



# RF EXPOSURE REPORT

**Report Reference No.**..... : **TRE1509010404** R/C.....:44681  
**FCC ID**..... : **2AF54-COMPLEX11T**  
**Applicant's name**..... : **FY International LLC.**  
 Address..... : 548 Donald St. Ste. 3, Bedford, NH 03110 USA  
 Manufacturer..... : Shenzhen AlldoCube Technology & Science Co., Ltd  
 Address..... : Building No.1,Sunwang Industrial Park, Xiahenglang Dalang,  
 Longhua District,Shenzhen, China  
**Test item description** ..... : **2 In 1 Tablet PC**  
 Trade Mark ..... : Cytrix  
 Model/Type reference..... : Complex 11t  
 Listed Model(s)..... : i8  
**Standard** ..... : **FCC Per 47 CFR 2.1093(d)**  
 Date of receipt of test sample..... : Sept 28, 2015  
 Date of testing ..... : Sept 29, 2015-Oct 22, 2015  
 Date of issue..... : Oct 22, 2015  
**Result**..... : **PASS**

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**Testing Laboratory Name** ..... : **Shenzhen Huatongwei International Inspection Co., Ltd**  
 Address..... : Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China

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## 1. SUMMARY

### 1.1. Client Information

Applicant:	FY International LLC.
Address:	548 Donald St. Ste. 3, Bedford, NH 03110 USA
Manufacturer:	Shenzhen AlldoCube Technology & Science Co., Ltd
Address:	Building No.1,Sunwang Industrial Park, Xiahenglang Dalang, Longhua District,Shenzhen, China

### 1.2. Product Description

Name of EUT	2 In 1 Tablet PC
Trade Mark:	Cytrix
Model No.:	Complex 11t
Listed Model(s):	i8
Power supply:	DC 7.4V From internal battery
Adapter information:	Model name:FJ-SW1202000N Input:100-240Va.c.~50/60Hz,0.6Amax Output:12Vd.c., 2000mA
<b>WIFI</b>	
Supported type:	802.11b/802.11g/802.11n(H20)/802.11n(H40)
Modulation:	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11g/n(H20)/n(H40): OFDM (BPSK / QPSK / 16QAM / 64QAM)
Operation frequency:	802.11b/g/n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz
Channel number:	802.11b/g/n(H20): 11 802.11n(H40): 7
Channel separation:	5MHz
Antenna type:	Internal Antenna
Antenna gain:	2.69dBi
<b>Bluetooth</b>	
Version:	Supported BT3.0+EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	Internal Antenna
Antenna gain:	2.69 dBi
Version:	Supported BT4.0+BLE
Modulation:	GFSK
Operation frequency:	2402MHz~2480MHz
Channel number:	40
Channel separation:	2MHz
Antenna type:	InternalAntenna
Antenna gain:	2.69dBi

## Operation Frequency List:

802.11b/g/n(H20)	
Channel	Frequency (MHz)
01	2412
02	2417
03	2422
⋮	⋮
06	2437
⋮	⋮
09	2452
10	2457
11	2462

## BT3.0-EDR

Channel	Frequency (MHz)
0	2402
1	2403
⋮	⋮
39	2441
⋮	⋮
77	2479
78	2480

## BT4.0+BLE

Channel	Frequency (MHz)
00	2402
01	2404
⋮	⋮
19	2440
⋮	⋮
38	2478
39	2480

Note: In section 15.31(m), regarding to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

### 1.3. EUT operation mode

For RF test items:

the engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions:

the EUT was set to connect with the WLAN AP under large package sizes transmission.

### 1.4. EUT configuration

**The following peripheral devices and interface cables were connected during the measurement:**

● - supplied by the manufacturer

○ - supplied by the lab

<input type="radio"/>	PowerCable	Length (m) :	/
		Shield :	/
		Detachable :	/
<input type="radio"/>	Multimeter	Manufacturer :	/
		Model No. :	/

### 1.5. Modifications

No modifications were implemented to meet testing criteria.

## **2. TEST ENVIRONMENT**

### **2.1. Address of the test laboratory**

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.  
Address: Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China  
Phone: 86-755-26748019 Fax: 86-755-26748089

### **2.2. Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

#### **CNAS-Lab Code: L1225**

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: February 28, 2015. Valid time is until February 27, 2018.

