3rd Industrial Zone , Fenghuang Fuyong, BaoAn ,   Shenzhen, P.R.CHINA     Tested by:   Neutron Engineering Inc. EMC Laboratory   Date of Receipt: Jul. 18, 2011   Date of Test:   Jul. 18, 2011 ~ Jul. 24, 2011   Testing Engineer   :   Mam Laboratory   (Ivan Cao)   Technical Manager   :   Authorized Signatory   :   Spearal	F	FCC/IC Radio Test Report
Issued Date : Jul. 25, 2011 Project No. : 1107C062A Equipment : 2.4G Audio Dongle Model Name : 03041 Applicant : ShenZhen Rapoo Technology Co., Ltd. Address : Block A1, B1, B2, 1st second stage, 1st Industrial Pa 3rd Industrial Zone ,Fenghuang Fuyong, BaoAn , Shenzhen, P.R.CHINA Tested by: Neutron Engineering Inc. EMC Laboratory Date of Receipt: Jul. 18, 2011 Date of Test: Jul. 18, 2011 ~ Jul. 24, 2011 Testing Engineer : Low Mac (Ivan Cao) Technical Manager : Authorized Signatory : Sfearm Mac		
Project No.       : 1107C062A         Equipment       : 2.4G Audio Dongle         Model Name       : 03041         Applicant       : ShenZhen Rapoo Technology Co., Ltd.         Address       : Block A1,B1,B2,1st second stage, 1st Industrial Pa 3rd Industrial Zone ,Fenghuang Fuyong, BaoAn , Shenzhen, P.R.CHINA         Tested by:       Neutron Engineering Inc. EMC Laboratory         Date of Receipt: Jul. 18, 2011       Date of Test:         Jul. 18, 2011 ~ Jul. 24, 2011         Testing Engineer       :         Iterating Engineer       :         Mum Caoo)         Technical Manager       :         Authorized Signatory       :         Steward       :         Authorized Signatory       :	This repor	rt concerns (check one): Class II Change
Neutron Engineering Inc. EMC Laboratory   Date of Receipt: Jul. 18, 2011   Date of Test:   Jul. 18, 2011 ~ Jul. 24, 2011   Testing Engineer   :   Technical Manager   :   Authorized Signatory   :     Speared Laboratory		Project No.: 1107C062AEquipment: 2.4G Audio DongleModel Name: 03041Applicant: ShenZhen Rapoo Technology Co., Ltd.Address: Block A1,B1,B2,1st second stage, 1st Industrial Parl 3rd Industrial Zone ,Fenghuang Fuyong, BaoAn ,
Technical Manager : (Ivan Cao) (Leo Hung) Authorized Signatory : Steven In		Neutron Engineering Inc. EMC Laboratory Date of Receipt: Jul. 18, 2011 Date of Test:
(Leo Hung) Authorized Signatory : Steven In		
<b>i</b>		
		Authorized Signatory : Speven Lu (Steven Lu)
Neutron Engineering Inc.		Neutron Engineering Inc.



#### Declaration

**Neutron** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.** 

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**Neutron**'s laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.



Table of Contents	Page
1. CERTIFICATION	5
2 . SUMMARY OF TEST RESULTS	6
2.1 TEST FACILITY	7
2.2 MEASUREMENT UNCERTAINTY	7
3 . GENERAL INFORMATION	8
3.1 GENERAL DESCRIPTION OF EUT	8
3.2 DESCRIPTION OF TEST MODES	10
3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
3.4 DESCRIPTION OF SUPPORT UNITS	12
4 . EMC EMISSION TEST	13
4.1 CONDUCTED EMISSION MEASUREMENT	13
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	13
4.1.2 MEASUREMENT INSTRUMENTS LIST 4.1.3 TEST PROCEDURE	13 14
4.1.4 DEVIATION FROM TEST STANDARD	14
4.1.5 TEST SETUP	14
4.1.6 EUT OPERATING CONDITIONS 4.1.7 TEST RESULTS	14 15
4.1.7 TEST RESULTS 4.2 RADIATED EMISSION MEASUREMENT	15 17
4.2.1 RADIATED EMISSION MEASUREMENT 4.2.1 RADIATED EMISSION LIMITS	17
4.2.2 MEASUREMENT INSTRUMENTS LIST	18
4.2.3 TEST PROCEDURE	20
4.2.4 DEVIATION FROM TEST STANDARD 4.2.5 TEST SETUP	20 21
4.2.6 EUT OPERATING CONDITIONS	22
4.2.7 TEST RESULTS (BELOW 30MHz)	23
4.2.8 TEST RESULTS (BETWEEN 30 – 1000 MHz) 4.2.9 TEST RESULTS (ABOVE 1000 MHz)	24 28
4.2.10 TEST RESULTS (2400 – 2483.5 MHz)	20 42
5 . BANDWIDTH TEST	43
5.1 MEASUREMENT INSTRUMENTS LIST	43
5.2 TEST PROCEDURE	43
5.3 DEVIATION FROM STANDARD 5.4 TEST SETUP	43 43
5.5 EUT OPERATION CONDITIONS	43
5.6 TEST RESULTS	44



Table of Contents	Page
6 . ANTENNA CONDUCTED SPURIOUS EMISSION	46
6.1 APPLIED PROCEDURES / LIMIT	46
6.1.1 MEASUREMENT INSTRUMENTS LIST	46
6.1.2 TEST PROCEDURE	46
6.1.3 DEVIATION FROM STANDARD	46
6.1.4 TEST SETUP	46
6.1.5 EUT OPERATION CONDITIONS	46
6.1.6 TEST RESULTS	47
7 . EUT TEST PHOTO	52



# **1. CERTIFICATION**

Equipment: 2.4G Audio Dongle Brand Name : RAPOO Model Name.: 03041 Applicant: ShenZhen Rapoo Technology Co., Ltd. Date of Test: Jul. 18, 2011 ~ Jul. 24, 2011 Test Item: ENGINEERING SAMPLE Standards: FCC Part15, Subpart C(15.249)/ ANSI C63.4 : 2003 ; Canada RSS-210:2010

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FICP-1-1107C062A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).

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# 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.249) Canada RSS-210:2010					
StandardSection		Test Item	Judgment	Remark	
FCC	RSS-210		Judgment	INCHINIK	
15.207		Conducted Emission PASS			
15.209		Radiated Emission	PASS		
15.249	A2.9(a)	Radiated Spurious Emission PASS			

NOTE:

- (1)" N/A" denotes test is not applicable in this Test Report
- (2) The EUT used rechargeable Li-ion battery.



### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03**at the location of No.3, Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792 Neutron's test firm number for FCC 319330 Neutron's test firm number for IC 4428B-1

#### 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

The reported uncertainty of measurement y  $\pm$  U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately 95 %  $\circ$ 

#### A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

#### B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)	NOTE
DG-CB03	CISPR	30MHz ~ 200MHz	V	2.48	
		30MHz ~ 200MHz	Н	2.16	
		200MHz ~ 1,000MHz	V	2.50	
		200MHz ~ 1,000MHz	Н	2.66	

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# **3. GENERAL INFORMATION**

## 3.1 GENERAL DESCRIPTION OF EUT

<b>F</b> auliana at	2.40 Audia Departa			
Equipment	2.4G Audio Dongle			
Brand Name	RAPOO			
Model Name.	03041			
OEM Brand/Model Name	N/A			
Model Difference	N/A			
	The EUT is a 2.4G Aud	io Dongle.		
	Product Type	Low Power Communication Device		
	Operation Frequency:	2404~2476 MHz		
Product Description	Modulation Type:	GFSK		
	Date rate:	2Mbps		
	Number of Channel	25CH .Please see Note 2.		
T Toddet Description	Antenna Designation:	Chip antenna		
	Antenna Gain(Peak)	-2.0 dBi		
	Output Power:	59.82 dBuV/m (AV Max.)		
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification. Please refer to the User's Manual.			
Channel List	Please refer to the Note 2.			
Power Source	DC Voltage supplied from PC USB Port.			
Power Rating I/P AC 120V/60Hz, O/P DC 5V		DC 5V		
Connecting I/O Port(s)	Please refer to the Use	Please refer to the User's Manual		

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

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2.

Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2404MHz	14	2443MHz
02	2407MHz	15	2446MHz
03	2410MHz	16	2449MHz
04	2413MHz	17	2452MHz
05	2416MHz	18	2455MHz
06	2419MHz	19	2458MHz
07	2422MHz	20	2461MHz
08	2425MHz	21	2464MHz
09	2428MHz	22	2467MHz
10	2431MHz	23	2470MHz
11	2434MHz	24	2473MHz
12	2437MHz	25	2476MHz
13	2440MHz		

#### 3.

# Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Panasonic	EBMGH5A2 45FA	Chip Antenna	N/A	-2.0



#### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

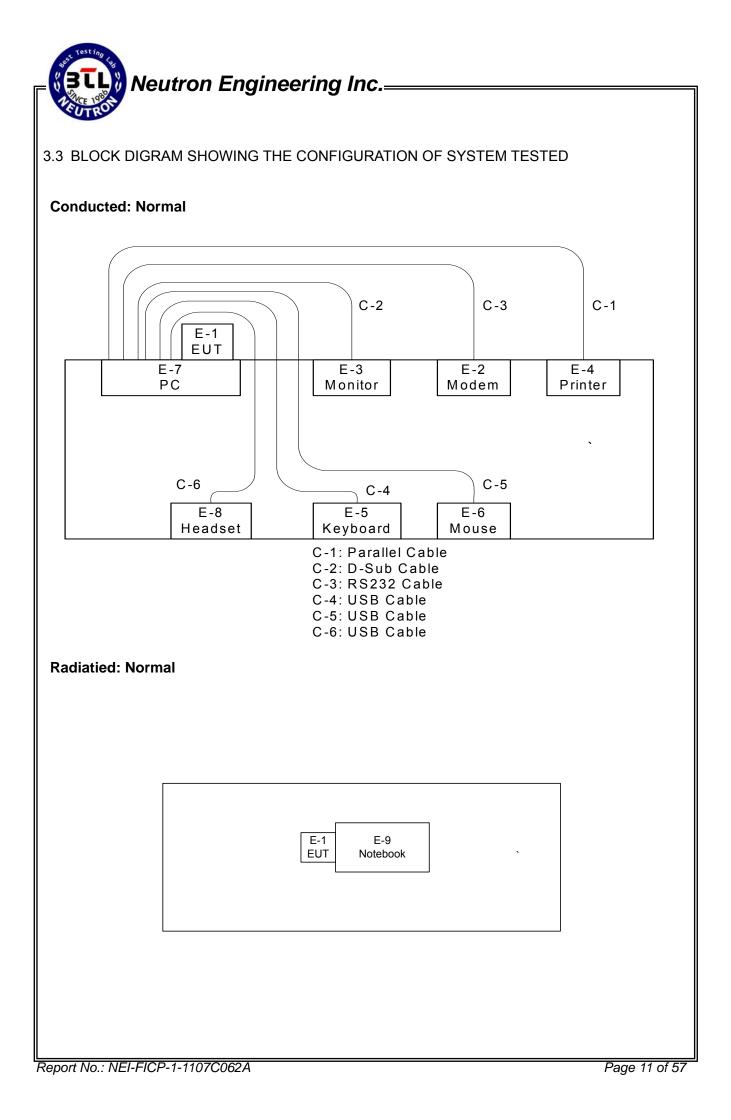
Pretest Mode	Description
Mode 1	Normal
Mode 2	CH Lower – 2404MHz
Mode 3	CH Middle – 2440MHz
Mode 4	CH Highest -2476MHz
Mode 5	RX Mode

For Conducted Test		
Final Test Mode Description		
Mode 1	Normal	

For Radiated Test				
Final Test Mode Description				
Mode 2	CH Lower – 2404MHz			
Mode 3	CH Middle – 2440MHz			
Mode 4	CH Highest -2476MHz			
Mode 5	RX Mode			

Note:

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





### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	2.4G Audio Dongle	RAPOO	03041	PP203041I	N/A	EUT
E-2	Modem	ACEEX	DM-1414V	IFAXDm1414	0603002131	
E-3	LCD monitor	Dell	E177FPc	DOC	CNOFJ179-64180- 6AG-1WNS	
E-4	Printer	SII	DPU-414	DOC	3018507 B	
E-5	USB Keyboard	Dell	L100	DOC	CNORH659658 9071T08NE	
E-6	USB Mouse	Dell	MO56UOA	DOC	FQJ000BS	
E-7	PC	HP	Dx7208	DOC	CNG7050PB7	
E-8	HEADSET	RAPOO	H3050	PP2H3050	N/A	
E-9	Notebook	Dell	Inspiron1420	DOC	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	NO	1.5M	
C-2	YES	YES	1.8M	
C-3	YES	NO	1.5M	
C-4	YES	YES	1.8M	
C-5	YES	NO	1.8M	
C-6	NO	NO	1.0M	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in m in <sup>[]</sup>Length <sup>[]</sup> column.



# 4. EMC EMISSION TEST

## 4.1 CONDUCTED EMISSION MEASUREMENT

## 4.1.1 POWER LINE CONDUCTED EMISSION LIMITS (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	Stanuaru
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

## 4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	May.26.2012
2	LISN	R&S	ENV216	100087	May.26.2012
3	Test Cable	N/A	C_17	N/A	Mar.30.2012
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	May.26.2012
5	50Ω Terminator	SHX	TF2-3G-A	08122902	May.26.2012

Remark: " N/A" denotes No Model Name. , Serial No. or No Calibration specified.

#### The following table is the setting of the receiver

Receiver Parameters	Setting	
Attenuation	10 dB	
Start Frequency	0.15 MHz	
Stop Frequency	30 MHz	
IF Bandwidth	9 kHz	

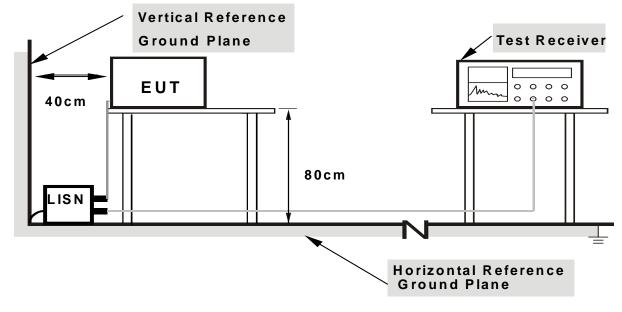


#### 4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80  $\,$ 

#### from other units and other metal planes

#### 4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting mode.

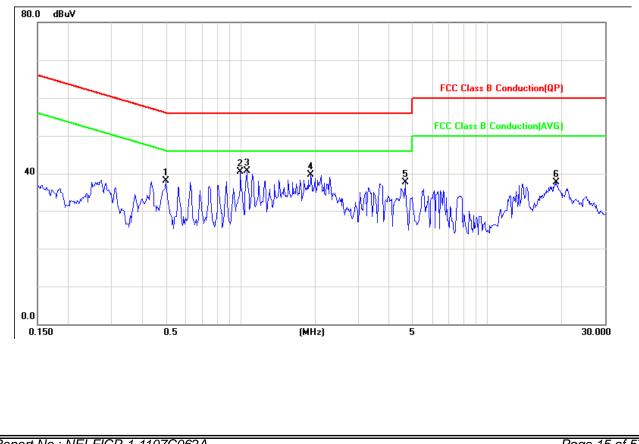
# 4.1.7 TEST RESULTS

EUT:	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>21</b> ℃	Relative Humidity :	50 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	Normal		

Freq.	Terminal	Measure	d(dBuV)	Limits/	(dBuV)	Margin	
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dB)	Note
0.50	Line	38.16	*	56.06	46.06	-17.90	(QP)
0.99	Line	40.54	*	56.00	46.00	-15.46	(QP)
1.05	Line	40.69	*	56.00	46.00	-15.31	(QP)
1.92	Line	39.69	*	56.00	46.00	-16.31	(QP)
4.65	Line	37.72	*	56.00	46.00	-18.28	(QP)
19.02	Line	37.79	*	60.00	50.00	-22.21	(QP)

#### Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note<sub>⊥</sub>. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform ∘ In this case, a "\*" marked in AVG Mode column of Interference Voltage Measured ∘
- (2) Measuring frequency range from 150KHz to 30MHz.
- (3) " N/A" denotes test is not applicable in this Test Report.



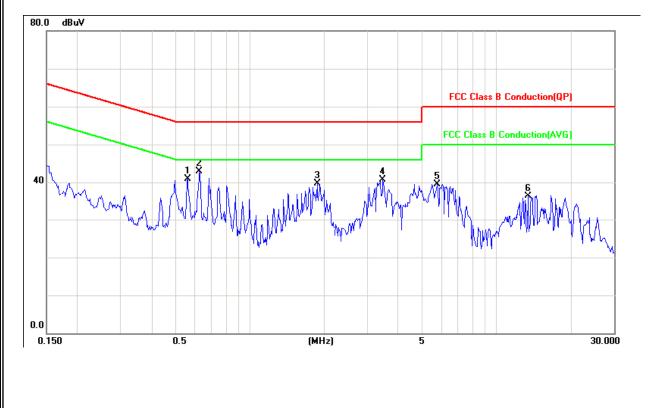


EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>21</b> ℃	Relative Humidity:	50 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	Normal		

Freq.	Terminal	Measure	d(dBuV)	Limits	(dBuV)	Margin	Note
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dB)	NOLE
0.56	Neutral	40.97	*	56.00	46.00	-15.03	(QP)
0.62	Neutral	42.97	*	56.00	46.00	-13.03	(QP)
1.87	Neutral	39.66	*	56.00	46.00	-16.34	(QP)
3.47	Neutral	40.64	*	56.00	46.00	-15.36	(QP)
5.74	Neutral	39.60	*	60.00	50.00	-20.40	(QP)
13.41	Neutral	36.37	*	60.00	50.00	-23.63	(QP)

#### Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of <sup>ℂ</sup>Note J. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform ∘ In this case, a "\*" marked in AVG Mode column of Interference Voltage Measured ∘
- (2) Measuring frequency range from 150KHz to 30MHz.
- (3) " N/A" denotes test is not applicable in this Test Report.



