Neutron Engineering Inc.-

FCC/IC Radio Test Report

FCC ID: X5B-PL7602D IC: 8814A-PL7602D

This report concerns (check one) : Class II Change

Issued Date Project No. Equipment Model Name for FCC	: Dec. 05, 2012 : 1211C117 : Afterglow Remote For Wii : PL-7602
Model Name for IC	: PL-7602D
Applicant	 Performance Designed Products, LLC 14144 Ventura Blvd. Suite 200, Sherman Oaks, CA
Address	91423
Manufacturer	 Performance Designed Products, LLC 14144 Ventura Blvd. Suite 200, Sherman Oaks, CA
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Tested by: Neutron Engineering Inc. EMC Laboratory Date of Receipt: Nov. 20, 2012 Date of Test: Nov. 20, 2012 ~ Dec. 04, 2012

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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 **CHINA**, 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.

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1. CERTIFICATION

Equipment Brand Name		Afterglow Remote For Wii Afterglow
Model Name for FCC		•
Model Name for IC		PL-7602D
Applicant	:	Performance Designed Products, LLC
Factory	:	Performance Designed Products, LLC
Address	:	14144 Ventura Blvd. Suite 200, Sherman Oaks, CA 91423
Date of Test	:	Nov. 20, 2012 ~ Dec. 04, 2012
Test Item	:	ENGINEERING SAMPLE
Standards	:	FCC Part15, Subpart C(15.247) / ANSI C63.4 : 2009
		FCC Public Notice DA 00-705, March 30, 2000.
		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-1-1211C117) 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).



2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

APPLIED STANDARD: 47 CFR Part 15, Subpart C; Canada RSS-210:2010						
Standar	d Section					
RSS-210	47 CFR Part 15	Test Item	Judgment	Remark		
RSS-GEN 7.2.2	15.207	Conducted Emission	-	N/A		
RSS-210 Annex 8 (A8.1d)	15.247(d)	Antenna conducted Spurious Emission	PASS			
RSS-210 Annex 8 (A8.1d)	15.247 (a)(1)	Hopping Channel Separation	PASS			
RSS-210 Annex 8 (A8.1b)	15.247 (b)(1)	Peak Output Power	PASS			
RSS-210 Annex 8 (A8.1a)	15.247(d) 15.209	Radiated Spurious Emission	PASS			
RSS-210 Annex 8 (A8.4(2))	15.247 (a)(1)(iii)	Number of Hopping Frequency	PASS			
RSS-210 Annex 8 (A8.5)	15.247 (a)(1)(iii)	Dwell Time	PASS			
RSS-Gen 7.2.3	15.205	Restricted Bands	PASS			
RSS-210 Annex 8 (A8.5)	15.203	Antenna Requirement	PASS			

NOTE:

(1)" N/A" denotes test is not applicable in this test report

(2) According to FCC Public Notice DA 00-705, March 30, 2000.



2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **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
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	Н	3.60	
		200MHz ~ 1,000MHz	V	3.86	
DG-CB03	CISPR	200MHz ~ 1,000MHz	Н	3.94	
DG-CB03	CIGEN	1GHz~18GHz	V	3.12	
		1GHz~18GHz	Н	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	Н	4.14	

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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Afterglow Remote For Wii				
Brand Name	Afterglow				
Model Name for FCC	PL-7602				
Model Name for IC	PL-7602D				
Model Difference	N/A				
	The EUT is a Afterglow I	Remote For Wii.			
	Operation Frequency:	2402~2480 MHz			
	Modulation Technology: Bit Rate of Transmitter	GFSK(1Mbps)			
	Number of Channel:	79 CH, Please see note 2. (Page 10)			
Product Description	Antenna Designation:	Please see note 3.(Page 10)			
	Antenna Gain(Peak):	Please see note 3.(Page 10)			
	Output Power:	-3.91 dBm (1Mbps)			
	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.				
Power Source	DC voltage supplied from 2*AA size battery.				
Power Rating	DC 3V				
Connecting I/O Port(s)	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.

		Chann	el List		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3.

Table for Filed Antenna

T CAD TO		in lo			
Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	1.76



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)		
Mode 2	RX 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 Emission			
Final Test Mode Description			
N/A	" N/A" denotes test is not applicable in this test report.		

Note: The Equipment will be connected to a controller, however that controller is powered on Equipment only without connecting to the AC Source. Therefore, AC Power Line Conducted emission is not required for this EUT.

For Radiated Emission			
Final Test Mode	Description		
Mode 1	TX Mode NOTE (1)		
Mode 2	RX Mode NOTE (1)		

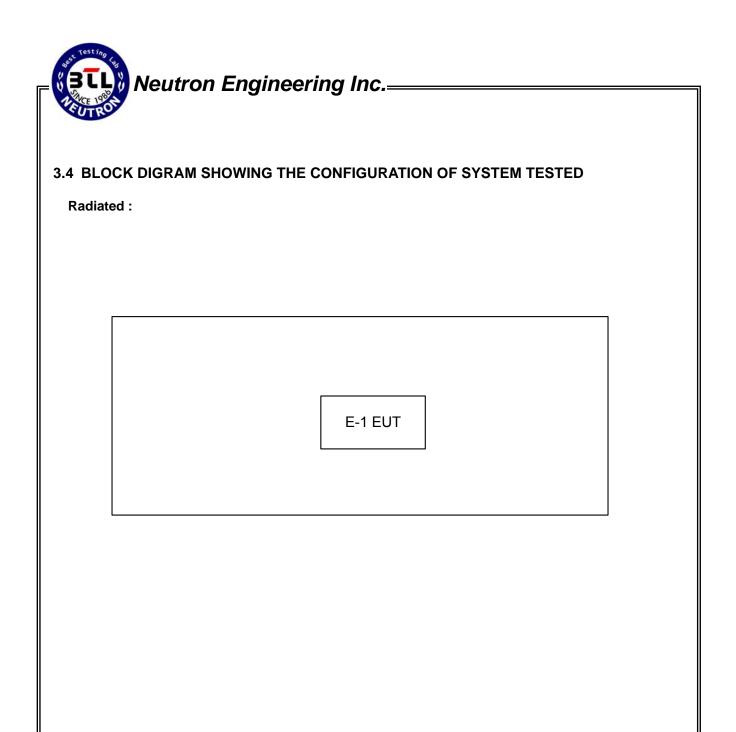
Note:

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

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power r selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	Test program: OEM_FCC_EEPROM_UTILITY_TOD				
Frequency	2402 MHz	2441 MHz	2480 MHz		
Parameters-1Mbps	N/A	N/A	N/A		





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/IC	Series No.	Note
E-1	Afterglow Remote For Wii	Afterglow	PL-7602	X5B-PL7602D/ 8814A-PL7602D	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	

Note:

(1) For detachable type I/O cable should be specified the length in m in $\[$ Length $\]$ 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	
FREQUENCT (MITZ)	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 AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	May.04.2013
2	LISN	R&S	ENV216	100087	May.04.2013
3	Test Cable	N/A	C_17	N/A	Mar.28.2013
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	May.04.2013
5	50Ω Terminator	SHX	TF2-3G-A	08122902	May.04.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

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



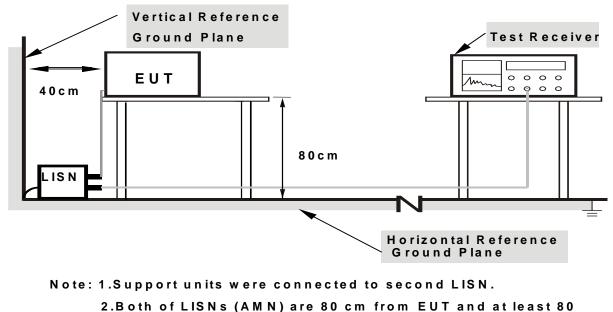
4.1.3 TEST PROCEDURE

- 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



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 is continue Transmitter/Receive data or Hopping on mode.



4.1.7 TEST RESULTS

EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	-	Relative Humidity:	-
Pressure :	-	Test Power :	-
Test Mode :	N/A		

Note: " N/A" denotes test is not applicable in this test report.

Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of ^ℂNote_□. 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.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

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	Field Strength	Measurement Distance
(MHz)	(micorvolts/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
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

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4.2.2 MEASUREMENT INSTRUMENTS LIST ANS SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	May.25.2013
2	Amplifier	HP	8447D	2944A09673	May.04.2013
3	Test Receiver	R&S	ESCI	100382	May.04.2013
4	Test Cable	N/A	C-01_CB03	N/A	Jun.30.2013
5	Antenna	ETS	3115	00075789	May.25.2013
6	Amplifier	Agilent	8449B	3008A02274	May.04.2013
7	Spectrum	Agilent	E4408B	US39240143	Nov.16.2013
8	Test Cable	HUBER+SUH NER	C-45	N/A	May.02.2013
9	Controller	СТ	SC100	N/A	N/A
10	Active Loop Antenna	R&S	HFH2-Z2	830749/020	May.04.2013
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Oct.23.2013
12	Horn Antenna	EMCO	3115	9605-4803	May.25.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

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

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



4.2.3 TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters 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 EUT was placed on the top of a rotating table 0.8 meters 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 0.8 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.

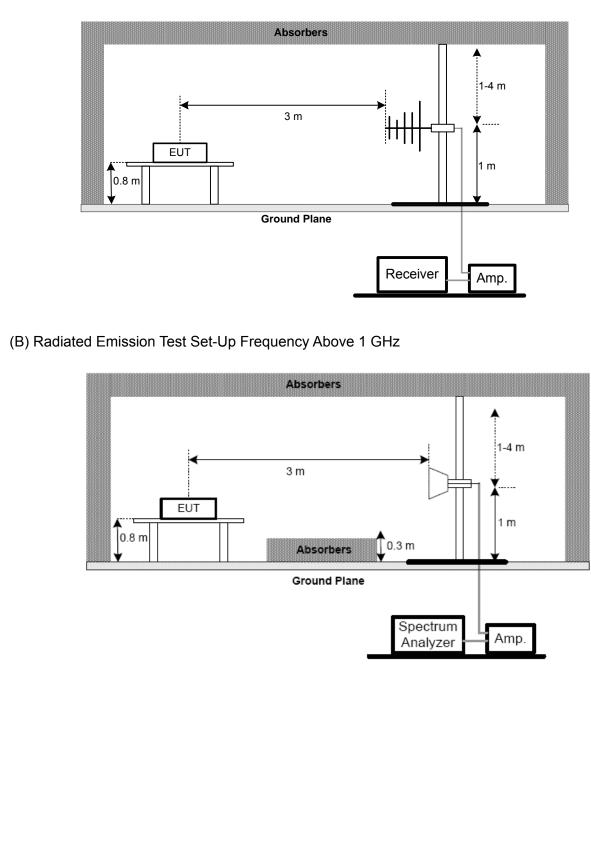
4.2.4 DEVIATION FROM TEST STANDARD

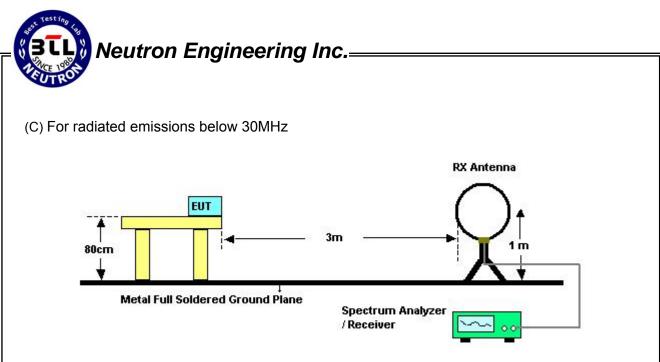
No deviation

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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.

