





RADIO TESTREPORT

Report No: STS1712279W01

Issued for

Sentry Industries Limited

507 Houston Center, 63 Mody Road, Tst, Hong Kong, China

L A B

Product Name:	Bluetooth Headset
Brand Name:	SENTRY
Model Name:	BT910
Series Model:	N.A
FCC ID:	2ACP4BT910
Test Standard:	FCC Part 15.247

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TEST RESULT CERTIFICATION

Applicant'sname:	Sentry Industries Limited		
Address:	507 Houston Center, 63 Mody Road, Tst, Hong Kong, China		
Manufacture's Name	Guangdong SAIYO Electronics Industry Co., Ltd. Xibian Industry Zone, Tongyu Town, Chaoyang District, Shantou		
Address:	City, Guangdong Province, China		
Product description			
Product Name:	Bluetooth Headset		
Brand Name:	SENTRY		
Model Name:	BT910		
Series Model:	N.A		
Test Standards	FCC Part15.247		
Test procedure	ANSI C63.10-2013		
under test (EUT) is in compliance sample identified in the report. This report shall not be reproduce	been tested by STS, the test results show that the equipment with the FCC requirements. And it is applicable only to the tested ed except in full, without the written approval of STS, this document, personal only, and shall be noted in the revision of the document		
Date of Test:			
Date (s) of performance of tests:	22 Dec. 2017~25 Dec. 2017		
Date of Issue:	26 Dec. 2017		
Test Result:	Pass		
Testing Engineer	July 8 Me		
Technical Manag	ger : (Sean she) (Approval (Hakim.hou)		
Authorized Signa	n sudi		

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	26 Dec. 2017	STS1712279W01	ALL	Initial Issue





1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards: DA 00-705

FCC Part 15.247,Subpart C				
Standard Section	Test Item	Judgment	Remark	
15.207	Conducted Emission	PASS		
15.247(a)(1)	Hopping Channel Separation	PASS		
15.247(a)(1)&(b)(1)	Output Power	PASS		
15.247(c)	Radiated Spurious Emission	PASS		
15.247(d)	Conducted Spurious & Band Edge Emission	PASS		
15.247(a)(iii)	Number of Hopping Frequency	PASS		
15.247(a)(iii)	Dwell Time	PASS		
15.247(a)(1)	Bandwidth	PASS		
15.205	Restricted Band Edge Emission	PASS		
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS		
15.203	Antenna Requirement	PASS		

NOTE:

- (1)" N/A" denotes test is not applicable in this Test Report
- (2) All tests are according to ANSI C63.10-2013





1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.

Add.: 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,

Fuyong Street, Bao'an District, Shenzhen, Guangdong, China CNAS Registration No.: L7649; FCC Registration No.: 625569 IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	±2.88dB
2	Conducted Emission (150KHz-30MHz)	±2.67dB
3	RF power,conducted	±0.71dB
4	Spurious emissions,conducted	±0.63dB
5	All emissions,radiated (9KHz-30MHz)	±3.02dB
6	All emissions,radiated (30MHz-200MHz)	±3.80dB
7	All emissions,radiated (200MHz-1000MHz)	±3.97dB
8	All emissions,radiated(>1G)	±3.03dB



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name	Bluetooth Headset
Trade Name	SENTRY
Model Name	BT910
Series Model	N.A
Model Difference	N/A
Channel List	Please refer to the Note 2.
Bluetooth	Frequency:2402 – 2480 MHz Modulation: GFSK(1Mbps), π/4-DQPSK(2Mbps)
Adapter	N/A
Battery	Rated Voltage: 3.7V Capacity: 80mAh
Hardware version number	V1.1
Software version number	V1.1
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

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



2.

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

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	SENTRY	BT910	PCB Antenna	N/A	0	BT Antenna



2.2 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.

Worst Mode	Description	Data Rate/Modulation
Mode 1	TX CH00	1Mbps/GFSK
Mode 2	TX CH39	1Mbps/GFSK
Mode 3	TX CH78	1Mbps/GFSK
Mode 4	TX CH00	2 Mbps/π/4-DQPSK
Mode 5	TX CH39	2 Mbps/π/4-DQPSK
Mode 6	TX CH78	2 Mbps/π/4-DQPSK

Note:

- (1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- (2) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V,50/60Hz is shown in the report

For AC Conducted Emission

	Test Case
AC Conducted	Mode 7 : Keeping BT TX
Emission	

2.3 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 power parameters of FHSS.

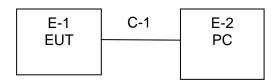
Test software Version	Test program: Bluetooth						
Frequency	2402 MHz	2441 MHz	2480 MHz				
(Power control software) Parameters(1/2Mbps)	Power class: 1 M rate:4:27 2 M rate:11:183	Power class: 1 M rate:4:27 2 M rate:11:183	Power class: 1 M rate:4:27 2 M rate:11:183				

2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

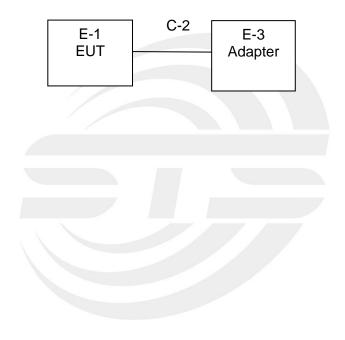
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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



Radiated Spurious EmissionTest



Conducted Emission Test





2.5 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.	Serial No.	Note
E-2	PC	HP	N/A	N/A	N/A
E-3	Adapter	N/A	N/A	N/A	N/A

Item	Shielded Type	Shielded Type Ferrite Core Length		Note
C-1	USB Cable	NO	100cm	N/A
C-2	USB Cable shielded line (Charging)	NO	100cm	N/A

