# RADIO TEST REPORT FCC 47 CFR PART 15 SUBPART C

Test Standard	FCC Part 15.247
FCC ID	2AKZA-PICOIMX6
Product name	WiFi+Bluetooth 4.0(HS) System on Module
Brand Name	TechNexion
Model Name	PICO-IMX6
Test Result	Pass

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)





Approved by:

non Cleang

Sam Chuang Manager Tested by:

eny Ching.

Jerry Chuang Engineer



# **Revision History**

Rev.	Issue Date	Revisions	Revised By
00	December 14, 2017	Initial Issue	May Lin
01	January 4, 2018	<ol> <li>Revised INSTRUMENT CALIBRATION: Page 7, 8.</li> <li>Added DA 00-705 guideline: Page 9.</li> <li>Revised test result tables: Page 17.</li> <li>Added 99% OBW plots: Page 18, 20.</li> <li>Remove Note: Page 60, 61.</li> </ol>	May Lin

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	RADIATION BANDEDGE AND SPURIOUS EMISSION	;

## 1. GENERAL INFORMATION

# **1.1 EUT INFORMATION**

Applicant	TECHNEXION LTD. 16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan ROC					
Manufacturer	TECHNEXION LTD. 16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan ROC					
Equipment	WiFi+Bluetooth 4.0(HS) System on Module					
Model No.	PICO-IMX6					
Model Discrepancy	N/A					
Received Date	November 28, 2017					
Date of Test	December 2 ~ 8, 2017					
Output Power(W)	GFSK : 0.0111 8DPSK :0.0067					
Power Supply	Powered from host device: DC 5V					



## **1.2 EUT CHANNEL INFORMATION**

Frequency Range	2402MHz-2480MHz
Modulation Type	1. GFSK for BR-1Mbps 2. 8DPSK for EDR-3Mbps
Number of channel	79 Channels

#### **Remark:**

Refer as ANSI 63.10:2013 clause 5.6.1 Table 4 for test channels

Number of frequencies to be tested					
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation			
1 MHz or less	1	Middle			
1 MHz to 10 MHz	2	1 near top and 1 near bottom			
More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom			

## **1.3 ANTENNA INFORMATION**

Antenna Type	🗌 PIFA 🗌 PCB 🖾 Dipole 🗌 Coils			
Antenna Gain	Gain: 3.5dBi			

## **1.4 MEASUREMENT UNCERTAINTY**

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 2.96
Emission bandwidth, 20dB bandwidth	+/- 1.4003
RF output power, conducted	+/- 1.1372
Power density, conducted	+/- 1.4003
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683
3M Semi Anechoic Chamber / 40G~60G	+/- 1.8509
3M Semi Anechoic Chamber / 60G~75G	+/- 1.9869
3M Semi Anechoic Chamber / 75G~110G	+/- 2.9651
3M Semi Anechoic Chamber / 110G~170G	+/- 2.7807
3M Semi Anechoic Chamber / 170G~220G	+/- 3.6437
3M Semi Anechoic Chamber / 220G~325G	+/- 4.2982
Demonstra	

#### Remark:

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of *k*=2

2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

# **1.5 FACILITIES AND TEST LOCATION**

All measurement facilities used to collect the measurement data are located at No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Test site	Test Engineer	Remark
AC Conduction Room	Eric Lee	-
Radiation	Jerry Chuang	-
RF Conducted	Jerry Chuang	-

**Remark:** The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

## **1.6 INSTRUMENT CALIBRATION**

RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Power Meter	Anritsu	ML2495A	1012009	07/03/2017	07/02/2018
Power Sensor	Anritsu	MA2411B	917072	07/03/2017	07/02/2018
Spectrum Analyzer	R&S	FSV 40	101073	10/02/2017	10/01/2018
Directional Coupler	Agilent	87301D	MY44350252	07/25/2017	07/24/2018
SUCOFLEX Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Divider	Solvang Technology	2-18GHz 4Way	STI08-0015	07/26/2017	07/25/2018

3M 966 Chamber Test Site						
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due	
Bilog Antenna	Sunol Sciences	JB3	A030105	06/20/2017	06/19/2018	
Horn Antenna	EMCO	3117	00055165	02/20/2017	02/19/2018	
Horn Antenna	ETS LINDGREN	3116	00026370	01/12/2017	01/11/2018	
K Type Cable	Huber+Suhner	SUCOFLEX 102	29406/2	01/10/2017	01/09/2018	
K Type Cable	Huber+Suhner	SUCOFLEX 102	22470/2	01/10/2017	01/09/2018	
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	01/10/2017	01/09/2018	
Pre-Amplifier	EMCI	EMC 012635	980151	08/01/2017	07/31/2018	
Pre-Amplifier	EMEC	EM01M26G	60570	08/01/2017	07/31/2018	
Pre-Amplifier	EMEC	EM330	060609	06/07/2017	06/06/2018	
Spectrum Analyzer	Agilent	E4446A	US42510252	11/27/2017	11/26/2018	
Loop Ant	COM-POWER	AL-130	121051	03/02/2017	03/01/2018	
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R	
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R	
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R	
Wideband Radio Communication Tester	R&S	CMW 500	116875	04/25/2017	04/24/2018	

AC Conduction Test Room						
Name of Equipment Manufacturer Model S/N Cal Date Cal Due						
LISN	R&S	ENV216	101054	05/18/2017	05/17/2018	
LISN	SCHWARZBECK	NSLK 8127	8127-541	02/14/2017	02/13/2018	
EMI Test Receiver	R&S	ESCI	100064	05/17/2017	05/16/2018	
SUCOFLEX Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018	

Remark:

1. Each piece of equipment is scheduled for calibration once a year and Precision Dipole is scheduled for calibration once three years.

2. N.C.R. = No Calibration Request.

# **1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT**

	EUT Accessories Equipment							
No.	Equipment	Brand	Model	Series No.	FCC ID			
	N/A							

	Support Equipment							
No.	No. Equipment Brand Model Series No. FCC ID							
1.	NB(G)	Lenovo	IBM 1951	N/A	CJ6UPA3489WL			

# 1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.247, Part 15.205, Part 15.207, Part 15.209.

#### Information about the FHSS characteristics

Pseudorandom Frequency Hopping Sequence

The channel is represented by a pseudo-random hopping sequence hopping through the 79 RF channels.

The hopping sequence is unique for the piconet and is determined by the Bluetooth device address of the master; the phase in the hopping sequence is determined by the Bluetooth clock of the master.

The channel is divided into time slots where each slot corresponds to an RF hop frequency.

Consecutive hops correspond to different RF hop frequencies. The nominal hop rate is 1600 hops/s.

Example of a 79 hopping sequence in data mode:

02, 05, 31, 24, 20, 10, 43, 36, 30, 23, 40, 06, 21, 50, 44, 09, 71, 78, 01, 13, 73, 07, 70, 72, 35, 62, 42, 11, 41, 08, 16, 29, 60, 15, 34, 61, 58, 04, 67, 12, 22, 53, 57, 18, 27, 76, 39, 32, 17, 77, 52, 33, 56, 46, 37, 47, 64, 49, 45, 38, 69, 14, 51, 26, 79, 19, 28, 65, 75, 54, 48, 03, 25, 66, 05, 16, 68, 74, 59, 63, 55

Equal Hopping Frequency Use

Due to each the GFSK of modulation of hopping frequency will be transmitted in accordance to the frequency tables described above, there is no any frequency will be able to hop more times than other. Therefore each frequency will be used equally.

## 2. TEST SUMMERY

FCC Standard Section	Report Section	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207(a)	4.1	AC Conducted Emission	Pass
15.247(a)(1)	4.2	20 dB Bandwidth	Pass
-	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)(1)	4.3	Output Power Measurement	Pass
15.247(a)(1)	4.4	Frequency Separation	Pass
15.247(a)(1)(iii)	4.5	Number of Hopping	Pass
15.247(d)	4.6	Conducted Band Edge	Pass
15.247(d)	4.6	Conducted Emission	Pass
15.247(a)(1)(iii)	4.7	Time of Occupancy	Pass
15.247(d)	4.8	Radiation Band Edge	Pass
15.247(d)	4.8	Radiation Spurious Emission	Pass

## 3. DESCRIPTION OF TEST MODES

## **3.1 THE WORST MODE OF OPERATING CONDITION**

Operation mode	GFSK for BR-1Mbps (DH5) 8DPSK for EDR-3Mbps (DH5)
Test Channel Frequencies	GFSK for BR-1Mbps: 1.Lowest Channel : 2402MHz 2.Middle Channel : 2441MHz 3.Highest Channel : 2480MHz 8DPSK for EDR-3Mbps: 1.Lowest Channel : 2402MHz 2.Middle Channel : 2441MHz 3.Highest Channel : 2480MHz

Remark:

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.

