FCC Test Report

Report No.: AGC00119150104FE08

FCC ID	:	BRCPC1021
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	tablet pc
BRAND NAME	:	Kinwei, Titan
MODEL NAME	:	PC1021ME
CLIENT	:	Kintech Co., Ltd.
DATE OF ISSUE	:	24 Mar. 2015
STANDARD(S) **TEST PROCEDURE(S)**	:	FCC Part 15.247 KDB 558074 v03r02
REPORT VERSION	:	V1.0

***A**ttestation of **G**lobal **C**ompliance (Shenzhen) Co., Ltd*

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	24 Mar. 2015	Valid	Original Report

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1. VERIFICATION OF COMPLIANCE

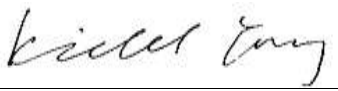
Applicant	Kintech Co., Ltd.
Address	1F-5F, Bldg 22, Chen Tian Industral Zone, Xi Xiang, Bao An District, Shenzhen, Guang Dong, China
Manufacturer	Kintech Co., Ltd.
Address	1F-5F, Bldg 22, Chen Tian Industral Zone, Xi Xiang, Bao An District, Shenzhen, Guang Dong, China
Product Designation	tablet pc
Brand Name	Kinwei, Titan
Test Model	PC1021ME
Series Model	PC1021Y,PCXXXX(XXXX represents0000~9999), PCXXXXME(XXXX represents0000~9999),PCXXXXY(XXXX represents0000~9999;Yrepresents A~Z),KW-PC1021I,KW-PC1021,KW-PC1021J, KW-PCXXXXI(XXXX represents0000~9999),KW-PCXXXX(XXXX represents0000~9999),KW-PCXXXXJ(XXXX represents0000~9999)
Difference description	All the same except for the model name.
Date of test	17 Mar. 2015 ~23 Mar. 2015
Report Template	AGCRT-US-BLE/RF

WE HEREBY CERTIFY THAT:

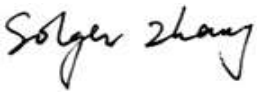
The above equipment was tested by Shenzhen STS Test Services Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

Prepared By 

Matt Zhang 24 Mar. 2015

Checked By 

Kidd Yang 24 Mar. 2015

Authorized By 

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2.GENERAL INFORMATION

2.1PRODUCT DESCRIPTION

The EUT is designed as "**tablet pc**". It is designed by way of utilizing the FHSS technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz
Bluetooth Version	V4.0
Modulation	GFSK
Number of channels	40 Channel(37 Hopping Channel,3 advertising Channel)
Antenna Designation	Integrated Antenna
Antenna Gain	0dBi
Hardware Version	P102A-MB-V1.0.0
Software Version	P102_VJC031_20150124
Power Supply	DC3.7V by Built-in Li-ion Battery

2.2 RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: BRCPC1021** filing to comply with Section 15.247of the FCC Part 15, Subpart C Rules.

2.3TEST METHODOLOGY

All measurements contained in this report were conducted with KDB 558074 D01 DTS Meas Guidance v03r02, 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.
The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions. The EUT was tested in all three orthogonal planes and the worse case was showed.

2.4 TEST FACILITY

All measurement facilities used to collect the measurement data are located at

Shenzhen STS Test Services Co., Ltd.

1/F, Building 2, Zhuoke Science Park, Chongqing Road, Fuyong, Baoan District, Shenzhen, China.

FCC Registration No.: 842334; IC Registration No.: 12108A-1

2.5 SPECIAL ACCESSORIES

Refer to section 2.2.

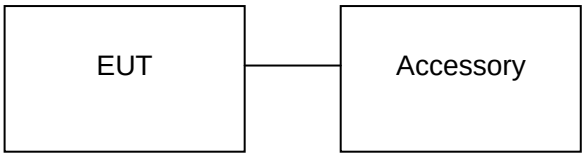
2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. SYSTEM TEST CONFIGURATION

3.1 CONFIGURATION OF TESTED SYSTEM

Configuration:



3.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Note
1	tablet pc	PC1021ME	BRCPC1021	EUT
2	Adapter	JKY0212-0502000UL	DC5V/2A	Accessory
3	USB Cable	N/A	N/A	Accessory

ALL TEST EQUIPMENT LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Spectrum Analyzer	Agilent	E4407B	MY50140340	2014.10.25	2015.10.24
Test Receiver	R&S	ESCI	101427	2014.10.25	2015.10.24
Bilog Antenna	TESEQ	CBL6111D	34678	2014.10.27	2015.10.26
50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2014.06.06	2015.06.05
Horn Antenna	R&S	9120D	152265	2014.10.27	2015.10.26
Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2014.07.06	2015.07.05
Amplifier	EM	EM-30180	060538	2014.12.22	2015.12.21
Loop Antenna	ARA	PLA-1030/B	1029	2014.06.08	2015.06.07
Power Meter	Anritsu	ML2495A	1204003	2014.10.25	2015.10.24
Power Sensor	Anritsu	MA2411B	100309	2014.10.25	2015.10.24
Low frequency cable	MURATA	R-03	130627	2014.10.25	2015.10.24
High frequency cable	HARBOUR	R-02	FL0000175	2014.10.25	2015.10.24

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	102086	102086	2014.10.25	2015.10.24
LISN	R&S	ENV216	101242	2014.10.25	2015.10.24
LISN	EMCO	3810/2NM	000-23625	2014.10.25	2015.10.24
50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2014.06.06	2015.06.05
Passive Voltage Probe	R&S	ESH2-Z3	100196	2014.06.06	2015.06.05
Absorbing clamp	R&S	MDS-21	100668	2014.10.27	2015.10.26
Conduction Cable	EM	C01	N/A	2014.10.25	2015.10.24

4. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 15.203	Antenna Requirement	Compliant
§15.209 §15.247(d)	Radiated Emission	Compliant
§15.247(d)	Band Edges	Compliant
§15.247	6 dB Bandwidth	Compliant
§15.247(b)	Conducted Power	Compliant
§15.247(e)	Maximum Conducted Output Power SPECTRAL Density	Compliant
§15.207	Line Conduction Emission	Compliant

5. DESCRIPTION OF TEST MODES

Pretest Mode	Description
Mode 1	TX CH1/CH20/CH40
Mode 2	Link Mode

For Conducted Emission	
Final Test Mode	Description
Mode 2	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	TX CH1/CH20/CH40
Mode 2	Link Mode

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

6. ANTENNA REQUIREMENT

6.1. STANDARD APPLICABLE

According to FCC 15.203, An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

6.2. TEST RESULT

This product has a permanent antenna, fulfill the requirement of this section.

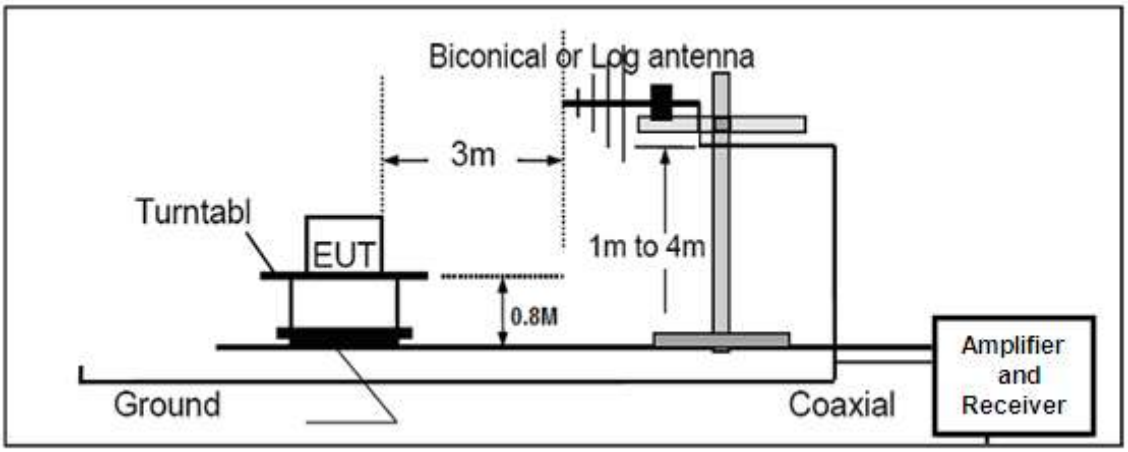
7. RADIATED EMISSION

7.1 MEASUREMENT PROCEDURE

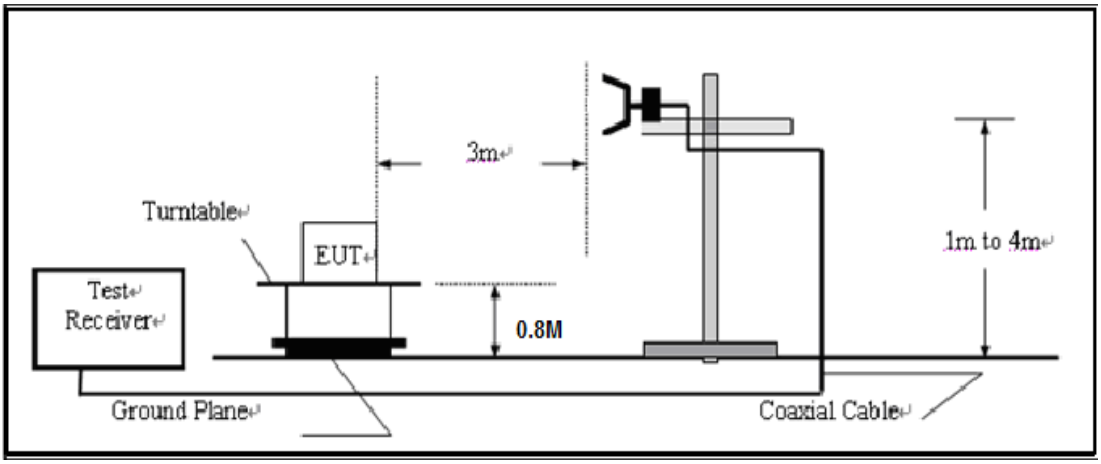
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

