

RADIO TEST REPORT

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Report No.: STS2101154W07

Issued for

DTEN Inc

97 E Brokaw Road suite 180 San Jose CA 95112

Product Name:	DTEN GO	
Brand Name:	DTEN	
Model Name:	DCA00	
Series Model:	N/A	
FCC ID:	2AQ7Q-DCA00	
Test Standard:	FCC Part 15.247	

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Shenzhen STS Test Services Co., Ltd. A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com sented test sample.



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т	EST RESULT CERTIFICATION
Applicant's Name	DTEN Inc
Address	97 E Brokaw Road suite 180 San Jose CA 95112
Manufacturer's Name	DTEN Inc
Address	97 E Brokaw Road suite 180 San Jose CA 95112
Product Description	
Product Name:	DTEN GO
Brand Name	DTEN
Model Name:	DCA00
Series Model	N/A
Test Standards	FCC Part15.247

Test Procedure ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....

Date of receipt of test item: 21 Jan. 2021

Date (s) of performance of tests : 21 Jan. 2021 ~ 08 Feb. 2021

Date of Issue: 08 Feb. 2021

Test Result Pass

 Testing Engineer
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 Chris Chen)

 Technical Manager
 :
 Seam She

 (Sean she)
 (Sean she)

 Authorized Signatory :
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(Vita Li)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	08 Feb. 2021	STS2101154W07	ALL	Initial Issue



Shenzhen STS Test Services Co., Ltd.



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards: KDB 558074 D01 15.247 Meas Guidance v05r02.

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		
15.209	Radiated Spurious Emission	PASS		
15.247(d)	Conducted Spurious & Band Edge Emission	PASS		
15.247(a)(1)(iii)	Number of Hopping Frequency	PASS		
15.247(a)(1)(iii)	Dwell Time	PASS		
15.247(a)(1)	Bandwidth	PASS		
15.205	Restricted bands of operation	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. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China FCC test Firm Registration Number: 625569 IC test Firm Registration Number: 12108A A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 9K-30MHz	±2.84dB
4	All emissions, radiated 30M-1GHz	±4.39dB
5	All emissions, radiated 1G-6GHz	±5.10dB
6	All emissions, radiated>6G	±5.48dB
7	Conducted Emission (9KHz-150KHz)	±2.79dB
8	Conducted Emission (150KHz-30MHz)	±2.80dB



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	DTEN GO		
Trade Name	DTEN		
Model Name	DCA00		
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), 8DPSK(3Mbps)		
Bluetooth Version	5.0		
Bluetooth Configuration	BR+EDR		
Antenna Type	Please refer to the Note 3.		
Adapter	Input: 100-240V~50-60Hz, 2.0A Output: 12V, 5A60W		
Hardware version number	DTEN_GO_A311D_MAIN REV P3		
Software version number	S1-006-0.3.1.0-20201023		
Connecting I/O Port(s)	Please refer to the Note 1.		

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User 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	DTEN	DCA00	PIFA	N/A	1.61 dBi	BT Antenna

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

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2.2 DESCRIPTION OF THE 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
Mode7	TX CH00	3 Mbps/8DPSK
Mode 8	TX CH39	3 Mbps/8DPSK
Mode 9	TX CH78	3 Mbps/8DPSK
Mode 10	Hopping	GFSK
Mode 11	Hopping	π/4-DQPSK
Mode 12	Hopping 8DPSK	

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(2) We tested for all available 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/ 60Hz is shown in the report.

(3) The battery is fully-charged during the radiated and RF conducted test.

For AC Conducted Emission

	Test Case
AC Conducted Emission	Mode 13 : Keeping BT TX

2.3 FREQUENCY HOPPING SYSTEM REQUIREMENTS

(1)Standard and Limit

According to FCC Part 15.247(a)(1), The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.



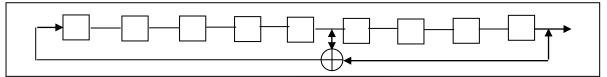
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The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

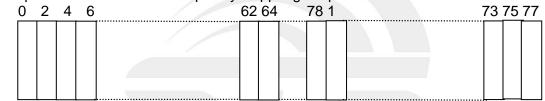
(2)The Pseudorandom sequence may be generated in a nin-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones: i.e. the shift register is initialized with nine ones.

Numver of shift register stages:9

Length of pseudo-random sequence:2⁹-1=511bits Longest sequence of zeros: 8(non-inverted signal)



Liner Feedback Shift Register for Generator of the PRBS sequence An example of Pseudorandom Frequency Hoppong Sequence as follow:



Each frequency used equally on the average by each transmitter. The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies ini synchronization with the transmitted signals.

