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EMC-EMF Safety Approvals

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

FCC ID: EJE-WL0026  
Industry Canada ID: 337J-WL0026

Test Sample: Portable PC LifeBook T Series  
Model: T731 / TH701

Radio Module: Intel Centrino 6205 Taylor Peak 62205ANHMW WLAN

Report Number M110358\_FCC\_62205ANHMW\_NII

Issue Date: 27<sup>th</sup> April 2011

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**EMC Technologies Report No. M110358\_FCC\_62205ANHMW\_NII**

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**Report No. M110358\_FCC\_62205ANHMW\_NII**

**Test Sample:** Portable PC LifeBook T Series  
**Model:** T731 / TH701  
**Radio Module:** Intel Centrino Advanced-N 6205 Taylor Peak 62205ANHMW WLAN

**FCC ID:** EJE-WL0026  
**Industry Canada ID:** 337J-WL0026  
**Equipment Type:** Intentional Radiator (Transceiver)

**Manufacturer (LifeBook):** Fujitsu Ltd  
**Address:** 1-1 Kamikodanaka 4-Chome, Nakahara-Ku, Kawasaki, Japan  
**Contact:** Mr. Tsuyoshi Uchihara, Mobile Computing Division

**Test Standards:** FCC Part 15 – Radio Frequency Devices (October 2009)  
FCC Part 15, Subpart E – Unlicensed National Information, Infrastructure Devices  
FCC Part 15.407, General Technical Requirements  
ANSI C63.4 – 2003

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:** 27<sup>th</sup> March to 6<sup>th</sup> April 2011

**Test Engineer:** Chieu Huynh - B.Eng (Hons) Electronics

**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:**   
\_\_\_\_\_  
**Chieu Huynh**  
**Senior EMC Engineer**  
**EMC Technologies Pty Ltd**

**EMI 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: T731 / TH701 with Intel Centrino Advanced-N 6205 (Taylor Peak 802.11a/b/g/n 2x2), Model: 62205ANHMW.

The Taylor Peak 2x2 WLAN module was originally certified by INTEL as a modular approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH).

The other transmitter installed in the T731 / TH701 LifeBook is Broadcom Bluetooth Module, Model: BCM92070MD\_REF6. The Bluetooth module was originally certified by Broadcom as a modular approval under FCC ID: QDS-BRCM1043 (Canada ID: 4324A-BRCM1043). This Bluetooth preapproved module, is not co-located as the WLAN and Bluetooth antennas are >5cms apart. RF exposure and labeling will be addressed by Fujitsu according to FCC multi-transmitter and modular procedures.

There are two variants of the Portable PC Fujitsu LifeBook T Series, Model: T731 / TH701 covered in this report. One that is equipped with the modular certified low power Bluetooth transmitter with built-in antenna and one variant that does not contain Bluetooth transmitter or Bluetooth antenna FCC ID: EJE-WL0026 (IC: 337J-WL0026). Testing was conducted on the sample that is equipped with the Bluetooth transmitter and Bluetooth antenna.

The intention of this application is to FCC certify Intel Centrino Advanced-N 6205 (Taylor Peak 802.11a/b/g/n 2x2), Model: 62205ANHMW installed in Portable PC Fujitsu LifeBook T Series, Model: T731 / TH701. The Radio modules are installed in a controlled environment at the Fujitsu notebook production/assembly factory.

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

47 CFR, Part 15, 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 15.207:	Conducted Emission Limits
Section 15.209:	Radiated Emission Limits (General requirements)
Section 15.407:	General Technical Requirements

The results and technical details of the test sample are detailed in this report. The test sample **complied** with the requirements of 47 CFR, Part 15 Subpart E - Section 15.407.

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 and the RF exposure requirements of RSS-102.

The measurement procedure used was in accordance with ANSI C63.4-2003. The instrumentation conformed to the requirements of ANSI C63.2-1996.