7.2 TEST SETUP

RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



7.3 LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/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

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

7.4 TEST RESULT

RADIATED EMISSION BELOW 30MHZ

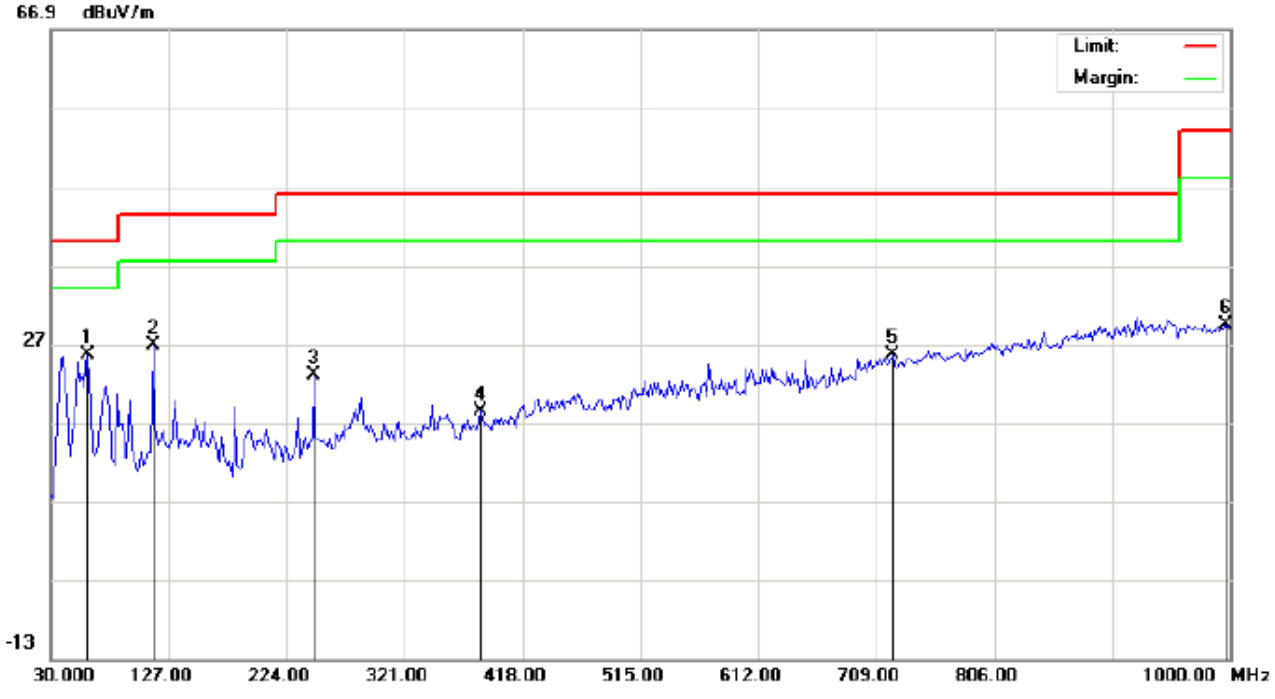
No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	Link mode	Polarization :	Horizontal

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	60.7167	14.58	11.09	25.67	40.00	-14.33	peak			
2		114.0667	15.33	11.45	26.78	43.50	-16.72	peak			
3		246.6333	9.28	13.77	23.05	46.00	-22.95	peak			
4		384.0500	-0.64	18.96	18.32	46.00	-27.68	peak			
5		721.9333	-0.18	25.82	25.64	46.00	-20.36	peak			
6		996.7667	-0.13	29.55	29.42	54.00	-24.58	peak			

Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

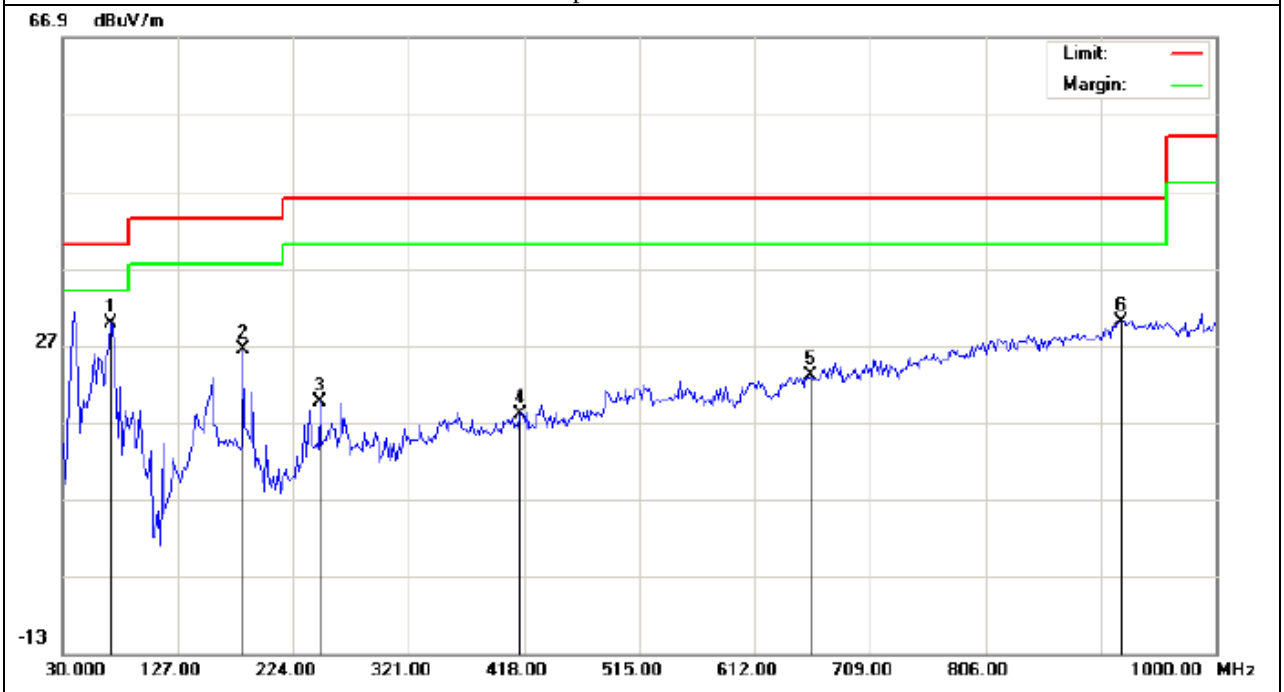


RESULT: PASS

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	Link mode	Polarization :	Vertical

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	70.4167	25.55	4.16	29.71	40.00	-10.29	peak			
2		181.9667	12.93	13.57	26.50	43.50	-17.00	peak			
3		246.6333	5.95	13.57	19.52	46.00	-26.48	peak			
4		414.7667	-1.52	19.52	18.00	46.00	-28.00	peak			
5		658.8833	-1.11	24.09	22.98	46.00	-23.02	peak			
6		920.7833	0.89	29.19	30.08	46.00	-15.92	peak			

Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



RESULT: PASS

RADIATED EMISSION ABOVE 1GHZ

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH1:2402MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4804	43.62	10.44	54.06	74	-19.94	peak
4804	32.48	10.44	42.92	54	-11.08	AVG
7206	41.29	12.39	53.68	74	-20.32	peak
7206	31.17	12.39	43.56	54	-10.44	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH1:2402MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4804	41.49	10.4	51.89	74	-22.11	peak
4804	29.35	10.4	39.75	54	-14.25	AVG
7206	31.67	12.75	44.42	74	-29.58	peak
7206	25.29	12.75	38.04	54	-15.96	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: PASS

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH20:2440MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4884	43.27	10.4	53.67	74	-20.33	peak
4884	32.66	10.4	43.06	54	-10.94	AVG
7326	41.48	12.75	54.23	74	-19.77	peak
7326	32.83	12.75	45.58	54	-8.42	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH20:2440MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4884	45.69	10.39	56.08	74	-17.92	peak
4884	32.79	10.44	43.23	54	-10.77	AVG
7326	32.61	12.68	45.29	74	-28.71	peak
7326	32.33	12.68	45.01	54	-8.99	AVG

Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. No emission detected above 18GHz

RESULT: PASS

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH40:2480MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4960	36.75	10.39	47.14	74	-26.86	peak
4960	25.46	10.39	35.85	54	-18.15	AVG
7440	42.62	12.68	55.3	74	-18.7	peak
7440	31.83	12.68	44.51	54	-9.49	AVG

Remark:
1 Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2 No emission detected above 18GHz

