



**Neutron Engineering Inc.**

# FCC/IC Radio Test Report

**FCC ID: ZQO-DWPCIE83**

**IC: 2581A-DWPCIE83**

This report concerns (check one) :  Original Grant  Class II Change

**Issued Date** : Aug. 02, 2011  
**Project No.** : 1107C138  
**Equipment** : Half-size mini-PCIe digital wireless audio module  
**Model Name** : DWPCIE83  
**Applicant** : STANDARD MICROSYSTEMS CORPORATION  
**Address** : 3930, EAST RAY ROAD SUITE 200, PHOENIX,  
Arizona, 85044-7176, United States

**Tested by:**  
Neutron Engineering Inc. EMC Laboratory  
**Date of Receipt:** Jul. 15, 2011  
**Date of Test:**  
Jul. 15, 2011 ~ Aug. 01, 2011

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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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## **1. CERTIFICATION**

Equipment : Half-size mini-PCle digital wireless audio module

Brand Name : SMSC

Model Name : DWPCle83

Applicant : STANDARD MICROSYSTEMS CORPORATION

Date of Test : Jul. 15, 2011 ~ Aug. 01, 2011

Test Item : ENGINEERING SAMPLE

Standards : FCC Part15, Subpart C(15.247) / ANSI C63.4 : 2003; Canada RSS-210:2010

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FICP-2-1107C138) 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).

**Test result included in this report is only for the 5.8G mode part of the product.**



**2. SUMMARY OF TEST RESULTS**

<b>FCC Part15 (15.247) , Subpart C / RSS-210: 2010</b>				
Standard	Section	Test Item	Judgment	Remark
RSS-GEN 7.2.2	15.207	Conducted Emission	PASS	
RSS-210 A8.5	15.247 (d)	Antenna conducted Spurious Emission	PASS	
RSS-210 A8.2(a)	15.247 (a)(2)	6dB Bandwidth	PASS	
RSS-210 A8.4(4)	15.247 (b)	Peak Output Power	PASS	
RSS-210 A8.2(b)	15.247 (e)	Power Spectral Density	PASS	
-	15.203	Antenna Requirement	PASS	
RSS-210 Annex 8 (A8.5)	15.247(d)	Transmitter Radiated Emissions FCC Limit: Table 15.209 RSS-210 Limit: Table 3	PASS	
RSS- Gen 7.2.3	Note(1)	Receiver Radiated Emissions RSS-210 Limit: Table 3	PASS	
-	1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	

Test procedures according to the technical standards:

**NOTE:**

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



**2.1 TEST FACILITY**

The test facilities used to collect the test data in this report is **DG-CB02/DG-C02** at the location of No.3, Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792  
 Neutron's test firm number is 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 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)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

**B. Radiated Measurement :**

Test Site	Method	Measurement Frequency Range	Ant. H / V	U , (dB)	NOTE
DG-CB03	CISPR	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	



**3. GENERAL INFORMATION**

**3.1 GENERAL DESCRIPTION OF EUT**

Equipment	Half-size mini-PCle digital wireless audio module
Brand Name	SMSC
Model Name	DWPCle83
OEM Brand/Model Name	N/A
Model Difference	N/A
Product Description	The EUT is a Half-size mini-PCle digital wireless audio module.
	Operation Frequency: 5736~5814 MHz
	Modulation Type: QPSK
	Bit Rate of Transmitter 22Mbps
	Number of Channel 3 CH, Please see Note 2. (please see page 10)
	Antenna Designation: Please see Note 3. (please see page 10)
	Antenna Gain(Peak)
	Peak Output Power: 13.50 dBm-ANT A 13.61 dBm-ANT B
	Average Output Power: 9.94 dBm-ANT A 9.53 dBm-ANT B
	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	#1: DC Voltage supplied from Notebook USB Port. #2: DC Voltage supplied from the test fixture modular
Power Rating	#1: I/P AC 230V/50Hz O/P DC 5V #2: DC 3.3V
Connecting I/O Port(s)	Please refer to the User's Manual
Products Covered	N/A

Note:

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





2.

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	5736	02	5762	03	5814

3. Antenna Specification:

Ant.	Brand	Model Name/Part No.	Antenna Type	Connector	Gain (dBi)
1	WNC	WNC_ANT_WIMAX_3D-2_2300-5850MHz	PIFA	U. FL	2.4GHz – +3.65dBi peak 5.2GHz – +4.80dBi peak 5.8GHz – +5.21dBi peak
2	WNC	Main Antenna: 81.EDG15.GCP	PIFA	U. FL	2.4GHz – -0.21dBi peak 5.2GHz – +0.14dBi peak 5.8GHz – -1.07dBi peak
	WNC	Aux Antenna: 81.EDG15.GCN	PIFA	U. FL	2.4GHz – -1.36dBi peak 5.2GHz – -2.98dBi peak 5.8GHz – -1.89dBi peak
3	WNC	Main Antenna: 81.EDG15.GCU	PIFA	U. FL	2.4GHz – -2.67dBi peak 5.2GHz – -2.80dBi peak 5.8GHz – -0.90dBi peak
	WNC	Aux Antenna: 81.EDG15.GCT	PIFA	U. FL	2.4GHz – -1.21dBi peak 5.2GHz – -2.02dBi peak 5.8GHz – -0.94dBi peak
4	YAGEO	Main CAN43131LMVT05631	PIFA	U. FL	2.4GHz – -2.91dBi peak 5.2GHz – -5.28dBi peak 5.8GHz – -2.97dBi peak
	YAGEO	Aux CAN43131LMVT05632	PIFA	U. FL	2.4GHz – -2.71dBi peak 5.2GHz – -2.34dBi peak 5.8GHz – -3.03dBi peak
5	YAGEO	Main CAN43131WLVT05643	PIFA	U. FL	2.4GHz – -2.66dBi peak 5.2GHz – -1.37dBi peak 5.8GHz – -2.51dBi peak
	YAGEO	Aux CAN43131WLVT05644	PIFA	U. FL	2.4GHz – -1.79dBi peak 5.2GHz – -4.38dBi peak 5.8GHz – -2.76dBi peak



**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 CHANNEL 01//02/03
Mode 2	Normal Link

The EUT system operated these modes were found to be the worst case during the pre-scanning test as Following: **(Worst case for ANT1)**

For Conducted Test	
Final Test Mode	Description
Mode 2	Normal Link

For Radiated Test	
Final Test Mode	Description
Mode 1	TX Mode CHANNEL 01//02/03

Note:

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

**3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING**

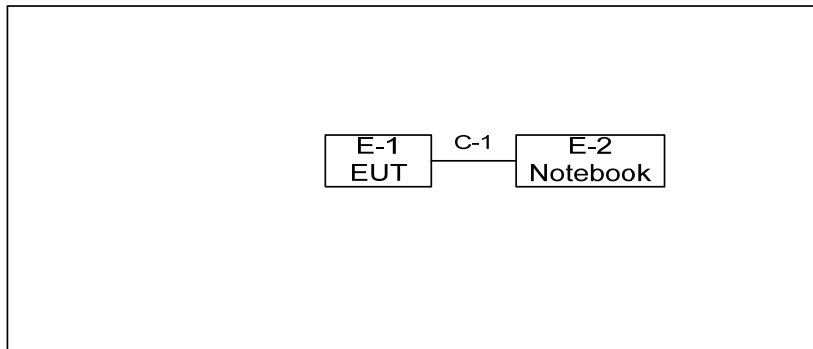
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

Test software Version	Test Program:WxMainGuiCustomer_05		
Frequency	5736 MHz	5762 MHz	5814 MHz
	DEF	DEF	DEF

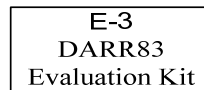


**3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED**

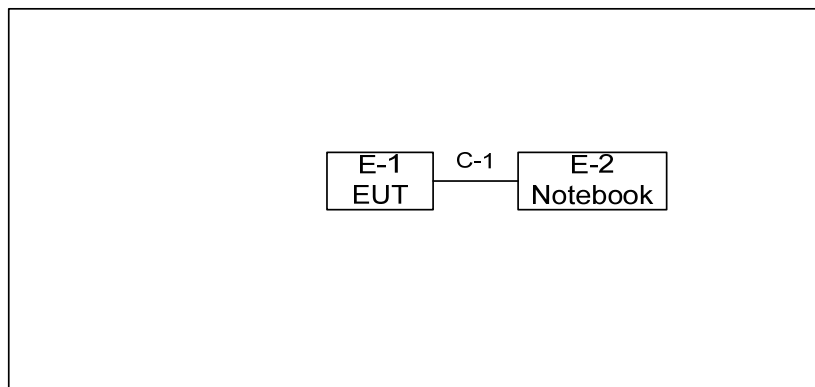
**Conducted Test:**



C-1:USB Cable



**Radiated Test:**



C-1:USB Cable



**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.	Note
E-1	Half-size mini-PCle digital wireless audio module	SMSC	DWPCle83	ZQO-DWPCIE83 / 2581A-DWPCIE83	N/A	EUT
E-2	NOTEBOOK	HP	Probook	DOC	CNUO2203XG	
E-3	DARR83 Evaluation Kit	SMSC	DARR83 Evaluation Kit	N/A	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	NO	0.7M	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm 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
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.0	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	3816/2SH	00052766	May.25.2012
2	LISN	R&S	ENV216	100526	May.25.2012
3	Test Cable	N/A	C_19	N/A	Apr.25.2012
4	EMI TEST RECEIVER	R&S	ESCI	100895	May.26.2012
5	50Ω Terminator	SHX	TF2-3G-A	08122901	May.26.2012

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

The following table is the setting of the receiver

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

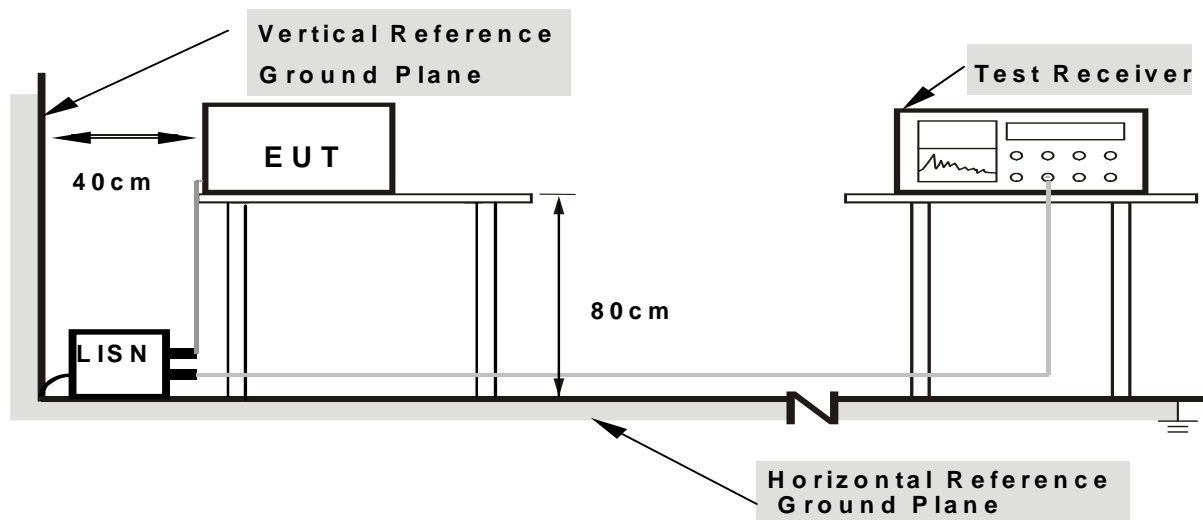
#### 4.1.3 TEST PROCEDURE

- 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.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



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

**2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes**

#### 4.1.6 EUT OPERATING CONDITIONS

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

The EUT was programmed to be in continuously transmitting/Normal Link mode.



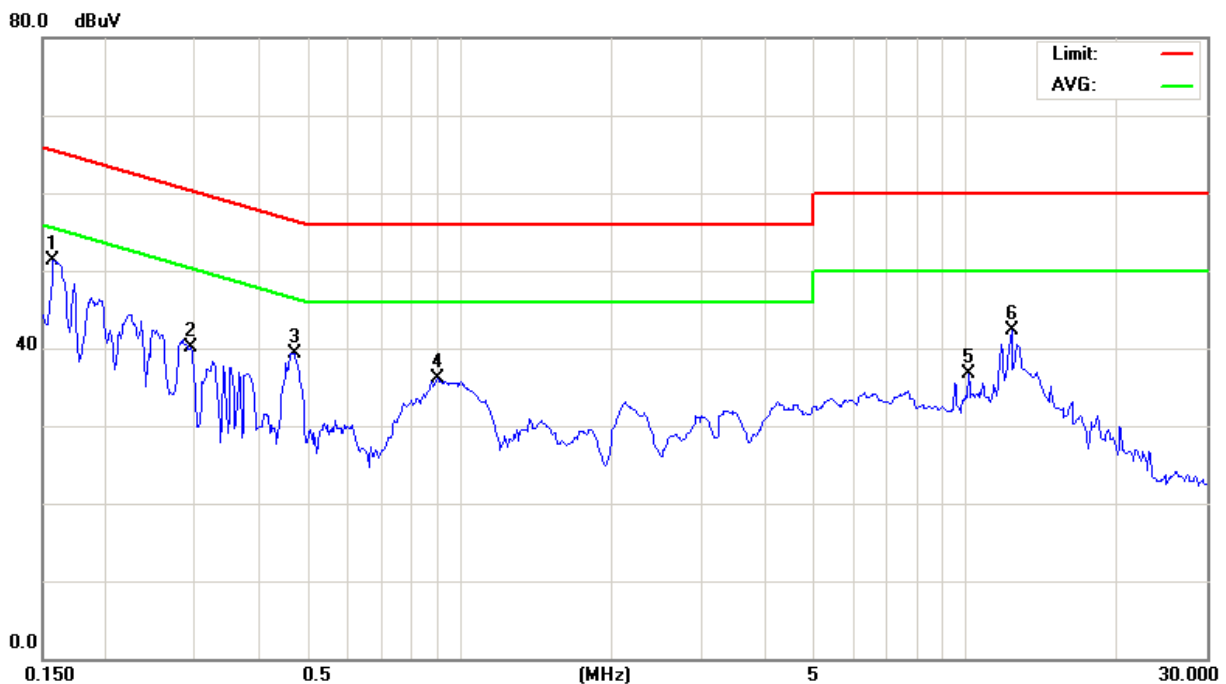
**4.1.7 TEST RESULTS**

EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Normal Link		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.16	Line	51.27	*	65.58	55.58	-14.31	(QP)
0.29	Line	40.11	*	60.40	50.40	-20.29	(QP)
0.47	Line	39.30	*	56.44	46.44	-17.14	(QP)
0.91	Line	36.03	*	56.00	46.00	-19.97	(QP)
10.14	Line	36.77	*	60.00	50.00	-23.23	(QP)
12.32	Line	42.36	*	60.00	50.00	-17.64	(QP)

**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.



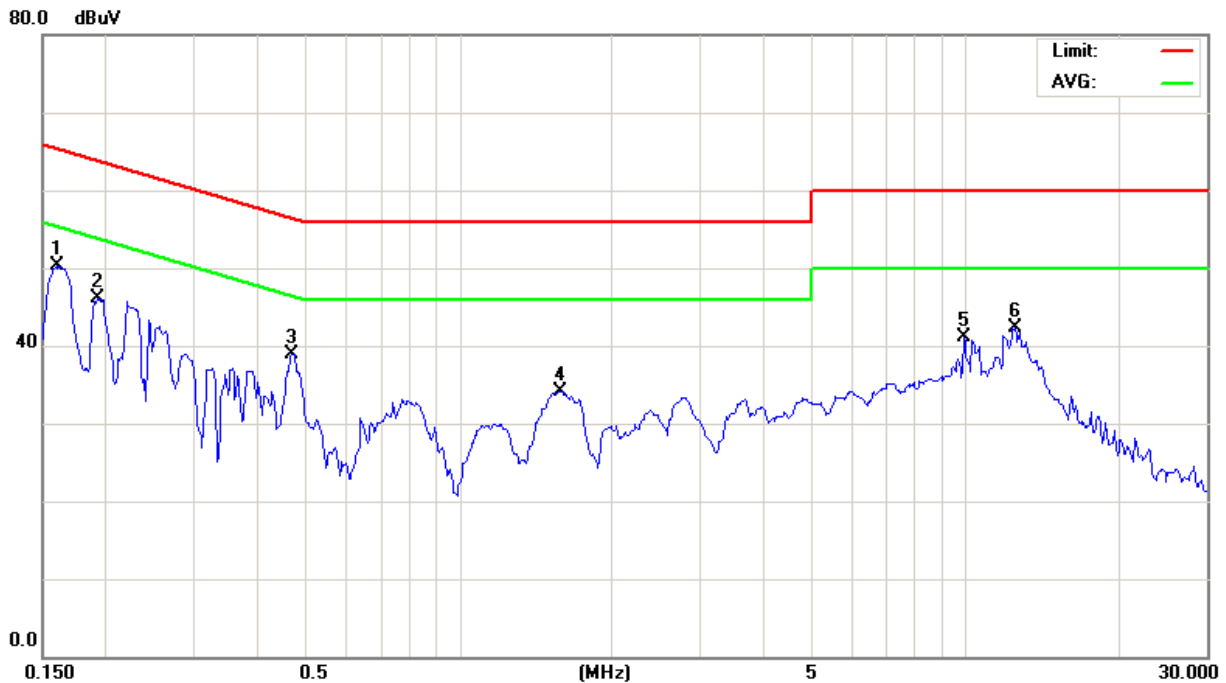


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Normal Link		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.16	Neutral	50.24	*	65.48	55.48	-15.24	(QP)
0.19	Neutral	46.13	*	63.91	53.91	-17.78	(QP)
0.47	Neutral	38.97	*	56.58	46.58	-17.61	(QP)
1.58	Neutral	34.17	*	56.00	46.00	-21.83	(QP)
9.95	Neutral	41.05	*	60.00	50.00	-18.95	(QP)
12.52	Neutral	42.28	*	60.00	50.00	-17.72	(QP)

**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.







**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 (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

**LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)**

FREQUENCY (MHz)	(dBuV/m) (at 1.5m)	
	PEAK	AVERAGE
Above 1000	80	60

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).  
 The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
 Limit line = specific limits (dBuV) + 6 dB

**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 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower



**4.2.2 MEASUREMENT INSTRUMENTS LIST AND SETTING**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Triple Loop Antenna	R&S	HFH2-Z2	830749/020	May.26.2012
2	Bi-log Antenna	Schwarzbeck	VULB9160	9160-3232	May.25.2012
3	Horn Antenna	ETS	3115	00075789	May.11.2012
4	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170340	Dec.14.2011
5	Amplifier	HP	8447D	2944A09673	May.25.2012
6	Amplifier	Agilent	8449B	3008A02274	May.25.2012
7	Amplifier	EMC	EMC2654045	980039	Aug.12.2011
8	Test Receiver	R&S	ESCI	100895	May.25.2012
9	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011
10	Test Cable	N/A	C-01_CB03	N/A	Jul.04.2012
11	Test Cable	HUBER+SUHNER	SUCOFLEX_8m	313794/4	Apr.11.2012
12	Controller	CT	SC100	N/A	N/A
13	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Aug.16.2011
14	26.5G-40G Amplifier	EMC Instruments	EMC2654045	980039	Jun .04.2012

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

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

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



#### **4.2.3 TEST PROCEDURE**

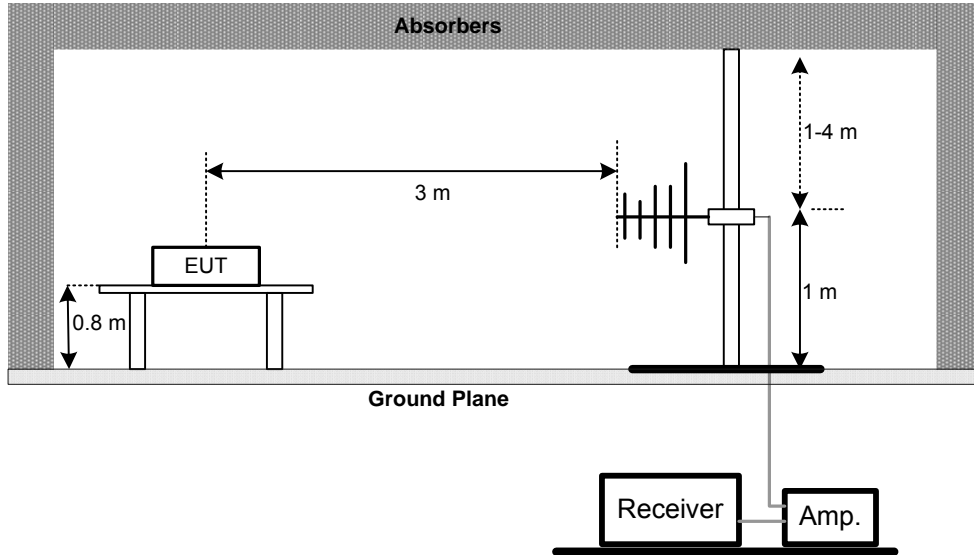
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated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

#### **4.2.4 DEVIATION FROM TEST STANDARD**

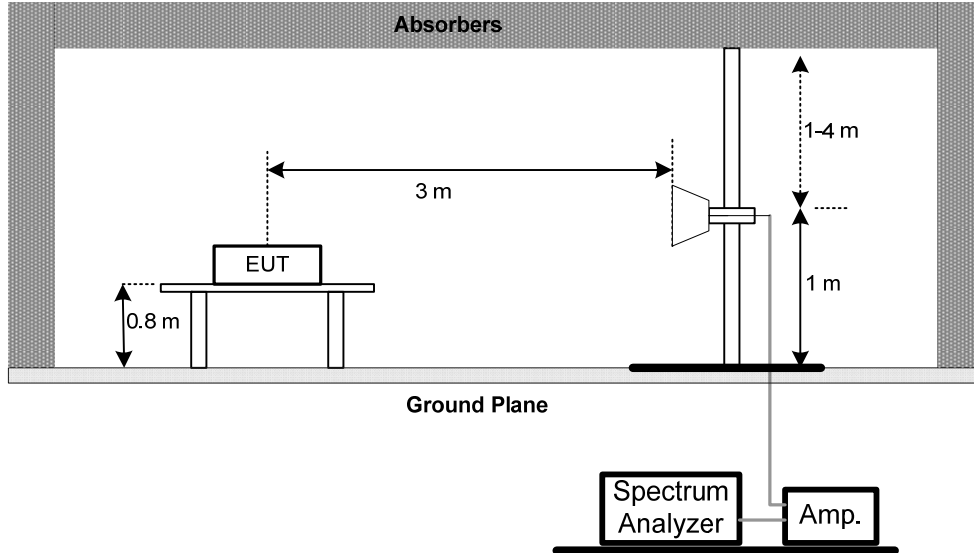
No deviation

**4.2.5 TEST SETUP**

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



(B) Radiated Emission Test Set-Up Frequency Above 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.



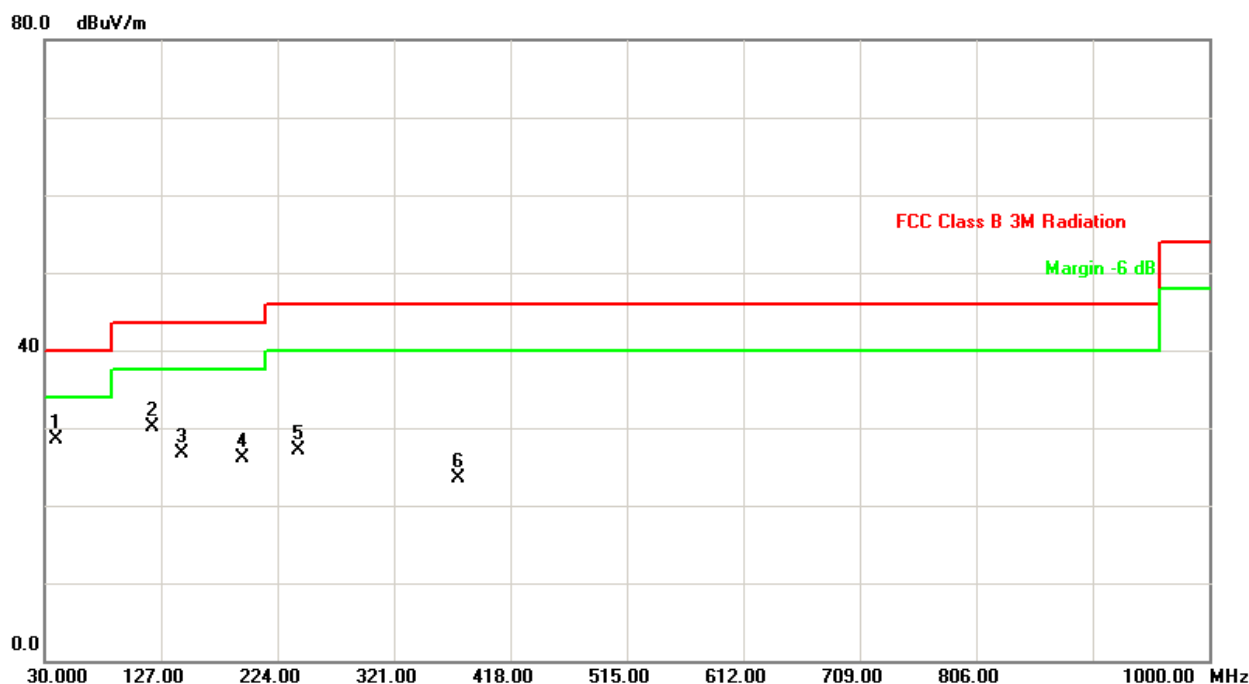
**4.2.7 TEST RESULTS (BETWEEN 30 – 1000 MHZ)**

EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna A)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
39.70	V	45.31	-16.83	28.48	40.00	- 11.52	
119.73	V	48.40	-18.28	30.12	43.50	- 13.38	
143.98	V	44.44	-17.66	26.78	43.50	- 16.72	
194.90	V	42.71	-16.66	26.05	43.50	- 17.45	
240.98	V	42.13	-15.10	27.03	46.00	- 18.97	
374.35	V	33.49	-9.95	23.54	46.00	- 22.46	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



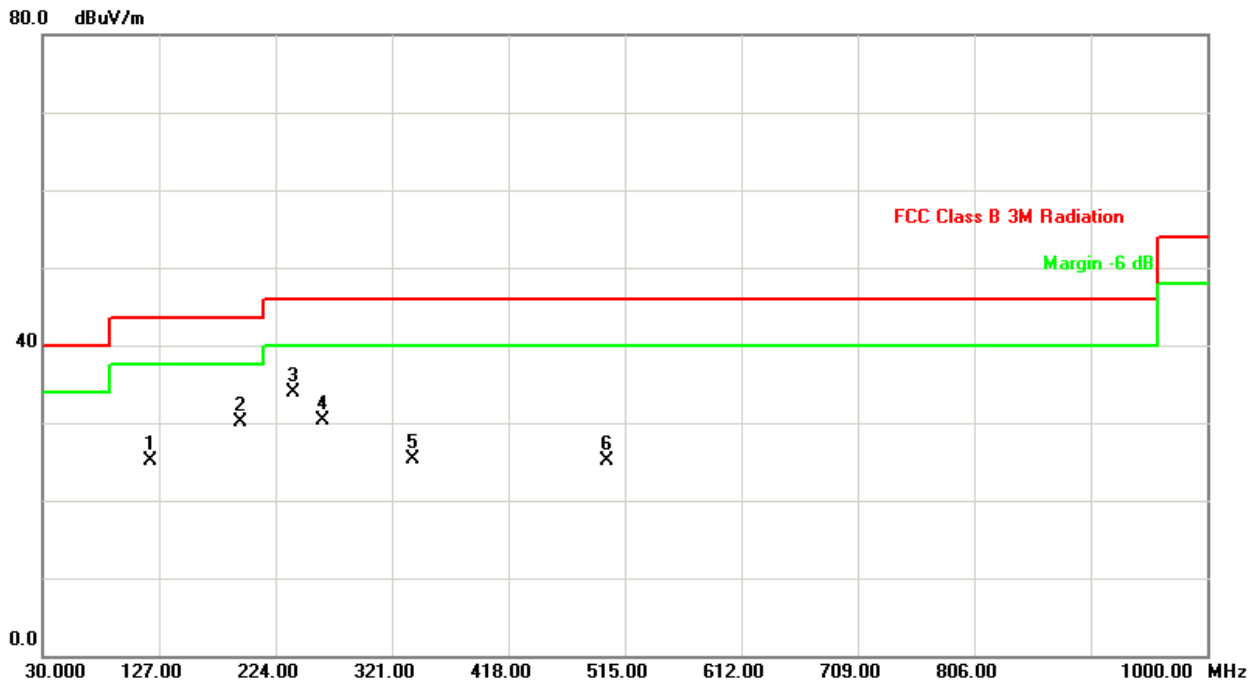


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna A)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
119.73	H	43.41	-18.28	25.13	43.50	- 18.37	
194.90	H	46.86	-16.66	30.20	43.50	- 13.30	
238.55	H	49.14	-15.23	33.91	46.00	- 12.09	
262.80	H	43.94	-13.69	30.25	46.00	- 15.75	
337.98	H	36.52	-11.14	25.38	46.00	- 20.62	
500.45	H	32.45	-7.34	25.11	46.00	- 20.89	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