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 <code>"Length_"</code> column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Radiation Test equipment									
Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until					
R&S	ESW	101535	2017.06.01	2018.05.31					
TESEQ	CBL6111D	34678	2017.03.24	2018.03.23					
Schwarzbeck	BBHA 9120D	9120D-1343	2017.03.06	2018.03.05					
BBHA 9170	SCHWARZBECK	BBHA9170367	2017.05.02	2018.05.01					
HH660	Mieo	N/A	2017.10.15	2018.10.14					
HH660	Mieo	N/A	2017.10.15	2018.10.14					
EM	EM330	60538	2017.03.12	2018.03.11					
0.1M-3GHz) PreAmplifier 1G-26.5GHz) Agilent		60538	2017.10.15	2018.10.14					
MINI-CIRCUITS	AP-040G	1382501	2017.05.15	2018.05.14					
ETS	6512	00165355	2017.03.06	2018.03.05					
EM	R01	N/A	2017.03.12	2018.03.11					
EM	R06	N/A	2017.03.12	2018.03.11					
SCHWARZBECK	R04	N/A	2017.03.12	2018.03.11					
SCHWARZBECK	R02	N/A	2017.03/12	2018.03.11					
Changling	966	N/A	2017.10.15	2018.10.14					
EM	SC100_1	60531	N/A	N/A					
EM	SC100	N/A	N/A	N/A					
MF	MFA-440H	N/A	N/A	N/A					
	Manufacturer R&S TESEQ Schwarzbeck BBHA 9170 HH660 HH660 EM Agilent MINI-CIRCUITS ETS EM EM SCHWARZBECK SCHWARZBECK Changling EM EM EM EM	Manufacturer Type No. R&S ESW TESEQ CBL6111D Schwarzbeck BBHA 9120D BBHA 9170 SCHWARZBECK HH660 Mieo EM EM330 Agilent 8449B MINI-CIRCUITS AP-040G ETS 6512 EM R01 EM R06 SCHWARZBECK R04 SCHWARZBECK R02 Changling 966 EM SC100_1 EM SC100	Manufacturer Type No. Serial No. R&S ESW 101535 TESEQ CBL6111D 34678 Schwarzbeck BBHA 9120D 9120D-1343 BBHA 9170 SCHWARZBECK BBHA9170367 HH660 Mieo N/A HH660 Mieo N/A EM EM330 60538 Agilent 8449B 60538 MINI-CIRCUITS AP-040G 1382501 ETS 6512 00165355 EM R01 N/A SCHWARZBECK R04 N/A SCHWARZBECK R02 N/A Changling 966 N/A EM SC100_1 60531 EM SC100 N/A	Manufacturer Type No. Serial No. Last calibration R&S ESW 101535 2017.06.01 TESEQ CBL6111D 34678 2017.03.24 Schwarzbeck BBHA 9120D 9120D-1343 2017.03.06 BBHA 9170 SCHWARZBECK BBHA9170367 2017.05.02 HH660 Mieo N/A 2017.10.15 HH660 Mieo N/A 2017.10.15 EM EM330 60538 2017.03.12 Agilent 8449B 60538 2017.10.15 MINI-CIRCUITS AP-040G 1382501 2017.05.15 ETS 6512 00165355 2017.03.06 EM R01 N/A 2017.03.12 SCHWARZBECK R04 N/A 2017.03.12 SCHWARZBECK R02 N/A 2017.03/12 Changling 966 N/A 2017.10.15 EM SC100_1 60531 N/A EM SC100_1 60531 N/A					

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2017.10.15	2018.10.14
LISN	R&S	ENV216	101242	2017.10.15	2018.10.14
conduction Cable	EM	C01	N/A	2017.03.12	2018.03.11
Temperature & Humitidy	Mieo	HH660	N/A	2017.10.15	2018.10.14





RF Connected Test

Kind of Equipment	Manufacturer	Type No. Serial No.		Last calibration	Calibrated until	
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2017.10.15	2018.10.14	
Power Meter	R&S	NRP	100510	2017.10.15	2018.10.14	
Spectrum Analyzer	Agilent	E4407B	MY50140340	2017.03.11	2018.03.10	
Signal Analyzer	Agilent	N9020A	MY49100060	2017.03.11	2018.03.10	





3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)					
	Quasi-peak	Average				
0.15 -0.5	66 - 56 *	56 - 46 *				
0.50 -5.0	56.00	46.00				
5.0 -30.0	60.00	50.00				

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.

The following table is the setting of the receiver

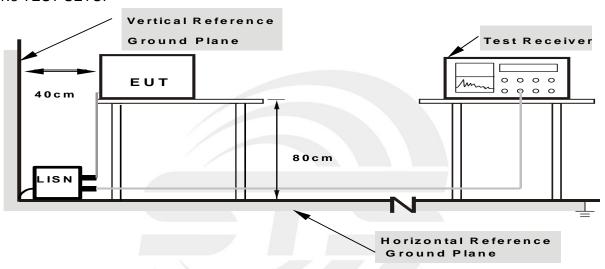
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



3.1.2 TEST PROCEDURE

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.1.3 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

3.1.4 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.



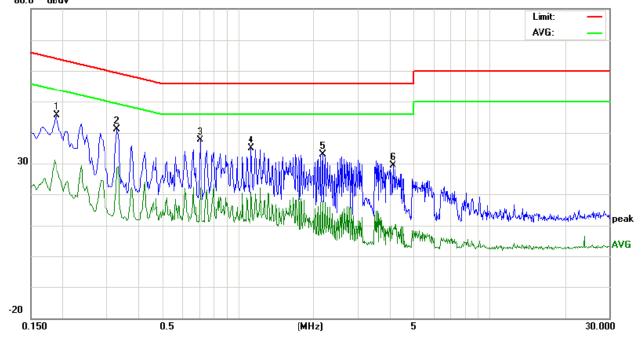
3.1.5 TEST RESULT

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	L
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 7

Freq.	Reading_Level (dBuV)		Correct Factor	Me	Measurement (dBuV)		Limit (dBuV)		Margin (dB)		P/F	
(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG	
0.1900	35.53		18.12	10.20	45.73		28.32	64.03	54.03	-18.30	-25.71	Р
0.3300	30.74		18.25	10.30	41.04		28.55	59.45	49.45	-18.41	-20.90	Р
0.7060	27.25		10.88	10.35	37.60		21.23	56.00	46.00	-18.40	-24.77	Р
1.1340	24.55		10.36	10.37	34.92		20.73	56.00	46.00	-21.08	-25.27	Р
2.1740	22.70		7.70	10.29	32.99		17.99	56.00	46.00	-23.01	-28.01	Р
4.1500	18.95		-1.45	10.36	29.31		8.91	56.00	46.00	-26.69	-37.09	Р

Remark:

- 1. All readings are Quasi-Peak and Average values.
- 2. Margin = Result (Result = Reading + Factor)-Limit 80.0 dBuV