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH40:2480MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4960	36.77	10.39	47.16	74	-26.84	peak
4960	34.61	10.39	45	54	-9	AVG
7440	44.29	12.68	56.97	74	-17.03	peak
7440	25.81	12.68	38.49	54	-15.51	AVG

Remark:
1 Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2 No emission detected above 18GHz

RESULT: PASS

8. BAND EDGE EMISSION

8.1. MEASUREMENT PROCEDURE

1)Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

2)Conducted Emissions at the bang edge

a)The transmitter output was connected to the spectrum analyzer

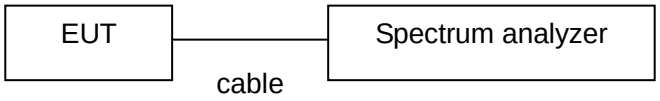
b)Set RBW=100kHz,VBW=300kHz

c)Suitable frequency span including 100kHz bandwidth from band edge

8.2. TEST SET-UP

Radiated same as 6.2

Conducted set up



8.3. Radiated Test Result

EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH00: 2402	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
GFSK							
2399.9	77.48	-13	64.48	74	-9.52	peak	Vertical
2399.9	55.24	-13	42.24	54	-11.76	AVG	Vertical
2400	78.83	-12.99	65.84	74	-8.16	peak	Vertical
2400	56.69	-12.99	43.7	54	-10.3	AVG	Vertical

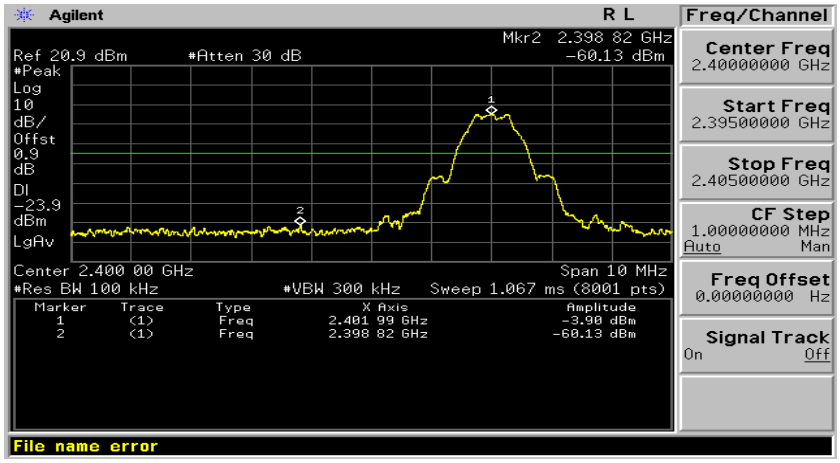
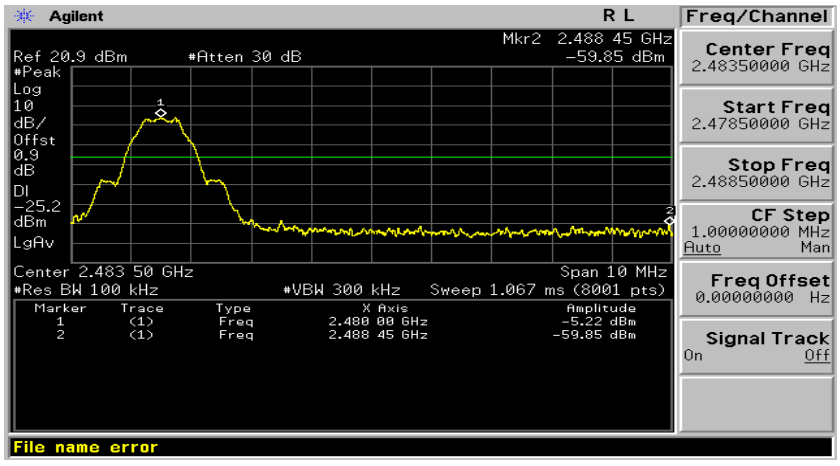
EUT：	tablet pc	Model Name ：	PC1021ME
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.7V from battery
Test Mode ：	TX Mode /CH40: 2480	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
GFSK							
2483.5	78.89	-12.78	66.11	74	-7.89	peak	Vertical
2483.5	56.67	-12.78	43.89	54	-10.11	AVG	Vertical
2483.6	78.72	-12.77	65.95	74	-8.05	peak	Vertical
2483.6	55.68	-12.77	42.91	54	-11.09	AVG	Vertical

8.4. Conducted Test Result

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BLE	LCH	-3.9	-60.129	-23.9	PASS
BLE	HCH	-5.22	-59.847	-25.22	PASS

Test Graph

Graphs	
LCH	
HCH	

9. 6DB BANDWIDTH

9.1. TEST EQUIPMENT LIST AND DETAILS

Equipment	Manufacturer	Model	Cal. Date	Cal. Due
PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	02/17/2014	02/16/2015
WIDEBAND REQUENCY ANTENNA	SCHWARZBECK	VULB9168	08/16/2014	08/15/2015

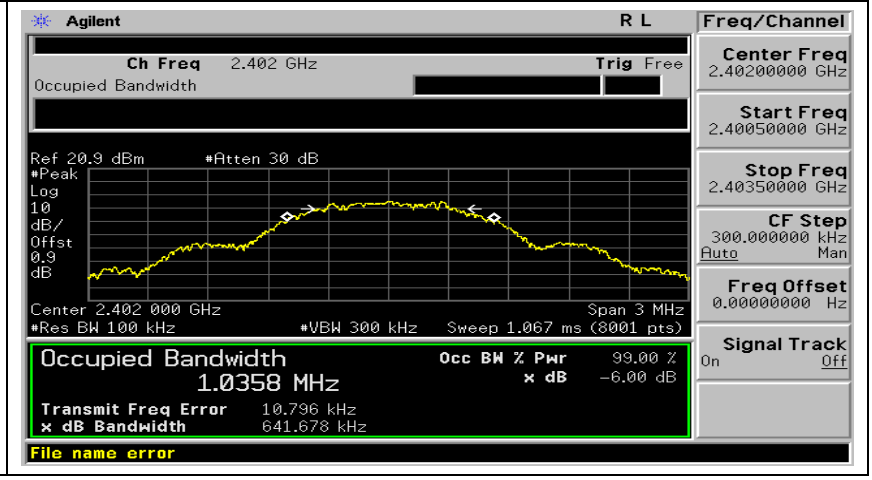
9.2. TEST PROCEDURE

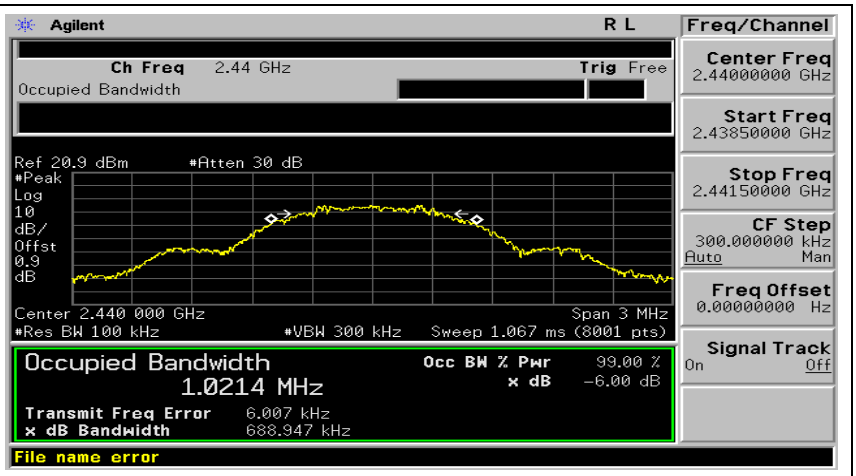
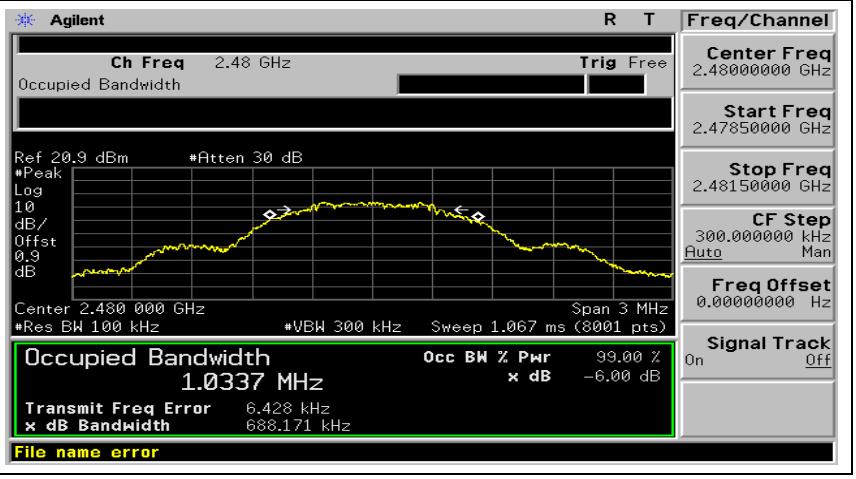
1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW≥RBW.
4. Set SPA Trace 1 Max hold, then View.