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4.2.7 TEST RESULTS (9K-30MHZ)

EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
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
0.0098	0°	27.15	24.30	51.45	127.78	-76.33	AV
0.0098	0°	30.62	24.30	54.92	147.78	-92.86	PK
0.0306	0°	23.14	23.63	46.77	117.90	-71.13	AV
1.0306	0°	25.69	23.63	49.32	137.90	-88.58	PK
0.0396	0°	21.03	23.06	44.09	115.65	-71.56	AV
1.0396	0°	23.51	23.06	46.57	135.65	-89.08	PK
0.0556	0°	19.28	22.29	41.57	112.70	-71.13	AV
1.0556	0°	24.36	22.29	46.65	132.70	-86.05	PK
0.3520	0°	21.44	20.16	41.60	96.67	-55.08	AVG
0.3520	0°	23.07	20.16	43.23	116.67	-73.45	PK
1.5710	0°	27.32	19.54	46.86	63.68	-16.82	QP

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
0.0098	90°	18.22	24.30	42.52	127.74	-85.22	AVG
0.0098	90°	21.95	24.30	46.25	147.74	-101.49	PK
0.0245	90°	16.79	24.02	40.81	119.82	-79.02	AVG
0.0245	90°	19.05	24.02	43.07	139.82	-96.76	PK
0.0461	90°	21.66	22.65	44.31	114.33	-70.02	AVG
0.0461	90°	24.71	22.65	47.36	134.33	-86.97	PK
0.0736	90°	21.06	21.93	42.99	110.26	-67.27	AVG
0.0736	90°	24.43	21.93	46.36	130.26	-83.90	PK
0.3680	90°	21.22	20.12	41.34	96.29	-54.95	AVG
0.3680	90°	24.90	20.12	45.02	116.29	-71.27	PK
1.8254	90°	25.17	19.52	44.69	69.54	-24.85	QP

- (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); \circ
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor. \circ

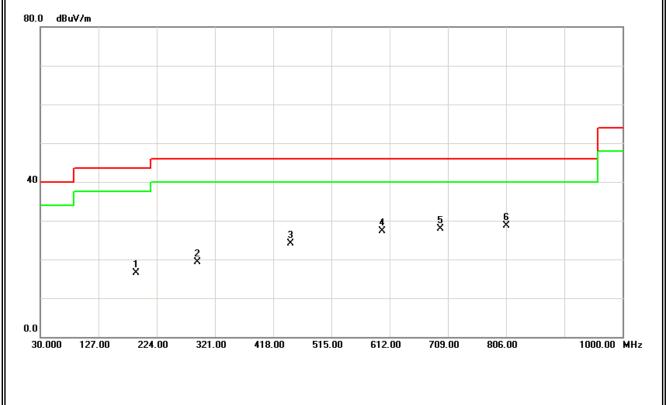
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4.2.8 TEST RESULTS (BETWEEN30 - 1000 MHZ)

EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	TX 2402MHz –CH00-1Mbps		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Note
190.05	V	33.54	-17.09	16.45	43.50	- 27.05	
291.90	V	32.00	-12.62	19.38	46.00	- 26.62	
447.10	V	33.08	-9.05	24.03	46.00	- 21.97	
599.88	V	32.87	-5.50	27.37	46.00	- 18.63	
696.88	V	32.50	-4.66	27.84	46.00	- 18.16	
806.00	V	32.19	-3.53	28.66	46.00	- 17.34	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ∘
- (2) 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 \circ
- (3) Measuring frequency range from 30MHz to 1000MHz \circ
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table \circ

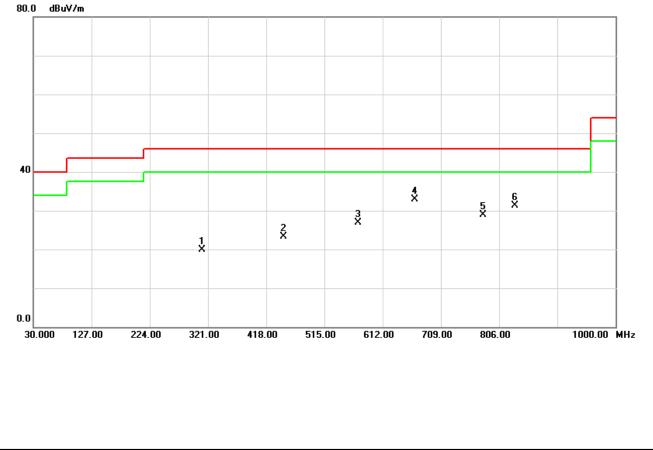




EUT:	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	TX 2402MHz –CH00-1Mbps		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Nete
(MHz)	H/V	(dBuV)	(dB) ((dBuV/m)	(dBuV/m)	(dB)	Note
311.30	Н	32.23	-12.39	19.84	46.00	- 26.16	
447.10	Н	32.32	-9.05	23.27	46.00	- 22.73	
570.78	Н	33.07	-6.14	26.93	46.00	- 19.07	
665.35	Н	37.52	-4.67	32.85	46.00	- 13.15	
779.33	Н	32.69	-3.88	28.81	46.00	- 17.19	
832.68	Н	34.43	-3.03	31.40	46.00	- 14.60	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ∘
- (2) 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 \circ
- (3) Measuring frequency range from 30MHz to 1000MHz \circ
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table \circ

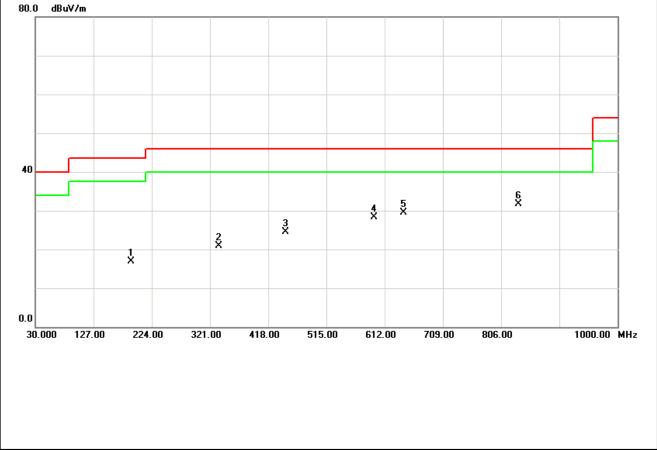




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	RX Mode 2402MHz-1Mbps		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
190.05	V	34.04	-17.09	16.95	43.50	- 26.55	
335.55	V	32.75	-11.86	20.89	46.00	- 25.11	
447.10	V	33.58	-9.05	24.53	46.00	- 21.47	
595.03	V	33.89	-5.61	28.28	46.00	- 17.72	
643.53	V	34.24	-4.79	29.45	46.00	- 16.55	
835.10	V	34.73	-2.99	31.74	46.00	- 14.26	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ∘
- (2) 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 \circ
- (3) Measuring frequency range from 30MHz to 1000MHz \circ
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table \circ

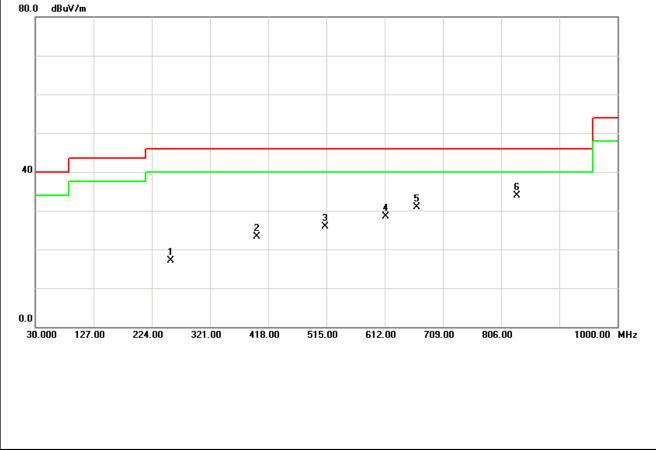




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	RX Mode 2402MHz-1Mbps		

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	NOLE
255.53	Н	31.87	-14.68	17.19	46.00	- 28.81	
398.60	H	33.15	-9.86	23.29	46.00	- 22.71	
512.58	Н	33.78	-7.93	25.85	46.00	- 20.15	
614.43	Н	33.80	-5.26	28.54	46.00	- 17.46	
665.35	Н	35.52	-4.67	30.85	46.00	- 15.15	
832.68	Н	36.93	-3.03	33.90	46.00	- 12.10	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ∘
- (2) 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 \circ
- (3) Measuring frequency range from 30MHz to 1000MHz \circ
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table \circ



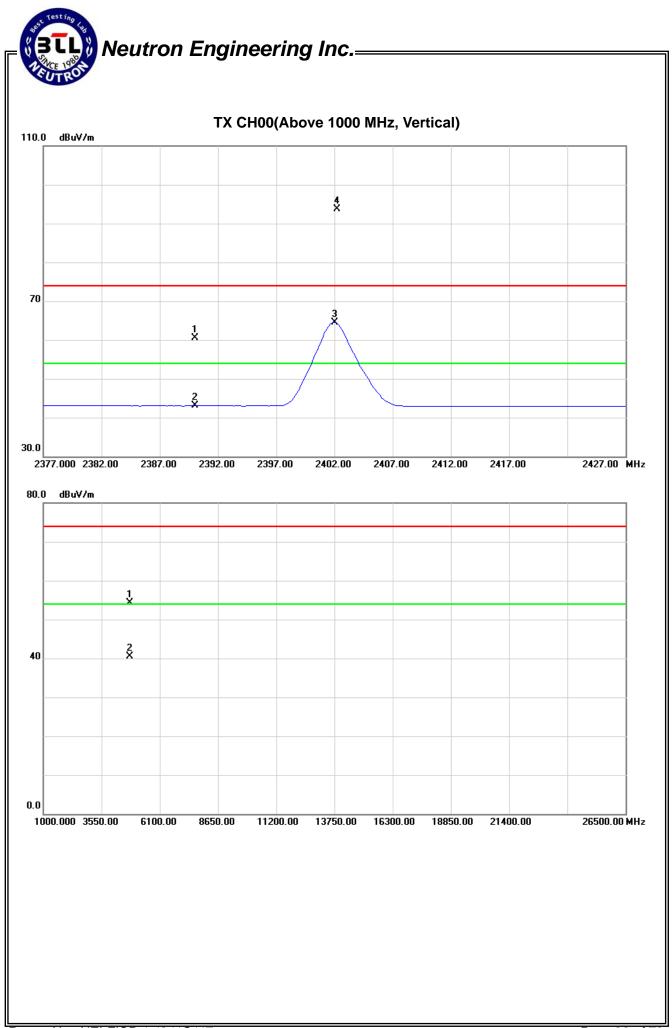
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4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 °C	Relative Humidity:	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	TX 2402MHz – CH 00-1Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Margin		
		Peak	AV		Peak	AV	Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	28.15	10.75	32.28	60.43	43.03	74.00	54.00	-13.57	-10.97	X/E
2402.25	V	61.34	32.26	32.27	93.61	64.53					X/F
4804.03	V	48.21	34.45	6.11	54.32	40.56	74.00	54.00	-19.68	-13.44	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^o"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