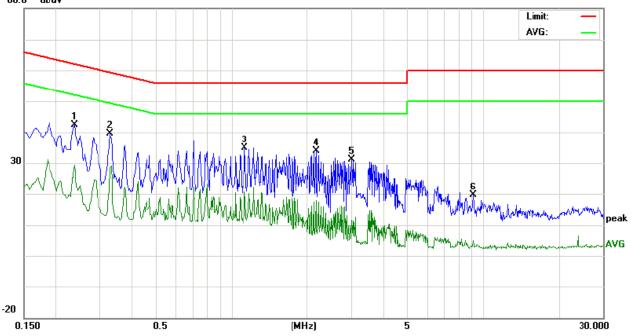
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Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	Ν
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 7

Freq.	Reading_Level (dBuV)		Correct Factor	Me	Measurement (dBuV)		Limit (dBuV)		Margin (dB)		P/F	
(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG	
0.2379	32.17		19.04	10.26	42.43		29.30	62.17	52.17	-19.74	-22.87	Р
0.3300	29.24		18.25	10.30	39.54		28.55	59.45	49.45	-19.91	-20.90	Р
1.1336	24.55		10.36	10.37	34.92		20.73	56.00	46.00	-21.08	-25.27	Р
2.1739	23.70		7.70	10.29	33.99		17.99	56.00	46.00	-22.01	-28.01	Р
3.0178	20.55		1.18	10.55	31.10		11.73	56.00	46.00	-24.90	-34.27	Р
9.1499	9.44		-5.42	10.26	19.70		4.84	60.00	50.00	-40.30	-45.16	Р

Remark:

- 1. All readings are Quasi-Peak and Average values.
- 2. Margin = Result (Result = Reading + Factor)-Limit 80.0 dBuV





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

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

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted	PK=1MHz / 1MHz, AV=1 MHz /10 Hz
band)	FK=1MHZ/1MHZ, AV=1 MHZ/10 HZ

For Band edge

or Barra dage		
Spectrum Parameter	Setting	
Detector	Peak	
Start/Stan Fraguenay	Lower Band Edge: 2300 to 2403 MHz	
Start/Stop Frequency	Upper Band Edge: 2479 to 2500 MHz	
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz / 10 Hz	



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Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meters(above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. 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 QuasiPeak 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. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

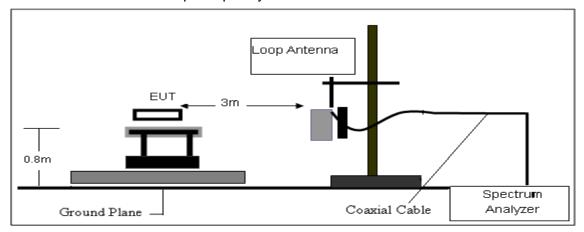
3.2.3 DEVIATION FROM TEST STANDARD

No deviation

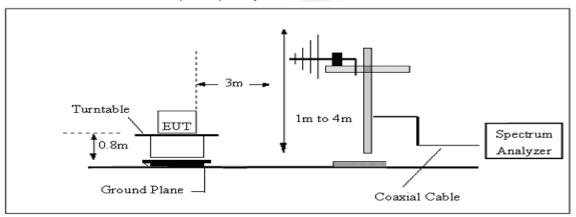


3.2.4 TESTSETUP

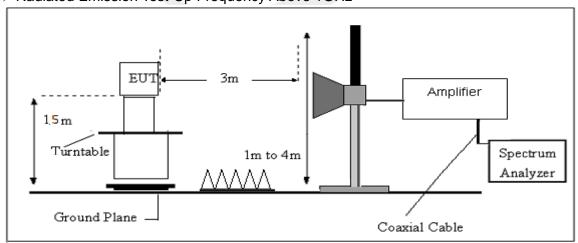
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.6 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG



3.2.7 TEST RESULTS

(9KHz-30MHz)

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Test Mode:	TX Mode
Test Voltage:	DC 3.7V from battery		

Freq.	Reading	Limit	Margin	State	Test Result
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F	rest Result
					PASS
					PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



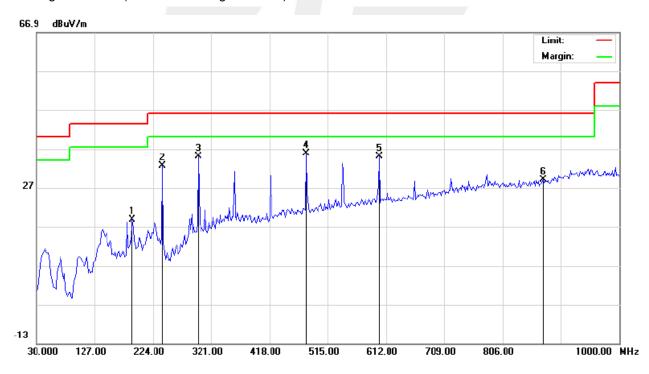
(30MHz-1000MHz)

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	Horizontal
Test Voltage:	DC 3.7V from battery	LIAST MANAGE.	Mode 1/2/3/4/5/6 (Mode 3-1M worst mode)

Freq.	Reading	Factor	Measurement	Limit	Over	Detector
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
190.0500	7.36	11.54	18.90	43.50	-24.60	peak
240.1667	24.78	7.90	32.68	46.00	-13.32	peak
299.9833	19.62	15.41	35.03	46.00	-10.97	peak
479.4333	14.89	20.91	35.80	46.00	-10.20	peak
600.6833	11.25	23.73	34.98	46.00	-11.02	peak
873.9000	1.05	27.93	28.98	46.00	-17.02	peak

Remark:

1. Margin = Result (Result = Reading + Factor)-Limit





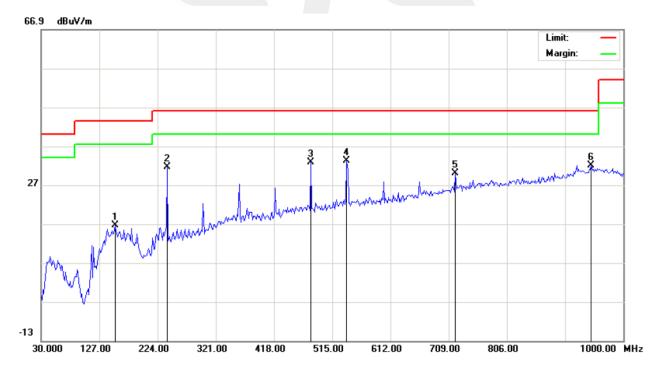


Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	Vertical
Test Voltage:	DC 3.7V from battery	Test Mode:	Mode 1/2/3/4/5/6 (Mode 3-1M worst mode)

