



	-CC Radio Test Report
	FCC ID: QISBG2-W09
This report concerns (	check one): ⊠Original Grant
Project No. Equipment	<ul> <li>1701C220</li> <li>HUAWEI MediaPad T3 7.0 (MediaPad T3 7.0 for abort)</li> </ul>
Model Name Applicant Address	<ul> <li>short)</li> <li>BG2-W09</li> <li>Huawei Technologies Co., Ltd.</li> <li>Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C</li> </ul>
Date of Rece Date of Test Issued Date Tested by	: Jan. 23, 2017 ~ Feb. 17, 2017
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### Declaration

BIL

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**BTL**'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.



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### **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-2-1701C220	Original Issue.	Feb. 20, 2017





### **1. CERTIFICATION**

Brand Name :   Model Name :   Applicant :   Manufacturer :   Address : /	BG2-W09 Huawei Technologies Co., Ltd. Huawei Technologies Co., Ltd. Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
	Bantian, Longgang District, Shenzhen, 518129, P.R.C
	Huawei Technologies Co., Ltd.
	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Date of Test : .	Jan. 23, 2017 ~ Feb. 17, 2017
Test Sample :	Engineering Sample
	FCC Part15, Subpart C (15.247) ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-2-1701C220) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

### Test results included in this report is only for the RSE part of Bluetooth LE.



### 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

### Applied Standard(s): FCC Part15 (15.247) , Subpart C

Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)/ 15.205/ 15.209	Transmitter Radiated Emissions	PASS	

NOTE:

(1)" N/A" denotes test is not applicable to this device.



### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China. BTL's test firm number for FCC: 319330

### 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 BTL measurement uncertainty is less than the CISPR 16-4-2  $U_{cispr}$  requirement.

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

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150 KHz ~ 30MHz	2.32

### B. Radiated <u>Measurement:</u>

Test Site	Method Measurement Frequency Range		Ant. H / V	U, (dB)
		9KHz~30MHz	V	3.79
		9KHz~30MHz	Н	3.57
		30MHz ~ 200MHz	V	3.82
DG-CB03 C		30MHz ~ 200MHz	H	3.78
	CISPR	200MHz ~ 1,000MHz	V	4.10
DG-CB03		200MHz ~ 1,000MHz	H	4.06
		1GHz~18GHz	V	3.12
		1GHz~18GHz	H	3.68
		18GHz~40GHz	V	4.15
		18GHz~40GHz	Н	4.14

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.



### **3. GENERAL INFORMATION**

### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	HUAWEI MediaPad T3 7.0 (MediaPad T3 7.0 for short)			
Brand Name	HUAWEI	HUAWEI		
Model Name	BG2-W09			
Model Difference	N/A	N/A		
Product Description	Operation Frequency	2402~2480 MHz		
	Modulation Technology	GFSK(1Mbps)		
	Bit Rate of Transmitter	Gr Gr((msp3)		
Power Source	<ul><li>#1 DC voltage supplied from adapter.</li><li>#2 Supplied from battery.</li></ul>			
Power Rating	#1 ~100V-~240V~ #2 DC 3.8V 3000mAh			
HW Version	SH1BG2W09LM			
SW Version	BG2-W09C128B001T01-log			

### Note:

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

### 2. The EUT contains following accessory devices

ltem	Mfr/Brand	Model.
Battery	Sunwoda Electronic Co., LTD	HB396481EBC
	JIANGXI LIANCHUANG HONGSHENG	22040150
	ELECTRONIC CO., LTD	22040150
Earphone	BOLUO COUNTY QUANCHENG ELECTRONIC	22040450
	CO., LTD	22040150
	Goer Tek Inc	22040150
	Shenzhen Luxshare Precision Industry Co.,Ltd.	L99U2017-CS-H
USB	FOXCONN INTERCONNECT TECHNOLOGY	
Cable	LIMITED	CUBB01M-HC304-DH
	HONGLIN TECHNOLOGY CO., LTD	130-26988
	DONGGUAN PHITEK ELECTRONICS CO.,LTD.	HW-050100U01
Adapter	SHENZHEN HUNTKEY ELECTRONIC CO.,LTD.	HW-050100A01
	· · · · · · · · · · · · · · · · · · ·	HW-050100E01
	HUIZHOU BYD ELECTRONIC CO., LTD.	HW-050100B01



### 3. Channel List:

Channel		Channel	
	(MHz)		(MHz)
00	2402	20	2442
01	2404	21	2444
02	2406	22	2446
03	2408	23	2448
04	2410	24	2450
05	2412	25	2452
06	2414	26	2454
07	2416	27	2456
08	2418	28	2458
09	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base 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	TX Mode NOTE (1)

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

	For Conducted Test
Final Test Mode	Description
Mode 1	TX Mode

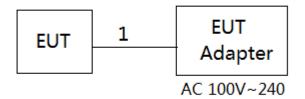
For Radiated Test			
Final Test Mode	Description		
Mode 1	TX Mode NOTE (1)		

Note:

(1) The measurements are performed at the high, low available channels.



### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### **3.5 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.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.2m	USB Cable



### 4. EMC EMISSION TEST

### 4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency of Emission (MHz)	Conducted Limit (dBµV)		
Frequency of Emission (MHz)	Quasi-peak	Average	
0.15 -0.5	66 to 56*	56 to 46*	
0.50 -5.0	56	46	
5.0 -30.0	60	50	

Note:

(1) The limit of " \* " decreases with the logarithm of the frequency

- (2) The test result calculated as following:
  - Measurement Value = Reading Level + Correct Factor
  - Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use) Margin Level = Measurement Value - Limit Value

### 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	

### 4.1.2 TEST PROCEDURE

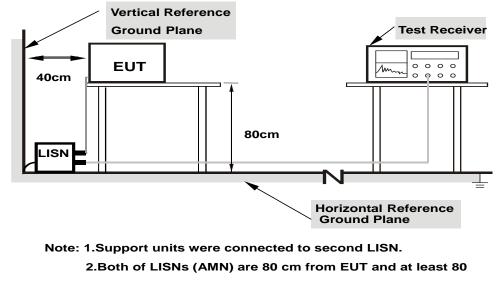
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 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.

### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation



### 4.1.4 TEST SETUP



from other units and other metal planes

### 4.1.5 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.

### 4.1.6 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 60% Test Voltage: AC 120V/60Hz

### 4.1.7 TEST RESULTS

Please refer to the Attachment A.

Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. 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 to this device.



### 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 RADIATED EMISSION LIMITS

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.

### LIMITS OF RADIATED EMISSION MEASUREMENT (9KHz-1000MHz)

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	Band edge at 3m (dBµV/m)		Harmonic at 1.5m (dBµV/m)	
Frequency (IVIFIZ)	Peak	Average	Peak	Average
Above 1000	74	54	80 (Note 5)	60(Note 5)

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).
- (4) The test result calculated as following: Measurement Value = Reading Level + Correct Factor Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
  - Margin Level = Measurement Value Limit Value

(5)

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

20log d limit/d measure=20log 3/1.5=6dB.



Spectrum Parameter	Setting		
Attenuation	Auto		
Start Frequency	1000 MHz		
Stop Frequency	10th carrier harmonic		
RBW / VBW	RBW 1MHz VBW 3MHz peak detector for Pk value		
(Emission in restricted band)	RMS detector for AV value		

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency 110KHz~490KHz for PK/AVG detector	
Start ~ Stop Frequency 490KHz~30MHz for QP detector	
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

### 4.2.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; 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. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

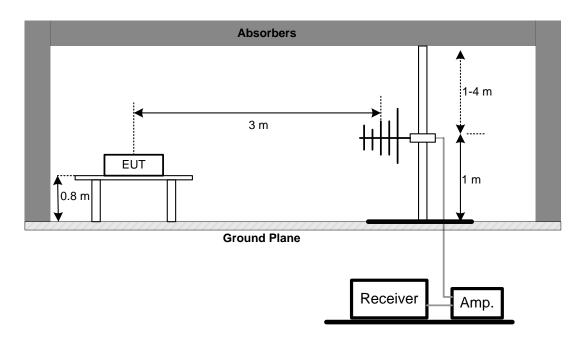
### 4.2.3 DEVIATION FROM TEST STANDARD

No deviation



### 4.2.4 TEST SETUP

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





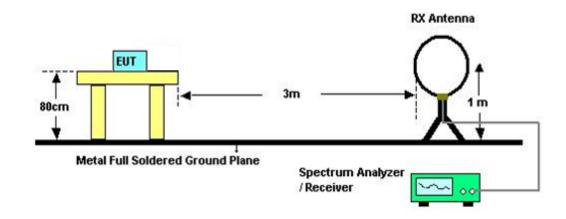


# (B) Radiated Emission Test Set-Up Frequency Above 1 GHz Band edge Absorbers 1-4 m 3 m EUT 0.7 m 1 m 0.8 m Absorbers 1 0.3 m Ground Plane Receiver L.... Amp. Harmonic Absorbers 1-4 m 1.5 m EUT 0.7 m 1 m 0.8 m 🗘 0.3 m Absorbers **Ground Plane** Receiver Amp.





(C) For radiated emissions below 30MHz



### 4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 4.2.6 EUT TEST CONDITIONS

Temperature: 22°C Relative Humidity: 56% Test Voltage: AC 120V/60Hz

### 4.2.7TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

### 4.2.8TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

### 4.2.9TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test. Г



### 5. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	LISN	EMCO	3816/2	0052765	Mar. 27, 2017			
2	LISN	R&S	ENV216	101447	Mar. 27, 2017			
3	Test Cable	emci	RG223(9KHz-30M Hz)	C_17	Mar. 10, 2017			
4	EMI Test Receiver	R&S	ESCI	100382	Mar. 27, 2017			
5	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 27, 2017			
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A			

	Radiated Emission Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 27, 2017		
2	Amplifier	HP	8447D	2944A09673	Nov. 08, 2017		
3	Receiver	AGILENT	N9038A	MY52130039	Oct. 10, 2017		
4	Test Cable	emci	LMR-400(30MH z-1GHz)	C-01	Jun. 26, 2017		
5	Control	СТ	SC100	N/A	N/A		
6	Position Control	MF	MF-7802	MF780208416	N/A		
7	Antenna	ETS	3115	00075789	Mar. 27, 2017		
8	Amplifier	Agilent	8449B	3008A02274	Nov. 01, 2017		
9	Receiver	AGILENT	N9038A	MY52130039	Oct. 10, 2017		
10	Test Cable	emci	EMC104-SM-S M-10000(1GHz - 26.5GHz)	C-68	Jun. 26, 2017		
11	Controller	СТ	SC100	N/A	N/A		
12	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017		
13	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 27, 2017		
14	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 06, 2017		
15	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		

Remark: "N/A" denotes no model name, serial no. or calibration specified.