## 4.2 RADIATED EMISSION MEASUREMENT

#### 4.2.1 RADIATED EMISSION LIMITS (FCC 15.209)

	1	
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

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

## LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.209)

FREQUENCY (MHz)	(dBuV/m) (at 3m)		
	PEAK	AVERAGE	
Above 1000	74	54	

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

#### LIMITS OF RADIATED EMISSION MEASUREMENT (FCC Part 15.249)

FCC Part15 (15.249), Subpart C				
Limit	Frequency Range (MHz)			
Field strength of fundamental 50000 μV/m (94 dBμV/m) @ 3 m	2400-2483.5			
Field strength of harmonics 500 μV/m (54 dBμV/m) @ 3 m	Above 2483.5			

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# 4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Horn Antenna	ETS	3115	00075789	May.11.2012
2	Amplifier	Agilent	8449B	3008A02274	May.25.2012
3	Spectrum	Agilent	E4408B	US39240143	Nov.15.2011
4	Test Cable	HUBER+SUHNER	CB03 High Fre	N/A	May.02.2012
5	Bi-log Antenna	Schwarbeck	VULB9160	9160-3232	May.25.2012
6	Amplifier	HP	8447D	2944A09673	May.25.2012
7	Test Receiver	R&S	ESCI	100895	May.25.2012
8	Test Cable	N/A	C-01_CB03	N/A	Jul.04.2012
9	Controller	СТ	SC100	N/A	N/A
10	Triple Loop Antenna	R&S	HFH2-Z2	830749/020	May.26.2012
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	May.11.2012

Remark: " N/A" denotes No Model Name. / Serial No. and No Calibration specified.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted	1 MHz / 1 MHz for Peak,
band)	1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



DUTY CYCLE: TX 2404MHz (2Mbps)

Dwell time=ON/ON+OFF

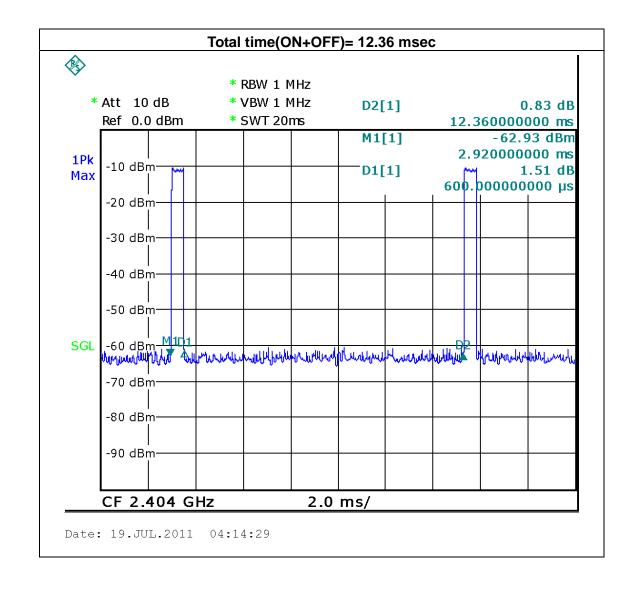
ON: 0.6msec

ON+OFF: (total time):12.36msec

Dwell time: 4.85%

AV=PK+20 log(Dwell time)

AV=PK-26.28





#### 4.2.3 TEST PROCEDURE

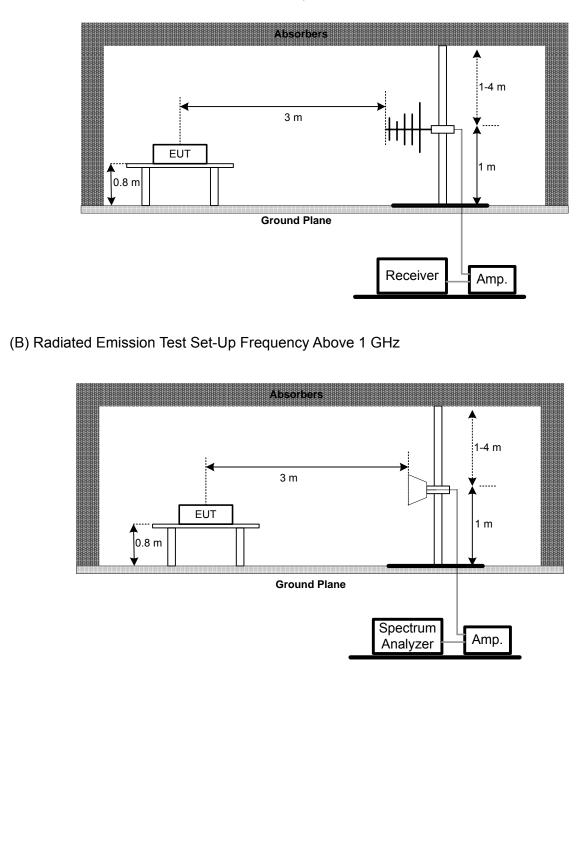
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item -EUT Test Photos.

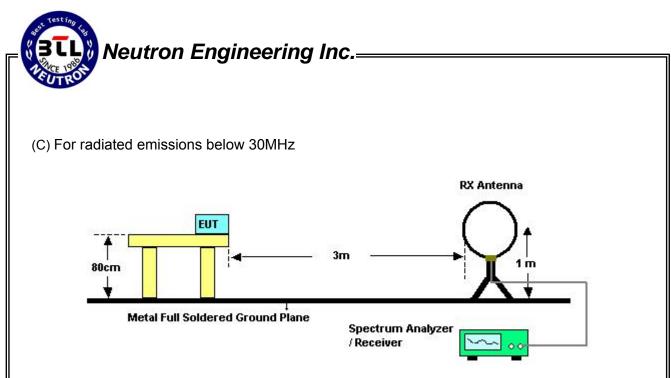
4.2.4 DEVIATION FROM TEST STANDARD No deviation

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# 4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz





## 4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

# Neutron Engineering Inc.

## 4.2.7 TEST RESULTS (BELOW 30MHz)

EUT:	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>25</b> ℃	Relative Humidity:	53 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
0.01	0°	124.37	24.30	100.07	125.65	-25.58	PK
0.02	0°	121.02	24.07	96.95	120.13	-23.18	PK
0.04	0°	68.02	23.25	44.77	116.35	-71.58	PK
0.13	0°	85.12	21.00	64.12	105.65	-41.52	PK
0.52	0°	70.25	19.88	50.37	73.22	-22.85	PK
0.70	0°	69.68	20.43	49.25	70.73	-21.48	PK

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
0.04	90°	123.25	24.33	98.92	116.67	-17.75	PK
0.03	90°	120.25	23.96	96.29	119.51	-23.22	PK
0.07	90°	69.68	22.09	47.59	111.29	-63.70	PK
0.13	90°	87.36	20.99	66.37	105.63	-39.26	PK
0.27	90°	92.02	20.36	71.66	99.13	-27.47	PK
0.59	90°	72.03	20.08	51.95	72.23	-20.27	PK

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported  $\circ$
- (2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB); •
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.  $\circ$

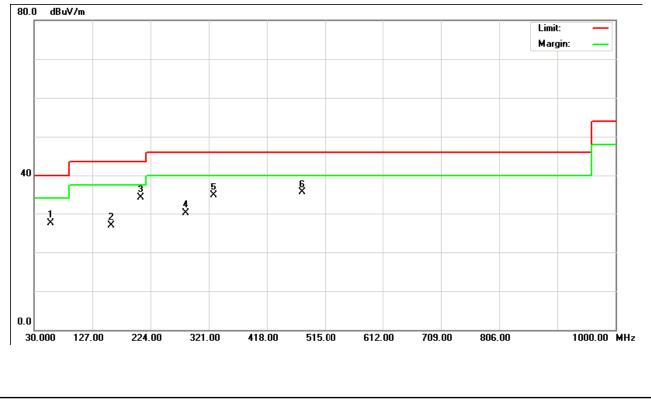


### 4.2.8 TEST RESULTS (BETWEEN 30 - 1000 MHz)

EUT:	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode 2404MHz		

	-		-				
Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
57.86	V	45.04	-17.58	27.46	40.00	- 12.54	
157.42	V	44.46	-17.63	26.83	43.50	- 16.67	
206.75	V	50.51	-16.39	34.12	43.50	- 9.38	
283.12	V	42.47	-12.46	30.01	46.00	- 15.99	
328.93	V	46.13	-11.36	34.77	46.00	- 11.23	
476.71	V	43.20	-7.71	35.49	46.00	- 10.51	

- (1) All readings are Peak unless otherwise stated QP in column of <code>"Note\_"</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (3) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

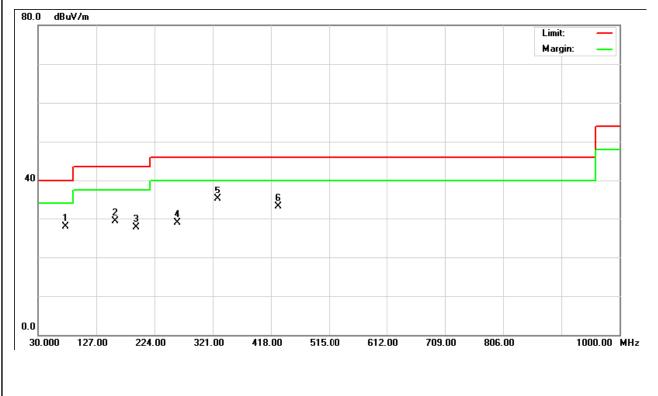




EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> ℃	Relative Humidity :	51 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode 2404MHz		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Niete
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Note
75.26	Н	46.82	-18.82	28.00	40.00	- 12.00	
157.79	Н	46.87	-17.64	29.23	43.50	- 14.27	
192.37	Н	44.39	-16.70	27.69	43.50	- 15.81	
261.31	Н	42.74	-13.77	28.97	46.00	- 17.03	
328.54	Н	46.53	-11.37	35.16	46.00	- 10.84	
429.28	Н	41.58	-8.49	33.09	46.00	- 12.91	

