



Global Product Certification  
EMC-EMF Safety Approvals

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**RADIO TEST REPORT FOR CERTIFICATION  
to  
FCC PART 15 Subpart E (Section 15.407) & RSS-210  
U-NII – WLAN (5.2 GHz, 5.3 GHz, 5.6 GHz)**

**Client:** Fujitsu Australia Ltd  
**Test Sample:** LIFEBOOK T series  
**Model:** T725  
**FCC ID:** EJE-WB0091  
**Industry Canada ID:** 337J-WB0091

**Radio Module:** Intel Stonepeak 7265NGW (802.11 a/b/g/n/ac Wireless LAN + BT V 4.0)  
FCC ID: PD97265NG  
IC ID: 1000M-7265NG

**Report Number** M141038a-3 (Supersedes report M141038-3)

**Issue Date:** 01 December 2014

EMC Technologies Pty Ltd reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. EMC Technologies Pty Ltd shall have no liability for any deductions, inferences or generalisations drawn by the client or others from EMC Technologies Pty Ltd issued reports. This report shall not be used to claim, constitute or imply product endorsement by EMC Technologies Pty Ltd.

**RADIO TEST REPORT FOR CERTIFICATION  
to  
FCC PART 15 Subpart E (Section 15.407) & RSS-210**

**EMC Technologies Report No. M141038a-3**

**Issue Date: 01 December 2014**

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**RADIO TEST REPORT FOR CERTIFICATION**  
**to**  
**FCC PART 15 Subpart E (Section 15.407) & RSS-210**

**Report No. M141038a-3**

**Client:** Fujitsu Australia Ltd  
**Test Sample:** LifeBook T Series  
**Model:** T725  
**FCC ID:** EJE-WB0091  
**Industry Canada ID:** 337J-WB0091  
**Equipment Type:** Intentional Radiator (Transceiver)

**Radio Module:** Intel Stonepeak 7265NGW (802.11 a/b/g/n/ac Wireless LAN + BT V 4.0)  
FCC ID: PD97265NG  
IC ID: 1000M-7265NG

**Manufacturer (LifeBook):** Fujitsu Ltd  
**Address:** 1-1 Kamikodanaka 4-Chome, Nakahara-Ku, Kawasaki, Japan

**Standards:** FCC Part 15 – *Radio Frequency Devices (October 2009)*  
Subpart E – *Unlicensed National Information, Infrastructure Devices*  
Section 407 – *General Technical Requirements*

KDB 789033 D01 *Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (v01r04).*

ANSI C63.4 – 2009 *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*

RSS-210 *Issue 8 Low Power Licence-Exempt RadioCommunication Devices Annex 9: Local Area Network Devices*

RSS-102 *Issue 1 (Provisional), Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields*

**Test Dates:** 31<sup>st</sup> October, 5<sup>th</sup> to 7<sup>th</sup> November and 13<sup>th</sup> November 2014

  
**Test Engineer:** **Matthew Grimwood**  
**EMC Test Officer**

  
**Mahan Ghassempouri**  
**EMC Test Officer**

**Attestation:** *I hereby certify that the device(s) described herein were tested as described in this report and that the data included is that which was obtained during such testing.*

**Authorised Signatory:**   
**Rob Weir**  
**Facility Manager, Melbourne**  
**EMC Technologies Pty Ltd**

## RADIO TEST REPORT FOR CERTIFICATION to FCC PART 15 Subpart E (Section 15.407) & RSS-210

### 1.0 INTRODUCTION

EMI testing was performed on the Portable PC Fujitsu LifeBook T Series, Model: T725 incorporating an Intel Stonepeak 7265NGW (802.11 a/b/g/n/ac Wireless LAN + BT V 4.0), Model: 7265NGW radio module.

The 7265NGW module was originally certified by INTEL Corporation as a modular approval under FCC ID: PD97265NG (Canada ID: 1000M-7265NG).

The intention of this application is to FCC certify Intel Stonepeak 7265NGW (802.11 a/b/g/n/ac Wireless LAN + BT V 4.0), Model: 7265NGW installed in Portable PC Fujitsu LifeBook T Series, Model: T725.

Test results and procedures were performed in accordance with the following Federal Communications Commission (FCC) standards/regulations:

|                                |                                                                                                                                                   |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 47 CFR, Part 15,<br>Subpart E: | Unlicensed National Information Infrastructure Devices (U-NII) operating in the 5.15-5.35 GHz, 5.47-5.725 GHz and 5.725-5.825 GHz frequency bands |
| Section 15.203:                | Antenna requirements                                                                                                                              |
| Section 15.205:                | Restricted bands of operation                                                                                                                     |
| Section 15.209:                | Radiated Emission Limits (General requirements)                                                                                                   |
| Section 15.407:                | General Technical Requirements                                                                                                                    |

### 1.1 Summary of Results

#### FCC Subpart E, Section 15.407, Measured at EMC Technologies

| FCC Part 15, Subpart E Clauses                                                         | Industry Canada RSS-210 Clauses  | Test Performed                | Result          |
|----------------------------------------------------------------------------------------|----------------------------------|-------------------------------|-----------------|
| 15.203                                                                                 | 5.5                              | Antenna Requirement           | <b>Complies</b> |
| 15.205                                                                                 | 6.3                              | Operation in Restricted Band  | <b>Complies</b> |
| 15.209                                                                                 | 6.3                              | Radiated Emissions            | <b>Complies</b> |
| 15.407 (b) (1)<br>15.407 (b) (2)<br>15.407 (b) (3)<br>15.407 (b) (6)<br>15.407 (b) (7) | A9.2 (1)<br>A9.2 (2)<br>A9.2 (3) | Undesirable Radiated Emission | <b>Complies</b> |

**FCC Subpart C, Section 15.407, Inspected in original module report**

| <b>FCC Part 15, Subpart E Clauses</b>                                                                                     | <b>Industry Canada RSS-210 Clauses</b> | <b>Test Performed</b>                                 | <b>Result</b> |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------|---------------|
| <b>15.407 (a)(1)</b><br><b>15.407 (a)(2)</b>                                                                              | A9.2 (1)<br>A9.2 (2)<br>A9.2 (3)       | Peak Transmit Power                                   | <b>Note 1</b> |
| <b>15.407 (a)(1)</b><br><b>15.407 (a)(2)</b>                                                                              | A9.2 (1)<br>A9.2 (2)<br>A9.2 (3)       | Peak Power Spectral Density                           | <b>Note 1</b> |
| <b>15.407 (b) (1)</b><br><b>15.407 (b) (2)</b><br><b>15.407 (b) (3)</b><br><b>15.407 (b) (6)</b><br><b>15.407 (b) (7)</b> | A9.2 (1)<br>A9.2 (2)<br>A9.2 (3)       | Radiated Band-edge emissions compliance (Transmitter) | <b>Note 1</b> |
| <b>15.407 (a) (6)</b>                                                                                                     | -                                      | Peak Excursion                                        | <b>Note 1</b> |
| <b>15.407 (h) (2)</b>                                                                                                     | A9.2 (2)<br>A9.2 (3)                   | Dynamic Frequency Selection                           | <b>Note 1</b> |
| <b>15.407 (c)</b>                                                                                                         | A9.4(4)                                | Discontinue Transmission                              | <b>Note 1</b> |

**Note 1:** Refer to the original module report from Intel.

## 1.2 Modifications by EMC Technologies

No modifications were required.

## 2.0 GENERAL INFORMATION

(Information supplied by the Client)

### 2.1 EUT (WLAN) Details

**Transmitter:** Mini PCIe Wireless LAN Card  
**Wireless Module:** Intel Stonepeak 7265NGW (11abgn/ac Wireless LAN + BT V 4.0)  
**Model Number:** 7265NGW  
**Manufacturer:** Intel Corporation  
**Frequency Ranges:** 5.15-5.25 GHz  
5.25-5.35 GHz  
5.47-5.725 GHz  
**Antenna Types:** Nissei Inverted F PIFA Antenna  
**Antenna gain:** 2.29 dBi max (less than 6 dBi)  
Refer antenna data provided separately

### Channels and Output Power Settings:

The following power settings were taken from documentation supplied from client.