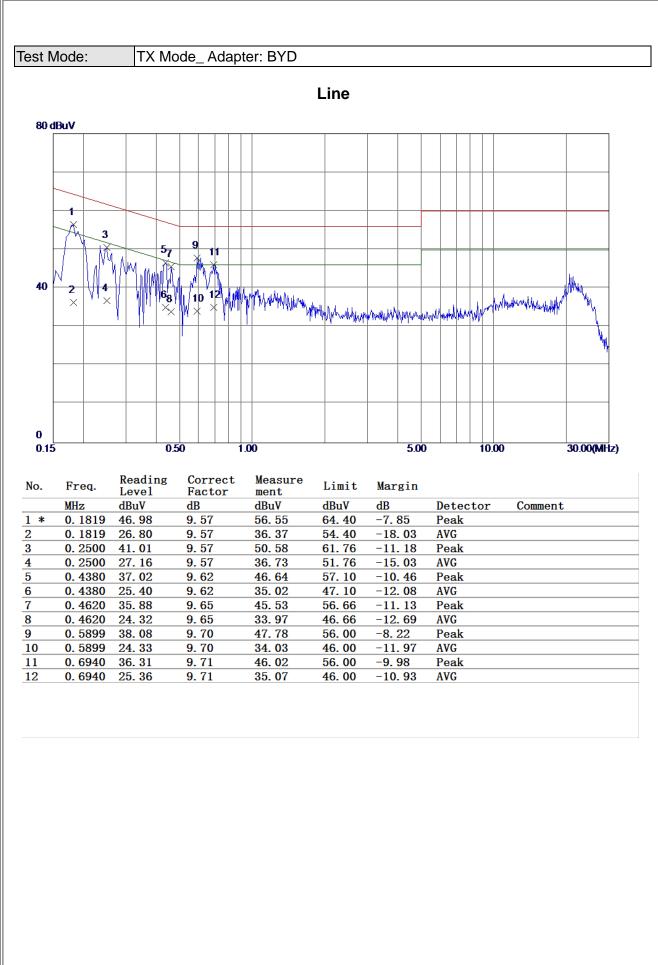
All calibration period of equipment list is one year.