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ° "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission •
- (4) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

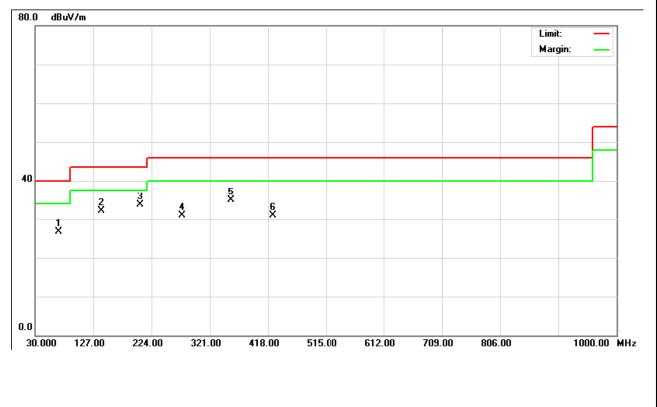




EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity :	51 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	RX Mode		

		1					
Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
69.25	V	44.87	-18.24	26.63	40.00	- 13.37	
139.65	V	49.81	-17.75	32.06	43.50	- 11.44	
205.34	V	50.23	-16.43	33.80	43.50	- 9.70	
275.26	V	43.90	-12.94	30.96	46.00	- 15.04	
356.24	V	45.52	-10.61	34.91	46.00	- 11.09	
425.57	V	39.43	-8.56	30.87	46.00	- 15.13	

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ° "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

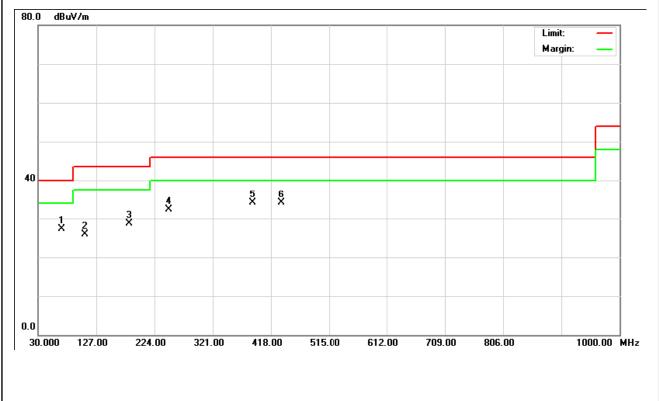




EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> ℃	Relative Humidity :	51 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	RX Mode		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	note
68.26	Н	45.41	-18.08	27.33	40.00	- 12.67	
106.32	Н	44.35	-18.36	25.99	43.50	- 17.51	
181.70	Н	45.48	-16.86	28.62	43.50	- 14.88	
247.60	Н	46.92	-14.70	32.22	46.00	- 13.78	
386.34	Н	43.65	-9.52	34.13	46.00	- 11.87	
435.26	Н	42.40	-8.39	34.01	46.00	- 11.99	

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ° "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission •
- (4) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

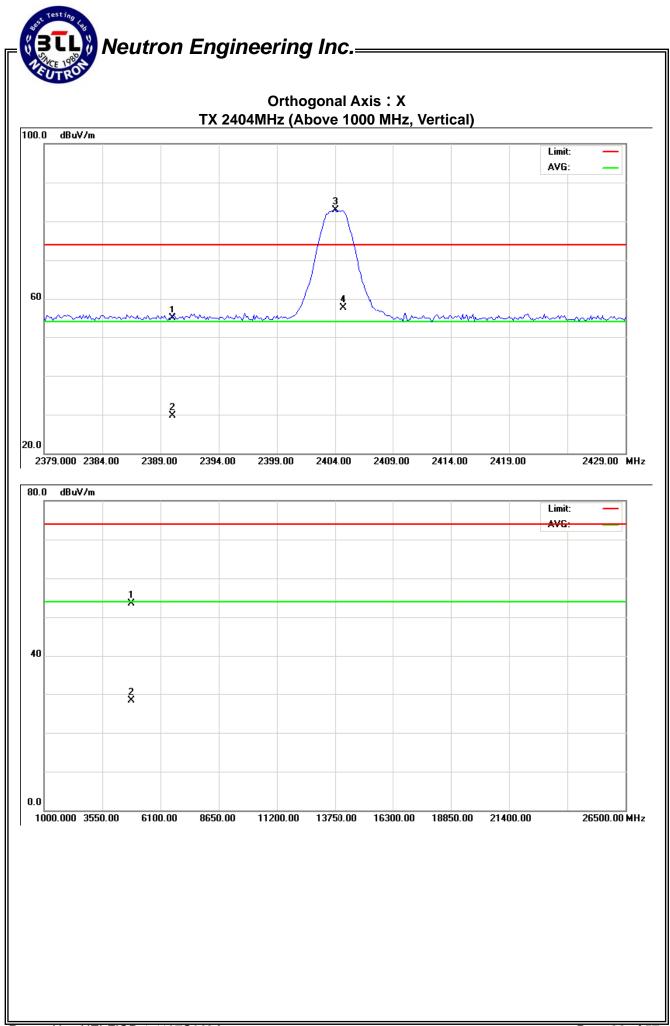


### 4.2.9 TEST RESULTS (ABOVE 1000 MHz)

EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX 2404MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	A	ct.	Lir	nit	
		Peak	AV		Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	23.33	-2.95	31.61	54.94	28.66	74.00	54.00	X/E
2404.75	V	51.33	25.05	31.60	82.93	56.65	114.00	94.00	X/F
4808.15	V	48.27	21.99	5.23	53.50	27.22	74.00	54.00	X/H

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency.
   "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis:
  - "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28

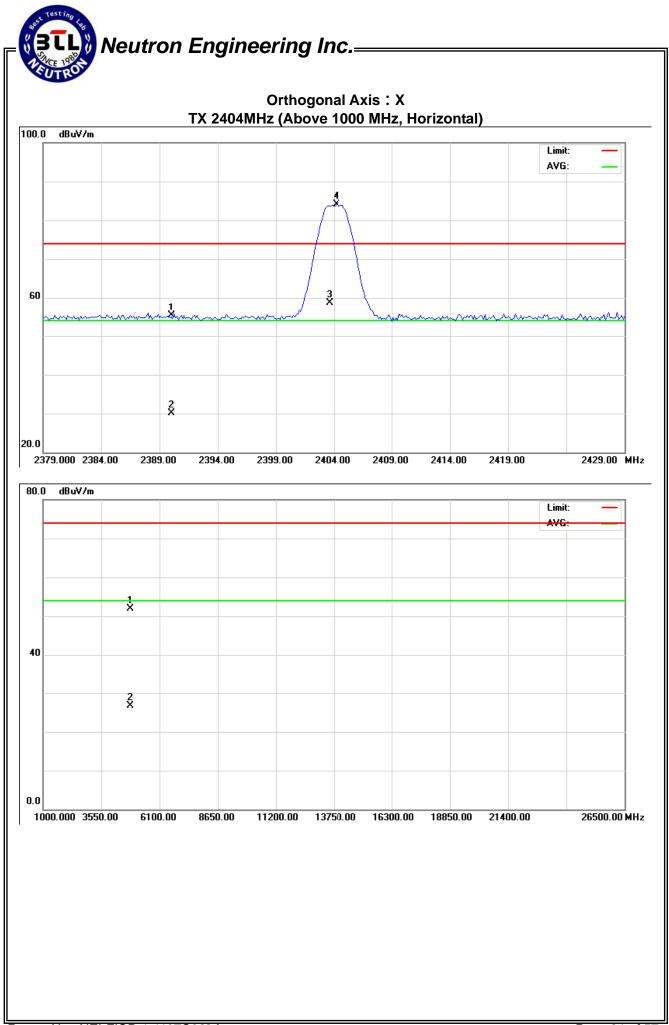




EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX 2404MHz		

	Freq.	Ant.Pol.	Reading		Ant./CF	A	ct.	Lir	nit	
			Peak	AV		Peak	AV	Peak	AV	Note
	(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
[	2390.00	Н	23.77	-2.51	31.61	55.38	29.10	74.00	54.00	X/E
	2404.25	Н	52.43	26.15	31.60	84.03	57.75	114.00	94.00	X/F
	4808.12	Н	46.75	20.47	5.23	51.98	25.70	74.00	54.00	X/H

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis:
  - "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The average value of fundamental frequency is:
   Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28