Freq.	Reading	Factor	Measurement	Limit	Over	Detector
MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	
152.8667	1.24	15.28	16.52	43.50	-26.98	peak
240.1667	18.69	12.94	31.63	46.00	-14.37	peak
479.4333	11.97	20.91	32.88	46.00	-13.12	peak
539.2500	11.10	22.19	33.29	46.00	-12.71	peak
720.3167	4.26	25.78	30.04	46.00	-15.96	peak
946.6500	2.14	29.91	32.05	46.00	-13.95	peak

Remark:

1. Margin = Result (Result = Reading + Factor)-Limit





(1GHz~25GHz) Restricted band and Spurious emission Requirements

GFSK Low Channel

				Antenna	Corrected	Emission				
Frequency	Reading	Amplifier	Loss	Factor	Factor	Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
				Low	Channel (2402 I	MHz)				
3264.75	49.07	44.70	6.70	28.20	-9.80	39.27	74.00	-34.73	PK	Vertical
3264.75	38.09	44.70	6.70	28.20	-9.80	28.29	54.00	-25.71	AV	Vertical
3264.79	47.94	44.70	6.70	28.20	-9.80	38.14	74.00	-35.86	PK	Horizontal
3264.79	39.31	44.70	6.70	28.20	-9.80	29.51	54.00	-24.49	AV	Horizontal
4804.55	58.49	44.20	9.04	31.60	-3.56	54.93	74.00	-19.07	PK	Vertical
4804.55	39.34	44.20	9.04	31.60	-3.56	35.78	54.00	-18.22	AV	Vertical
4804.50	58.22	44.20	9.04	31.60	-3.56	54.66	74.00	-19.34	PK	Horizontal
4804.50	38.56	44.20	9.04	31.60	-3.56	35.00	54.00	-19.00	AV	Horizontal
5359.85	45.90	44.20	9.86	32.00	-2.34	43.56	74.00	-30.44	PK	Vertical
5359.85	37.20	44.20	9.86	32.00	-2.34	34.86	54.00	-19.14	AV	Vertical
5359.67	46.18	44.20	9.86	32.00	-2.34	43.84	74.00	-30.16	PK	Horizontal
5359.67	38.22	44.20	9.86	32.00	-2.34	35.88	54.00	-18.12	AV	Horizontal
7205.96	50.79	43.50	11.40	35.50	3.40	54.19	74.00	-19.81	PK	Vertical
7205.96	33.91	43.50	11.40	35.50	3.40	37.31	54.00	-16.69	AV	Vertical
7205.74	50.84	43.50	11.40	35.50	3.40	54.24	74.00	-19.76	PK	Horizontal
7205.74	32.79	43.50	11.40	35.50	3.40	36.19	54.00	-17.81	AV	Horizontal



Report No.: STS1712279W01

GFSK Mid Channel

	Of Orthing Origination									
				Antenna	Corrected	Emission				
Frequency	Reading	Amplifier	Loss	Factor	Factor	Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment
				Mid	Channel (2441 N	ЛHz)				
3264.87	48.41	44.70	6.70	28.20	-9.80	38.61	74.00	-35.39	PK	Vertical
3264.87	38.89	44.70	6.70	28.20	-9.80	29.09	54.00	-24.91	AV	Vertical
3264.82	48.76	44.70	6.70	28.20	-9.80	38.96	74.00	-35.04	PK	Horizontal
3264.82	38.91	44.70	6.70	28.20	-9.80	29.11	54.00	-24.89	AV	Horizontal
4882.39	58.95	44.20	9.04	31.60	-3.56	55.39	74.00	-18.61	PK	Vertical
4882.39	38.12	44.20	9.04	31.60	-3.56	34.56	54.00	-19.44	AV	Vertical
4882.46	58.74	44.20	9.04	31.60	-3.56	55.18	74.00	-18.82	PK	Horizontal
4882.46	38.35	44.20	9.04	31.60	-3.56	34.79	54.00	-19.21	AV	Horizontal
5359.73	45.58	44.20	9.86	32.00	-2.34	43.24	74.00	-30.76	PK	Vertical
5359.73	37.46	44.20	9.86	32.00	-2.34	35.12	54.00	-18.88	AV	Vertical
5359.74	45.62	44.20	9.86	32.00	-2.34	43.28	74.00	-30.72	PK	Horizontal
5359.74	37.08	44.20	9.86	32.00	-2.34	34.74	54.00	-19.26	AV	Horizontal
7313.71	51.35	43.50	11.40	35.50	3.40	54.75	74.00	-19.25	PK	Vertical
7313.71	32.79	43.50	11.40	35.50	3.40	36.19	54.00	-17.81	AV	Vertical
7313.88	51.75	43.50	11.40	35.50	3.40	55.15	74.00	-18.85	PK	Horizontal
7313.88	33.58	43.50	11.40	35.50	3.40	36.98	54.00	-17.02	AV	Horizontal