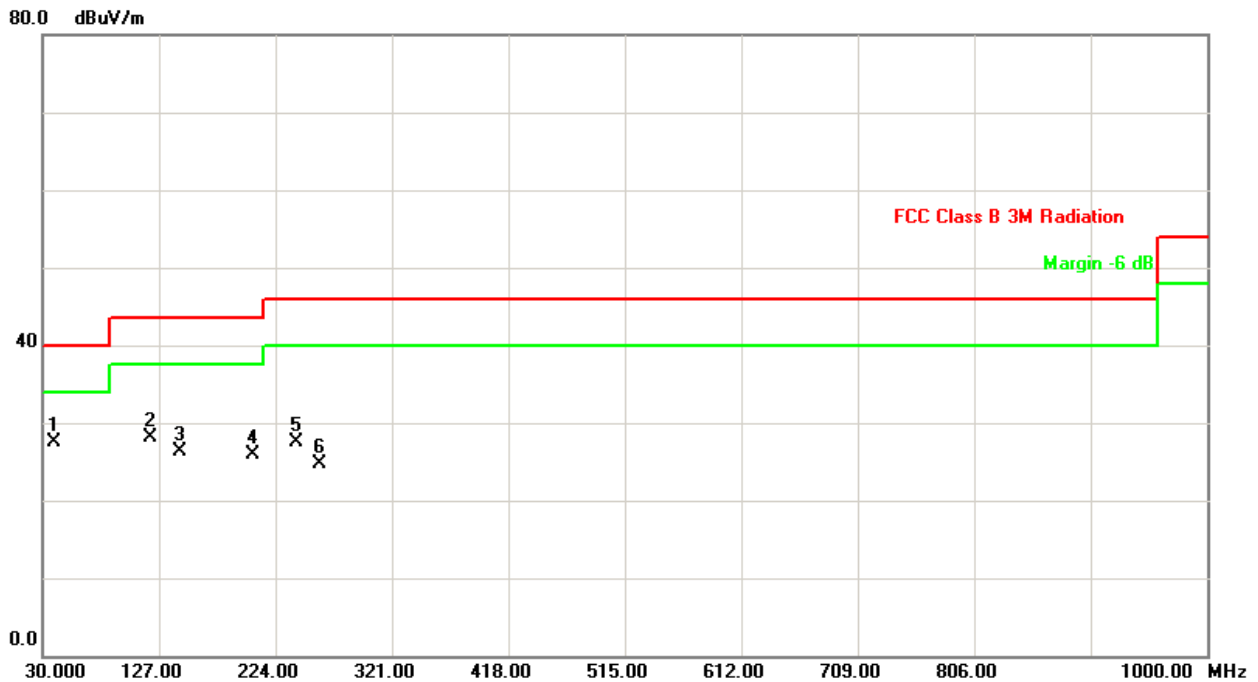


EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz (Antenna A)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
39.70	V	44.31	-16.83	27.48	40.00	- 12.52	
119.73	V	46.40	-18.28	28.12	43.50	- 15.38	
143.98	V	43.94	-17.66	26.28	43.50	- 17.22	
204.60	V	42.26	-16.44	25.82	43.50	- 17.68	
240.98	V	42.63	-15.10	27.53	46.00	- 18.47	
260.38	V	38.62	-13.83	24.79	46.00	- 21.21	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



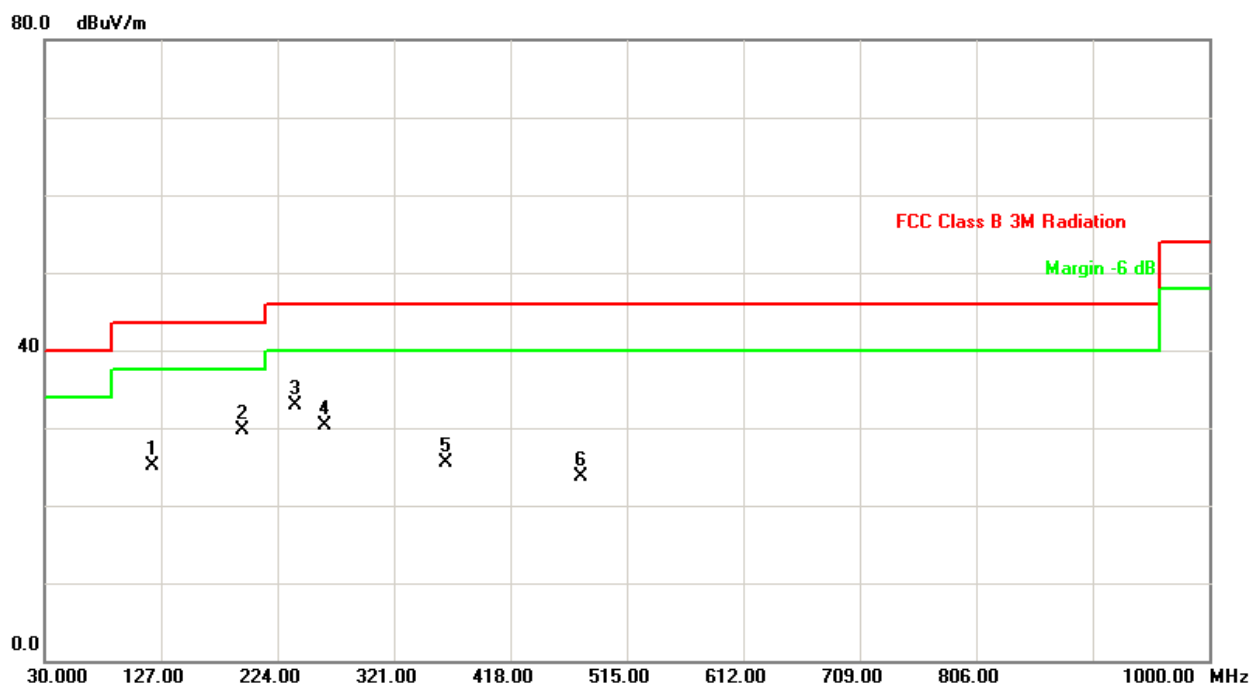


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz (Antenna A)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
119.73	H	43.41	-18.28	25.13	43.50	- 18.37	
194.90	H	46.36	-16.66	29.70	43.50	- 13.80	
238.55	H	48.14	-15.23	32.91	46.00	- 13.09	
262.80	H	43.94	-13.69	30.25	46.00	- 15.75	
364.65	H	35.86	-10.31	25.55	46.00	- 20.45	
476.20	H	31.47	-7.72	23.75	46.00	- 22.25	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦





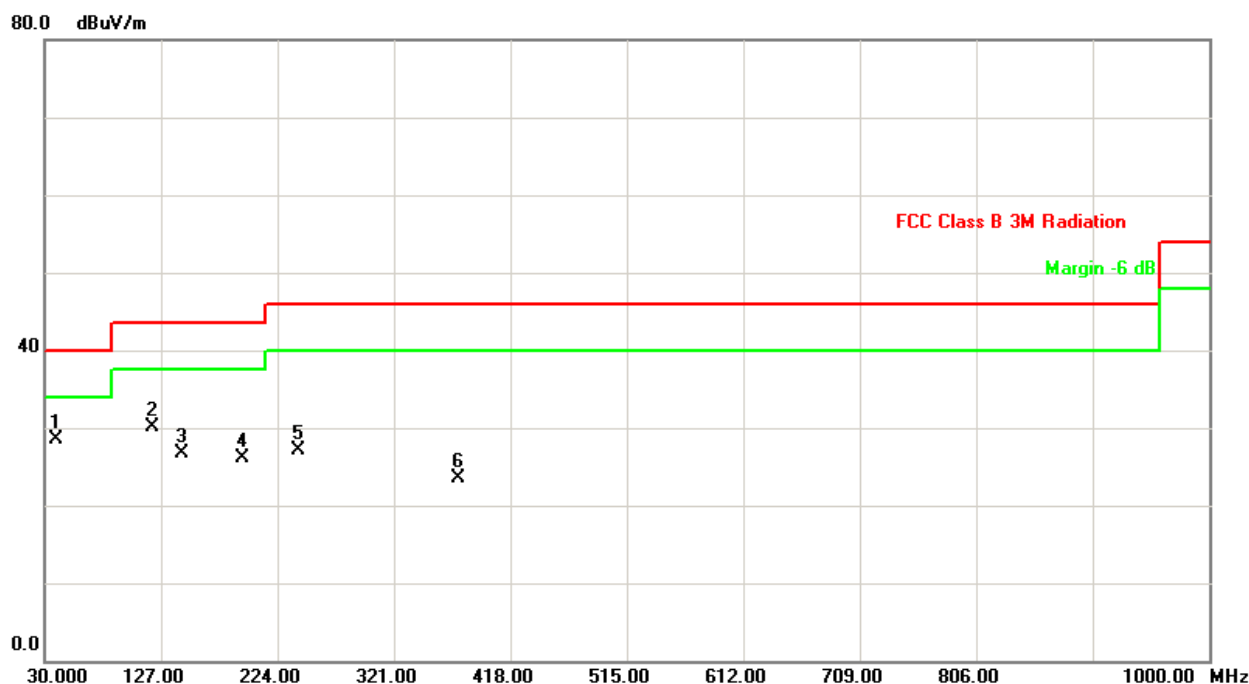


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna B)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
39.70	V	45.31	-16.83	28.48	40.00	- 11.52	
119.73	V	48.40	-18.28	30.12	43.50	- 13.38	
143.98	V	44.44	-17.66	26.78	43.50	- 16.72	
194.90	V	42.71	-16.66	26.05	43.50	- 17.45	
240.98	V	42.13	-15.10	27.03	46.00	- 18.97	
374.35	V	33.49	-9.95	23.54	46.00	- 22.46	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



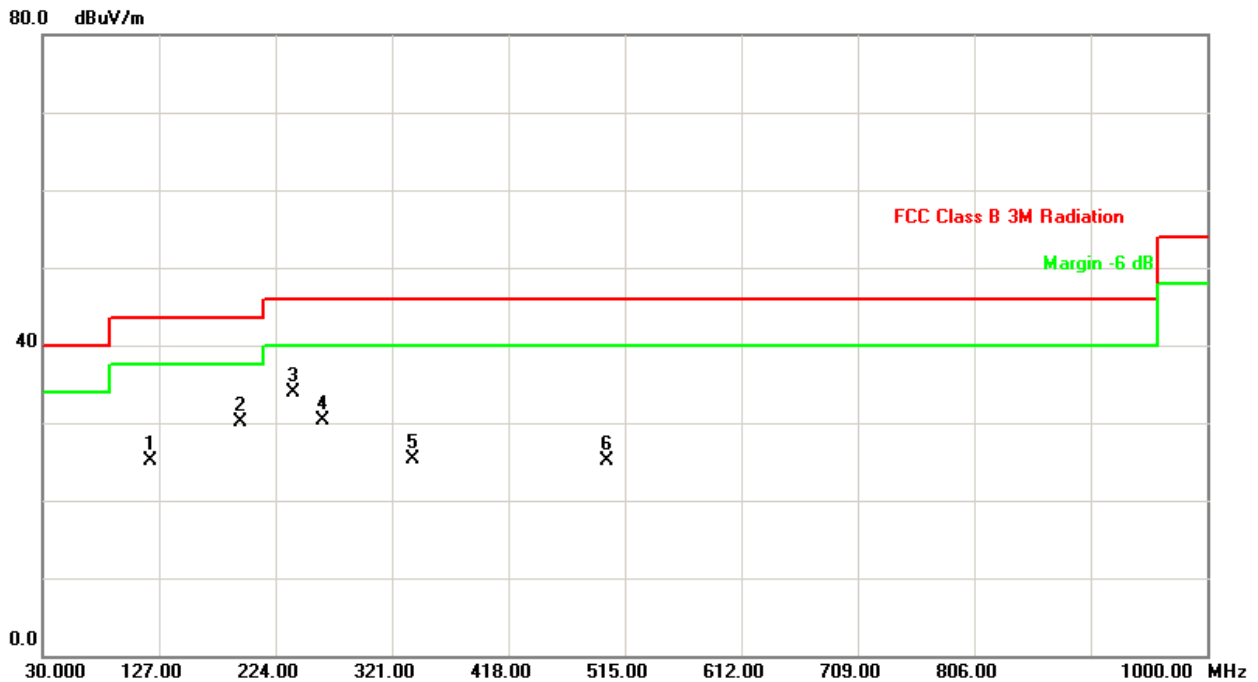


EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna B)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
119.73	H	43.41	-18.28	25.13	43.50	- 18.37	
194.90	H	46.86	-16.66	30.20	43.50	- 13.30	
238.55	H	49.14	-15.23	33.91	46.00	- 12.09	
262.80	H	43.94	-13.69	30.25	46.00	- 15.75	
337.98	H	36.52	-11.14	25.38	46.00	- 20.62	
500.45	H	32.45	-7.34	25.11	46.00	- 20.89	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



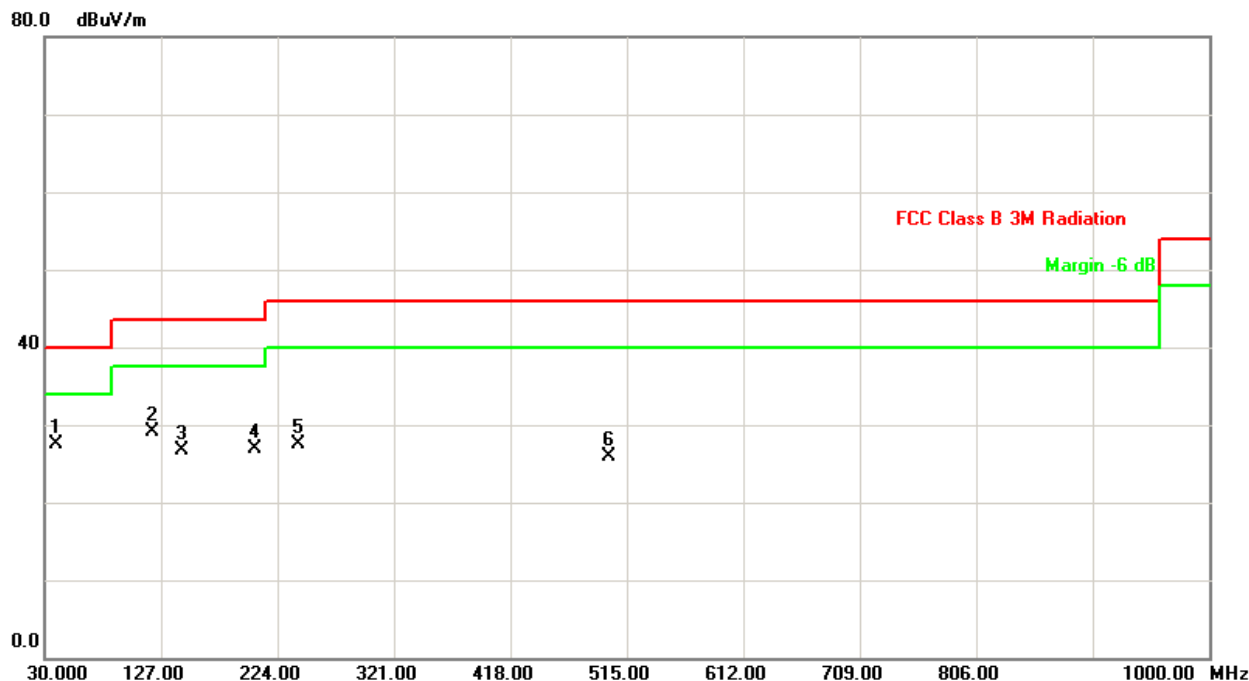


EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz (Antenna B)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
39.70	V	44.31	-16.83	27.48	40.00	- 12.52	
119.73	V	47.40	-18.28	29.12	43.50	- 14.38	
143.98	V	44.44	-17.66	26.78	43.50	- 16.72	
204.60	V	43.26	-16.44	26.82	43.50	- 16.68	
240.98	V	42.63	-15.10	27.53	46.00	- 18.47	
500.45	V	33.16	-7.34	25.82	46.00	- 20.18	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



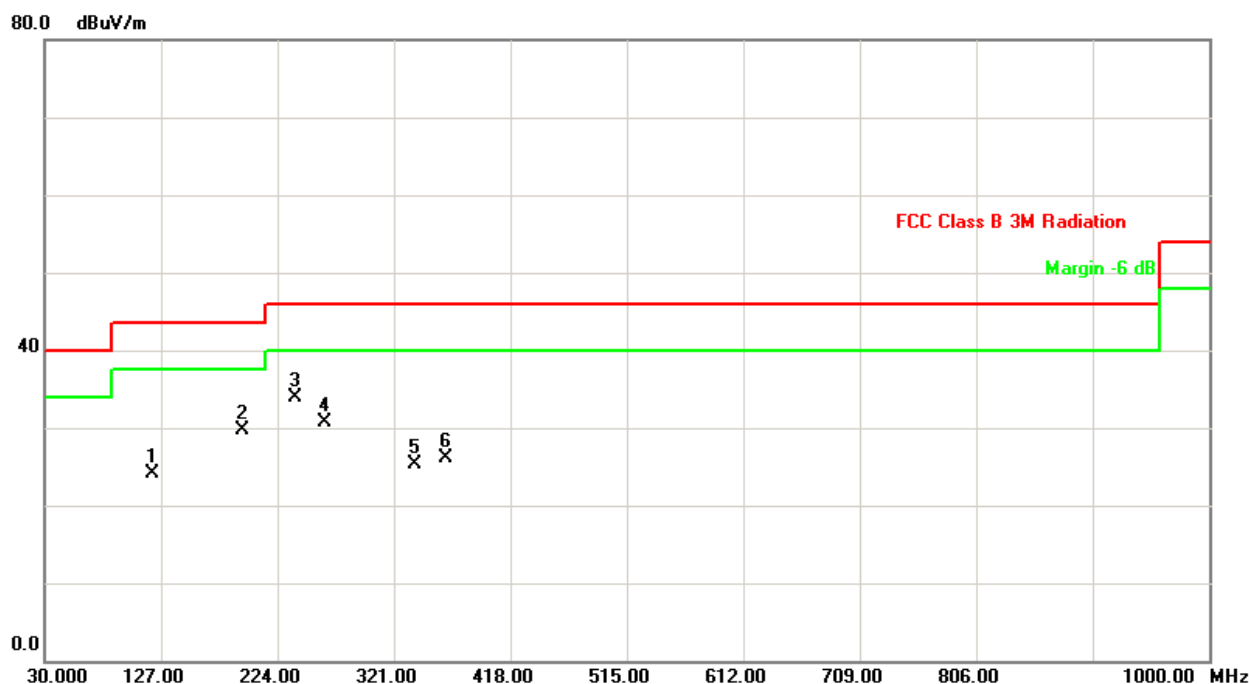


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz (Antenna B)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
119.73	H	42.41	-18.28	24.13	43.50	- 19.37	
194.90	H	46.36	-16.66	29.70	43.50	- 13.80	
238.55	H	49.14	-15.23	33.91	46.00	- 12.09	
262.80	H	44.44	-13.69	30.75	46.00	- 15.25	
337.98	H	36.52	-11.14	25.38	46.00	- 20.62	
364.65	H	36.36	-10.31	26.05	46.00	- 19.95	

**Remark :**

- (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 ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦





**4.2.8 TEST RESULTS (ABOVE 1000 MHZ)**

EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna A)		

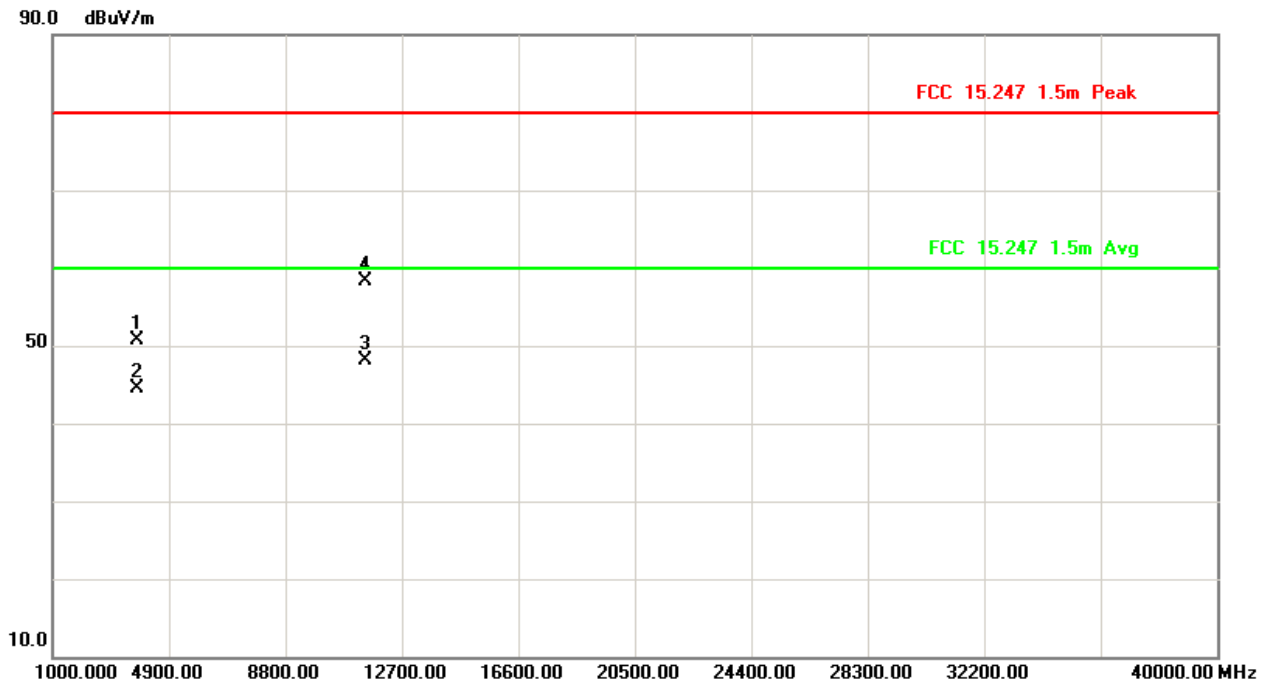
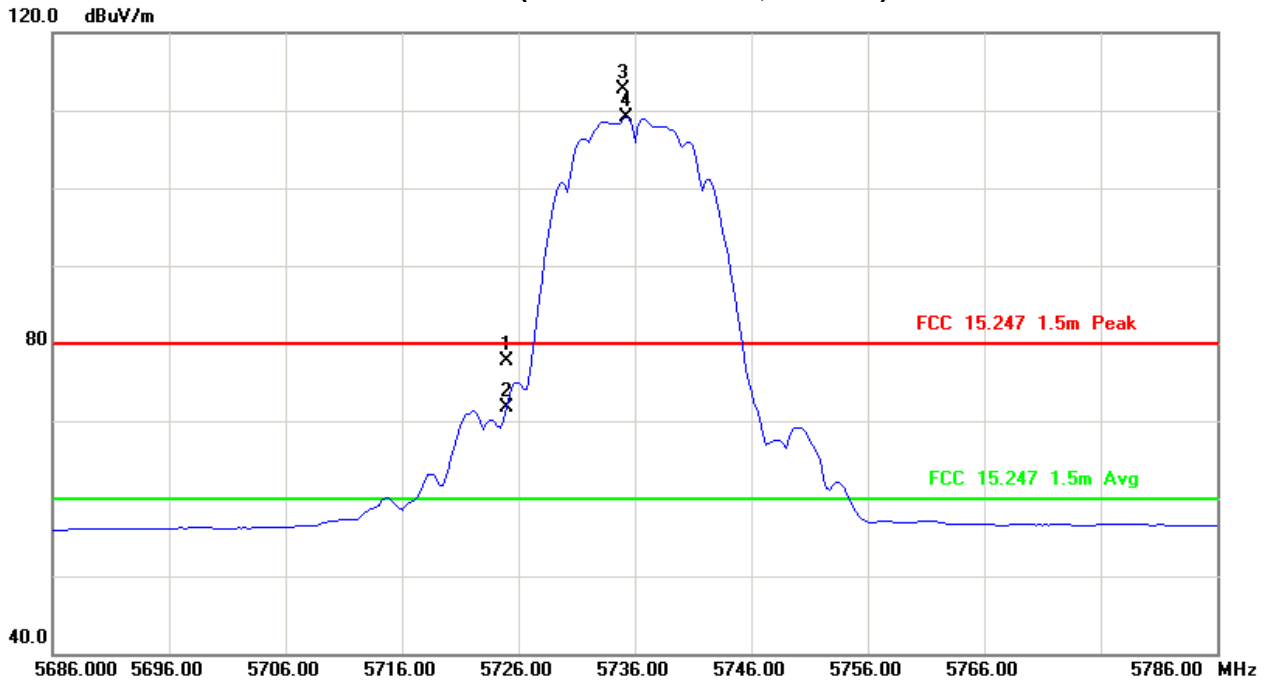
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
5725.00	V	36.82	30.89	40.90	77.72	71.79	80.00	60.00	X/E
<b>5735.00</b>	<b>V</b>	<b>71.79</b>	<b>68.15</b>	<b>40.93</b>	<b>112.72</b>	<b>109.08</b>			<b>X/F</b>
3823.87	V	47.84	41.63	2.83	50.67	44.46	80.00	60.00	X/H
11472.06	V	45.06	34.84	13.26	58.32	48.10	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB



TX CH01 (Above 1000 MHz, Vertical)





EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna A)		

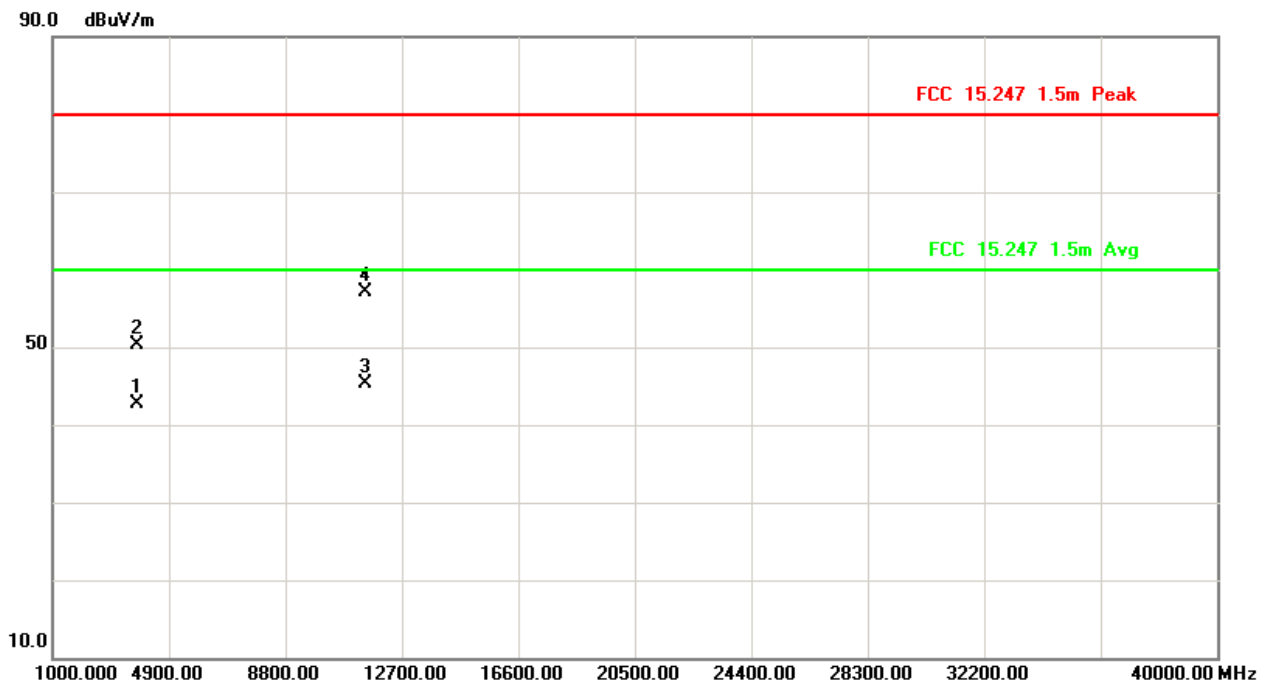
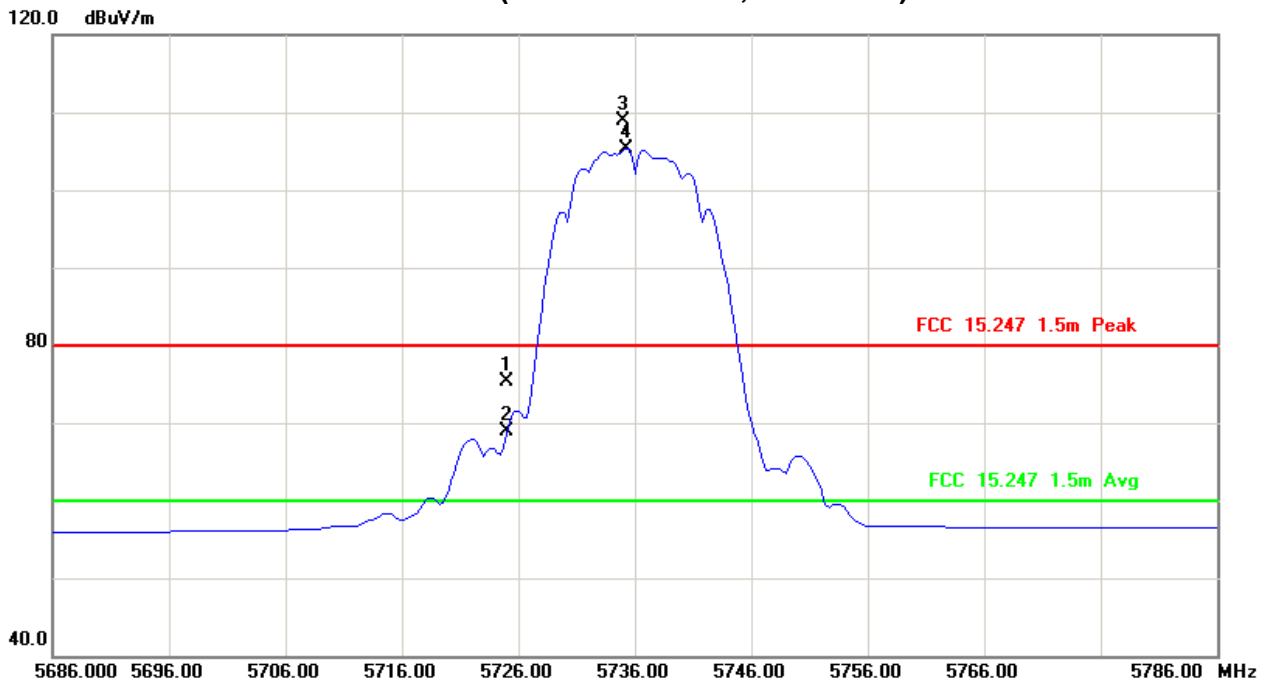
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
5725.00	H	34.41	27.95	40.90	75.31	68.85	80.00	60.00	X/E
<b>5735.00</b>	<b>H</b>	<b>68.06</b>	<b>64.37</b>	<b>40.93</b>	<b>108.99</b>	<b>105.30</b>			<b>X/F</b>
3823.05	H	47.42	39.95	2.83	50.25	42.78	80.00	60.00	X/H
11471.95	H	43.87	32.12	13.26	57.13	45.38	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB



TX CH01 (Above 1000 MHz, Horizontal)







EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5762MHz (Antenna A)		