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## **3.2 THE WORST MODE OF MEASUREMENT**

AC Power Line Conducted Emission						
Test Condition	AC Power line conducted emission for line and neutral					
Voltage/Hz	DC 5V					
Test Mode	Mode 1: EUT power by Host System.					
Worst Mode	☑ Mode 1					

	Radiated Emission Measurement Above 1G						
Test Condition	Band edge, Emission for Unwanted and Fundamental						
Voltage/Hz	DC 5V						
Test Mode	Mode 1: EUT power by Host System.						
Worst Mode	🛛 Mode 1 🗌 Mode 2 🗌 Mode 3 🗌 Mode 4						
Worst Position	<ul> <li>Placed in fixed position.</li> <li>Placed in fixed position at X-Plane (E2-Plane)</li> <li>Placed in fixed position at Y-Plane (E1-Plane)</li> <li>Placed in fixed position at Z-Plane (H-Plane)</li> </ul>						
Worst Polarity	☐ Horizontal ⊠ Vertical						

Radiated Emission Measurement Below 1G						
Test Condition	Radiated Emission Below 1G					
Voltage/Hz	Voltage/Hz DC 5V					
Test Mode	Test Mode Mode 1: EUT power by Host System.					
Worst Mode	Worst Mode I Mode 1 Mode 2 Mode 3 Mode 4					

#### Remark:

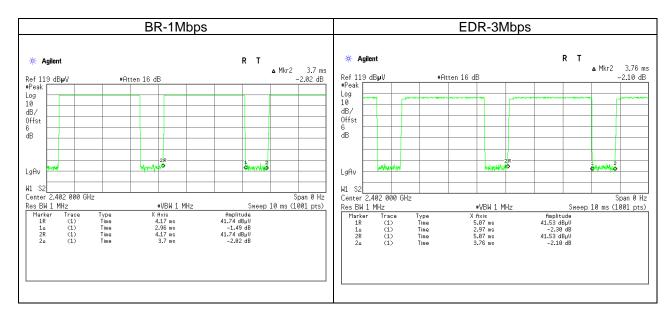
1. The worst mode was record in this test report.

2. EUT pre-scanned in three axis, X, Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case (Z-Plane and Vertical) were recorded in this report

3. For below 1G, AC power line conducted emission and radiation emission were performed the EUT transmit at the highest output power channel as worse case.

# 3.3 EUT DUTY CYCLE

Duty Cycle									
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)					
BR-1Mbps	2.9600	3.7000	80.00%	0.97					
EDR-3Mbps	2.9700	3.7600	78.99%	1.02					



## 4. TEST RESULT

## 4.1 AC POWER LINE CONDUCTED EMISSION

#### 4.1.1 Test Limit

#### According to §15.207(a),

Frequency Range	Limits(dBµV)			
(MHz)	Quasi-peak	Average		
0.15 to 0.50	66 to 56*	56 to 46*		
0.50 to 5	56	46		
5 to 30	60	50		

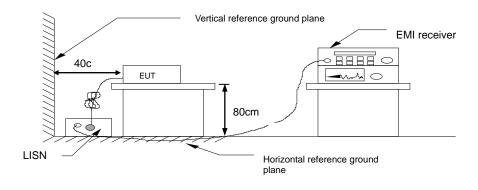
\* Decreases with the logarithm of the frequency.

#### 4.1.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 6.2,

- 1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
- 2. EUT connected to the line impedance stabilization network (LISN)
- 3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. Recorded Line for Neutral and Line.

## 4.1.3 Test Setup

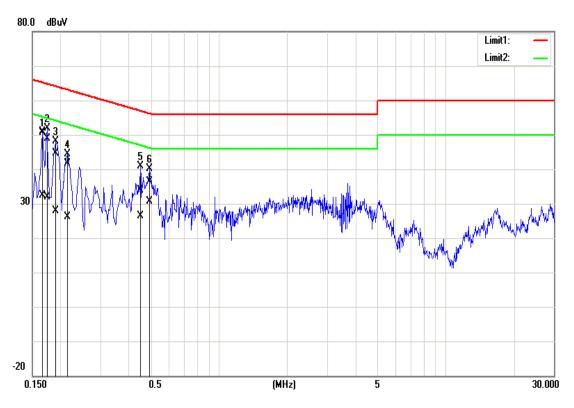


# 4.1.4 Test Result

#### Pass.

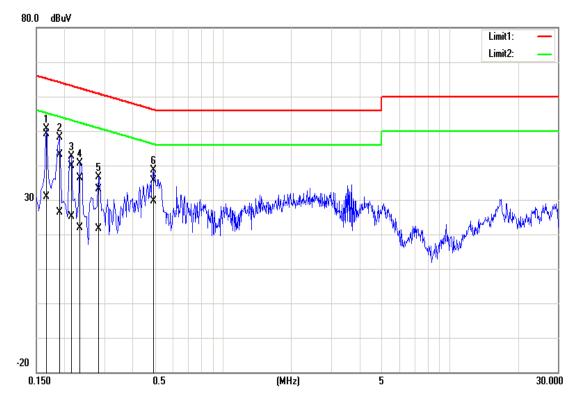
#### Test Data

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Test Voltage:	120Vac / 60Hz	Test Date	December 4, 2017
Phase:	Line	Test Engineer	Eric Lee



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)
1	0.1660	50.90	32.37	0.05	50.95	32.42	65.16	55.16	-14.21	-22.74
2	0.1740	48.76	31.75	0.05	48.81	31.80	64.77	54.77	-15.96	-22.97
3	0.1900	44.70	27.95	0.05	44.75	28.00	64.04	54.04	-19.29	-26.04
4	0.2140	41.57	26.12	0.05	41.62	26.17	63.05	53.05	-21.43	-26.88
5	0.4500	33.94	26.38	0.05	33.99	26.43	56.88	46.88	-22.89	-20.45
6	0.4940	36.43	30.64	0.05	36.48	30.69	56.10	46.10	-19.62	-15.41

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Test Voltage:	120Vac / 60Hz	Test Date	December 4, 2017
Phase:	Neutral	Test Engineer	Eric Lee



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)
1	0.1660	48.97	30.85	0.12	49.09	30.97	65.16	55.16	-16.07	-24.19
2	0.1900	43.07	26.37	0.12	43.19	26.49	64.04	54.04	-20.85	-27.55
3	0.2140	39.67	24.93	0.12	39.79	25.05	63.05	53.05	-23.26	-28.00
4	0.2340	36.35	21.67	0.12	36.47	21.79	62.31	52.31	-25.84	-30.52
5	0.2820	33.12	21.60	0.12	33.24	21.72	60.76	50.76	-27.52	-29.04
6	0.4940	35.41	29.55	0.13	35.54	29.68	56.10	46.10	-20.56	-16.42

# 4.220DB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

## 4.2.1 Test Limit

According to §15.247(a) (1),

**<u>20 dB Bandwidth</u>** : For reporting purposes only.

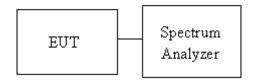
**Occupied Bandwidth(99%)** : For reporting purposes only.

#### 4.2.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 6.9.2 & 6.9.3.

- 1. The EUT RF output connected to the spectrum analyzer by RF cable.
- 2. Setting maximum power transmit of EUT
- 3. SA set RBW = 30kHz, VBW = 100kHz and Detector = Peak, to measurement 20 dB Bandwidth and 99% Bandwidth.
- 4. Measure and record the result of 20 dB Bandwidth and 99% Bandwidth. in the test report.