GFSK High Channel

				Antenna	Corrected	Emission				
Frequency	Reading	Amplifier	Loss	Factor	Factor	Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment
				High	Channel (2480	MHz)				
3264.72	48.61	44.70	6.70	28.20	-9.80	38.81	74.00	-35.19	PK	Vertical
3264.72	39.59	44.70	6.70	28.20	-9.80	29.79	54.00	-24.21	AV	Vertical
3264.57	49.08	44.70	6.70	28.20	-9.80	39.28	74.00	-34.72	PK	Horizontal
3264.57	38.96	44.70	6.70	28.20	-9.80	29.16	54.00	-24.84	AV	Horizontal
4960.47	59.47	44.20	9.04	31.60	-3.56	55.91	74.00	-18.09	PK	Vertical
4960.47	38.67	44.20	9.04	31.60	-3.56	35.11	54.00	-18.89	AV	Vertical
4960.50	58.13	44.20	9.04	31.60	-3.56	54.57	74.00	-19.43	PK	Horizontal
4960.50	38.58	44.20	9.04	31.60	-3.56	35.02	54.00	-18.98	AV	Horizontal
5359.87	45.62	44.20	9.86	32.00	-2.34	43.28	74.00	-30.72	PK	Vertical
5359.87	37.30	44.20	9.86	32.00	-2.34	34.96	54.00	-19.04	AV	Vertical
5359.78	45.94	44.20	9.86	32.00	-2.34	43.60	74.00	-30.40	PK	Horizontal
5359.78	37.19	44.20	9.86	32.00	-2.34	34.85	54.00	-19.15	AV	Horizontal
7439.93	51.43	43.50	11.40	35.50	3.40	54.83	74.00	-19.17	PK	Vertical
7439.93	32.57	43.50	11.40	35.50	3.40	35.97	54.00	-18.03	AV	Vertical
7439.66	51.42	43.50	11.40	35.50	3.40	54.82	74.00	-19.18	PK	Horizontal
7439.66	33.50	43.50	11.40	35.50	3.40	36.90	54.00	-17.10	AV	Horizontal

Note:

- 1) Scan with GFSK, $\pi/4$ -DQPSK, ,the worst case is GFSK Mode
- 2) Factor = Antenna Factor + Cable Loss Pre-amplifier.
 - Emission Level = Reading + Factor
 - The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency
- emission is mainly from the environment noise.



Band edge Requirements

				Antenna	Corrected	Emission				
Frequency	Reading	Amplifier	Loss	Factor	Factor	Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment
					GFSK					
2390.00	68.09	43.80	4.91	25.90	-12.99	55.10	74.00	-18.90	PK	Vertical
2390.00	53.54	43.80	4.91	25.90	-12.99	40.55	54.00	-13.45	AV	Vertical
2390.00	68.83	43.80	4.91	25.90	-12.99	55.84	74.00	-18.16	PK	Horizontal
2390.00	53.31	43.80	4.91	25.90	-12.99	40.32	54.00	-13.68	AV	Horizontal
2483.50	70.02	43.80	5.12	25.90	-12.78	57.24	74.00	-16.76	PK	Vertical
2483.50	52.09	43.80	5.12	25.90	-12.78	39.31	54.00	-14.69	AV	Vertical
2483.50	69.59	43.80	5.12	25.90	-12.78	56.81	74.00	-17.19	PK	Horizontal
2483.50	52.70	43.80	5.12	25.90	-12.78	39.92	54.00	-14.08	AV	Horizontal
					π/4-DQPSK					
2390.00	67.84	43.80	4.91	25.90	-12.99	54.85	74.00	-19.15	PK	Vertical
2390.00	53.68	43.80	4.91	25.90	-12.99	40.69	54.00	-13.31	AV	Vertical
2390.00	68.39	43.80	4.91	25.90	-12.99	55.40	74.00	-18.60	PK	Horizontal
2390.00	52.66	43.80	4.91	25.90	-12.99	39.67	54.00	-14.33	AV	Horizontal
2483.50	69.55	43.80	5.12	25.90	-12.78	56.77	74.00	-17.23	PK	Vertical
2483.50	52.38	43.80	5.12	25.90	-12.78	39.60	54.00	-14.40	AV	Vertical
2483.50	70.24	43.80	5.12	25.90	-12.78	57.46	74.00	-16.54	PK	Horizontal
2483.50	53.37	43.80	5.12	25.90	-12.78	40.59	54.00	-13.41	AV	Horizontal

Low measurement frequencies is range from 2300 to 2403 MHz, high measurement frequencies is range from 2479 to 2500 MHz.

Only showthe worst point data of the emissions in the frequency 2300-2403 MHz and 2479-2500 MHz.



Hopping Band edge

				Antenna	Corrected	Emission				
Frequency	Reading	Amplifier	Loss	Factor	Factor	Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment
					GFSK					
2390.00	68.47	43.80	4.91	25.90	-12.99	55.48	74.00	-18.52	PK	Vertical
2390.00	53.99	43.80	4.91	25.90	-12.99	41.00	54.00	-13.00	AV	Vertical
2390.00	69.25	43.80	4.91	25.90	-12.99	56.26	74.00	-17.74	PK	Horizontal
2390.00	52.66	43.80	4.91	25.90	-12.99	39.67	54.00	-14.33	AV	Horizontal
2483.50	70.24	43.80	5.12	25.90	-12.78	57.46	74.00	-16.54	PK	Vertical
2483.50	53.31	43.80	5.12	25.90	-12.78	40.53	54.00	-13.47	AV	Vertical
2483.50	69.46	43.80	5.12	25.90	-12.78	56.68	74.00	-17.32	PK	Horizontal
2483.50	52.07	43.80	5.12	25.90	-12.78	39.29	54.00	-14.71	AV	Horizontal
					π/4-DQPSK					
2390.00	67.44	43.80	4.91	25.90	-12.99	54.45	74.00	-19.55	PK	Vertical
2390.00	53.04	43.80	4.91	25.90	-12.99	40.05	54.00	-13.95	AV	Vertical
2390.00	69.14	43.80	4.91	25.90	-12.99	56.15	74.00	-17.85	PK	Horizontal
2390.00	52.67	43.80	4.91	25.90	-12.99	39.68	54.00	-14.32	AV	Horizontal
2483.50	69.00	43.80	5.12	25.90	-12.78	56.22	74.00	-17.78	PK	Vertical
2483.50	52.04	43.80	5.12	25.90	-12.78	39.26	54.00	-14.74	AV	Vertical
2483.50	69.35	43.80	5.12	25.90	-12.78	56.57	74.00	-17.43	PK	Horizontal
2483.50	52.83	43.80	5.12	25.90	-12.78	40.05	54.00	-13.95	AV	Horizontal

Low measurement frequencies is range from 2300 to 2403 MHz, high measurement frequencies is range from 2479 to 2500 MHz.

Only showthe worst point data of the emissions in the frequency 2300-2403 MHz and 2479-2500 MHz.