9.3. SUMMARY OF TEST RESULTS/PLOTS

Mode	Channel	6dB Bandwidth [MHz]	OBW[MHz]	Verdict
BLE	LCH	0.6417	1.0358	PASS
BLE	MCH	0.6889	1.0214	PASS
BLE	HCH	0.6882	1.0338	PASS

Test Graph

Graphs	
LCH	

MCH	 Agilent R L Freq/Channel Ch Freq 2.44 GHz Trig Free Occupied Bandwidth Ref 20.9 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 0.9 dB Center 2.440 000 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms (8001 pts) Occupied Bandwidth 1.0214 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 6.007 kHz x dB Bandwidth 688.947 kHz File name error Center Freq 2.44000000 GHz Start Freq 2.43850000 GHz Stop Freq 2.44150000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
HCH	 Agilent R T Freq/Channel Ch Freq 2.48 GHz Trig Free Occupied Bandwidth Ref 20.9 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 0.9 dB Center 2.480 000 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms (8001 pts) Occupied Bandwidth 1.0337 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 6.428 kHz x dB Bandwidth 688.171 kHz File name error Center Freq 2.48000000 GHz Start Freq 2.47850000 GHz Stop Freq 2.48150000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

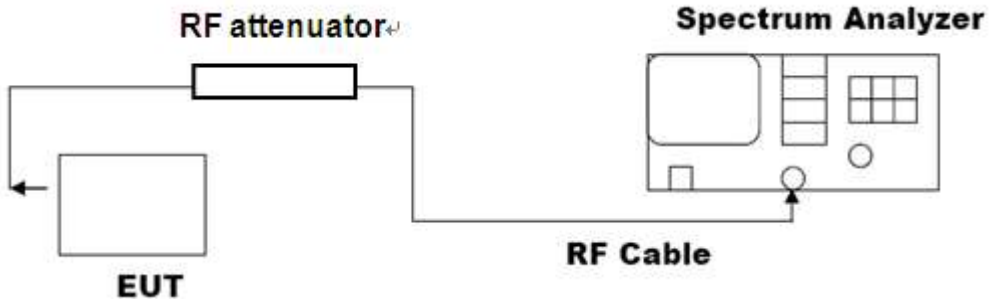
10. CONDUCTED OUTPUT POWER

10.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, middle and the bottom operation frequency individually.
3. Use the following spectrum analyzer settings:
   Set the RBW ≥ DTS bandwidth
   Set the VBW ≥ 3 x RBW
   Set the span ≥ 3 x RBW
   Detector = peak
   Sweep time = auto couple
   Trace mode = max hold
4. Allow the trace to stabilize. Use peak marker function to determine the peak amplitude level
5. Record the result form the Spectrum Analyzer.

Note： The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

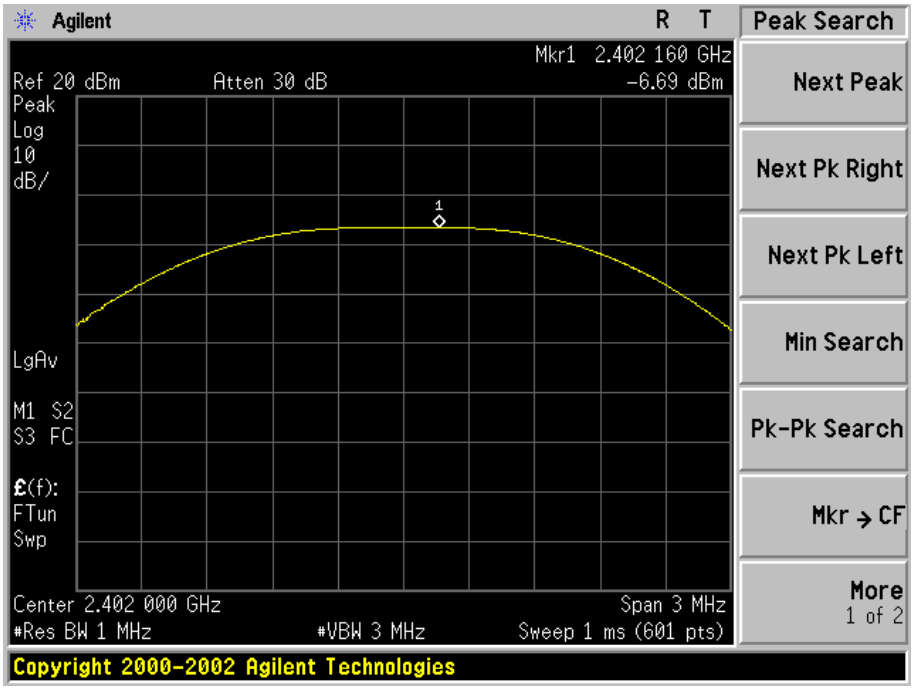
10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



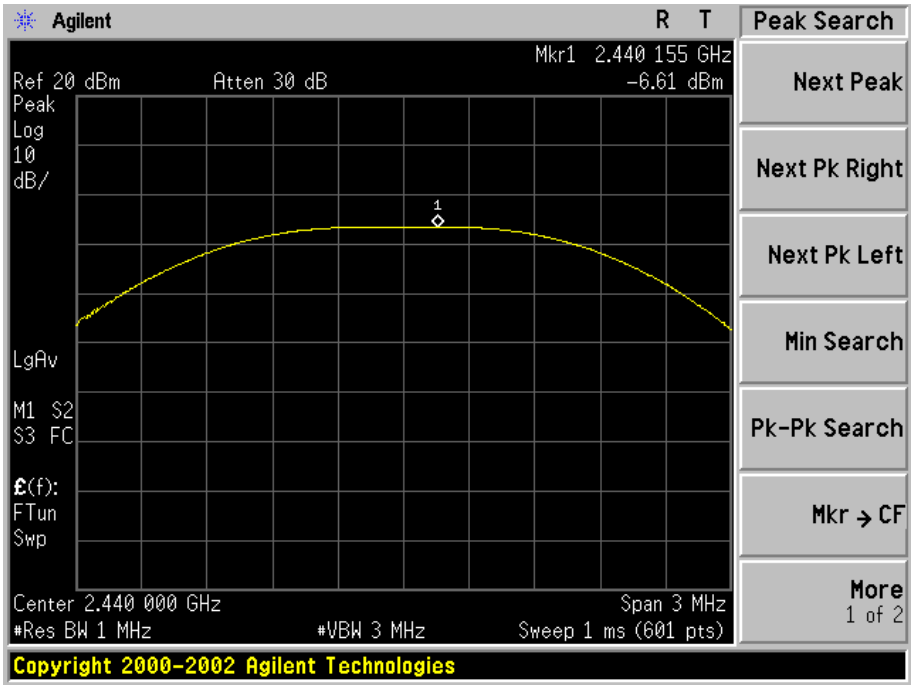
10.3. LIMITS AND MEASUREMENT RESULT

Channel	Peak Power (dBm)	Applicable Limits (dBm)	Pass/Fail
Low Channel	-6.69	20	Pass
Middle Channel	-6.61	20	Pass
High Channel	-6.97	20	Pass

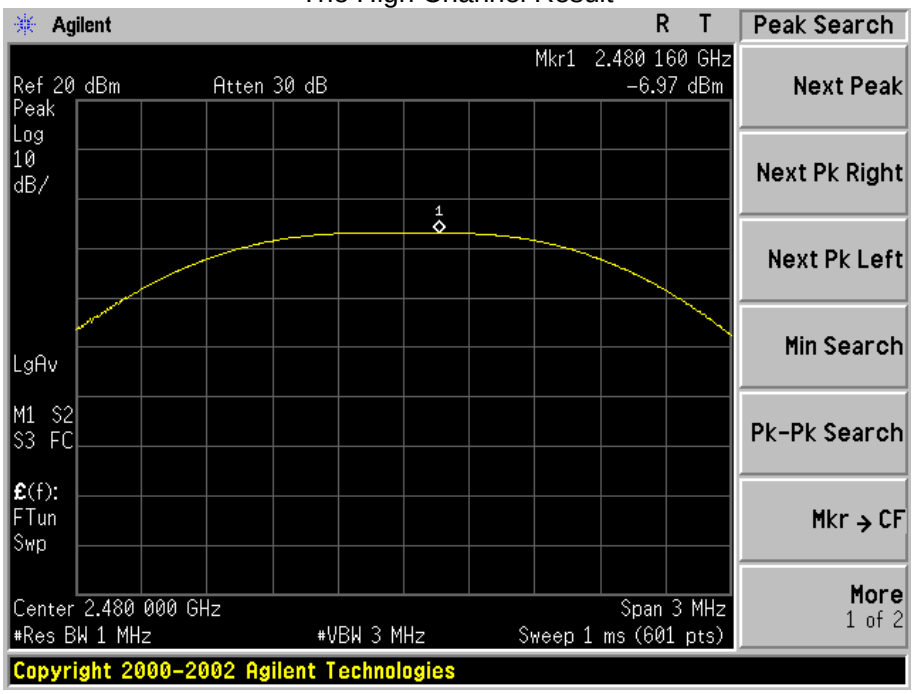
The Low Channel Result



The Middle Channel Result



The High Channel Result



11. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

11.1 MEASUREMENT PROCEDURE

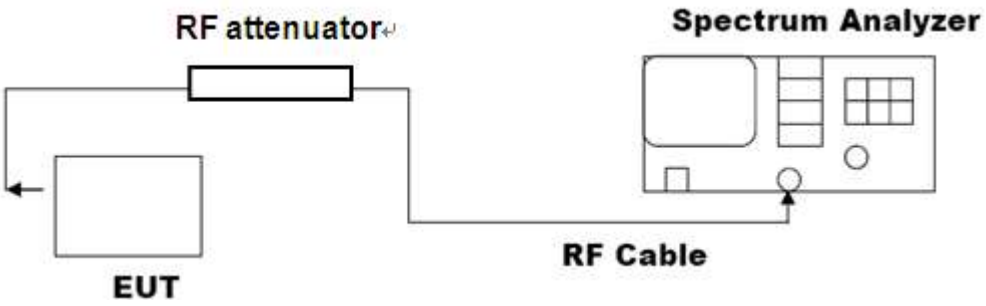
(1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator

(2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.