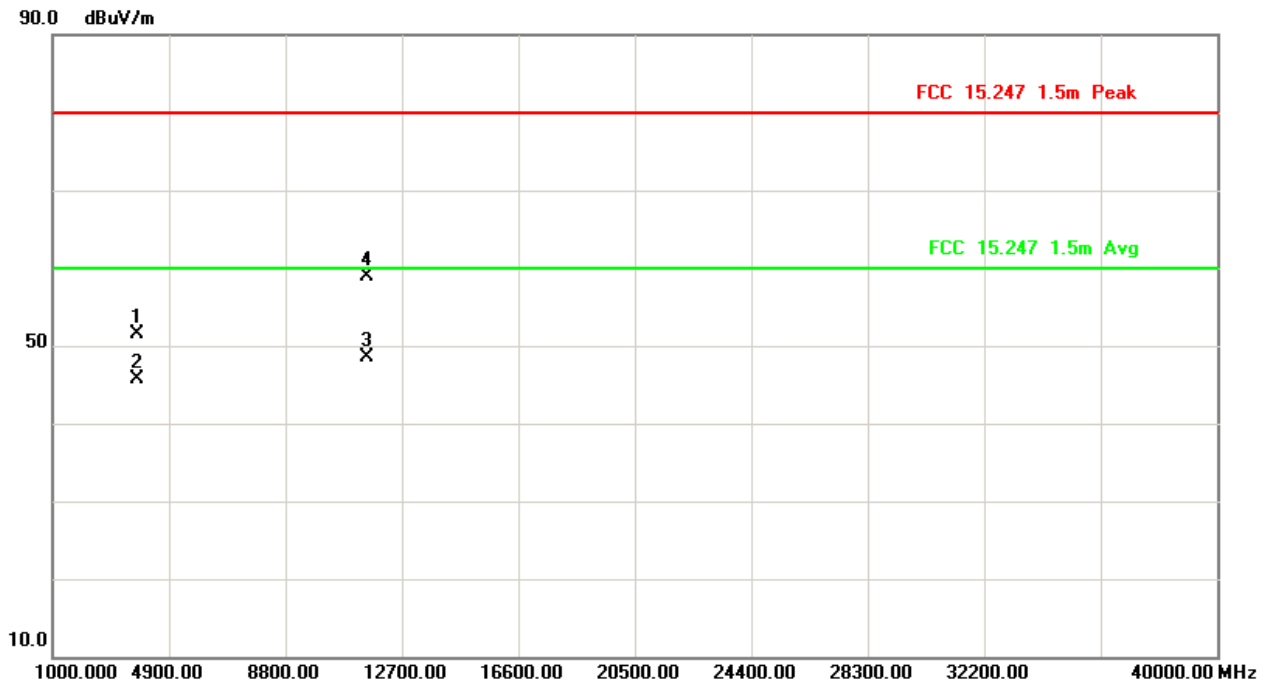
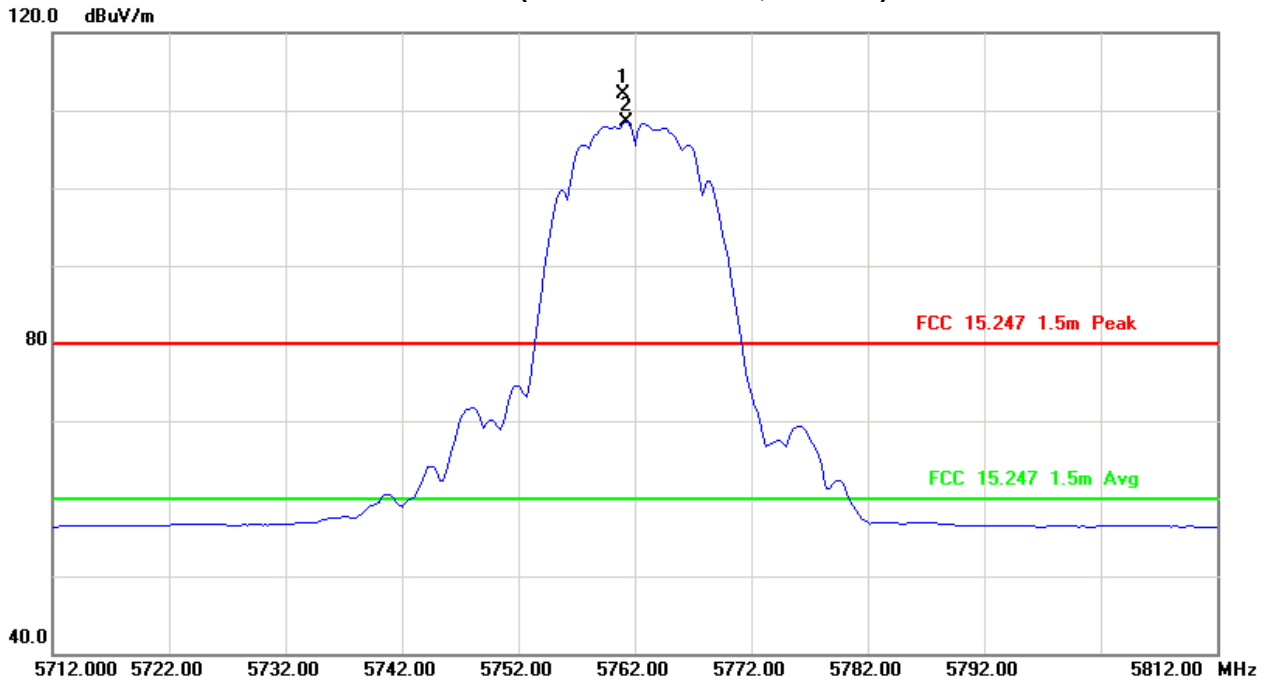
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5761.00</b>	<b>V</b>	<b>71.09</b>	<b>67.49</b>	<b>41.04</b>	<b>108.53</b>	<b>112.13</b>			<b>X/F</b>
3841.33	V	48.62	42.84	2.89	51.51	45.73	80.00	60.00	X/H
11524.04	V	45.56	35.25	13.31	58.87	48.56	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH02 (Above 1000 MHz, Vertical)





EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5762MHz (Antenna A)		

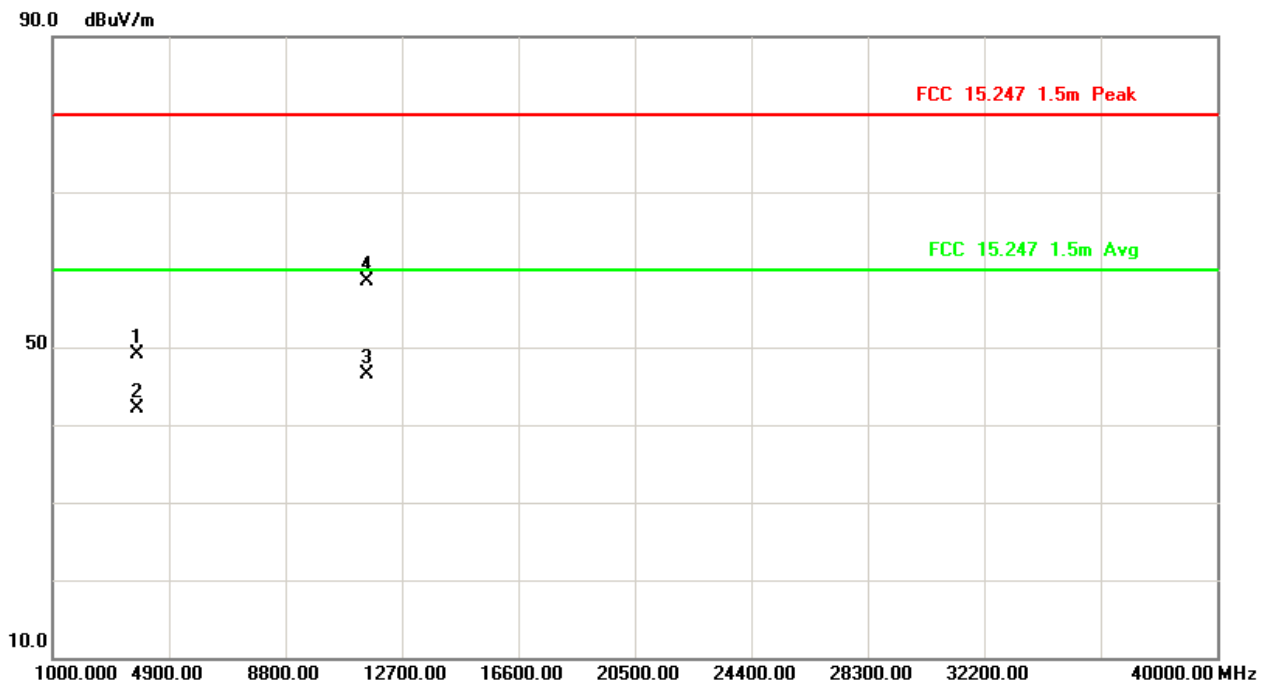
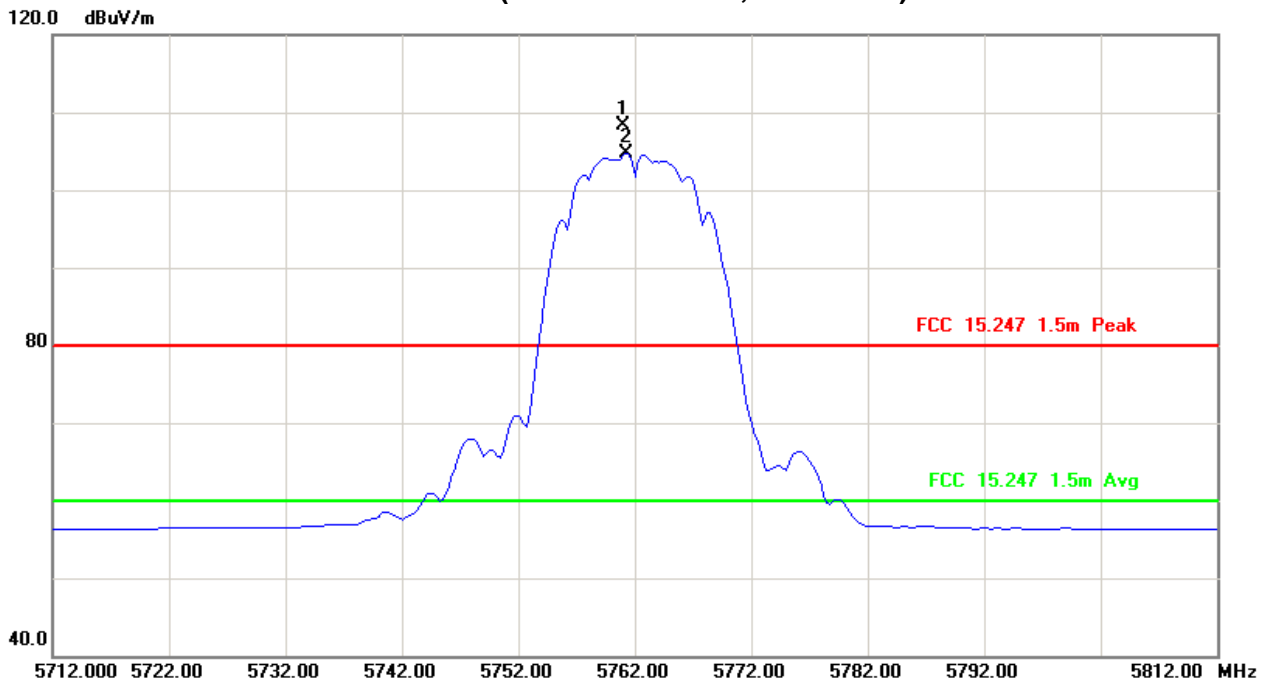
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5761.00</b>	<b>H</b>	<b>67.28</b>	<b>63.62</b>	<b>41.04</b>	<b>108.32</b>	<b>104.66</b>			<b>X/F</b>
3841.35	H	46.24	39.12	2.89	49.13	42.01	80.00	60.00	X/H
11524.01	H	45.16	33.11	13.31	58.47	46.42	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor =  $20 \log (3m/1.5m)$  dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH02 (Above 1000 MHz, Horizontal)





EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5814MHz (Antenna A)		

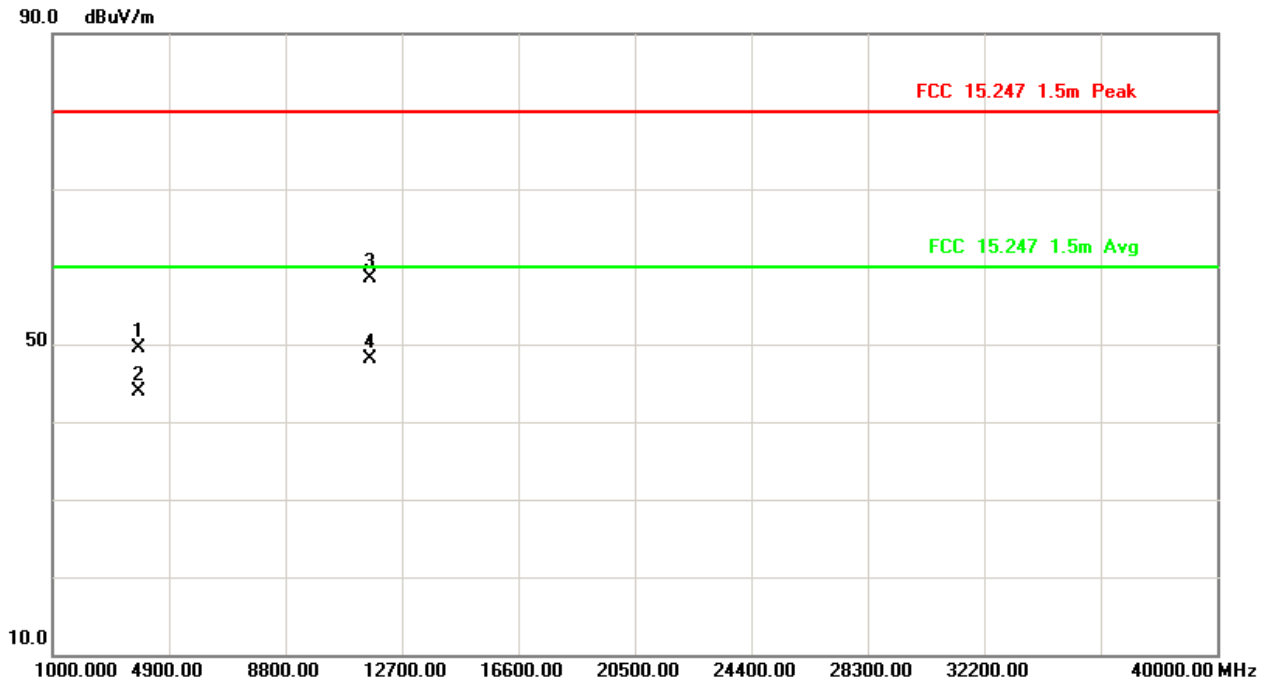
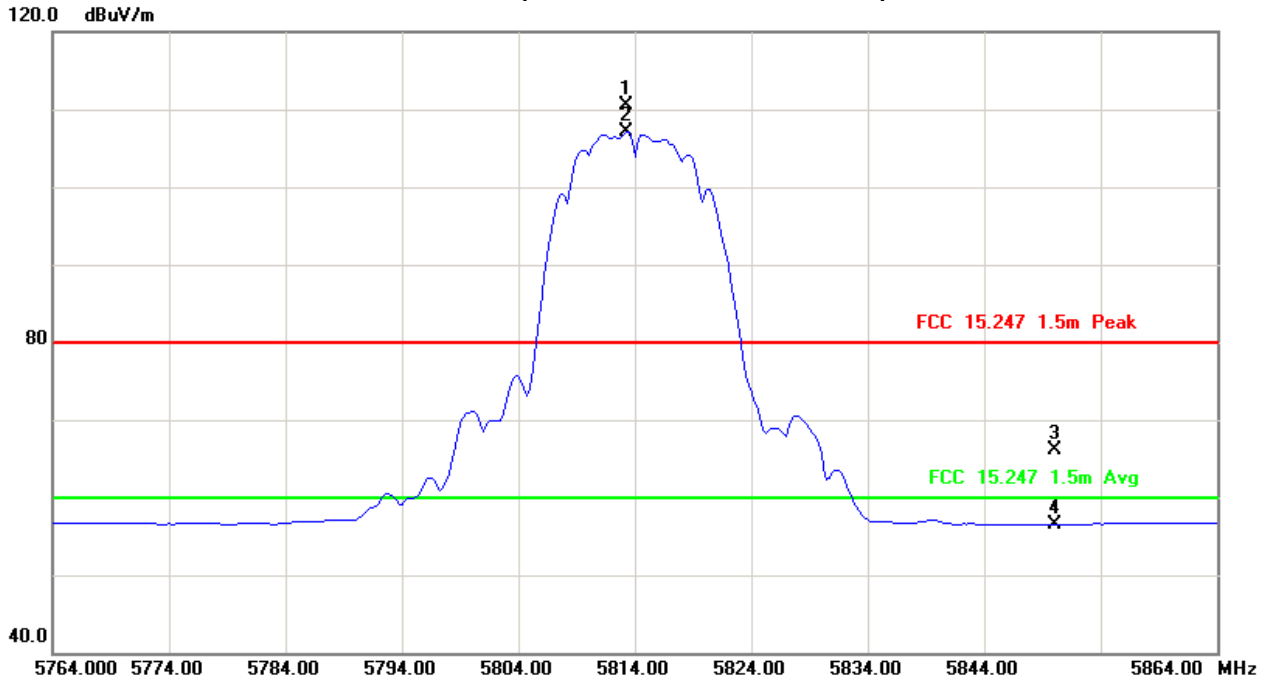
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5813.25</b>	<b>V</b>	<b>69.20</b>	<b>65.85</b>	<b>41.24</b>	<b>110.44</b>	<b>107.09</b>			<b>X/F</b>
5850.00	V	24.75	15.13	41.38	66.13	56.51	80.00	60.00	X/E
3875.40	V	46.39	40.81	3.02	49.41	43.83	80.00	60.00	X/H
11628.03	V	45.10	34.76	13.41	58.51	48.17	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor =  $20 \log (3m/1.5m)$  dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH03 (Above 1000 MHz, Vertical)





EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5814MHz (Antenna A)		

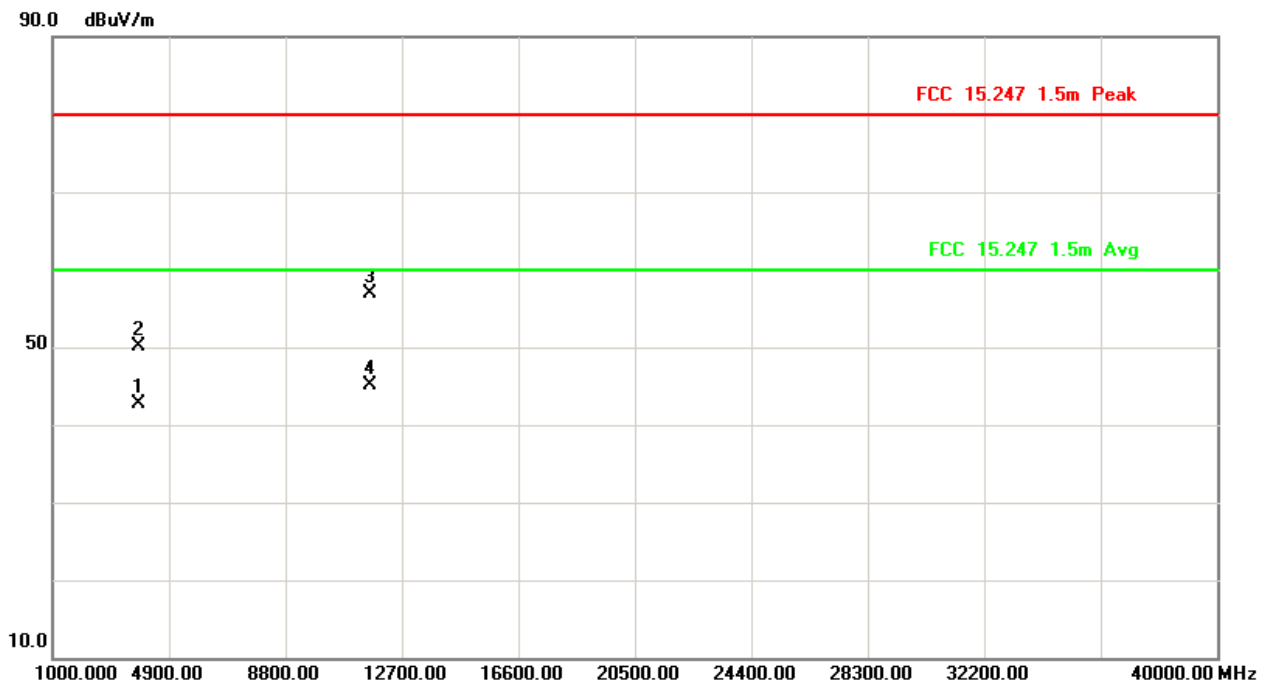
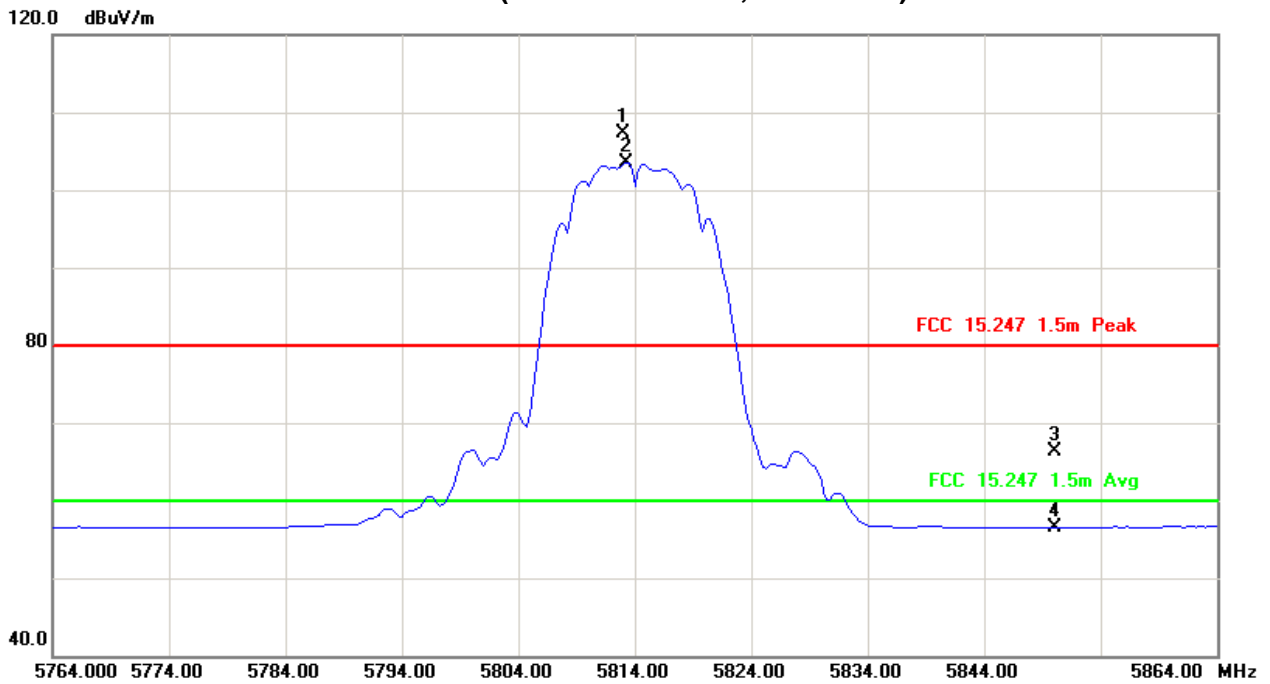
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5813.00</b>	<b>H</b>	<b>66.01</b>	<b>62.31</b>	<b>41.23</b>	<b>107.24</b>	<b>103.55</b>			<b>X/F</b>
5850.00	H	24.95	15.11	41.38	66.33	56.49	80.00	60.00	X/E
3875.40	H	47.14	39.70	3.02	50.16	42.72	80.00	60.00	X/H
11628.01	H	43.40	31.64	13.41	56.81	45.05	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor =  $20 \log (3m/1.5m)$  dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH03 (Above 1000 MHz, Horizontal)







EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna B)		

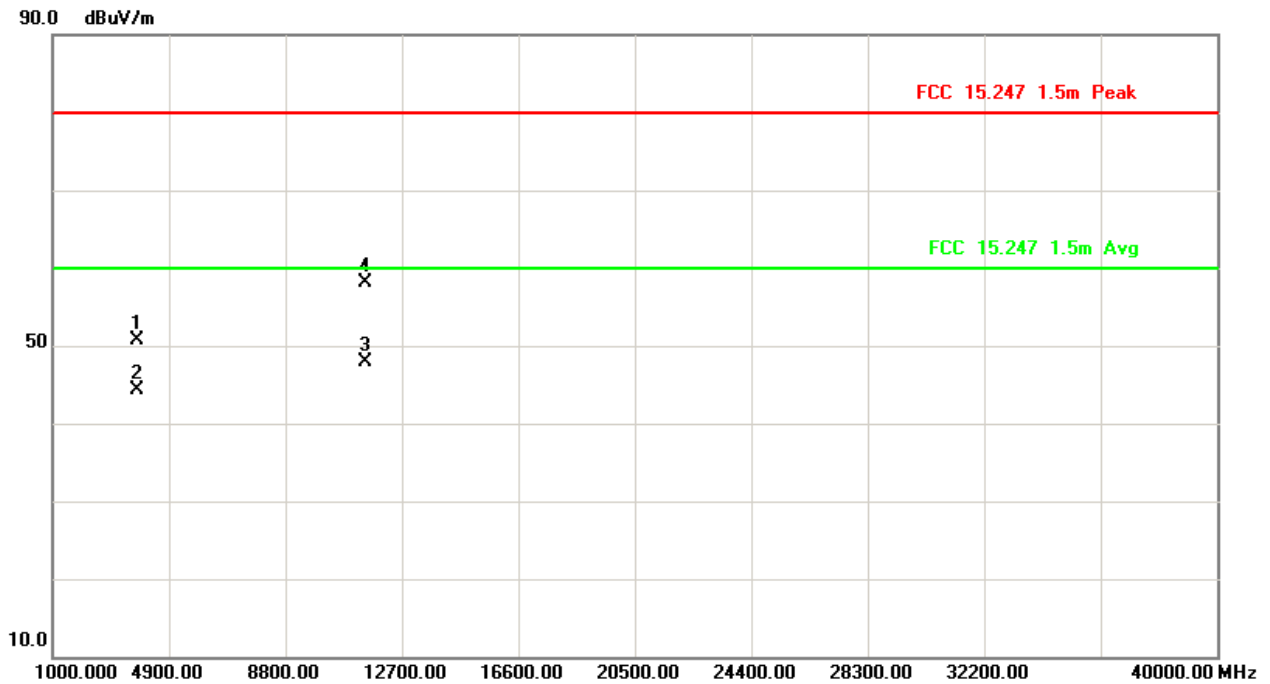
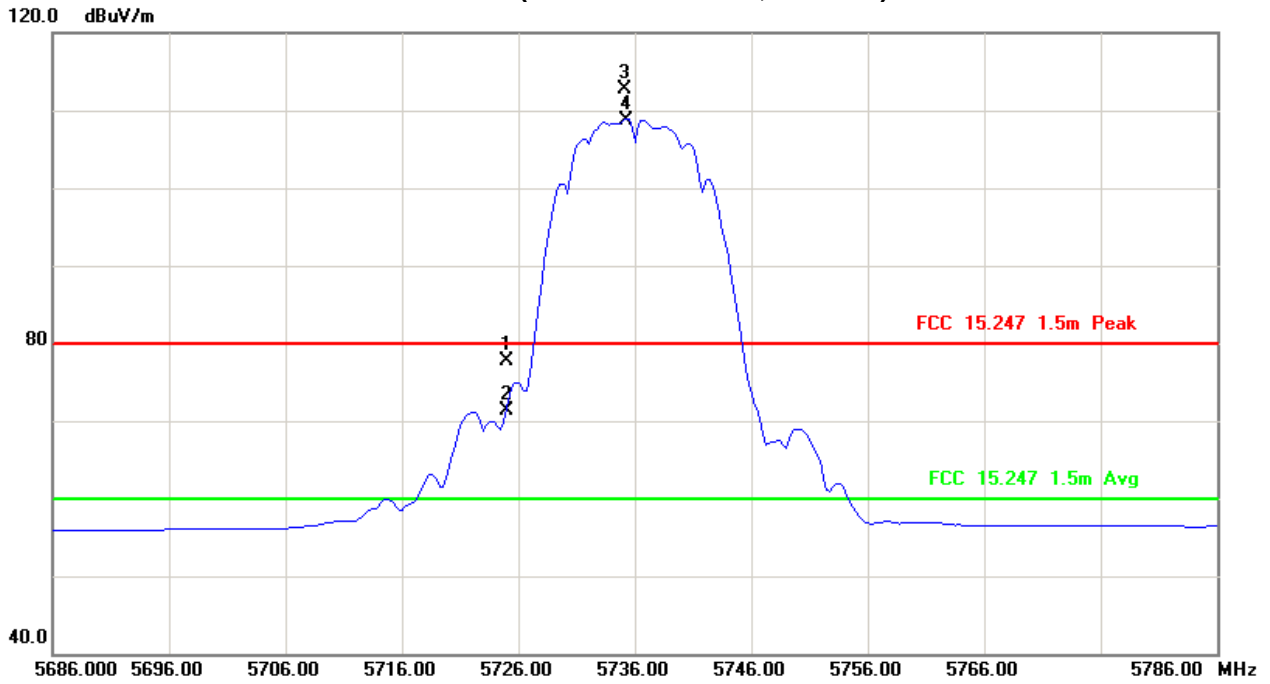
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
5725.00	V	36.72	30.48	40.90	77.62	71.38	80.00	60.00	X/E
<b>5735.13</b>	<b>V</b>	<b>71.87</b>	<b>67.74</b>	<b>40.93</b>	<b>112.80</b>	<b>108.67</b>			<b>X/F</b>
3823.87	V	47.79	41.51	2.83	50.62	44.34	80.00	60.00	X/H
11472.06	V	44.92	34.67	13.26	58.18	47.93	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH01 (Above 1000 MHz, Vertical)





EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5736MHz (Antenna B)		

