



# Variant FCC RF Test Report

**APPLICANT** : DAP Technologies  
**EQUIPMENT** : Rugged Mobile Tablet Computer  
**BRAND NAME** : DAP  
**MODEL NAME** : 9000WBWV1  
**MARKETING NAME** : M9010  
**FCC ID** : T5M9000WBWV1  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : Digital Transmission System (DTS)

The product was integrated the WLAN Module (Brand Name: Summit Data Communications / Model Name: SDC-PE15N, FCC ID: TWG-SDCPE15N) during the test.

This is a variant report which is only valid together with the original test report. The product was received on Jul. 07, 2011 and completely tested on Sep. 19, 2011. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai / Manager



## **SPORTON INTERNATIONAL INC.**

**No. 52, Hwa Ya 1<sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.**



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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	A8.5	Frequency Band Edges	$\leq 20\text{dBc}$	Pass	-
3.2	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 12.4 dB at 0.58 MHz
3.3	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 7.28 dB at 38.64 MHz



# 1 General Description

## 1.1 Applicant

DAP Technologies

7450 South Priest DR Tempe, AZ, US

## 1.2 Manufacturer

Venture Corporation Limited

Blk5006, Ang Mo Kio Avenue 5, #03-07 TECHplace II, Singapore 569870

## 1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Rugged Mobile Tablet Computer
Brand Name	DAP
Model Name	9000WBWV1
Marketing Name	M9010
FCC ID	T5M9000WBWV1
Tx/Rx Frequency Range	802.11b/g/n : 2400 MHz ~ 2483.5 MHz 802.11a/n : 5725 MHz ~ 5850 MHz
Channel Spacing	802.11b/g : 5 MHz 802.11a : 20 MHz
Antenna Type	802.11b/g/n : PIFA Antenna 802.11a/n : PIFA Antenna
HW Version	Merlion P3
SW Version	MER_00.00.10
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Production Unit

### Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Digital Transmission System (DTS).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



### 1.4 Testing Site

<b>Test Site</b>	SPORTON INTERNATIONAL INC.		
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		<b>FCC/IC Registration No.</b>
	CO05-HY	03CH05HY	722060/4086B-1

### 1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 (Measurement Guidelines of DTS)
- ANSI C63.4-2003

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

### 1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Mouse	Logitech	M90	FCC DoC	Shielded, 1.8 m	N/A
2.	(USB) Mouse	DELL	MOC5UO	FCC DoC	Shielded, 1.8 m	N/A
3.	iPod Earphone	Apple	N/A	FCC DoC	Unshielded, 1.2 m	N/A
4.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
5.	Bluetooth Earphone	Motorola	S705	IHDT6GH1	N/A	N/A
6.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
7.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m



## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

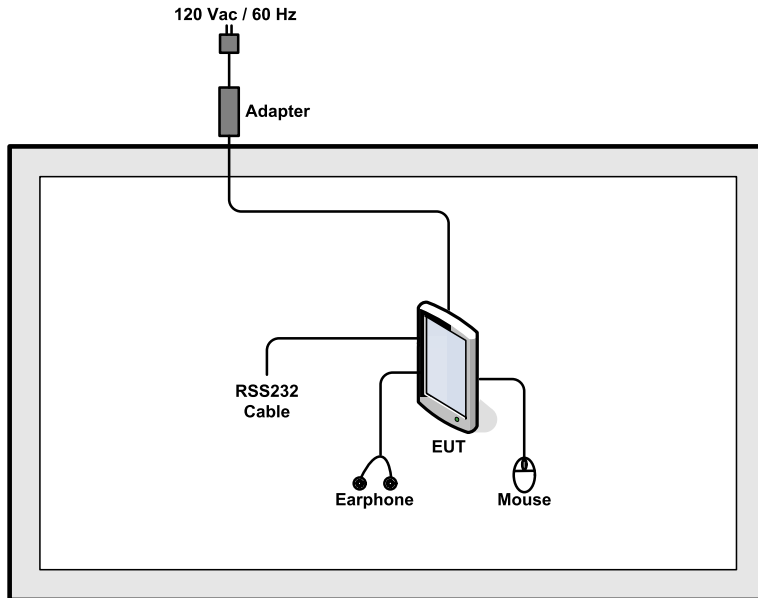
Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations, laptop / tablet modes.

The following table is showing the total pre-scanned test modes, and the worst modes (E2 plane) are recorded in this report only.

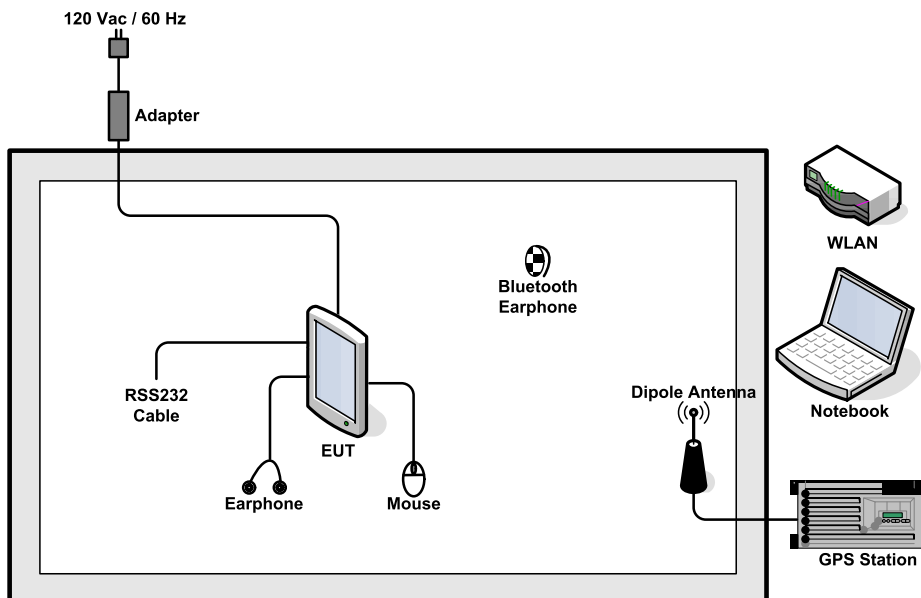
Test Cases	
Test Item	802.11b (Modulation : DSSS)
Radiated TCs	Mode 1: 802.11b_CH11_2462 MHz
AC Conducted Emission	Mode 1 : WLAN Link + Bluetooth Link + TC + Adapter + GPS Rx
<b>Remark:</b> TC stands for Test Configuration, and consists of iPod earphone, USB Mouse, and MPEG4.	

## 2.2 Connection Diagram of Test System

< Radiated Emissions Mode >



< AC Conducted Emission Mode >







## **2.3 RF Utility**

The programmed RF utility "SRU", is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing.



### **3 Test Result**

#### **3.1 Band Edges Measurement**

##### **3.1.1 Limit of Band Edges**

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB.

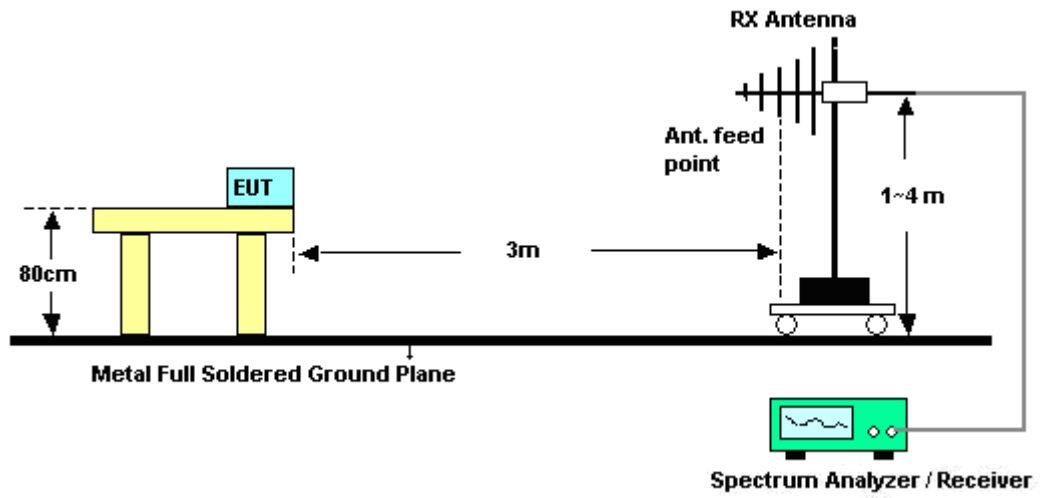
##### **3.1.2 Measuring Instruments**

See list of measuring instruments of this test report.