#### 4.2.3 Test Setup

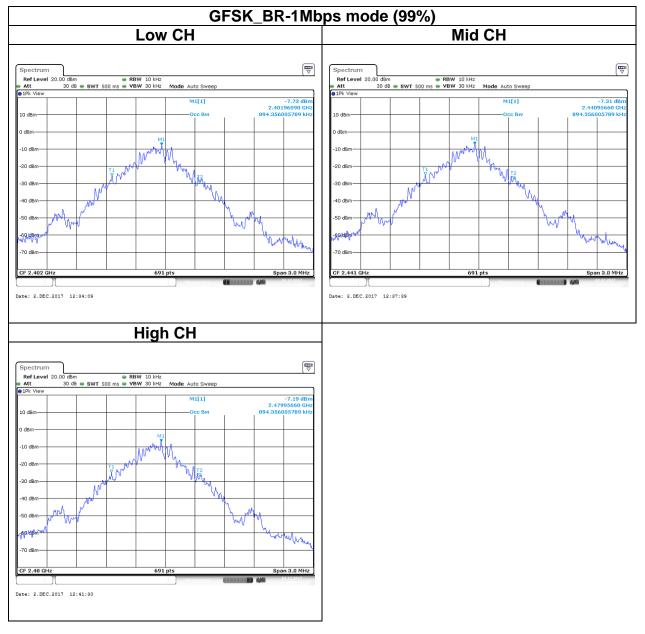


### 4.2.4 Test Result

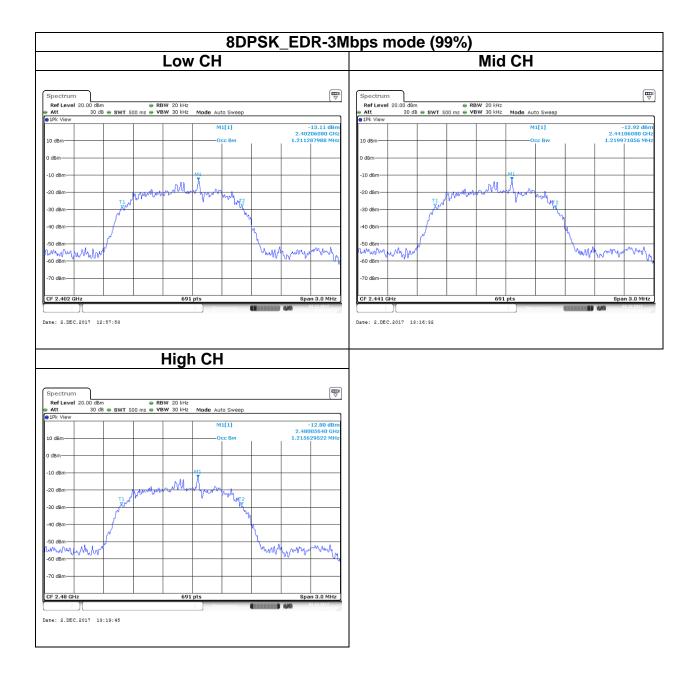
Test mode: GFSK_BR-1Mbps mode / 2402-2480 MHz					
Channel	Frequency (MHz)	OBW(99%) (MHz)	20dB BW (MHz)		
Low	2402	0.8943	1.1260		
Mid	2441	0.8943	1.1217		
High	2480	0.8943	1.1173		

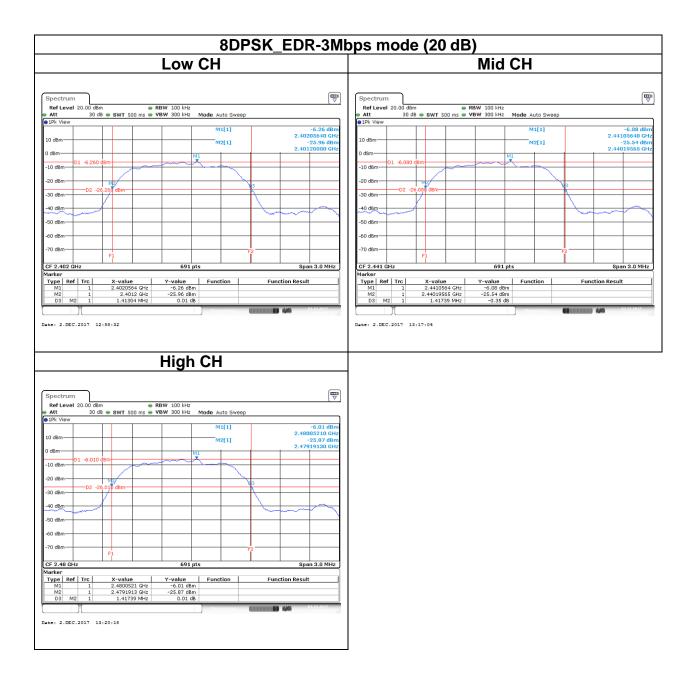
Test mode: 8DPSK_EDR-3Mbps mode / 2402-2480 MHz					
Channel	Frequency (MHz)	OBW(99%) (MHz)	20dB BW (MHz)		
Low	2402	1.2112	1.4130		
Mid	2441	1.2199	1.4173		
High	2480	1.2156	1.4173		

### Test Data









## **4.3 OUTPUT POWER MEASUREMENT**

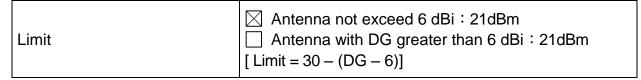
#### 4.3.1 Test Limit

According to §15.247(b)(1)

#### Peak output power :

#### **FCC**

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

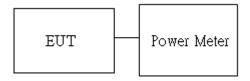


Average output power : For reporting purposes only.

#### 4.3.2 Test Procedure

- 1. The EUT RF output connected to the power meter by RF cable.
- 2. Setting maximum power transmit of EUT.
- 3. The path loss was compensated to the results for each measurement.
- 4. Measure and record the result of Peak output power and Average output power. in the test report.

#### 4.3.3 Test Setup



#### 4.3.4 Test Result

#### Peak output power :

		BT	Γ		
Config.	СН	Freq. (MHz)	PK Power (dBm)	PK Power (W)	Limit (dBm)
GFSK	0	2402	9.77	0.0095	
BR-1Mbps	39	2441	10.34	0.0108	
(DH5)	78	2480	10.46	0.0111	21
8DPSK	0	2402	8.24	0.0067	21
EDR- 3Mbps	39	2441	8.18	0.0066	
(DH5)	78	2480	8.22	0.0066	

#### Average output power :

BT					
Config.	СН	Freq. (MHz)	AV Power (dBm)		
GFSK	0	2402	8.24		
BR-1Mbps	39	2441	8.67		
(DH5)	78	2480	8.83		
8DPSK	0	2402	4.84		
EDR- 3Mbps	39	2441	4.95		
(DH5)	78	2480	5.02		

# 4.4 FREQUENCY SEPARATION

## 4.4.1 Test Limit

According to §15.247(a)(1),

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

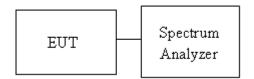
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Limit	> two-thirds of the 20 dB bandwidth
-------	-------------------------------------

#### 4.4.2 Test Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. EUT RF output port connected to the SA by RF cable.
- 3. Set the spectrum analyzer as RBW = 100kHz, VBW = 300kHz, Sweep = auto. Max hold, mark 3 peaks of hopping channel and record the 3 peaks frequency

#### 4.4.3 Test Setup



### 4.4.4 Test Result

Test mode: GFSK_BR-1Mbps mode / 2402-2480 MHz					
Channel	Frequency (MHz)	Channel Separation (MHz)	Channel Separation Limits (MHz)	Result	
Low	2402	1.0029	0.751	PASS	
Mid	2441	1.0029	0.748	PASS	
High	2480	1.0029	0.745	PASS	

Test mode: 8DPSK_EDR-3Mbps mode / 2402-2480 MHz					
Channel	Frequency (MHz)	Channel Separation (MHz)	Channel Separation Limits (MHz)	Result	
Low	2402	1.0029	0.942	PASS	
Mid	2441	1.0029	0.945	PASS	
High	2480	1.0029	0.945	PASS	