#### 5 GHz (802.11a)

| Mode    | Channel | Frequency (MHz) | Data Rate (Mbps) | Tx BW (MHz) | Average Power Target (dBm) |      |
|---------|---------|-----------------|------------------|-------------|----------------------------|------|
|         |         |                 |                  |             | Ch A                       | Ch B |
| 802.11a | 5.2 GHz |                 | 6                | -           |                            |      |
|         | 36      | 5180            |                  |             | 12.5                       | 12.5 |
|         | 40      | 5200            |                  |             | 13.5                       | 13.5 |
|         | 44      | 5220            |                  |             |                            |      |
|         | 48      | 5240            |                  |             |                            |      |
|         | 5.3 GHz |                 |                  |             |                            |      |
|         | 52      | 5260            |                  |             | 13.5                       | 13.5 |
|         | 56      | 5280            |                  |             |                            |      |
|         | 60      | 5300            |                  |             |                            |      |
|         | 64      | 5320            |                  |             | 12.0                       | 12.0 |
|         | 5.6 GHz |                 |                  |             |                            |      |
|         | 100     | 5500            |                  |             | 12.0                       | 12.0 |
|         | 104     | 5520            |                  |             | 13.5                       | 13.5 |
|         | 108     | 5540            |                  |             |                            |      |
|         | 112     | 5560            |                  |             |                            |      |
|         | 116     | 5580            |                  |             |                            |      |
|         | 120     | 5600            |                  |             |                            |      |
|         | 124     | 5620            |                  |             |                            |      |
|         | 128     | 5640            |                  |             |                            |      |
|         | 132     | 5660            |                  |             |                            |      |
|         | 136     | 5680            |                  |             |                            |      |
|         | 140     | 5700            |                  |             |                            |      |

#### 5 GHz (802.11n)

| Mode    | Channel | Frequency<br>(MHz) | Data Rate<br>(Mbps) | Tx BW<br>(MHz) | Average Power<br>Target (dBm) |      |
|---------|---------|--------------------|---------------------|----------------|-------------------------------|------|
|         |         |                    |                     |                | Ch A                          | Ch B |
| 802.11n | 5.2 GHz |                    | HT0                 | 20             |                               |      |
|         | 36      | 5180               |                     |                | 12.5                          | 12.5 |
|         | 40      | 5200               |                     |                |                               |      |
|         | 44      | 5220               |                     |                | 13.5                          | 13.5 |
|         | 48      | 5240               |                     |                |                               |      |
|         | 5.3 GHz |                    |                     |                |                               |      |
|         | 52      | 5260               |                     |                |                               |      |
|         | 56      | 5280               |                     |                | 13.5                          | 13.5 |
|         | 60      | 5300               |                     |                |                               |      |
|         | 64      | 5320               |                     |                | 12.0                          | 12.0 |
|         | 5.6 GHz |                    |                     |                |                               |      |
|         | 100     | 5500               |                     |                | 12.0                          | 12.0 |
|         | 104     | 5520               |                     |                |                               |      |
|         | 108     | 5540               |                     |                |                               |      |
|         | 112     | 5560               |                     |                |                               |      |
|         | 116     | 5580               |                     |                |                               |      |
|         | 120     | 5600               |                     |                | 13.5                          | 13.5 |
|         | 124     | 5620               |                     |                |                               |      |
|         | 128     | 5640               |                     |                |                               |      |
|         | 132     | 5660               |                     |                |                               |      |
|         | 136     | 5680               |                     |                |                               |      |
|         | 140     | 5700               |                     |                | 11.5                          | 11.5 |

### 5 GHz (802.11n)

| Mode    | Channel | Frequency (MHz) | Data Rate (Mbps) | Tx BW (MHz) | Average Power Target (dBm) |      |
|---------|---------|-----------------|------------------|-------------|----------------------------|------|
|         |         |                 |                  |             | Ch A                       | Ch B |
| 802.11n | 5.2 GHz |                 | HT0              | 40          |                            |      |
|         | 38      | 5190            |                  |             | 10.5                       | 12.0 |
|         | 46      | 5230            |                  |             | 13.5                       | 13.5 |
|         | 5.3 GHz |                 |                  |             |                            |      |
|         | 54      | 5270            |                  |             | 13.5                       | 13.5 |
|         | 62      | 5310            |                  |             | 12.0                       | 12.0 |
|         | 5.6 GHz |                 |                  |             |                            |      |
|         | 102     | 5510            |                  |             | 12.0                       | 12.5 |
|         | 110     | 5550            |                  |             |                            |      |
|         | 118     | 5590            |                  |             | 13.5                       | 13.5 |
|         | 126     | 5630            |                  |             |                            |      |
|         | 134     | 5670            |                  |             | 13.5                       | 13.5 |

### 5 GHz (802.11ac)

| Mode     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tx BW (MHz) | Average Power Target (dBm) |      |
|----------|---------|-----------------|------------------|-------------|----------------------------|------|
|          |         |                 |                  |             | Ch A                       | Ch B |
| 802.11ac | 5.2 GHz |                 | HT0              | 80          |                            |      |
|          | 42      | 5210            |                  |             | 12.0                       | 12.0 |
|          | 5.3 GHz |                 |                  |             |                            |      |
|          | 58      | 5290            |                  |             | 12.0                       | 12.0 |
|          | 5.6 GHz |                 |                  |             |                            |      |
|          | 106     | 5530            |                  |             | 12.0                       | 12.0 |
|          | 122     | 5610            |                  |             | 13.5                       | 13.5 |
|          | 138     | 5690            |                  |             | 13.5                       | 13.5 |

The 7265NGW is capable of feeding two antennas simultaneously, in this configuration the power level is lower for each antenna port than if a single antenna was used.

## 2.2 EUT (Notebook PC) Details

**NoteBook PC:** Portable PC LifeBook T series  
**\*Model Name:** T725  
**Serial Number:** Pre-production Sample  
**Manufacturer:** FUJITSU LIMITED

**CPU Type and Speed:** Core i7 2.6GHz  
**LCD** 12.5"HD+(1366x768) : LP125WH2  
**Wired LAN:** Intel 218LM : 10 Base-T/100 Base-TX/1000Base-T  
**Modem:** Non  
**Port Replicator Model:** FPCPR213

**AC Adapter Model:** ADP-65YH B  
**Voltage out:** 19 V  
**Current out:** 3.42A  
**Watts:** 65W

## 2.3 Test Configuration

The Intel WLAN test software "DRTU" was used to control the transmitter module enabling it to transmit continuously and with selected channels, modulation and data rates.

Radiated harmonics and spurious emission measurements were performed while the radio module transmitted a modulated signal continuously.

## 2.4 Test Facility

### 2.4.1 General

EMC Technologies Pty Ltd is listed by the FCC as a test laboratory able to perform compliance testing for the public. EMC Technologies is listed as an FCC part 47CFR2.948 test lab and may perform the testing required under Parts 15 and 18 – **FCC Registration Number 90560**

EMC Technologies Pty Ltd has also been accredited as a Conformity Assessment Body (CAB) by Australian Communications and Media Authority (ACMA) under the APECTEL MRA and is designated to perform compliance testing on equipment subject to Declaration of Conformity (DoC) and Certification under Parts 15 & 18 of the FCC Commission's rules – **Registration Number 494713 & Designation number AU0001.**

EMC Technologies has also been accepted by Industry Canada for the performance of radiated measurements in accordance with RSS 212, Issue 1 (Provisional) - **Industry Canada number 3569B.**

Measurements were performed at EMC Technologies' laboratory in Keilor Park, Victoria Australia.

### 2.4.2 NATA Accreditation

EMC Technologies is accredited in Australia to test to the following standards by the National Association of Testing Authorities (NATA).

***“FCC Part 15 unintentional and intentional emitters in the frequency range 9kHz to 18 GHz excluding TV receivers (15.117 and 15.119), TV interface devices (15.115), cable ready consumer electronic equipment (15.118), cable locating equipment (15.213) and unlicensed national information infrastructure devices (Sub part E).”***

The current full scope of accreditation can be found on the NATA website: [www.nata.asn.au](http://www.nata.asn.au)  
It also includes a large number of emissions, immunity, SAR, EMR and Safety standards.