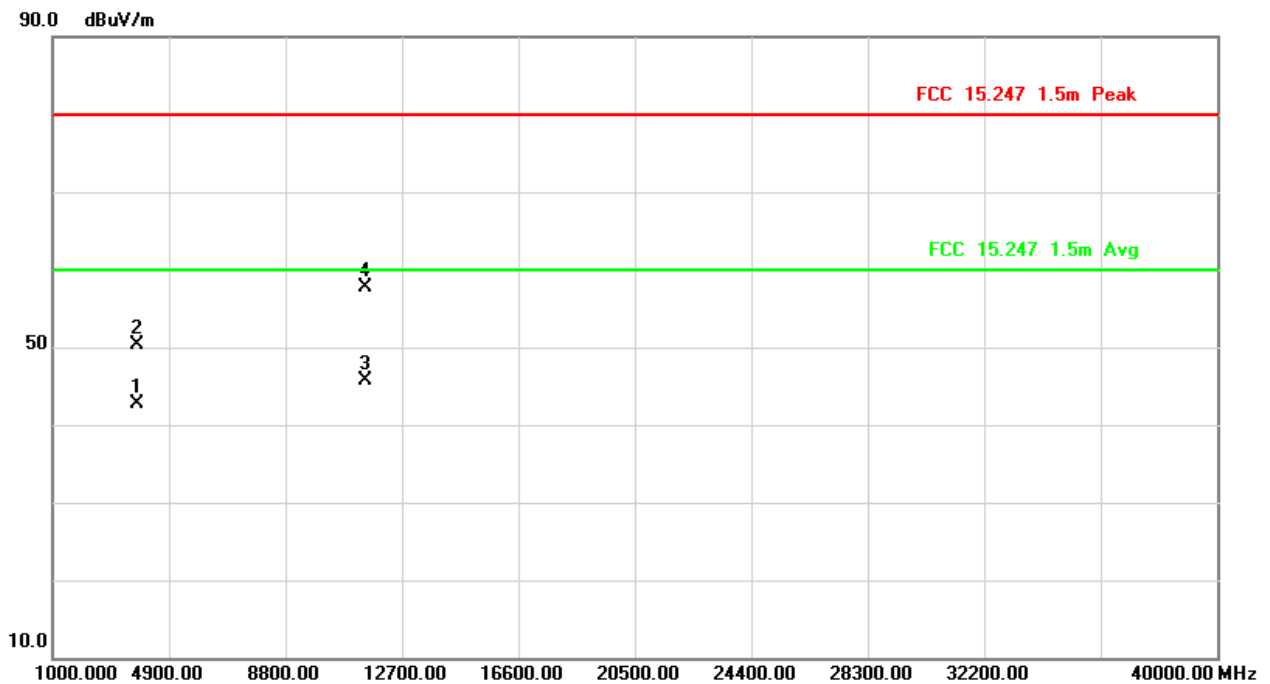
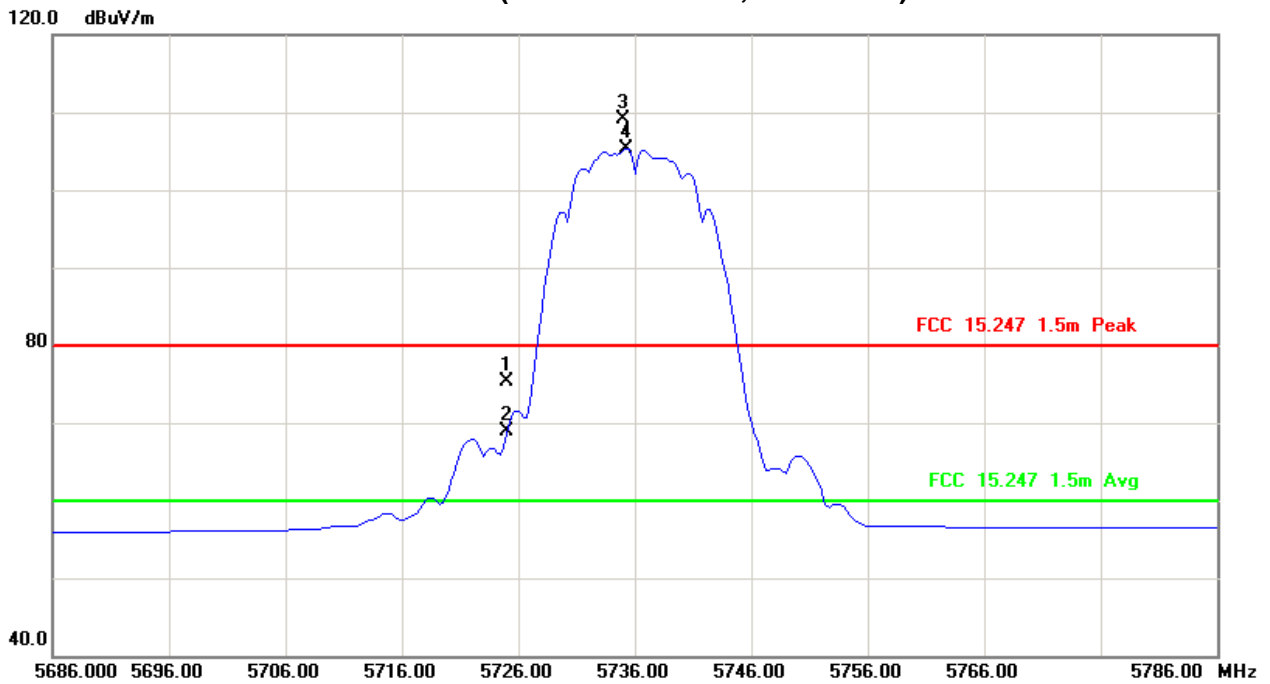
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
5725.00	H	34.41	27.95	40.90	75.31	68.85	80.00	60.00	X/E
<b>5735.02</b>	<b>H</b>	<b>68.17</b>	<b>64.39</b>	<b>40.93</b>	<b>109.10</b>	<b>105.32</b>			<b>X/F</b>
3824.03	H	47.38	39.89	2.83	50.21	42.72	80.00	60.00	X/H
11471.95	H	44.48	32.42	13.26	57.74	45.68	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB



TX CH01 (Above 1000 MHz, Horizontal)





EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5762MHz (Antenna B)		

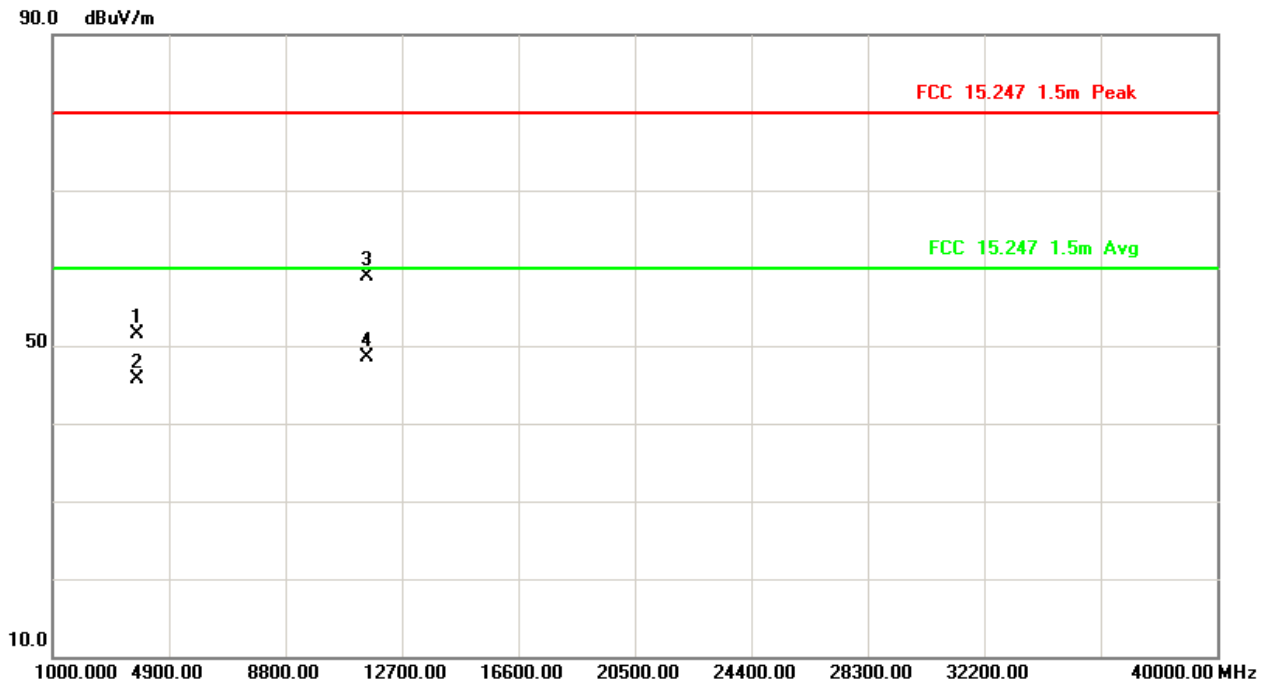
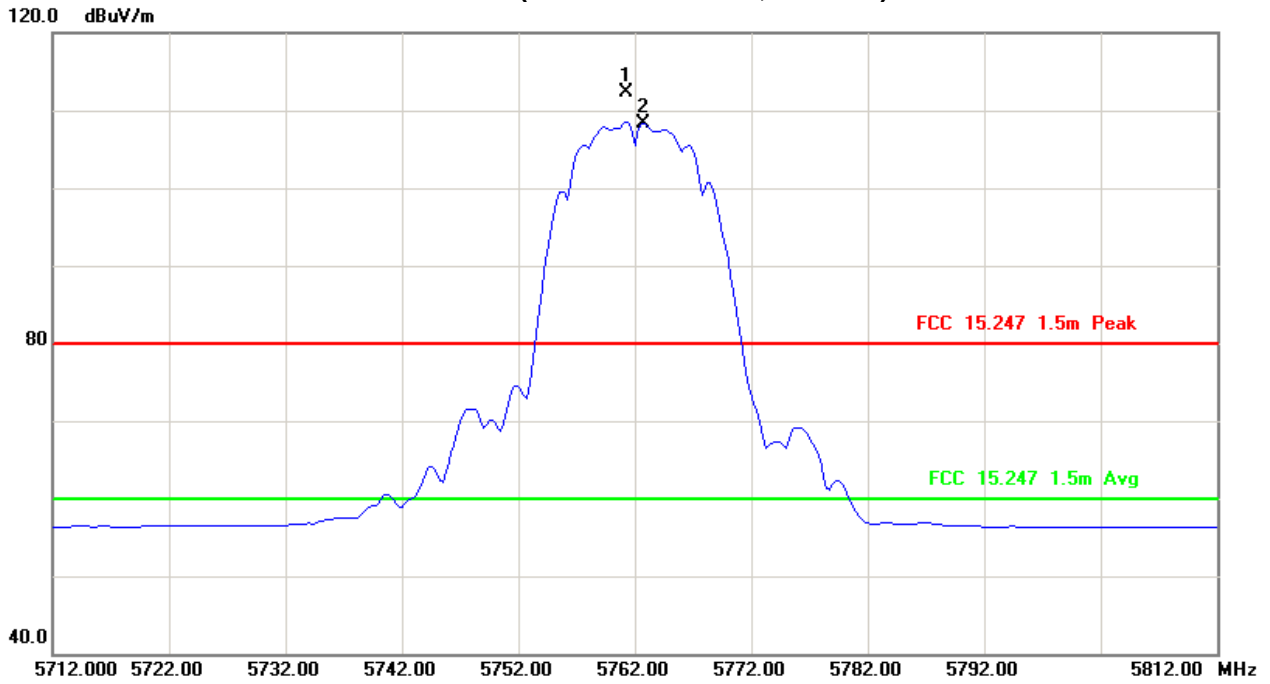
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5761.26</b>	<b>V</b>	<b>71.18</b>	<b>67.23</b>	<b>41.04</b>	<b>112.22</b>	<b>108.27</b>			<b>X/F</b>
3841.32	V	48.58	42.87	2.89	51.47	45.76	80.00	60.00	X/H
11524.04	V	45.56	35.21	13.31	58.87	48.52	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH02 (Above 1000 MHz, Vertical)





EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5762MHz (Antenna B)		

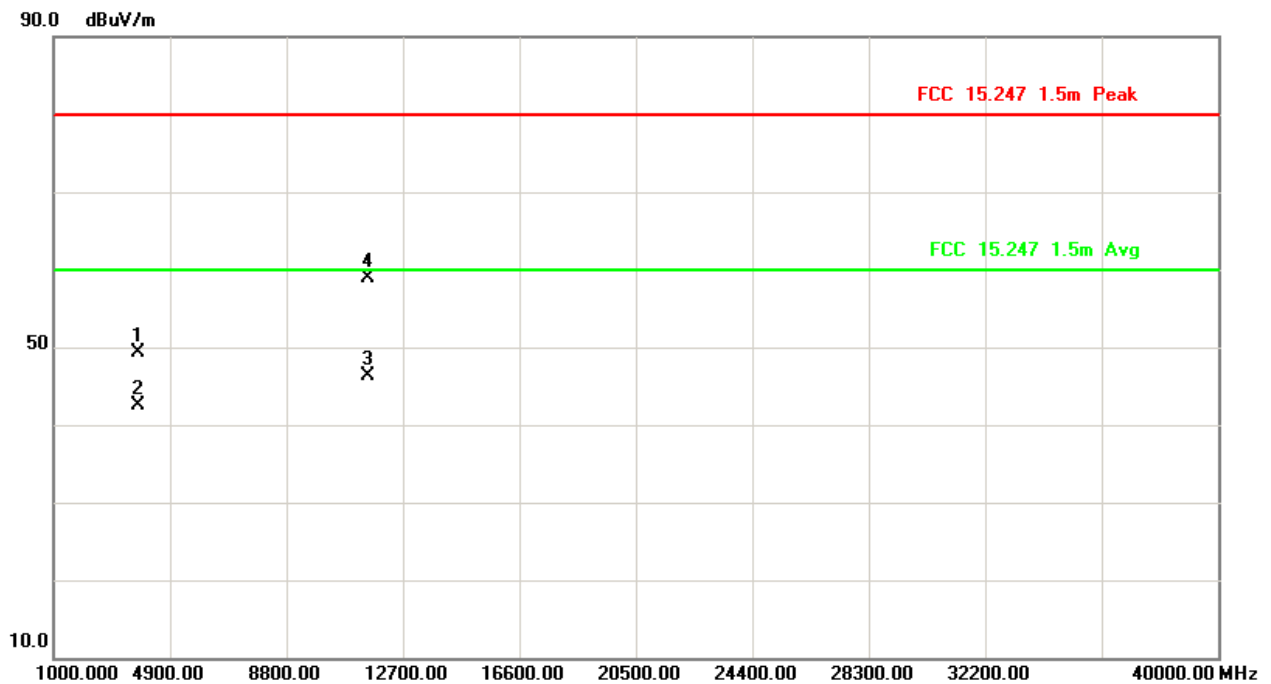
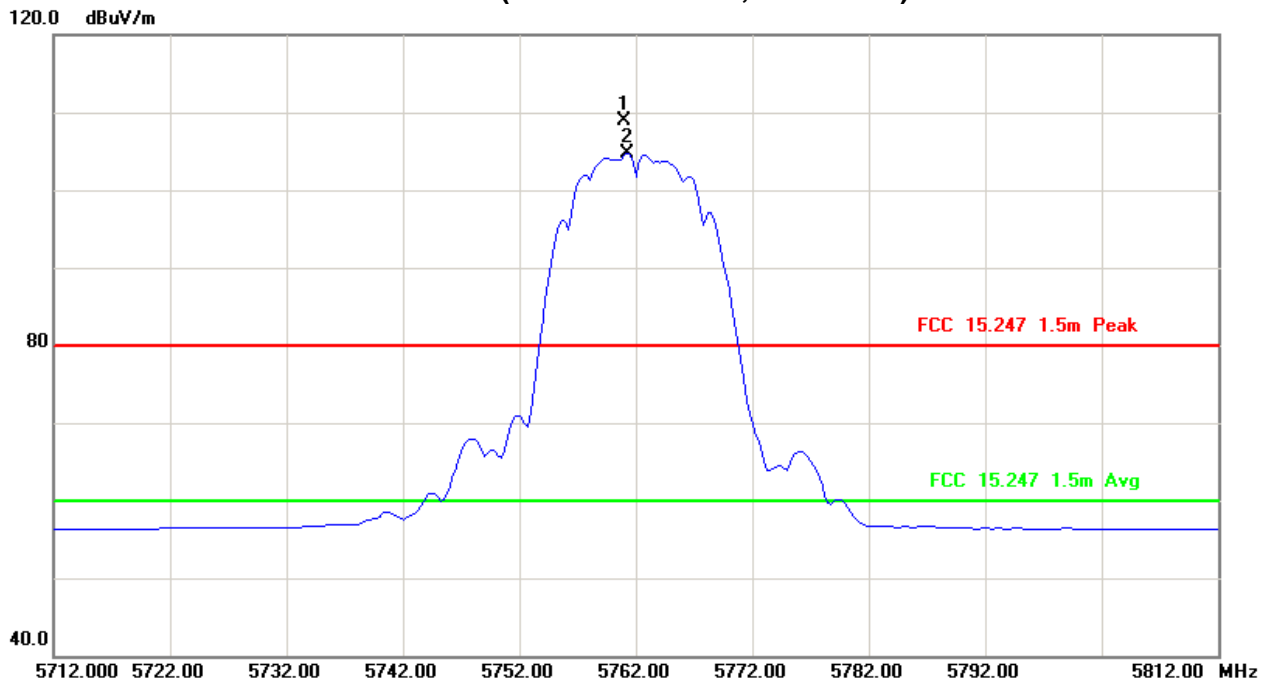
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5761.00</b>	<b>H</b>	<b>67.80</b>	<b>63.60</b>	<b>41.04</b>	<b>108.84</b>	<b>104.64</b>			<b>X/F</b>
3841.36	H	46.37	39.52	2.89	49.26	42.41	80.00	60.00	X/H
11524.01	H	45.51	32.92	13.31	58.82	46.23	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor =  $20 \log (3\text{m}/1.5\text{m})$  dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH02 (Above 1000 MHz, Horizontal)







EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5814MHz (Antenna B)		

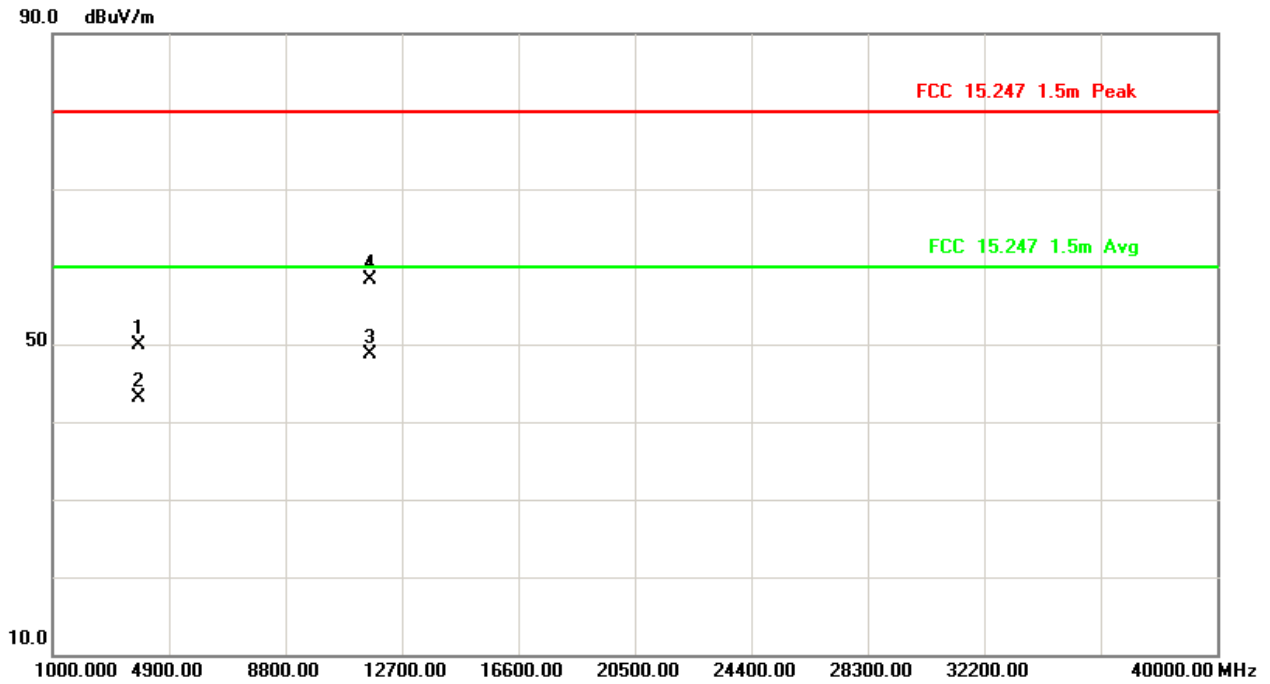
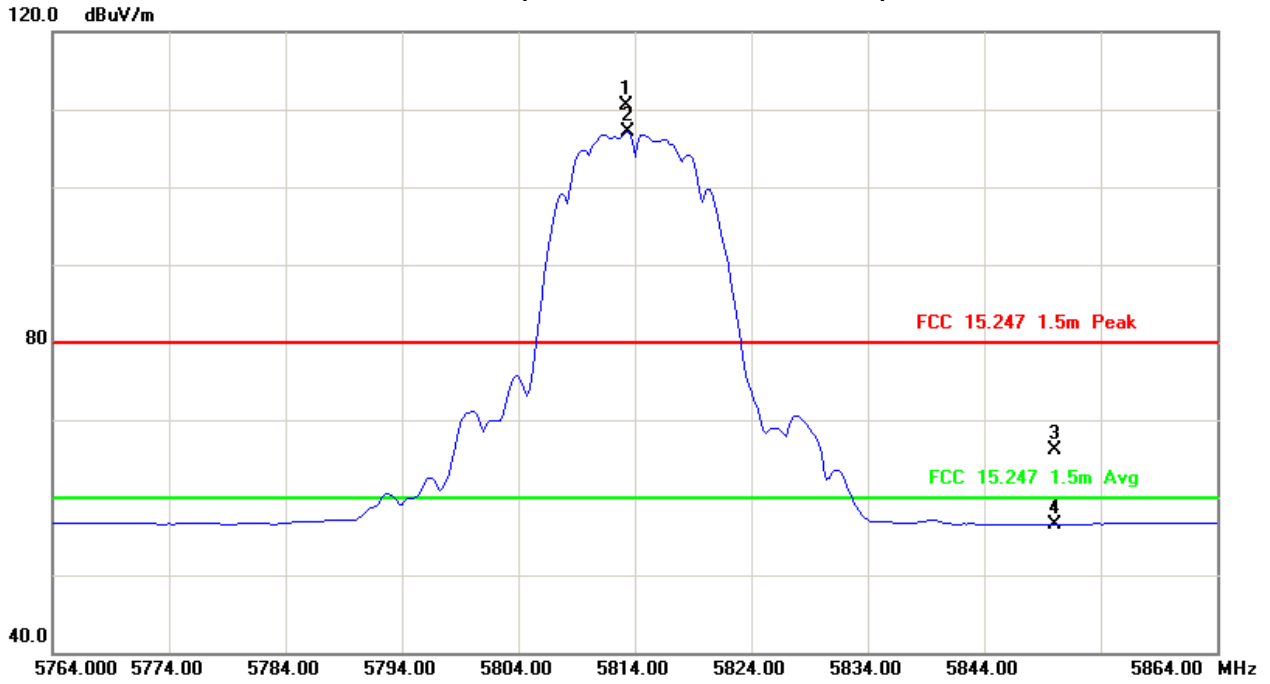
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5813.23</b>	<b>V</b>	<b>69.21</b>	<b>65.81</b>	<b>41.23</b>	<b>110.44</b>	<b>107.05</b>			<b>X/F</b>
5850.00	V	24.71	15.17	41.38	66.09	56.55	80.00	60.00	X/E
3875.32	V	46.88	40.01	3.02	49.90	43.03	80.00	60.00	X/H
11628.05	V	44.85	35.30	13.41	58.26	48.71	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH03 (Above 1000 MHz, Vertical)





EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode 5814MHz (Antenna B)		

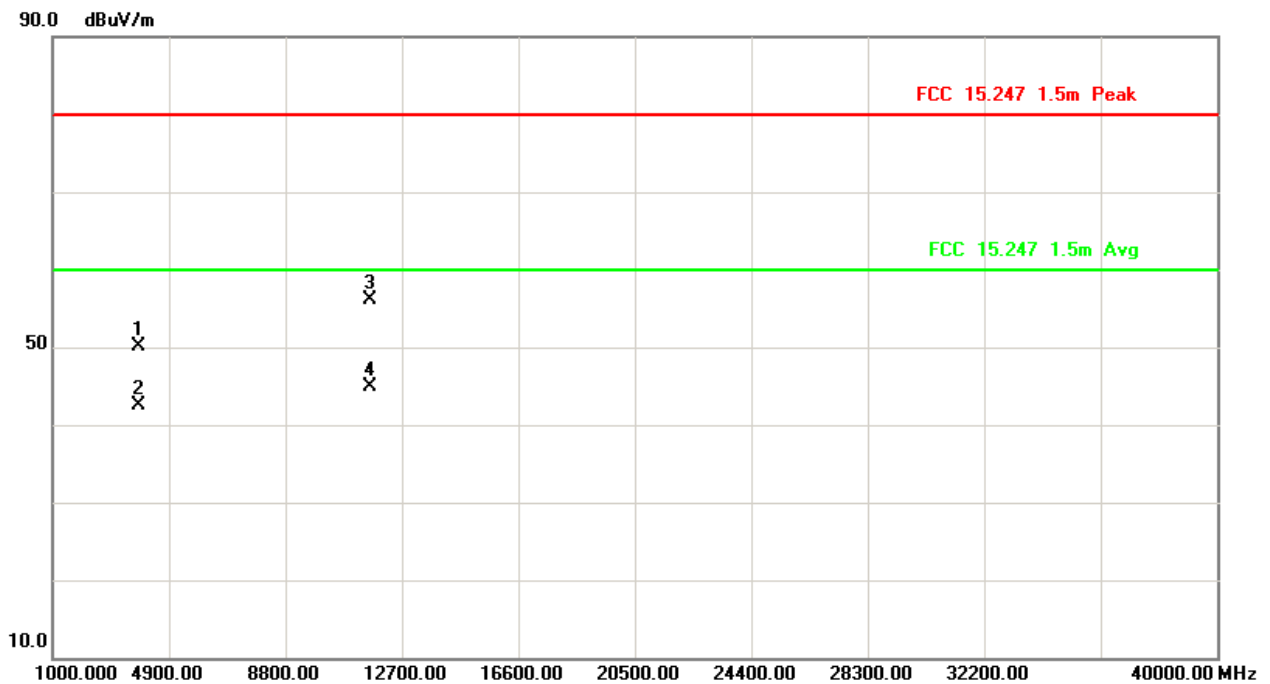
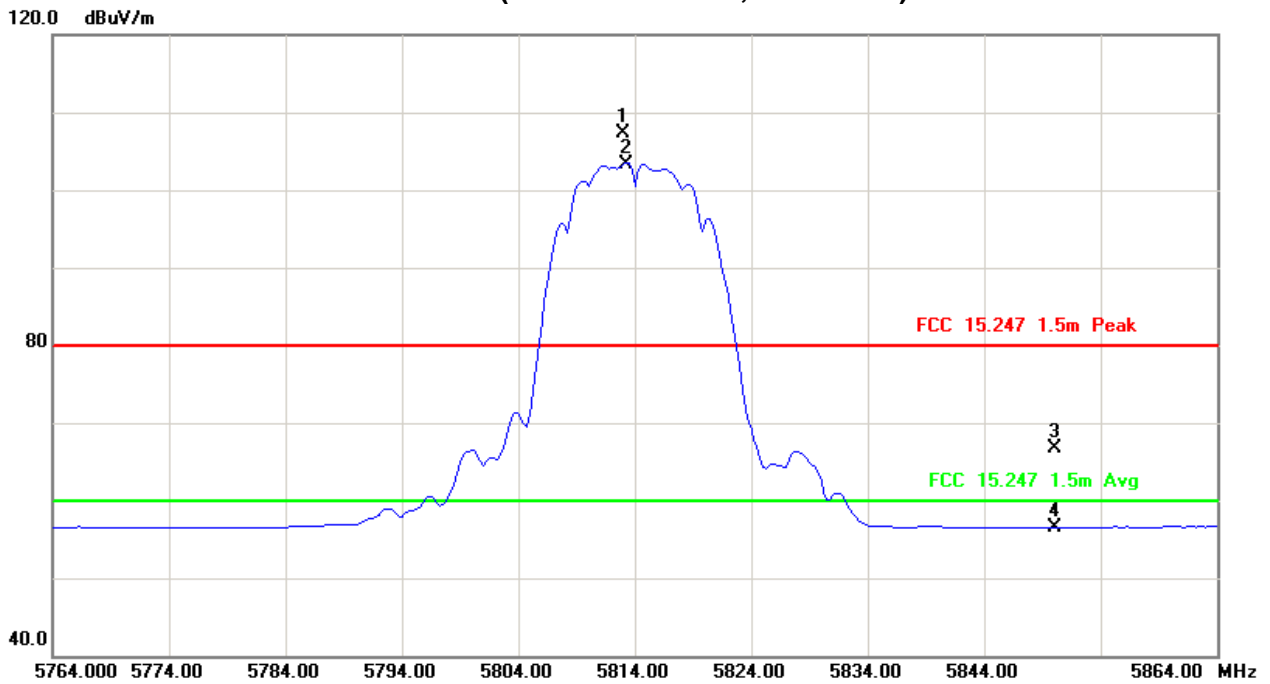
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5813.00</b>	<b>H</b>	<b>65.98</b>	<b>62.01</b>	<b>41.23</b>	<b>107.21</b>	<b>103.25</b>			<b>X/F</b>
5850.00	H	25.24	15.04	41.38	66.62	56.42	80.00	60.00	X/E
3875.39	H	47.04	39.50	3.02	50.06	42.52	80.00	60.00	X/H
11628.42	H	42.75	31.44	13.41	56.16	44.85	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor =  $20 \log (3m/1.5m)$  dB ;  
 Limit line = specific limits (dBuV) + 6 dB



TX CH03 (Above 1000 MHz, Horizontal)