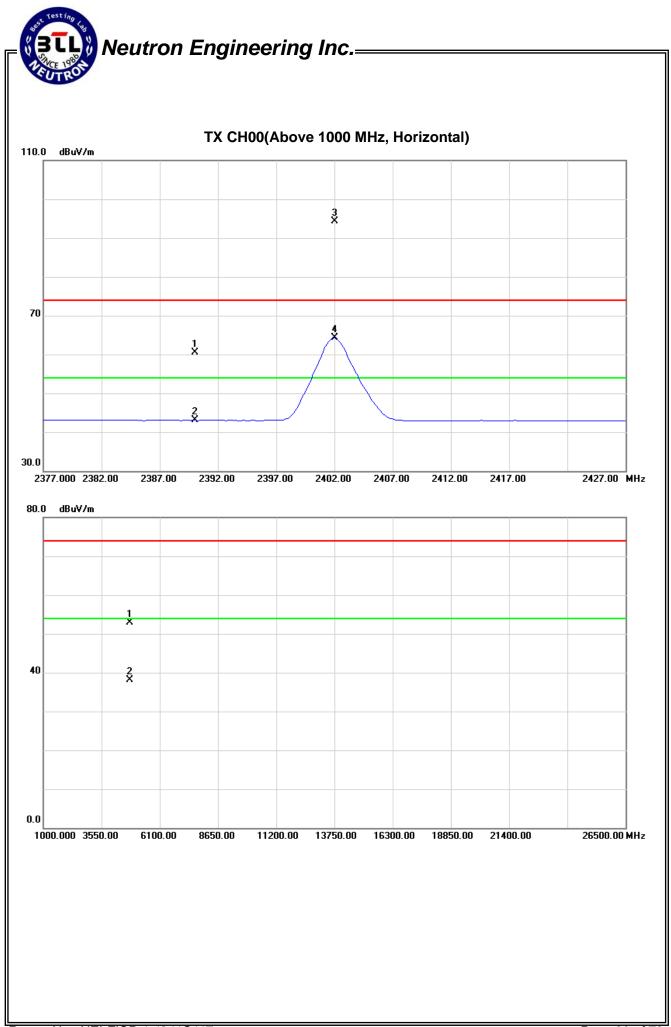




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010hPa	Test Voltage :	DC 3V
Test Mode :	TX 2402MHz – CH 00-1Mbps	•	

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Margin		
		Peak	AV		Peak	AV	Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	Н	28.21	10.76	32.28	60.49	43.04	74.00	54.00	-13.51	-10.96	X/E
2402.00	Н	62.04	31.94	32.27	94.31	64.21					X/F
4804.05	Н	46.86	32.01	6.11	52.97	38.12	74.00	54.00	-21.03	-15.88	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^o"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

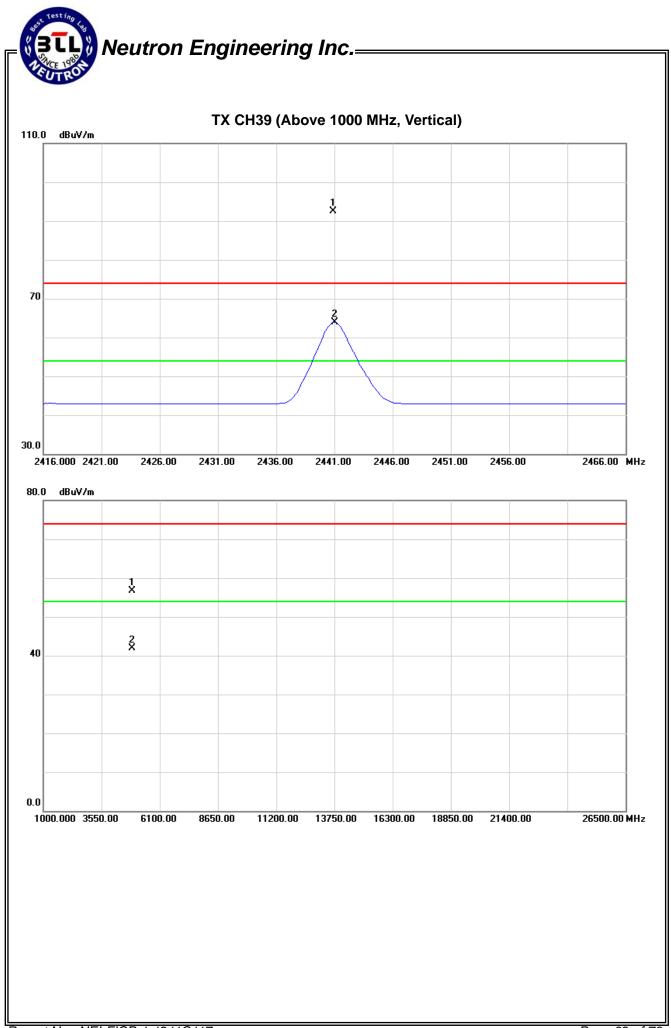




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	TX 2441MHz –CH39-1Mbps		

Freq	Freq. Ant.Pol		Reading		Act.		Limit		Margin		
rieq.	Ant.i 01.	Peak	AV		Peak	AV	Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	dBuV/m	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.88	V	60.22	31.68	32.23	92.45	63.91					X/F
4882.02	V	50.27	35.48	6.43	56.70	41.91	74.00	54.00	-17.30	-12.09	X/H

- (1) 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 $\[\circ\]$
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency^o"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

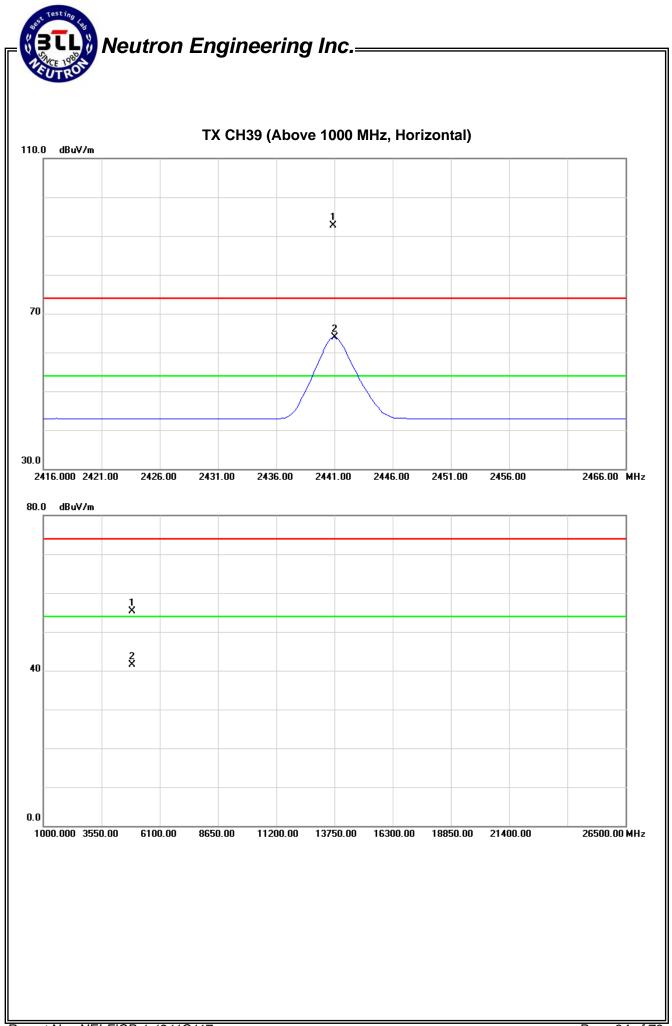




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	TX 2441MHz –CH39-1Mbps		

Freq. Ant.Pol		Reading		Ant./CF	Act.		Limit		Margin		
rieq.	Ant.i 0i.	Peak	AV		Peak	AV	Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.88	Н	60.40	31.60	32.23	92.63	63.83					X/F
4882.13	Н	48.87	35.08	6.43	55.30	41.51	74.00	54.00	-18.70	-12.49	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^o"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

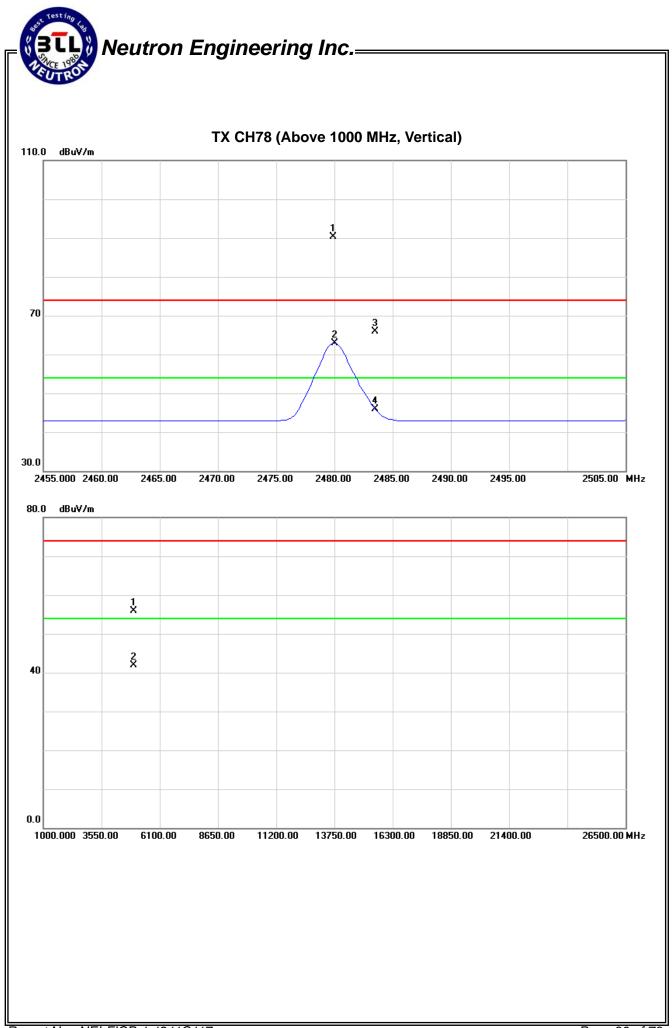




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010hPa	Test Voltage :	DC 3V
Test Mode :	TX 2480MHz –CH78-1Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Margin		
		Peak	AV		Peak	AV	Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2479.88	V	58.15	30.77	32.18	90.33	62.95					X/F
2483.50	V	33.69	13.76	32.17	65.86	45.93	74.00	54.00	-8.14	-8.07	X/E
4959.93	V	49.08	35.13	6.74	55.82	41.87	74.00	54.00	-18.18	-12.13	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^o"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



