB $\mu$ V/m        | dB $\mu$ V/m | dB $\mu$ V/m           | dB $\mu$ V/m  |
| 4.960     | Horizontal | 112    | 235       | 69.0                | 74.0         | 35.5*                  | 54.0          |
| 7.440     | Horizontal | 121    | 216       | 57.5                | 74.0         | 24.6*                  | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

Note: The Measurements in the above tables marked N/A are Not Applicable because the frequency does not fall within the Restricted Band (15.205 and Table 2) and hence Average Measurements are not required.

\* Note these results have been corrected using the Bluetooth Duty Cycle Correction Factor for the EUT, as calculated on page 18 of this report.

#### ABBREVIATIONS FOR ABOVE TABLES

Pol      Polarisation                      deg      degree

## 2.3 SPURIOUS RADIATED EMISSIONS - ENCLOSURE PORT

### 2.3.5 Test Procedure - continued

#### 1GHz - 26GHz 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 and Industry Canada Radio Standard RSS-210, 2.7, Table 2 for Radiated Emissions (1GHz – 26GHz).

Measurements were made with the EUT in Bluetooth Mode (see Section 1.3.3 for details).

#### **MC9060K ex Tx on Bottom Channel (2402MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit   | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|--------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |              |                        |               |
| GHz       |            | cm     | deg       | dB $\mu$ V/m        | dB $\mu$ V/m | dB $\mu$ V/m           | dB $\mu$ V/m  |
| 4.804     | Horizontal | 144    | 136       | 65.1                | 74.0         | 32.3*                  | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

#### **MC9060K ex Tx on Middle Channel (2441MHz)**

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit   | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|--------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |              |                        |               |
| GHz       |            | cm     | deg       | dB $\mu$ V/m        | dB $\mu$ V/m | dB $\mu$ V/m           | dB $\mu$ V/m  |
| 4.886     | Horizontal | 140    | 138       | 64.7                | 74.0         | 32.0*                  | 54.0          |

EIRP Results are only taken for frequencies that fall Outside the Restricted Band in accordance 15.247(c.)

Note: The Measurements in the above tables marked N/A are Not Applicable because the frequency does not fall within the Restricted Band (15.205 and Table 2) and hence Average Measurements are not required.

\* Note these results have been corrected using the Bluetooth Duty Cycle Correction Factor for the EUT, as calculated on page 18 of this report.

### 2.3.5 Test Procedure - continued

### MC9060K ex Tx on Top Channel (2480MHz)

| Frequency | Antenna    |        | Turntable | Peak Field Strength | Peak Limit | Average Field Strength | Average Limit |
|-----------|------------|--------|-----------|---------------------|------------|------------------------|---------------|
|           | Pol        | Height | Azimuth   |                     |            |                        |               |
| GHz       |            | cm     | deg       | dBμV/m              | dBμV/m     | dBμV/m                 | dBμV/m        |
| 4.960     | Horizontal | 154    | 139       | 66.0                | 74.0       | 33.1*                  | 54.0          |

Note: The Measurements in the above tables marked N/A are Not Applicable because the frequency does not fall within the Restricted Band (15.205 and Table 2) and hence Average Measurements are not required.

### ABBREVIATIONS FOR ABOVE TABLES

|     |              |     |        |
|-----|--------------|-----|--------|
| Pol | Polarisation | deg | degree |
|-----|--------------|-----|--------|

### **SECTION 3**

#### **TEST EQUIPMENT USED**

### 3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

| Instrument            | Manufacturer      | Type No              | EMC / INV No | Cal. Due   |
|-----------------------|-------------------|----------------------|--------------|------------|
| Section 2.1           |                   |                      |              |            |
| Spectrum Analyser     | Hewlett Packard   | 8542E                | 2286         | 08/01/2006 |
| Bilog Antenna         | Schaffner         | CBL6143              | 2965         | 12/11/2005 |
| Emi Receiver          | Rohde & Schwarz   | ESIB 40              | 3138         | 11/08/2006 |
| Amplifier             | Miteq Corp        | AMF-3d-001080-18-13P | 2457         | TU         |
| Amplifier             | Avantek           | AWT-18036            | 1081         | TU         |
| Amplifier             | Avantek           | AMT-26177-33         | 2072         | TU         |
| DRG Antenna           | Emco              | 3115                 | 2297         | 01/07/2006 |
| DRG Antenna           | Emco              | 3115                 | 2397         | 01/07/2006 |
| DRG Horn Antenna      | Link Microtek Ltd | AM180HA-K-TU2        | 2945         | 24/06/2006 |
| 4GHz High Pass Filter | Sematron          | F-100-4000-5-R       | 3083         | TU         |
| DRG Antenna           | Emco              | 3115                 | 500          | 29/07/2006 |
| Peak Power Analyser   | Hewlett Packard   | 8990A                | 1670         | 24/09/2005 |
| 3GHz High Pass Filter | Rlc Electronics   | F-100-3000-5-R       | 4969         | TU         |
| AC Power Supply       | Various           | ELGAR                | 2497         | TU         |

TU Traceability Unscheduled

### 3.2 MEASUREMENT UNCERTAINTY

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

| Test Discipline                          | Frequency / Parameter   | MU     |
|------------------------------------------|-------------------------|--------|
| Radiated Emissions, Bilog Antenna, AOATS | 30MHz to 1GHz Amplitude | 5.1dB* |
| Radiated Emissions, Horn Antenna, AOATS  | 1GHz to 40GHz Amplitude | 6.3dB* |

Worst case error for both Time and Frequency measurement 12 parts in  $10^6$ .

- \* In accordance with CISPR 16-4
- † In accordance with UKAS Lab 34

## **SECTION 4**

### **ACCREDITATION, DISCLAIMERS AND COPYRIGHT**

#### 4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



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  
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