NATA is the Australian national laboratory accreditation body and has accredited EMC Technologies to operate to the IEC/ISO17025 requirements. A major requirement for accreditation is the assessment of the company and its personnel as being technically competent in testing to the standards. This requires fully documented test procedures, continued calibration of all equipment to the National Standard at the National Measurements Institute (NMI) and an internal quality system to ISO 9002. NATA has mutual recognition agreements with the National Voluntary Laboratory Accreditation Program (NVLAP) and the American Association for Laboratory Accreditation (A<sup>2</sup>LA).

## 2.5 Test Equipment Calibration

Measurement instrumentation and transducers were calibrated in accordance with the applicable standards by an independent NATA registered laboratory such as Agilent Technologies (Australia) Pty Ltd or the National Measurement Institute (NMI). All equipment calibration is traceable to Australia national standards at the National Measurements Institute. The reference antenna calibration was performed by NMI and the working antennas ((bi-log and horn) calibrated by EMC Technologies. The complete list of test equipment used for the measurements, including calibration dates and traceability is contained in Appendix A

## FCC 15.407 (U-NII) RESULTS

### 3.0 RADIATED EMISSION MEASUREMENTS

#### 3.1 Test Procedure

Testing was performed in accordance with the requirements of FCC Part 15.407(b). The measurement procedure used was in accordance with ANSI C63.4-2009. The instrumentation conformed to the requirements of ANSI C63.2-2009.

Radiated emission measurements were performed to the limits as per section 15.209 and 15.407. Measurement below 1 GHz were performed at the distance of 10 metres. All measurements above 1 GHz were made over a distance of 3 and 1 metres.

Calibrated EMCO 3115, EMCO 3116 and ETS standard gain horn antennas were used for measurements above 1000 MHz. A calibrated Bi-Log antenna was used for measurements below 1000 MHz.

The measurement of emissions above 1000 MHz was measured using a following setting:  
Quasi-Peak measurements setting: RBW = 120 kHz and VBW = 300 kHz

The measurement of emissions above 1000 MHz was measured using a following setting:  
Peak measurements setting: RBW = VBW = 1 MHz  
Average measurements setting: RBW = 1 MHz and VBW = 10 Hz

The receiver bandwidth was set to 6 dB.

The EUT was slowly rotated with the Peak Detector set to Max-Hold. This was performed for two antenna heights. When an emission was located, it was positively identified and its maximum level found by rotating the automated turntable and by varying the antenna height. The procedure was repeated with the device orientated in three orthogonal axis to further maximise the emission. In this instance the device antennas are located in the swivel display, this was adjusted to give maximum emissions.

Each significant peak was investigated with the Peak/Average Detectors. The measurement data for each frequency range was corrected for cable losses, antenna factors and preamplifier gain. This process was performed for both horizontal and vertical antenna polarisations.

#### 3.2 Calculation of field strength

The field strength was calculated automatically by the software using all the pre-stored calibration data. The method of calculation is shown below:

$$E = V + AF - G + L$$

Where:

- E** = Radiated Field Strength in dBμV/m.
- V** = EMI Receiver Voltage in dBμV. (measured value)
- AF** = Antenna Factor in dB(m<sup>-1</sup>) (stored as a data array of factor versus frequency)
- G** = Preamplifier Gain in dB.(stored as a data array of gain versus frequency)
- L** = Cable insertion loss in dB (stored as a data array of insertion loss versus frequency)

- **Example Field Strength Calculation**

Assuming a receiver reading of 34.0 dBμV is obtained at 90 MHz, the Antenna Factor at that frequency is 9.2 dB. The cable loss is 1.9 dB while the preamplifier gain is 20.0 dB. The resulting Field Strength is therefore as follows:

$$34.0 + 9.2 + 1.9 - 20.0 = 25.1 \text{ dB}\mu\text{V/m}$$

### 3.3 Results

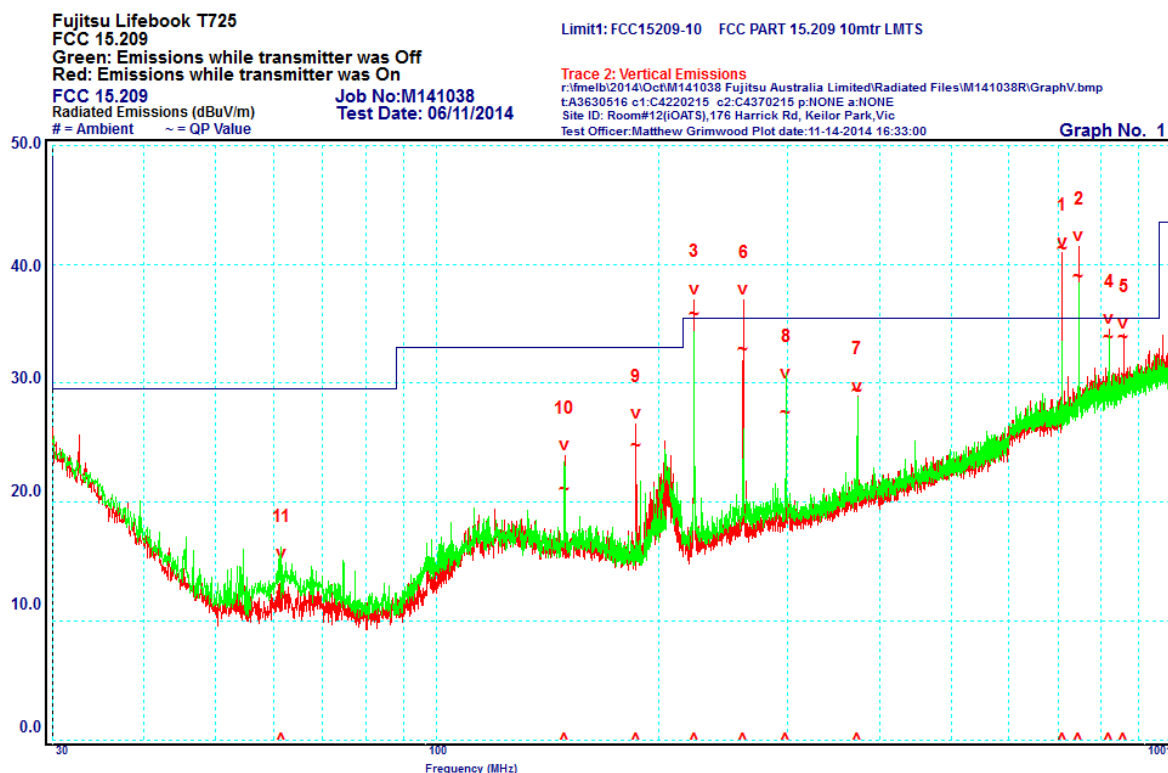
This transmitter module was originally tested and certified by the manufacturer as a stand-alone module outside a laptop (host) with higher gain antennas. Refer to manufacturer's original test report (FCC 15E) for full results showing compliance with the spurious and harmonics limits.

However, to ensure the transmitter module installed in the T725 LifeBook is still in compliance, verification tests were performed. Final testing was performed while the transmitter continuously operated in the worst case condition and only those are reported.

#### 3.3.1 Frequency Band: 30 - 1000 MHz

The measurements were made at a distance of 10 metres. Each frequency band and modulation types were checked, the highest emissions are reported.