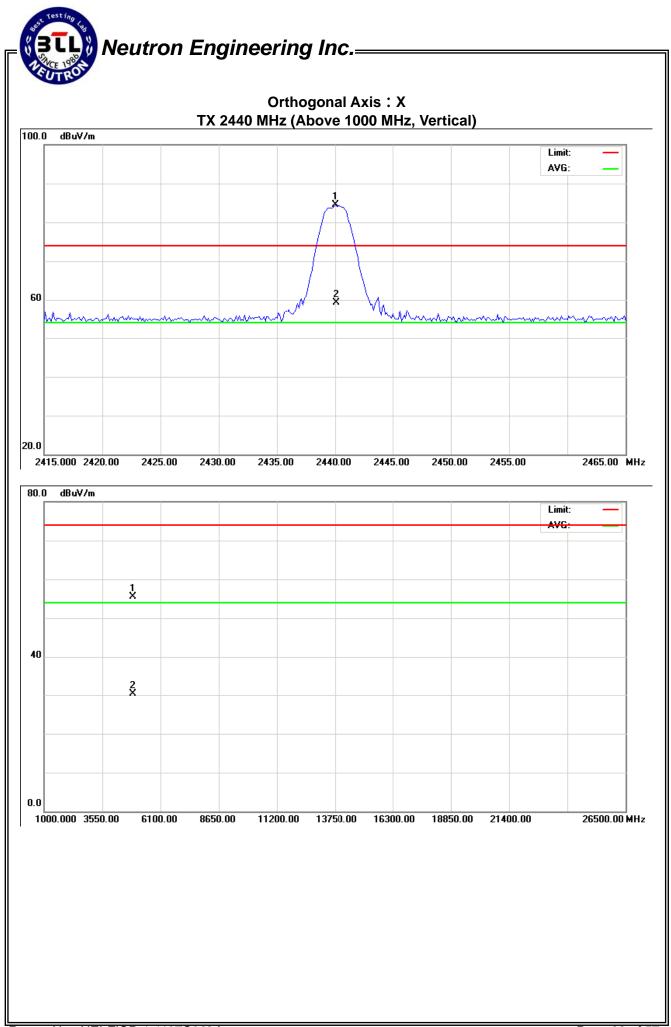




EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX 2440MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		
		Peak	AV		Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.00	V	53.02	26.28	31.55	84.57	57.83	114.00	94.00	X/F
4880.27	V	50.06	23.78	5.49	55.55	29.27	74.00	54.00	X/H

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis : "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28





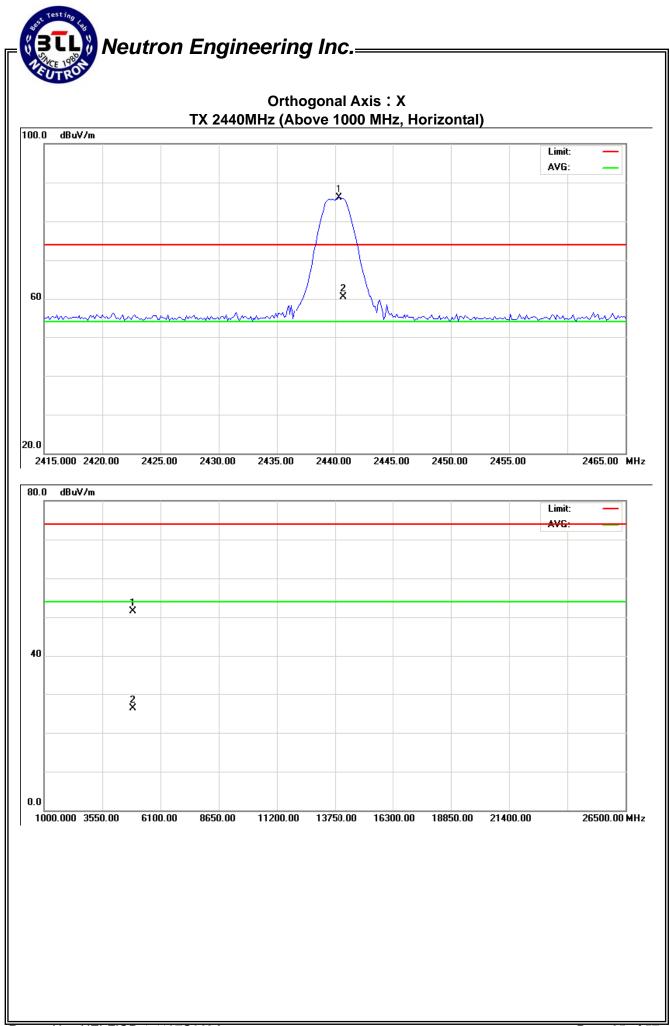
EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX 2440MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	A	ct.	Lir	nit	
		Peak	AV		Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.38	Н	54.55	28.27	31.55	86.10	59.82	114.00	94.00	X/F
4880.13	Н	46.02	19.74	5.49	51.51	25.23	74.00	54.00	X/H

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency.
   "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission •
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis:

"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand

- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The average value of fundamental frequency is:
   Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28

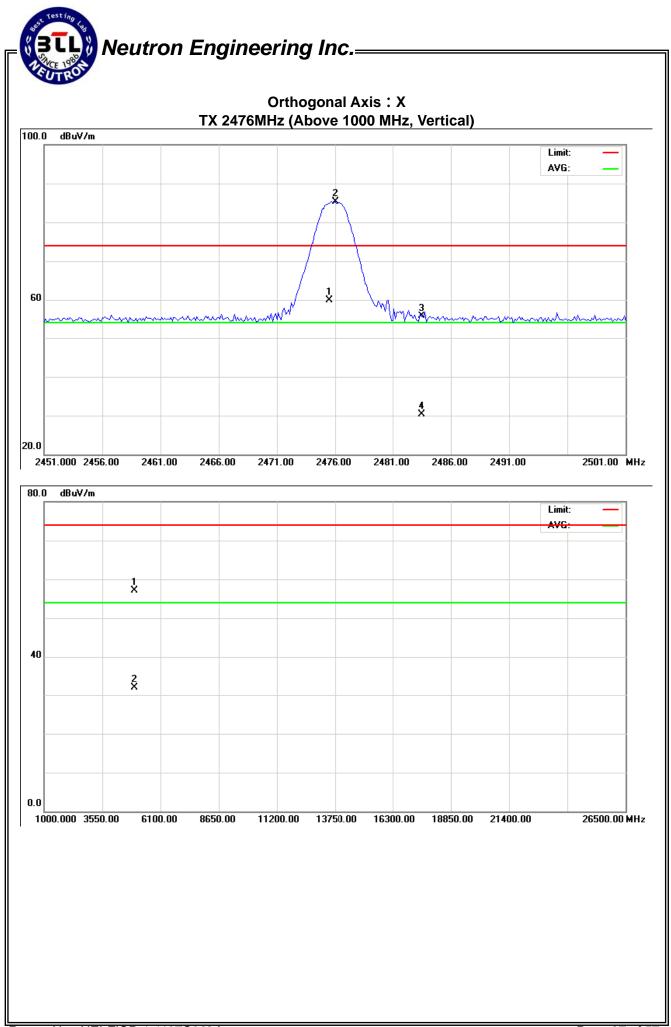




EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX 2476MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		
		Peak	AV		Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2476.00	V	53.74	27.46	31.51	85.25	58.97	114.00	94.00	X/F
2483.50	V	24.12	-2.16	31.50	55.62	29.34	74.00	54.00	X/E
4952.13	V	51.35	25.07	5.76	57.11	30.83	74.00	54.00	X/H

- (1) All readings are Peak unless otherwise stated QP in column of <code>"Note\_"</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis : "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28



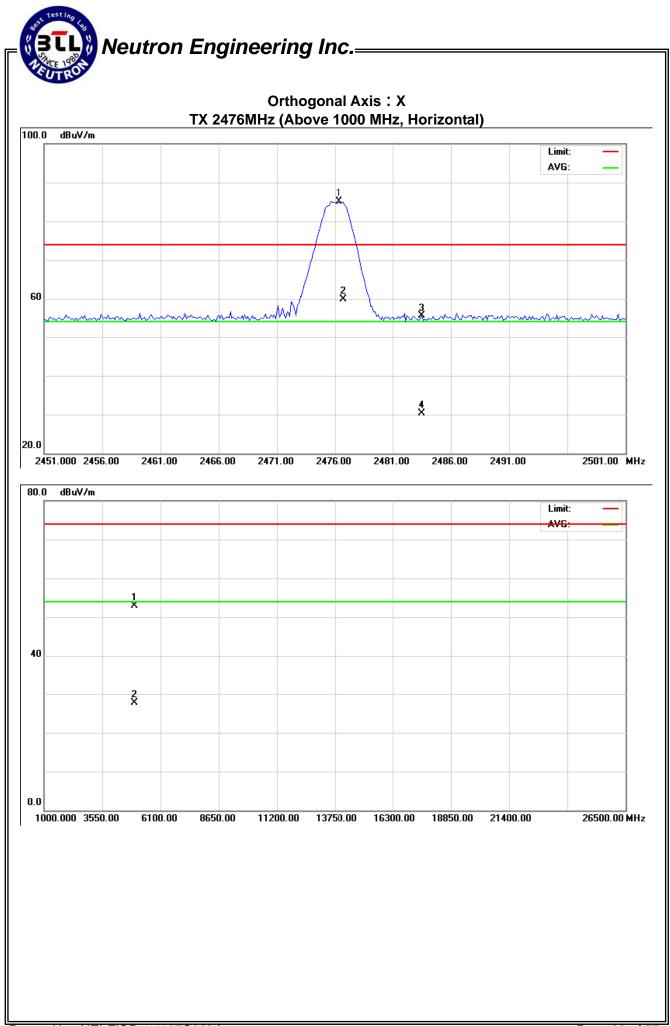


EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX 2476MHz		

Γ	Freq.	Ant.Pol.	Rea	ding	Ant./CF	A	ct.	Lir	nit	
			Peak	AV		Peak	AV	Peak	AV	Note
	(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
	2476.38	Н	53.60	27.32	31.51	85.11	58.83	114.00	94.00	X/F
	2483.50	Н	24.06	-2.22	31.50	55.56	29.28	74.00	54.00	X/E
	4951.96	Н	47.21	20.93	5.75	52.96	26.68	74.00	54.00	X/H