4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 REQUIREMENT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

4.2 TEST PROCEDURE

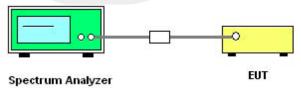
Spectrum Parameter	Setting			
Detector	Peak			
Start/Stop Frequency	30 MHz to 10th carrier harmonic			
RB / VB (emission in restricted band)	100 KHz/300 KHz			
Trace-Mode:	Max hold			

For Band edge

Spectrum Parameter	Setting			
Detector	Peak			
Start/Stan Eraguanay	Lower Band Edge: 2300– 2403 MHz			
Start/Stop Frequency	Upper Band Edge: 2479 – 2500 MHz			
RB / VB (emission in restricted band)	100 KHz/300 KHz			
Trace-Mode:	Max hold			

Remark: Hopping on and Hopping off mode all have been tested, only worst case hopping off is reported.

4.3 TEST SETUP



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth(RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

4.4 EUT OPERATION CONDITIONS

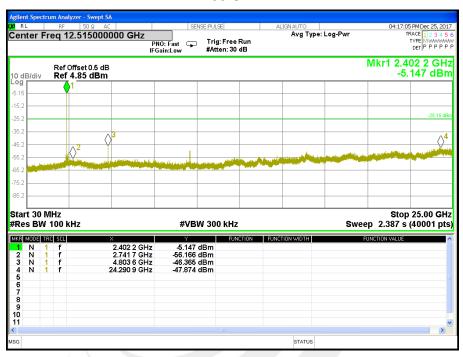
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

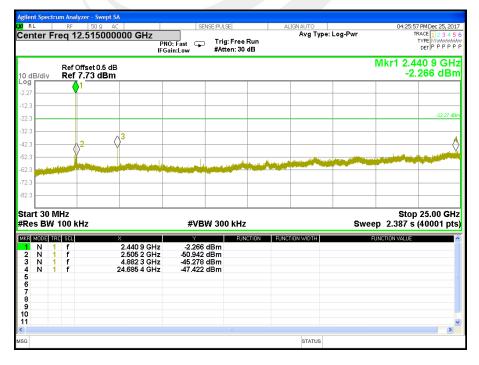


4.5 TEST RESULTS

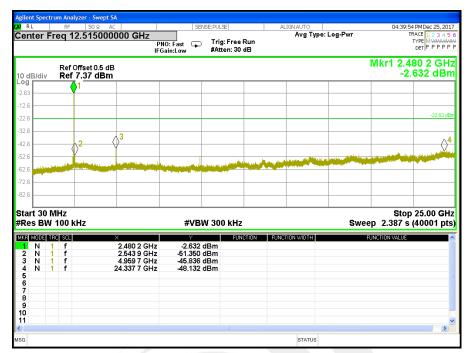
Temperature:	25 ℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode: GFSK(1Mbps)-00/39/78 CH			

00 CH





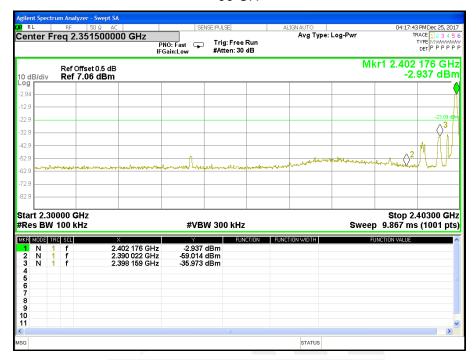


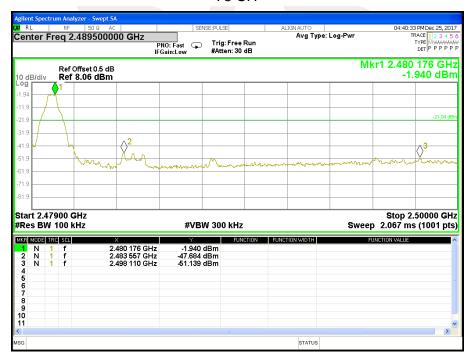




For Band edge

00 CH

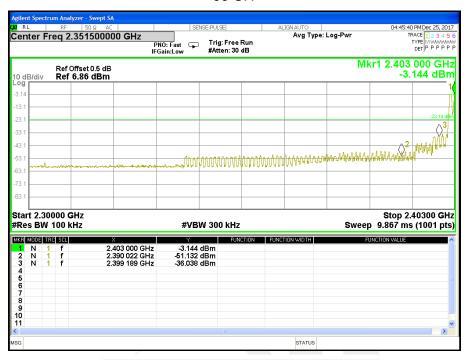


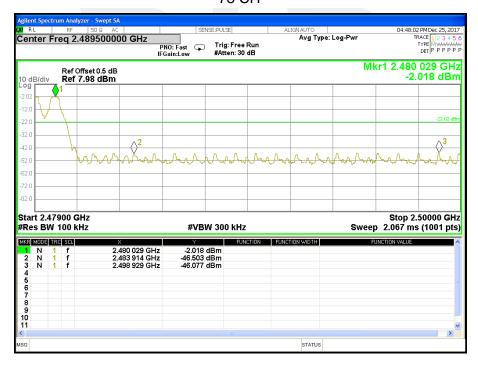




For Hopping Band edge

00 CH





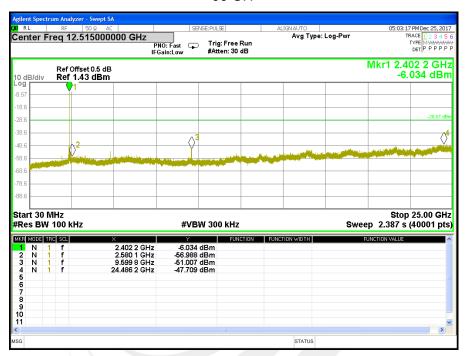


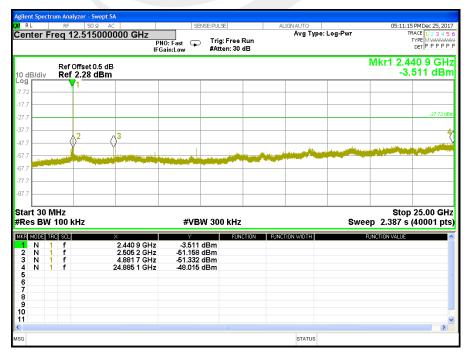




Temperature:	25℃	Relative Humidity:	50%				
Pressure:	1012 hPa	Test Voltage:	DC 3.7V				
Test Mode:	π/4-DQPSK(2Mbps) –00/39/78 CH						