## 1.1 Summary of Results

### FCC Subpart E, Section 15.407

FCC Part 15, Subpart E Clauses	Industry Canada RSS-210 Clauses	Test Performed	Result
<b>15.203</b>	5.5	Antenna Requirement	<b>Complies</b>
<b>15.205</b>	6.3	Operation in Restricted Band	<b>Complies</b>
<b>15.207</b>	6.6	Conducted Emissions	<b>Note 1</b>
<b>15.209</b>	6.3	Radiated Emissions	<b>Complies</b>
<b>15.407 (a)(1) (a)(2)</b>	Annex A9.2	Peak Transmit Power	<b>Note 2</b>
<b>15.407 (a)(5)</b>	Annex A9.2	Peak Power Spectral Density	<b>Note 2</b>
<b>15.407 (a)(6)</b>		Peak Excursion	<b>Note 2</b>
<b>15.407 (b)</b>	Annex A9.3	Undesirable Emission	<b>Complies</b>
<b>15.407 (c)</b>	Annex A9.5(4)	Discontinue Transmission	<b>Complies</b>
<b>15.407 (d)</b>		Reserved	-
<b>15.407 (e)</b>	2.2 (Table 1)	Restricted to Indoor Operations	<b>Complies</b>
<b>15.407 (f)</b>	RSS-Gen (5.5)	Radio Frequency Hazard	<b>Complies</b>
<b>15.407 (g)</b>	Annex A9.5(5)	Frequency Stability	<b>Note 2</b>
<b>15.407 (h)</b>		Transmit Power Control	<b>Not Applicable</b> E.I.R.P < 500 mW
<b>15.407 (h)</b>	Annex A9.4	Dynamic Frequency Selection	<b>Note 2</b>

**Note 1:** Refer to attached FCC Part 15B Test Report

**Note 2:** Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH)

## 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:** Half Mini-Card Wireless LAN Module  
**Wireless Module:** Intel Centrino Advanced-N 6205 Taylor Peak 2x2 (11a/b/g/n)  
**Model Number:** 62205ANHMW  
**Manufacturer:** Intel Corporation  
**Frequency Ranges:** 2.412 –2.462 GHz  
**Maximum Data Rates:** 5.18 - 5.32 GHz, 5.5 – 5.7 GHz and 5.745 - 5.825 GHz  
**Antenna Types:** 802.11b = 11Mbps, 802.11g and 802.11a = 54Mbps  
**Antenna gain:** 802.11n = 450 Mbps  
**Nissei Inverted F (1<sup>st</sup>, 2<sup>nd</sup>)**  
**Max antenna gain is less than 6 dBi.**  
**Refer antenna data provided separately**

#### Channels and Output Power Settings:

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Average Power Target (dBm)		
					Tx A	Tx B	
802.11a	36	5180	6	-	14.5	14.5	
	40	5200					
	44	5220					
	48	5240					
	52	5260					
	56	5280					
	60	5300					
	64	5320					
	100	5500					
	104	5520					
802.11b	108	5540					
	112	5560					
	116	5580					
	120	5600			14	14.5	
	124	5620			14.5		
	128	5640					
	132	5660					
	136	5680					
	140	5700			14		
	149	5745			14.5		
802.11g	153	5765					
	157	5785					
	161	5805					
	165	5825					
	1	2412	1	-	15.5	15.5	
802.11g	6	2437			14		
	11	2462					
	1	2412	6	-	16	16.5	
	2	2417			14		
	6	2437					
	10	2457					
	11	2462			14		

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Average Power Target (dBm)	
					Tx A	Tx B
802.11n	1	2412	HT0	20	13	13
	2	2417			16	16.5
	6	2437			12.5	13
	10	2457			14	14
	11	2462			14.5	14.5
	36	5180			14	
	40	5200			14.5	
	44	5220			14	
	48	5240			14.5	
	52	5260			14	
	56	5280			14.5	
	60	5300			14	
	64	5320			14.5	
	100	5500			14.5	
	104	5520			14.5	
	108	5540			14.5	
	112	5560			14.5	
	116	5580			14.5	
	120	5600			14.5	
	124	5620			14.5	
	128	5640			14.5	
	132	5660			14.5	
	136	5680			14.5	
	140	5700			14.5	
	149	5745			14.5	
	153	5765			14.5	
	157	5785			14.5	
	161	5805			14.5	
	165	5825			14.5	
	3F	2422	40 Wide	9	9.5	14.5
	4F	2427		10.5	11	
	5F	2432		12.5	13	
	6F	2437		16	16	
	7F	2442		12.5	13	
	8F	2447		10.5	11.5	
	9F	2452		9.5	10	
	38	5190		9.5	9.5	
	46	5230		14.5	14.5	
	54	5270		9.5	9.5	
	62	5310		12	12	
	102	5510		14.5	14.5	
	110	5550		14.5	14.5	
	118	5590		14.5	14.5	
	126	5630		14.5	14.5	
	134	5670		14.5	14.5	
	151	5755		14.5	14.5	
	159	5795		14.5	14.5	

The 62205ANHMW is capable of using multiple antennas transmitting simultaneously (two antennas). In any two antennas transmitting, the power level is 3 dB lower (50%) for each antenna port than if a single antenna was transmitting.