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis:
  - "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The average value of fundamental frequency is:Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28





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Pressu	Iode : Ant.F z) H/\ 12 V rk : (1) All rea that th perfor (2) Measu fundau "E" du Requi	Peak (dBuV 56.58 dings are F e Peak rea m ∘ uring freque mental freque enotes bar	e Reading AV (dBuV (dBuV 44.64 Peak unless ding compl ency range uency °F" (	-4.72 s otherwise s iance with the from 1000	Peak	r : AV AV (dBuV/m) 39.92 column of 『 and then QI	Peak (dBuV/m) 74.00 Note』. Pea	mit AV (dBuV/m) 54.00 ak denotes	
Test M Freq (MHz 1655.1	Iode : Ant.F z) H/\ 12 V rk : (1) All rea that th perfor (2) Measu fundau "E" du Requi	RX Mode Pol. F Peak (dBuV 56.58 dings are F e Peak rea m ∘ uring freque mental freque enotes bar	e Reading AV (dBuV (dBuV 44.64 Peak unless ding compl ency range uency °F" (	CF(dB) -4.72	Peak (dBuV/m) 51.86 stated QP in one QP Limits	ct. AV (dBuV/m) 39.92 column of 『 and then QI	Lir Peak (dBuV/m) 74.00 Note』. Pea	mit AV (dBuV/m) 54.00 ak denotes	X/
Freq (MHz 1655.1	Ant.F z) H/\ 12 V rk : (1) All rea that th perfon (2) Measu fundau "E" du Requi	Pol. F Peak / (dBuV 56.58 dings are F e Peak rea m ∘ uring freque mental freque	Reading AV ) (dBuV 44.64 Peak unless ding compl ency range uency∘"F" (	CF(dB) -4.72	Peak (dBuV/m) 51.86 stated QP in the QP Limits	AV (dBuV/m) 39.92 column of 『 and then QI	Peak (dBuV/m) 74.00 Note』. Pea	AV (dBuV/m) 54.00 ak denotes	X/
(MHz 1655.1	z) H/\ 12 V rk : (1) All rea that th perfon (2) Measu fundau "E" du Requi	Peak (dBuV 56.58 dings are F e Peak rea m ∘ uring freque mental freque enotes bar	AV (dBuV 44.64 Peak unless ding compl ency range uency°"F" (	CF(dB) -4.72	Peak (dBuV/m) 51.86 stated QP in the QP Limits	AV (dBuV/m) 39.92 column of 『 and then QI	Peak (dBuV/m) 74.00 Note』. Pea	AV (dBuV/m) 54.00 ak denotes	X/
(MHz 1655.1	z) H/\ 12 V rk : (1) All rea that th perfon (2) Measu fundau "E" du Requi	Peak (dBuV 56.58 dings are F e Peak rea m ∘ uring freque mental freque enotes bar	AV (dBuV 44.64 Peak unless ding compl ency range uency°"F" (	CF(dB) -4.72	Peak (dBuV/m) 51.86 stated QP in the QP Limits	AV (dBuV/m) 39.92 column of 『 and then QI	Peak (dBuV/m) 74.00 Note』. Pea	AV (dBuV/m) 54.00 ak denotes	X/
1655.1	rk : (1) All rea that th perfor (2) Measu fundau "E" du Requi	/ (dBuV 56.58 dings are F e Peak rea m ∘ uring freque mental freque enotes bar	) (dBuV 44.64 Peak unless ding compl ency range uency °"F" (	-4.72 s otherwise s iance with the from 1000	(dBuV/m) 51.86 stated QP in the QP Limits	(dBuV/m) 39.92 column of 『 and then Ql	(dBuV/m) 74.00 Note』. Pea	(dBuV/m) 54.00 ak denotes	X/
1655.1	rk : (1) All rea that th perfor (2) Measu fundau "E" du Requi	dings are F e Peak rea m ∘ uring freque mental freque enotes bar	44.64 Peak unless ding compl ency range uency∘"F" (	-4.72 s otherwise s iance with the from 1000	51.86 stated QP in one QP Limits	39.92	74.00	54.00	
	rk : (1) All rea that th perfon (2) Measu fundau "E" du Requi	dings are F e Peak rea m ∘ uring freque mental frequ enotes bar	Peak unless ding compl ency range uency∘"F" (	s otherwise s iance with th from 1000	stated QP in one QP Limits	column of 『 and then Ql	Note』. Pea	ak denotes	
Remai	<ul> <li>(1) All reathat the performance of the per</li></ul>	e Peak rea m ∘ uring freque mental freque enotes bar	ding compl ency range uency∘"F" (	iance with th from 1000	ne QP Limits	and then QI			
	<ul> <li>instrur</li> <li>(4) Data of reading streng</li> <li>(5) A premease</li> <li>(6) EUT (6)</li> </ul>	nent using of measure g of emission th is too sm amp and urement sen Drthogonal <i>b</i>	ons measu Peak detec ment withir ons are atte nall to be m high pass nsitivity. Axis :	requency. ( tred in frequent this frequent enuated mo easured. filter were	damental free This judgme uency range nd AV detecto ncy range sh re than 20dB used for th	uency; "H" ent method above 100 or mode of th own " * " in below the p his test in	denotes spu includes to 00MHz were he emission the table a permissible order to p	urious frequ the Band e made wi ove mear limits or the rovide suff	Edg that that that that that that that tha
	X - 0	enotes Laic	a on Table	, Y - denot	es Vertical St	and, Z - C	aenotes Sidi	e Stand	
80.0	dBu¥/m								
								.imit: — . <del>VG: —</del>	
									4
									-
-1									-
×									
40 2 X									



EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>23</b> °C	Relative Humidity:	51%
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	RX Mode		

Freq.	Ant.Pol.	Rea	ding	Ant./CF	A	ct.	Lir	mit	
		Peak	AV		Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
1715.26	Н	53.54	42.36	-4.05	49.49	38.31	74.00	54.00	X/E

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of <code>"Note\_"</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency<sup>o</sup>"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission  $\circ$
- (4) Data of measurement within this frequency range shown "\*" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis:
  - "X" denotes Laid on Table ; "Y" denotes Vertical Stand ; "Z" denotes Side Stand





#### 4.2.10 TEST RESULTS (2400 - 2483.5 MHz)

EUT:	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>20</b> °C	Relative Humidity:	55 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX CH 2404MHz/2440MHz/247	76MHz -ANT A	

		Peak	AV		Peak	AV	Peak	AV	
Freq.	Ant. Pol.	Rea	ding	Ant./CL/	Actua	alFS	Lim	it3m	
(MHz)	(H/V)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	NOTE
2404.75	V	51.33	25.05	31.60	82.93	56.65	114.00	94.00	CH01
2404.25	H	52.43	26.15	31.60	84.03	57.75	114.00	94.00	CH01
2440.00	V	53.02	26.28	31.55	84.57	57.83	114.00	94.00	CH13
2440.38	H	54.55	28.27	31.55	86.10	59.82	114.00	94.00	CH13
2476.00	V	53.74	27.46	31.51	85.25	58.97	114.00	94.00	CH25
2476.38	H	53.60	27.32	31.51	85.11	58.83	114.00	94.00	CH25

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of <code>"Note\_"</code>. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission  $\circ$
- (3) Data of measurement within this frequency range shown "\*" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) EUT Orthogonal Axis:

"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand

(5) The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) , Final AV=PK-26.28



#### 5. BANDWIDTH TEST

#### 5.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: " N/A" denotes No Model Name. , Serial No. or No Calibration specified.