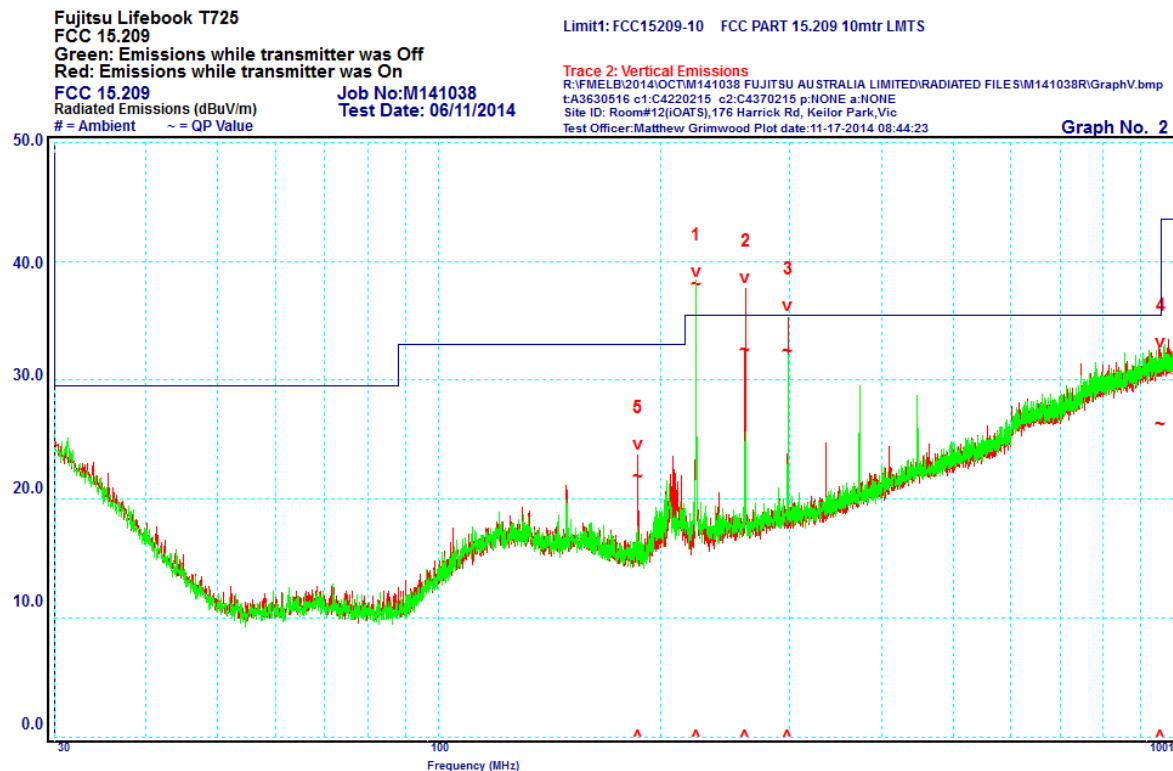
#### Vertically Polarised Emissions



| Peak | Frequency MHz | Polarization | Quasi Peak dBuV/m | Quasi Peak Limit dBuV/m | Margin dB | Result   |
|------|---------------|--------------|-------------------|-------------------------|-----------|----------|
| 1    | 708.70        | Vertical     | 41.3              | 35.5                    | 5.8       | Note1    |
| 2    | 746.00        | Vertical     | 39.0              | 35.5                    | 3.5       | Note1    |
| 3    | 223.81        | Vertical     | 35.7              | 35.5                    | 0.2       | Note1    |
| 4    | 820.58        | Vertical     | 33.8              | 35.5                    | -1.7      | Note1    |
| 5    | 857.90        | Vertical     | 33.8              | 35.5                    | -1.7      | Complied |
| 6    | 261.10        | Vertical     | 32.8              | 35.5                    | -2.7      | Note1    |
| 7    | 373.00        | Vertical     | 29.3              | 35.5                    | -6.2      | Note1    |
| 8    | 298.40        | Vertical     | 27.4              | 35.5                    | -8.1      | Note1    |
| 9    | 186.48        | Vertical     | 24.8              | 33.0                    | -8.2      | Complied |
| 10   | 149.21        | Vertical     | 21.0              | 33.0                    | -12.0     | Note1    |
| 11   | 61.44         | Vertical     | 12.4              | 29.5                    | -17.1     | Note1    |

Note1: ambient measurements with transmitter off were recorded (green trace) to verify emission source was not the radio module.

## Horizontally Polarised Emissions



| Peak | Frequency MHz | Polarization | Quasi Peak dBuV/m | Quasi Peak Limit dBuV/m | Margin dB | Result   |
|------|---------------|--------------|-------------------|-------------------------|-----------|----------|
| 1    | 223.81        | Horizontal   | 38.0              | 35.5                    | 2.5       | Note1    |
| 2    | 261.11        | Horizontal   | 32.5              | 35.5                    | -3.0      | Note1    |
| 3    | 298.40        | Horizontal   | 32.4              | 35.5                    | -3.1      | Note1    |
| 4    | 959.53        | Horizontal   | 26.2              | 35.5                    | -9.3      | Note1    |
| 5    | 186.50        | Horizontal   | 21.8              | 33.0                    | -11.2     | Complied |

Note1: ambient measurements with transmitter off were recorded (green trace) to verify emission source was not the radio module.

### 3.3.2 Frequency Band: 1 – 40 GHz

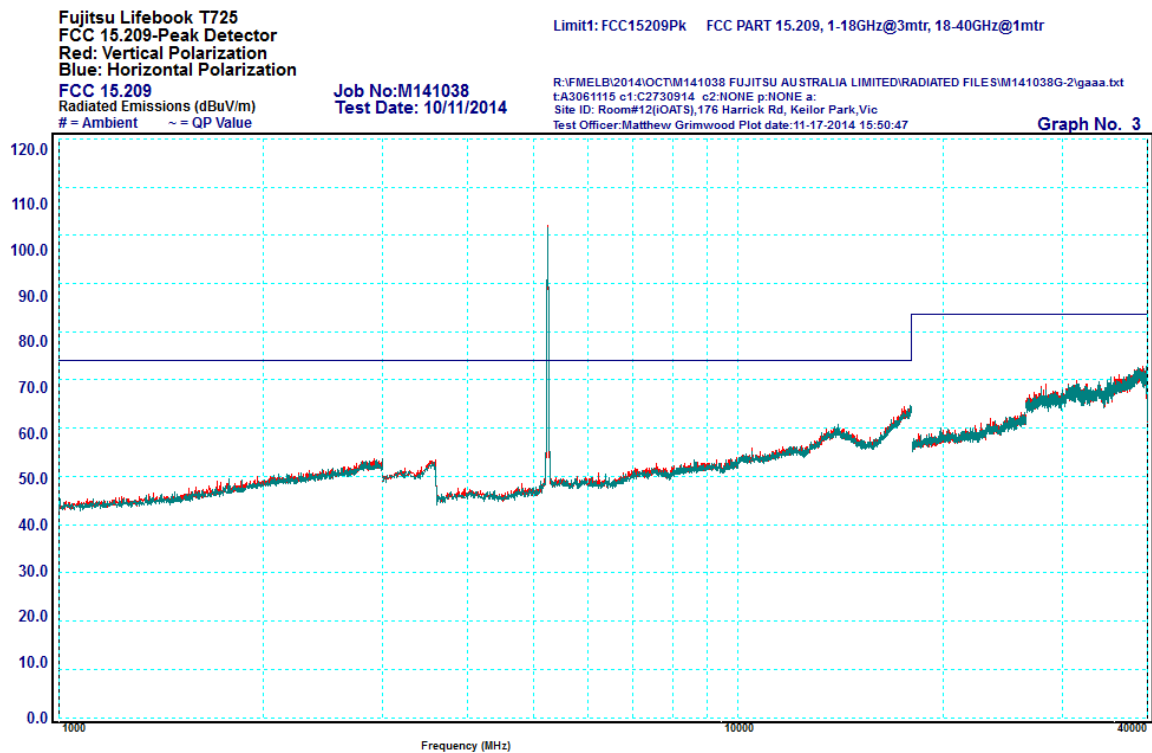
The limits for emissions falling in the restricted band measured using peak and average detector are 74 dBuV/m and 54 dBuV/m, respectively (measured at 3m distance). For convenience these limits were applied across the entire range.

Measurements were performed with the EUT operating in the worst case mode of single antenna transmitting. For multiple antennas transmitting the power level is lower with respect to single antenna mode.

Harmonics and spurious emissions were measured for channels where the RF output power was highest. Only the highest emission configurations are reported.

### 3.3.2.1 5.2 GHz Band with 20MHz Signal Bandwidth

#### Peak emissions 1 GHz to 40 GHz



Note: intentional transmitter emissions were exempt from the limit.