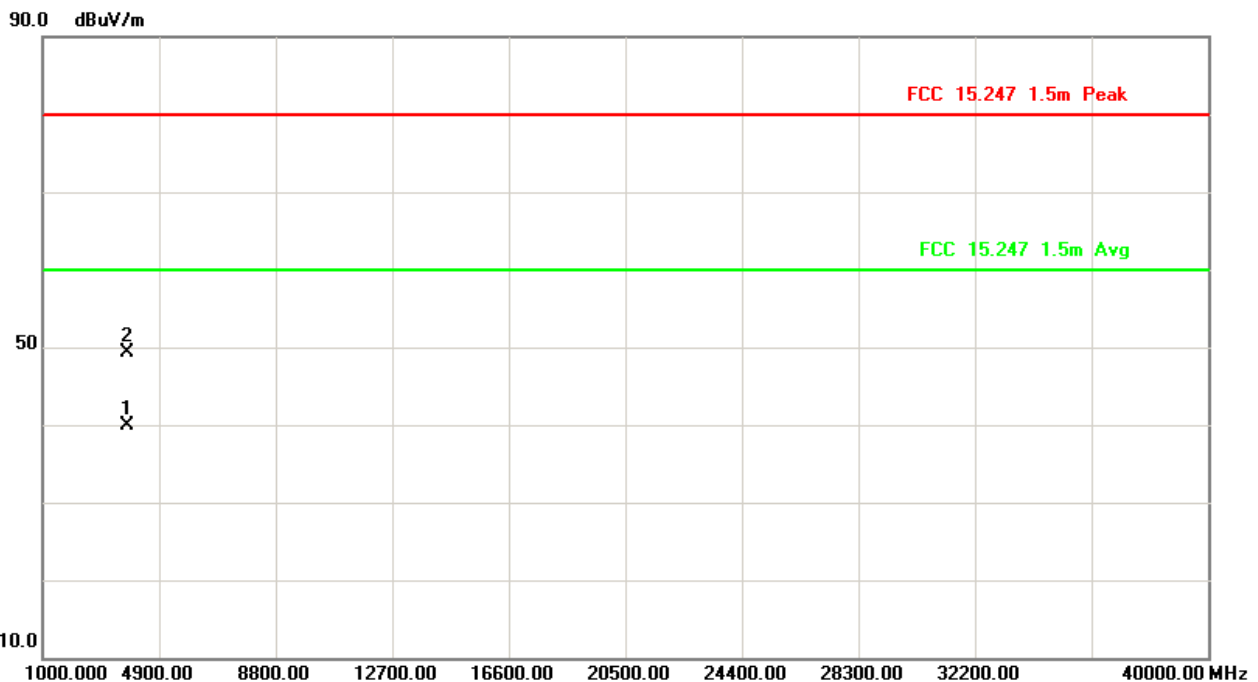


EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz ( Antenna A)		

Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3824.09	V	46.40	37.16	2.83	49.23	39.99	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 “X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand



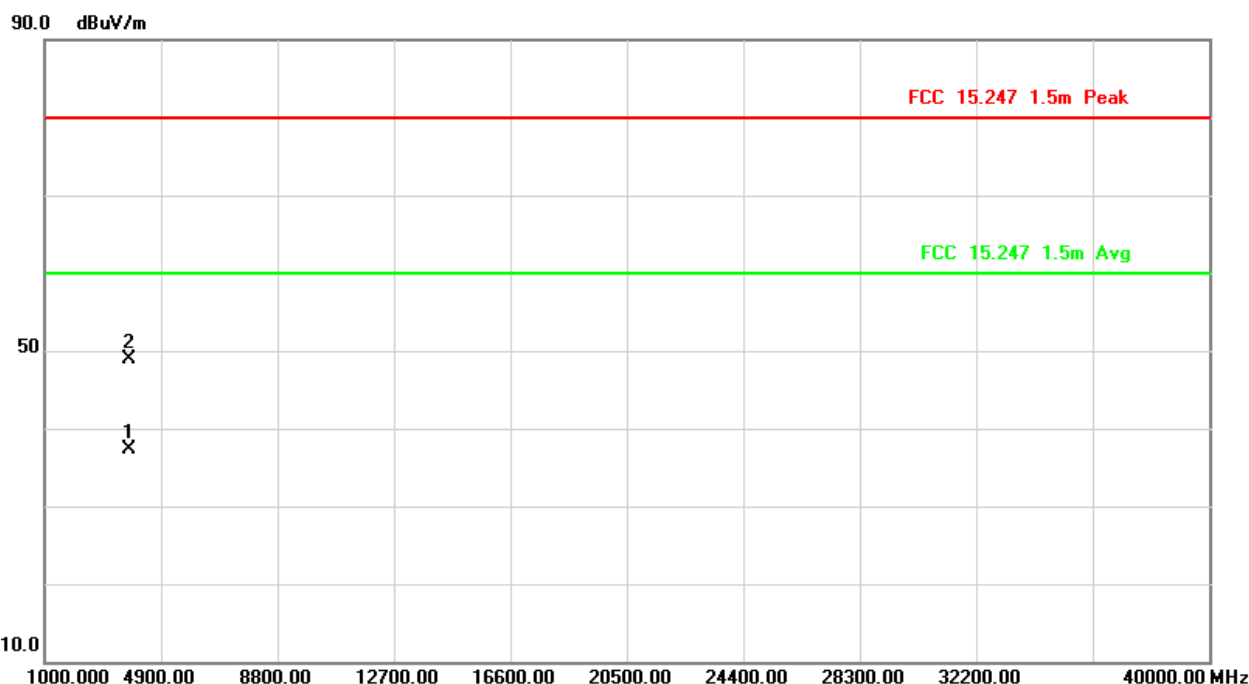


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz ( Antenna A)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3824.03	H	46.13	34.53	2.83	48.96	36.36	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand





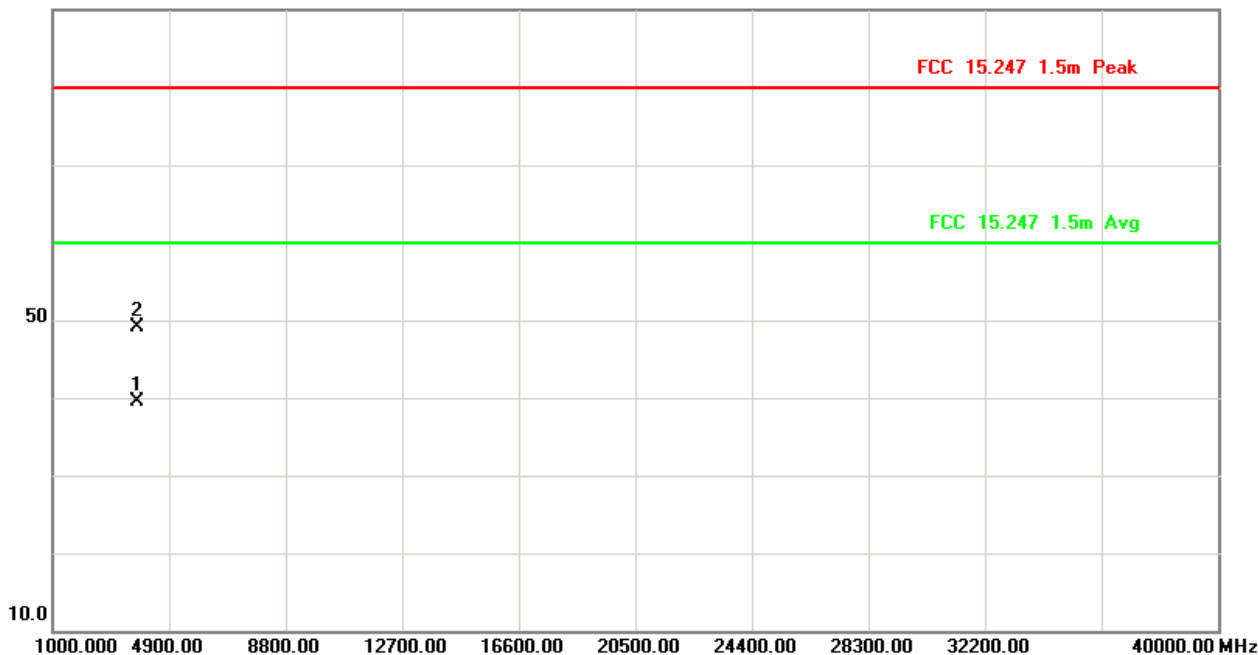
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5762MHz ( Antenna A)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3841.33	V	46.17	36.52	2.89	49.06	39.41	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 “X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand

90.0 dBuV/m



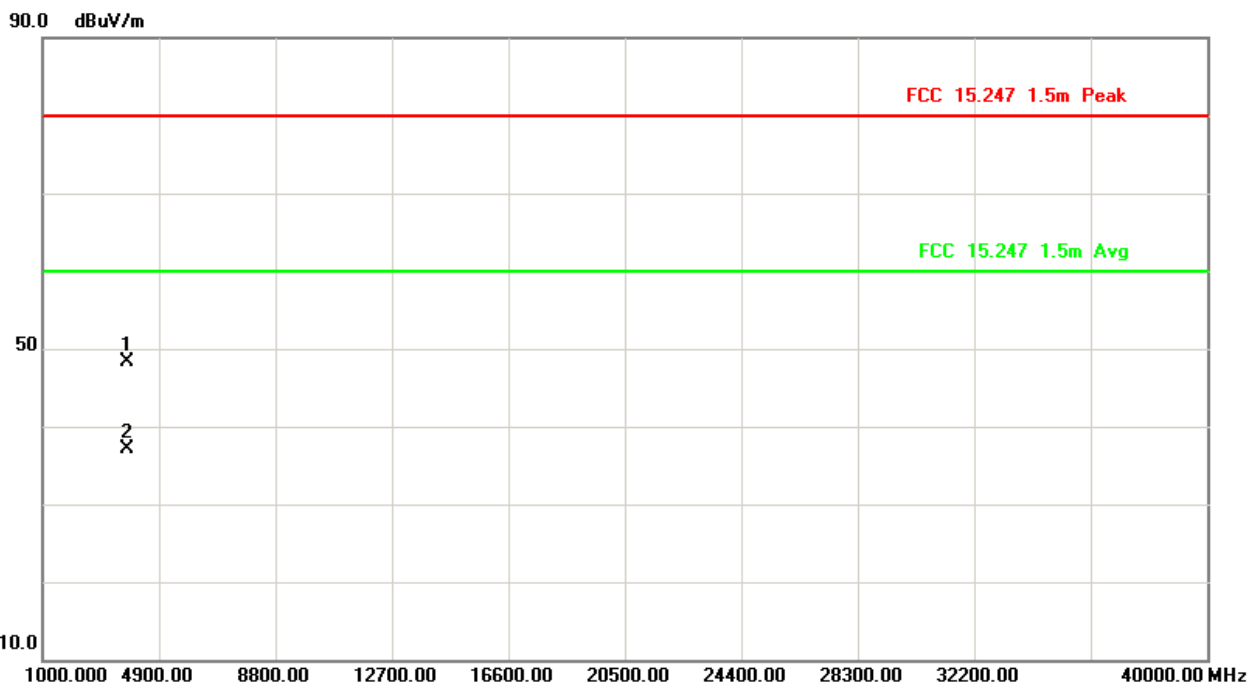


EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5762MHz ( Antenna A)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3841.21	H	45.35	34.27	2.89	48.24	37.16	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand







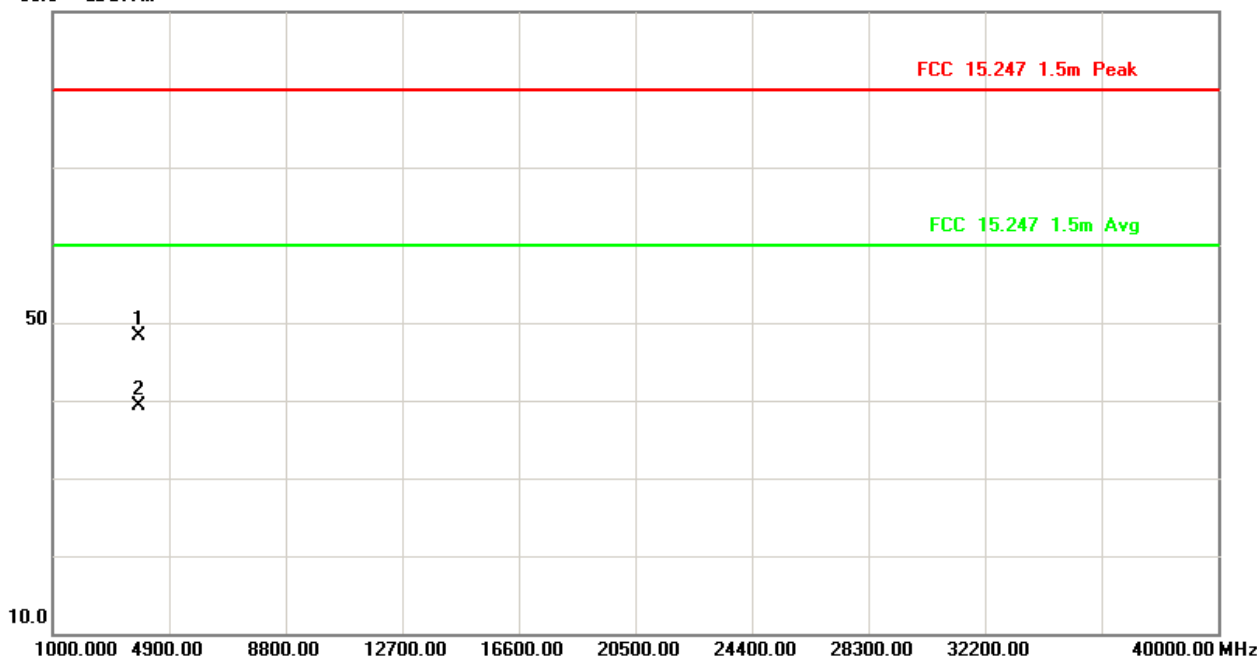
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5814MHz ( Antenna A)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3875.40	V	45.19	36.22	3.02	48.21	39.24	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

90.0 dBuV/m



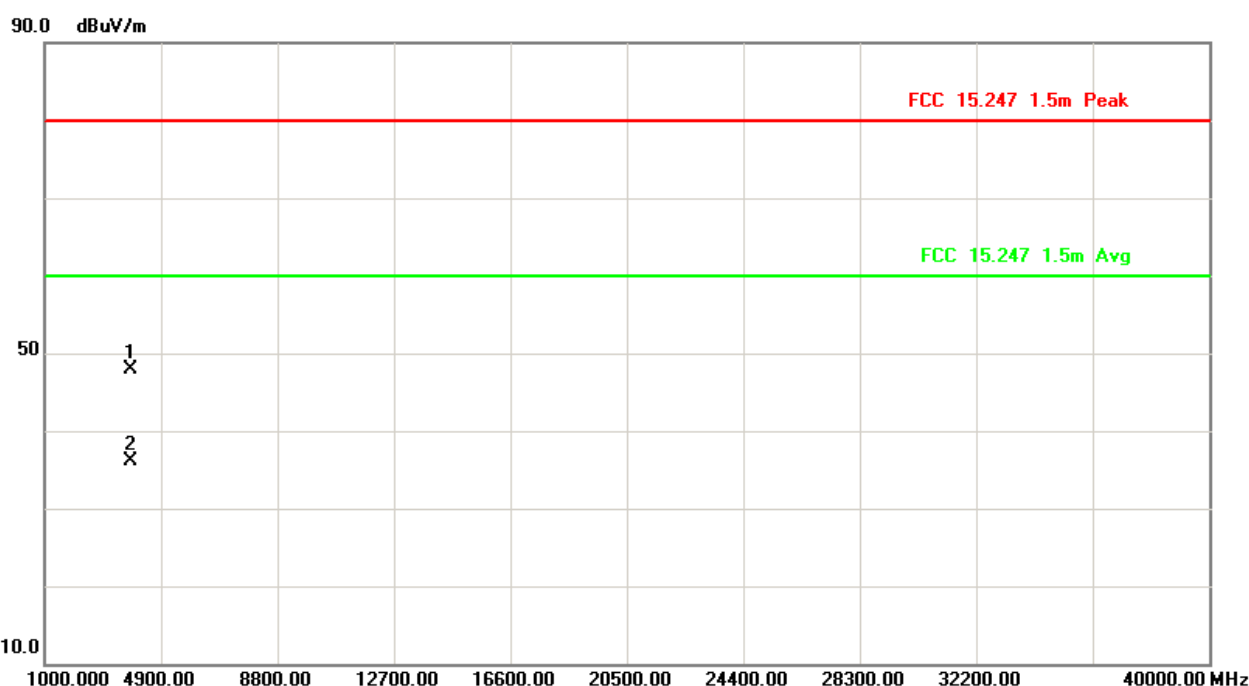


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5814MHz ( Antenna A)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3875.39	H	44.81	33.04	3.02	47.83	36.06	80.00	60.00	X/H

Remark :

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand





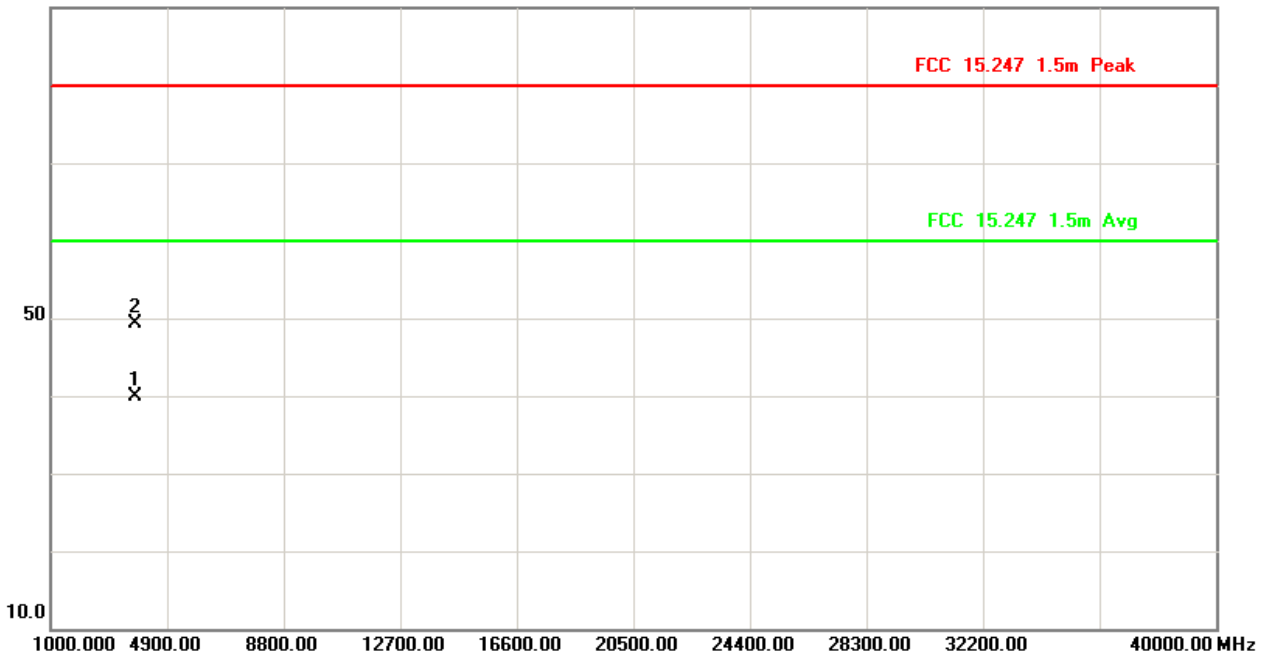
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz ( Antenna B)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3823.99	V	46.48	36.98	2.83	49.31	39.81	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 “X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand

90.0 dBuV/m



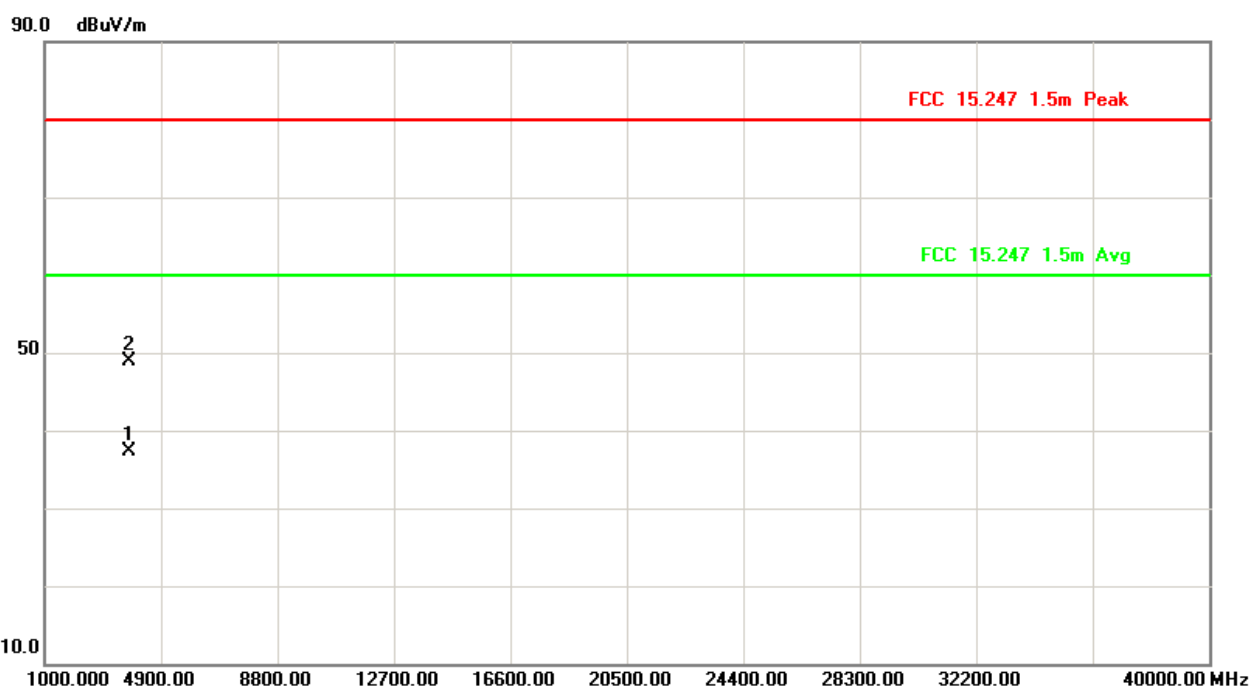


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5736MHz ( Antenna B)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3823.92	H	46.14	34.48	2.83	48.97	37.31	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand





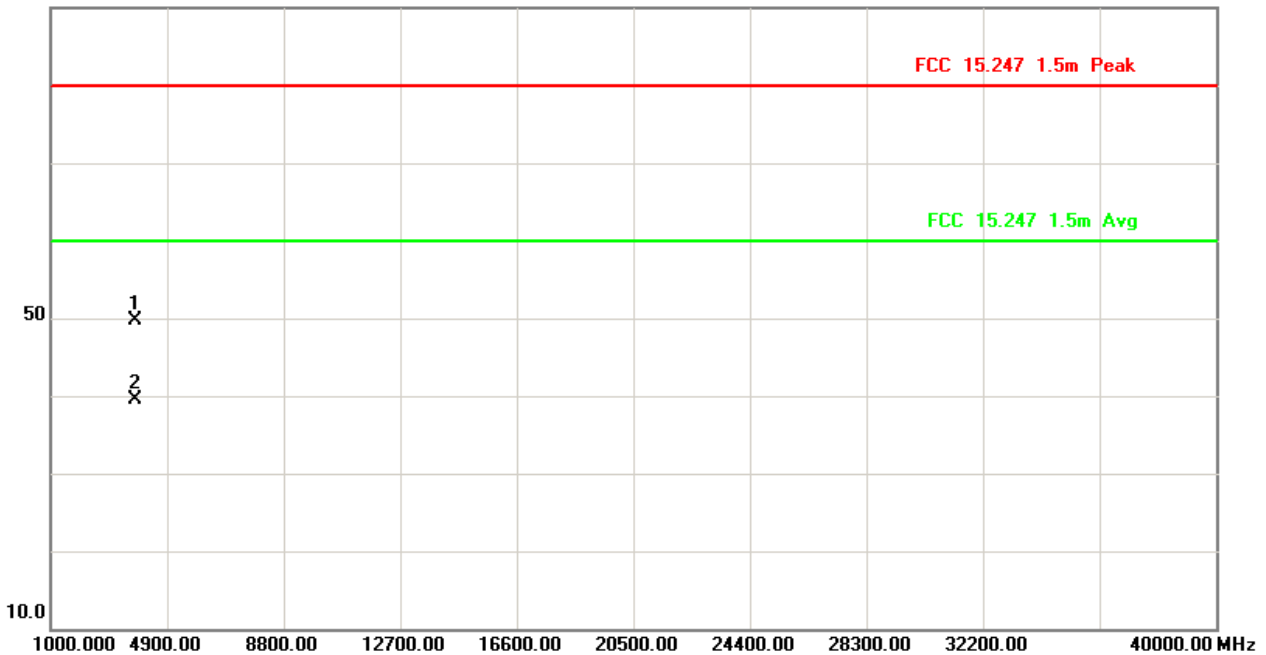
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5762MHz ( Antenna B)		

Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3841.34	V	46.88	36.53	2.89	49.77	39.42	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 “X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand

90.0 dBuV/m



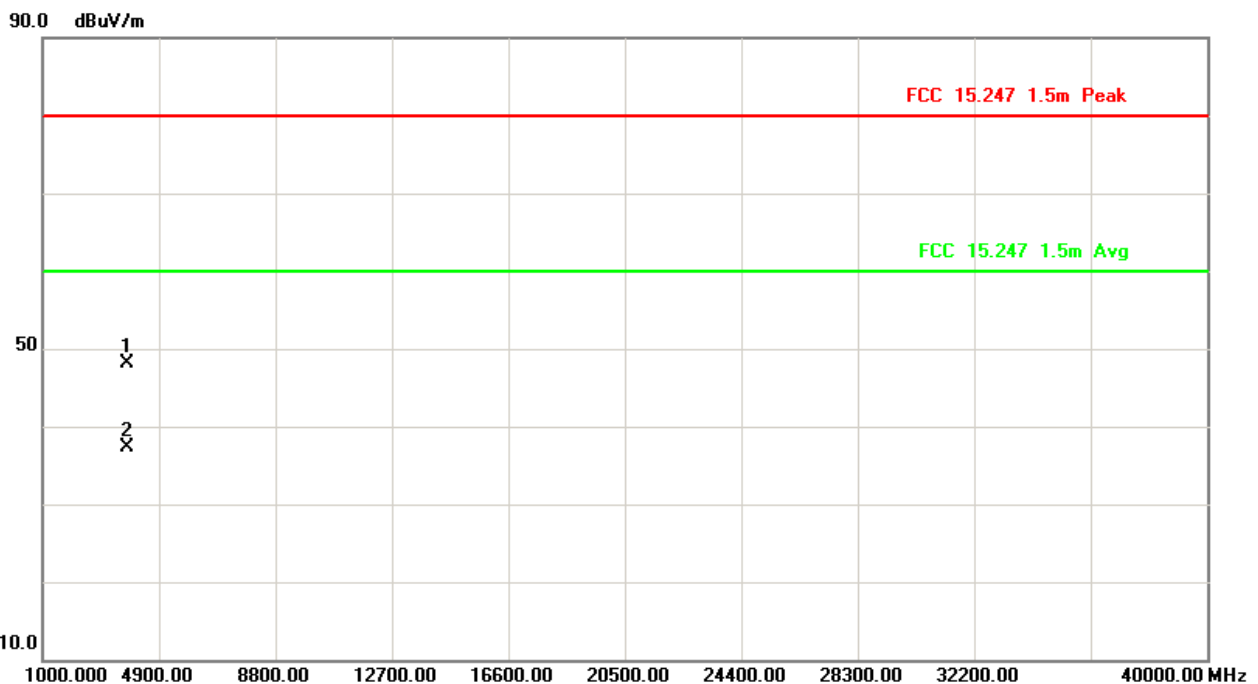


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5762MHz ( Antenna B)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3841.21	H	45.25	34.36	2.89	48.14	37.25	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand





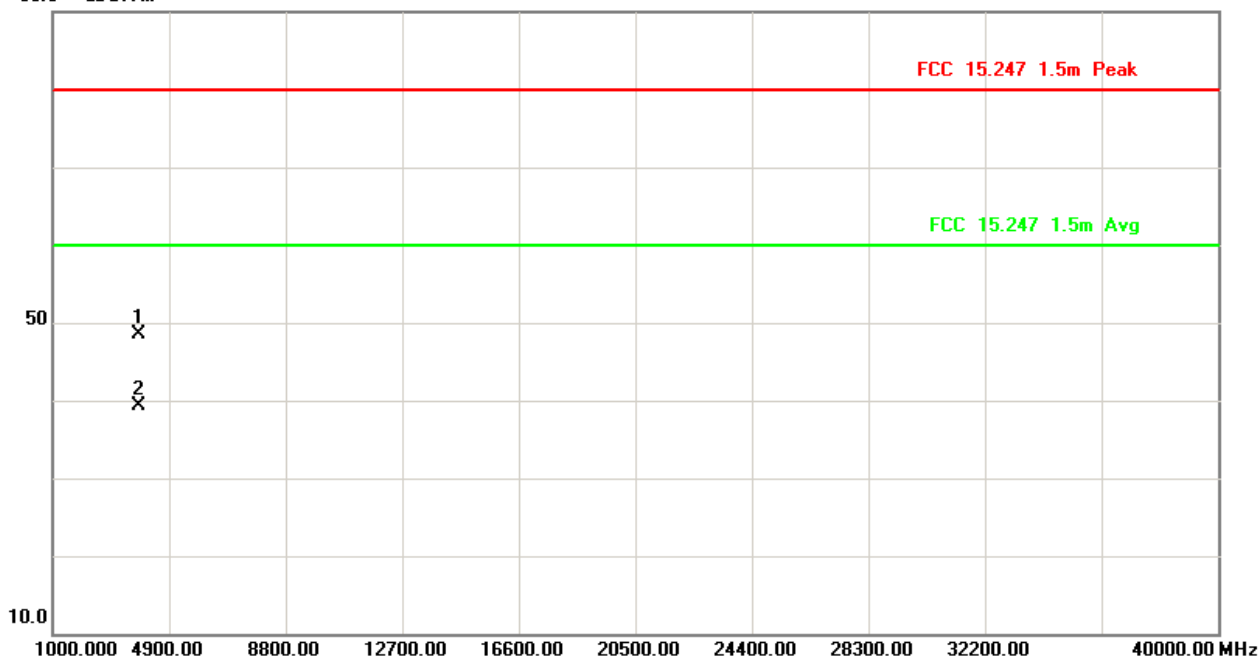
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5814MHz ( Antenna B)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3875.40	V	45.41	36.36	3.02	48.43	39.38	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

90.0 dBuV/m



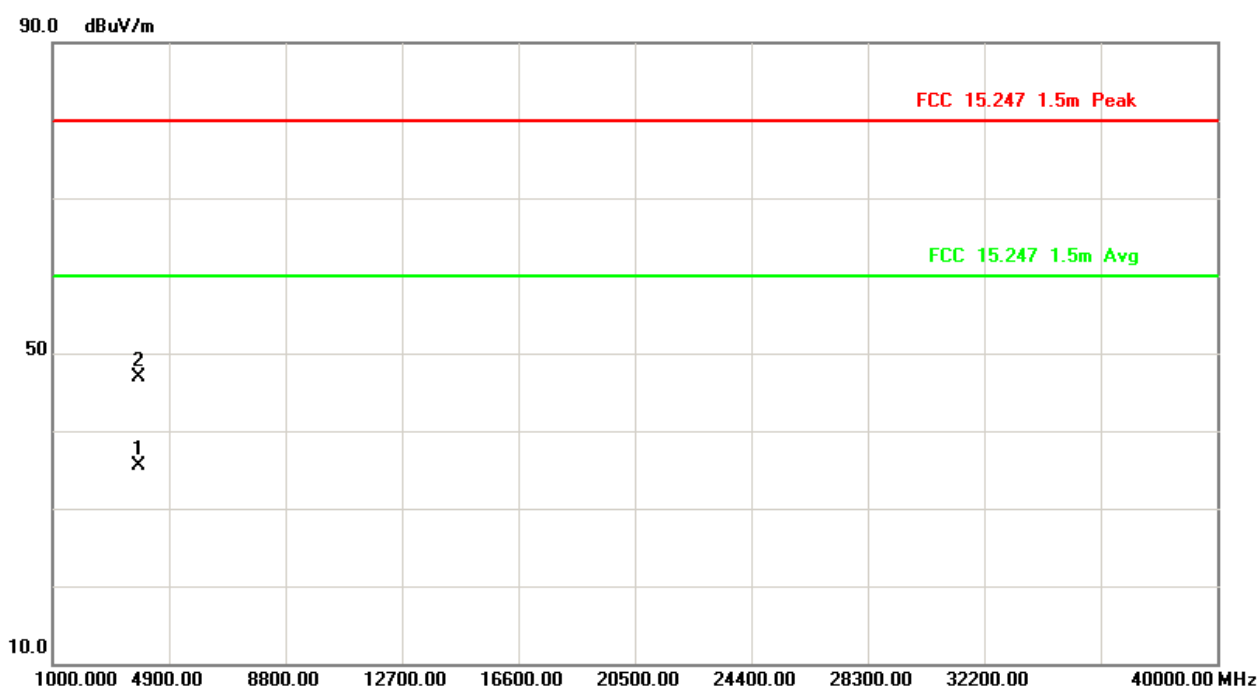


EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1006hPa	Test Voltage :	DC 3.3V
Test Mode :	RX Mode 5814MHz ( Antenna B)		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
3875.40	H	43.96	32.54	3.02	46.98	35.56	80.00	60.00	X/H

**Remark :**

- (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 ◦
- (2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand







**5. BANDWIDTH TEST**

**5.1 Applied procedures / limit**

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	5725 - 5850	PASS

**5.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 04, 2012

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

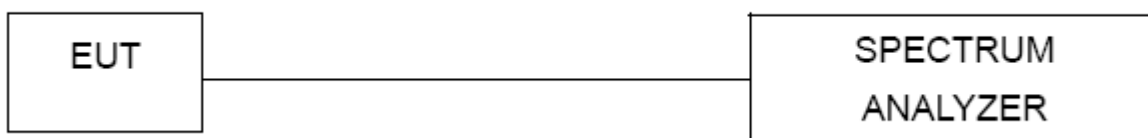
**5.1.2 TEST PROCEDURE**

- 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 = 20 ms.