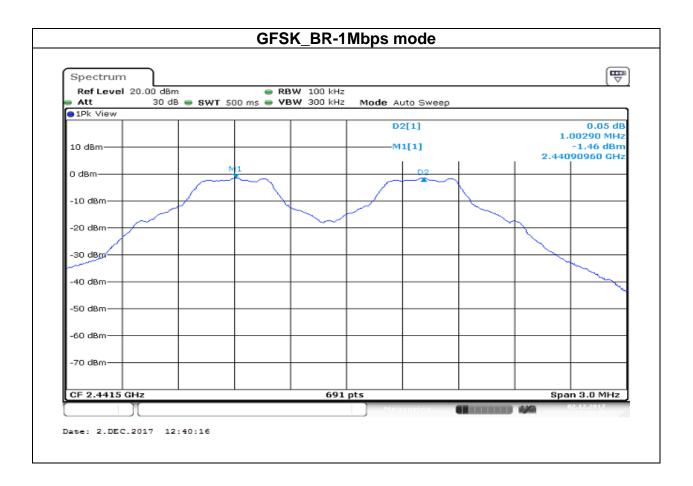
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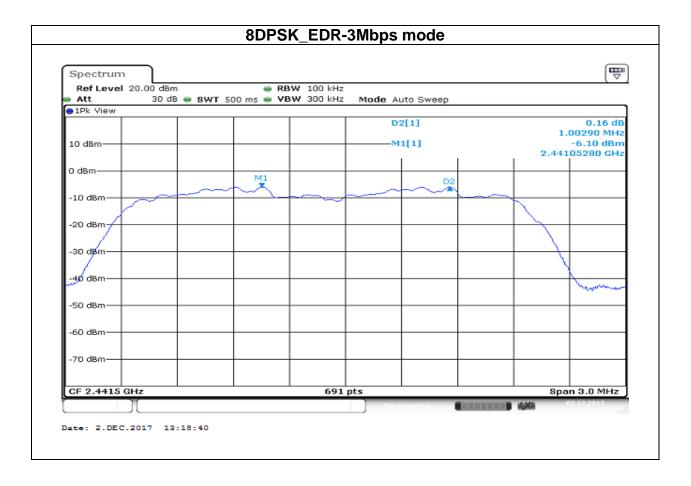
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#### Test Data

We only selected Middle channel plots for test data.







# 4.5 NUMBER OF HOPPING

### 4.5.1 Test Limit

According to §15.247(a)(1)(iii),

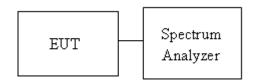
Frequency hopping system in the 2400-2483.5MHz band shall use at least 15 channels.

#### 4.5.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 7.8.3

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. EUT RF output port connected to the SA by RF cable.
- 3. Set spectrum analyzer Start Freq. = 2400 MHz, Stop Freq. = 2483.5 MHz, RBW
- =100KHz, VBW = 300KHz.
- 4. Max hold, view and count how many channel in the band.

#### 4.5.3 Test Setup



## 4.5.4 Test Result

	Number of Hopping						
Mode	Frequency (MHz)	Hopping Channel Number	Hopping Channel Number Limits	Result			
BR-1Mbps	2402-2480	79	15	Deee			
EDR-3Mbps	2402-2480	79	15	Pass			

#### REMARK:

The frequency spectrum was broken up in to two sub-range to clearly show all of the hopping frequencies. In the AFH mode, this device operation was using 20 channels, so the requirement for minimum number of hopping channels is satisfied



## Test Data

		Number o	f Hopping			
GFSK_BR-	-1Mbps mod	e	80	<b>PSK_EDR</b>	-3Mbps	mode
Spectrum RefLevel 20.00 dBm		-2.42 dBm	Spectrum Ref Level 20.00 dBm Mtt 30 dB ( 1Pk View	RBW 100 kHz     SWT 1 s     VBW 300 kHz	Mode Auto Sweep	-6.46 dB
10 dBm	M1[1]	2.479810 GHz -2.93 dBm 2.401750 GHz	10 dBm		M1[1]	2.479940 Gi -6.40 dB 2.401870 Gi
0'dBm / / / / / / / / / / / / / / / /			0 dBm 11 -20 dBm -20 dBm -20 dBm -20 dBm -40 dBm -50 dBm -60 dBm -70 dBm		Industry during the	
	601 pts	Stop 2.4835 GHz	Start 2.4 GHz	4:25		Stop 2.4835 GH

# 4.6 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

## 4.6.1 Test Limit

According to §15.247(d) and RSS-247 section 5.5

Limit	-20 dBc

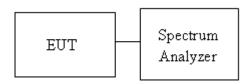
#### 4.6.2 Test Procedure

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.

2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.

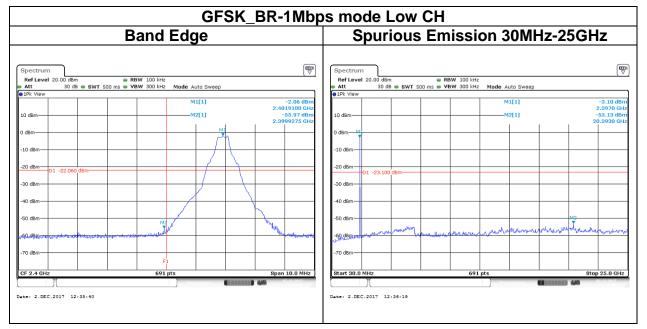
3. The Band Edge at 2.4GHz and 2.4835GHz are investigated with normal hopping mode.