##### **3.1.3 Test Procedures**

1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the output power of this device was measured by power meter, the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

### 3.1.4 Test Setup





3.1.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	23~26°C
Test Band :	802.11b	Relative Humidity :	54~58%
Test Channel :	11	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2486.32	52.23	-21.77	74	49.58	32.09	4.64	34.08	166	360	Peak
2486.32	41.61	-12.39	54	38.96	32.09	4.64	34.08	166	360	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.85	53.14	-20.86	74	50.49	32.09	4.64	34.08	100	325	Peak
2483.85	41.12	-12.88	54	38.47	32.09	4.64	34.08	100	325	Average



### 3.2 AC Conducted Emission Measurement

#### 3.2.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

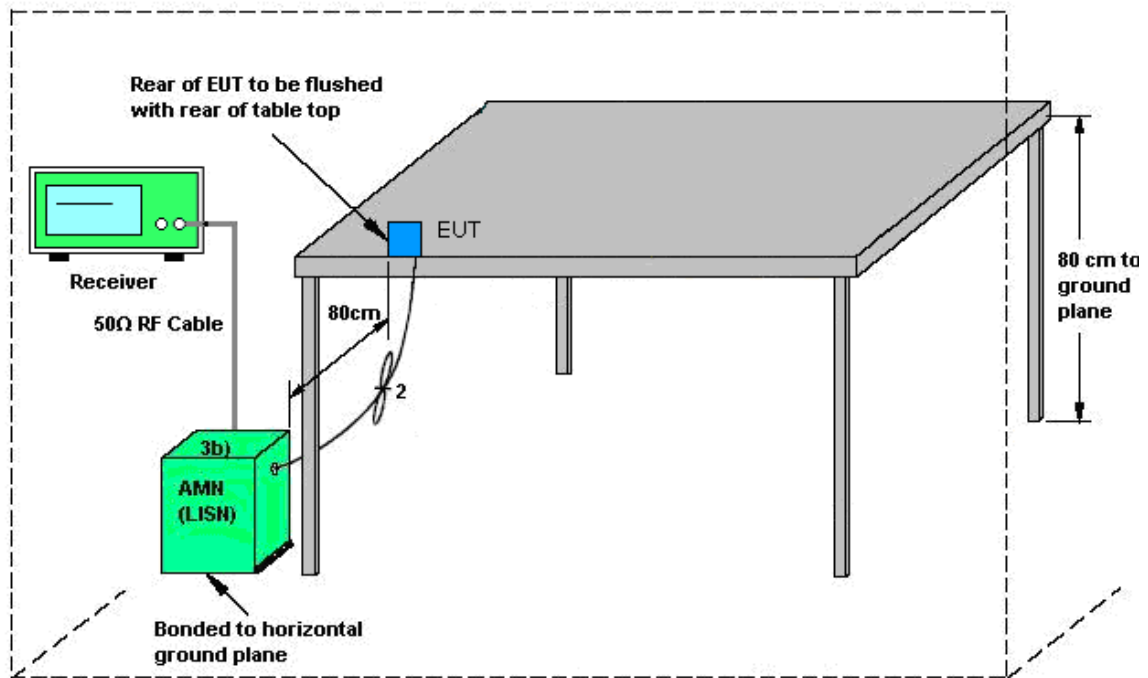
#### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.2.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### 3.2.4 Test Setup

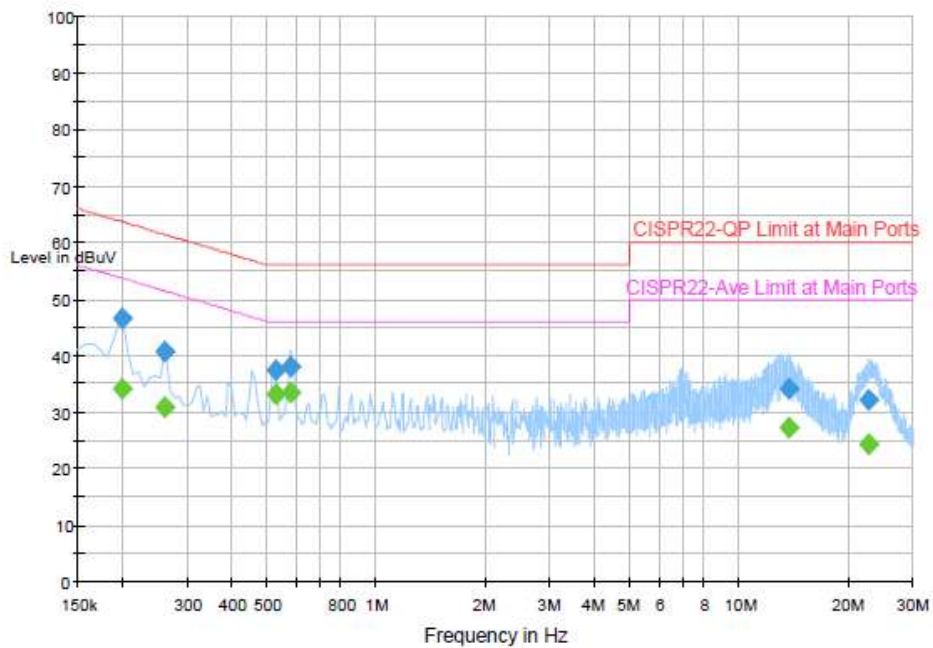


AMN = Artificial mains network (LISN)  
AE = Associated equipment  
EUT = Equipment under test  
ISN = Impedance stabilization network



### 3.2.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link + Bluetooth Link + TC + Adapter + GPS Rx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



#### Final Result 1

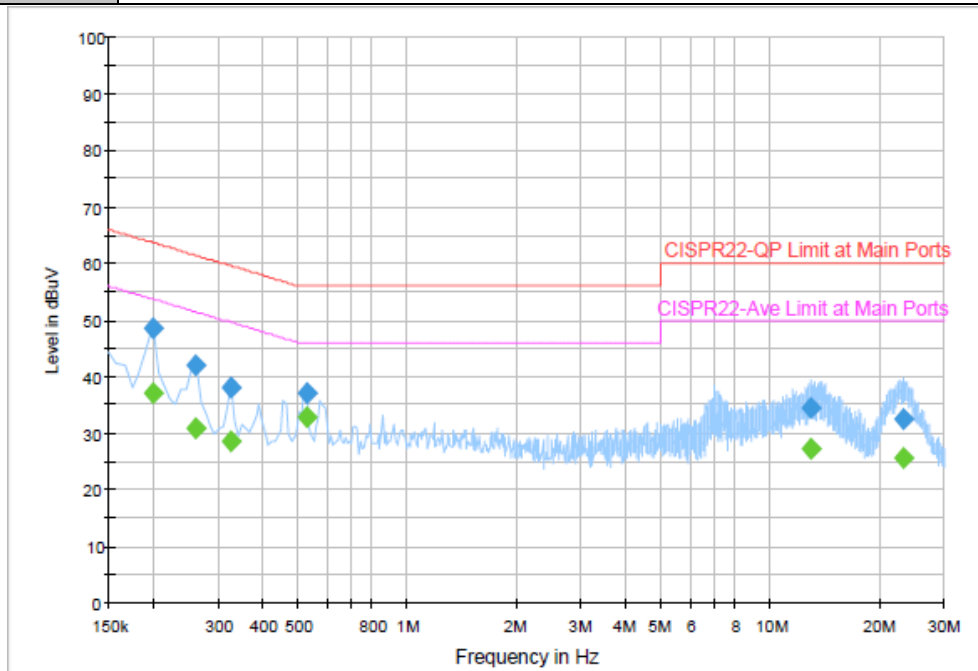
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.198000	46.7	Off	L1	19.4	17.0	63.7
0.262000	40.8	Off	L1	19.4	20.6	61.4
0.526000	37.5	Off	L1	19.4	18.5	56.0
0.582000	38.1	Off	L1	19.5	17.9	56.0
13.694000	34.1	Off	L1	19.6	25.9	60.0
22.550000	32.0	Off	L1	19.8	28.0	60.0

#### Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.198000	34.2	Off	L1	19.4	19.5	53.7
0.262000	30.7	Off	L1	19.4	20.7	51.4
0.526000	33.1	Off	L1	19.4	12.9	46.0
0.582000	33.6	Off	L1	19.5	12.4	46.0
13.694000	27.2	Off	L1	19.6	22.8	50.0
22.550000	24.3	Off	L1	19.8	25.7	50.0



Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + Bluetooth Link + TC + Adapter + GPS Rx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



**Final Result 1**

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198000	48.5	Off	N	19.4	15.2	63.7
0.262000	42.0	Off	N	19.4	19.4	61.4
0.326000	38.1	Off	N	19.4	21.9	59.6
0.526000	36.9	Off	N	19.4	19.1	56.0
12.918000	34.3	Off	N	19.7	25.7	60.0
23.262000	32.3	Off	N	19.8	27.7	60.0

**Final Result 2**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198000	37.1	Off	N	19.4	16.6	53.7
0.262000	30.9	Off	N	19.4	20.5	51.4
0.326000	28.5	Off	N	19.4	21.5	49.6
0.526000	32.7	Off	N	19.4	13.3	46.0
12.918000	27.1	Off	N	19.7	22.9	50.0
23.262000	25.7	Off	N	19.8	24.3	50.0





### 3.3 Radiated Emission Measurement

#### 3.3.1 Limit of Radiated Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

#### 3.3.2 Measuring Instruments

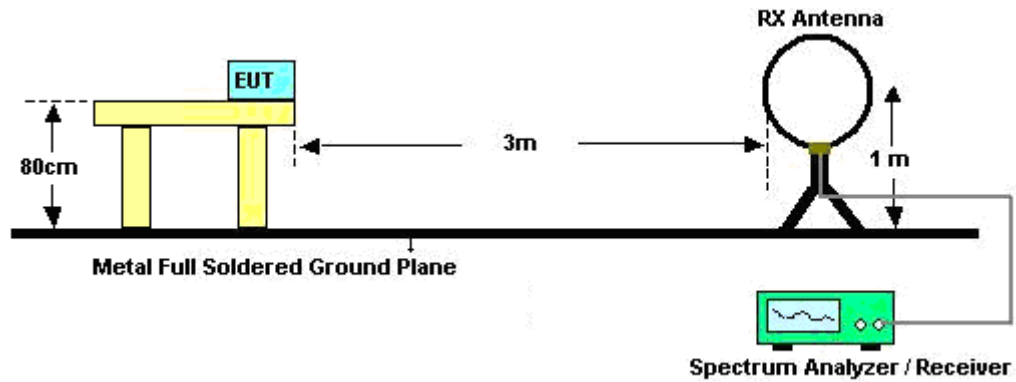
See list of measuring instruments of this test report.

#### 3.3.3 Test Procedures

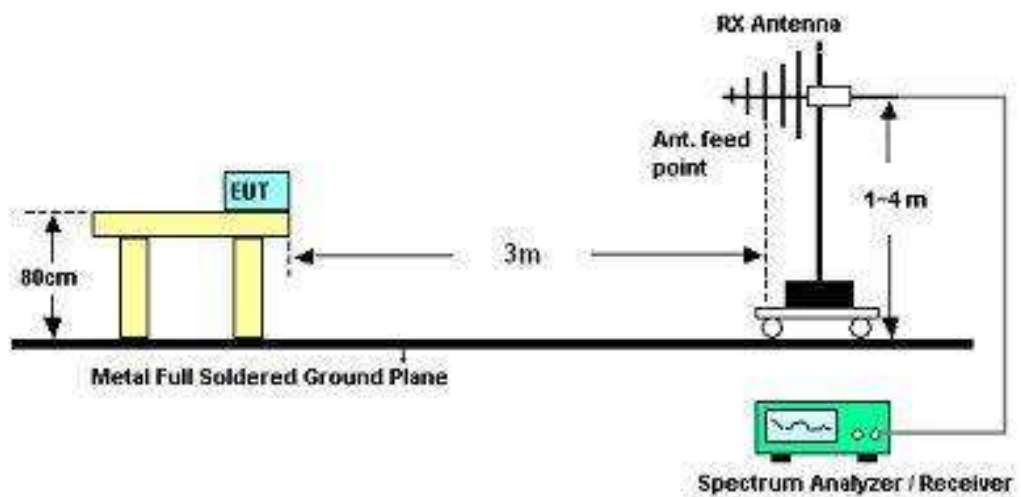
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
  - (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for  $f \geq 1$  GHz, 100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold.
  - (2) Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.  
Distance extrapolation factor =  $20 \log(\text{specific distance [3m]} / \text{test distance [1m]})$  (dB)
3. Follow the guidelines in ANSI C63.4-2003 with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

### 3.3.4 Test Setup

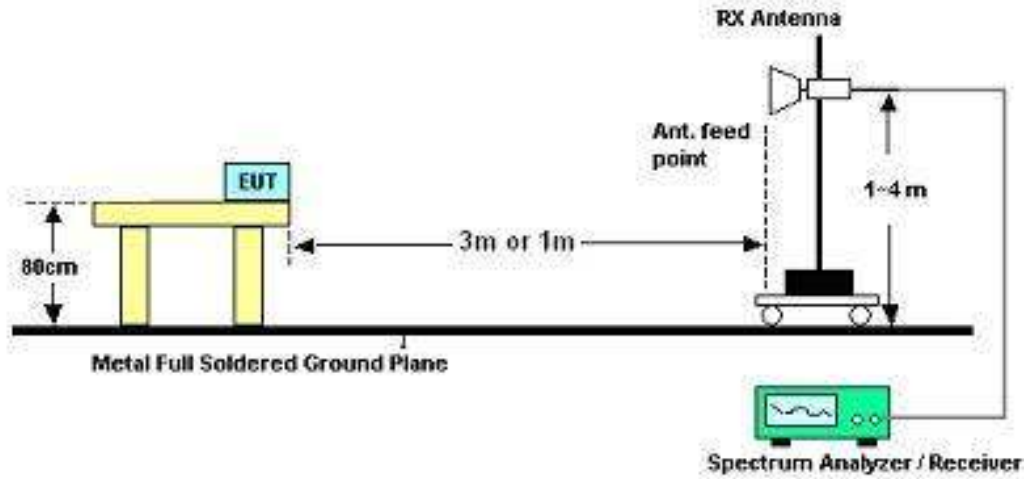
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.3.5 Test Results of Radiated Emissions (9kHz ~ 30MHz)

Test Engineer :	Wii Chang	Temperature :	23~26°C	
		Relative Humidity :	54~58%	
Frequency (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

**Note:**

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.