#### 5.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = 2.5 ms.

#### 5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 5.5 EUT OPERATION CONDITIONS

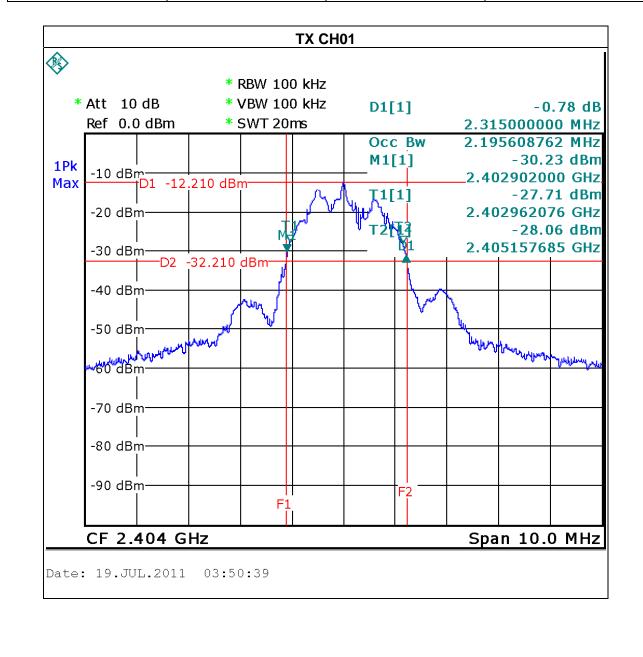
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

# Neutron Engineering Inc.=

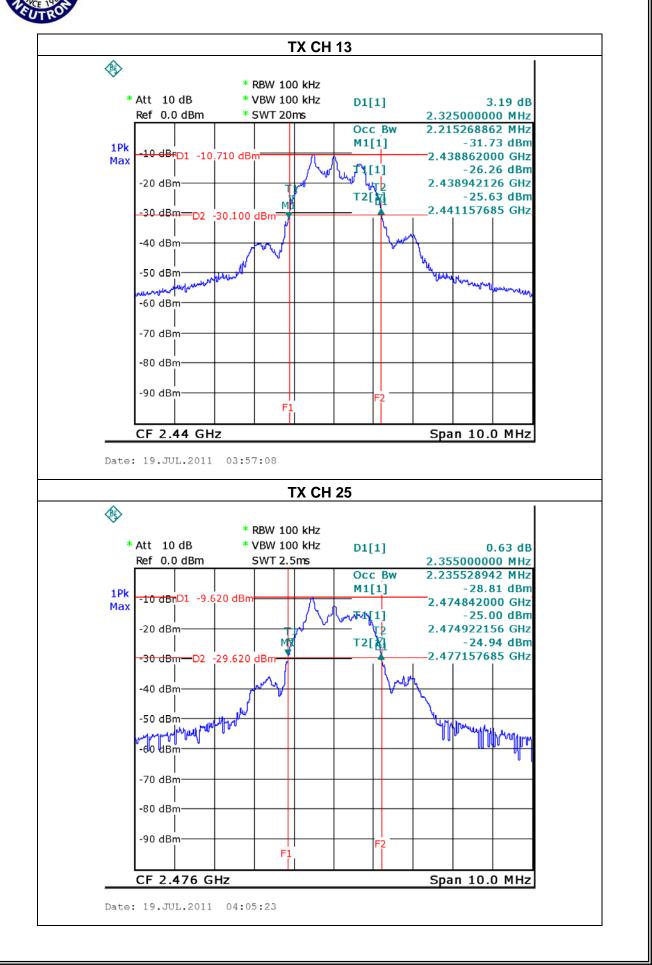
5.6 TEST RESULTS

EUT :	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>20</b> °C	Relative Humidity:	55 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX CH 01/13/25		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (MHz)	99% occupied Bandwidth(MHz)
CH01	2404	2.315	2.196
CH13	2440	2.325	2.215
CH25	2476	2.355	2.236



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## 6. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 6.1 APPLIED PROCEDURES / LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below 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

#### 6.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: " N/A" denotes No Model Name. , Serial No. or No Calibration specified.

#### 6.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms.

#### 6.1.3 DEVIATION FROM STANDARD

No deviation.

#### 6.1.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 6.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



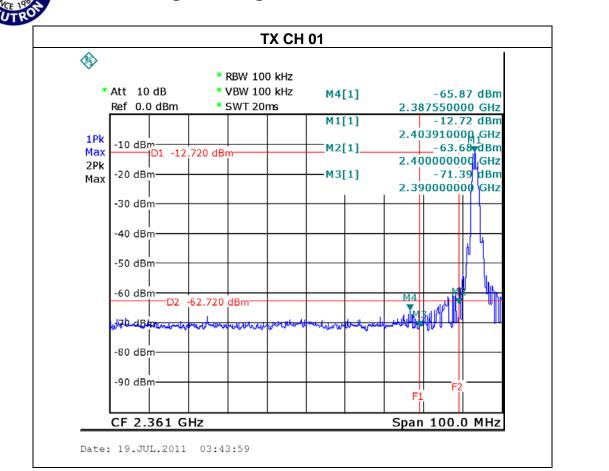
#### 6.1.6 TEST RESULTS

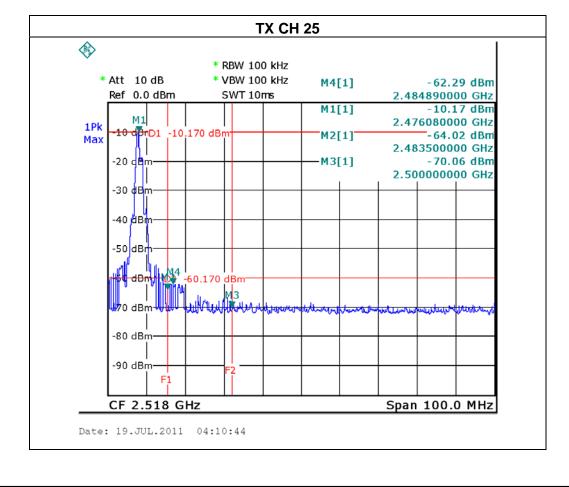
EUT:	2.4G Audio Dongle	Model Name. :	03041
Temperature :	<b>20</b> °C	Relative Humidity :	55 %
Pressure :	1009 hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX CH01, CH13, CH25		

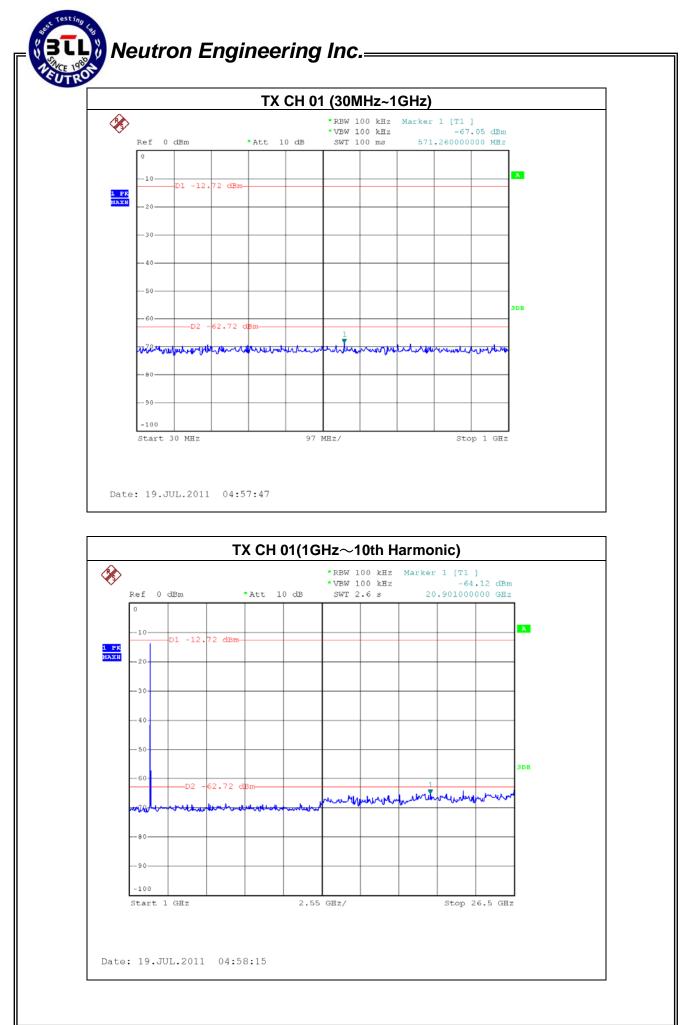
Channel of Worst Data: CH25								
The max. radio frequent bandwidth outside		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.						
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)					
2387.55	-65.87	2484.89	-62.29					
Result								

In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 50dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.

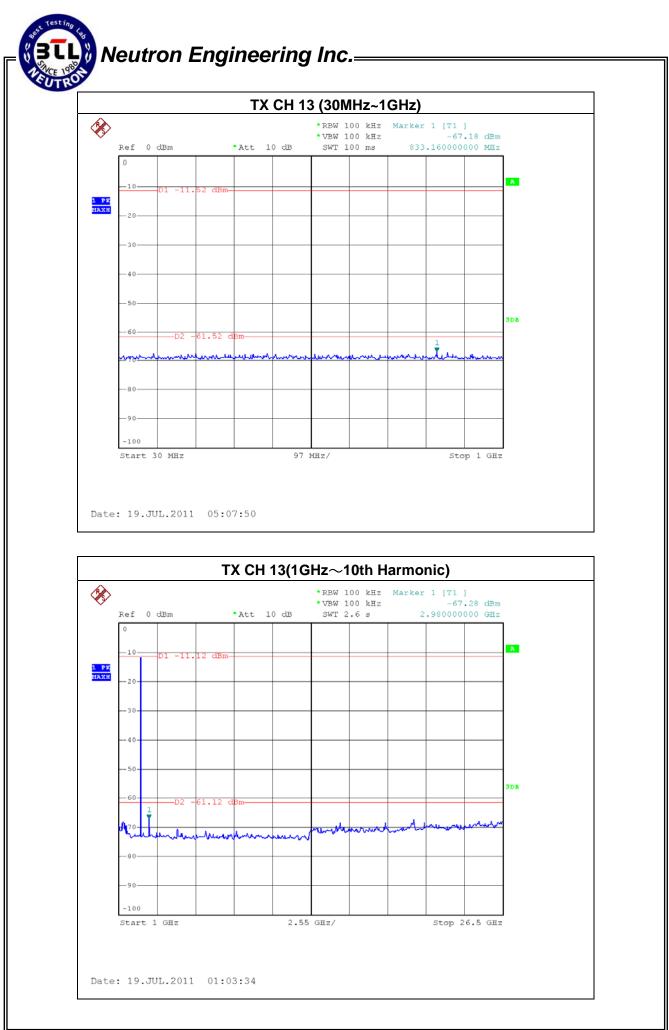
# Neutron Engineering Inc.