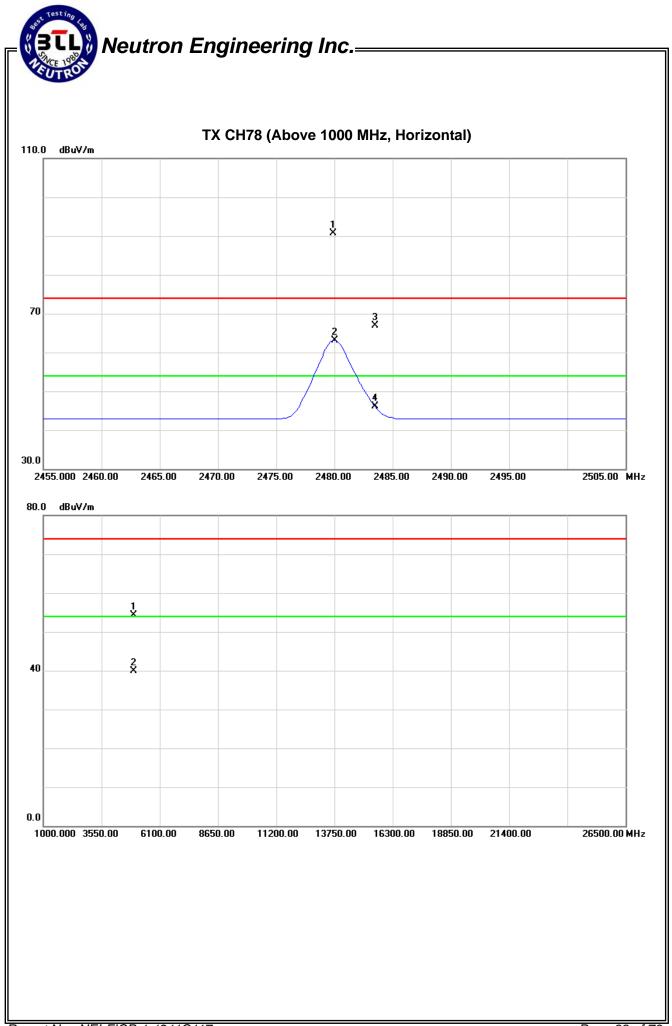


EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3V
Test Mode :	TX 2480MHz –CH78-1Mbps		

Freq.	Ant.Pol.	Rea	ding	Ant./CF	A	ct.	Lin	nit	Ma	rgin	
		Peak	AV		Peak	AV	Peak	AV	Peak	AV	Note
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2479.88	Н	58.61	30.91	32.18	90.79	63.09					X/F
2483.50	Н	34.78	13.89	32.17	66.95	46.06	74.00	54.00	-7.05	-7.94	X/E
4960.25	Н	47.62	33.24	6.74	54.36	39.98	74.00	54.00	-19.64	-14.02	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^o"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





EUT :		After	alow R	emote F	or Wii	Mode	Name :		PL-7602	
Tempera	ature :	25 °C	-				ve Humid		58 %	
Pressure		1010	-				/oltage :	•	DC 3V	
Test Mo				102110-	- 1Mbps	1031 0	onage .		00.31	
	iue .									
Freq.	Ant.Pol.	Rea	dina	Ant./CF	Ac	t	l ir	nit	Marg	nin
ricq.	/	Peak	AV	/ (110./ 01	Peak	AV	Peak	AV	Peak	AV No
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	dBuV/m)		(dBuV/m)	(dBuV/m)(dBuV/m)
1565.24	V		36.59	-5.48	42.14	31.11	74.00	54.00	-31.86	-22.89 X
(((All reat that the perfor Mease fundau "E" du Requi Radia instrur Data do readin streng A premease EUT (2000) 	e Peak m ∘ uring fre mental fr enotes rement. ted emi ment usi of meas g of em th is too amp ar urement Drthogor	reading equency requency band o band o band o ssions uremer issions small t nd high sensiti nal Axis	y complia cy∘"F" d edge fre measur ak detect at within are atte to be me n pass vity. 5 :	from 1000 enotes fur equency. ed in frequency or mode a this freque nuated mo easured. filter were	he QP Li OMHz to damenta (This jud uency ra nd AV de ency rangore than 2 e used f	mits and the 6000MHz If frequence dgment mange above effector mode ge shown 20dB below for this te	hen QP N c or the 1 cy; "H" der nethod in ve 1000N de of the "*" in the w the per est in ord	Oth harmo notes spurie icludes the IHz were i emission e table abo missible lin	urement did onic of highe ous frequence a Band Ed made with ove means t nits or the fie vide sufficie
40 ×										
2										
×										
0.0										



Temperature : 25 °C Relative Humidity : 58 % Pressure : 1010 hPa Test Voltage : DC 3V Test Mode : RX Mode 2402MHz - 1Mbps Peak AV			After	alow R	emote F	or Wii	Model	Name		PL-7602	
Pressure : 1010 hPa Test Voltage : DC 3V Test Mode : RX Mode 2402MHz - 1Mbps Freq. Ant Poil Reading Ant/CF Act. Limit Margin N (MHz) H/V (dBuV) (dBuV) CF(dB) (dBuV(m) (dBuV(m) (dBuV/m) (dB		ature :		J							
Test Mode : RX Mode 2402MHz - 1Mbps Freq. Ant.Pol. Reading Ant./CF Act. Limit Margin (MHz) HV (dBuV) (dEuV) (dBuV/m)	-						_		-		
Freq. Ant.Pol Reading Ant./CF Act. Limit Margin (MH2) H/V (dBuV) (dBuV) (dBuV) Peak AV Peak AU Au Peak Au Au	Test Mo	de :			402MHz	- 1Mbps		0			
(MHz) Peak AV Peak AV Peak AV Peak AV Peak AV N 1536.58 H H 45.07 35.19 -5.81 39.26 29.38 74.00 54.00 -34.74 -24.62 > Remark : (1) All readings are Peak unless otherwise stated QP in column of ¹ Note ¹ / ₂ . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement disperform ° (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of high fundamental frequency °1°° denotes fundamental frequency; "H" denotes spurious frequer "E" denotes band edge frequency. (This judgment method includes the Band Ecc Requirement.) (3) Radiated emissions measured in frequency range above 1000MHz were made with 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 reading of emissions are attenuated more than 20dB below the permissible limits or the firstrength is too small to be measured. (5) A preamp and high pass filter were used for this test in order to provide suffici measurement sensitivity. (6) EUT Orthogonal Axis : "X" - denotes Side Stand *** "A denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand *** Image: Side Stand Stand Stand Stand Stand Stand Stand Stand Stand Sta					-						
(MHz) H/V (dBuV/m) (dBuV/m	Freq.	Ant.Pol.	Rea	ding	Ant./CF	Act		Li	mit	Marg	gin
 1536.58 H 45.07 35.19 -5.81 39.26 29.38 74.00 54.00 -34.74 -24.62 X Remark : (1) All readings are Peak unless otherwise stated QP in column of ^TNote₄ . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement disperform ° (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of high fundamental frequency "F" denotes fundamental frequency, "H" denotes spurious frequer "E" denotes band edge frequency. (This judgment method includes the Band Ec Requirement.) (3) Radiated emissions measured in frequency range above 1000MHz were made with instrument using Peak detector mode and AV detector mode of the emission ° (4) Data of measurement within this frequency. Targe shown "*" in the table above means reading of emissions are attenuated more than 20dB below the permissible limits or the fi strength is too small to be measured. (5) A preamp and high pass filter were used for this test in order to provide suffici measurement sensitivity. (6) EUT Orthogonal Axis : "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand 											
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0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
0.0		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
		"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
	80.0 dB	"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
	80.0 dB	"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
	80.0 dB	"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
	80.0 dB	"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
	80.0 dB	"X" - d	-	Laid on	Table ;	"Y" - denote	es Vertic	al Stand ;	"Z" - der	notes Side S	Stand
1000.000 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 M	80.0 dB	"X" - d	-	Laid on	Table ; i	"Y" - denote	es Vertic	al Stand ;	"Z" - der		Stand
	40 1 	"X" - d	-	Laid on	Table ; [·]	"Y" - denote	es Vertic	al Stand ;	"Z" - der		Stand
	80.0 dB 40 1 2 X	"X" - C									Stand



	IT : Afterglow Remote For W					Model	Name :		PL-7602		
rempere	ature :	25 ℃				Relativ	e Humidi	ty:	58 %		
Pressure	:	1010	hPa			Test Vo	oltage :		DC 3V		
Fest Mo	de :	RX M	ode 24	41MHz	- 1Mbps		-				
					<u> </u>						
Freq.	Ant.Pol.	Rea	ding	Ant./CF	Ac	et.	Lir	nit	Ма	rgin	
		Peak	AV		Peak	AV	Peak	AV	Peak	AV	No
(MHz) 601.30	H/V V		(dBuV) 36.14	CF(dB) -5.08	(dBuV/m) 43.14	(dBuV/m) 31.06	(dBuV/m) 74.00	(dBuV/m) 54.00	(dBuV/m) -30.86	(dBuV/m) -22.94	X/
(; (; (,	that th perform 2) Measu fundar "E" de Requin 3) Radiat instrur 4) Data o readin streng 5) A pre measu 6) EUT 0	e Peak r m ∘ uring fre mental fr enotes rement.) ted emis nent usin of measu g of emi th is too amp an urement Drthogor	reading quency requenc band e ssions r ng Peak urement ssions a small to sensitiv sensitiv	complia range f cy°"F" de edge fre measure k detecto t within t are atter o be mea pass fi <i>v</i> ity.	otherwise s nce with the rom 1000 enotes func quency. (ed in freque hus freque nuated mo asured. ilter were	ne QP Lin MHz to (damental This judy uency ran nd AV det ncy rang re than 2 used fo	nits and th 6000MHz frequency gment m nge above ector mod e shown " 0dB below or this tes	or the 1 y; "H" der ethod in e 1000M le of the e v the per st in orc	lode meas Oth harmo notes spuri cludes the Hz were emission e table abo missible lin ler to pro	surement of onic of hig ous freque e Band I made wit ove means nits or the ovide suffi	ghes ency Edg h a s the
80.0 dBu	i¥/m										
40 2 ×											