3.3.6 Test Result of Radiated Emission (30MHz ~ 10<sup>th</sup> Harmonic)

Test Mode :	Mode 1	Temperature :	23~26°C
Test Channel :	11	Relative Humidity :	54~58%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
38.64	27.25	-12.75	40	44.31	13.7	0.75	31.51	100	54	Peak
119.91	23.61	-19.89	43.5	43.04	10.88	1.21	31.52	-	-	Peak
165.81	21.13	-22.37	43.5	42.05	9.25	1.36	31.53	-	-	Peak
349	30.98	-15.02	46	46.94	13.45	1.9	31.31	-	-	Peak
366.5	30.68	-15.32	46	46.11	13.9	1.94	31.27	-	-	Peak
480.6	28.24	-17.76	46	40.52	16.63	2.2	31.11	-	-	Peak
2382	39.18	-14.82	54	36.68	32	4.58	34.08	166	360	Average
2382	50.81	-23.19	74	48.31	32	4.58	34.08	166	360	Peak
2462	101.24	-	-	98.63	32.07	4.62	34.08	166	360	Average
2462	105.45	-	-	102.84	32.07	4.62	34.08	166	360	Peak
2486.32	41.61	-12.39	54	38.96	32.09	4.64	34.08	166	360	Average
2486.32	52.23	-21.77	74	49.58	32.09	4.64	34.08	166	360	Peak



<b>Test Mode :</b>	Mode 1	<b>Temperature :</b>	23~26°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	54~58%
<b>Test Engineer :</b>	Wii Chang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
38.64	32.72	-7.28	40	49.78	13.7	0.75	31.51	100	87	Peak
62.13	27.07	-12.93	40	52.33	5.41	0.87	31.54	-	-	Peak
101.01	20.08	-23.42	43.5	41.09	9.46	1.1	31.57	-	-	Peak
315.4	19.21	-26.79	46	36.11	12.56	1.82	31.28	-	-	Peak
383.3	22.38	-23.62	46	37.3	14.33	1.97	31.22	-	-	Peak
514.9	23.72	-22.28	46	35.18	17.32	2.26	31.04	-	-	Peak
2382	37.4	-16.6	54	34.9	32	4.58	34.08	100	325	Average
2382	49.59	-24.41	74	47.09	32	4.58	34.08	100	325	Peak
2462	97.65	-	-	95.04	32.07	4.62	34.08	100	325	Average
2462	101.64	-	-	99.03	32.07	4.62	34.08	100	325	Peak
2483.85	41.12	-12.88	54	38.47	32.09	4.64	34.08	100	325	Average
2483.85	53.14	-20.86	74	50.49	32.09	4.64	34.08	100	325	Peak



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMI Test Receive	R&S	ESCI 7	100724	9kHz~7GHz	Aug. 22, 2011	Aug. 21, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz – 30MHz	Dec. 03, 2010	Dec. 02, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz – 30MHz	Dec. 01, 2010	Nov. 30, 2011	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
GPS Station	T&E	GS-50	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz-30GHz	Nov. 03, 2010	Nov. 02, 2011	Radiation (03CH05-HY)
COM-POWER	Double Ridge Horn	AH-118	701030	1HGz~18GHz	N/A	N/A	Radiation (03CH05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2725	30MHz ~ 1GHz	Nov. 06, 2010	Nov. 05, 2011	Radiation (03CH05-HY)
Turn Table	HD	Deis HD 2000	420/611	0 - 360 degree	N/A	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	MA 240	240/666	1 m - 4 m	N/A	N/A	Radiation (03CH05-HY)
Horn Antenna	ESCO	3117	66584	1GHz ~ 18GHz	Aug. 04, 2011	Aug. 03, 2012	Radiation (03CH05-HY)
COM-POWER	COM-POWER	PA-103	161075	1KHz - 1GHz	Mar. 29, 2011	Mar. 28, 2012	Radiation (03CH05-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1HGz~18GHz	Jul. 19, 2011	Jul. 18, 2012	Radiation (03CH05-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	159087	1HGz~18GHz	Feb. 21, 2011	Feb. 20, 2012	Radiation (03CH05-HY)
Pre Amplifier	Agilent	8449B	3008A019 17	1GHz- 26.5GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH05-HY)

## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of $X_i$		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
<b>Combined Standard Uncertainty <math>U_c(y)</math></b>	<b>1.13</b>		
<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b>	<b>2.26</b>		

### Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of $X_i$		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
<b>Combined Standard Uncertainty <math>U_c(y)</math></b>	<b>1.27</b>		
<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b>	<b>2.54</b>		



**Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)**

Contribution	Uncertainty of $X_i$		$u(X_i)$	$C_i$	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
<b>Combined Standard Uncertainty <math>U_c(y)</math></b>	<b>2.36</b>				
<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b>	<b>4.72</b>				





## **Appendix A. Photographs of EUT**

Please refer to Sporton report number EP170707-03 as below.



**1. External Photograph of EUT**

**Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010**





**Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010**





2. Photograph of Accessory

Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

List of Accessory:

Specification of Accessory		
AC Adapter	Brand Name	CINCON ELECTRONICS
	Model Name	TRG36A15 12E03
Battery 1	Brand Name	DAP
	Model Name	VE026-8034
Battery 2	Brand Name	DAP
	Model Name	VE026-8035
LCD Panel	Brand Name	SGD
	Model Name	GNTW70NNBA1E0
Camera 1	Brand Name	DEMARREN
	Model Name	Q5M03A
WWAN Module	Brand Name	Sierra Wireless
	Model Name	MC8355
WLAN Module	Brand Name	Summit Data Communications
	Model Name	SDC-PE15N
Bluetooth Module	Brand Name	Bluegiga
	Model Name	WT21-A
Power Cord 1	Brand Name	QUAIL
	Model Name	1062.079(NAM032)
Power Cord 2	Brand Name	QUAIL
	Model Name	8002.079(NAM033)
Power Cord 3	Brand Name	QUAIL
	Model Name	9657.079(NAM034)

Remark: For accessories equipped with this EUT, please refer to the following photos.

Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

Battery 1



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

Battery 2





### 3. Internal Photograph of EUT

Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010



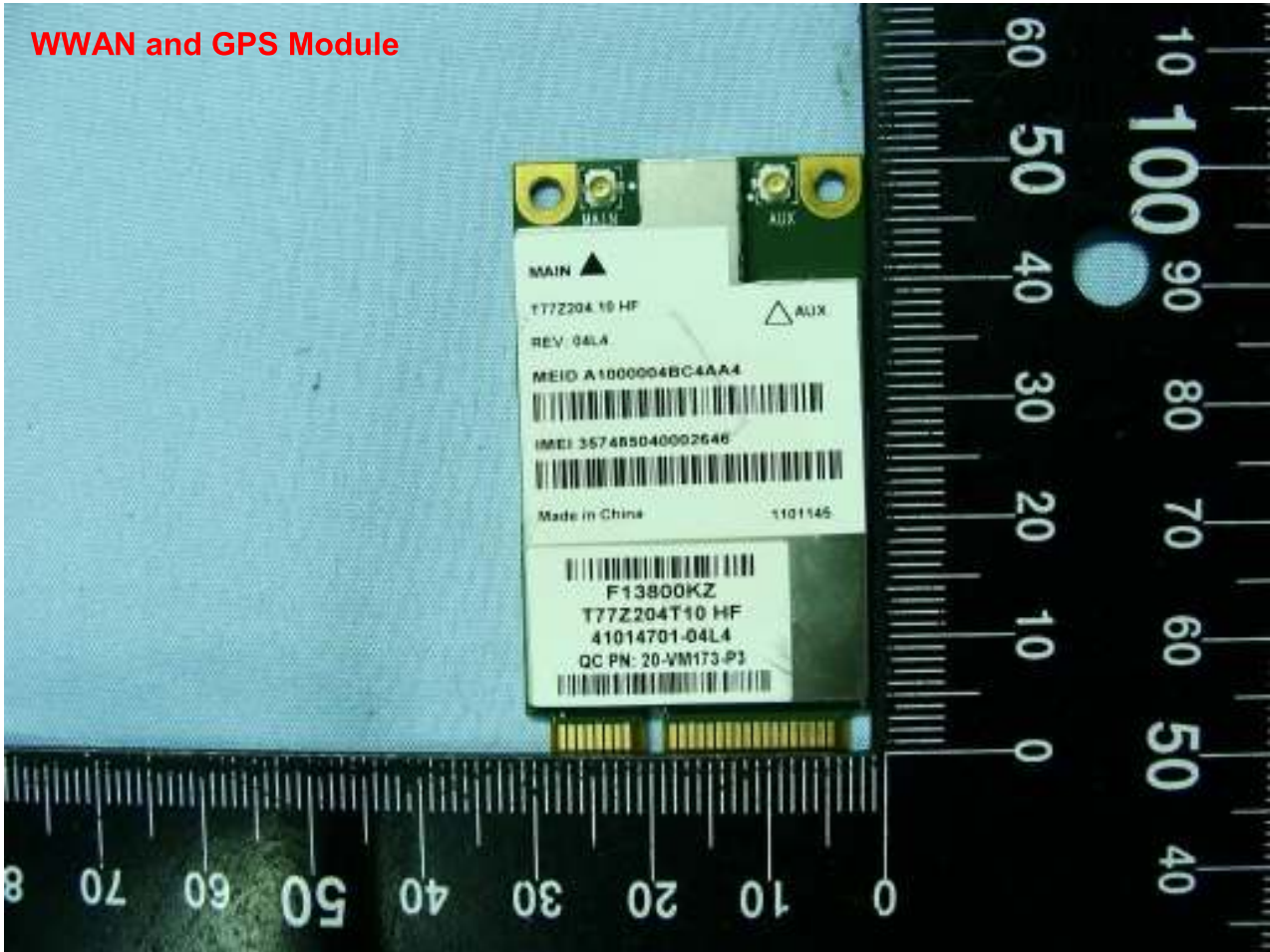


Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