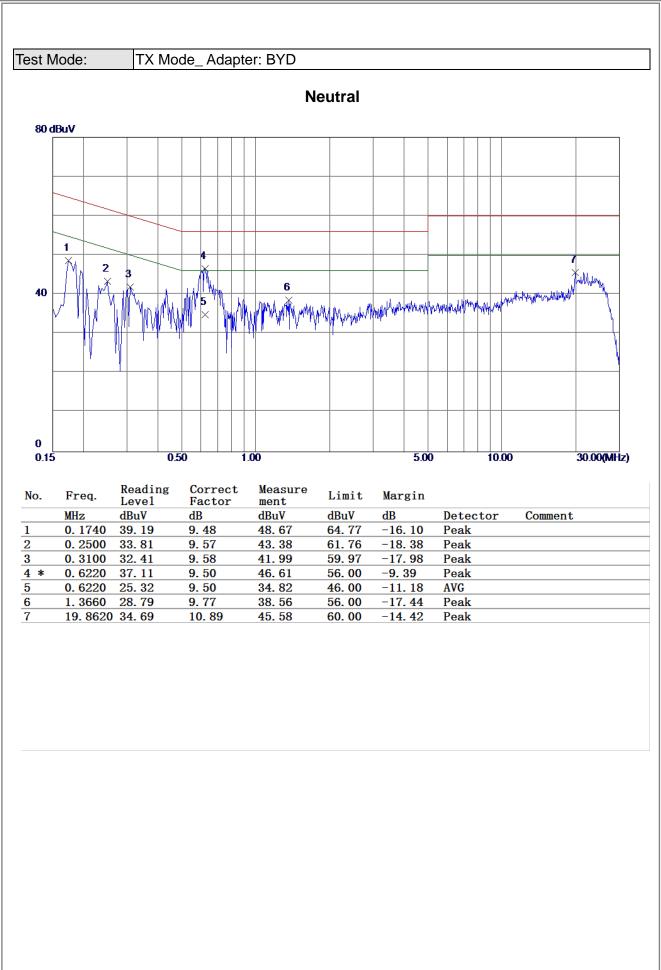
# **ATTACHMENT A - CONDUCTED EMISSION**

# **STL**



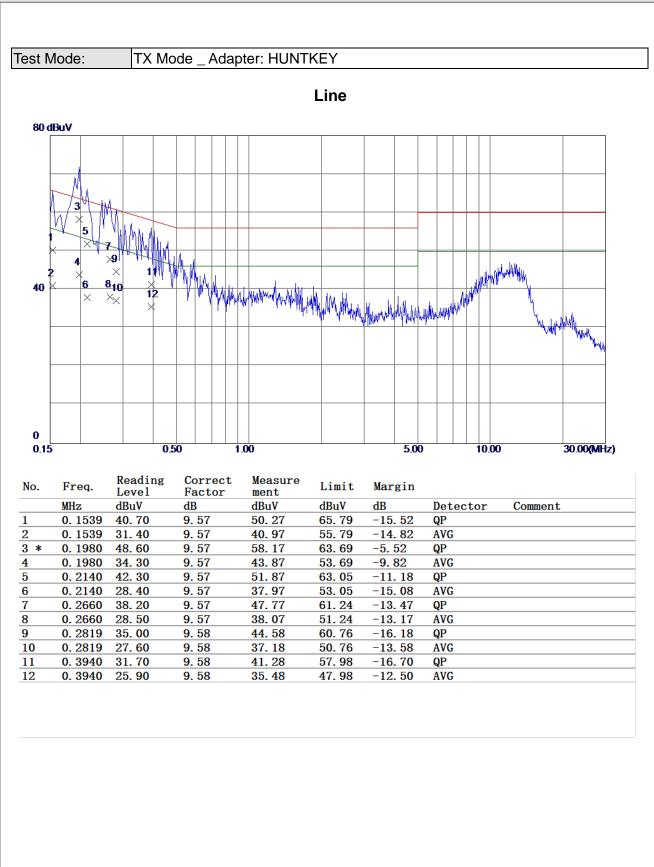




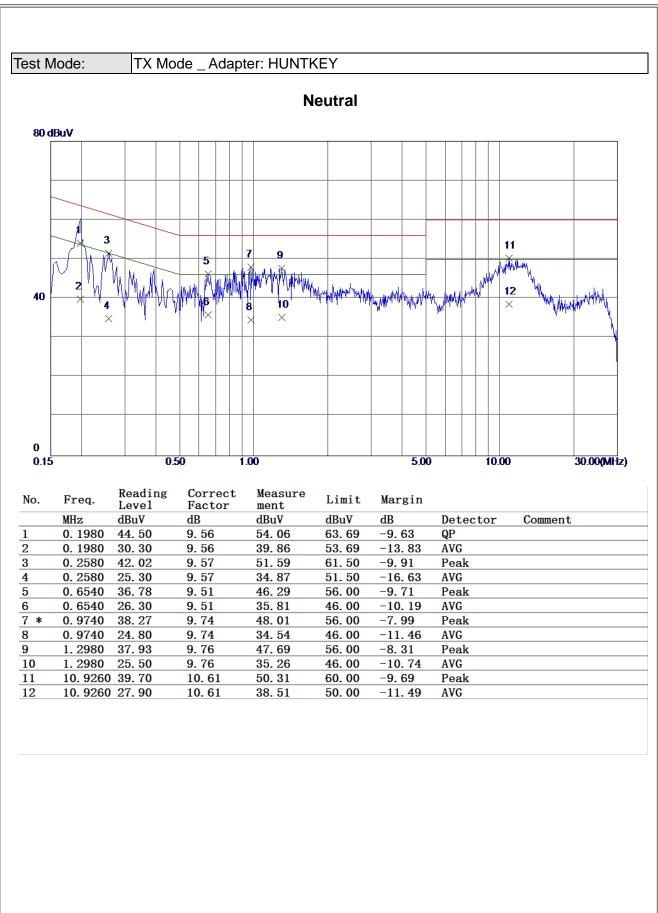


# **STL**

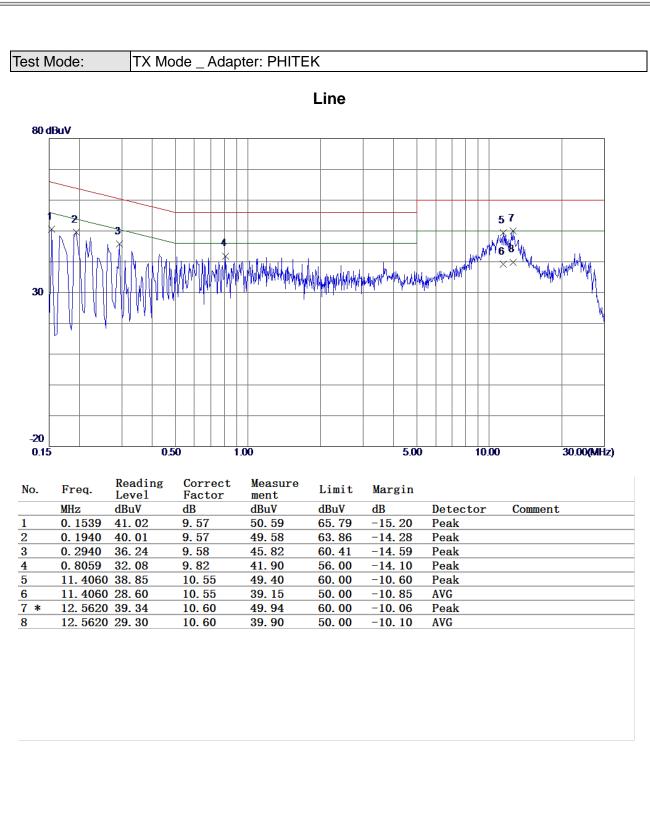




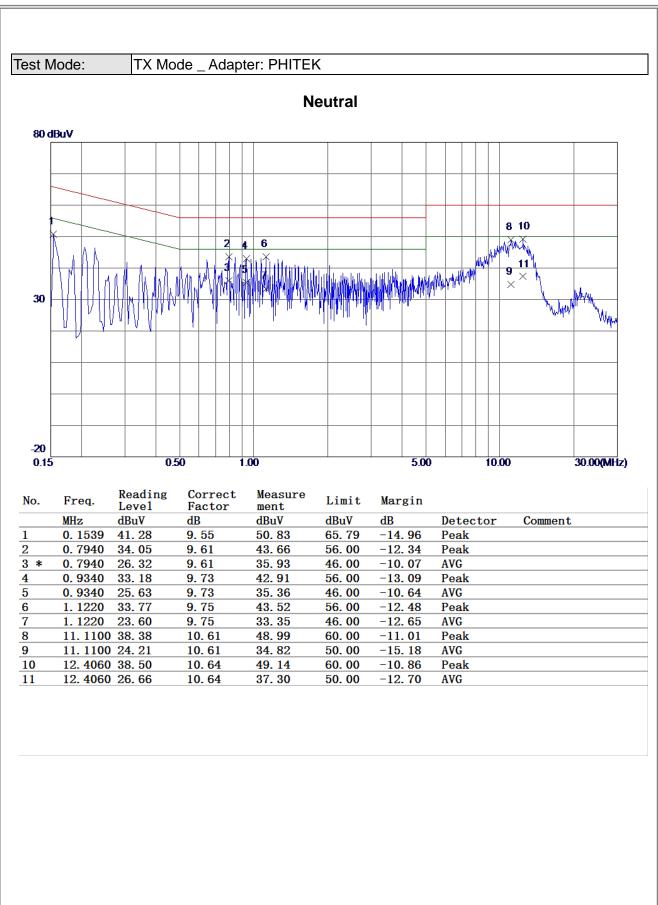








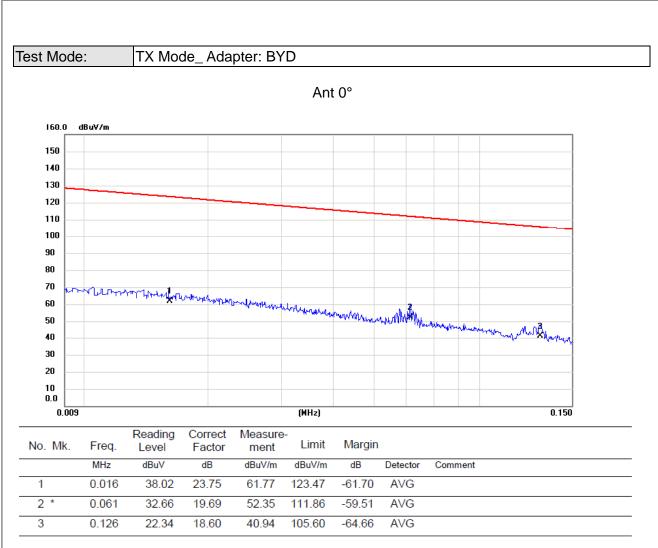




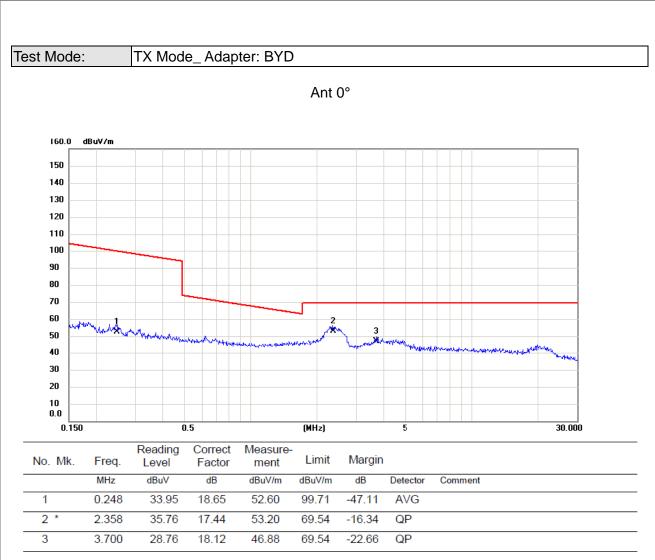


## ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)

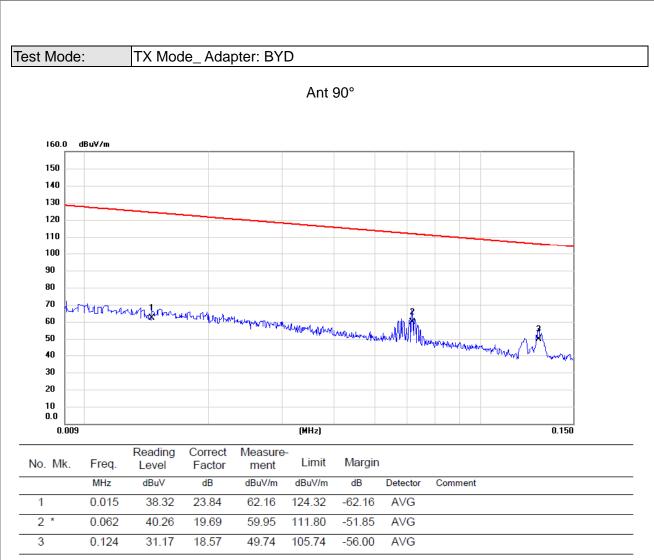




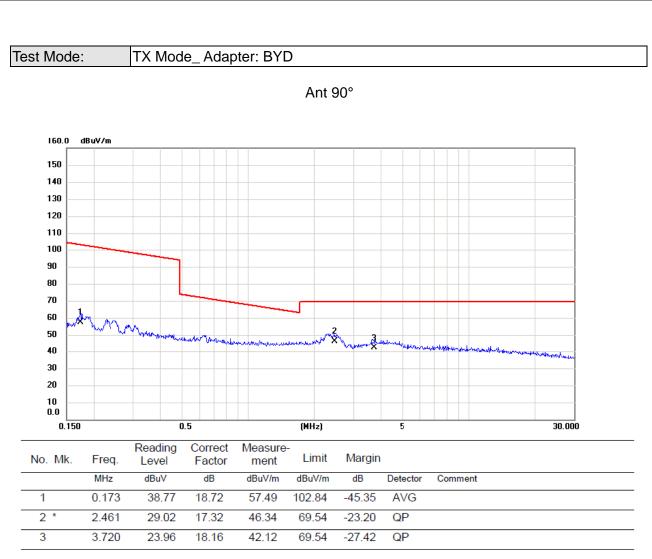




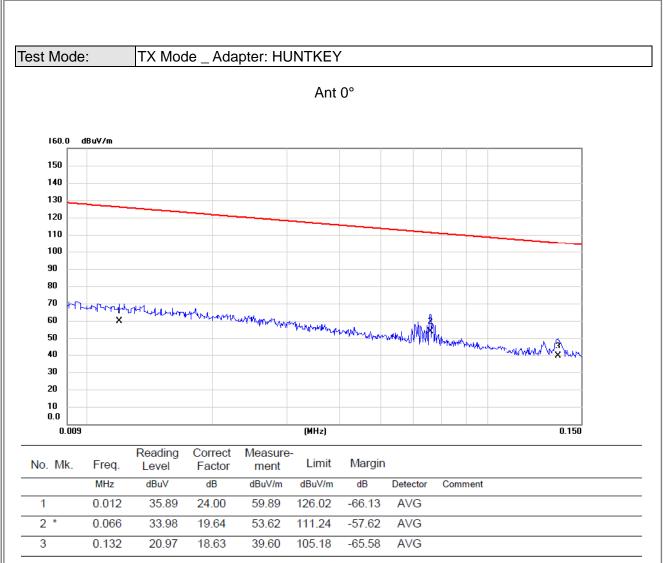




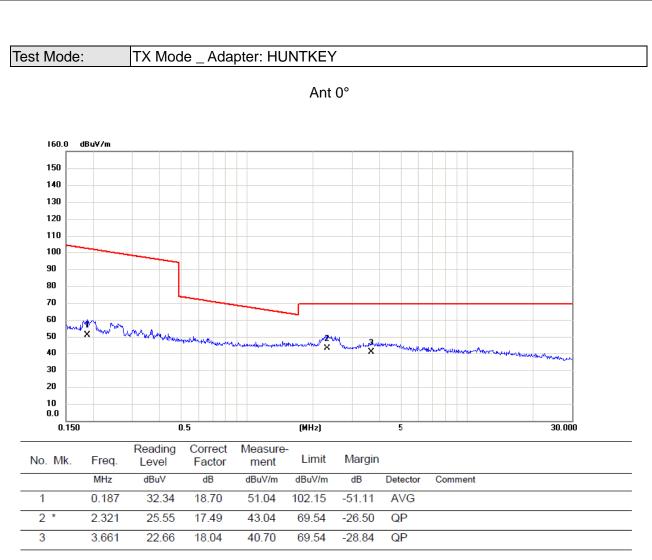






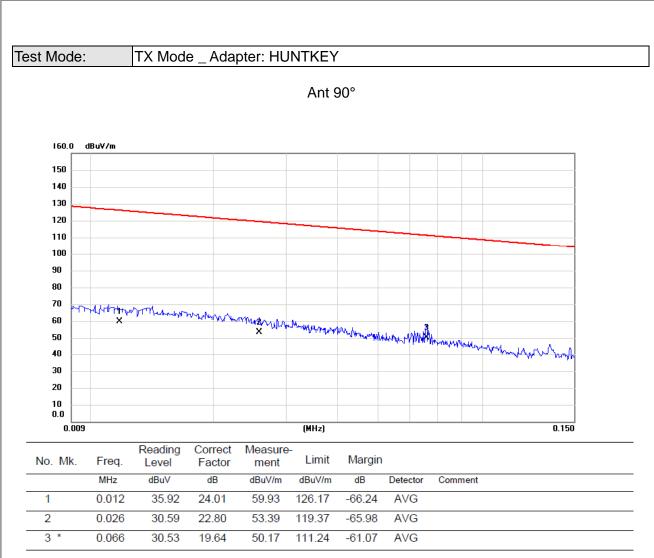






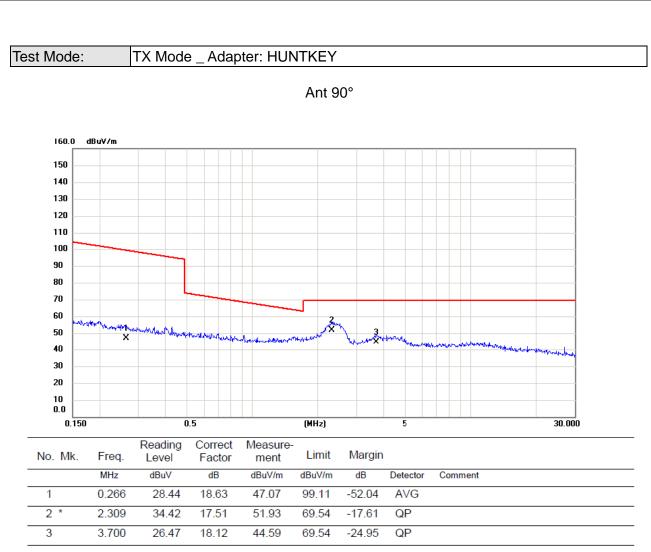
# **S**TL



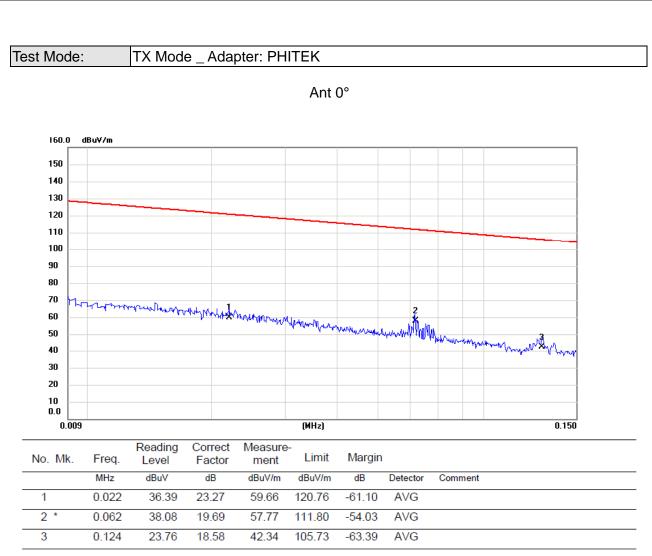