#### **A2LA-Lab Cert. No. 2243.01**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until Sept 30, 2015.

#### **FCC-Registration No.: 662850**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 662850, Renewal date Jul. 01, 2012, valid time is until Jun. 01, 2015.

#### **FCC-Registration No.: 317478**

Shenzhen Huatongwei International Inspection Co., Ltd. (Gongming EMC Laboratory) has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478, Renewal date July 18, 2014, valid time is until July. 18, 2017.

#### **IC-Registration No.: 5377A**

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377A on Dec. 31, 2013, valid time is until Dec. 31, 2016.

#### **IC-Registration No.: 5377B**

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. (Gongming EMC Laboratory) has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B on September 3, 2014, valid time is until September 3, 2017.

#### **ACA**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

#### **VCCI**

The 3m Semi-anechoic chamber (12.2m×7.95m×6.7m) of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.:R-2484. Date of Registration: Dec. 20, 2012. Valid time is until Dec. 29, 2015.

Radiated disturbance above 1GHz measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-292. Date of Registration: Dec. 24, 2013. Valid time is until Dec. 23, 2016.

Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: Dec. 20, 2012. Valid time is until Dec. 19, 2015.

Telecommunication Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-1837. Date of Registration: May 07, 2013. Valid time is until May 06, 2016.

#### **DNV**

Shenzhen Huatongwei International Inspection Co., Ltd. has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025 (2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until Aug. 24, 2016.

### 2.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

### 2.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	1.60 dB	(1)
Radiated spurious emission 9KHz-40 GHz	2.20 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=1.96$ .

### **3. Method of measurement**

#### **3.1. Applicable Standard**

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310, KDB447498 and §2.1093 RF exposure is required.

OET Bulletin 65 Supplement C [June 2001]: Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields



### 3.2. Limit

According to 447498 D01 General RF Exposure Guidance v05, exclusion threshold values at selected frequencies and distance table as following.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

### 3.3. RF Exposure

#### **TEST RESULTS**

$[(\text{max. power of channel, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

Mode	CH	Output power (dBm)	Tolerance (dB)	Max output power (dBm)	Max output power (mW)	Test separation distances (mm)	Calculation Value	Threshold value
GFSK	2402	3.36	1.0	4.36	2.73	5	0.85	3
	2441	3.53	1.0	4.53	2.84	5	0.89	3
	2480	2.98	1.0	3.98	2.50	5	0.79	3
Pi/4PQSK	2402	5.13	1.0	6.13	4.10	5	1.27	3
	2441	5.10	1.0	6.10	4.07	5	1.27	3
	2480	4.51	1.0	5.51	3.56	5	1.12	3
8DPSK	2402	5.29	1.0	6.29	4.26	5	1.32	3
	2441	5.32	1.0	6.32	4.29	5	1.34	3
	2480	4.83	1.0	5.83	3.83	5	1.21	3
GFSK	2402	2.16	1.0	3.16	2.07	5	0.64	3
	2440	2.17	1.0	3.17	2.07	5	0.65	3
	2480	1.57	1.0	2.57	1.81	5	0.57	3

Mode	CH	Output power (dBm)	Tolerance (dB)	Max output power (dBm)	Max output power (mW)	Test separation distances (mm)	Calculation Value	Threshold value
802.11b	2412	8.23	1.0	9.23	8.38	5	2.60	3
	2437	8.35	1.0	9.35	8.61	5	2.69	3
	2462	8.17	1.0	9.17	8.26	5	2.59	3
802.11g	2412	7.50	1.0	8.50	7.08	5	2.20	3
	2437	7.54	1.0	8.54	7.14	5	2.23	3
	2462	7.40	1.0	8.40	6.92	5	2.17	3
802.11n(H20)	2412	7.73	1.0	8.73	7.46	5	2.32	3
	2437	7.77	1.0	8.77	7.53	5	2.35	3
	2462	7.61	1.0	8.61	7.26	5	2.28	3
802.11n(H40)	2422	7.13	1.0	8.13	6.50	5	2.02	3
	2437	7.01	1.0	8.01	6.32	5	1.97	3
	2452	6.84	1.0	7.84	6.08	5	1.90	3

#### **4. Conclusion**

So standalone SAR measurements are not required for both head and body.

**.....EndofReport.....**