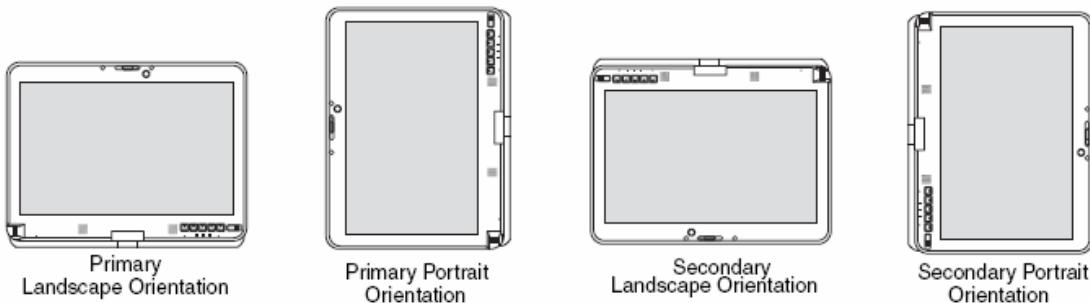
## 2.2 EUT (Notebook PC) Details

<b>NoteBook PC:</b>	Portable PC LifeBook T series
<b>*Model Name:</b>	T731 / TH701
<b>Serial Number:</b>	Pre-production Sample
<b>Manufacturer:</b>	FUJITSU LIMITED
<b>CPU Type and Speed:</b>	Core i7-2620M 2.7GHz
<b>LCD:</b>	12.1"WXGA (1280x800 : HV121WX6-100
<b>Wired LAN:</b>	Intel 82579LM : 10 Base-T/100 Base-TX/1000Base-T
<b>Modem:</b>	Agere MDC1.5 modem Model: D40
<b>Port Replicator Model:</b>	FPCPR105
<b>AC Adapter Model:</b>	80W: ADP-80NB A (Delta), SEE100P2-19.0 (Sanken), PJW1942N (Tamura), PJW1942NA (Tamura)
<b>Voltage:</b>	19 V
<b>Current Specs:</b>	4.22A
<b>Watts:</b>	80W

\*The model numbers shown T731 and TH701 are for the same product. The difference between T731 and TH701 is color and target market.

The T731 is for commercial market.

The TH701 is for consumer market.



## 2.3 Test Configuration

The Intel WLAN test software "DRTU" was used to transmit continuously during the tests.

Conducted tests were performed at the WLAN Antenna ports.

Radiated harmonics and spurious emissions were performed while the transmitter transmits continuously.

Power is provided via an AC adaptor. Testing was performed at a voltage of 110VAC at 50Hz.

## 2.4 Test Procedure

Emissions measurements were performed in accordance with the procedures of ANSI C63.4-2003. Radiated emissions tests were performed at a distance of 1 and 3 metres from the EUT.

## 2.5 Test Facility

### 2.5.1 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.

### 2.5.2 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).

## 2.6 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 (biconical and log-periodic) 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 CONDUCTED EMISSION MEASUREMENTS

Testing was performed by Fujitsu General EMC Laboratory, JAPAN accredited by NVLAP (Lab Code: 200373-0).

### 4.0 RADIATED EMISSION MEASUREMENTS

#### 4.1 Test Procedure

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

Radiated emission measurements were performed to the limits as per section 15.209 and 15.407. 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 between 1 to 40 GHz.

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. 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.

#### 4.2 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 dB $\mu$ V/m.

**V** = EMI Receiver Voltage in dB $\mu$ V. (measured value)

**AF** = Antenna Factor in dB(m<sup>-1</sup>). (stored as a data array)

**G** = Preamplifier Gain in dB. (stored as a data array)

**L** = Cable loss in dB. (stored as a data array of Insertion Loss versus frequency)

##### • Example Field Strength Calculation

Assuming a receiver reading of 34.0 dB $\mu$ V 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 dB. The resulting Field Strength is therefore as follows:

$$34.0 + 9.2 + 1.9 - 20 = 25.1 \text{ dB}\mu\text{V/m}$$

#### 4.3 Results - Out of Band Emissions (Spurious and Harmonics)

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 install in T731 / TH701 LifeBook is still in compliance, verification tests were performed at the worst case (frequencies with higher average output power) or selected frequencies for harmonics and spurious emissions.

Initial investigations were performed with all data rates. Final testing was performed while the transmitter continuously operated in the worst case condition.

All orientations were investigated and tested. Worst results were reported below.