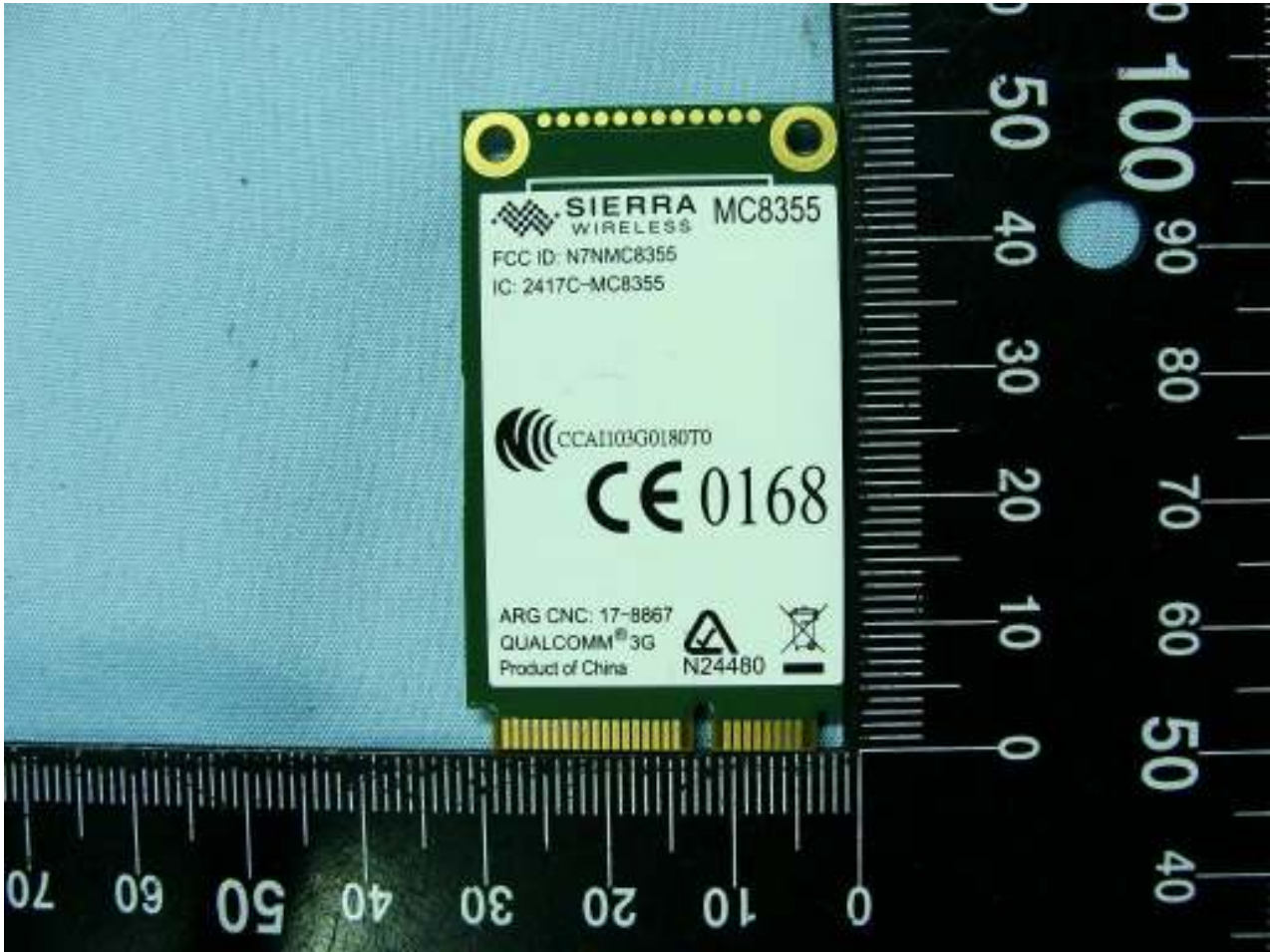


Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

**WWAN and GPS Module**

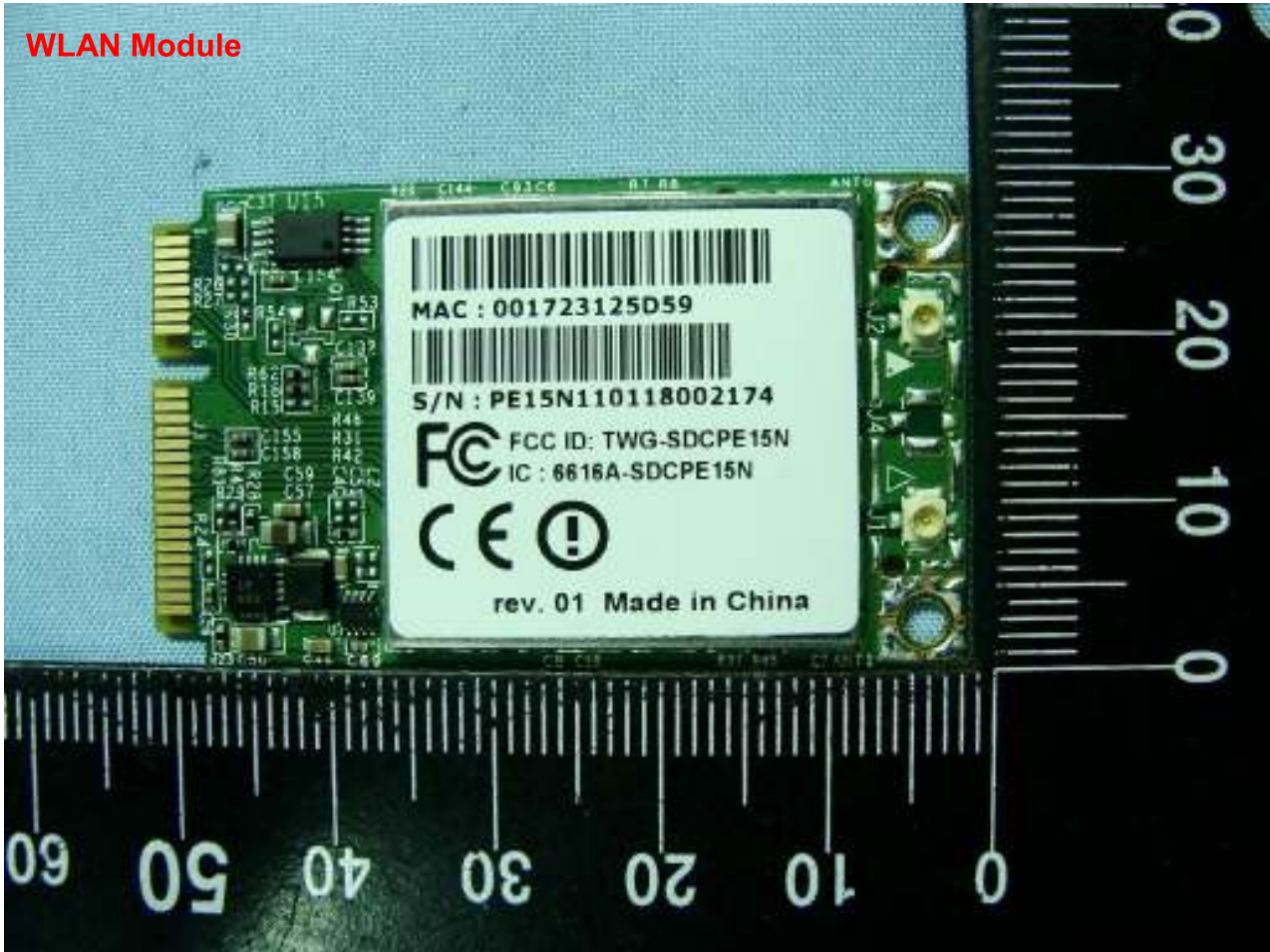


Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

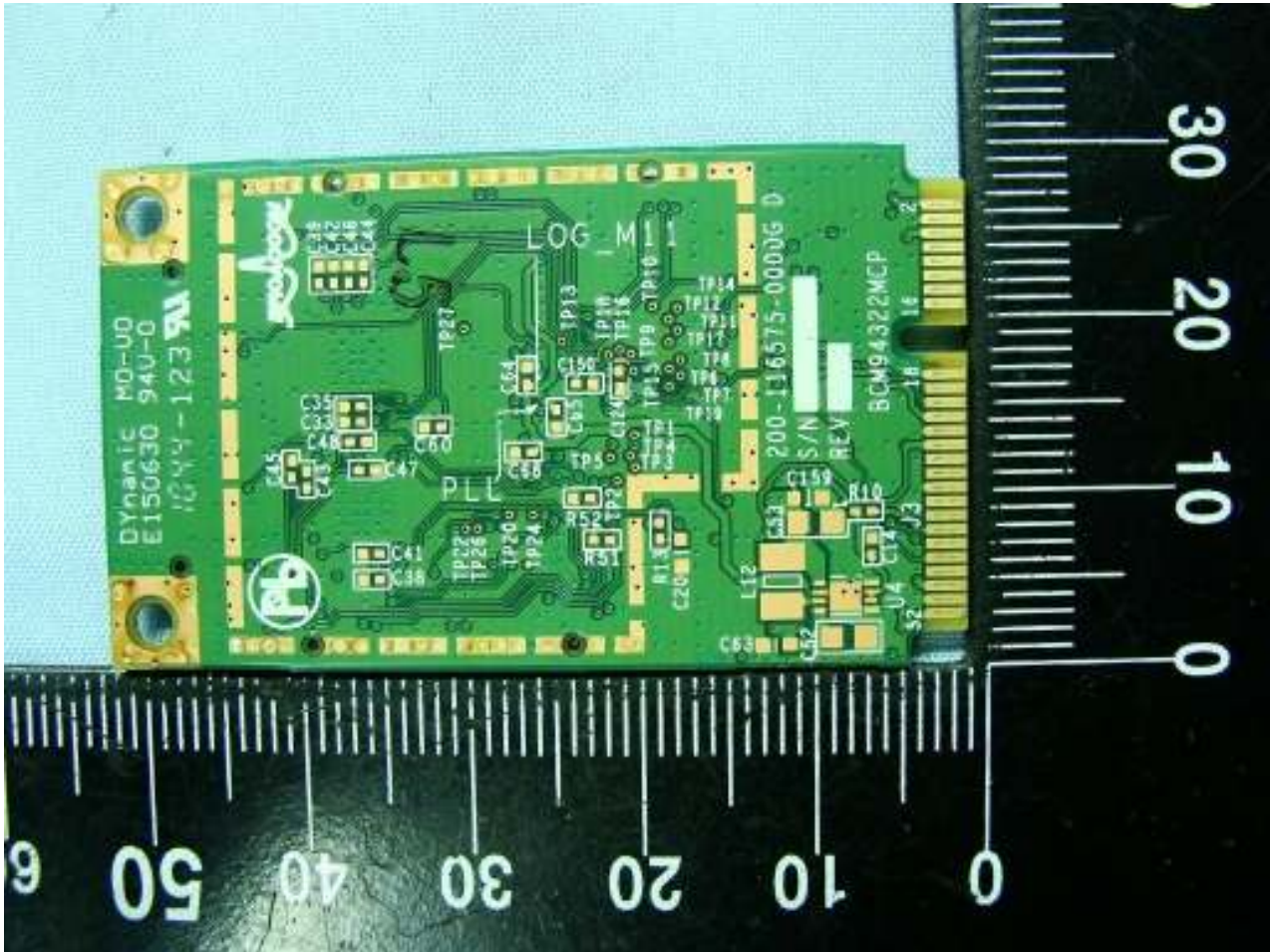


Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