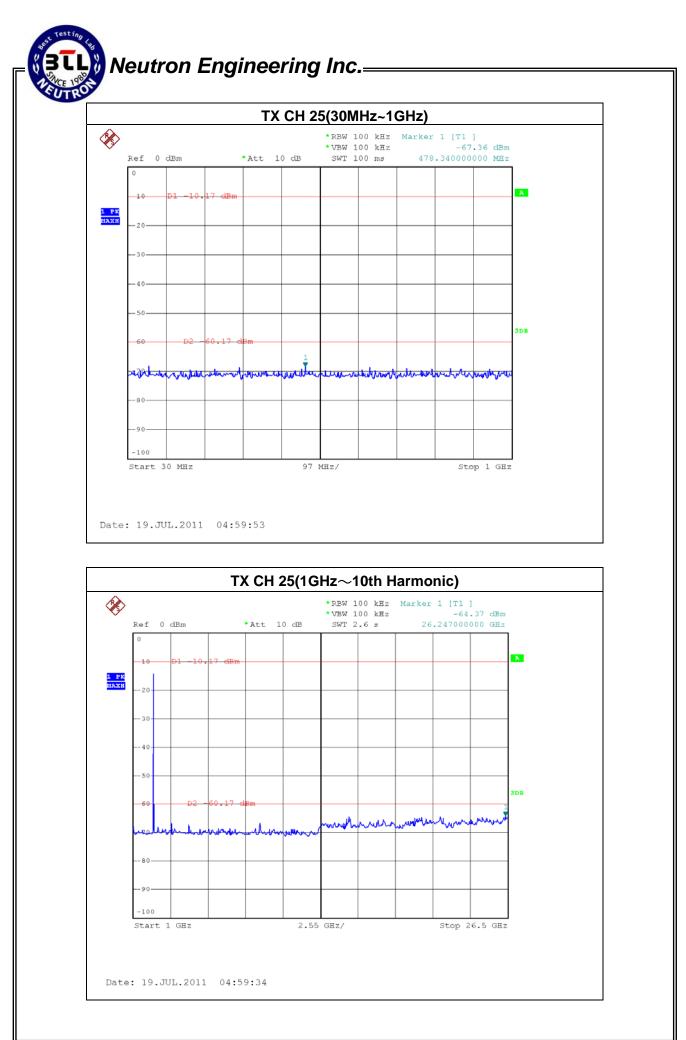




Report No.: NEI-FICP-1-1107C062A



Report No.: NEI-FICP-1-1107C062A



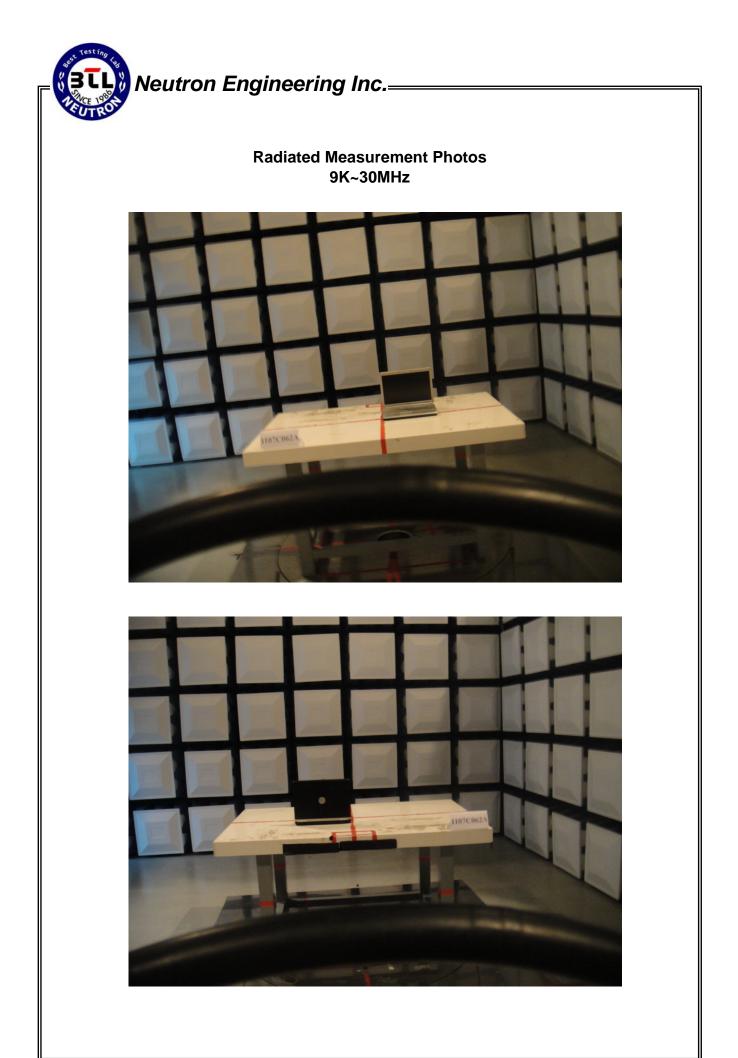
Report No.: NEI-FICP-1-1107C062A





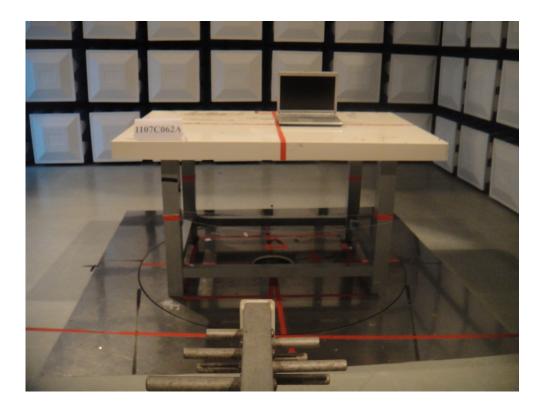
## Conducted Measurement Photos Normal

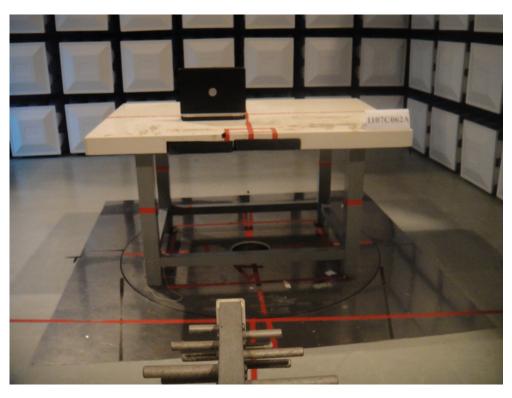






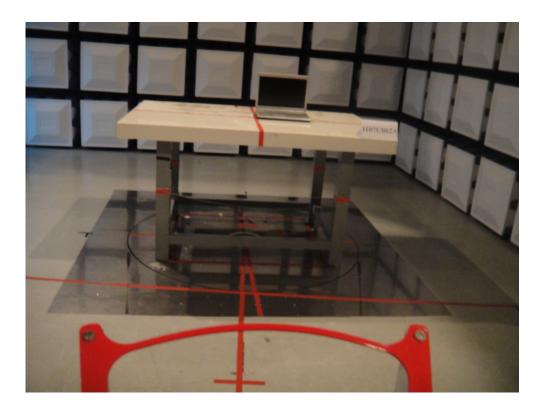
# Radiated Measurement Photos 30M~1000MHz

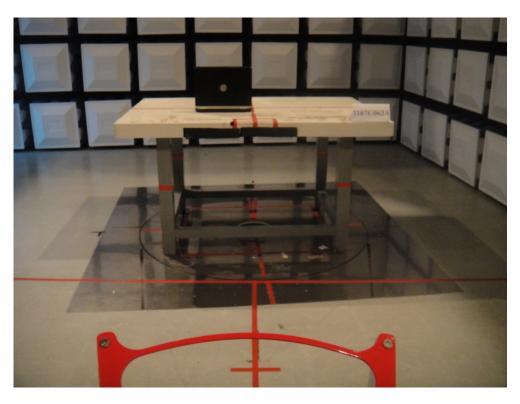






## Radiated Measurement Photos Above 1000MHz







# **Radiated Measurement Photos**