EUT :		After	alow Re	emote F	or Wii	Model	Name :		PL-7602		
Tempera	ture :	25 °C					e Humidi		58 %		
Pressure		1010					oltage :		DC 3V		
Test Mod				41MHz	- 1Mbps		<u>-</u>				
				· · · · · · · -							
Freq.	Ant.Pol.	Rea	ding	Ant./CF	Ad	et.	Lir	nit	Ма	rgin	
		Peak	AV		Peak	AV	Peak	AV	Peak	AV	Not
(MHz) 1581.32	H/V H		(dBuV) 34.21	CF(dB) -5.30	(dBuV/m) 41.28	(dBuV/m) 28.91	(dBuV/m) 74.00	(dBuV/m) 54.00)(dBuV/m) -32.72	(dBuV/m) -25.09	X/F
(2 (3 (4 (5) (6)	 All reat that the perfor Mease fundared fundared	e Peak I m ∘ uring fre mental fr enotes rement.) ted emis ment usi of measu g of emi th is too amp an urement Drthogor	reading quency requence band e ssions ng Peal uremen ssions small to sensitiv aal Axis	complia range f cy°"F" de edge fre measure k detecto t within t are atter o be mea pass f <i>i</i> ty.	nce with the rom 1000 motes fun quency. (ed in freque bis freque nuated mo asured. ilter were	ne QP Lin MHz to 6 damental This judg uency range nd AV det ency range re than 2 used fo	nits and th 6000MHz frequency gment mod ector mod e shown " 0dB below or this tes	or the 1 y; "H" der ethod in e 1000M le of the e t * " in the v the period st in orc	Oth harmonotes spuri cludes th IHz were emission e table abo missible lin	surement of onic of hig ious freque e Band I made wit ove means mits or the ovide suffi	ghes ency Edge h ar s the fielc
40 1 ×											
0.0	3550.00	6100.00	8650	.00 112	200.00 137	50.00 163	00.00 188	50.00 21	400.00	26500.00	MHz

Report No.: NEI-FICP-1-1211C117



(MHz) 1593.80 Remark : (1) (2) (3)	All readi that the perform Measuri fundame "E" der Require Radiate	Readin Peak (BUV) (c 7.44 3 ings are Peak re o ing frequental fre notes ba ment.)	de 248	nt./CF CF(dB) -5.15 unless o complia	Peak (dBuV/m) 42.29 otherwise	Test V ct. AV (dBuV/m) 30.77 stated QI	74.00 P in colum	nit AV (dBuV/m) 54.00	58 % DC 3V Mar Peak (dBuV/m) -31.71	AV	Not X/I
Test Mode Freq. A (MHz) 593.80 593.80 (1) Remark : (1) (2) (3)	All readi that the perform Measuri fundame "E" der Require Radiate	RX Mo Readin Peak BUV) (c 7.44 3 ings are Peak re o ing frequental fre notes ba ment.)	de 248	nt./CF CF(dB) -5.15 unless o complia	A Peak (dBuV/m) 42.29 otherwise	ct. AV (dBuV/m) 30.77 stated QI	Lir Peak (dBuV/m) 74.00 P in colum	nit AV (dBuV/m) 54.00	Mar Peak (dBuV/m)	AV (dBuV/m)	
Freq. A (MHz) 593.80 Remark : (1) (2)	All reading that the perform fundame "E" der Require Radiate	Readin Peak (BUV) (c 7.44 3 ings are Peak re o ing frequental fre notes ba ment.)	ng A AV IBuV) (5.92 - Peak u ading o uency quency	nt./CF CF(dB) -5.15 unless o complia	A Peak (dBuV/m) 42.29 otherwise	AV (dBuV/m) 30.77 stated QI	Peak (dBuV/m) 74.00 P in colum	AV (dBuV/m) 54.00	Peak (dBuV/m)	AV (dBuV/m)	
(MHz) 593.80 Remark : (1) (2)	All reading that the perform Measure fundame "E" der Require Radiate	Peak dBuV) (c 7.44 3 ings are Peak re o ing frequental fre notes ba ment.)	AV IBuV) (5.92 Peak u ading o uency quency	CF (dB) -5.15 unless o complia	Peak (dBuV/m) 42.29 otherwise	AV (dBuV/m) 30.77 stated QI	Peak (dBuV/m) 74.00 P in colum	AV (dBuV/m) 54.00	Peak (dBuV/m)	AV (dBuV/m)	
(MHz) 593.80 Remark : (1) (2)	All reading that the perform Measure fundame "E" der Require Radiate	Peak dBuV) (c 7.44 3 ings are Peak re o ing frequental fre notes ba ment.)	AV IBuV) (5.92 Peak u ading o uency quency	CF (dB) -5.15 unless o complia	Peak (dBuV/m) 42.29 otherwise	AV (dBuV/m) 30.77 stated QI	Peak (dBuV/m) 74.00 P in colum	AV (dBuV/m) 54.00	Peak (dBuV/m)	AV (dBuV/m)	
593.80 Remark : (1) (2) (3)	V 4 All readi that the perform Measuri fundam "E" der Require Radiate	7.44 3 ings are Peak re o ing frequental fre notes ba ment.)	5.92 Peak u ading c uency quency	-5.15 unless o complia	42.29 otherwise	30.77 stated QI	74.00 P in colum	54.00			Х/
Remark : (1) (2) (3)	All readi that the perform Measuri fundam "E" der Require Radiate	ings are Peak re o ing frequental fre notes ba ment.)	Peak u ading c uency quency	unless (complia	otherwise	stated QI	^D in colum		01111	20.20	70
	Data of reading strength	ent using measur of emis i is too s mp and ement s	g Peak ement sions a mall to high ensitivi	dge fre neasure detecte within re atter be me pass f ty.	enotes fur equency. ed in frector mode a this frequenuated m asured.	ndamenta (This juc quency ra and AV de ency rang ore than 2	6000MHz I frequenc Igment m nge abov tector moo le shown 20dB belo ¹	or the 1 y; "H" der lethod in re 1000M de of the " * " in the w the per	10de meas Oth harmonotes spuri cludes the IHz were emission e table abo missible lin der to pro	onic of hig ous frequ e Band made wit ove mean nits or the	ghe: enc Edg th a is th e fiel
80.0 dBuV/	/m										
1 ×											
40 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~											-
0.0	3550.00	6100.00	8650.0)0 11;	200.00 13	750.00 16	300.00 18	850.00 21	400.00	26500.00) MHz



		After	glow R	emote F	or Wii	Model	Name :		PL-7602		
Temper	ature :	25 °(-			Relativ	ve Humid	ity:	58 %		
- Pressur		1010					oltage :	•	DC 3V		
Fest Mc	ode :	RX N	lode 24	480MHz	- 1Mbps		0				
Freq.	Ant.Pol.	Rea	ding	Ant./CF	A	ct.	Lir	nit	Mar	rgin	
/ 		Peak	AV		Peak	AV	Peak	AV	Peak	AV	No
(MHz) 549.26	H/V H	(dBuV) 45.03	(dBuV) 34.55	CF(dB) -5.66	(dBuV/m) 39.37	(dBuV/m) 28.89	(dBuV/m) 74.00	(dBuV/m 54.00) (dBuV/m) -34.63	(dBuV/m) -25.11	Х/
	 All reat that the perfor Mease funda "E" deprived reading Requision (3) Radia instrumination (4) Data deprived reading (5) A presence mease (6) EUT (5) A presence for a struct for a struc	e Peak m ∘ uring fre mental f enotes rement. ted em ment us of meas of meas of meas of em yth is too amp an uremen Orthogo	reading equency requent band) issions ing Pea uremer issions o small f nd high t sensiti nal Axis	y complia y range cy∘"F" de edge fre measure k detecte t within are atten o be me n pass vity.	from 100 enotes fur equency. ed in freq or mode a this frequ nuated m asured. filter were	the QP Lin OMHz to Indamenta (This juc quency ra and AV de ency rang ore than 2 e used fo	mits and th 6000MHz I frequenc Igment m inge abov tector moo ge shown 20dB belov or this te	nen QP M or the 1 y; "H" der lethod in re 1000M de of the "*" in the w the per st in ord	ote	urement of onic of hig ous freque e Band E made with ove means nits or the vide suffi	ihes ency Edge n ai s the field
40 1 X											

5. NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES / LIMIT

	FCC Part15 (15.247) , Subpart C						
Section	Test Item	Frequency Range (MHz)	Result				
15.247 (a)(1)(iii)	Number of Hopping Channel	2400-2483.5	PASS				

5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Ite	em	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
	1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 16.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.1.2 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 = Auto.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

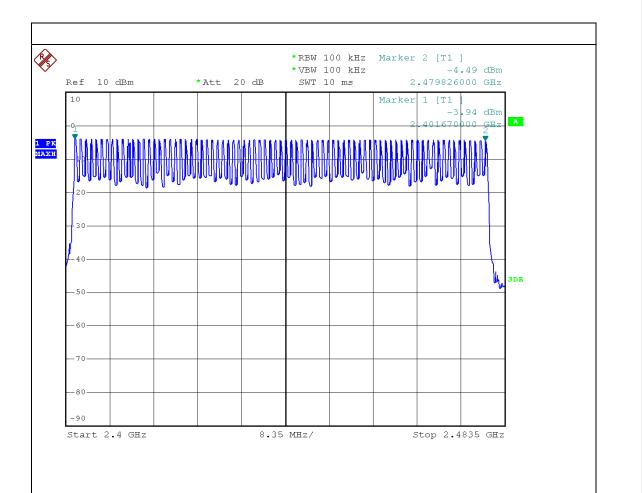
5.1.5 EUT OPERATION CONDITIONS



EUT :	Afterglow Remote For Wii	Model Name :	PL-7602	
Temperature :	25 ℃	Relative Humidity:	58 %	
Pressure :	1009 hPa	Test Voltage :	DC 3V	
Test Mode :	Hopping Mode -1Mbps			
	•			

79

Number of Hopping Channel



Date: 28.NOV.2012 11:03:24

6. AVERAGE TIME OF OCCUPANCY

6.1 APPLIED PROCEDURES / LIMIT

	FCC Part15 (15.247) , Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS		

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. 16.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

6.1.2 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyzer
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- \tilde{h} . Measure the maximum time duration of one single pulse.
- i. DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 3.37 x 31.6 = 106.6 within 31.6 seconds.
- j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 5.06 x 31.6 = 160 within 31.6 seconds.
- k. DH1 Packet permit maximum 1600 / 79 /2 = 10.12 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 10.12 x 31.6 = 320 within 31.6 seconds.

6.1.3 DEVIATION FROM STANDARD

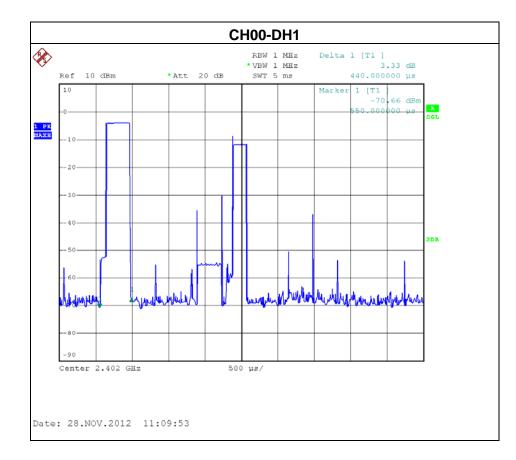
No deviation.