**5.1.3 DEVIATION FROM STANDARD**

No deviation.

**5.1.4 TEST SETUP**



**5.1.5 EUT OPERATION CONDITIONS**

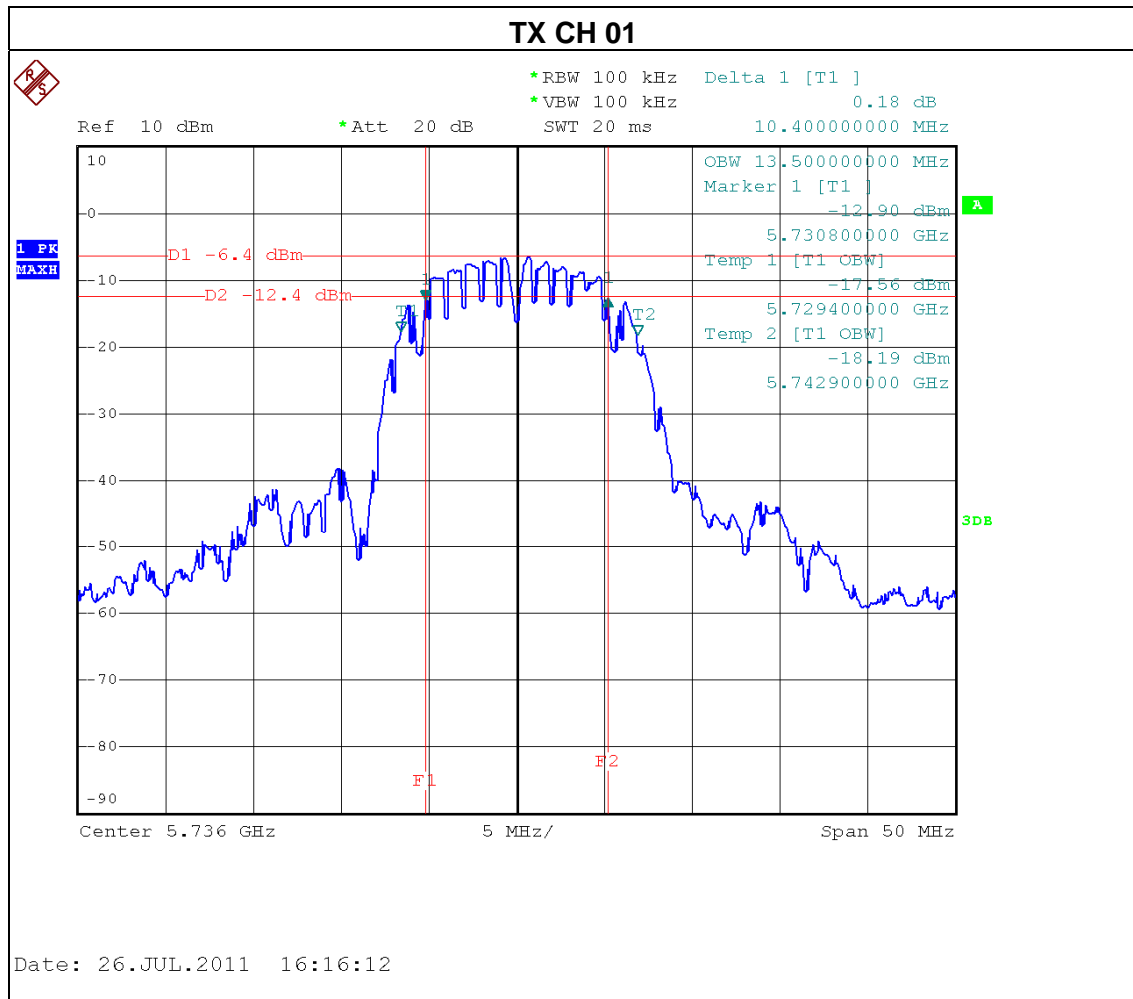
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

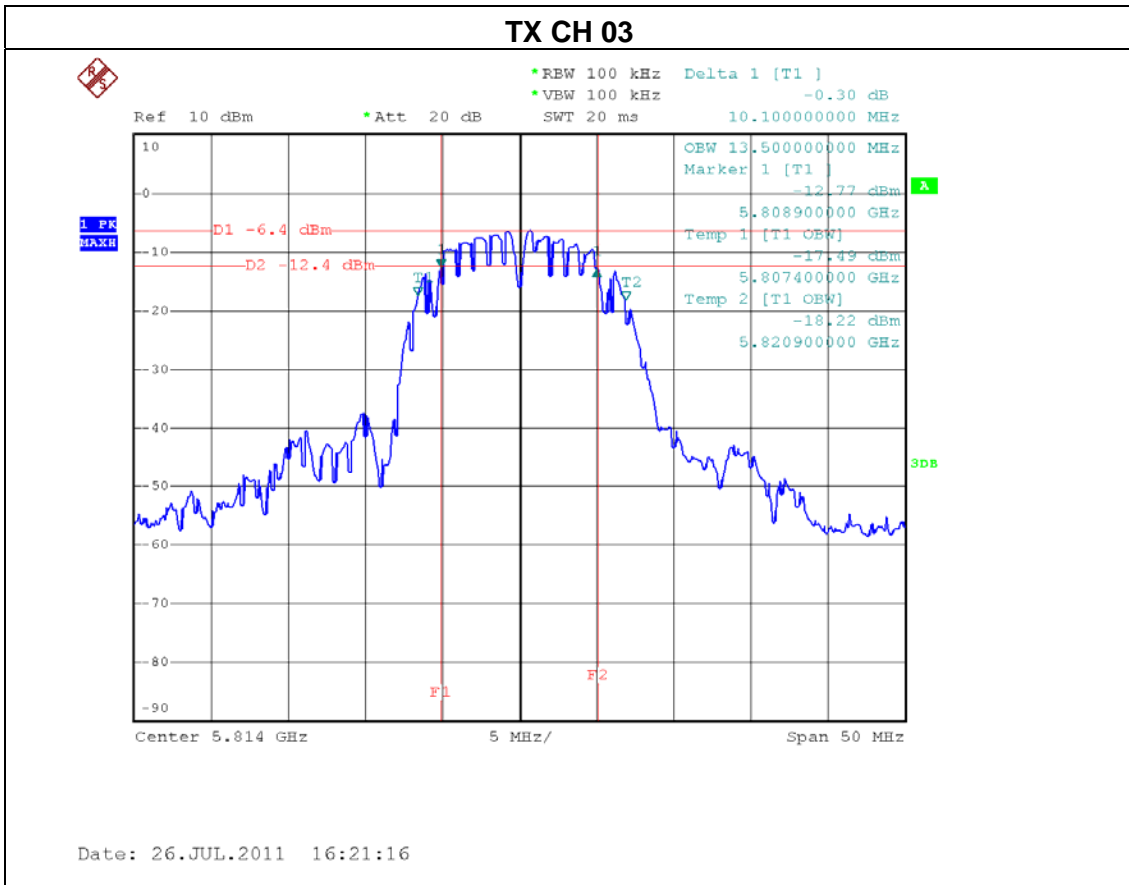
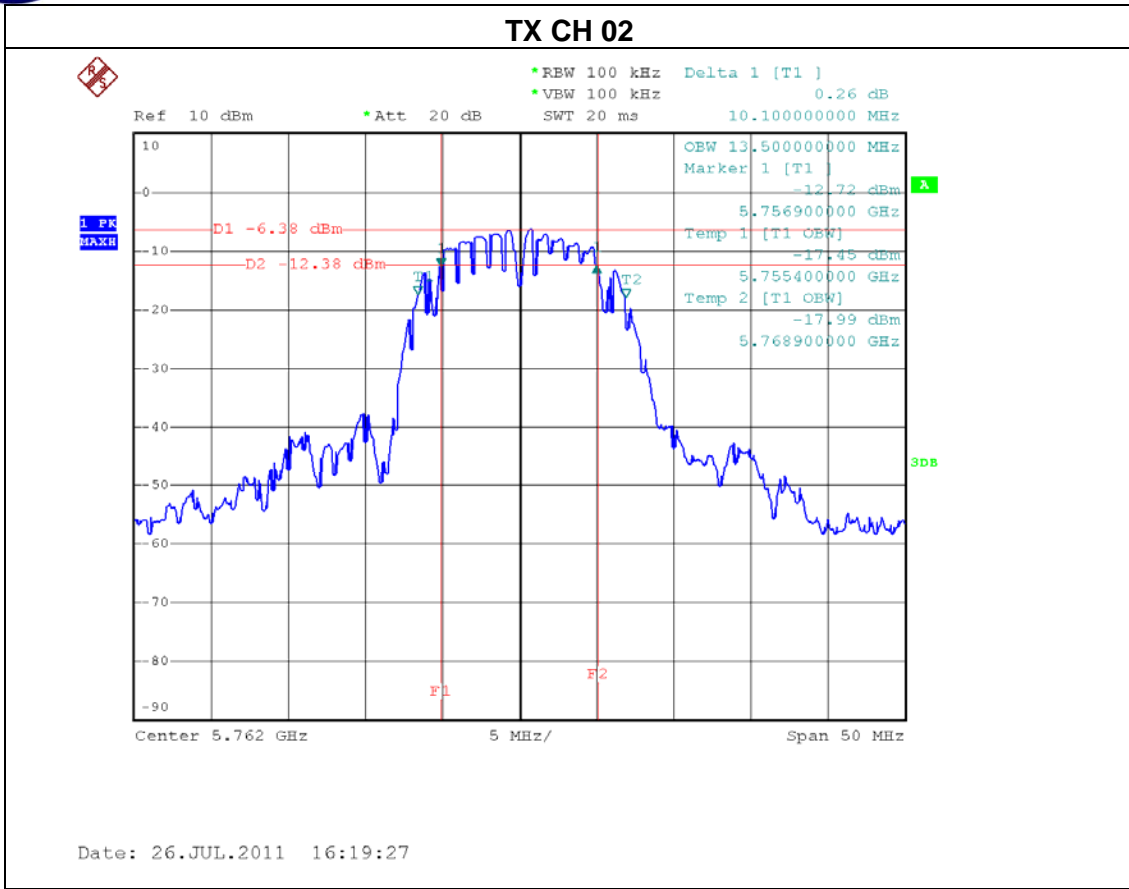


**5.1.6 TEST RESULTS**

EUT :	Half-size mini-PCIe digital wireless audio module	Model Name. :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal Power– Antenna A)		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	5736	10.40	13.50	>=500KHz
CH02	5762	10.10	13.50	>=500KHz
CH03	5814	10.10	13.50	>=500KHz

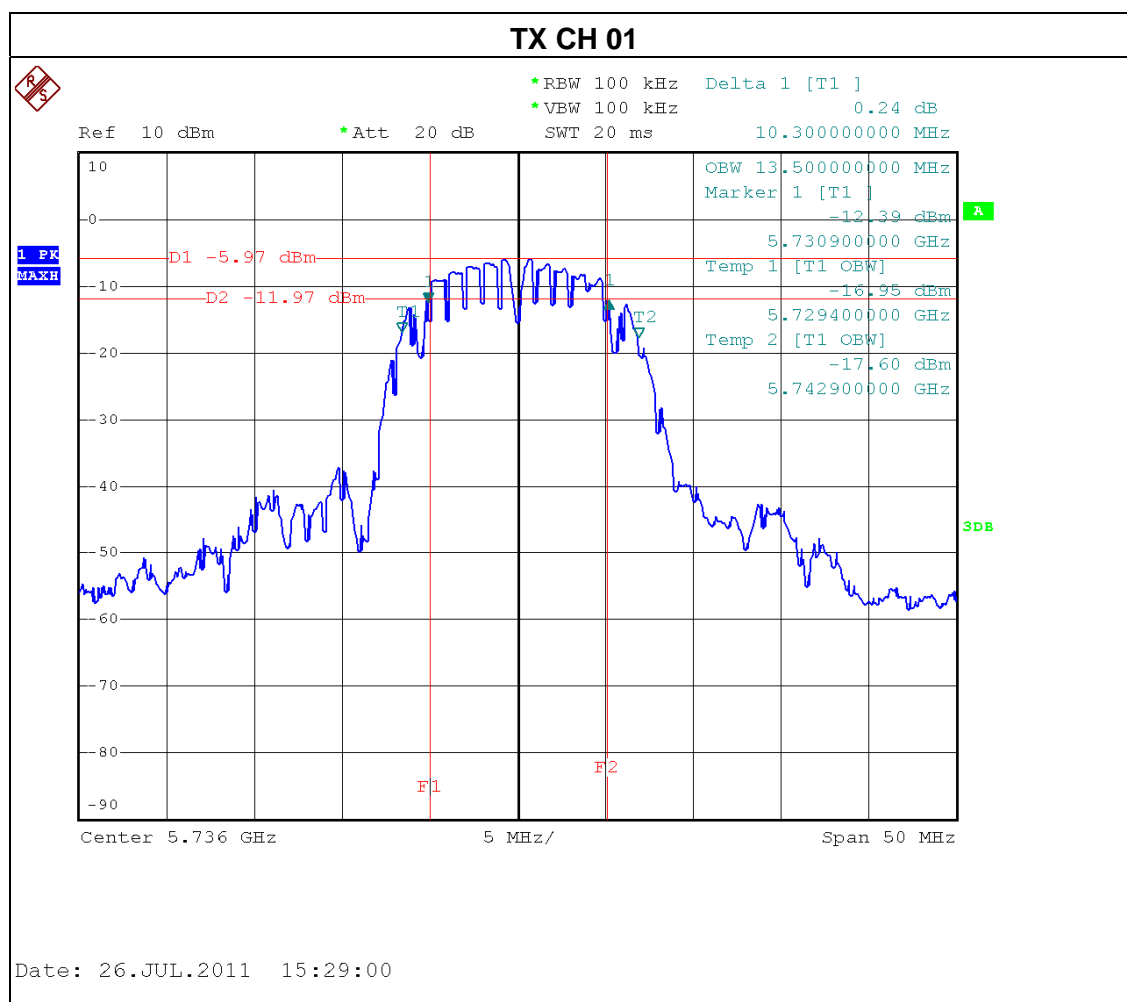


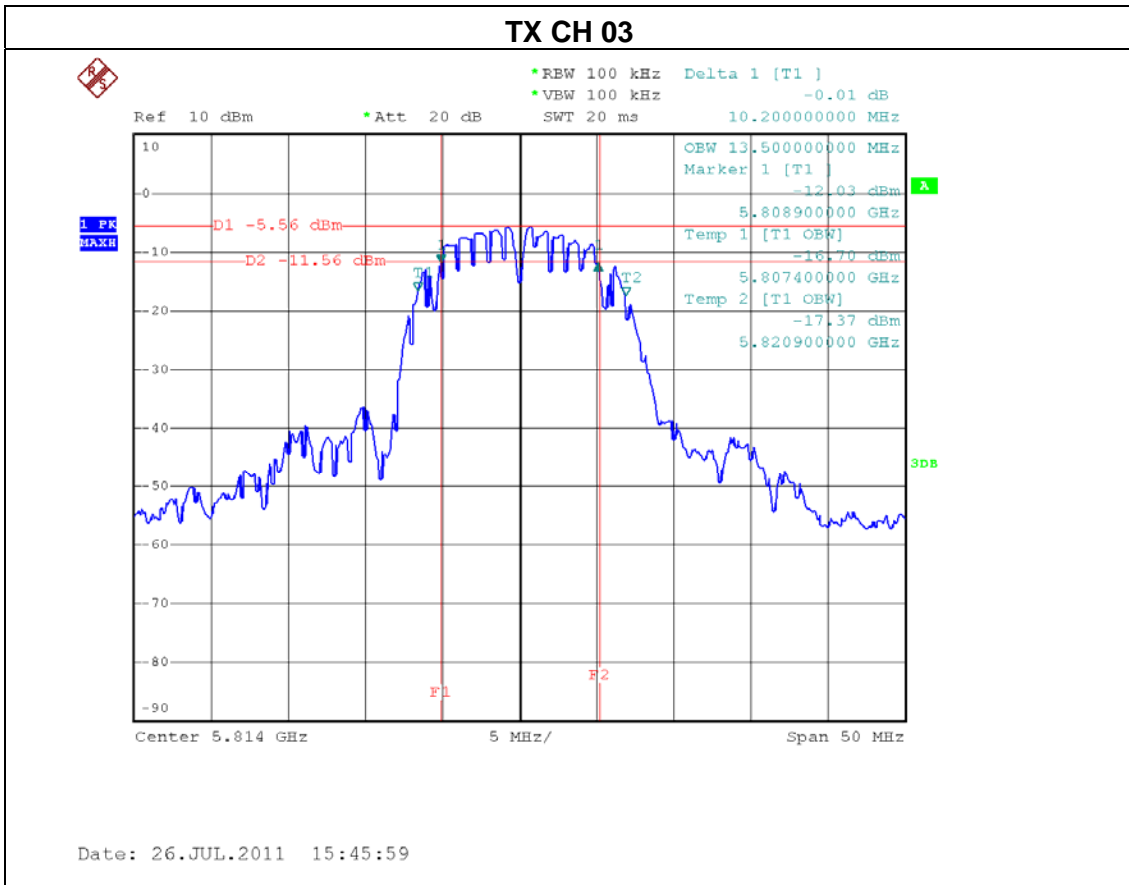
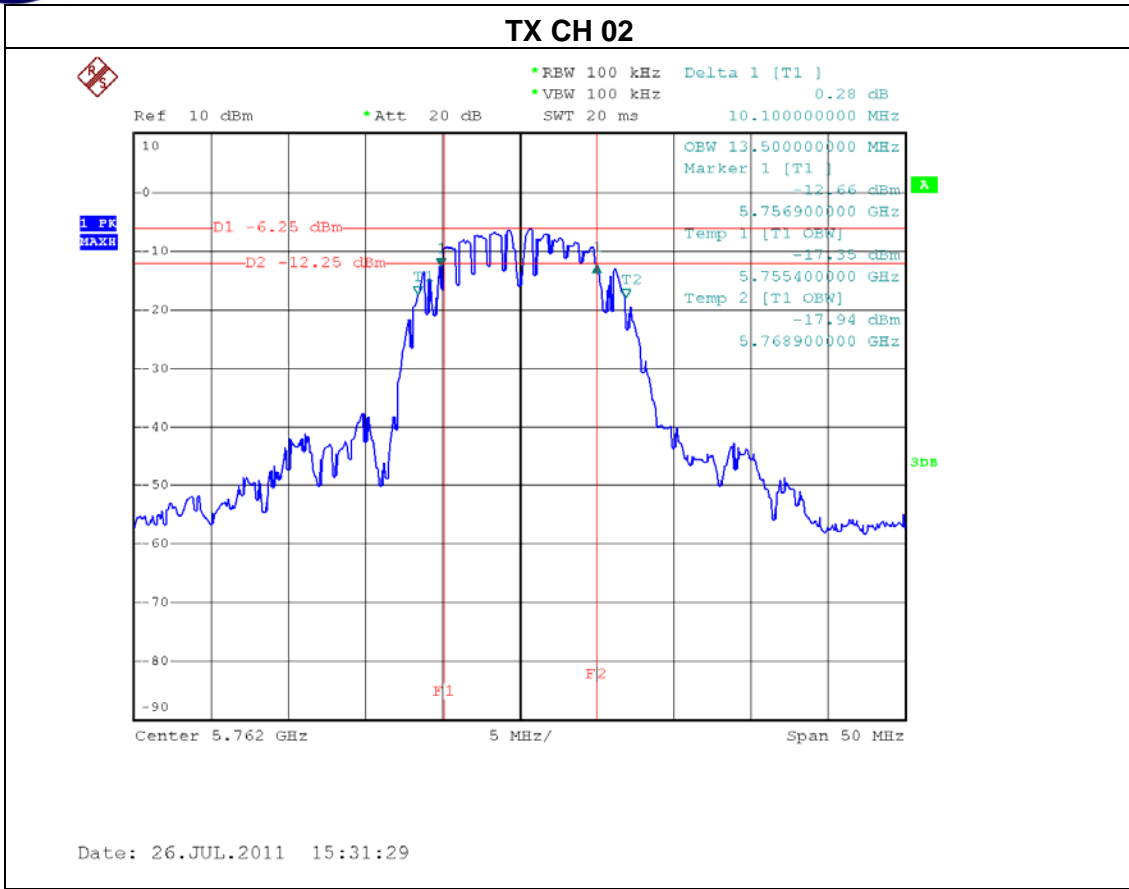




EUT :	Half-size mini-PCIe digital wireless audio module	Model Name. :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal Power- Antenna B)		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	5736	10.30	13.50	>=500KHz
CH02	5762	10.10	13.50	>=500KHz
CH03	5814	10.20	13.50	>=500KHz







**6. MAXIMUM OUTPUT POWER TEST**

**6.1 Applied procedures / limit**

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Maximum Output Power	1 watt or 30dBm	5725 - 5850	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	100129	Jan. 04, 2012

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

**6.1.2 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

**6.1.3 DEVIATION FROM STANDARD**

No deviation.

**6.1.4 TEST SETUP**



**6.1.5 EUT OPERATION CONDITIONS**

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



**6.1.6 TEST RESULTS**

EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal – Antenna A)		

**Peak Output Power**

Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	5736 MHz	12.73	30	1
CH02	5762 MHz	13.25	30	1
CH03	5814 MHz	13.50	30	1

**Average Output Power limit: None ; for reporting purposes only**

Test Channel	Frequency (MHz)	AV Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	5736 MHz	8.58	30	1
CH02	5762 MHz	9.11	30	1
CH03	5814 MHz	9.94	30	1



EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCle83
Temperature :	20 °C	Relative Humidity :	58 %
Pressure :	1016 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal – Antenna B)		

**Peak Output Power**

Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	5736 MHz	12.84	30	1
CH02	5762 MHz	13.37	30	1
CH03	5814 MHz	13.61	30	1

**Average Output Power limit: None ; for reporting purposes only**

Test Channel	Frequency (MHz)	AV Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	5736 MHz	8.77	30	1
CH02	5762 MHz	9.26	30	1
CH03	5814 MHz	9.53	30	1





**7. ANTENNA CONDUCTED SPURIOUS EMISSION**

**7.1 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

**7.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 04, 2012

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

**7.1.2 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 = 10 ms.

**7.1.3 DEVIATION FROM STANDARD**

No deviation.

**7.1.4 TEST SETUP**



**7.1.5 EUT OPERATION CONDITIONS**

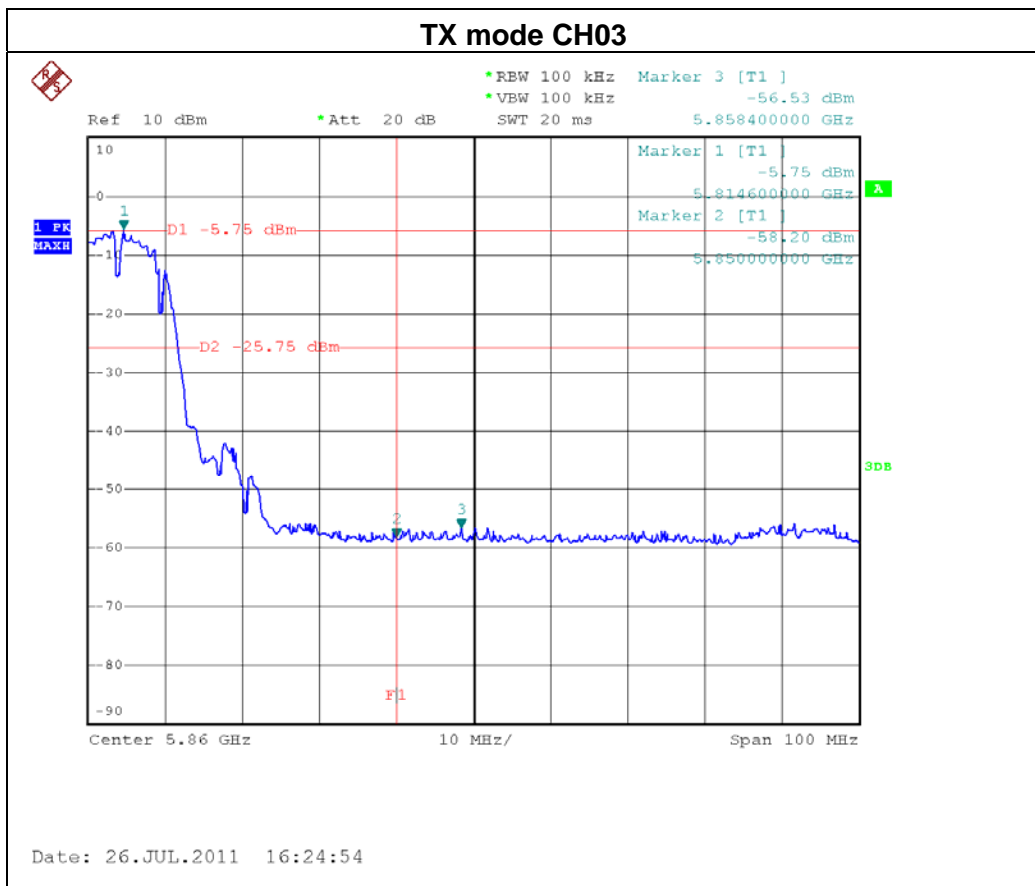
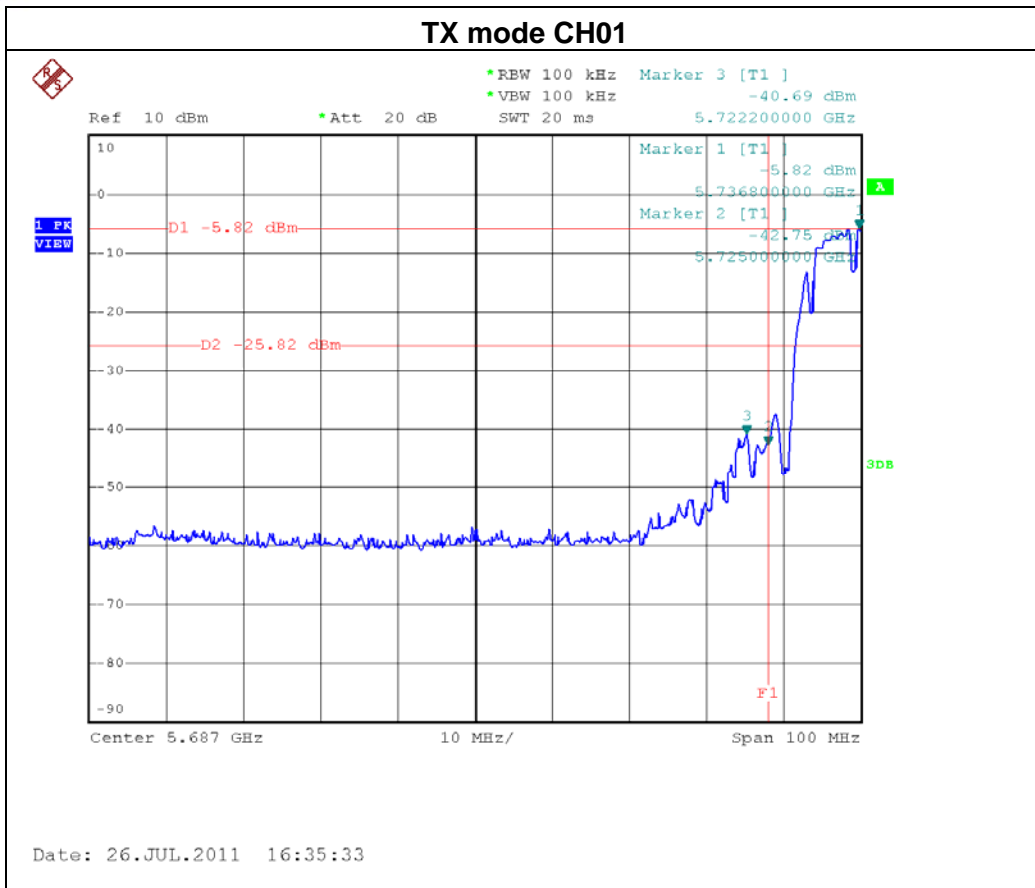
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