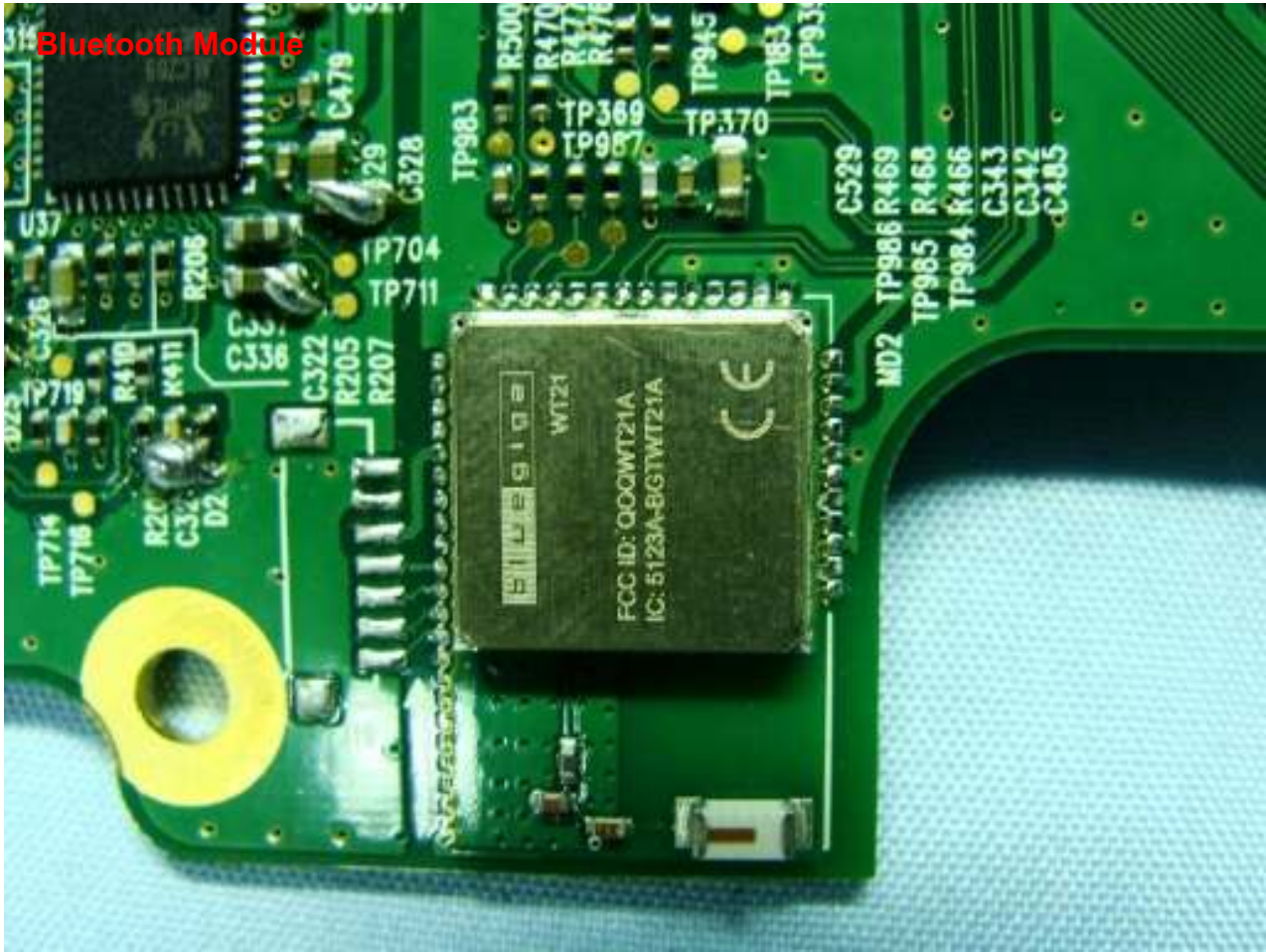
**WLAN Module**



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

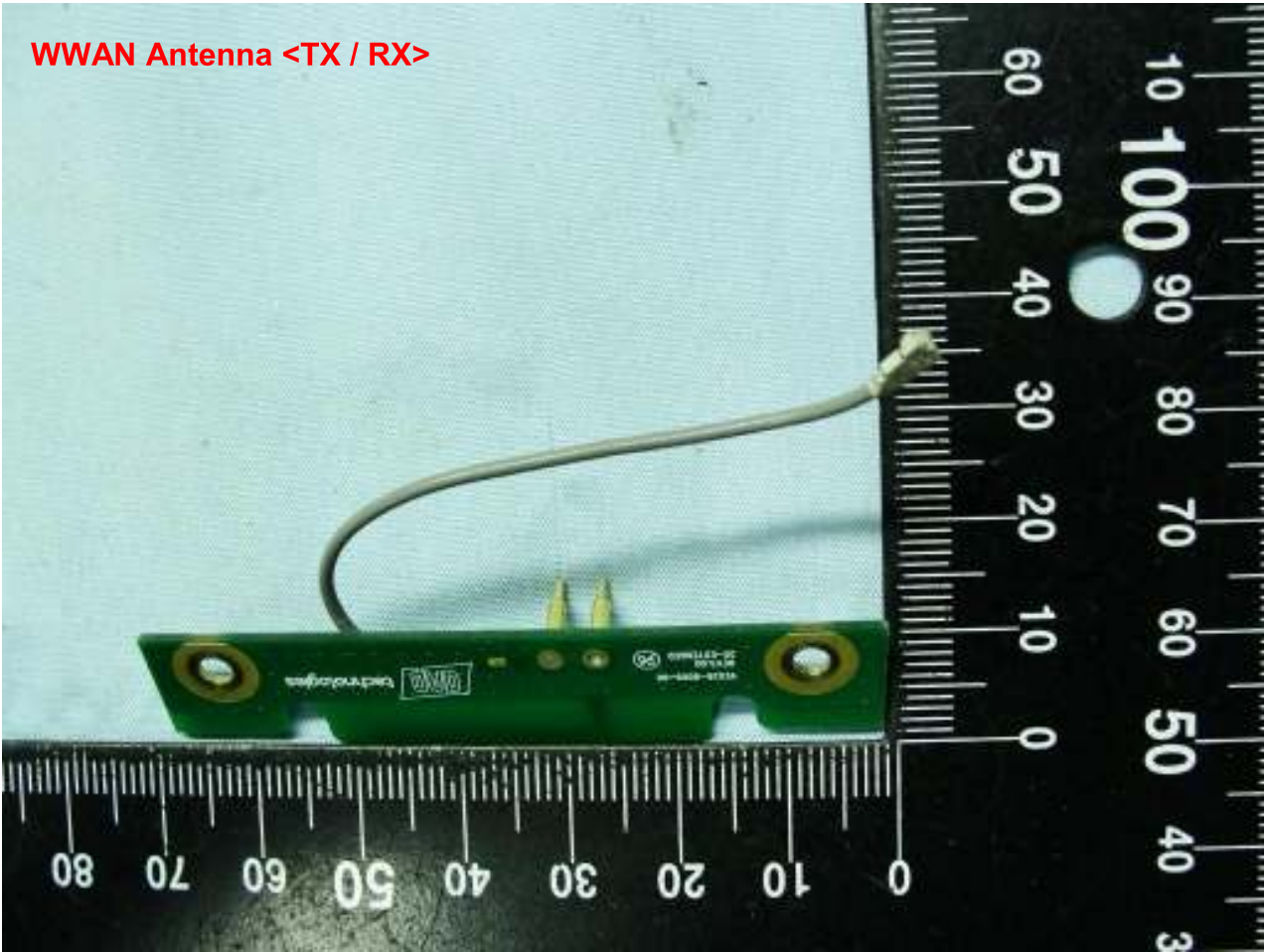


Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010



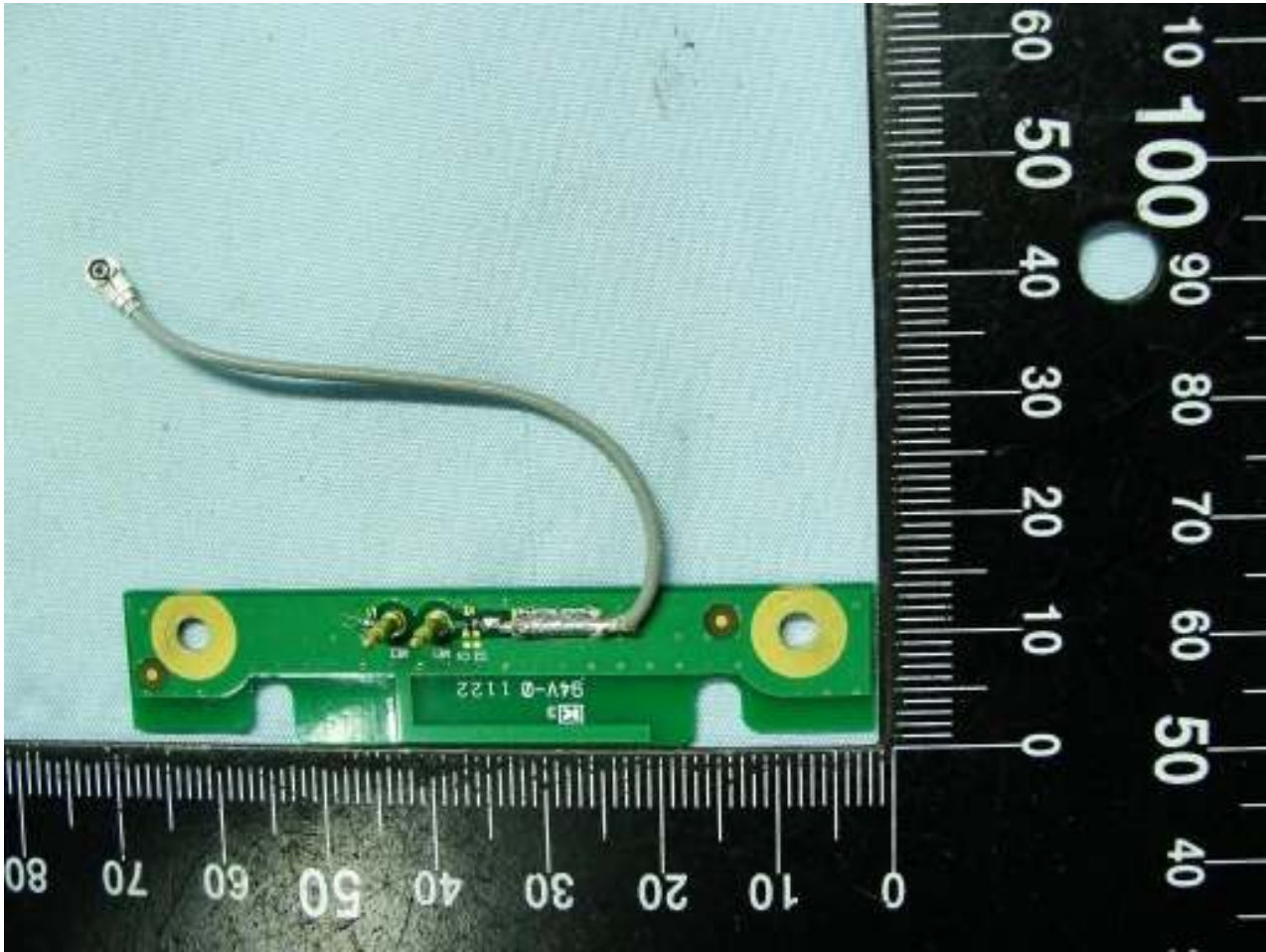
Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