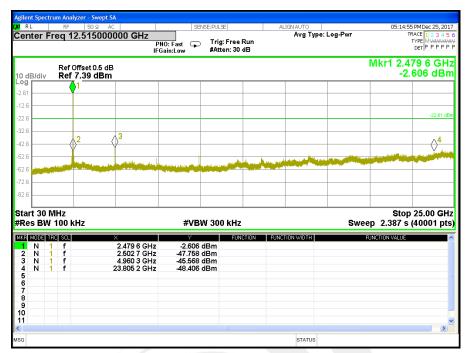
00 CH







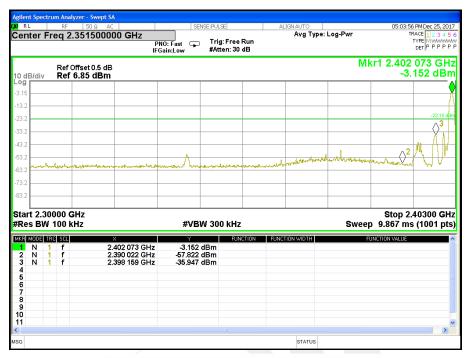
78 CH



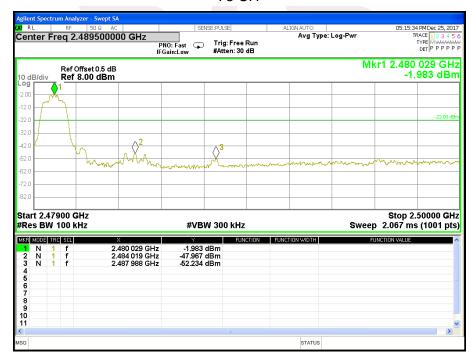


For Band edge

00 CH



78 CH



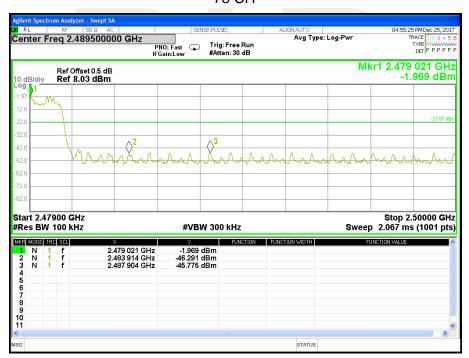


For Hopping Band edge

00 CH



78 CH





5. NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES / LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS

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

5.2 TEST PROCEDURE

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

5.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

5.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.





5.5 TEST RESULTS

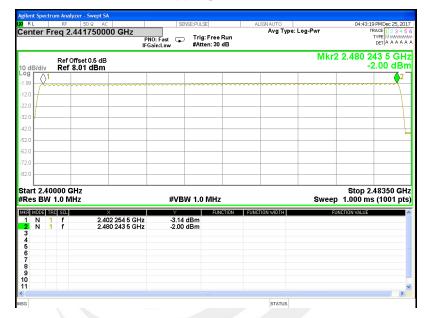
Temperature:	25℃	Relative Humidity:	60%
Pressure:	1015 hPa	Test Voltage:	DC 3.7V
Test Mode:	Hopping Mode		

Number of Hopping Channel

79

Report No.: STS1712279W01

Hopping channel





6. AVERAGE TIME OF OCCUPANCY

6.1 APPLIED PROCEDURES / LIMIT

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

6.2 TEST PROCEDURE

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

6.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

6.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



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6.5 TEST RESULTS

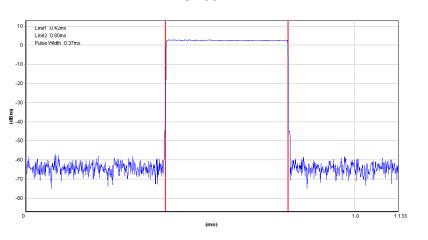
Temperature:	25℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode:	GFSK(1Mbps)-DH1/DH3/DH5		

Data Packet	Frequency	Pulse Duration(ms)	Dwell Time(s)	Limits(s)
DH1	2441 MHz	0.370	0.118	0.4
DH3	2441 MHz	1.630	0.261	0.4
DH5	2441 MHz	2.880	0.307	0.4

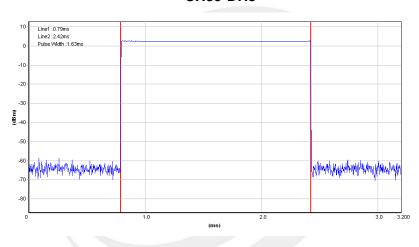




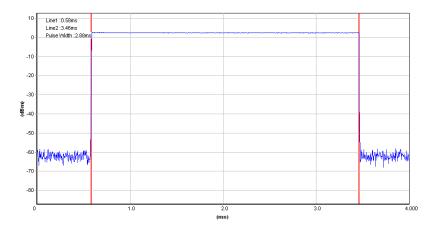
CH39-DH1



CH39-DH3



CH39-DH5





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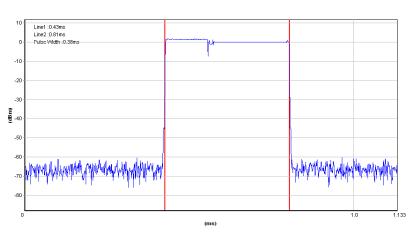
Temperature:	25℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode:	π/4-DQPSK(2Mbps) –2DH1/2DH3/2DH5		

Data Packet	Frequency	Pulse Duration(ms)	Dwell Time(s)	Limits(s)
2DH1	2441 MHz	0.380	0.122	0.4
2DH3	2441 MHz	2.880	0.461	0.4
2DH5	2441 MHz	2.930	0.313	0.4

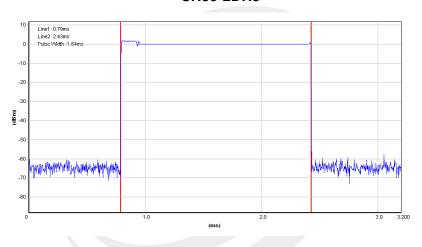




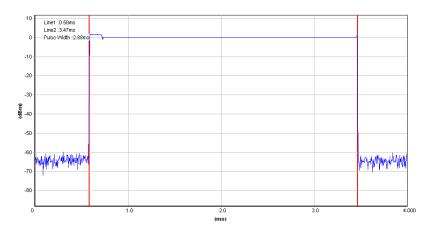
CH39-2DH1



CH39-2DH3



CH39-2DH5





7. HOPPING CHANNEL SEPARATION MEASUREMEN

7.1 APPLIED PROCEDURES / LIMIT

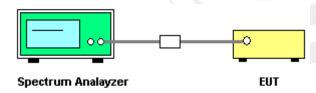
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that 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.