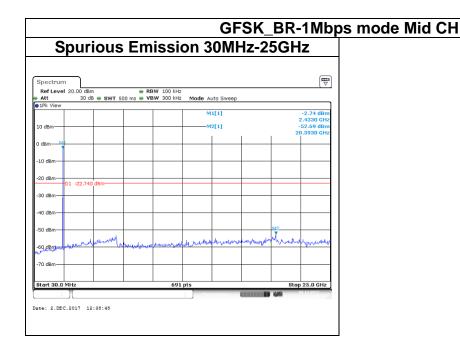
#### 4.6.3 Test Setup

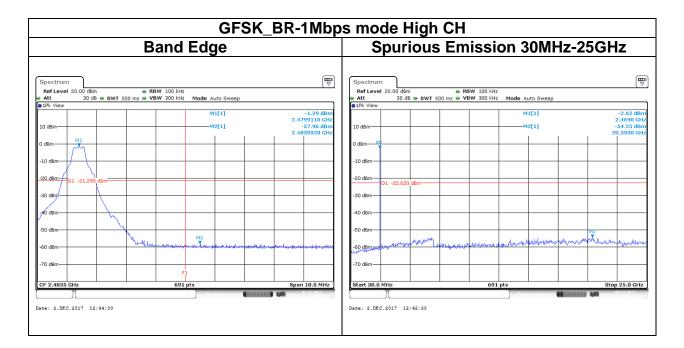


#### 4.6.4 Test Result

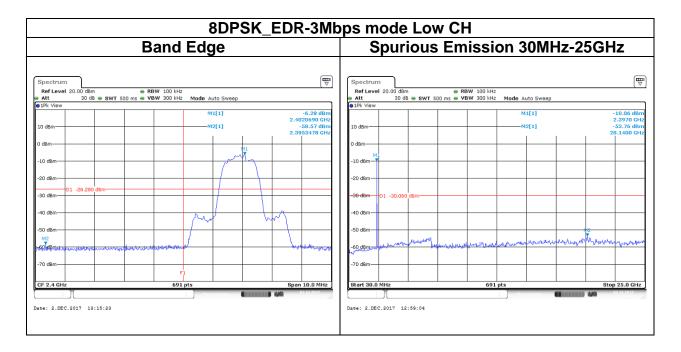
#### Test Data

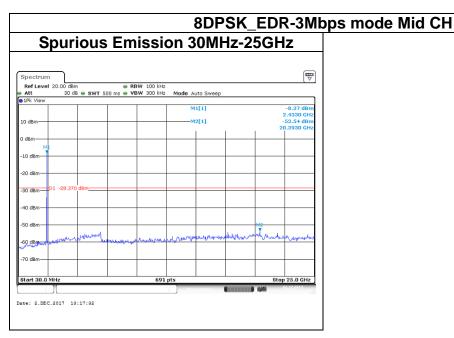




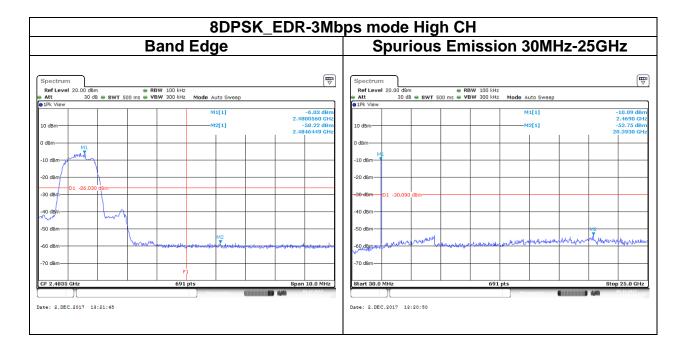


Low Band Edge	High Band Edge
ipectrum (	Spectrum         The set level 20.00 dBm         RBW 100 kHz           Att         30 dB = SWT 1 s = VBW 300 kHz         Mode Auto Sweep           #1Pk: View         M1[1]         -57,96 dBr
0 d8m 2.380759 GHz	10 dBm 2,521741 GH
d8m 01 -1.590 d8	2 dBm 01 -1.530 dBm 11 -1.530 dBm11 -1.530 dBm
30 d8m	-30 d8m
10 dBm	-40 dBm
50 dBm	-50 dBm M1
10.dem-orbiteterestandust free outward they water	-60 dBm
F1	-70 dBm
F 2.4 GHz 691 pts Span 83.5 MHz	CF 2.4835 GHz 691 pts Span 83.5 MHz
Measuring Massaring 🚧 🕺 🖓 🕺 🖓 👘	Measuring





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Low Band Edge	ops Hopping mode High Band Edge			
Spectrum              • RBW 100 kHz            RefLevel 20.00 dBm              • RBW 100 kHz            Att         30 dB • SWT 1 5 • VBW 300 kHz           Node Auto Sweep	Image: Spectrum         Ref Level 20.00 dBm         ■ RBW 100 bHz           ● Att         30 dB         SWT 1 s         ♥ BW 300 bHz           ● Jbk View         ■ Att         30 dB         SWT 1 s			
M1(1) -58.4 2.3899 10 dsm	dBm M1[1] -57.92 dt			
01 -5.530 dBm 01 -5.550 dBm 01 -5.5500 d				
20 dBm	20 dBm			
00 dBm	-02 -25,330 dBm			
40 dbm N N N N N N	-40 dbm			
CC-CERO - Anno -				
70 dBm F1 F2 691 pts Span 83.5	-70 dBm         F1           IHz         CF 2,4835 GHz         691 pts         Span 83.5 MI			
1912	Date: 2.DEC.2017 12:56:59			

# 4.7 TIME OF OCCUPANCY (DWELL TIME)

### 4.7.1 Test Limit

According to §15.247(a)(1)(iii).

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

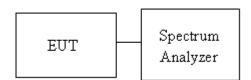
#### 4.7.2 Test Procedure

1. EUT RF output port connected to the SA by RF cable.

2. Set center frequency of spectrum analyzer = operating frequency.

3. Set the spectrum analyzer as RBW, VBW=1MHz, Sweep = 1 ms

#### 4.7.3 Test Setup

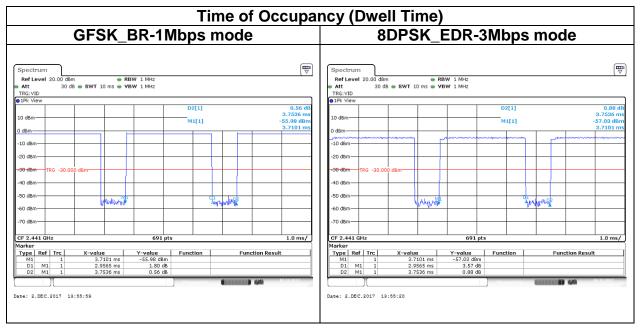


### 4.7.4 Test Result

Time of Occupancy (Dwell Time)							
Mode	Frequency	Pulse Time Per Hopping	Minimum Number of	Number of pulse in	Dwell Time IN	Dwell Time	Result
	(MHz)	(ms)	Hopping Freq.	(0.4 * N sec)	(0.4 * N sec)	Limits (s)	
BR-1Mbps	2441	2.9565	79	106.67	0.3154	0.4	Deee
EDR-3Mbps	2441	2.9565	79	106.67	0.3154	0.4	Pass
Non-AFH: DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 3.37 * 0.4 *79 = 106.6							
AFH: DH5 Packet permit maximum 800/ 20 / 6 = 6.666 hops per second in each channel (5 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 6.666*0.4*20 = 53.33							



#### Test Data



## 4.8 RADIATION BANDEDGE AND SPURIOUS EMISSION

#### 4.8.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

#### Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

#### Above 30 MHz

Frequency	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)		
(MHz)	Transmitters	Receivers	
30-88	100 (3 nW)	100 (3 nW)	
88-216	150 (6.8 nW)	150 (6.8 nW)	
216-960	200 (12 nW)	200 (12 nW)	
Above 960	500 (75 nW)	500 (75 nW)	

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 937606.

# 4.8.2 Test Procedure

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10, and the EUT set in a continuous mode.

2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.

3. Span shall wide enough to full capture the emission measured. The SA from 9kMHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 937606.

4. For harmonic, the worst case of output power was BR-1Mbps. Therefore only BR-1Mbps record in the report.

- 5. The SA setting following :
  - (1) Below 1G : RBW = 100kHz, VBW ≥ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
  - (2) Above 1G:
    - (2.1) For Peak measurement : RBW = 1MHz, VBW ≥ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
    - (2.2) For Average measurement : RBW = 1MHz, VBW

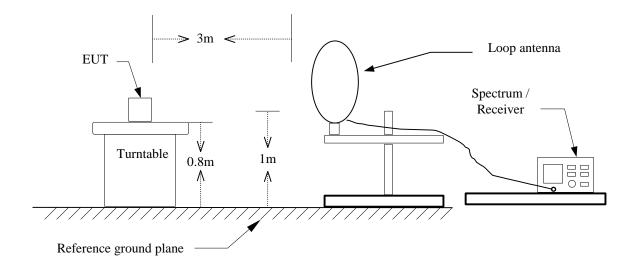
If Duty Cycle  $\geq$  98%, VBW=10Hz.

If Duty Cycle < 98%, VBW=1/T.

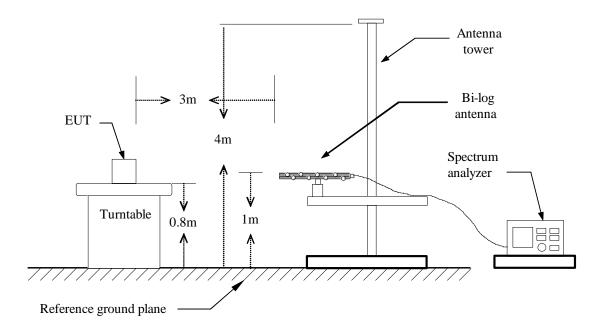
Configuration	Duty Cycle (%)	T(ms)	1/T (kHz)	VBW setting
GFSK_BR-1Mbps	80%	2.9600	0.338	360Hz
8DPSK_EDR-3Mbps	79%	2.9700	0.337	360Hz