(3). Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

11.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



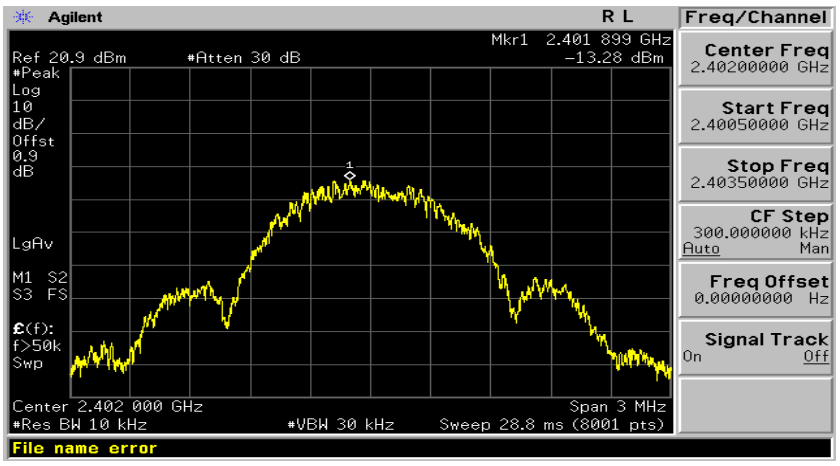
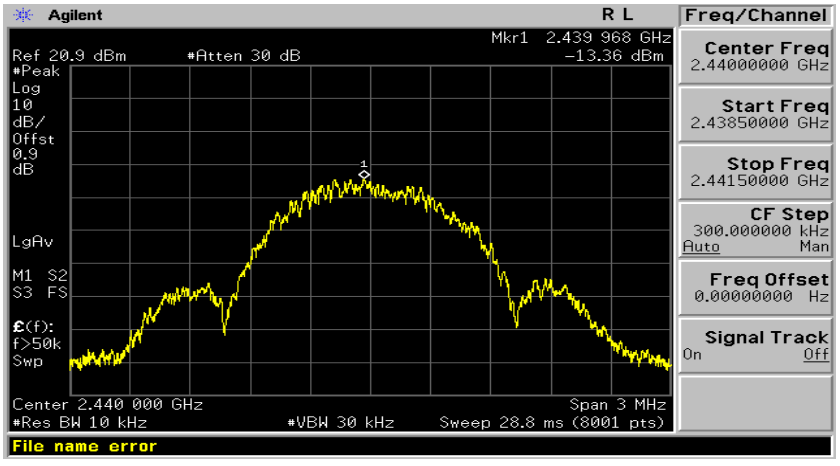
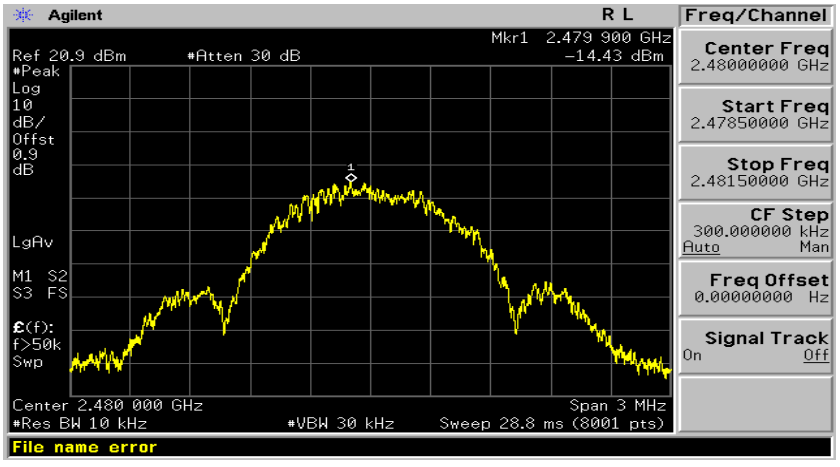
11.3 MEASUREMENT EQUIPMENT USED

Equipment	Manufacturer	Model	Cal. Date	Cal. Due
PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	02/17/2014	02/16/2015
WIDEBAND REQUENCY ANTENNA	SCHWARZBECK	VULB9168	08/16/2014	08/15/2015

11.4 LIMITS AND MEASUREMENT RESULT

Mode	Channel	PSD [dBm/10kHz]	Limit[dBm/3kHz]	Verdict
BLE	LCH	-13.28	8	PASS
BLE	MCH	-13.36	8	PASS
BLE	HCH	-14.43	8	PASS

Test Graph

Graphs	
LCH	
MCH	
HCH	

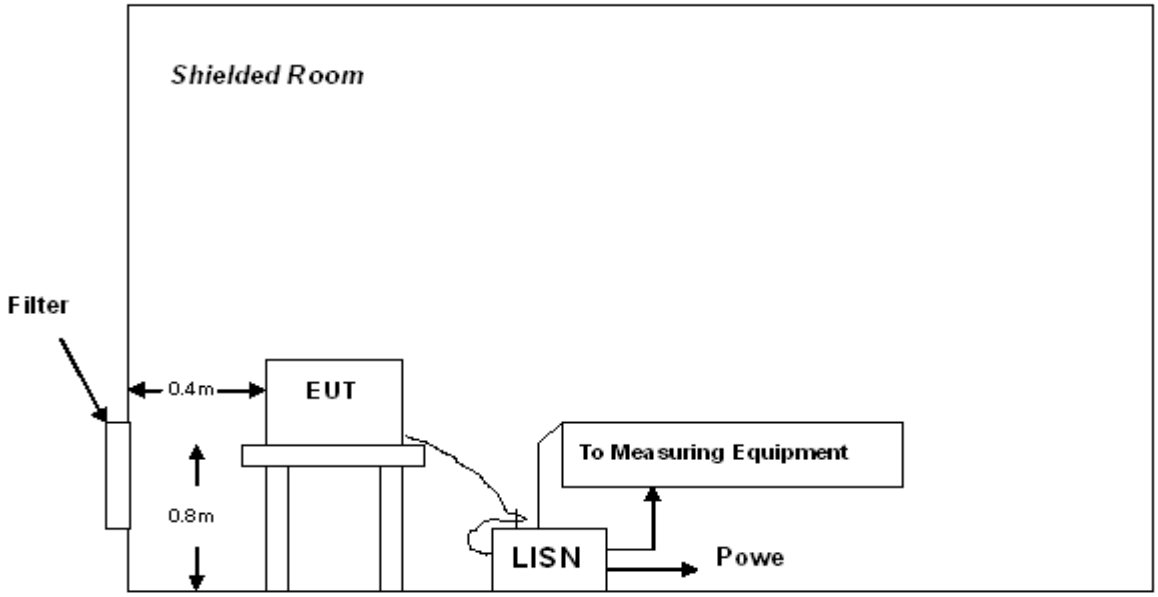
12. FCC LINE CONDUCTED EMISSION TEST

12.1 LIMITS

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

***Note:** 1. The lower limit shall apply at the transition frequency.*
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

12.2 TEST SETUP



A: Powered through filter

12.3 PRELIMINARY PROCEDURE

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2) Support equipment, if needed, was placed as per ANSI C63.4.
3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4) All support equipments received AC120V/60Hz power from a LISN, if any.
5) The EUT received power by adapter which received power by a LISN.
6) The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8) During the above scans, the emissions were maximized by cable manipulation.
9) The following test mode(s) were scanned during the preliminary test.
   Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

12.4 FINAL TEST PROCEDURE

10) EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
11) 2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
12) 3) The test data of the worst case condition(s) was reported on the Summary Data page.