# Average emissions 1 GHz to 40 GHz

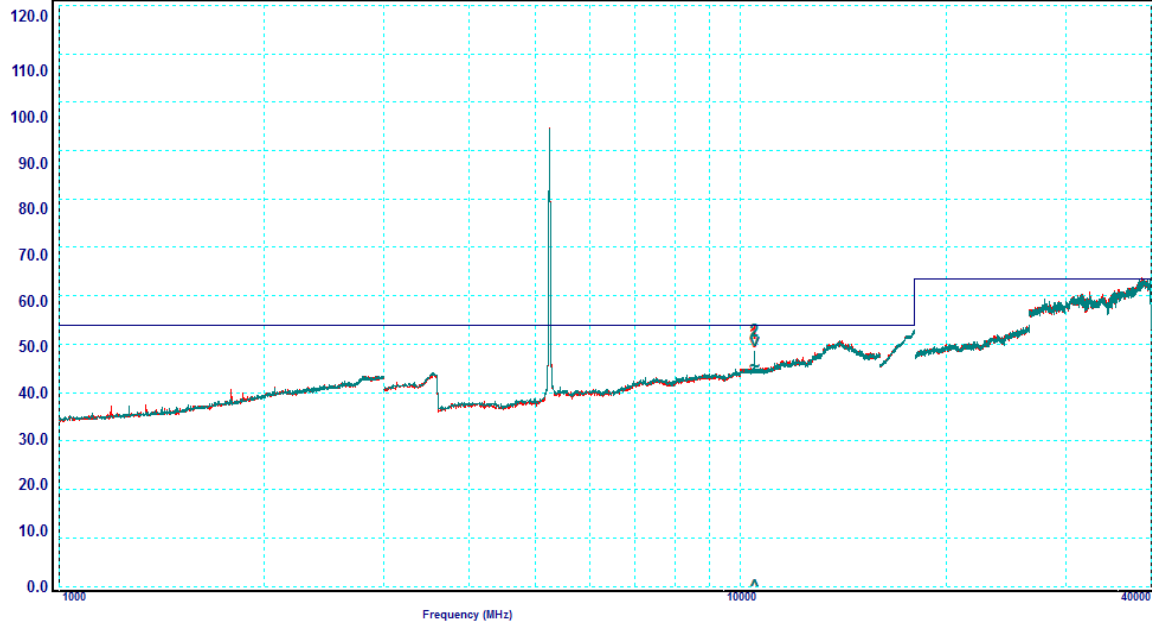
Fujitsu Lifebook T725  
FCC 15.209-Average Detector  
Red: Vertical Polarization  
Blue: Horizontal Polarization  
FCC 15.209  
Radiated Emissions (dBuV/m)  
# = Ambient ~ = QP Value

Job No: M141038  
Test Date: 10/11/2014

Limit1: FCC15209Av FCC PART 15.209, 1-18GHz@3mtr, 18-40GHz@1mtr

R:\FME\B\2014\OCT\M141038 FUJITSU AUSTRALIA LIMITED\RADIATED FILES\M141038G-2\gaaa.txt  
t:A3061115 c1:C2730914 c2:NONE p:NONE a:  
Site ID: Room#12(IQATS), 176 Harrick Rd, Keilor Park, Vic  
Test Officer: Matthew Grimwood Plot date: 11-17-2014 15:55:20

Graph No. 4

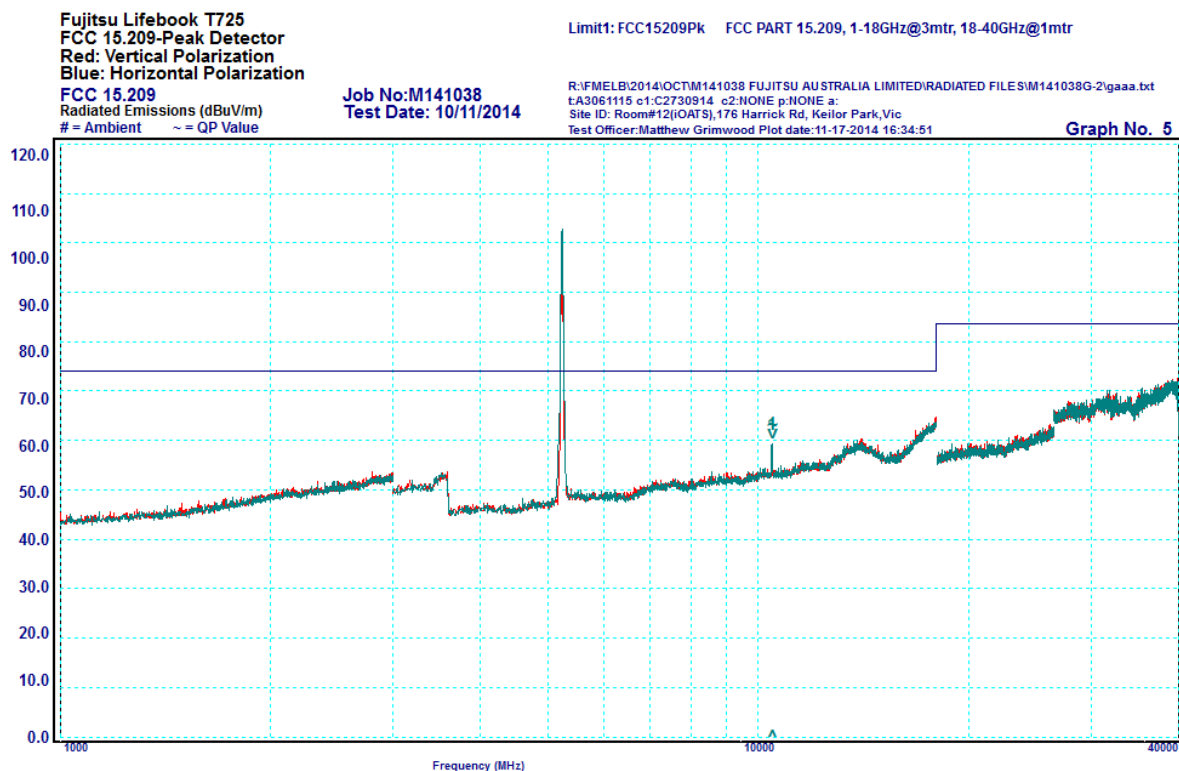


| Peak | Frequency MHz | Polarization | Average dBµV/m | Average Limit dBµV/m | Margin dB | Result   |
|------|---------------|--------------|----------------|----------------------|-----------|----------|
| 1    | 10480.56      | Vertical     | 45.3           | 54.0                 | -8.7      | Complied |
| 2    | 10481.43      | Horizontal   | 45.3           | 54.0                 | -8.7      | complied |

Note: Intentional transmitter emission was excluded from measurement

### 3.3.2.2 5.2 GHz Band with 40MHz Signal Bandwidth

#### Peak emissions 1 GHz to 40 GHz



| Peak | Frequency MHz | Polarization | Peak dBμV/m | Peak Limit dBμV/m | Margin dB | Result   |
|------|---------------|--------------|-------------|-------------------|-----------|----------|
| 1    | 10478.31      | Horizontal   | 63.0        | 74.0              | -11.0     | Complied |

Note: intentional transmitter emissions were exempt from the limit.

# Average emissions 1 GHz to 40 GHz

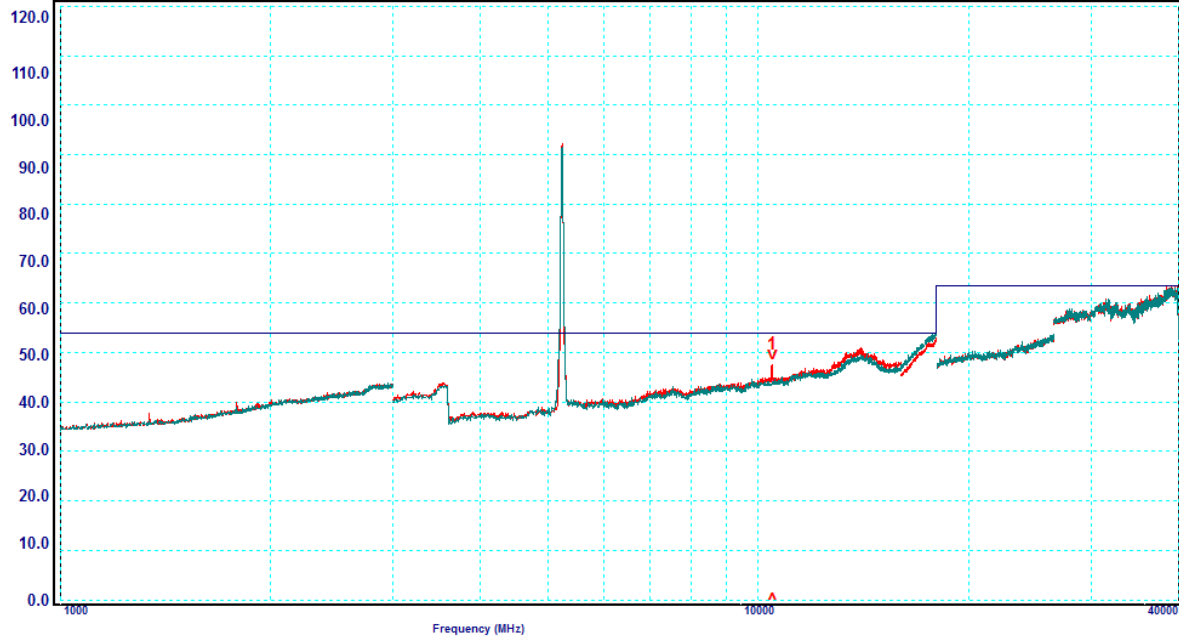
Fujitsu Lifebook T725  
FCC 15.209-Average Detector  
Red: Vertical Polarization  
Blue: Horizontal Polarization  
FCC 15.209  
Radiated Emissions (dBuV/m)  
# = Ambient ~ = QP Value