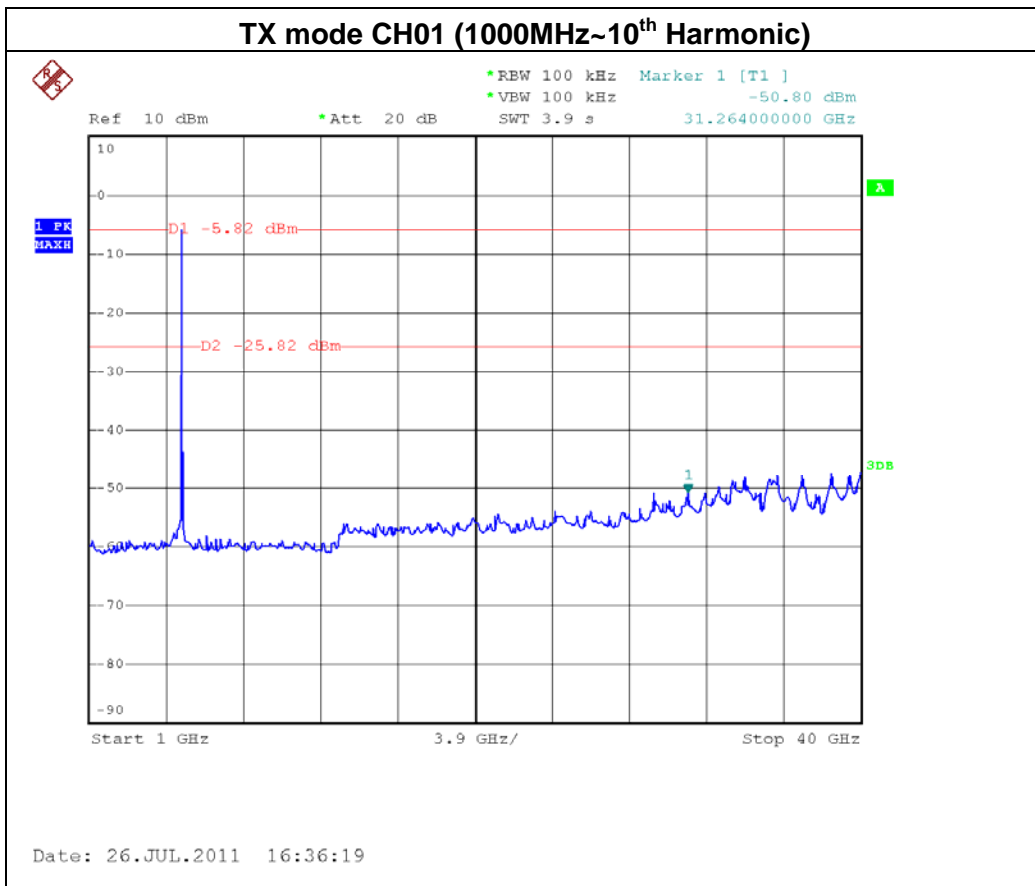
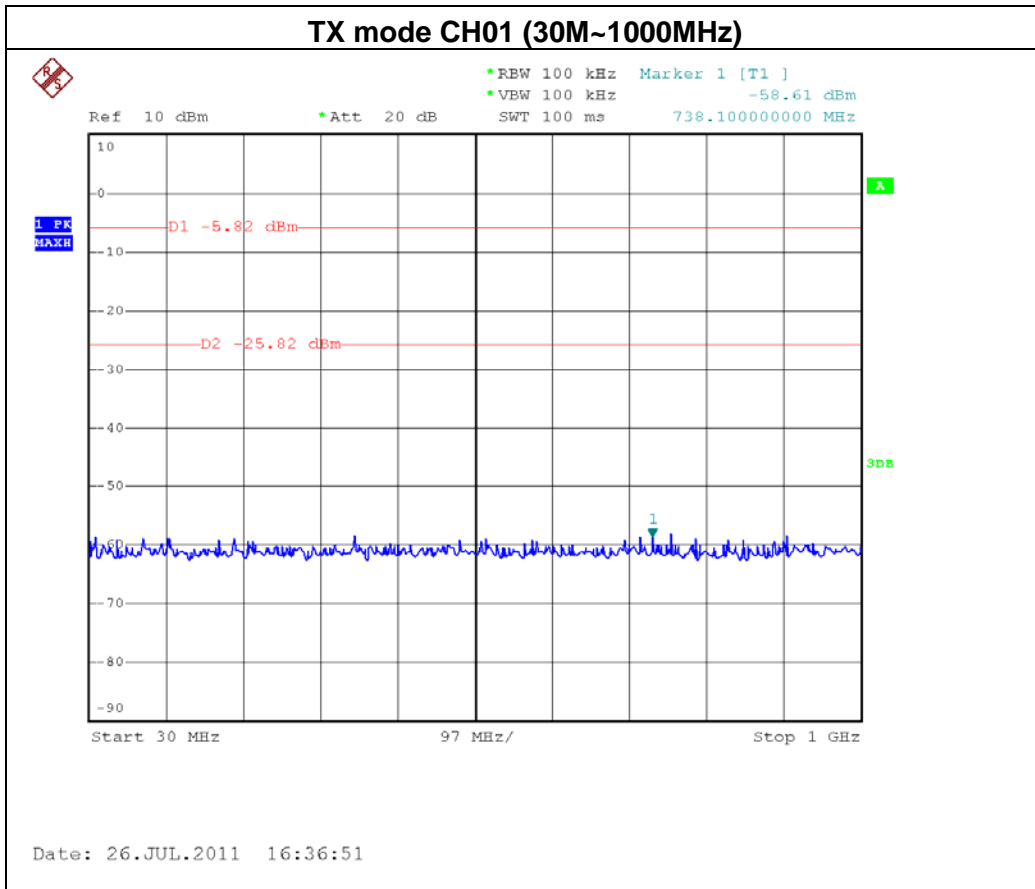


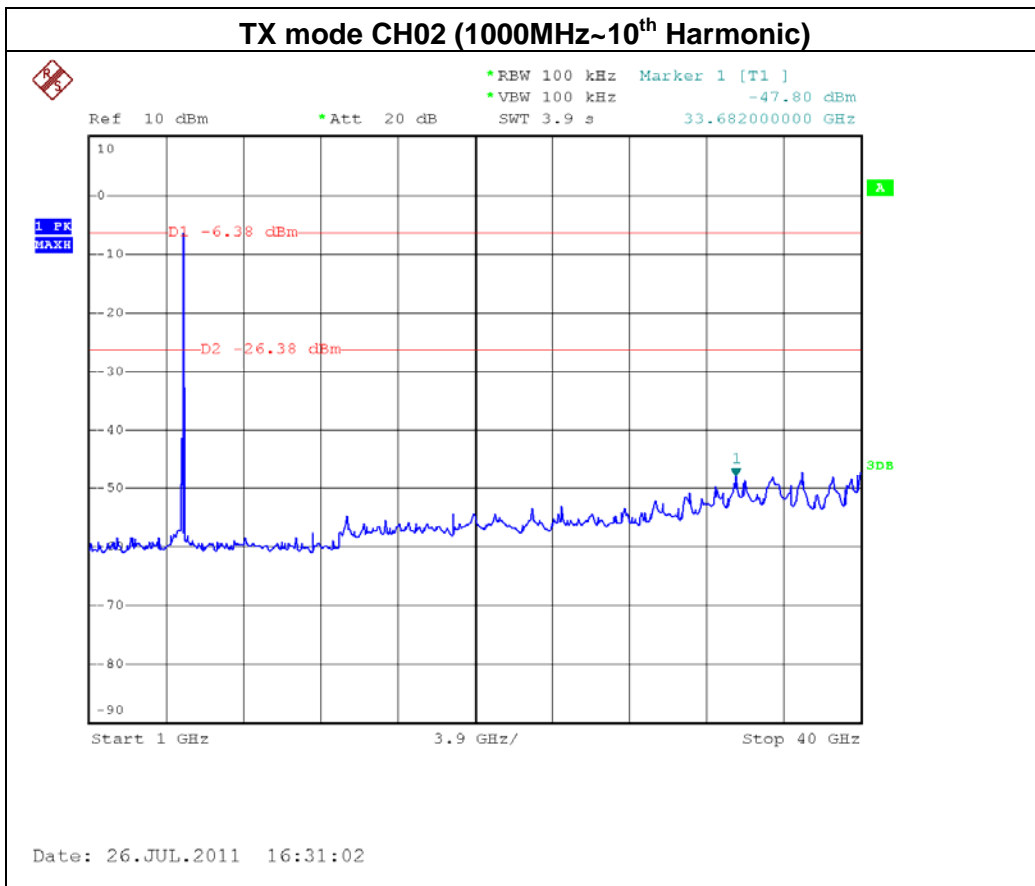
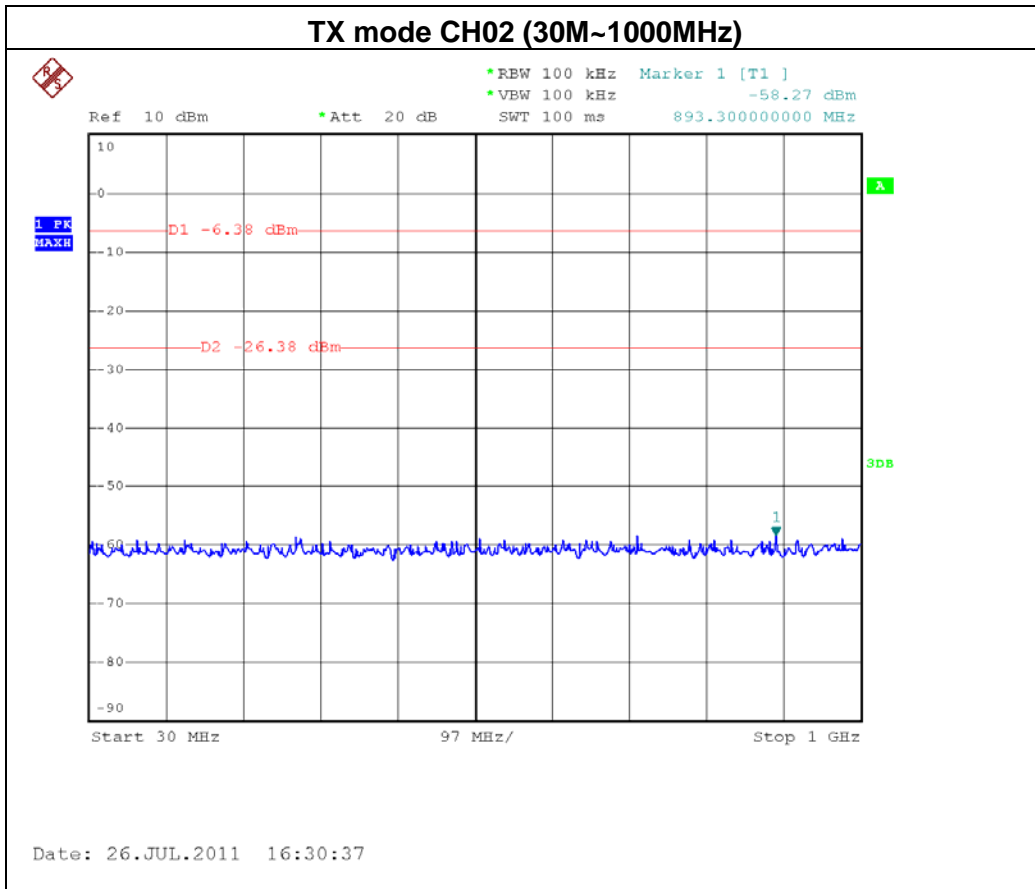
**7.1.6 TEST RESULTS**

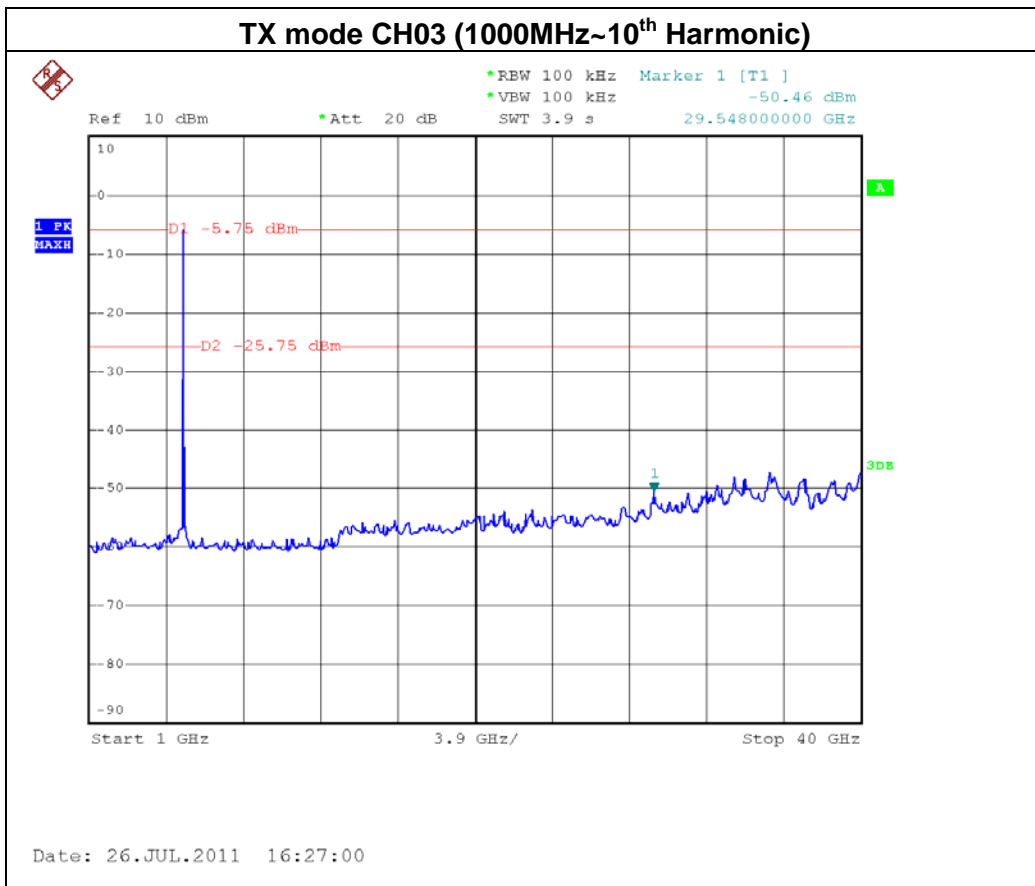
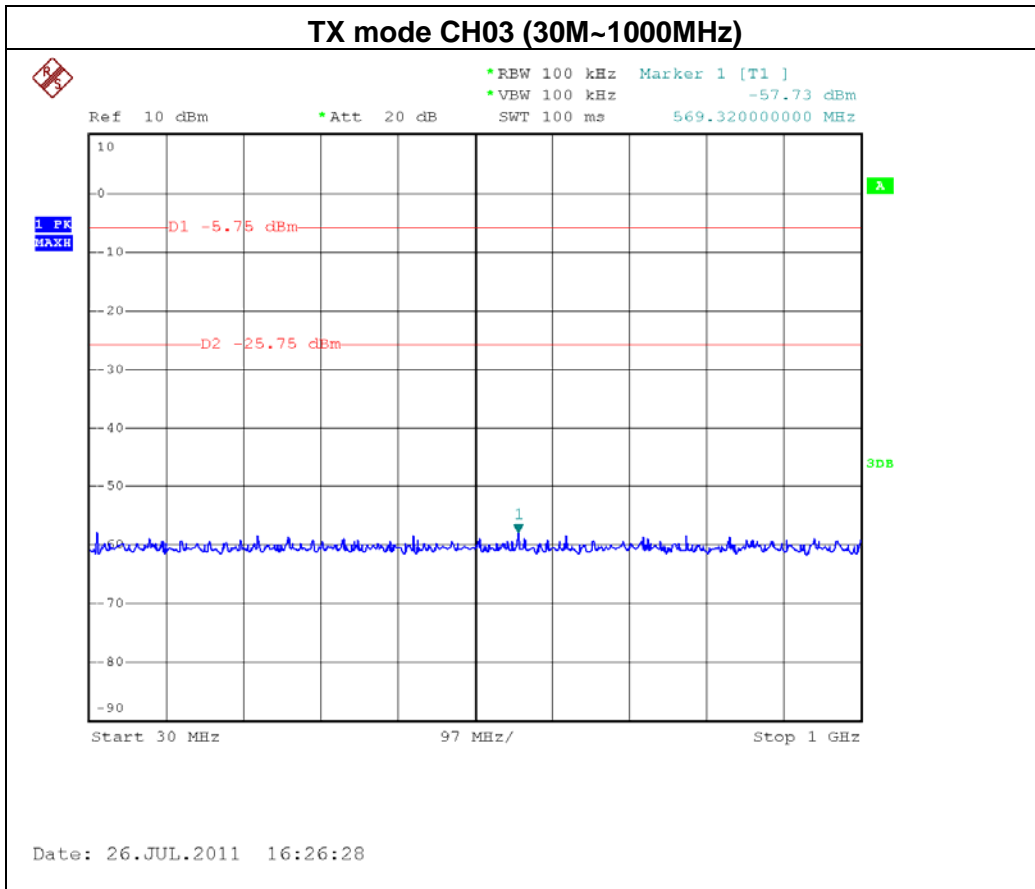
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal – Antenna A)		

Channel of Worst Data: CH01			
The max. radio frequency power in any 100kHz bandwidth outside 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)
5722.20	-40.69	5858.40	-56.53
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 level of the desired power.			





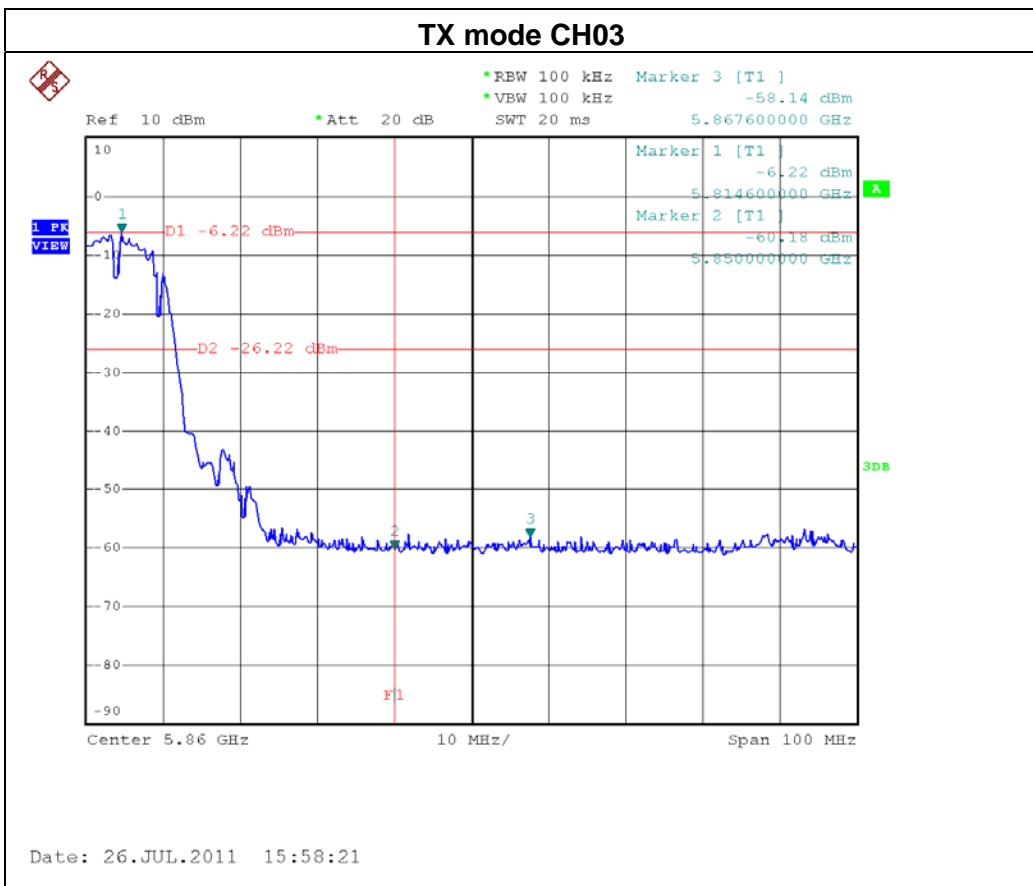
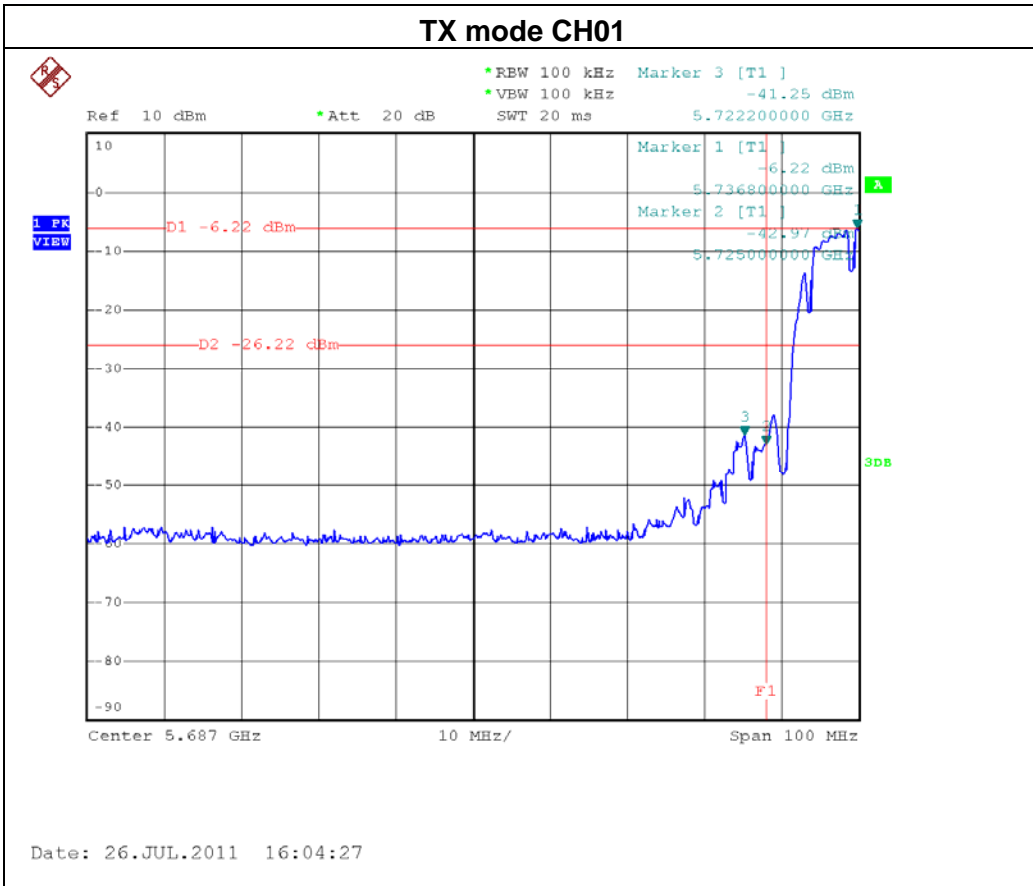




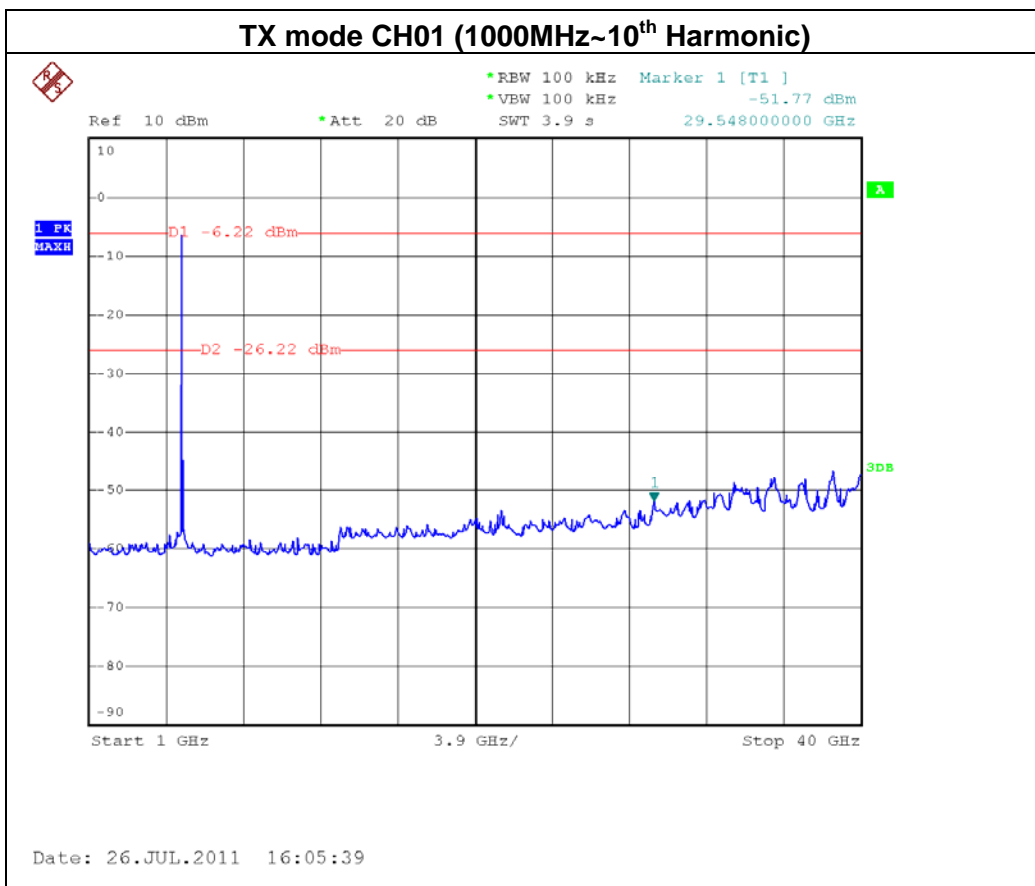
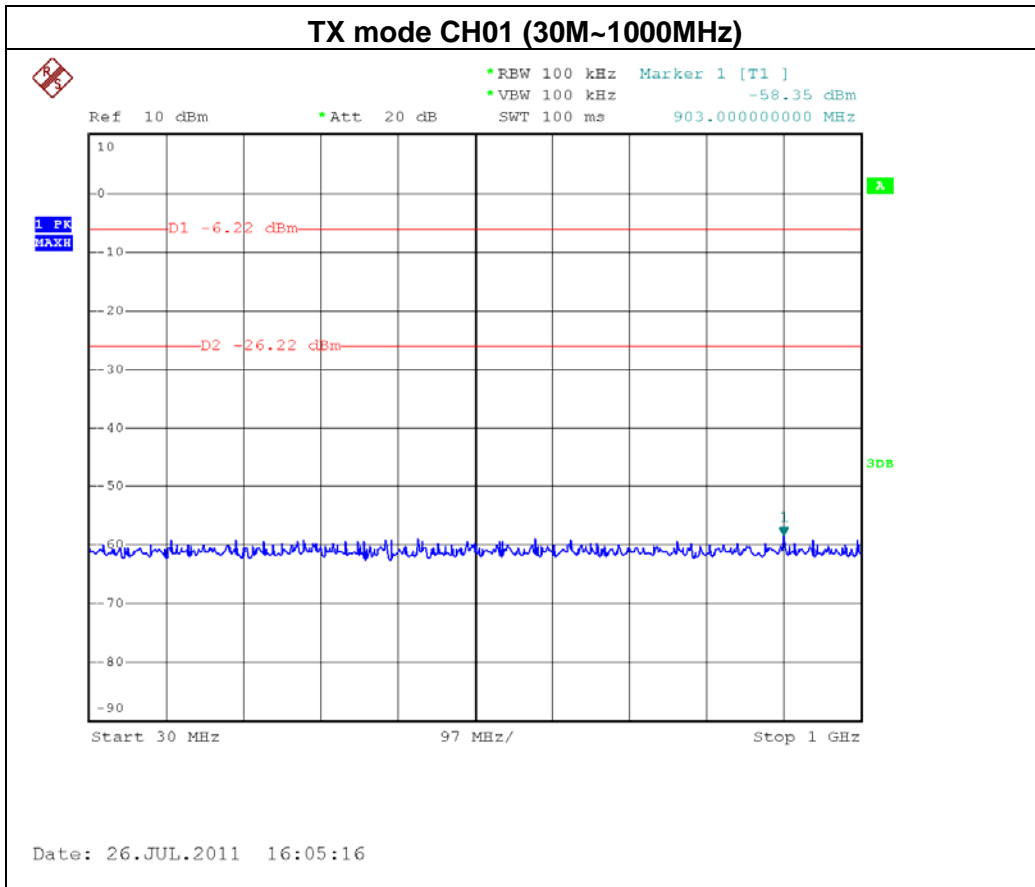