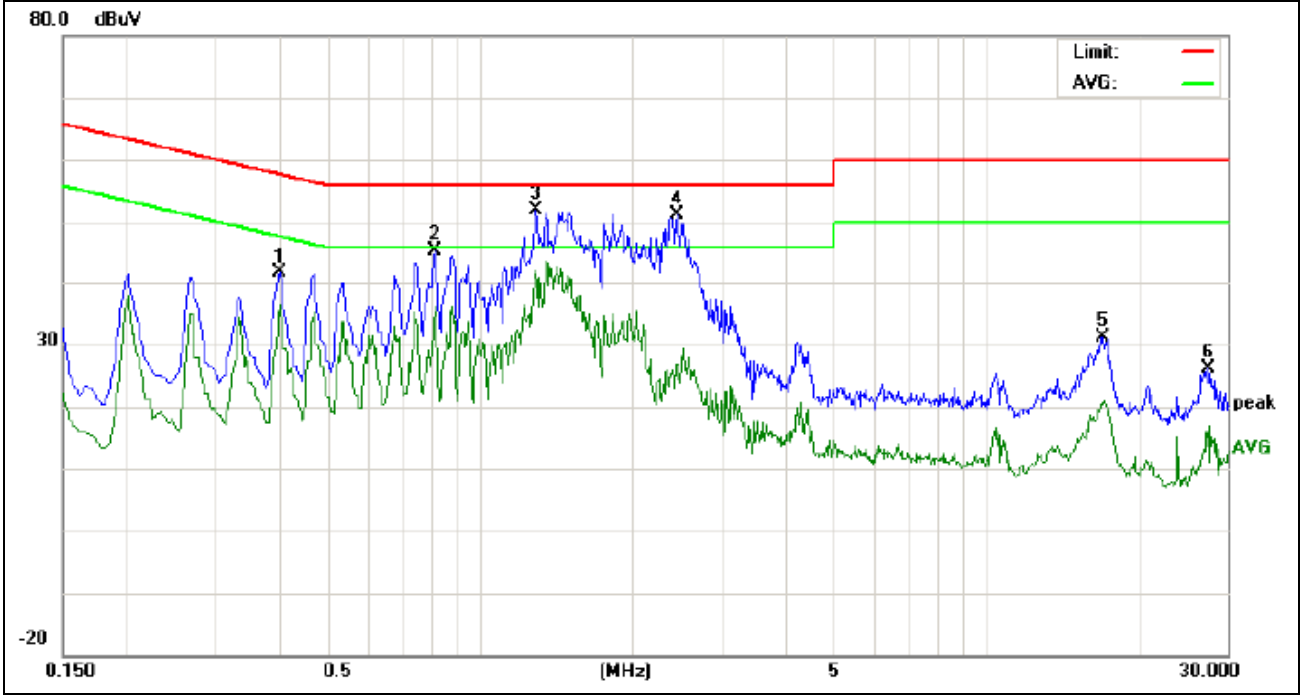
12.5 TEST RESULT OF POWER LINE

Line Conducted Emission Test Line 1-L

EUT:	tablet pc	Model Name. :	PC1021ME
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter with AC 120V/60Hz	Test Mode:	Mode 2

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.4020	31.24		26.05	10.33	41.57		36.38	57.81	47.81	-16.24	-11.43	P	
2	0.8139	35.00		25.85	10.30	45.30		36.15	56.00	46.00	-10.70	-9.85	P	
3	1.2940	41.58		31.59	10.38	51.96		41.97	56.00	46.00	-4.04	-4.03	P	
4	2.4580	40.73		16.47	10.41	51.14		26.88	56.00	46.00	-4.86	-19.12	P	
5	17.0940	21.04		10.58	10.13	31.17		20.71	60.00	50.00	-28.83	-29.29	P	
6	27.5380	16.10		6.01	10.13	26.23		16.14	60.00	50.00	-33.77	-33.86	P	

Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

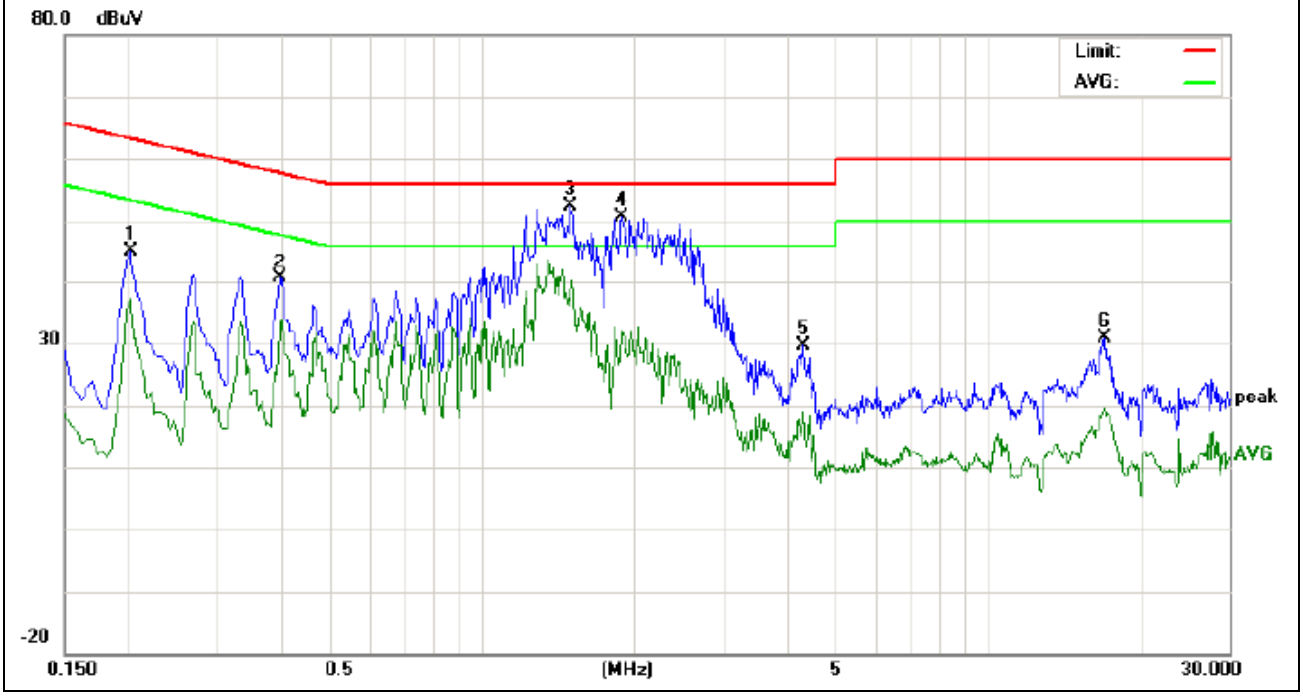


Line Conducted Emission Test Line 1-N

EUT:	tablet pc	Model Name. :	PC1021ME
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	DC 5V from Adapter with AC 120V/60Hz	Test Mode:	Mode 2

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2020	34.89		26.91	10.22	45.11		37.13	63.52	53.52	-18.41	-16.39	P	
2	0.3980	30.26		22.51	10.33	40.59		32.84	57.89	47.89	-17.30	-15.05	P	
3	1.5020	42.04		27.11	10.38	52.42		37.49	56.00	46.00	-3.58	-8.51	P	
4	1.8940	40.37		21.67	10.25	50.62		31.92	56.00	46.00	-5.38	-14.08	P	
5	4.3300	19.29		8.53	10.28	29.57		18.81	56.00	46.00	-26.43	-27.19	P	
6	17.0300	20.68		9.61	10.13	30.81		19.74	60.00	50.00	-29.19	-30.26	P	

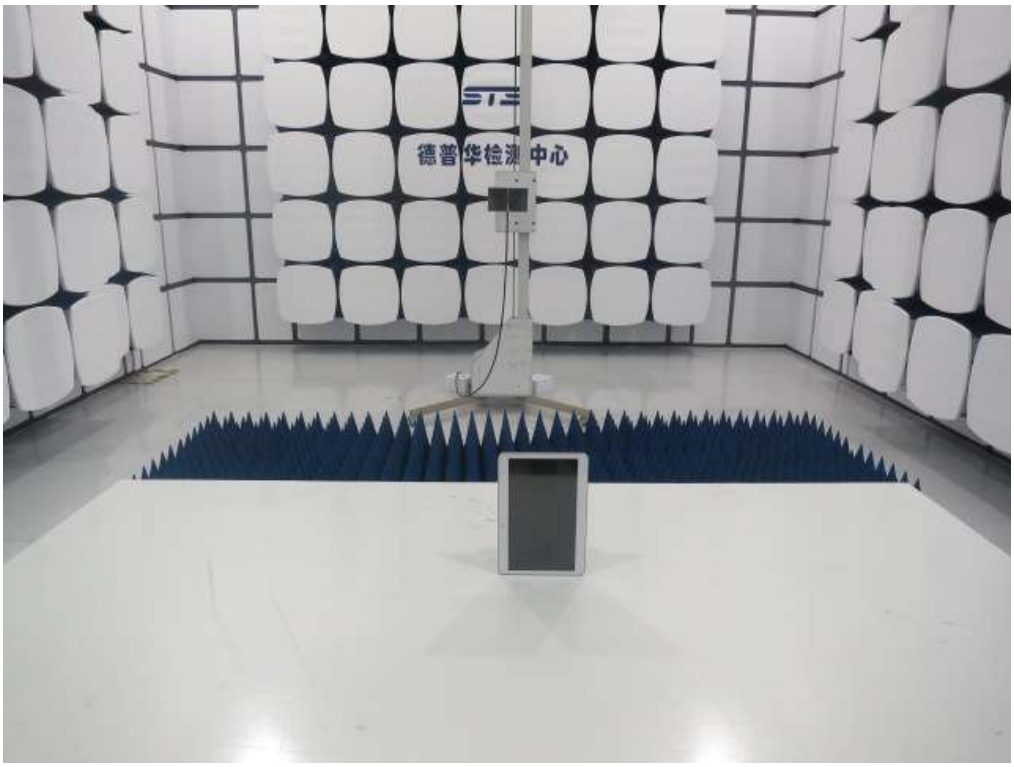
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