Job No: M141038  
Test Date: 10/11/2014

Limit1: FCC15209Av FCC PART 15.209, 1-18GHz@3mtr, 18-40GHz@1mtr

R:\FMELB\2014\OCT\M141038 FUJITSU AUSTRALIA LIMITED\RADIATED FILES\M141038G-2\gaaa.txt  
t:A3061115 c1:C2730914 c2:NONE p:NONE a:  
Site ID: Room#12(iQATS),176 Harrick Rd, Keilor Park, Vic  
Test Officer: Matthew Grimwood Plot date: 11-17-2014 16:53:03

Graph No. 6

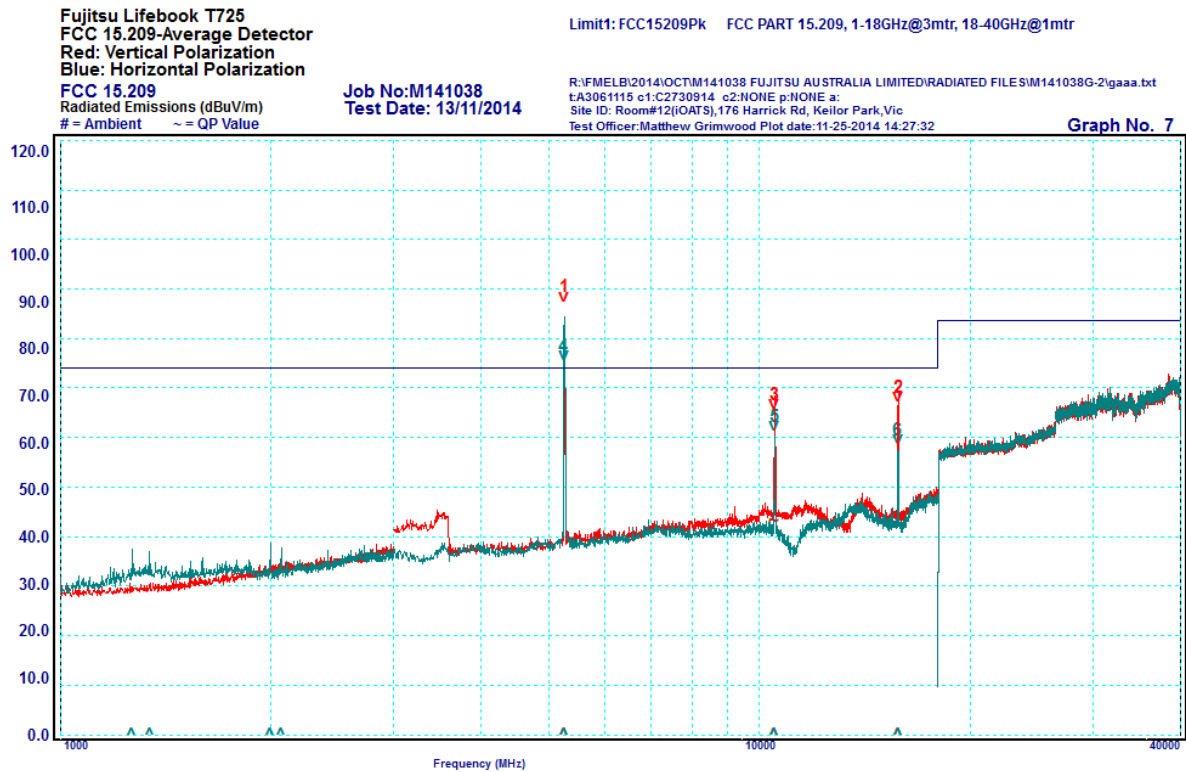


| Peak | Frequency MHz | Polarization | Average dBµV/m | Average Limit dBµV/m | Margin dB | Result   |
|------|---------------|--------------|----------------|----------------------|-----------|----------|
| 1    | 10474.94      | Vertical     | 44.0           | 54.0                 | -10.0     | Complied |

Note: intentional transmitter emissions were exempt from the limit.

### 3.3.2.3 5.3 GHz Band with 20MHz Signal Bandwidth

#### Peak emissions 1 GHz – 40 GHz



| Peak | Frequency MHz | Polarization | Peak dBμV/m | Peak Limit dBμV/m | Margin dB | Result   |
|------|---------------|--------------|-------------|-------------------|-----------|----------|
| 1    | 5259.07       | Vertical     | 86.4        | 74                | 12.4      | Note     |
| 2    | 15781.48      | Vertical     | 66.2        | 74                | -7.8      | Complied |
| 3    | 10513.98      | Vertical     | 64.7        | 74                | -9.3      | Complied |
| 4    | 5252.08       | Horizontal   | 74.4        | 74                | 0.4       | Note     |
| 5    | 10511.3       | Horizontal   | 60.2        | 74                | -13.8     | Complied |
| 6    | 15764.66      | Horizontal   | 57.6        | 74                | -16.4     | Complied |

Note: Intentional transmitter emission was excluded from measurement

# Average emissions 1 GHz – 40 GHz

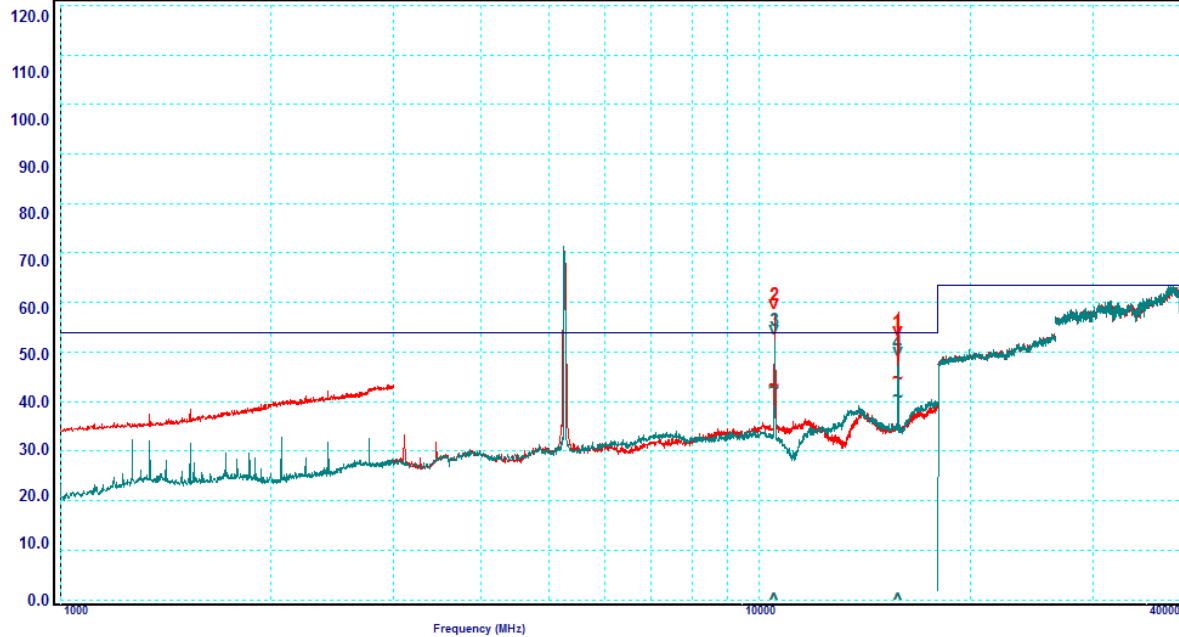
Fujitsu Lifebook T725  
FCC 15.209-Average Detector  
Red: Vertical Polarization  
Blue: Horizontal Polarization  
FCC 15.209  
Radiated Emissions (dBuV/m)  
# = Ambient ~ = QP Value