# **S**TL



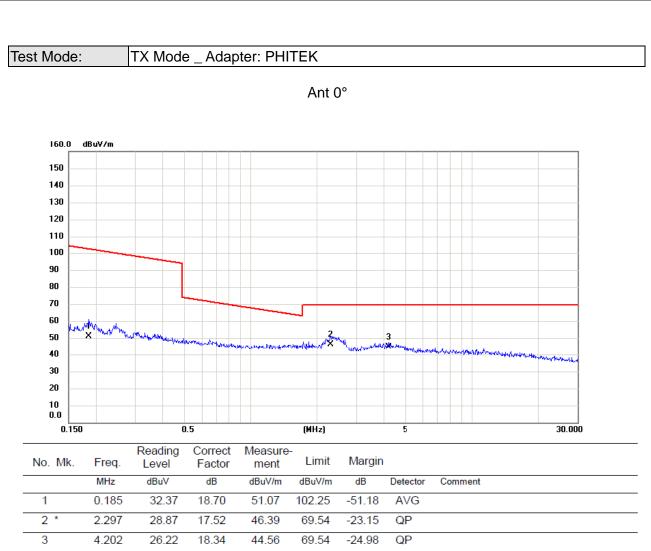






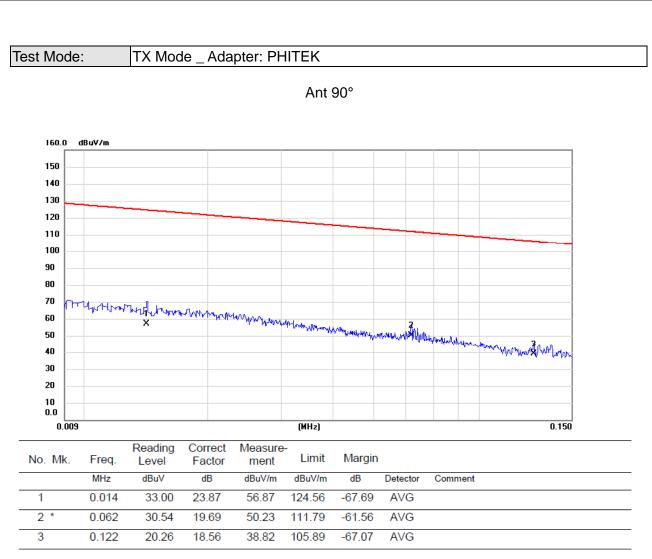
# **S**TL



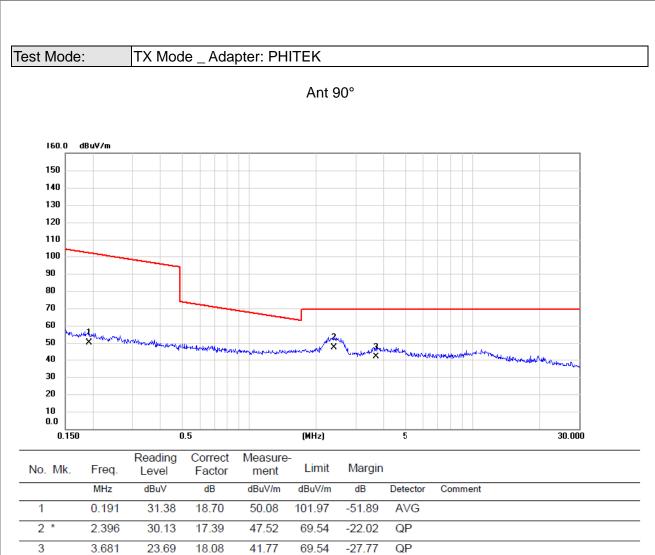


# **S**TL









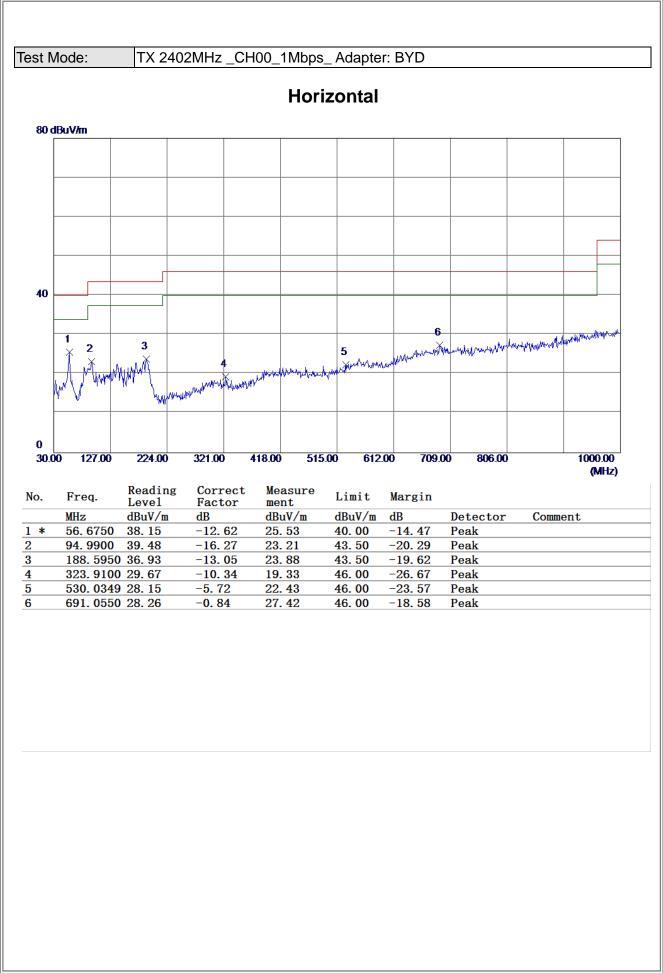


#### ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

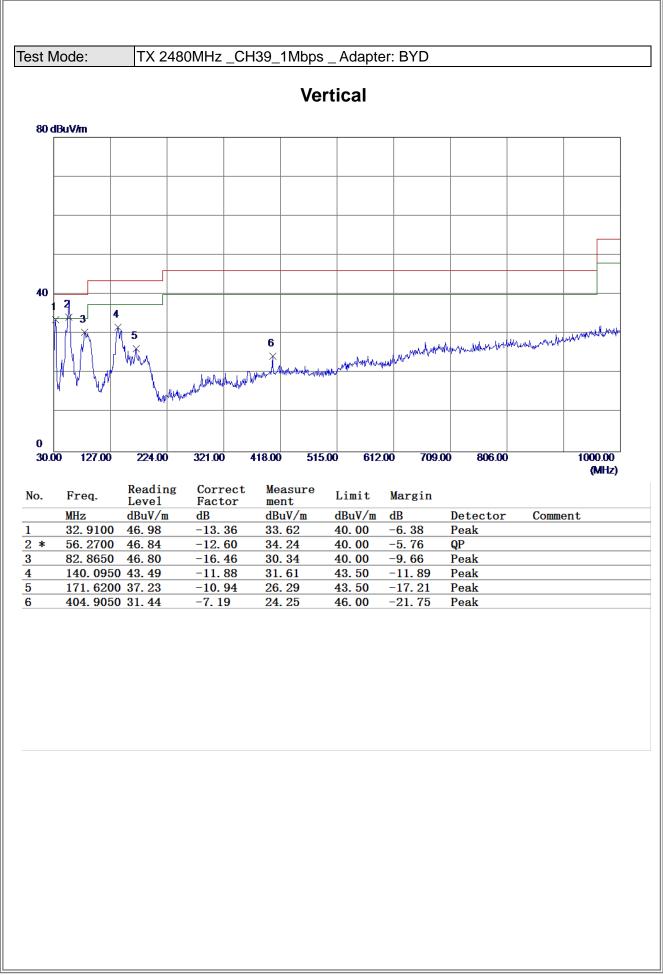




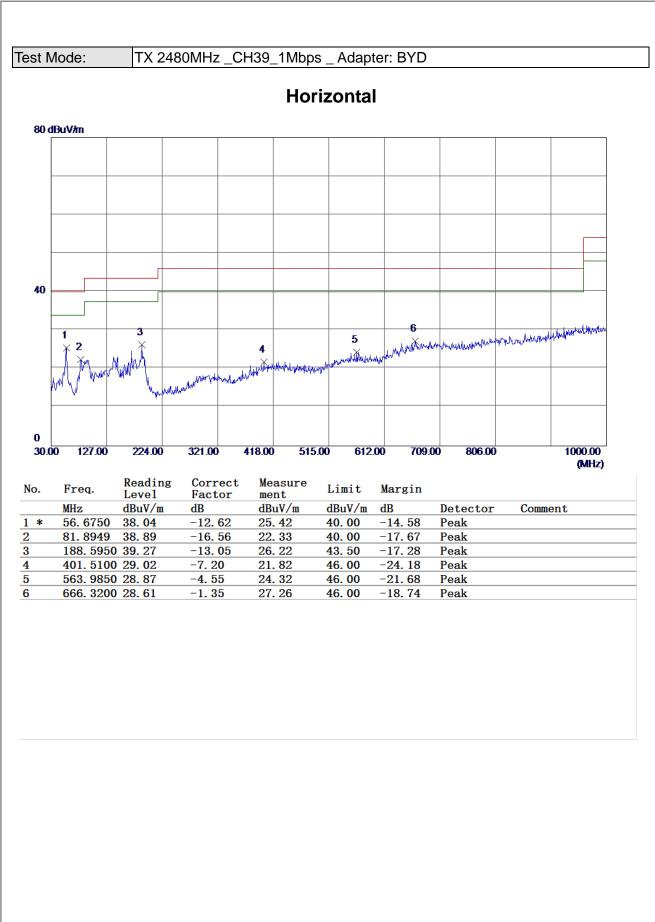




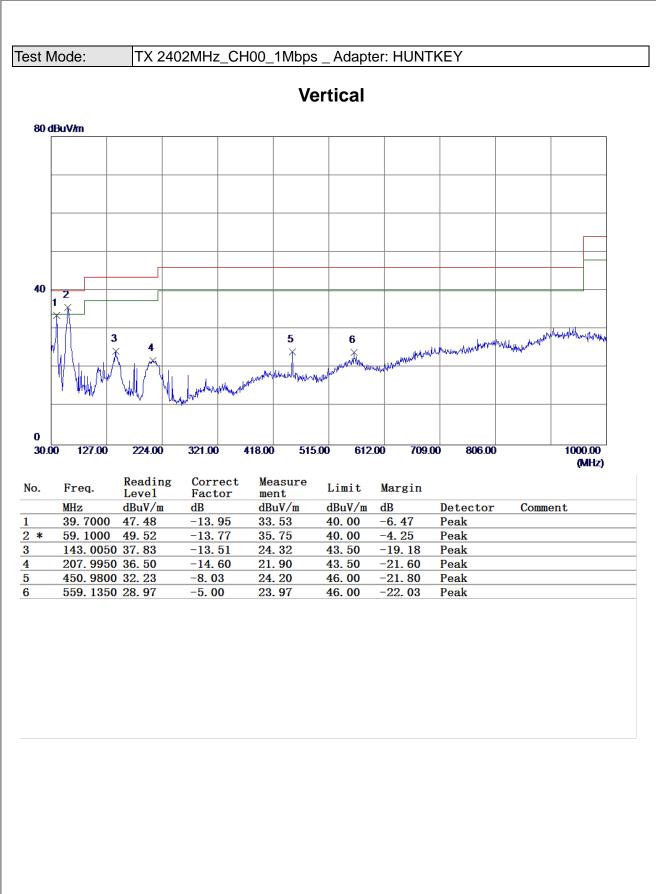