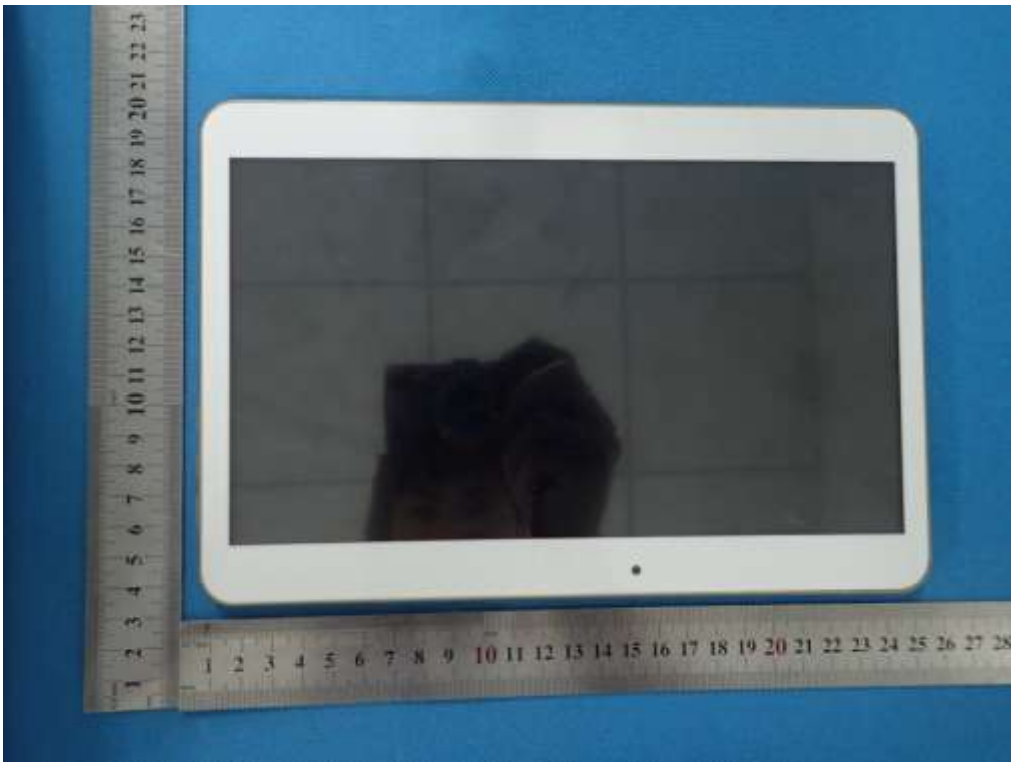
FCC RADIATED EMISSION TEST SETUP


德普华检测中心

APPENDIX B: PHOTOGRAPHS OF EUT

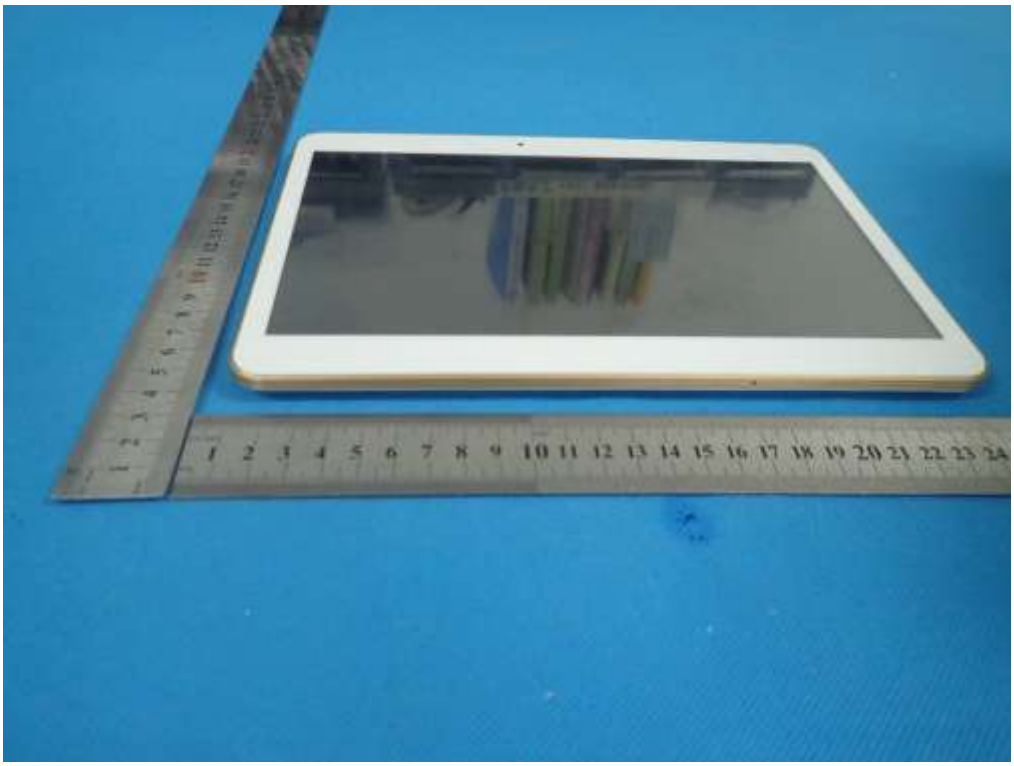
TOTAL VIEW OF EUT

TOP VIEW OF EUT



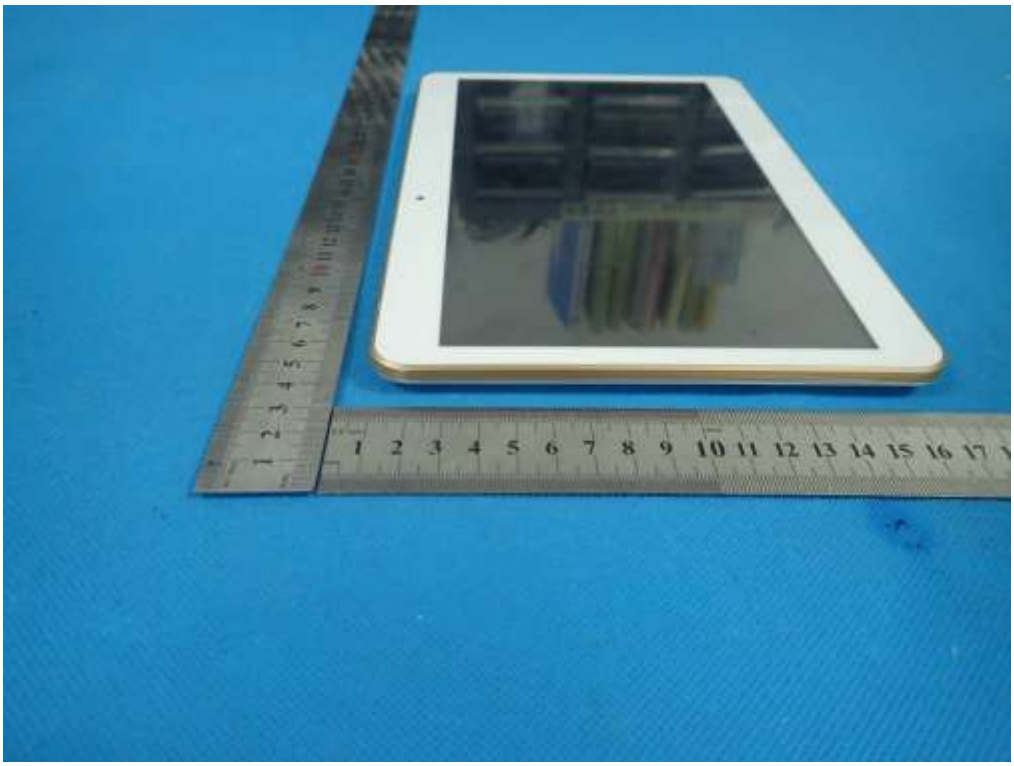
BOTTOM VIEW OF EUT

FRONT VIEW OF EUT

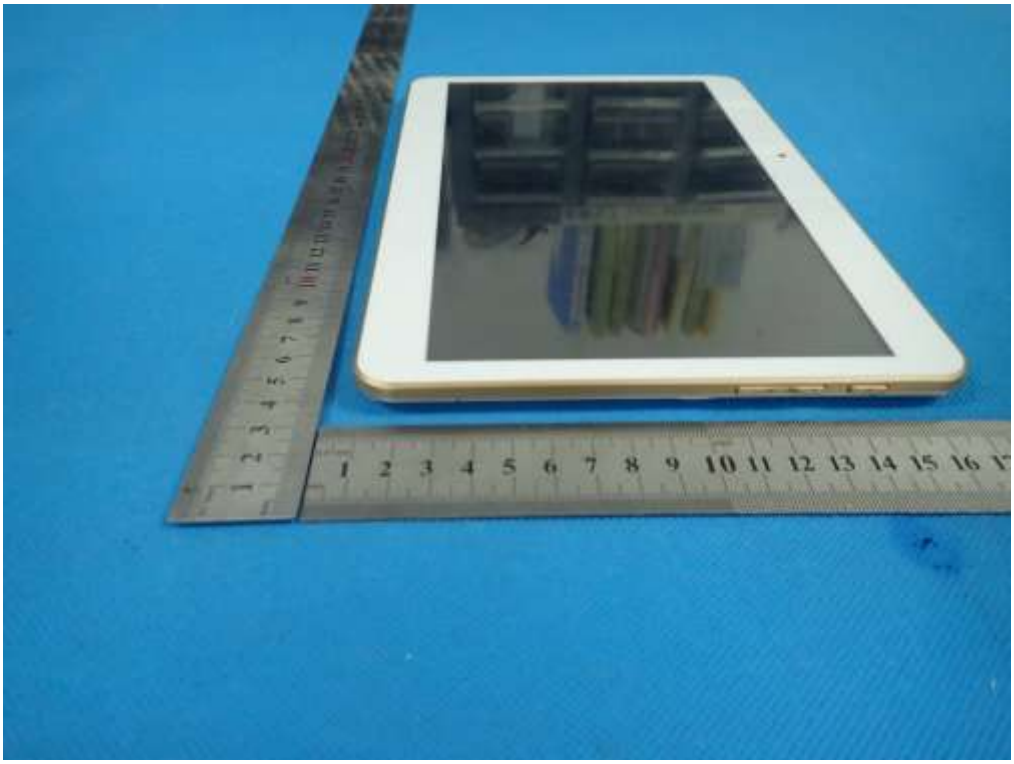