Job No: M141038  
Test Date: 13/11/2014

Limit1: FCC15209Av FCC PART 15.209, 1-18GHz@3mtr, 18-40GHz@1mtr

R:\FMELB\2014\OCTM141038 FUJITSU AUSTRALIA LIMITED\RADIATED FILES\M141038G-2\gaaa.txt  
t:A3061115 c1:C2730914 c2:NONE p:NONE a:  
Site ID: Room#12(iOATS),176 Harrick Rd, Keilor Park, Vic  
Test Officer: Matthew Grimwood Plot date: 11-25-2014 14:30:46

Graph No. 8



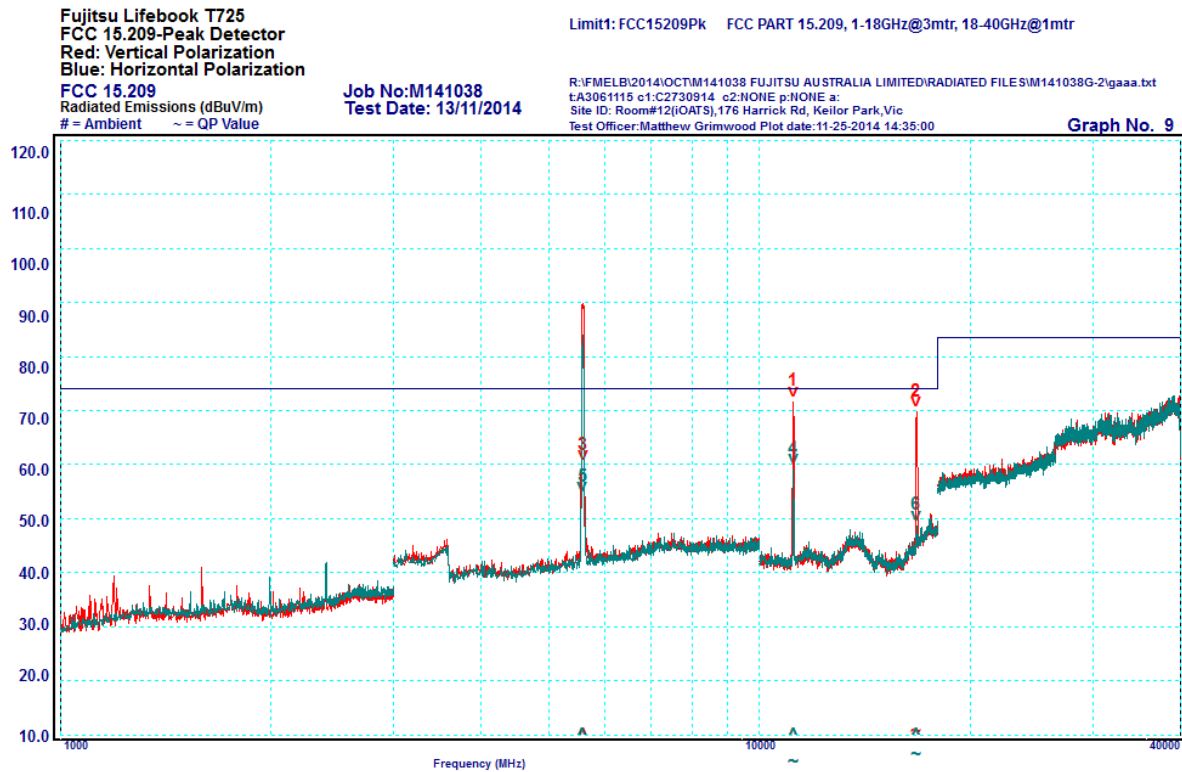
| Peak | Frequency MHz | Polarization | Average dBµV/m | Average Limit dBµV/m | Margin dB | Result   |
|------|---------------|--------------|----------------|----------------------|-----------|----------|
| 1    | 15777.54      | Vertical     | 44.5           | 54                   | -9.5      | Complied |
| 2    | 10513.83      | Vertical     | 43.0           | 54                   | -11.0     | Complied |
| 3    | 10508.48      | Horizontal   | 42.5           | 54                   | -11.5     | Complied |
| 4    | 15777.22      | Horizontal   | 41.0           | 54                   | -13.0     | Complied |

Note: intentional transmitter emissions were exempt from the limit.

Note: 10 dB attenuation was used during vertical emissions, 1000 MHz to 3000 MHz range resulting in a higher noise floor.

### 3.3.2.4 5.6 GHz Band with 20MHz Signal Bandwidth

#### Peak emissions 1 GHz – 40 GHz



| Peak | Frequency MHz | Polarization | Peak dBμV/m | Peak Limit dBμV/m | Margin dB | Result   |
|------|---------------|--------------|-------------|-------------------|-----------|----------|
| 1    | 11174.45      | Vertical     | 71.6        | 74.0              | -2.4      | Complied |
| 2    | 16752.3       | Vertical     | 69.7        | 74.0              | -4.3      | Complied |
| 3    | 5594.79       | Vertical     |             |                   |           | Note1    |
| 4    | 11172.71      | Horizontal   | 59.1        | 74.0              | -14.9     | Complied |
| 5    | 5587.79       | Horizontal   |             |                   |           | Note1    |
| 6    | 16753.78      | Horizontal   | 48.6        | 74.0              | -25.4     | Complied |

Note: intentional transmitter emissions were exempt from the limit.

# Average emissions 1 GHz – 40 GHz

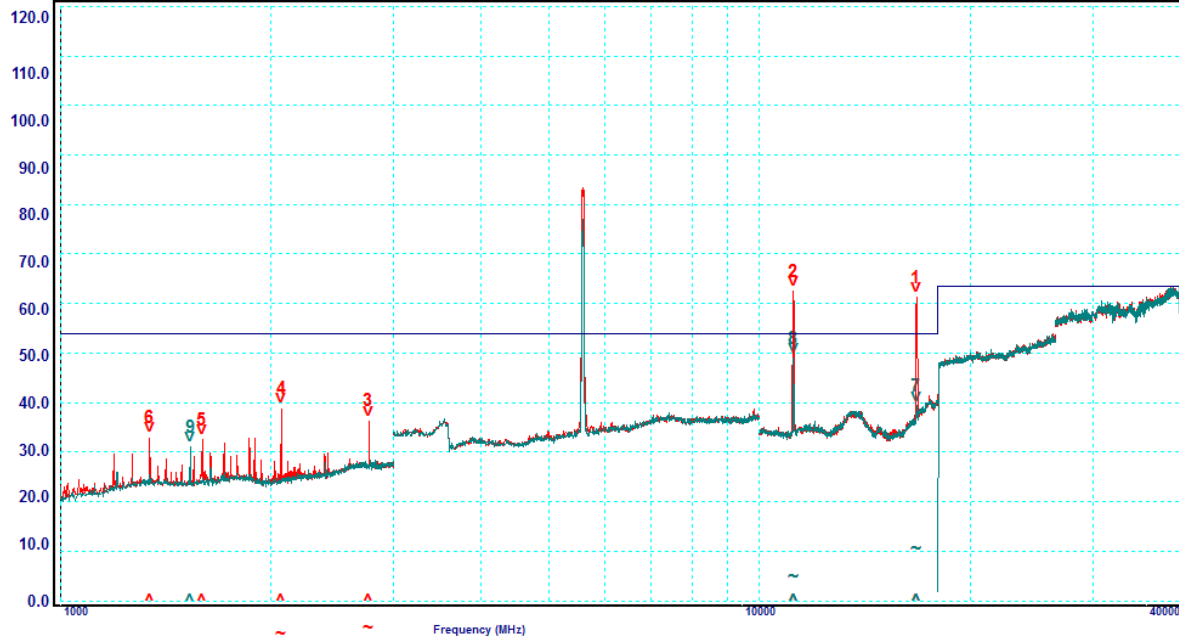
Fujitsu Lifebook T725  
FCC 15.209-Average Detector  
Red: Vertical Polarization  
Blue: Horizontal Polarization  
FCC 15.209  
Radiated Emissions (dBuV/m)  
# = Ambient ~ = QP Value