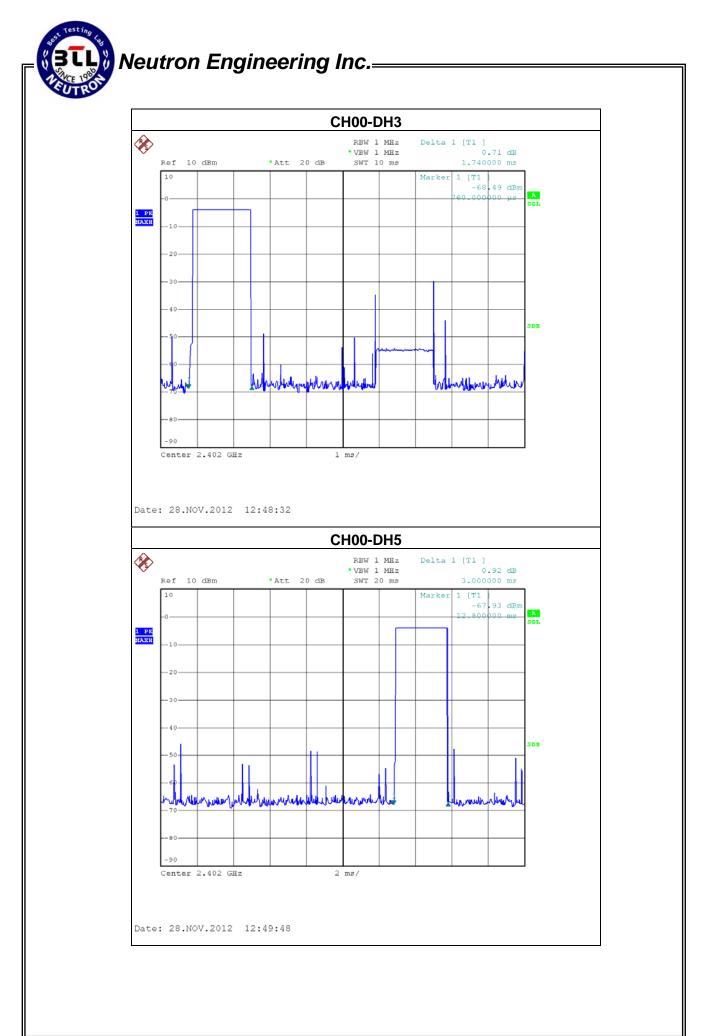
lest ing	
Neutron Engineering Ind	C
UTRO	
.4 TEST SETUP	
EUT	SPECTRUM
	ANALYZER
.5 EUT OPERATION CONDITIONS	
EUT tested system was configured as the sta	atements of 4.1.6 Unless otherwise a specia
erating condition is specified in the follows durin	ng the testing.



EUT:	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH00-DH1/DH3/DH5 -1Mbps		

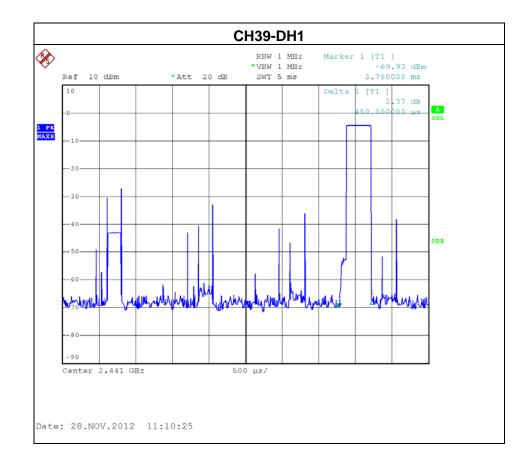
Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2402 MHz	3.0000	0.3200	0.4000
DH3	2402 MHz	1.7400	0.2784	0.4000
DH1	2402 MHz	0.4400	0.1408	0.4000

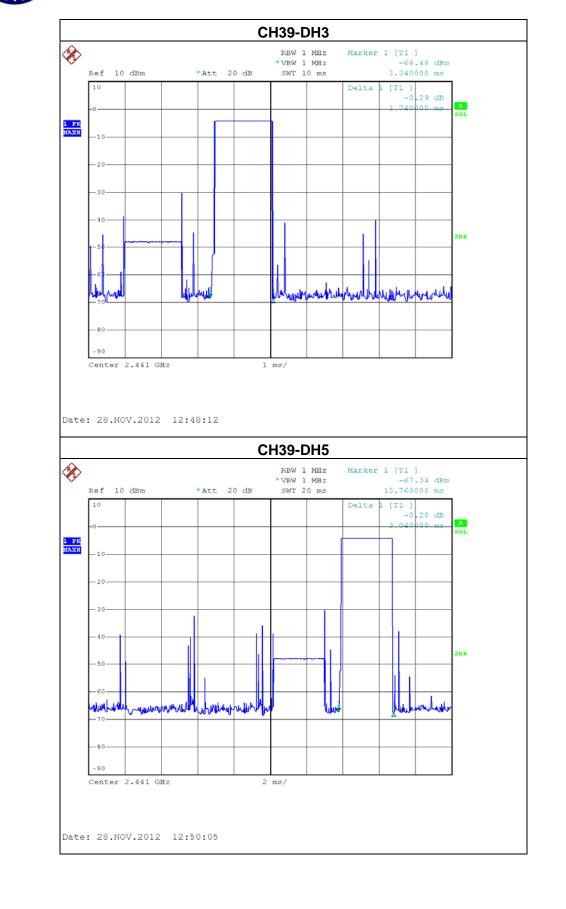




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH39 -DH1/DH3/DH5 -1Mbps		

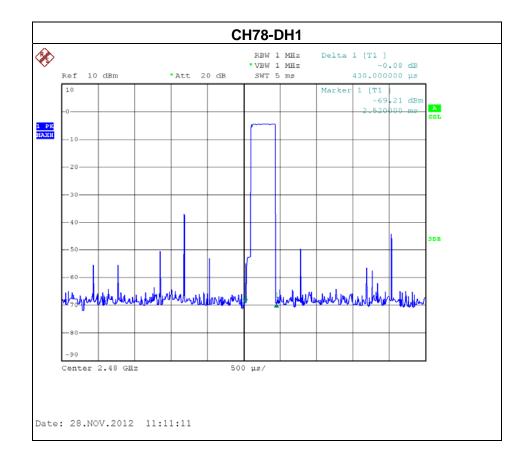
Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2441 MHz	3.0400	0.3243	0.4000
DH3	2441 MHz	1.7400	0.2784	0.4000
DH1	2441 MHz	0.4500	0.1440	0.4000

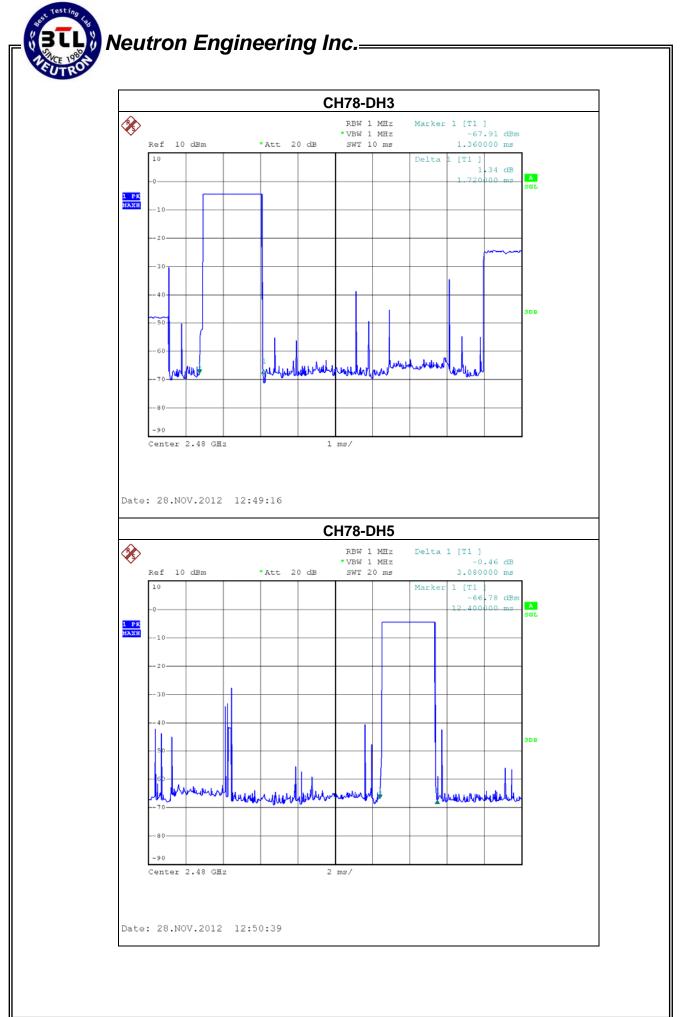




EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH78 -DH1/DH3/DH5-1Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2480 MHz	3.0800	0.3285	0.4000
DH3	2480 MHz	1.7200	0.2752	0.4000
DH1	2480 MHz	0.4300	0.1376	0.4000





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7. HOPPING CHANNEL SEPARATION MEASUREMENT

7.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

7.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 16.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency > Measurement Bandwidth or Channel Separation	
RB	30 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.1.2 TEST PROCEDURE

- a. The EUT must have its hopping function enabled
- b. Span = wide enough to capture the peaks of two adjacent channels Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span Video (or Average) Bandwidth (VBW) ≥ RBW Sweep = auto Detector function = peak Trace = max hold

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP



Spectrum Analayzer

EUT

7.1.5 EUT OPERATION CONDITIONS

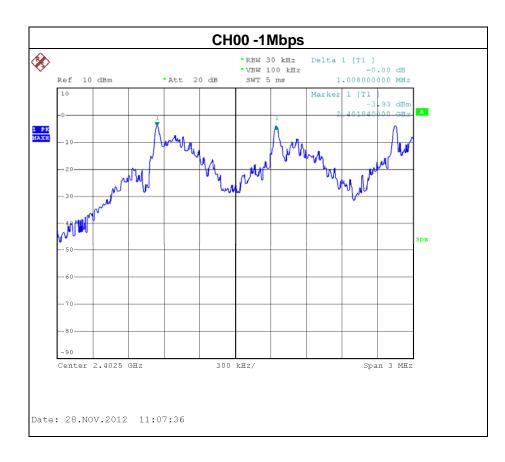
The EUT was programmed to be in hopping mode.