BACK VIEW OF EUT

LEFT VIEW OF EUT

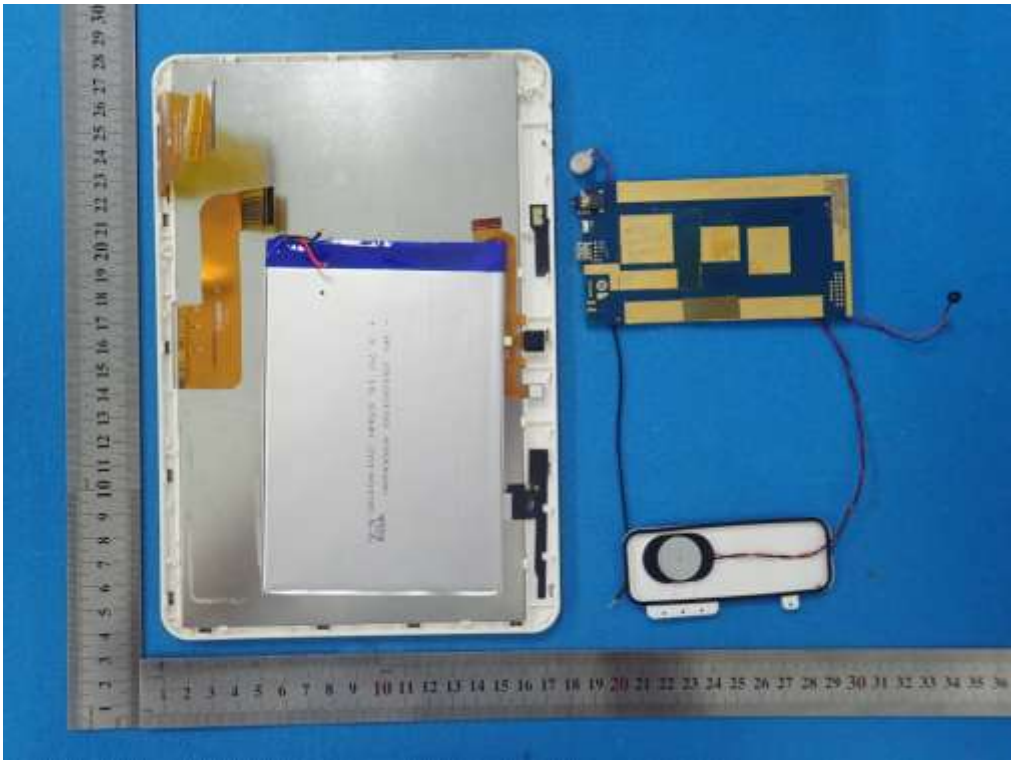


RIGHT VIEW OF EUT

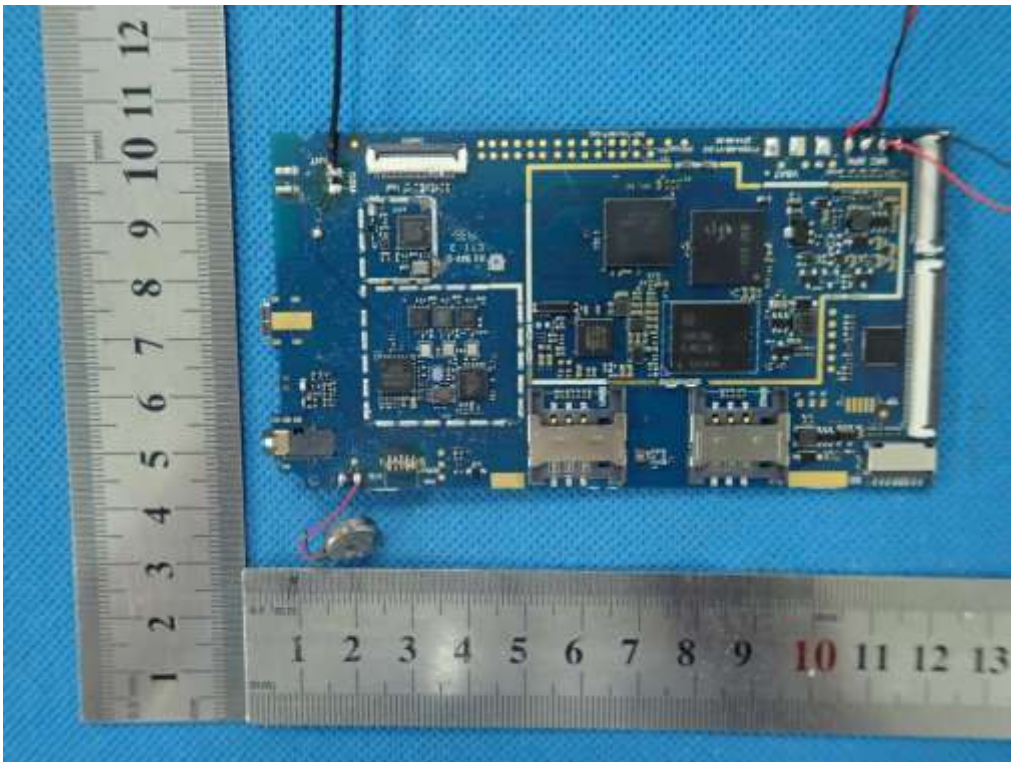


INTERNAL VIEW OF EUT-1

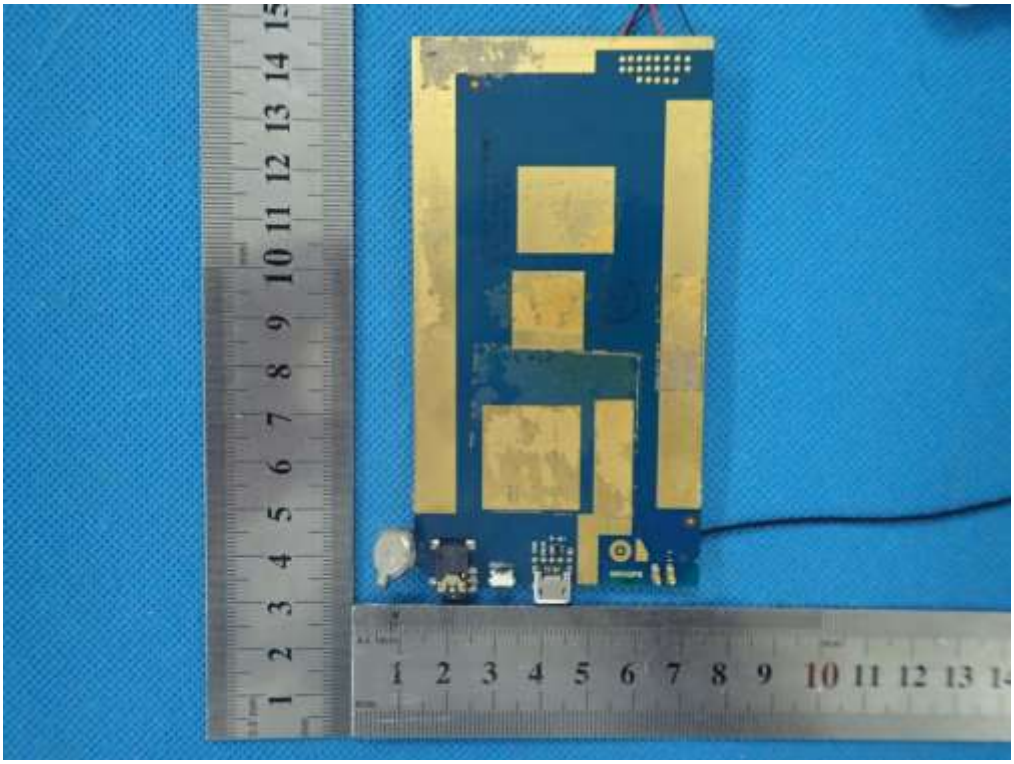
INTERNAL VIEW OF EUT-2



INTERNAL VIEW OF EUT-3



INTERNAL VIEW OF EUT-4



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