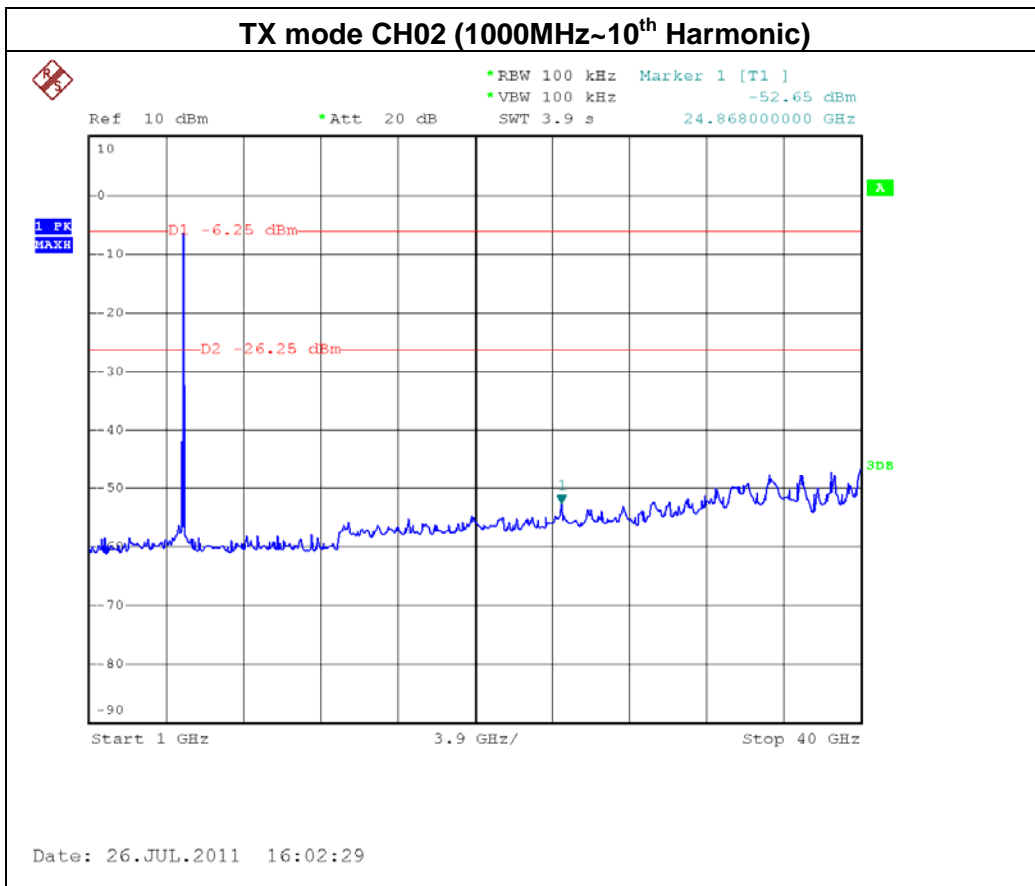
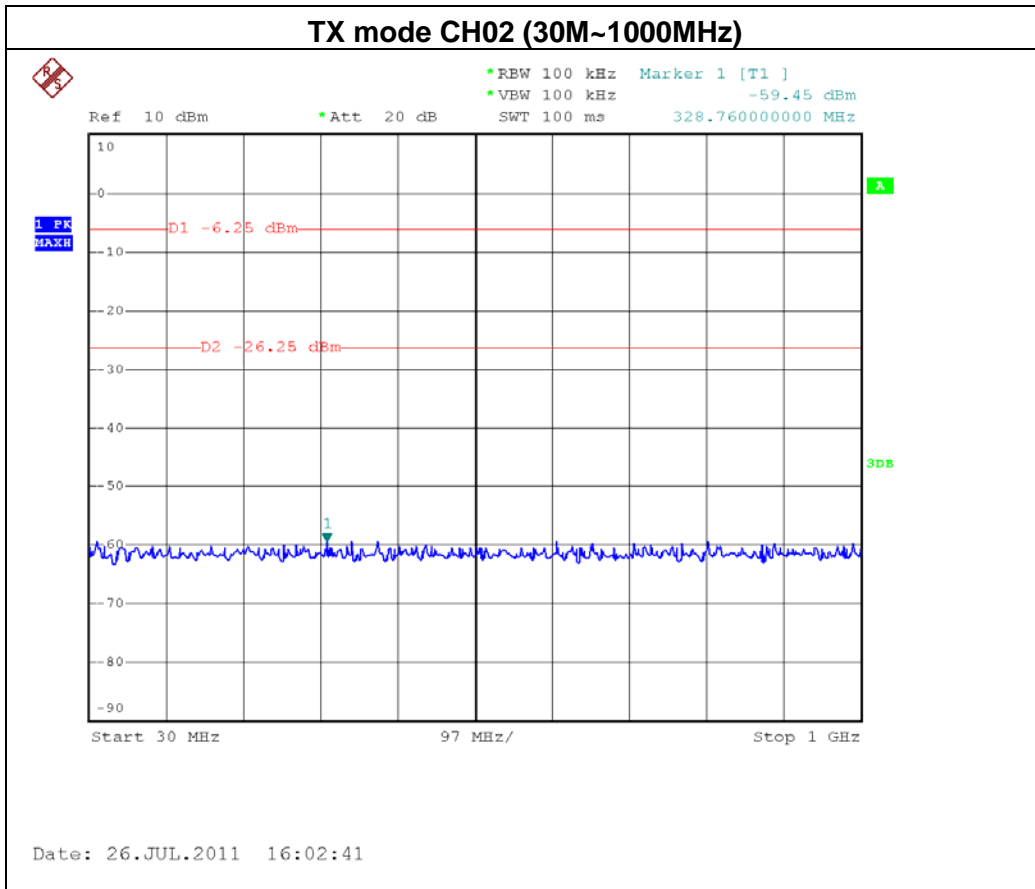
EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal – Antenna B)		

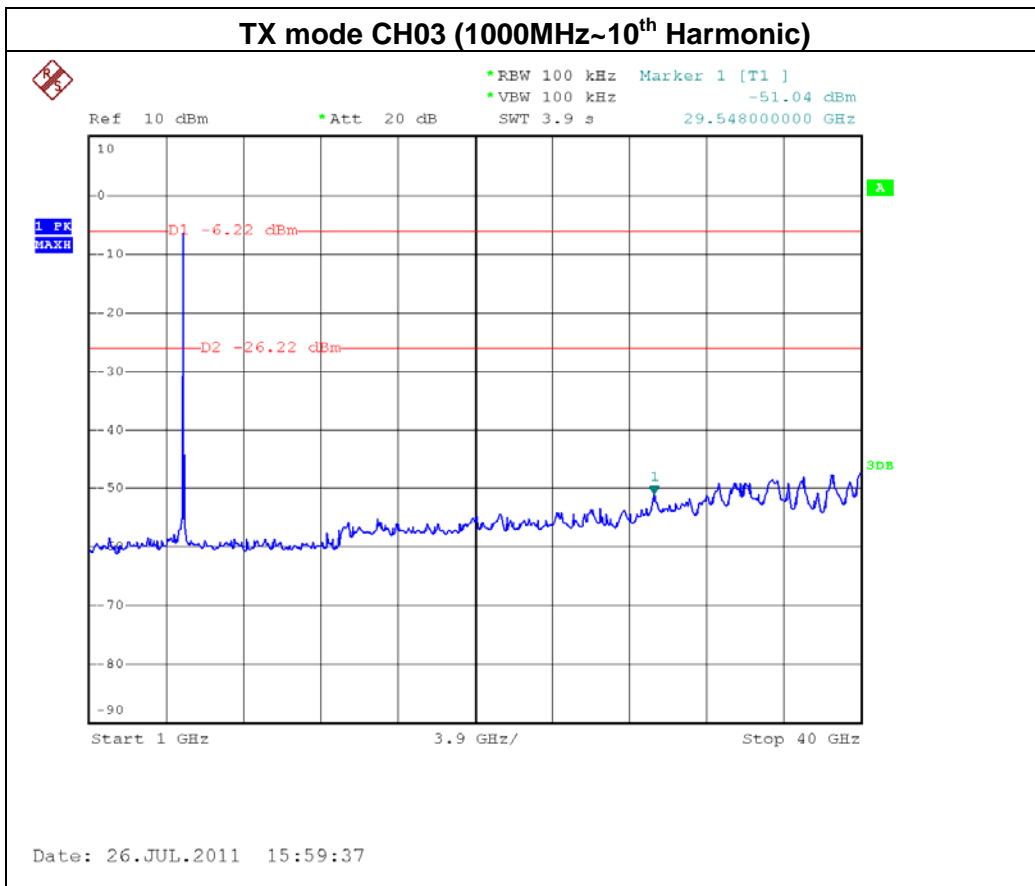
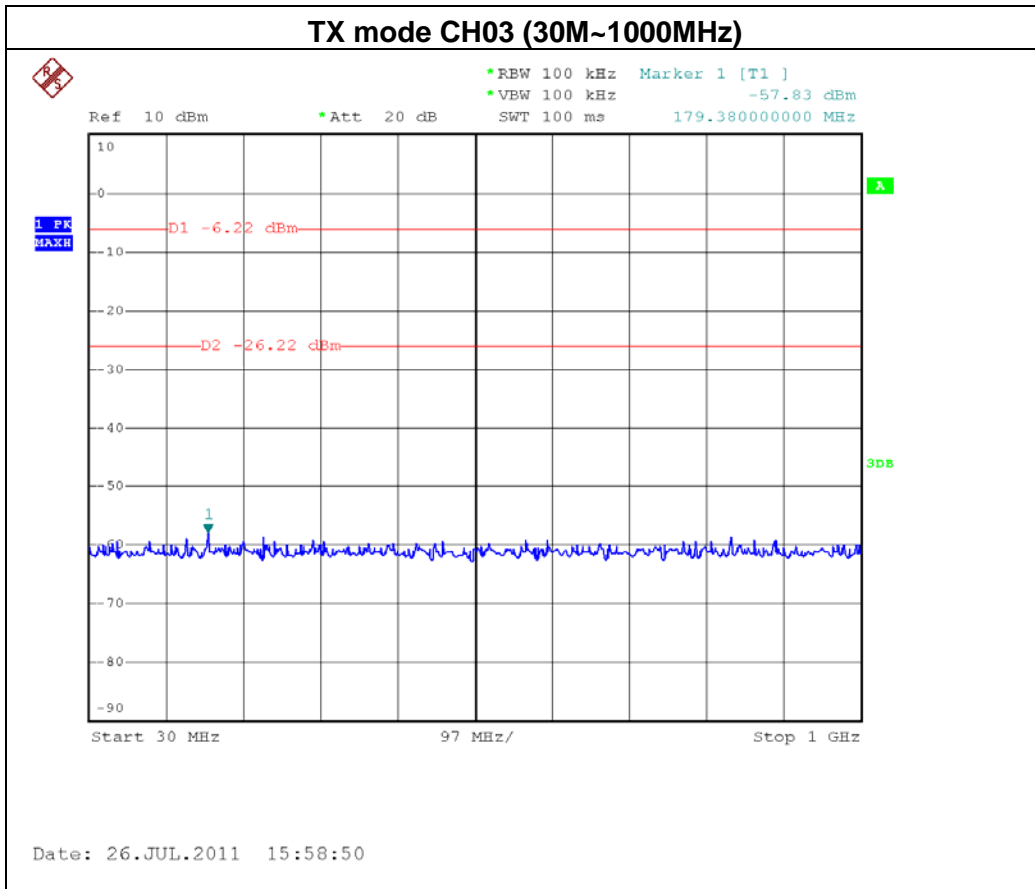
Channel of Worst Data: CH01			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5722.20	-41.25	5867.60	-58.14
Result			
In any 100kHz 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 level of the desired power.			













## 8. POWER SPECTRAL DENSITY TEST

### 8.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	8 dBm (in any 3KHz)	5725 - 5850	PASS

### 8.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 04, 2012

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

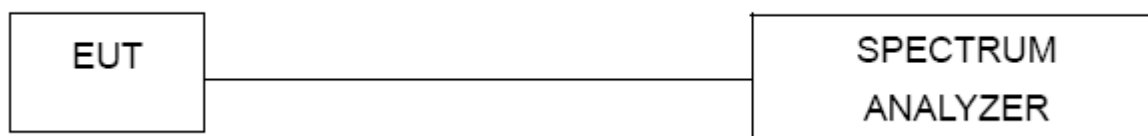
### 8.1.2 TEST PROCEDURE

- 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=3KHz, VBW=30 KHz, Sweep time = 500s.

### 8.1.3 DEVIATION FROM STANDARD

No deviation.

### 8.1.4 TEST SETUP



### 8.1.5 EUT OPERATION CONDITIONS

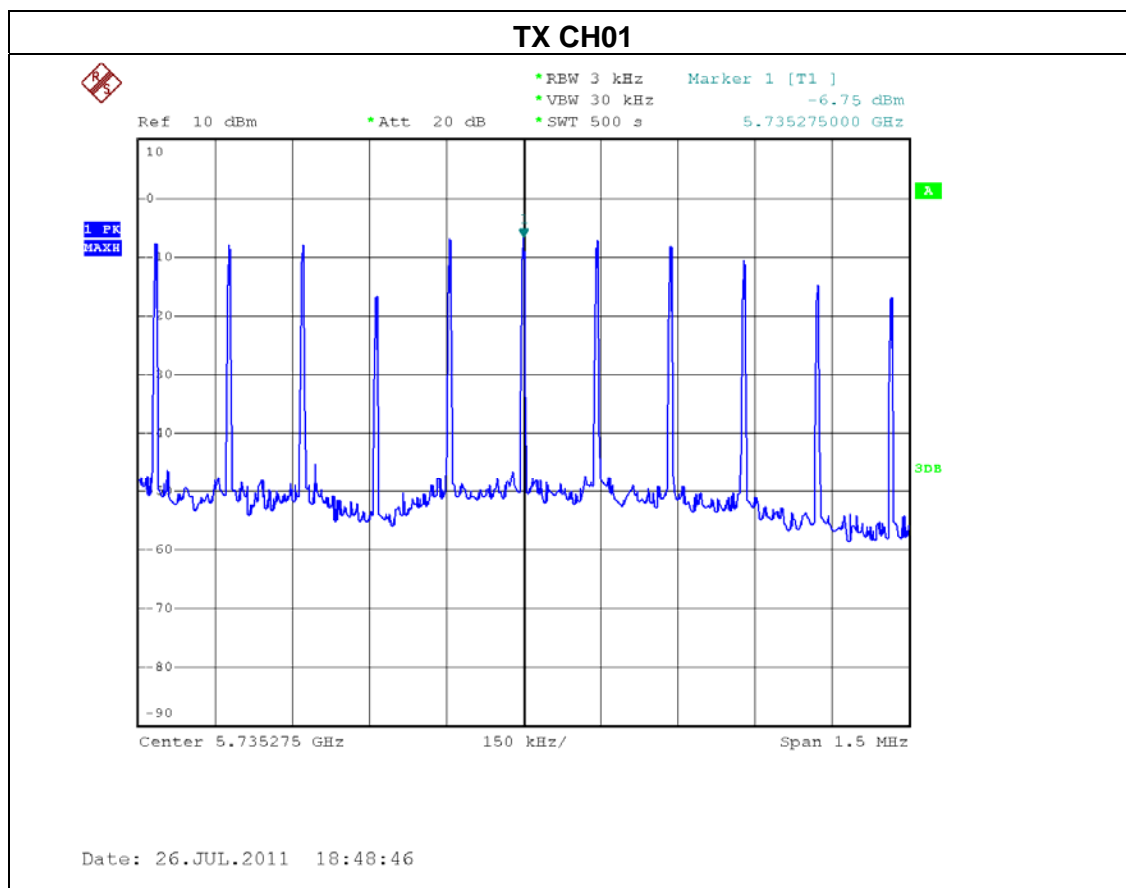
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

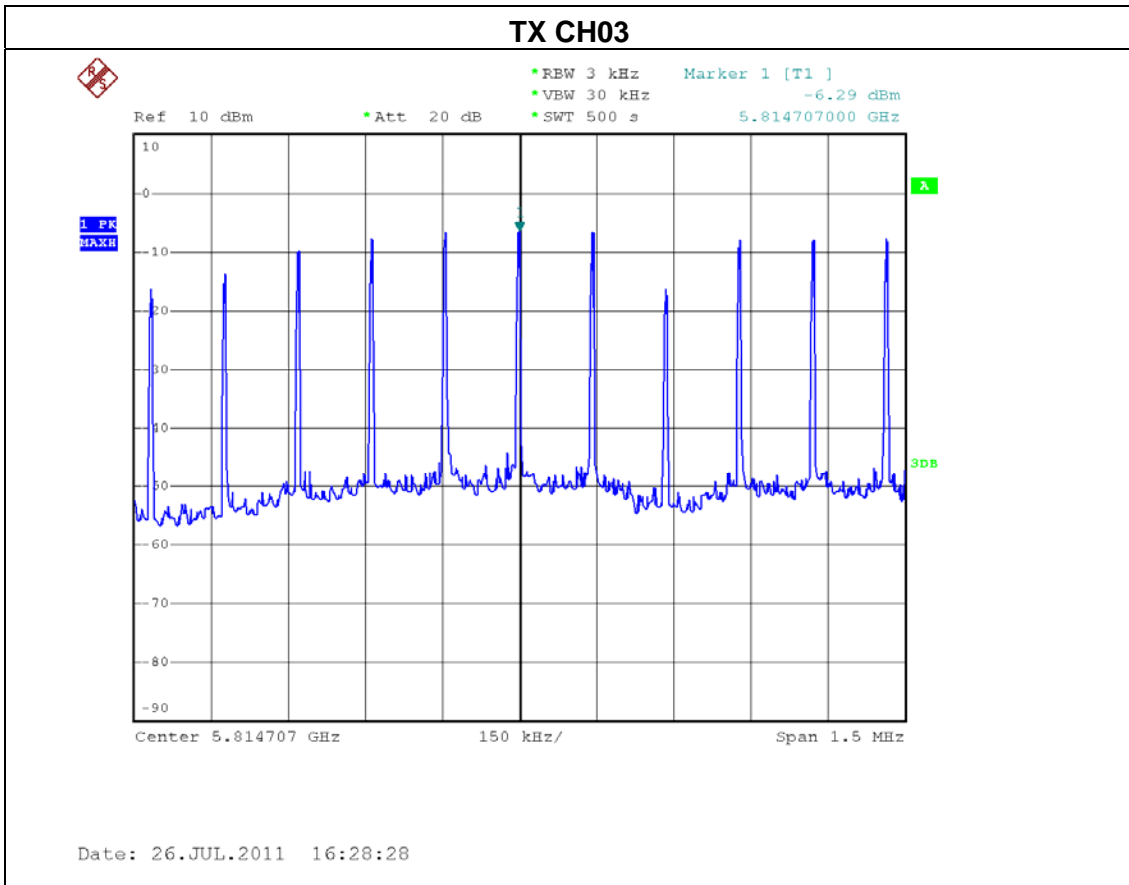
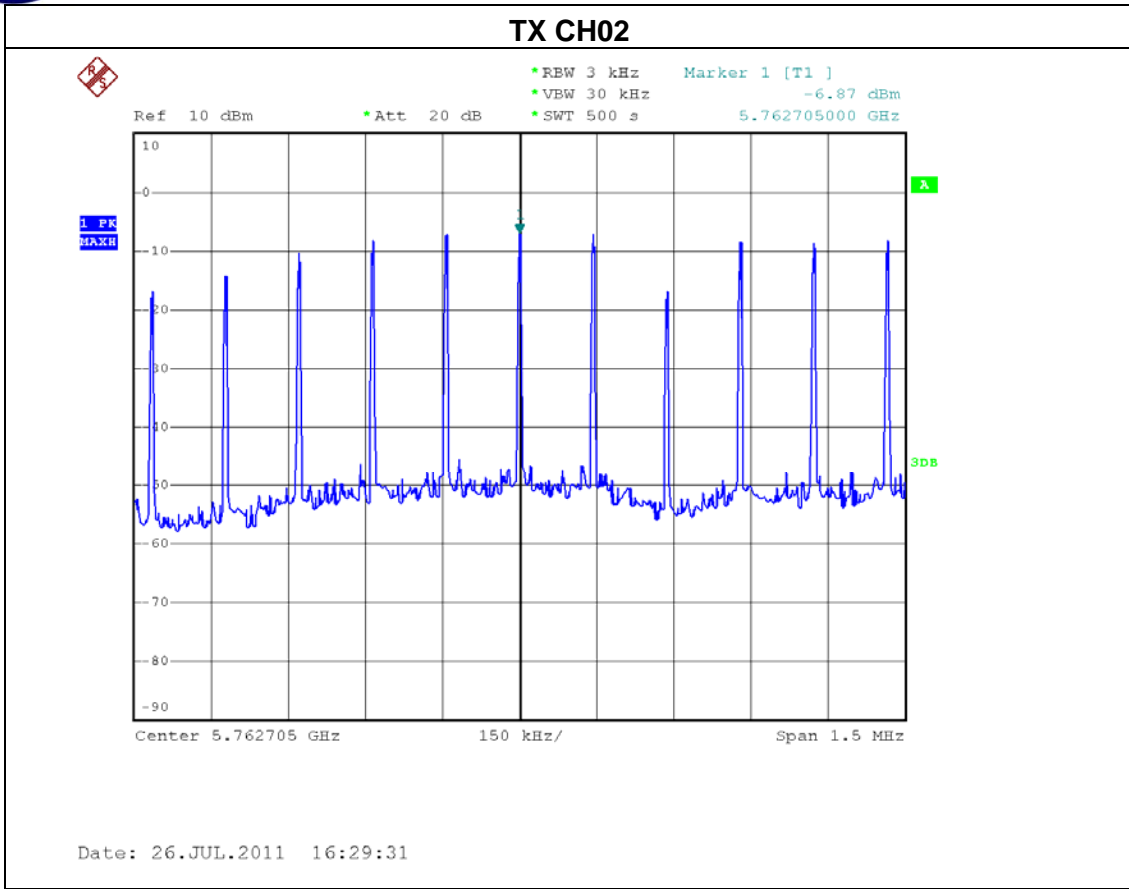


**8.1.6 TEST RESULTS**

EUT :	Half-size mini-PCle digital wireless audio module	Model Name :	DWPCle83
Temperature :	23 °C	Relative Humidity :	51 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal – Antenna A)		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	5736 MHz	-6.75	8
CH02	5762 MHz	-6.87	8
CH03	5814 MHz	-6.29	8

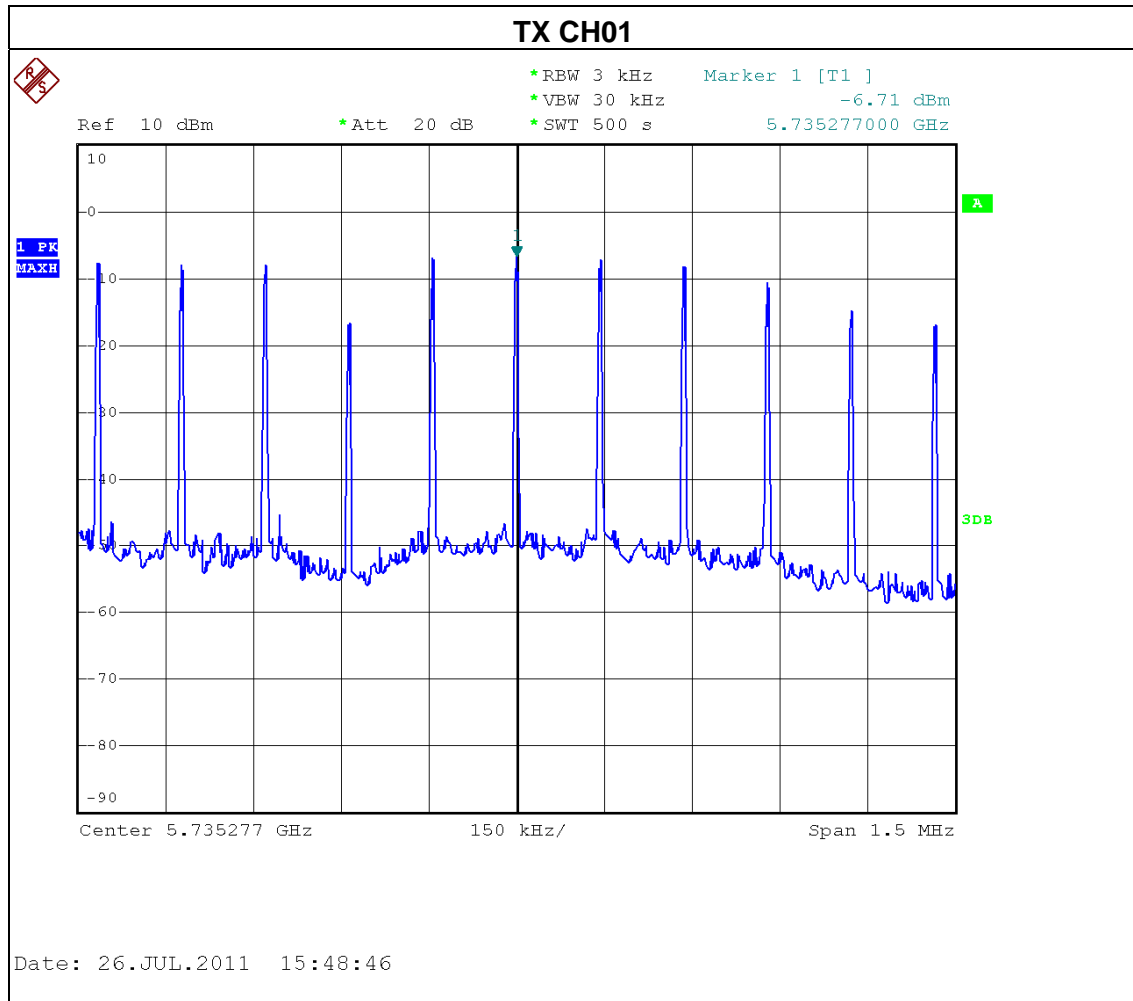


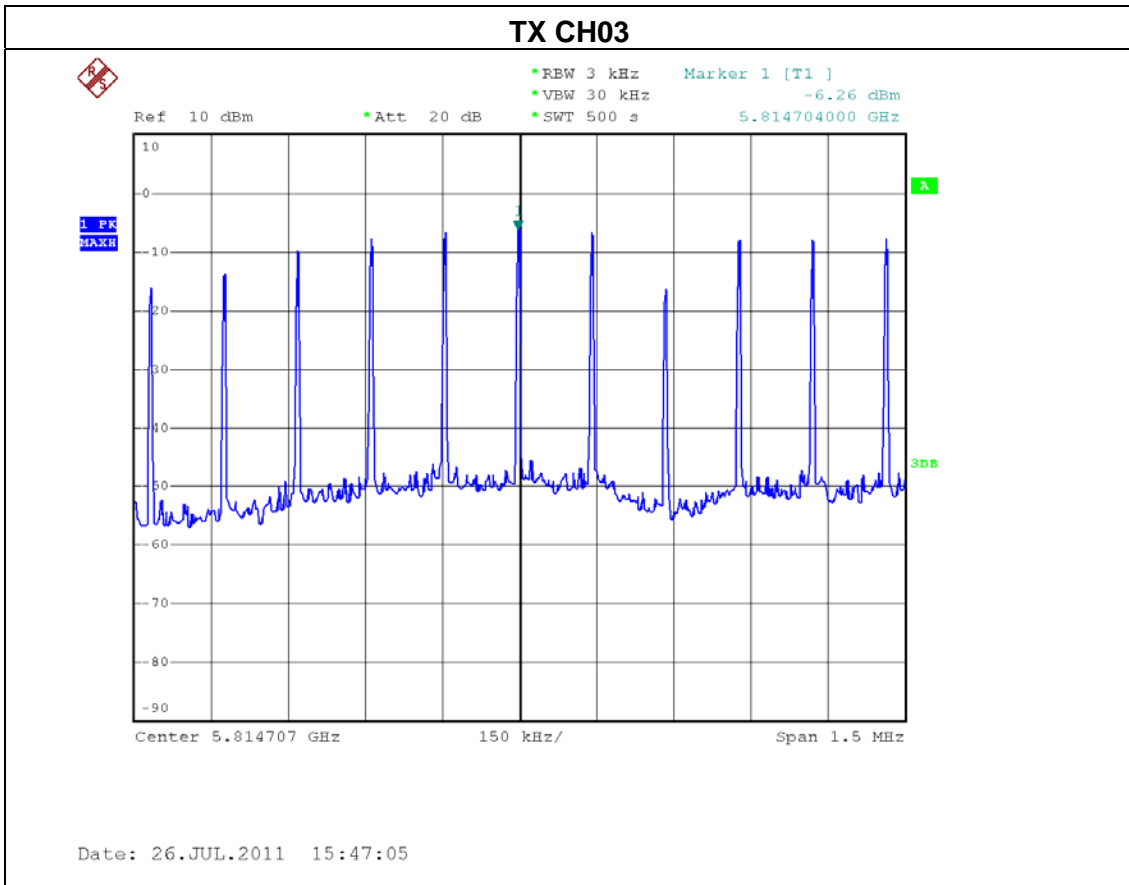
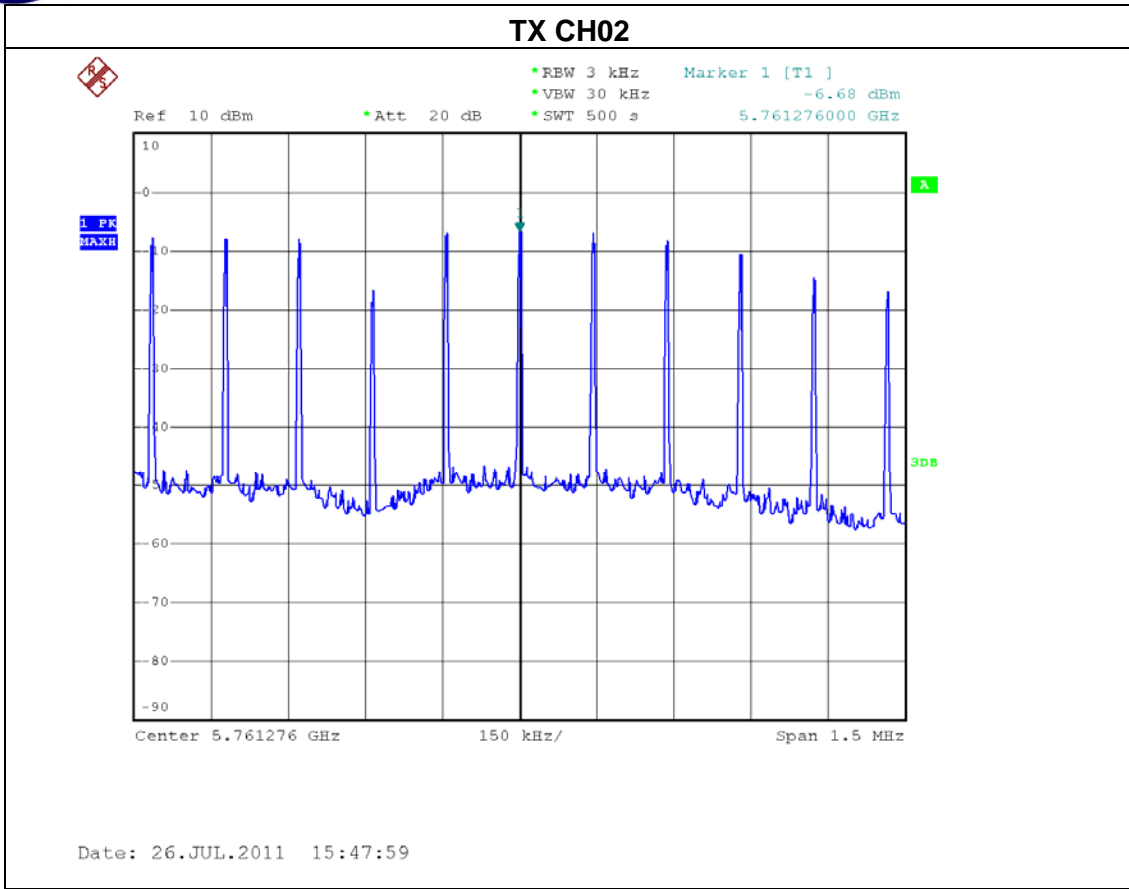




EUT :	Half-size mini-PCIe digital wireless audio module	Model Name :	DWPCIe83
Temperature :	23 °C	Relative Humidity :	51 %
Pressure :	1010 hPa	Test Voltage :	DC 3.3V
Test Mode :	TX Mode /CH01, CH02, CH03 (Normal – Antenna B)		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	5736 MHz	-6.71	8
CH02	5762 MHz	-6.68	8
CH03	5814 MHz	-6.26	8









**9. EUT TEST PHOTO**

**Conducted Measurement Photos**





**Radiated Measurement Photos**