Job No: M141038  
Test Date: 13/11/2014

Limit1: FCC15209Av FCC PART 15.209, 1-18GHz@3mtr, 18-40GHz@1mtr

R:\FME\B\2014\OCT\141038 FUJITSU AUSTRALIA LIMITED\RADIATED FILE\141038G-2\lgaaa.txt  
t:A3081115 c1:C2730914 c2:NONE p:NONE a:  
Site ID: Room#12(iOATS),176 Harrick Rd, Keilor Park,Vic  
Test Officer: Matthew Grimwood Plot date: 11-25-2014 14:38:41

Graph No. 10



| Peak | Frequency MHz | Polarization | Average dBuV/m | Average Limit dBuV/m | Margin dB | Result   |
|------|---------------|--------------|----------------|----------------------|-----------|----------|
| 1    | 16754.78      | Vertical     | 51.3           | 54.0                 | -2.7      | Complied |
| 2    | 11177.26      | Vertical     | 52.5           | 54.0                 | -1.5      | Complied |
| 3    | 2760.17       | Vertical     | 36.3           | 54.0                 | -17.7     | Complied |
| 4    | 2069.99       | Vertical     | 38.8           | 54.0                 | -15.2     | Complied |
| 5    | 1594.30       | Vertical     | 32.5           | 54.0                 | -21.5     | Complied |
| 6    | 1342.83       | Vertical     | 32.9           | 54.0                 | -21.1     | Complied |
| 7    | 16755.99      | Horizontal   | 29.3           | 54.0                 | -24.7     | Complied |
| 8    | 11177.16      | Horizontal   | 39.8           | 54.0                 | -14.2     | Complied |
| 9    | 1535.57       | Horizontal   | 31.0           | 54.0                 | -23.0     | Complied |

Note: intentional transmitter emissions were exempt from the limit.

## **4.0 PEAK TRANSMIT POWER**

Refer to original Intel module test report (submitted). Testing was performed by AT4 Wireless, S.A. with FCC registration number 720267 and Canadian Certification reference number IC 4621A-1. Report 41273RRF.003.

It was not deemed likely that the host equipment will cause the output power to exceed the limits specified for the different bands.

## **5.0 PEAK POWER SPECTRAL DENSITY**

Refer to original Intel module test report (submitted). Testing was performed by AT4 Wireless, S.A. with FCC registration number 720267 and Canadian Certification reference number IC 4621A-1. Report 41273RRF.003.

It was not deemed likely that the host equipment will cause the power spectral density to exceed the limits specified for the different bands.

## **6.0 RADIATED BAND-EDGE EMISSIONS**

Refer to original Intel module test report (submitted). Testing was performed by AT4 Wireless, S.A. with FCC registration number 720267 and Canadian Certification reference number IC 4621A-1. Report 41273RRF.003.

## **7.0 PEAK EXCURSION**

Refer to original Intel module test report (submitted). Testing was performed by AT4 Wireless, S.A. with FCC registration number 720267 and Canadian Certification reference number IC 4621A-1. Report 41273RRF.003.

## **8.0 DYNAMIC FREQUENCY STABILITY**

Refer to original Intel module test report (submitted). Testing was performed by AT4 Wireless, S.A. with FCC registration number 720267 and Canadian Certification reference number IC 4621A-1. Report 41273RRF.003.

## **9.0 DISCONTINUE TRANSMISSION**

Data Transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, finally to the RF chip. Several special packets (ACKs, CTS, PSpoll, etc) are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which then turns off at the end of the packet. Therefore, the transmitter will be ON only while one of the four mentioned packets is being transmitted.

## 10.0 RADIO FREQUENCY EXPOSURE (HAZARD) INFORMATION

Testing was performed in accordance with the requirements of FCC Part 15.407(f)

Spread spectrum transmitters operating in the 5.15-5.25 GHz, 5.25-5.35 GHz and 5.47-5.725 GHz bands are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with CFR 47, Section 1.1307(b)(1).

In accordance with this section and also section 2.1093 this device has been defined as a portable device.

SAR testing was reported under EMC Technologies reports M130809\_FCC\_7260HMMW\_SAR\_5.6 (5.18 – 5.825 GHz). A SAR value of 0.398 mW/g (5GHz) was measured which complied with the FCC human exposure requirements of 47 CFR 2.1093 (d).

## 11.0 ANTENNA REQUIREMENT

This intentional radiator was designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

## 12.0 COMPLIANCE STATEMENT

The Portable PC Fujitsu LifeBook T Series, Model: T725 with Intel Stonepeak 7265NGW (802.11 a/b/g/n/ac Wireless LAN + BT V 4.0), Model: 7265NGW, **complied** with the requirements of 47 CFR, Part 15 Subpart E -Section 15.407 (5.15-5.25 GHz, 5.25-5.35 GHz and 5.47-5.725 GHz bands).

The test sample also complied with the Industry Canada RSS-210 issue 8 - Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Annex 9 Local Area Network Devices requirements and the RF exposure requirements of RSS-102.

## 13.0 MEASUREMENT UNCERTAINTY

EMC Technologies has evaluated the equipment and the methods used to perform the emissions testing. The estimated measurement uncertainties for emissions tests shown within this report are as follows:

|                             |                     |         |
|-----------------------------|---------------------|---------|
| <b>Conducted Emissions:</b> | 9 kHz to 30 MHz     | ±3.2 dB |
| <b>Radiated Emissions:</b>  | 30 MHz to 300 MHz   | ±5.1 dB |
|                             | 300 MHz to 1000 MHz | ±4.7 dB |
|                             | 1 GHz to 18 GHz     | ±4.6 dB |

The above expanded uncertainties are based on standard uncertainties multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

## APPENDIX A MEASUREMENT INSTRUMENTATION DETAILS

| Equipment Type       | Make/Model/Serial Number                                         | Last Cal.<br>dd/mm/yy | Due Date<br>dd/mm/yy | Cal.<br>Interval |
|----------------------|------------------------------------------------------------------|-----------------------|----------------------|------------------|
| <b>EMI Receiver</b>  | R&S ESU40<br>20 Hz – 40 GHz<br>Sn: 100392 (R-140)                | 09/10/2014            | 09/10/2015           | 1 Year, *2       |
| <b>Antennas</b>      | SUNOL JB6 BICONILOG<br>30 – 6000 MHz<br>Sn. A012312 (A-363)      | 16/05/2014            | 16/05/2015           | 1 Year, *2       |
|                      | EMCO 3115 Broadband Horn<br>1 – 18 GHz<br>Sn. 8908-3282 (A-004)  | 16/01/2012            | 16/01/2015           | 3 Year, *1       |
|                      | ETS-Lindgren Horn 3160-09<br>18-26.5 GHz<br>Sn. 66032 (A-307)    | 12/11/2012            | 12/11/2015           | 3 Year, *1       |
|                      | ETS-Lindgren Horn 3160-10<br>26.5-40 GHz<br>Sn. 66032 (A-306)    | 12/11/2012            | 12/11/2015           | 3 Year, *1       |
| <b>Cables</b>        | Room 12 Inbuilt cable Panel 1 to 3m<br>(C-421)                   | 4/02/2014             | 4/02/2015            | 1 Year, *1       |
|                      | Room 12 Inbuilt cable Panel 1 to 10m<br>(C-422)                  | 6/02/2014             | 6/02/2015            | 1 Year, *1       |
|                      | Sucoflex 102 Huber & Suhner<br>Sn. 27319/2 (C-273)               | 26/06/2014            | 26/06/2015           | 1 Year, *1       |
| <b>Pre-Amplifier</b> | Electronic Development SG18-B3015<br>1 – 18 GHz<br>Sn. 1 (A-288) | 27/02/2014            | 27/02/2015           | 1 Year, *1       |

Note \*1. Internal NATA calibration.

Note \*2. External NATA / A2LA calibration