WWAN Antenna <TX / RX>

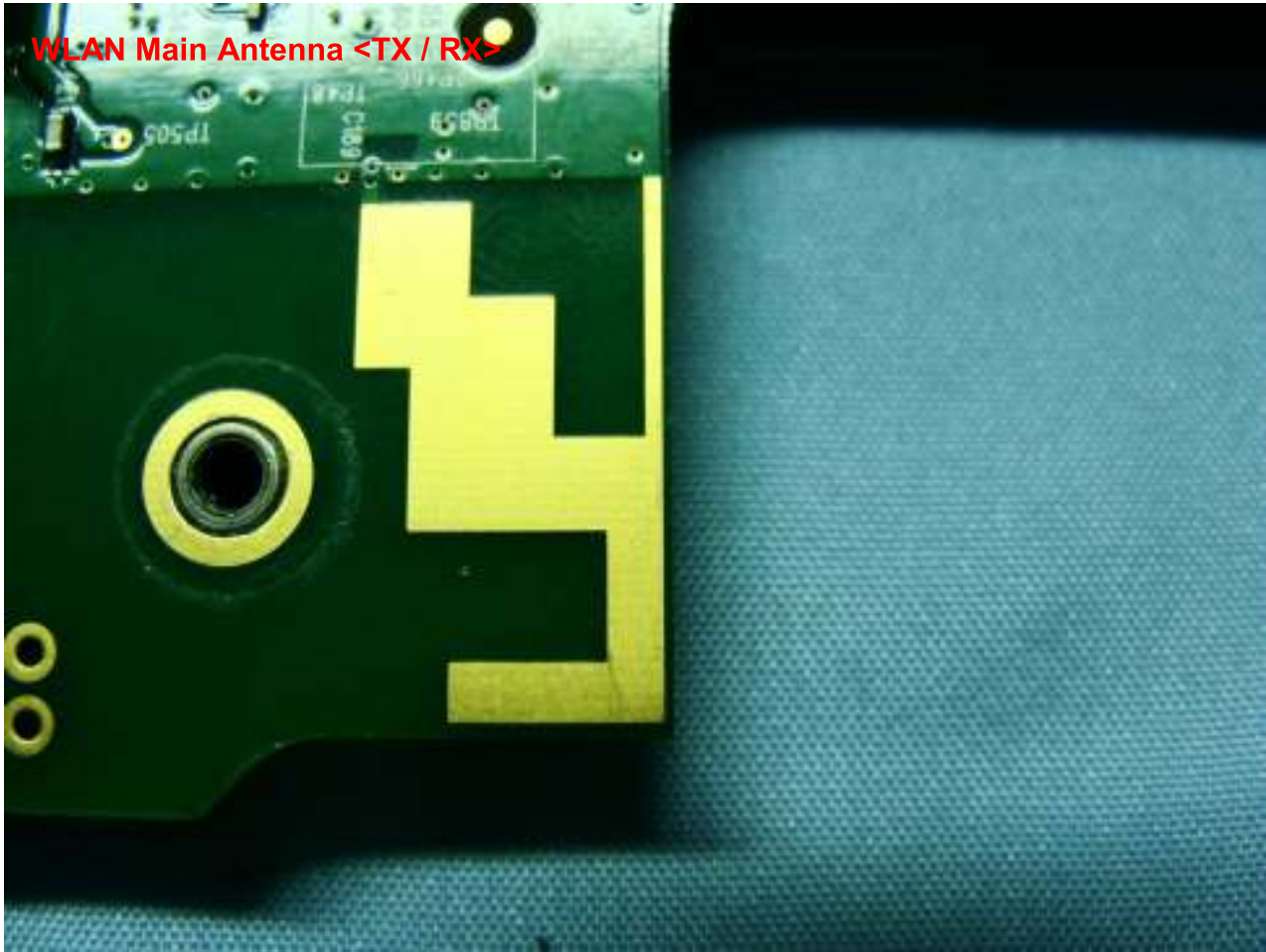




Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

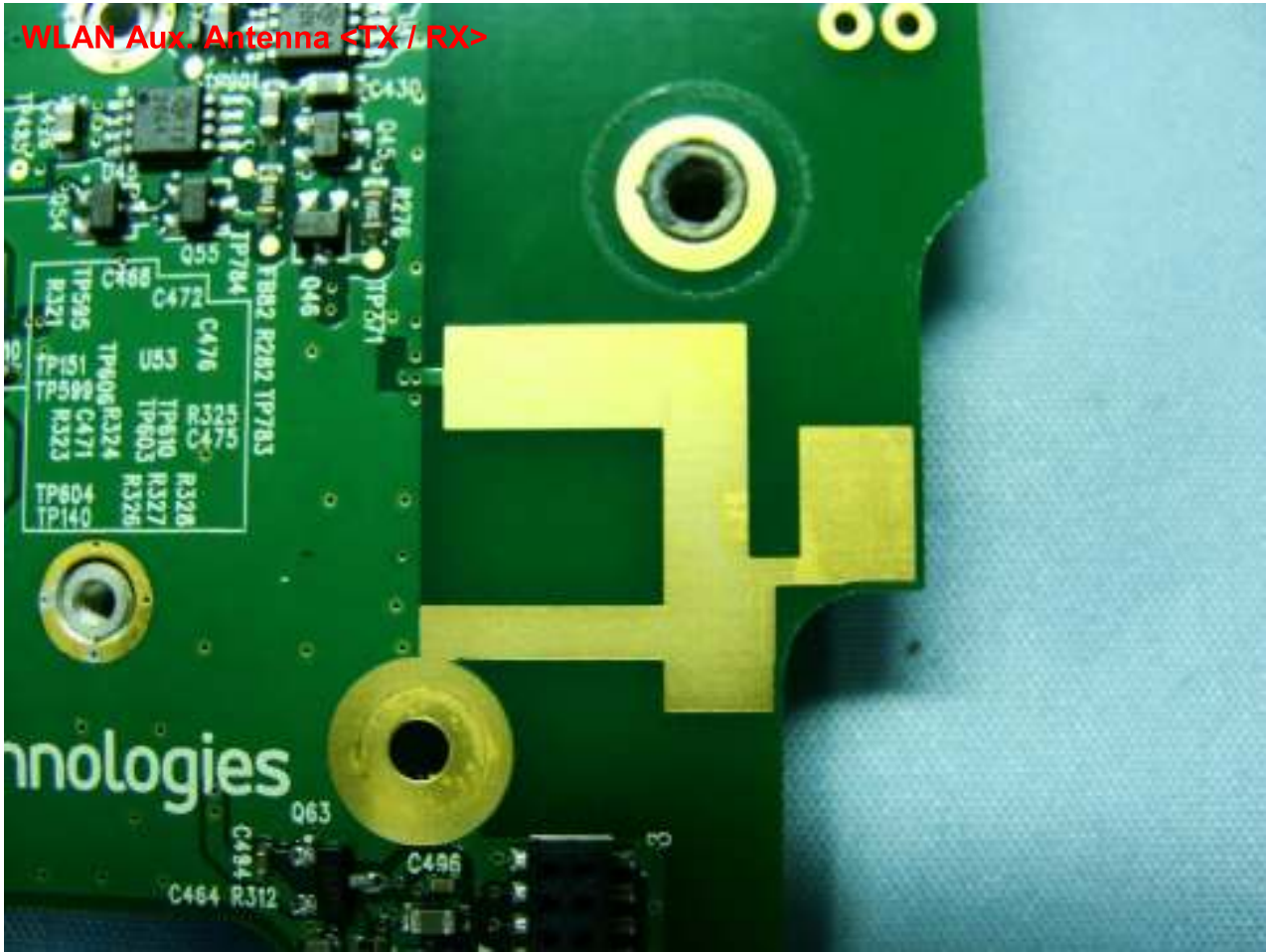


Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

WLAN Aux. Antenna <TX / RX>



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

Bluetooth Antenna <TX / RX>



Brand Name: DAP / Model Name: 9000WBWV1 / Marketing Name: M9010

GPS Antenna <RX>



## Appendix B. Setup Photographs

### <Conducted Emission>



**<Radiated Emission>**

LF



HF