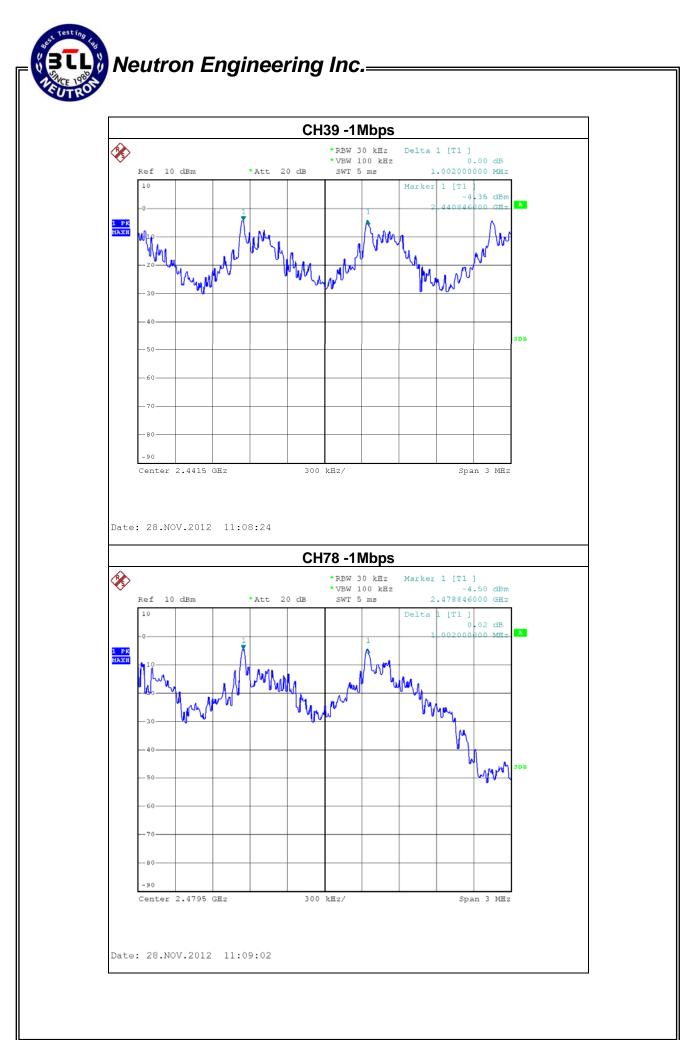


EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH00 / CH39 /CH78-1Mbps	·	

Frequency	Ch. Separation (MHz)	20dB Bandwidth (MHz)	Result
2402 MHz	1.008	0.93	Complies
2441 MHz	1.002	0.97	Complies
2480 MHz	1.002	0.99	Complies

Ch. Separation Limits: >20dB bandwidth or >2/3 of 20dB bandwidth





8. BANDWIDTH TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247), Subpart C				
Section Test Item Limit			Frequency Range (MHz)	Result
15.247 (a)(2)	Bandwidth	<= 1 MHz (20dB bandwidth)	2400-2483.5	PASS

8.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 16.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)
VB	100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.1.2 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= 30KHz, VBW=100KHz, Sweep time = Auto.

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP

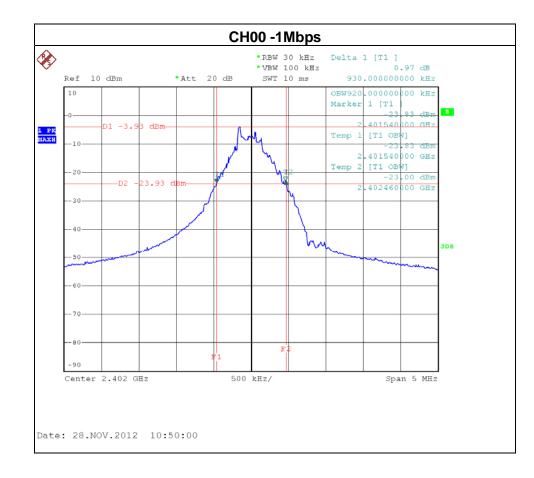
EUT	SPECTRUM	
	ANALYZER	

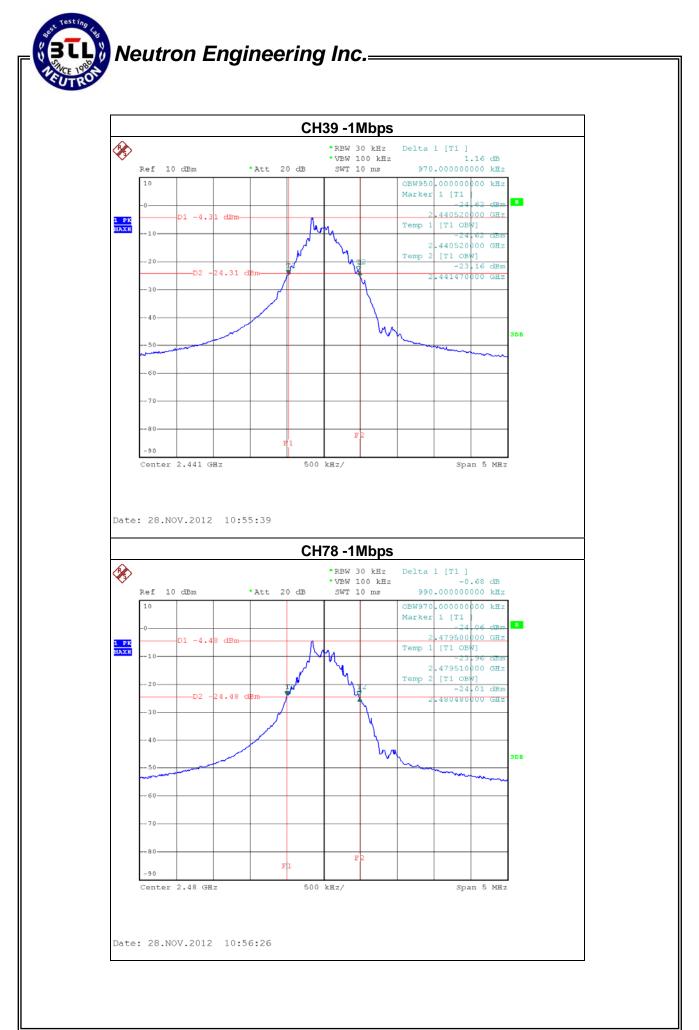
8.1.5 EUT OPERATION CONDITIONS



EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity :	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH00 / CH39 /CH78-1Mbps		

Frequency	20dB Bandwidth (MHz)	99% OBW (MHz)	Channel Separation (MHz)	Result
2402 MHz	0.93	0.92	<= 1MHz	PASS
2441 MHz	0.97	0.95	<= 1MHz	PASS
2480 MHz	0.99	0.97	<= 1MHz	PASS





9. PEAK OUTPUT POWER TEST

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(1)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS

9.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 16.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

9.1.2 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= 3MHz, VBW= 3MHz, Sweep time = Auto.

9.1.3 DEVIATION FROM STANDARD

No deviation.

9.1.4 TEST SETUP

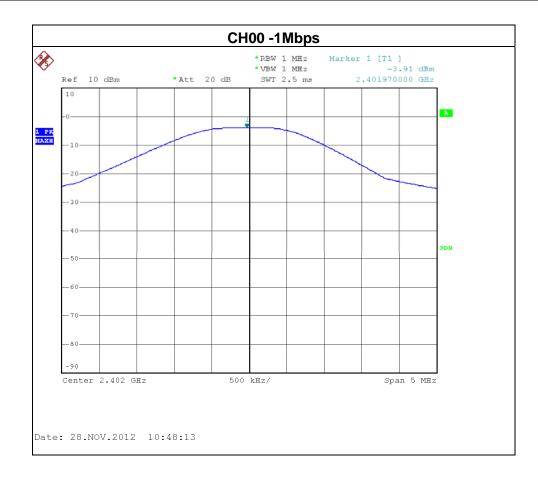


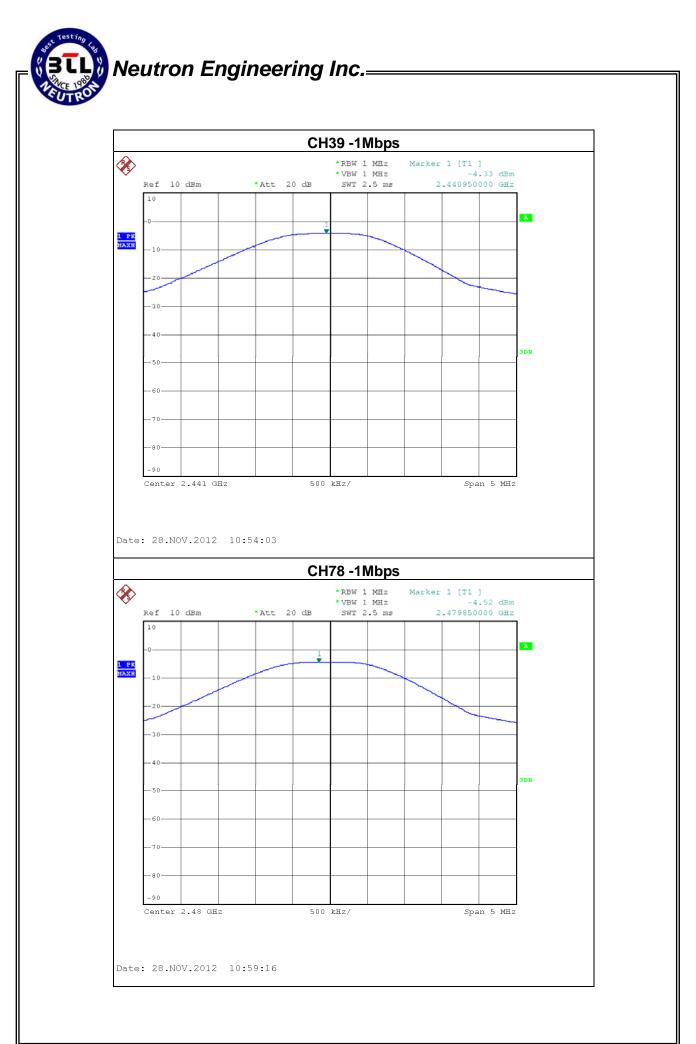
9.1.5 EUT OPERATION CONDITIONS



EUT:	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity :	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH00/ CH39 /CH78 -1Mbps		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH00	2402	-3.91	21	0.125
CH39	2441	-4.33	21	0.125
CH78	2480	-4.52	21	0.125





10. ANTENNA CONDUCTED SPURIOUS EMISSION

10.1 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

10.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Iten	N Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 16.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of Equipment List is One Year.

10.1.2 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 = Auto.

10.1.3 DEVIATION FROM STANDARD

No deviation.