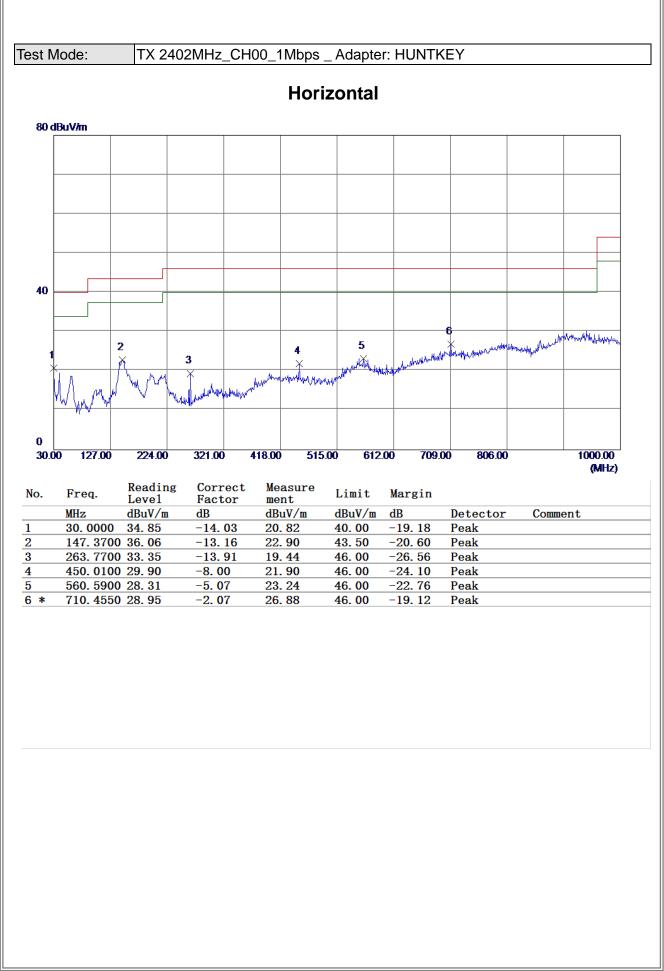




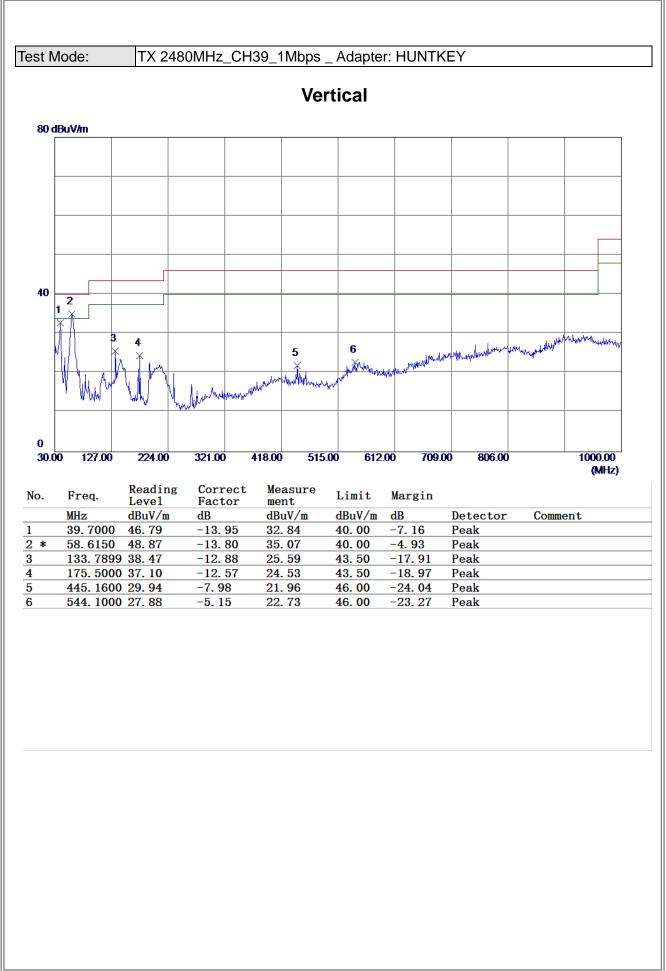




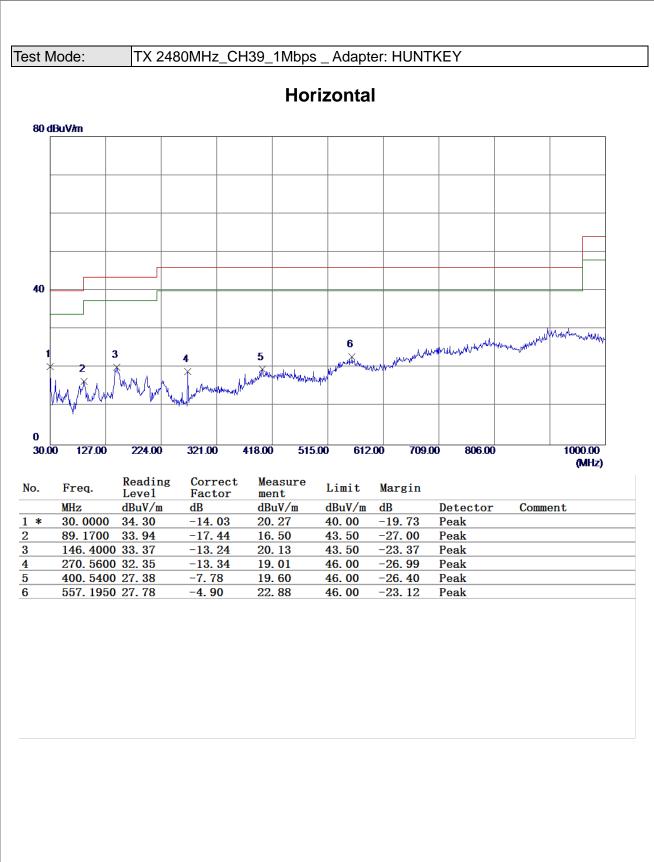




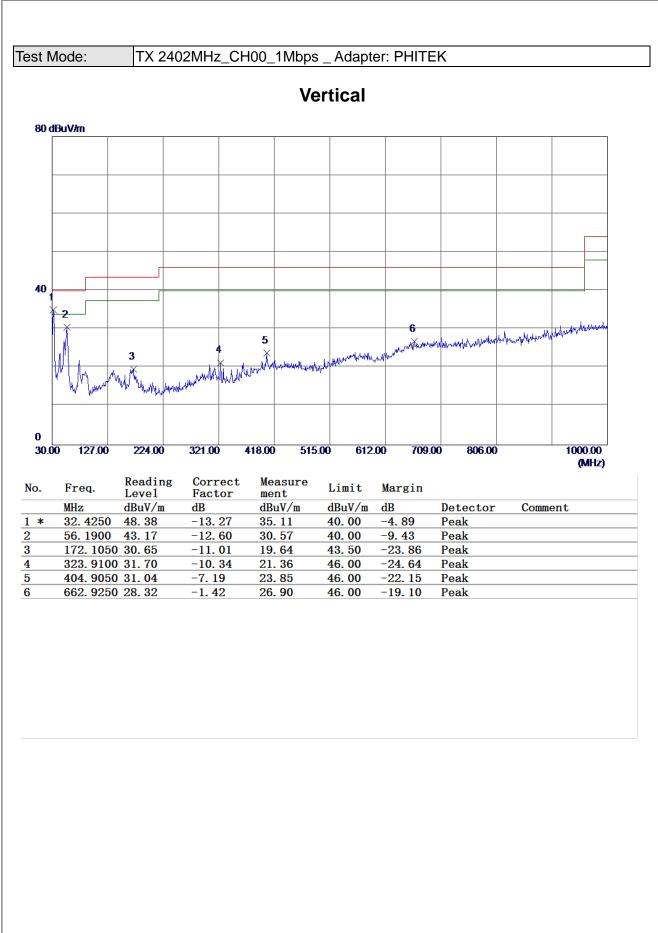




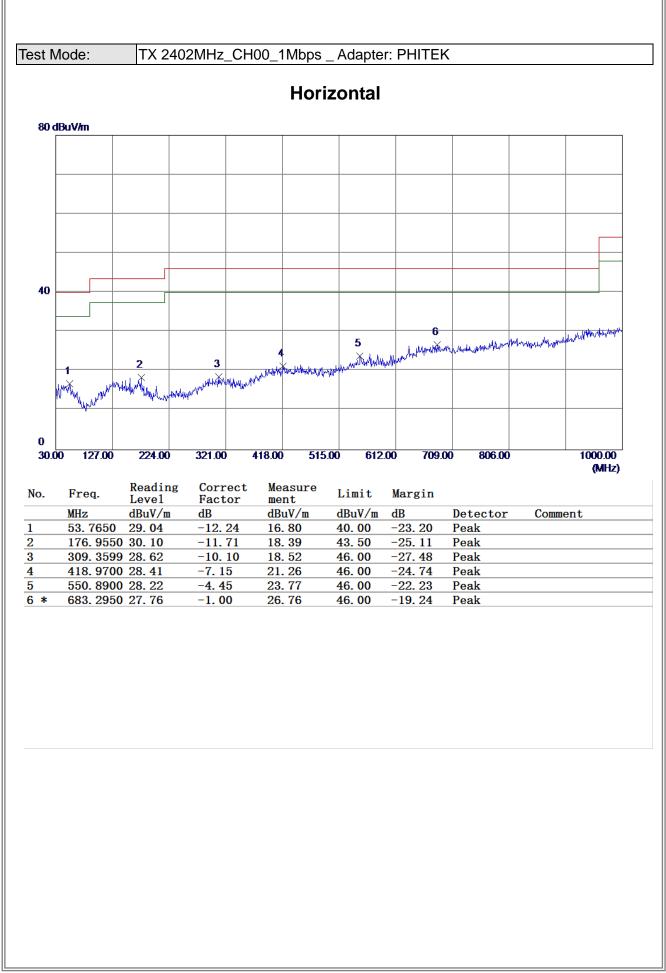




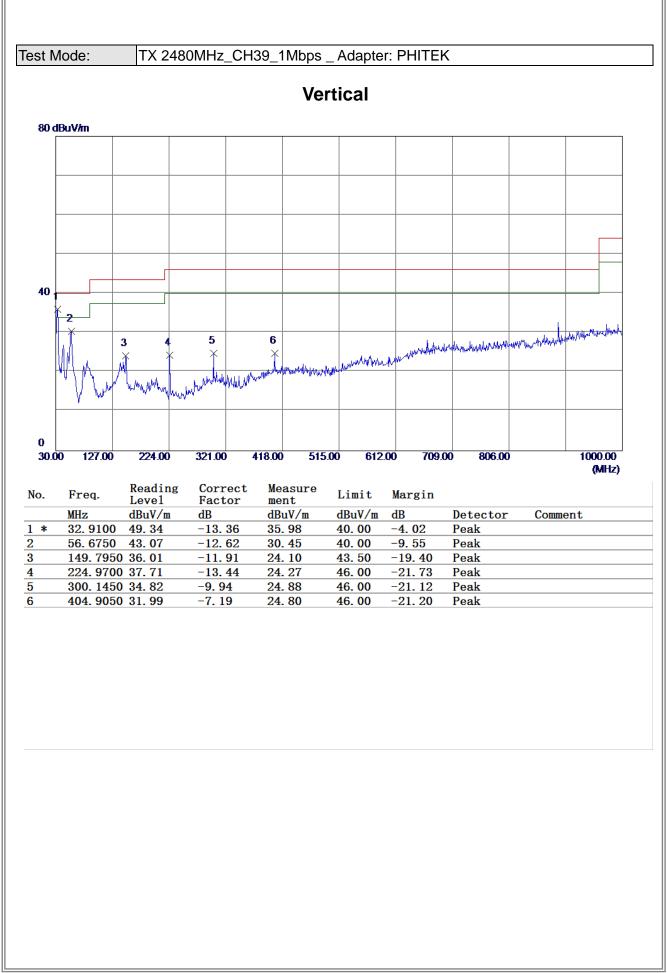




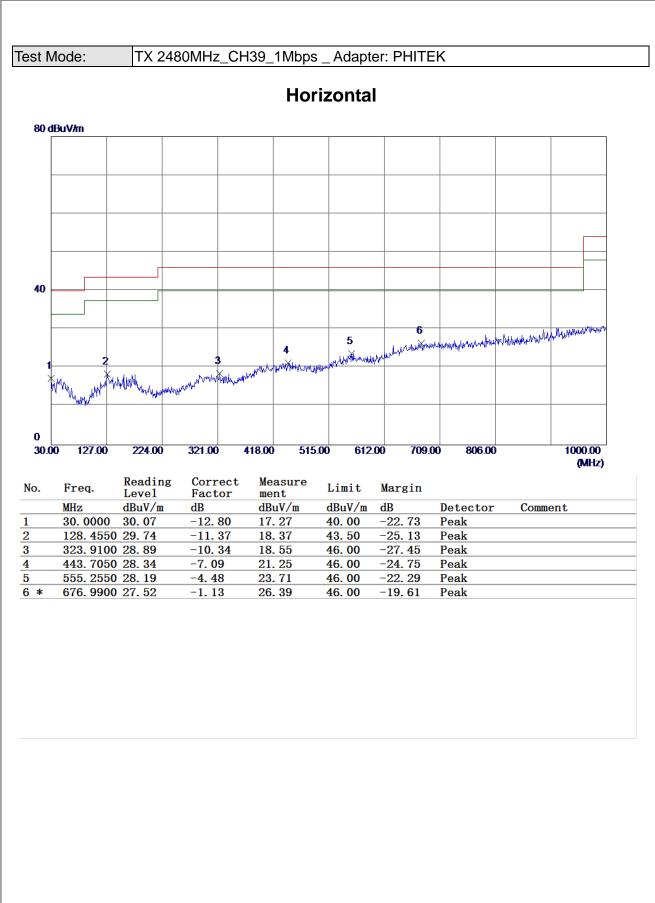








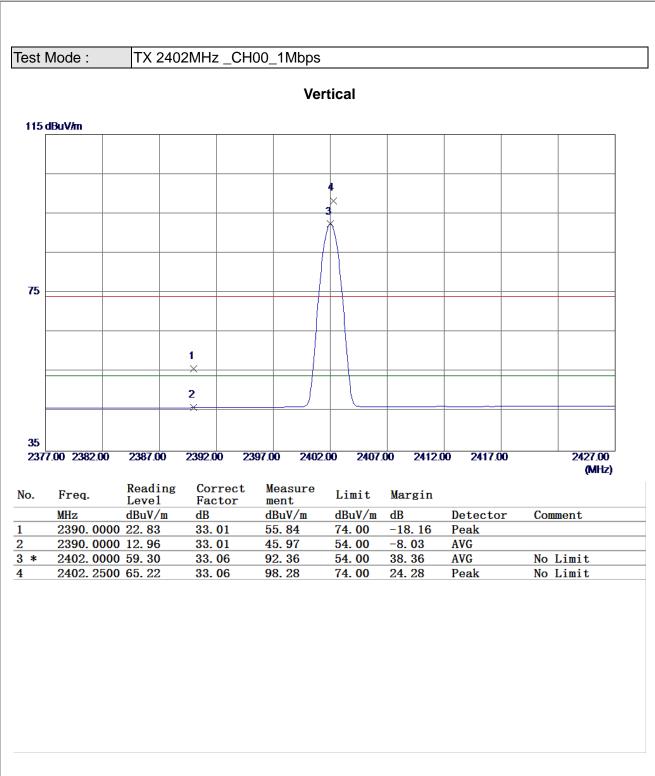




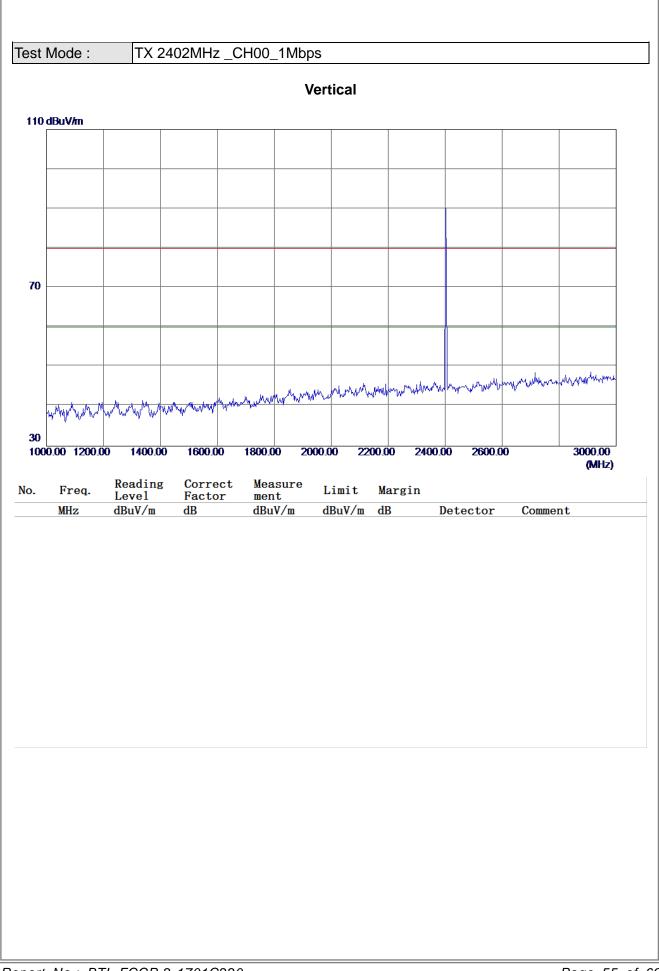


#### ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

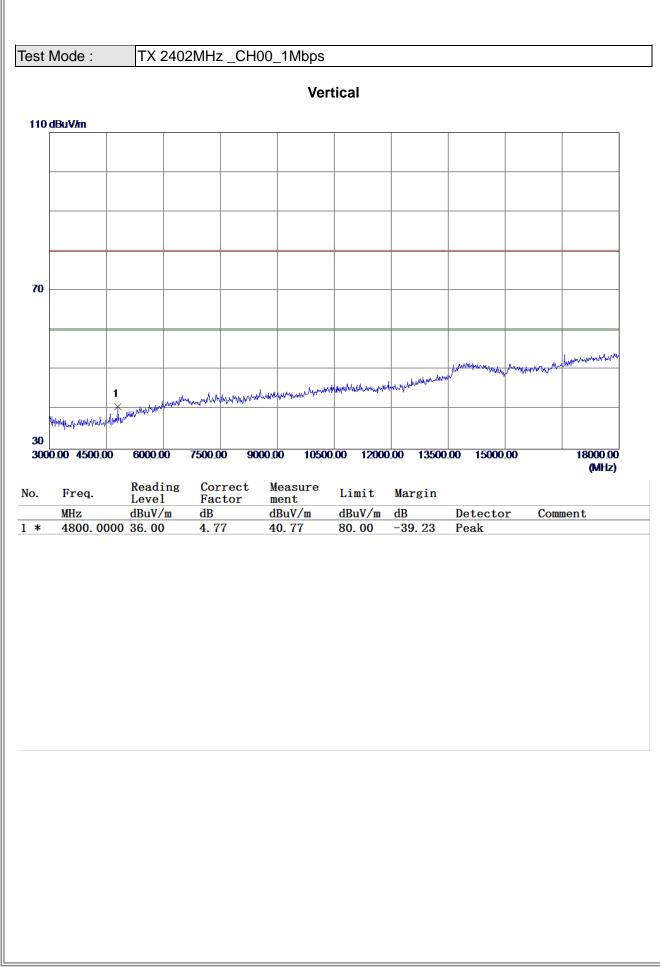




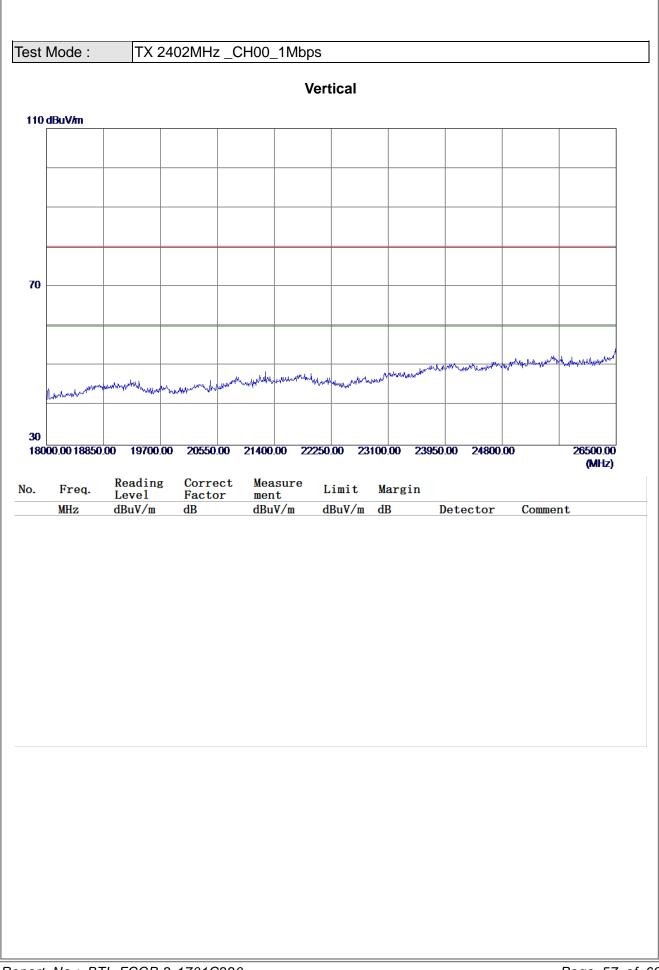






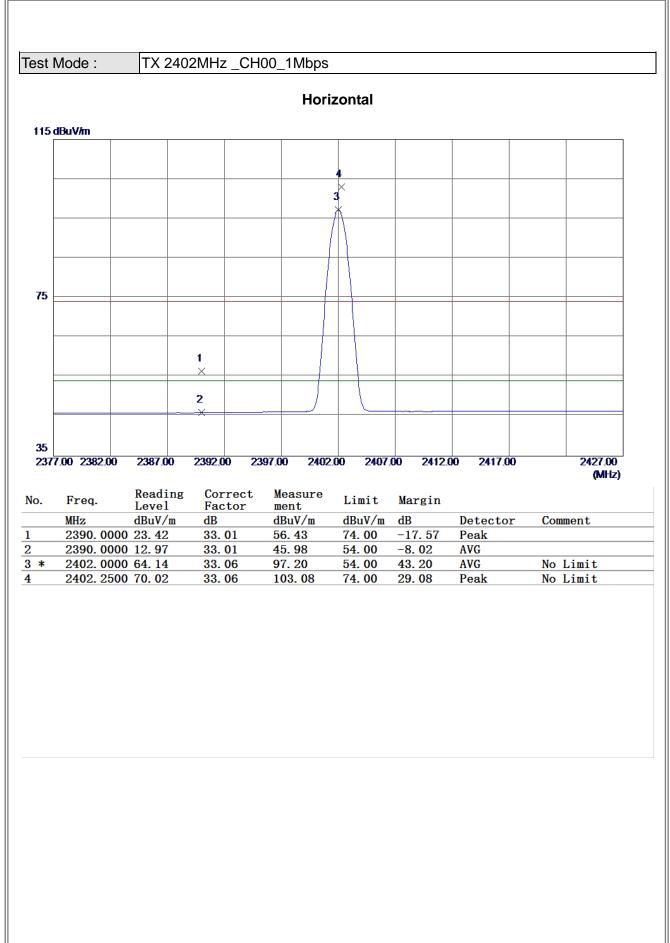






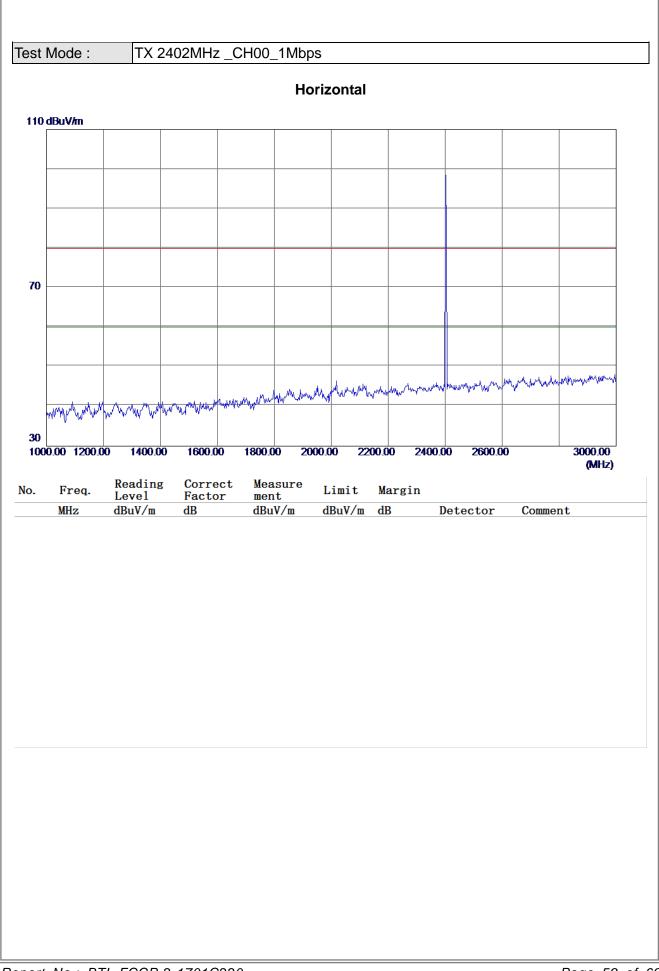
## **J**TL





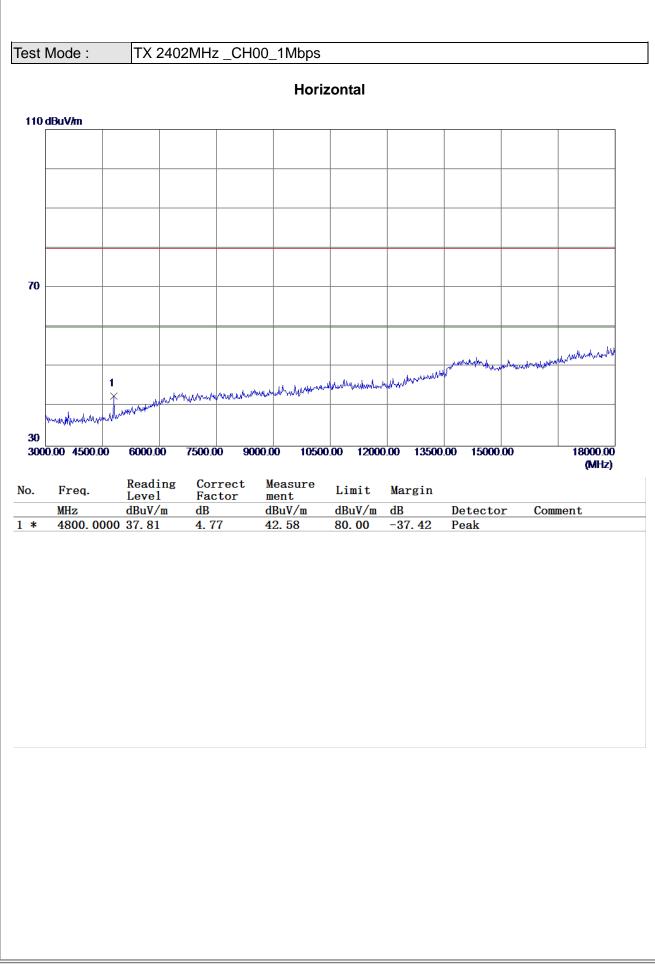
#### **J**IL





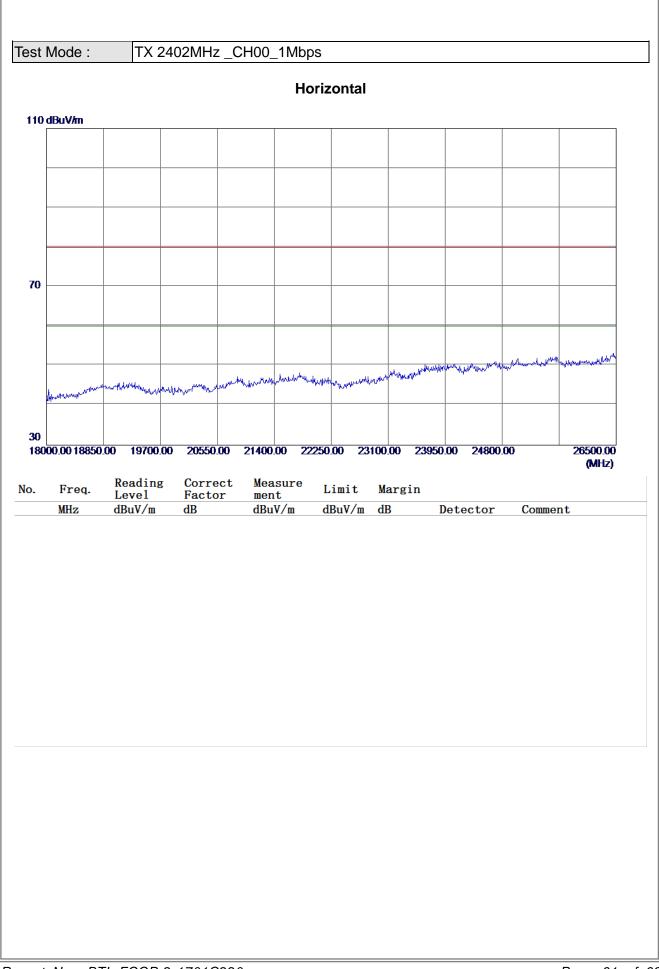
#### **J**TL





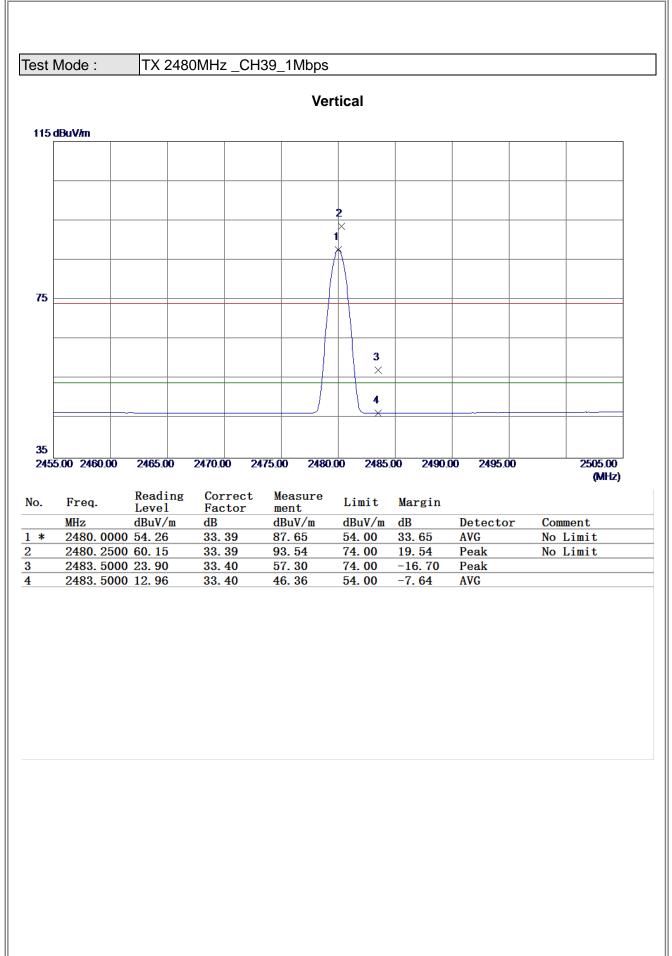