(3) Frequency Hopping System

This transmitter device is frequency hopping device, and complies with FCC part 15.247 rule.

This device uses Bluetooth radio which operates in 2400-2483.5 MHz band. Bluetooth uses a radio technology called frequency-hopping spread spectrum, which chops up the data being sent and transmits chunks of it on up to 79 bands (1 MHz each; centred from 2402 to 2480 MHz) in the range 2,400-2,483.5MHz. The transmitter switches hop frequencies 1,600 times per second to assure a high degree of data security. All Bluetooth devices participating in a given piconet are synchronized to the frequency-hopping channel for the piconet. The frequency hopping sequence is determined by the master's device address and the phase of the hopping sequence (the frequency to hop at a specific time) is determined by the master's internal clock. Therefore, all slaves in a piconet must know the master's device address and must synchronize their clocks with the master's clock.

Adaptive Frequency Hopping (AFH) was introduced in the Bluetooth specification to provide an effective way for a Bluetooth radio to counteract normal interference. AFH identifies "bad" channels, where either other wireless devices are interfering with the Bluetooth signal or the Bluetooth signal is interfering with another device. The AFH-enabled Bluetooth device will then communicate with other devices within its piconet to share details of any identified bad channels. The devices will then switch to alternative available "good" channels, away from the areas of interference, thus having no impact on the bandwidth used.

This device was tested with a bluetooth system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements FCC Part 15.247 rule.



2.4 TABLE OF PARAMETERS OF TEST 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.

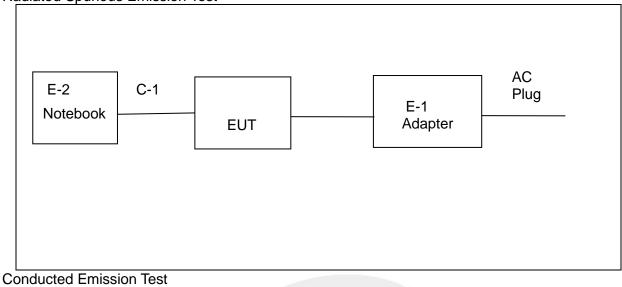
Test software Version	Test program: Bluetooth				
(Power control software) Parameters(1/2/3Mbps)	Power class: DH1 rate:4:27 2DH1 rate:20:54 3DH1 rate:24:83	Power class: DH3 rate:11:183 2DH3 rate:26:367 3DH3 rate:27:552	Power class: DH5 rate:15:339 2DH5 rate:30:679 3DH5 rate:31:1021		

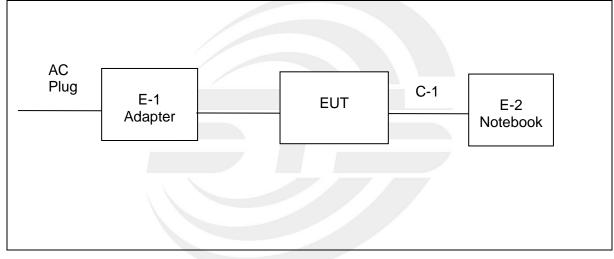
RF Function	Туре	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
		GFSK	1.61	0	
BT	BR+EDR	π/4-DQPSK	1.61	0	adb
		8DPSK	1.61	0	





2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED Radiated Spurious Emission Test







2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND 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.	Length	Note
E-1	Adapter	DTEN	DAP02	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-2	Notebook	LENOVO	ThinkPad E470	N/A	N/A
C-1	LAN Cable	N/A	N/A	120cm	NO

Note:

- (1) For detachable type I/O cable should be specified the length in cm in $\[\]$ Length $\[\]$ column.
- (2) "YES" is means "with core"; "NO" is means "without core".