# 4.8.3 Test Setup

#### <u>9kHz ~ 30MHz</u>

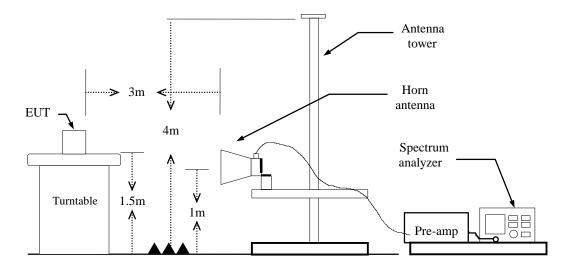


#### <u>30MHz ~ 1GHz</u>



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Above 1 GHz



# 4.8.4 Test Result

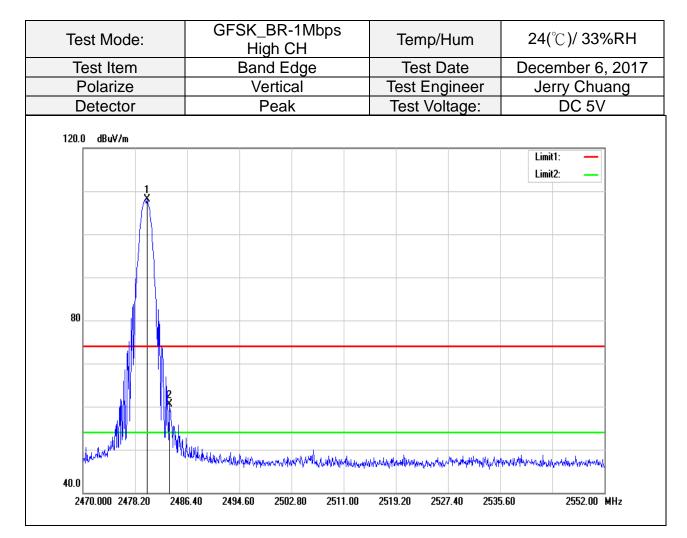
# Band Edge Test Data

Test Mod	Test Mode:		C_BR-1N ∟ow CH		Tem	p/Hum	24(℃)/ 33%RH		
Test Iter	n	Ba	and Edg	е	Tes	Test Date		December 6, 2017	
Polarize	e		Vertical		Test E	Engineer	Jerry	/ Chuang	
Detector			Peak		Test V	Voltage:	[	DC 5V	
120.0 dBuV/	m								
80							Limit1: Limit2: 2		
40.0 2310.000 2					1	1 2381.40 239		2412.00 MHz	

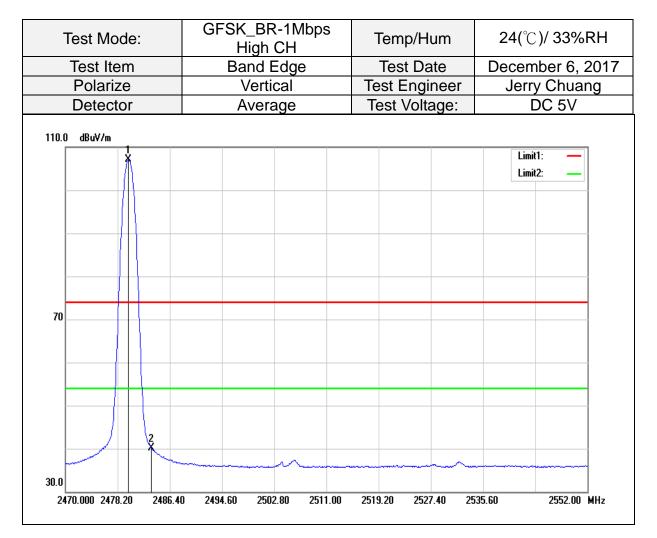
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2383.542	52.22	-3.00	49.22	74.00	-24.78	peak
2	2402.004	111.46	-2.95	108.51	-	-	peak

Test Mode:	GFSK_BR-1Mbps Low CH	Temp/Hum	24(°C)/ 33%RH	
Test Item	Band Edge	Test Date	December 6, 201	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Average	Test Voltage:	DC 5V	
110.0 dBuV/m				
70				
30.0				

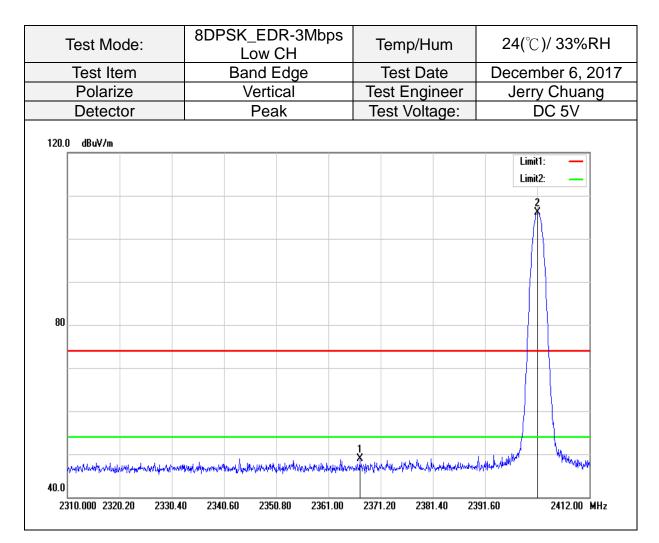
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2377.932	39.46	-3.01	36.45	54.00	-17.55	AVG
2	2401.596	109.35	-2.95	106.40	-	-	AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.086	110.74	-2.70	108.04	-	-	peak
2	2483.612	63.28	-2.69	60.59	74.00	-13.41	peak



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.922	109.81	-2.70	107.11	-	-	AVG
2	2483.500	42.87	-2.69	40.18	54.00	-13.82	AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2367.120	51.96	-3.06	48.90	74.00	-25.10	peak
2	2401.902	109.07	-2.95	106.12	-	-	peak

Test Mode:	8DPSK_EDR-3Mbps Low CH	Temp/Hum	24(°C)/ 33%RH	
Test Item	Band Edge	Test Date	December 6, 2017	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Average	Test Voltage:	DC 5V	
110.0 dBuV/m				
70			Limit1:	
30.0				
2310.000 2320.20 23	330.40 2340.60 2350.80 2361.00	2371.20 2381.40 239	1.60 2412.00 MHz	

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2378.136	39.26	-3.01	36.25	54.00	-17.75	AVG
2	2402.004	105.12	-2.95	102.17	-	-	AVG

Te	st Mode:	8DPSK_EDR-3Mbps High CH	Temp/Hum	24(℃)/ 33%RH	
T	est Item	Band Edge	Test Date	December 6, 201	
F	Polarize	Vertical	Test Engineer	Jerry Chuang	
D	Detector	Peak	Test Voltage:	DC 5V	
120.0	) dBuV/m				
				Limit1: —	
				Limit2: —	
	1				
	l M				
	//\				
80					
	April and a start	attendations of the second strange and the second stands and the second s	mines may be and providence of the second	approximate and a stand and	
40.0					
24	70.000 2478.20 24	36.40 2494.60 2502.80 2511.00	2519.20 2527.40 2535	.60 2552.00 MHz	

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.922	107.13	-2.70	104.43	-	-	peak
2	2483.500	54.57	-2.69	51.88	74.00	-22.12	peak

Test Mode:	8DPSK_EDR-3Mbps High CH	Temp/Hum	24(℃)/ 33%RH	
Test Item	Band Edge	Test Date	December 6, 201	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Average	Test Voltage:	DC 5V	
110.0 dBu∀/m				
1			Limit1: — Limit2: —	
70				
2 A A A A A A A A A A A A A A A A A A A				
30.0 2478.20 24	86.40 2494.60 2502.80 2511.00			

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.922	103.71	-2.70	101.01	-	-	AVG
2	2483.500	41.15	-2.69	38.46	54.00	-15.54	AVG

#### Above 1G Test Data

Test Mode	:	GF	SK_BR- Low C	·1Mbps :H	Т	emp/Hum	n	<b>24(</b> °C)	/ 33%RH
Test Item			Harmo		-	Test Date		Decemb	oer 8, 2017
Polarize			Vertic	al	Te	st Engine	er		Chuang
Detector		Pea	ak and A	verage		est Voltage		D	C 5V
110.0 dBuV/m									
								Limit1: Limit2:	
70									
	1 X								
	2								
	*								
30.0									
1000.000 3550.0	DO 6100	0.00 865	i0.00 1120	13750.00	16300.	.00 18850.00	21400.0	DO 26	500.00 MHz
Frequency (MHz)	Rea (dB		Correct Factor (dB/m)	Res (dBu <sup>v</sup>		Limit (dBuV/n	n)	Margin (dB)	Remark
4806.000	50.	.86	4.35	55.2	21	74.00		-18.79	peak
4806.000	41.	.23	4.35	45.	58	54.00		-8.42	AVG