10.1.4 TEST SETUP

EUT	SPECTRUM	
	ANALYZER	

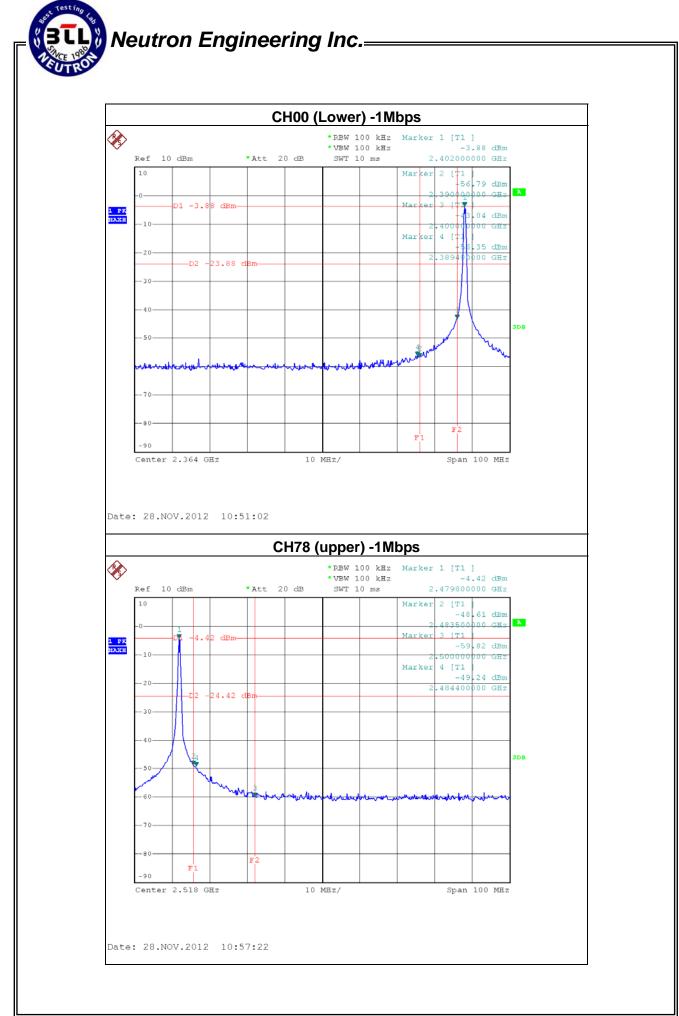
10.1.5 EUT OPERATION CONDITIONS

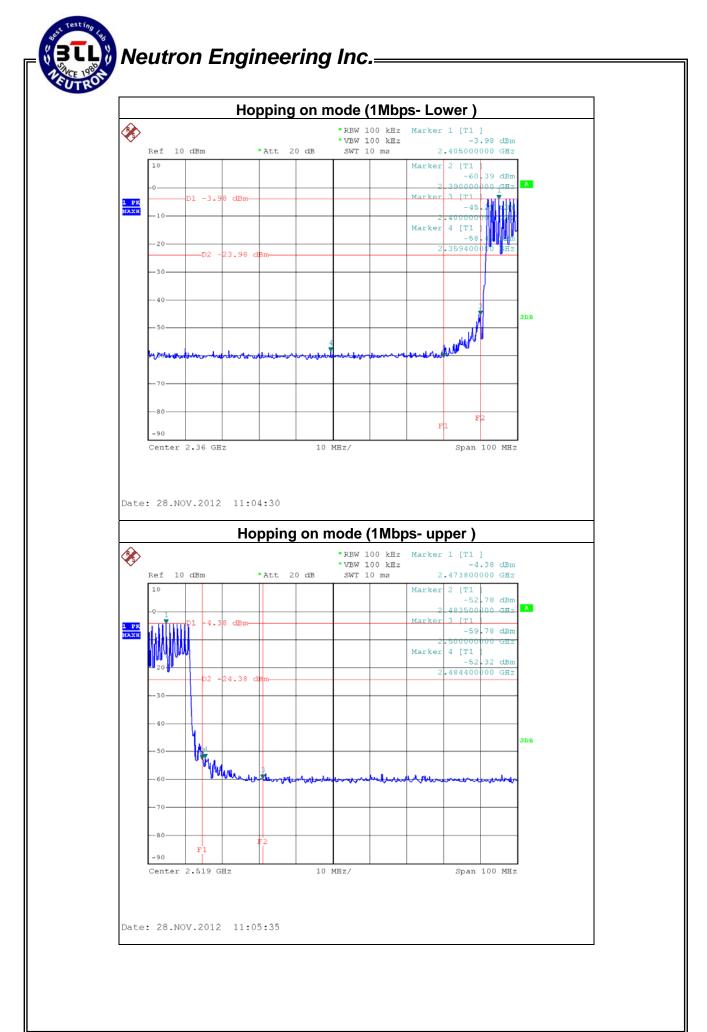


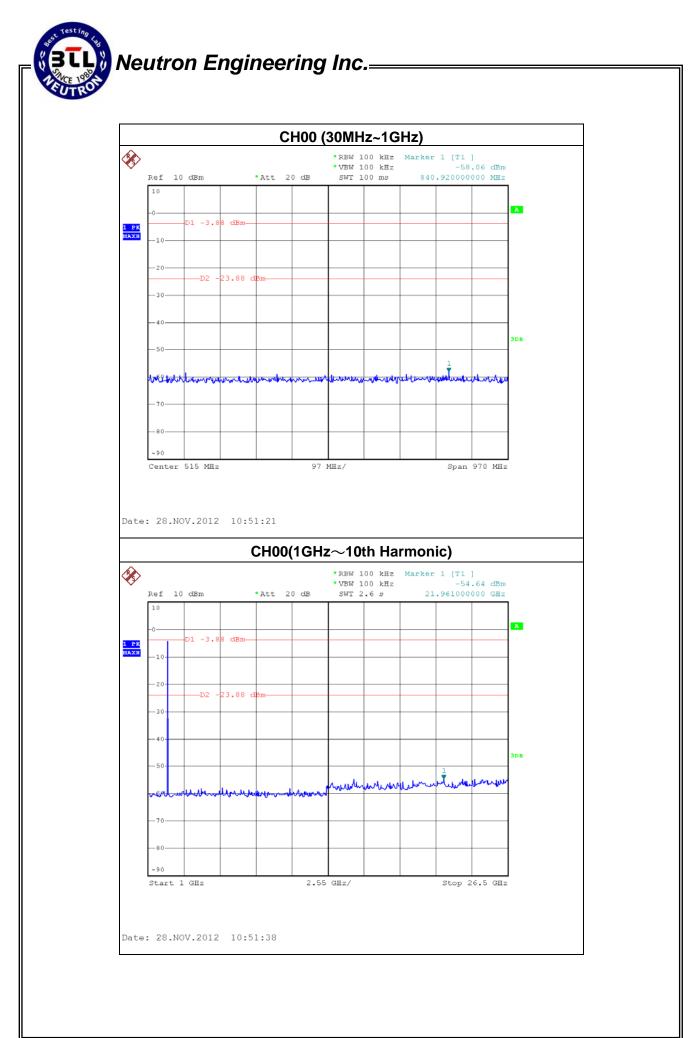
EUT :	Afterglow Remote For Wii	Model Name :	PL-7602
Temperature :	25 ℃	Relative Humidity:	58 %
Pressure :	1009 hPa	Test Voltage :	DC 3V
Test Mode :	CH00 / CH39/ CH78-1Mbps & Hopping on mode (1Mbps)		

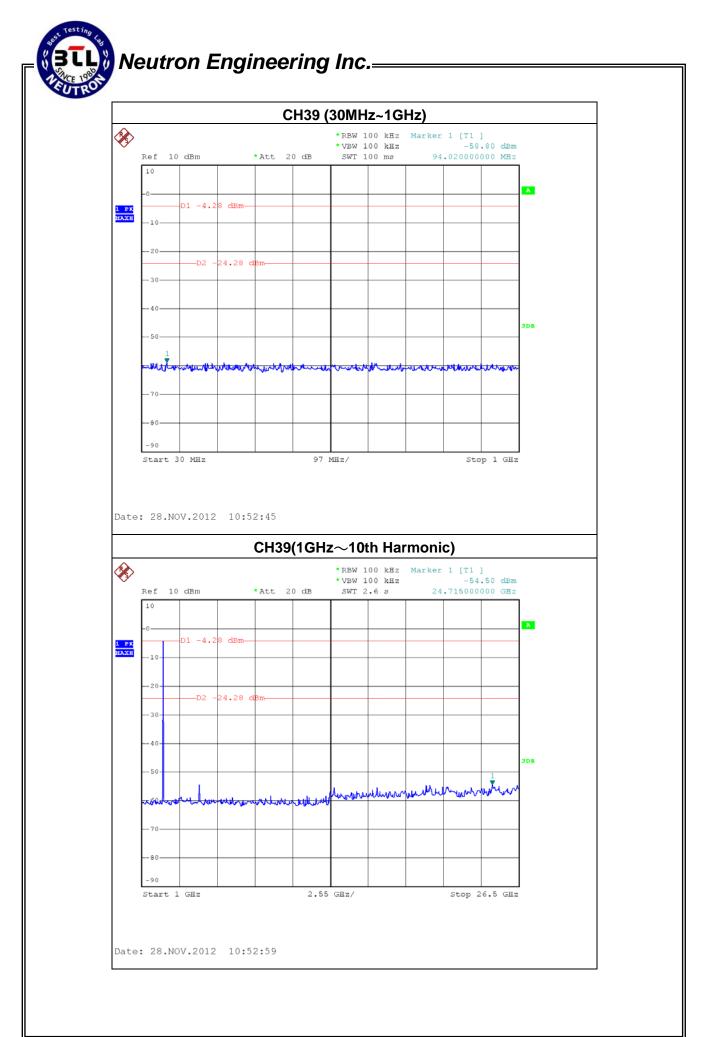
The max. radio frequency power in any 100kHz bandwidth within the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.		
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)	
2400.00	-43.04	2483.50	-48.61	
Result				

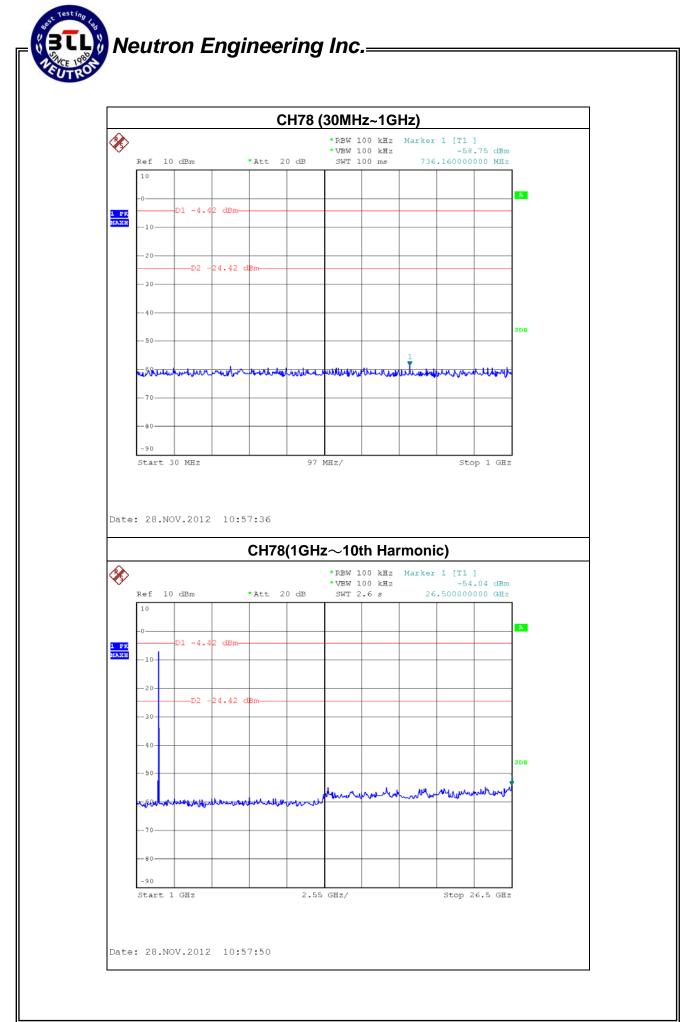
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.













11. EUT TEST PHOTO

Radiated Measurement Photos 9K-30MHz





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Radiated Measurement Photos 30-1000MHz







Radiated Measurement Photos Above 1000MHz