##### 4.3.1 Frequency Band: 1 – 40 GHz

The peak limits for undesirable emission outside of the restricted bands are –27 dBm (68.3 dB<sub>u</sub>V/m @ 3m). The 74 dB<sub>u</sub>V/m @ 3m and 54 dB<sub>u</sub>V/m @ 3m limits are applied for emissions fall in the restricted bands. The limits are adjusted by 10.5 dB when measurements perform at a distance of 1m.

Testing was performed while the WLAN transmitter continuously operated. Harmonics related to the WLAN transmitter operated in the frequency bands 5.15 – 5.35 GHz and 5.47 – 5.725 GHz are reported below. Harmonics in the frequency bands 2.4 – 2.4835 GHz and 5.725 – 5.850 GHz, refer to M110358\_FCC\_62205ANHMW\_DTS.

Measurements were performed with the EUT operating in the worst case mode of single antenna transmitting. For multiple antennas transmitting like two antennas transmitting, the power level is 3 dB lower (50%) with respect to single antenna mode.

Harmonics were measured for channels where the RF output power was highest.

###### 4.3.1.1 Configuration 802.11a

Frequency MHz	Peak Detector dB <sub>u</sub> V/m	Average Detector dB <sub>u</sub> V/m	Peak Limit dB <sub>u</sub> V/m	Average Limit dB <sub>u</sub> V/m	Result
5180	Transmit Frequency				
*10360*	62.3	49.1	78.8	-	Complied

\*Measurement was performed at a distance of 1m. The limit was added by 10.5dB.

Frequency MHz	Peak Detector dB <sub>u</sub> V/m	Average Detector dB <sub>u</sub> V/m	Peak Limit dB <sub>u</sub> V/m	Average Limit dB <sub>u</sub> V/m	Result
5260	Transmit Frequency				
Harmonics	Low			Complied	

Frequency MHz	Peak Detector dB <sub>u</sub> V/m	Average Detector dB <sub>u</sub> V/m	Peak Limit dB <sub>u</sub> V/m	Average Limit dB <sub>u</sub> V/m	Result
5580	Transmit Frequency				
Harmonics	Low			Complied	

**Result:** Harmonic was recorded up to 40 GHz. Other harmonics were confirmed low with both RBW and VBW reduced. The worst case emissions complied with the FCC limits of sections 15.209 and 15.407 by a margin of 16.3 dB.

#### 4.3.1.2 Configuration 802.11n – Tx BW = 20 MHz

Frequency MHz	Peak Detector dBuV/m	Average Detector dBuV/m	Peak Limit dBuV/m	Average Limit dBuV/m	Result
5240	Transmit Frequency				
*10480*	58.7	45.5	78.8	-	Complied

\*Measurement was performed at a distance of 1m. The limit was added by 10.5dB.

Frequency MHz	Peak Detector dBuV/m	Average Detector dBuV/m	Peak Limit dBuV/m	Average Limit dBuV/m	Result
5320	Transmit Frequency				
Harmonics	Low				Complied

Frequency MHz	Peak Detector dBuV/m	Average Detector dBuV/m	Peak Limit dBuV/m	Average Limit dBuV/m	Result
5500	Transmit Frequency				
Harmonics	Low				Complied

**Result:** Harmonics were low. Emissions complied with the FCC limits of sections 15.209 and 15.407 by a margin of greater than 20.0 dB.

#### 4.3.1.3 Configuration 802.11n – Tx BW = 40 MHz

Frequency MHz	Peak Detector dBuV/m	Average Detector dBuV/m	Peak Limit dBuV/m	Average Limit dBuV/m	Result
5270	Transmit Frequency				
*10540*	57.7	44.6	78.8	-	Complied

\*Measurement was performed at a distance of 1m. The limit was added by 10.5dB.

Frequency MHz	Peak Detector dBuV/m	Average Detector dBuV/m	Peak Limit dBuV/m	Average Limit dBuV/m	Result
5670	Transmit Frequency				
Harmonics	Low				Complied

**Result:** Harmonics were low. Emissions complied with the FCC limits of sections 15.209 and 15.407 by a margin of greater than 20.0 dB.

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

Testing was performed by Fujitsu General EMC Laboratory, JAPAN accredited by NVLAP (Lab Code: 200373-0).