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

	:	GFSK_I Lo	w CH	lops	Т	emp/H	Hum		C) <b>/ 33%</b>	
Test Item			monic			Test D			nber 8,	
Polarize			izontal			st Eng		Jer	ry Chua	ang
Detector		Peak ar	d Aver	age	Te	est Vol	tage:		DC 5V	
110.0 dBuV/m										
								Limit1: Limit2:		
70										
	1 X									
30.0	00 6100.00	8650.00	11200.00	13750.00	16300.0	00 188	50.00 2140	0.00	26500.00	<b>4</b> Hz
	00 6100.00	8650.00	11200.00	13750.00	16300.0	00 188	50.00 2140	0.00	26500.00 M	<b>4</b> Hz
	00 6100.00 Readin (dBuV)	g Cor	rect ctor	13750.00 Resul (dBuV/	lt	L	50.00 2140 imit uV/m)	0.00 Margin (dB)		iHz emari
1000.000 3550.0	Readin	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu	lt m)	L (dB	imit	Margin	Re	
1000.000 3550.0 Frequency (MHz)	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl
1000.000 3550.0 Frequency (MHz) 4804.000	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl
1000.000 3550.0 Frequency (MHz) 4804.000	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl
1000.000 3550.0 Frequency (MHz) 4804.000	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl
1000.000 3550.0 Frequency (MHz) 4804.000	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl
1000.000 3550.0 Frequency (MHz) 4804.000	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl
1000.000 3550.0 Frequency (MHz) 4804.000	Readin (dBuV)	g Cor 9 Fac ) (dB	rect ctor s/m)	Resu (dBuV/	lt m)	L (dB	imit uV/m)	Margin (dB)	Re	emarl

Test Mode:			_BR-1M 1id CH	lbps		emp/F			)/ 33%RH	
Test Item			armonic			Test D		December 8, 201		
Polarize			'ertical			st Eng			/ Chuang	
Detector		Peak a	nd Ave	rage	Te	est Vol	tage:		DC 5V	
110.0 dBu¥/m										
								Limit1: Limit2:	_	
70										
	1									
30.0										
1000.000 3550.00	6100.00	8650.00	11200.00	13750.00	16300.	00 188	50.00 2140	0.00	26500.00 MHz	
Frequency (MHz)	Readin (dBuV)	9 Fa	orrect actor IB/m)	Resu (dBuV/			imit uV/m)	Margin (dB)	Remark	
4882.000	48.13	2	1.49	52.62	2		4.00	-21.38	peak	
4882.000	45.74	4	1.49	50.23	3	54	4.00	-3.77	AVG	
N/A										
•										

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	:	GFSK_BR Mid C	H		o/Hum		/ 33%RH
Test Item		Harmo			Date		per 8, 201
Polarize		Horizo		1	ngineer		Chuang
Detector		Peak and A	verage	lest v	oltage:		C 5V
110.0 dBu¥/m							
						Limit1: Limit2:	_
70							
10							
	1 X						
30.0							
1000.000 3550.0	0 6100.00	8650.00 1120	0.00 13750.00	16300.00	18850.00 2140	0.00 26	500.00 MHz
Frequency	Reading	Correct Factor	Resu	lt	Limit	Margin	Remark
(MHz)	(dBuV)	(dB/m)	(dBuV/	(m) (	dBuV/m)	(dB)	Remark
4882.000	41.14	4.49	45.6	3	74.00	-28.37	peak
N/A							
mark:							

Test Mode	: 0	GFSK_BR-1N High CH		Temp/Hum	<b>24(</b> °C),	/ 33%RH
Test Item		Harmonio	;	Test Date		oer 8, 201
Polarize		Vertical		est Engineer		Chuang
Detector	F	eak and Ave	erage	Test Voltage:	D D	C 5V
110.0 dBuV/m						
					Limit1: Limit2:	_
70						
	×					
30.0 1000.000 3550.	00 6100.00	8650.00 11200.00	) 13750.00 163	00.00 18850.00 214	00.00 26	500.00 MHz
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remarl
4960.000	46.97	4.61	51.58	74.00	-22.42	peak
N/A						
emark:						

FCC ID: 2AKZA-PICOIMX6

Test Mode	:	GF	SK_BR- High (		Ten	np/Hum	<b>24(</b> °C),	/ 33%RH	
Test Item			Harmo		Te	st Date	December 8, 20		
Polarize			Horizo	ntal		Engineer	Jerry	Chuang	
Detector		Pe	ak and A	Verage	Test	Voltage:	D	C 5V	
110.0 dBuV/m									
							Limit1: Limit2:	_	
70									
	1								
	1 X								
30.0 1000.000 3550.	00 610	0 00 86	50.00 112	00.00 13750.00	16300.00	18850.00 2140	0.00 26	500.00 MHz	
1000.000 3330.	00 010	0.00 00	50.00 112	13130.00	10300.00	10050.00 2140	0.00 20	300.00 MHZ	
Frequency (MHz)		ding SuV)	Correct Factor (dB/m)	Resu (dBuV/		Limit (dBuV/m)	Margin (dB)	Remark	
4960.000	39	.71	4.61	44.3	2	74.00	-29.68	peak	
N/A									
emark:	1								

FCC ID: 2AKZA-PICOIMX6

Test Mode		8DP	SK_EDF Low C	R-3Mbps H	Т	emp/H	lum	<b>24(</b> °C	2)/ 33%RH
Test Item			Harmo		-	Test D	ate	Decem	nber 8, 201 <sup>°</sup>
Polarize			Vertic	al		st Eng		Jerr	y Chuang
Detector		Pea	ak and A	verage	Te	est Vol	tage:	[	DC 5V
110.0 dBu¥/m								Limit1:	
								Limit2:	
70									
	×								
30.0									
1000.000 3550.0	0 6100	1.00 865	i0.00 1120	0.00 13750.00	16300.	00 1885	50.00 2140	0.00	26500.00 MHz
Frequency (MHz)		ding uV)	Correct Factor (dB/m)	Resu (dBuV/			imit uV/m)	Margin (dB)	Remark
4806.000	47.	.07	4.35	51.4	2	74	4.00	-22.58	peak
N/A									
		1							

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Polarize Horizontal Test Engineer Jerry Ch	huang		
Detector     Peak and Average     Test Voltage:     DC 5       110.0     dBuV/m     Limit1:			
110.0 dBuV/m	5V		
Image:			
70			
70			
70			
70			
70			
	_		
	_		
30.0			
	).00 MHz		
Frequency (MHz) Reading (dBuV) Correct Factor (dBw) Result (dBuV/m) (dBuV/m) (dBuV/m) (dB)	Remark		
4804.000 38.66 4.34 43.00 74.00 -31.00	peak		
N/A			
emark:			

- fundamental frequency.
- 2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	)	8DPSK_EDR-3Mbps Mid CH				emp/H	lum	DC 5V		
Test Item			rmonic			Test D				
Polarize			ertical			st Eng		Jerry Chuang		
Detector		Peak ar	nd Avera	age	Te	est Vol	tage:		DC 5V	
110.0 dBuV/m										
									_	
70										
	1 *									
30.0										
1000.000 3550.0	00 6100.00	8650.00	11200.00	13750.00	16300.	00 1885	i0.00 21 <b>4</b> 0	0.00	26500.00 MHz	
Frequency (MHz)	Readin (dBuV	g Fa	rrect ctor 3/m)	Resul (dBuV/			imit uV/m)	Margin (dB)	Remark	
4883.000	44.41	4.	49	48.90	)	74	1.00	-25.10	peak	
N/A										
emark:										
	urina frea	quencies	from 1 (	GHz to	the 1	0th ha	rmonic	of hiahos	+	

Tes	t Mode		8DP	SK_EDF Mid C		S	Те	mp/H	lum	24(°	Margin (dB) Rema		
	st Item			Harmo				est D					
	olarize			Horizor					ineer	Jer			
De	etector		Pea	ak and A	verage		Tes	t Vol	tage:		DC 5V	/	
110.0	dBuV/m											1	
_													
70													
		1											
_		X											
30.0													
1000	0.000 3550.0	0 6100	). <b>00 86</b> 5	0.00 1120	00.00 1375	io.oo 16	300.00	188	50.00 2140	0.00	26500.00	MHz	
Frequ (MF		Read (dB	ding uV)	Correct Factor (dB/m)	F	Result BuV/m)			imit uV/m)		R	emark	
4882	.000	38.	36	4.49	2	12.85		74	4.00	-31.15	- I	beak	
N/.	A												
emark	: Measu												