#### ΒĨL





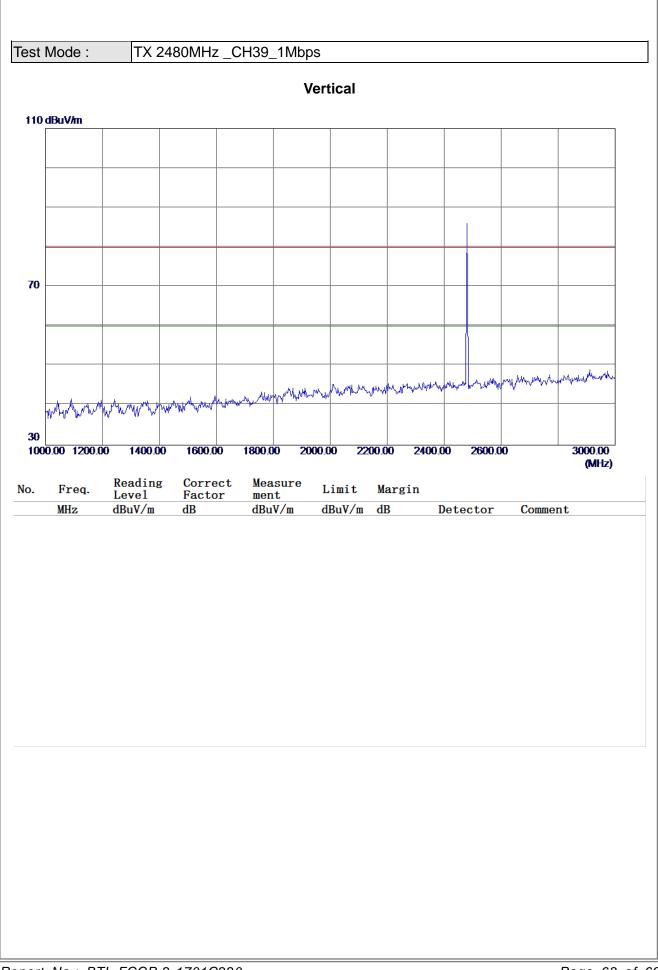
#### **J**IL



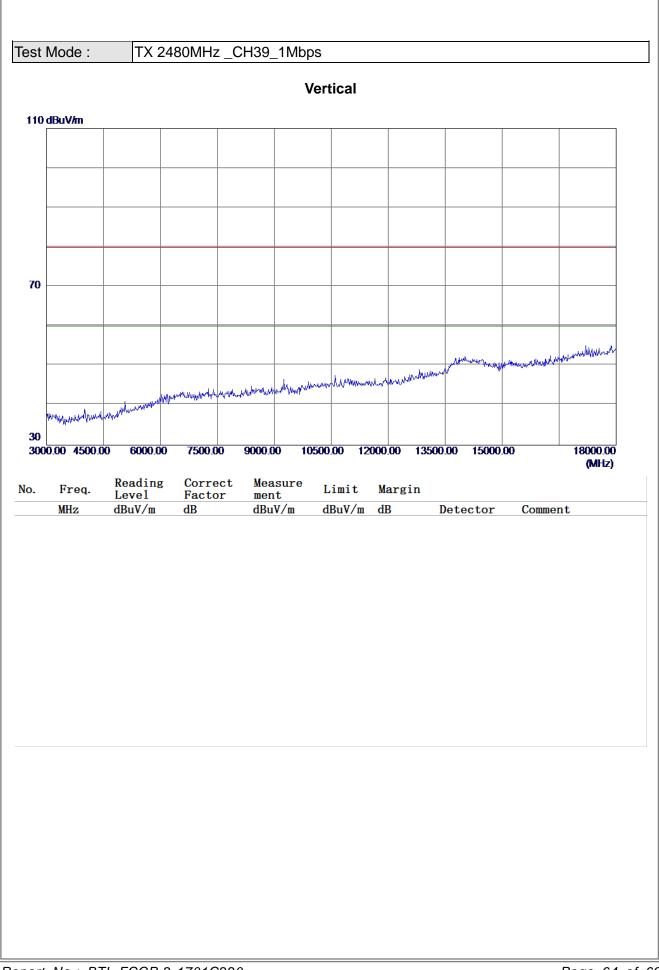


#### **J**IL



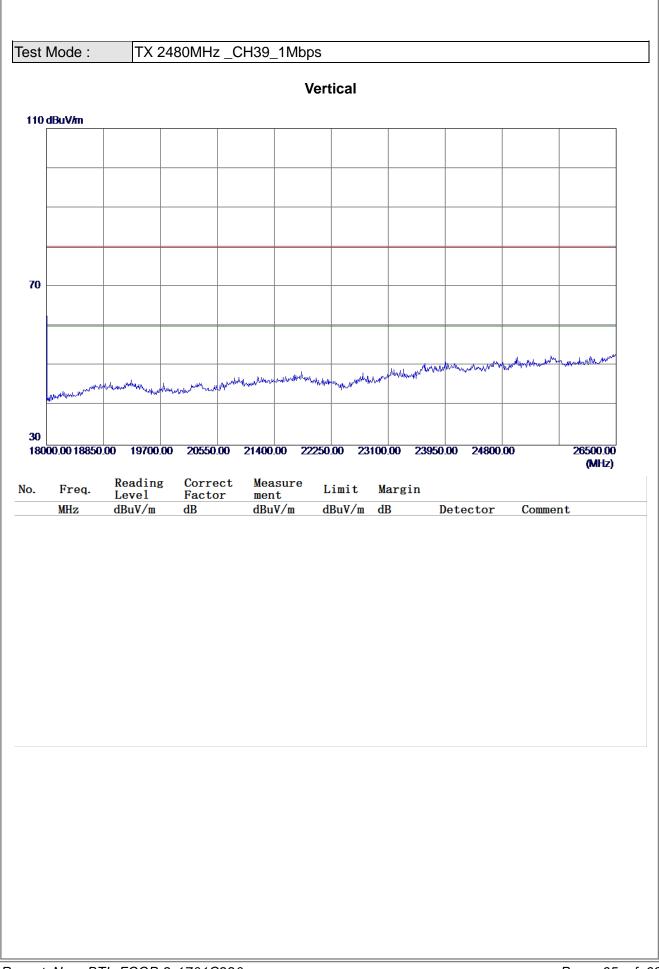




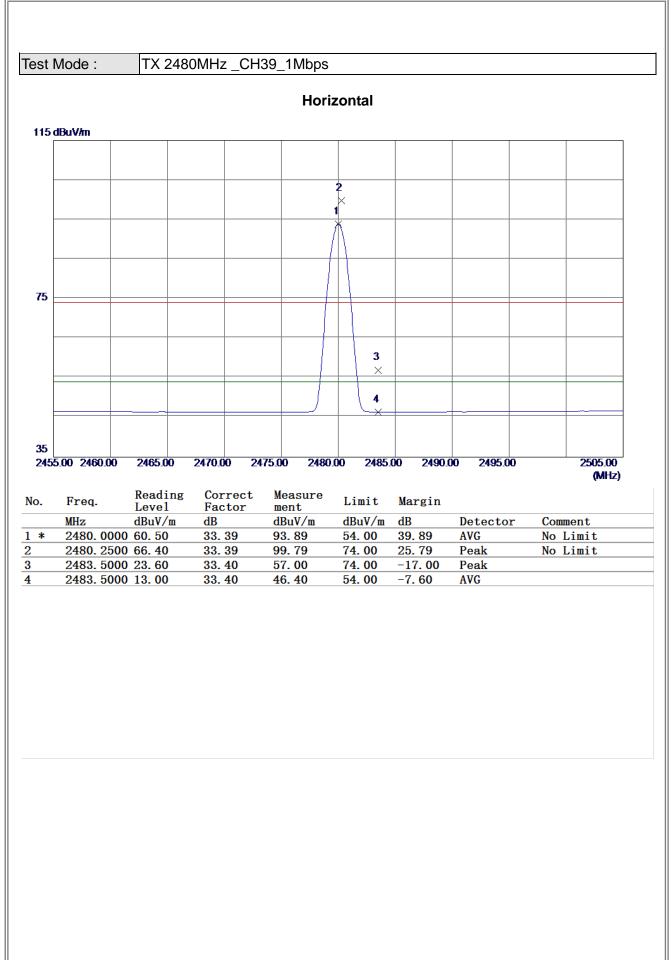


#### ΒĨL



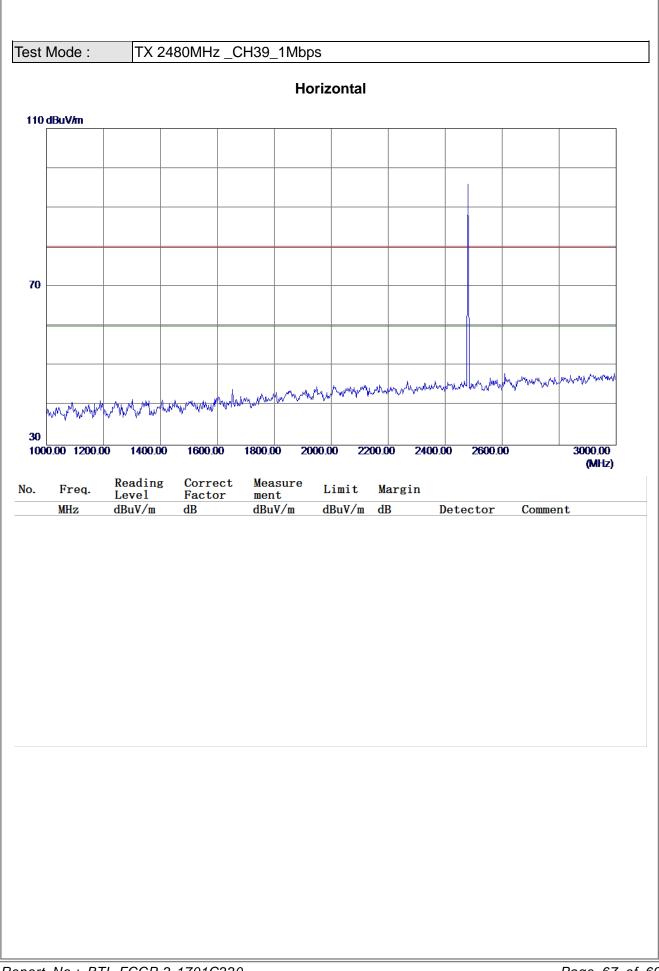






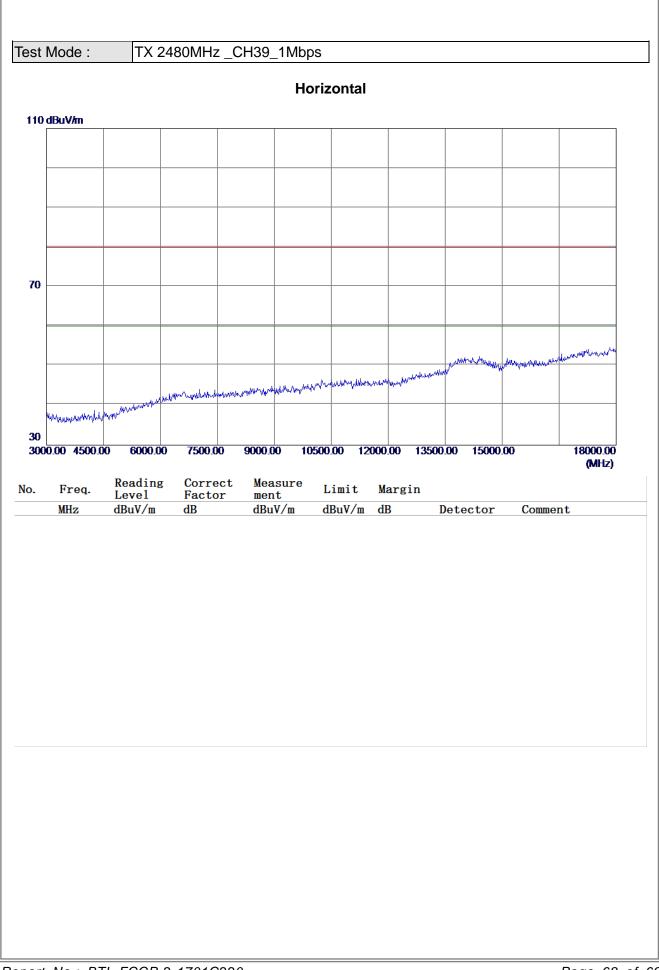
#### **J**IL





#### ΒĨL





#### **J**IL