#### 4.3.3 RF Conducted Measurements at the antenna terminal (including Band Edge)

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

**5.0 PEAK OUTPUT POWER - Section 15.407(a)**

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

**6.0 CHANNEL BANDWIDTH**

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

**7.0 PEAK POWER SPECTRAL DENSITY**

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

**8.0 PEAK EXCURSION**

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

**9.0 FREQUENCY STABILITY**

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

## 10.0 DYNAMIC FREQUENCY SELECTION

The EUT is a Client Device without Radar Interference Detection Function.

Ad-hoc operation (not under control of a Master Device) is supported in the 2.4 GHz & 5.15 - 5.25 GHz bands only. This Ad-hoc capability is limited in hardware via factory programmed EEPROM settings that cannot be accessed or changed by end users. The Ad-hoc supported channels of operation cannot be modified – regardless of which client utility or operating system control is used.

Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH) certified by INTEL.

Testing was performed by Elliott Laboratories CA, USA accredited by A2LA (Certificate Number: 2016.01)

## 11.0 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.

## 12.0 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 – 5.35 GHz and 5.47 – 5.725 GHz 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 performed in accordance with OET Bulletin 65 and reported under EMC Technologies reports M110361\_FCC\_62205ANHMW\_SAR\_2.4 (2.4 GHz) and M110361\_FCC\_62205ANHMW\_SAR\_5.6 (5.18 – 5.825 GHz). SAR values of 1.48 mW/g (5GHz) and 1.48 mW/g (2.4GHz) were measured which complied with the FCC human exposure requirements of 47 CFR 2.1093 (d).

## 13.0 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.

## 14.0 COMPLIANCE STATEMENT

The Portable PC Fujitsu LifeBook T Series, Model: T731 / TH701 with Intel Centrino Advanced-N 6205 (Taylor Peak 802.11a/b/g/n 2x2), Model: 62205ANHMW, **complied** with the requirements of 47 CFR, Part 15 Subpart E -Section 15.407 (5.15-5.35 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.

**Results were as follows:**

### FCC Subpart E, Section 15.407

FCC Part 15, Subpart E Clauses	Industry Canada RSS-210 Clauses	Test Performed	Result
<b>15.203</b>	5.5	Antenna Requirement	<b>Complies</b>
<b>15.205</b>	6.3	Operation in Restricted Band	<b>Complies</b>
<b>15.207</b>	6.6	Conducted Emissions	<b>Note 1</b>
<b>15.209</b>	6.3	Radiated Emissions	<b>Complies</b>
<b>15.407 (a)(1) (a)(2)</b>	Annex A9.2	Peak Transmit Power	<b>Note 2</b>
<b>15.407 (a)(5)</b>	Annex A9.2	Peak Power Spectral Density	<b>Note 2</b>
<b>15.407 (a)(6)</b>		Peak Excursion	<b>Note 2</b>
<b>15.407 (b)</b>	Annex A9.3	Undesirable Emission	<b>Complies</b>
<b>15.407 (c)</b>	Annex A9.5(4)	Discontinue Transmission	<b>Complies</b>
<b>15.407 (d)</b>		Reserved	-
<b>15.407 (e)</b>	2.2 (Table 1)	Restricted to Indoor Operations	<b>Complies</b>
<b>15.407 (f)</b>	RSS-Gen (5.5)	Radio Frequency Hazard	<b>Complies</b>
<b>15.407 (g)</b>	Annex A9.5(5)	Frequency Stability	<b>Note 2</b>
<b>15.407 (h)</b>		Transmit Power Control	<b>Not Applicable</b> E.I.R.P < 500 mW
<b>15.407 (h)</b>	Annex A9.4	Dynamic Frequency Selection	<b>Note 2</b>

**Note 1:** Refer to Attached FCC Part 15B Test Report

**Note 2:** Refer to original approval under FCC ID: PD962205ANH (Canada ID: 1000M-62205ANH)

## 15.0 MEASUREMENT UNCERTAINTIES

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%.

## 16.0 TEST REPORT APPENDICES

**APPENDIX A: MEASUREMENT INSTRUMENT DETAILS**

**APPENDIX B: PHOTOGRAPHS**

**APPENDIX C: OPERATIONAL DESCRIPTION**

**APPENDIX D: BLOCK DIAGRAM**

**APPENDIX E: ANTENNA INFORMATION**

**APPENDIX F: SCHEMATIC**

**APPENDIX G: FCC LABELLING DETAILS**

**APPENDIX H: USER MANUAL**

**Attachment – RF Exposure Information**

**Attachment – FCC DOC for LifeBook T Series**

**Attachment – FCC Part 15B Test Report**

**Attachment – Intel FCC Part 15E Test Report**

**Attachment – Intel FCC Part 15E DFS Test Report**