- fundamental frequency.
- 2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode			h CH	ps	Temp/Hum		24(℃)/ 33%RH	
Test Item			monic		Test Date		December 8, 201	
Polarize			rtical		Test Engineer		Jerry Chuang	
Detector		Peak an	d Averag	e	Test Voltage:		DC 5V	
110.0 dBuV/m								
							Limit1: Limit2:	_
70								
	1							
30.0								
1000.000 3550.0	0 6100.00	8650.00	11200.00 13	750.00 163	300.00 188	50.00 2140	0.00 2	6500.00 MHz
Frequency (MHz)	Readin (dBuV		tor ,	Result dBuV/m)		.imit suV/m)	Margin (dB)	Remark
4960.000	43.47	4.6	61	48.08	7	4.00	-25.92	peak
N/A								
emark:								

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Test Mode		8DPSK_EDR-3Mbps High CH				Temp/Hum		24(°C)/ 33%RH		
	est Item		Harmonic				Test Date		December 8, 2017	
	Polarize		Horizontal				Test Engineer		Jerry Chuang	
Ľ	Detector		Peak and Average			Te	Test Voltage:		DC 5V	
110.0	) dBu¥/m									
[									Limit1: Limit2:	
70										
70										
		1 X								
30.0 10	00.000 3550.0	0 6100	.00 865	0.00 1120	0.00 13750.	00 16300.	.00 1885	50.00 2140	0.00 2	6500.00 MHz
	uency IHz)	Read (dB		Correct Factor (dB/m)	Ке	sult ıV/m)		imit uV/m)	Margin (dB)	Remark
496	0.000	38.	65	4.61	43	.26	74	4.00	-30.74	peak
Ν	I/A									

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit

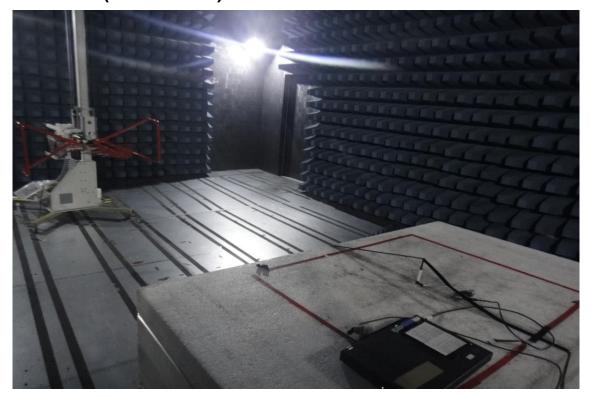
# Below 1G Test Data

Test Mode:		Mode 1		Temp/Hum	<b>24(°</b> ℃).	24(℃)/ 33%RH	
Test Item		30MHz-1G		Test Date		December 7, 201	
Polarize		Vertical		Test Engineer		Jerry Chuang	
Detector	Pea	ak and Quas	i-peak	Test Voltage:	D	C 5V	
80.0 dBuV/m							
					Limit1: Margin:	_	
						F	
				4 5 X			
30	1 X	2 3			6 X		
-20							
30.000 127.00	224.00 3	321.00 418.00	515.00 612	2.00 709.00 80	D6.00 10	00.00 MHz	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	
	10.11	-14.86	28.28	46.02	-17.74	peak	
270.5600	43.14	-14.00					
392.7800	39.37	-11.62	27.75	46.02	-18.27	peak	
392.7800 452.9200	39.37 39.54	-11.62 -9.53	30.01	46.02	-16.01	peak	
392.7800         452.9200         618.7900	39.37 39.54 37.39	-11.62 -9.53 -6.41	30.01 30.98	46.02 46.02	-16.01 -15.04	peak peak	
392.7800 452.9200	39.37 39.54	-11.62 -9.53	30.01	46.02	-16.01	peak	

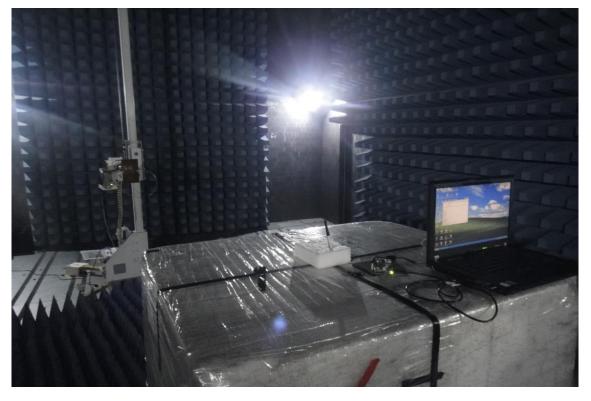
Test Mode:		Mode 1		Temp/Hum		<b>24(</b> °C)	24(℃)/ 33%RH	
Test Item		30MHz-1GHz			Test Date		December 7, 201	
Polarize		Horizontal			Test Engineer		Jerry Chuang	
Detector	Pea	Peak and Quasi-peak			Test Voltage:		DC 5V	
80.0 dBu¥/m						Limit1: Margin:	-	
30		3 3 3 1		5 X				
-20 30.000 127.00	224.00 3	21.00 418.00	515.00	612.00	709.00 80	6.00 1	000.00 MHz	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Resul (dBuV/i		Limit (dBuV/m)	Margin (dB)	Remark	
		Factor		n)			Remark peak	
(MHz)	(dBuV)	Factor (dB/m)	(dBuV/ı	n)	(dBuV/m)	(dB)		
(MHz) 227.8800	(dBuV) 52.88	Factor (dB/m) -16.87	( <b>dBuV/</b> 36.01	n)	(dBuV/m) 46.02	(dB) -10.01	peak	
(MHz) 227.8800 292.8700	(dBuV) 52.88 51.71	Factor (dB/m) -16.87 -14.14	(dBuV/i 36.01 37.57	m)	(dBuV/m) 46.02 46.02	(dB) -10.01 -8.45	peak peak	
(MHz) 227.8800 292.8700 423.8200	(dBuV) 52.88 51.71 39.97	Factor (dB/m) -16.87 -14.14 -10.54	(dBuV/i 36.01 37.57 29.43	m)	(dBuV/m) 46.02 46.02 46.02	(dB) -10.01 -8.45 -16.59	peak peak peak	



# APPENDIX-A Test Photo Radiation (Below 1GHz)

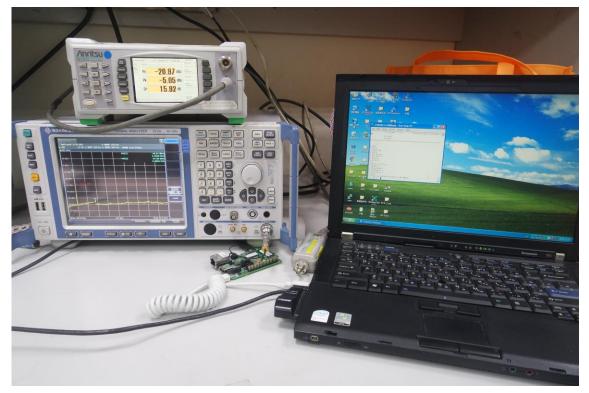


# Radiation (Above 1GHz)





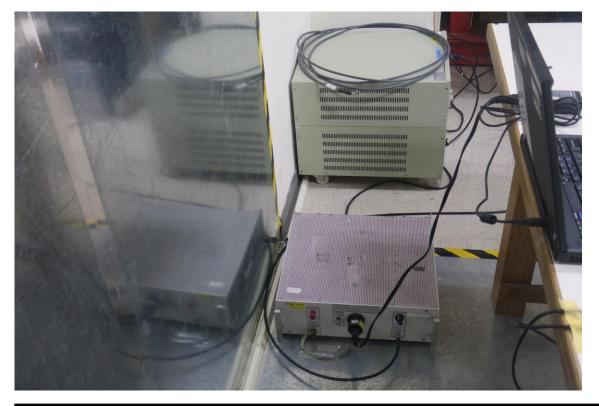
# Conducted





# Conduction





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