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

7.2 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- b. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for 20 dB bandwidth measurement.
- c. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for channel separation measurement.

7.3 TEST SETUP



7.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.



7.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode:	CH00 / CH39 / CH78 (GFSK(1Mbps) Mode)		

Frequency	Ch. Separation (MHz)	Limit	Result
2402 MHz	0.999	0.561	Complies
2441 MHz	0.996	0.558	Complies
2480 MHz	0.999	0.559	Complies

For GFSK: Ch. Separation Limits: > two-thirds 20dB bandwidth

CH00 -1Mbps



CH39 -1Mbps



CH78 -1Mbps





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Temperature:	25 ℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode:	CH00 / CH39 / CH78 (π/4-DQPSK(2Mbps) Mode)		

Frequency	Ch. Separation (MHz)	Limit	Result
2402 MHz	0.999	0.807	Complies
2441 MHz	0.999	0.805	Complies
2480 MHz	0.999	0.807	Complies

For $\pi/4$ -DQPSK(2Mbps): Ch. Separation Limits: > two-thirds 20dB bandwidth

CH00 -2Mbps



CH39 -2Mbps



CH78 -2Mbps





8. BANDWIDTH TEST 8.1 APPLIED PROCEDURES / LIMIT

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

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

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

8.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

8.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.





8.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode:	GFSK(1Mbps)CH00 / CH39 / C78		

Frequency	20dB Bandwidth (MHz)	Result
2402 MHz	0.841	PASS
2441 MHz	0.837	PASS
2480 MHz	0.839	PASS

CH00 -1Mbps



CH39 -1Mbps

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CH78 -1Mbps





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Temperature:	25℃	Relative Humidity:	50%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V
Test Mode:	π/4-DQPSK(2Mbps)CH00 / CH39 / C78		

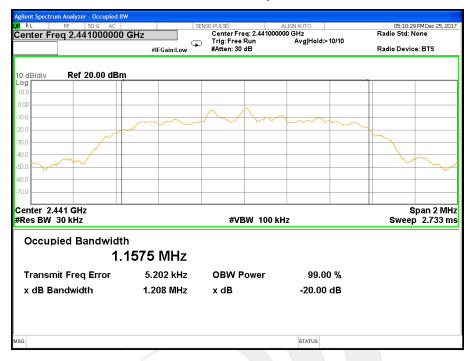
Frequency	20dB Bandwidth(MHz)	Result
2402 MHz	1.211	PASS
2441 MHz	1.208	PASS
2480 MHz	1.210	PASS

CH00 -2Mbps

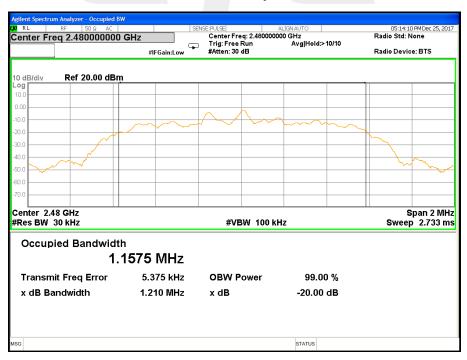




CH39 -2Mbps



CH78 -2Mbps





9. OUTPUT POWER TEST

9.1 APPLIED PROCEDURES / LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247	Output	1 W or 0.125W		
(a)(1)&(b)(1)	Output Power	if channel separation > 2/3 bandwidthprovided thesystems operatewith an output power no greater than125 mW(20.97dBm)	2400-2483.5	PASS

9.2 TEST PROCEDURE

a. The EUT was directly connected to the Power Meter

9.3 TEST SETUP



9.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



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9.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage:	DC 3.7V

GFSK(1Mbps)							
Test Channel	Frequency	Conducted Output Power		LIMIT			
	(MHz)	Peak (dBm)	AVG (dBm)	dBm			
CH00	2402	-1.42	-5.43	20.97			
CH39	2441	-0.92	-4.93	20.97			
CH78	2480	-0.83	-4.84	20.97			

Note: the channel separation >2/3 bandwidth

π/4QPSK(2Mbps)							
Test Channel	Frequency	Conducted Output Power		LIMIT			
	(MHz)	Peak (dBm)	AVG (dBm)	dBm			
CH00	2402	-1.95	-5.96	20.97			
CH39	2441	-1.46	-5.47	20.97			
CH78	2480	-1.32	-5.32	20.97			

Note: the channel separation >2/3 bandwidth



10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2 EUT ANTENNA

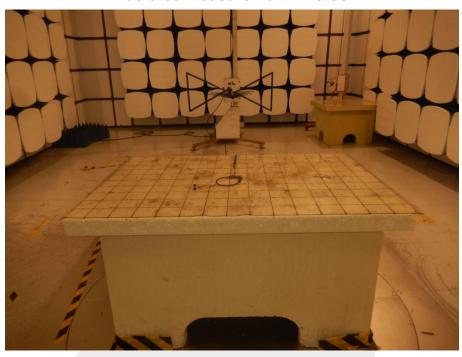
The EUT antenna is PCB Antenna. It comply with the standard requirement.

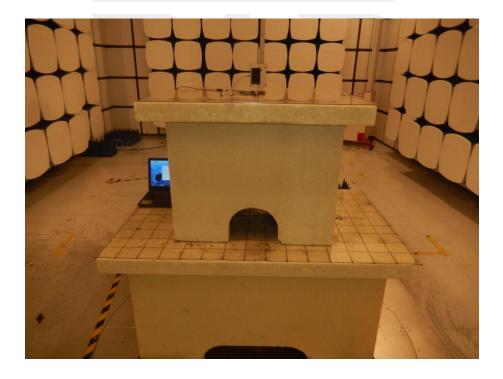




APPENDIX-PHOTOS OF TEST SETUP









Conducted Measurement Photos



* * * * * END OF THE REPORT * * * *