2.7 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	
Test Receiver	R&S	ESCI	101427	2020.10.12	2021.10.11	
Signal Analyzer	R&S	FSV 40-N	101823	2020.10.10	2021.10.09	
Active loop Antenna	ZHINAN	ZN30900C	16035	2019.07.11	2021.07.10	
Bilog Antenna	TESEQ	CBL6111D	34678	2020.10.12	2022.10.11	
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2019.10.15	2021.10.14	
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2020.10.12	2022.10.11	
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2020.10.12	2021.10.11	
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2020.10.12	2021.10.11	
Pre-Amplifier (18G-40GHz)	SKET	LNPA-1840-50	SK2018101801	2020.10.10	2021.10.09	
Temperature & Humidity	HH660	Mieo	N/A	2020.10.13	2021.10.12	
Turn table	EM	SC100_1	60531	N/A	N/A	
Antenna mast	EM	SC100	N/A	N/A	N/A	
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)				

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	
Test Receiver	R&S	ESCI	101427	2020.10.12	2021.10.11	
LISN	R&S	ENV216	101242	2020.10.12	2021.10.11	
LISN	EMCO	3810/2NM	23625	2020.10.12	2021.10.11	
Temperature & Humidity	HH660	Mieo N/A 2020.10.13 2021.10.12				
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)				



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RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	
			MY55520005	2020.10.10	2021.10.09	
Power Sensor	Kovoight	U2021XA	MY55520006	2020.10.10	2021.10.09	
Fower Sensor	nsor Keysight	02021XA	MY56120038	2020.10.10	2021.10.09	
			MY56280002	2020.10.10	2021.10.09	
Signal Analyzer	Agilent	N9020A	MY51110105	2020.03.05	2021.03.04	
Temperature & Humidity	HH660	Mieo	N/A	2020.10.13	2021.10.12	
MIMO Power	Kovoight		MXEEE2000E	2020.10.10	2021 10 00	
measurement test Set	Keysight	U2021XA	MY55520005	2020.10.10	2021.10.09	
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)				



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3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

	Conducted Emissionlimit (dBuV)		
FREQUENCY (MHz)	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 is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 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 is at least 80 cm from the nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.
 - Vertical Reference Ground Plane EUT 40cm EUT 80cm N Horizontal Reference Ground Plane

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 cm from other units and other metal planes support units.

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:	22.1(C)	Relative Humidity:	46%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 13		

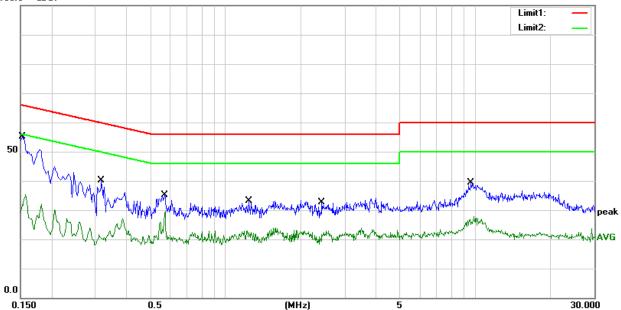
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1524	34.99	20.23	55.22	65.87	-10.65	QP
2	0.1524	11.56	20.23	31.79	55.87	-24.08	AVG
3	0.3180	19.56	20.68	40.24	59.76	-19.52	QP
4	0.3180	-0.13	20.68	20.55	49.76	-29.21	AVG
5	0.5700	14.77	20.40	35.17	56.00	-20.83	QP
6	0.5700	9.17	20.40	29.57	46.00	-16.43	AVG
7	1.2380	12.91	20.14	33.05	56.00	-22.95	QP
8	1.2380	2.65	20.14	22.79	46.00	-23.21	AVG
9	2.4260	12.48	20.03	32.51	56.00	-23.49	QP
10	2.4260	2.24	20.03	22.27	46.00	-23.73	AVG
11	9.6180	19.38	20.11	39.49	60.00	-20.51	QP
12	9.6180	6.84	20.11	26.95	50.00	-23.05	AVG

Remark:

1. All readings are Quasi-Peak and Average values

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

3. Factor=LISN factor+Cable loss+Limiter (10dB)



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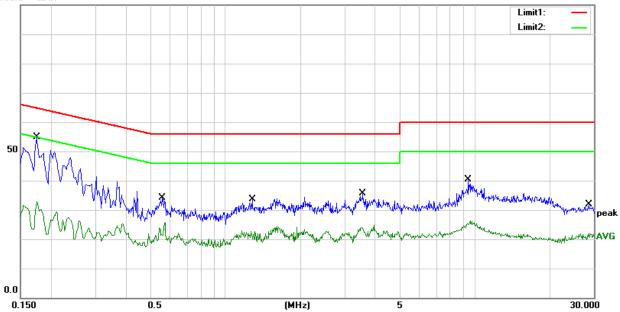
Temperature:	22.1(C)	Relative Humidity:	46%RH
Test Voltage:	AC 120V/60Hz	Phase:	Ν
Test Mode:	Mode 13		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1740	34.56	20.24	54.80	64.77	-9.97	QP
2	0.1740	12.51	20.24	32.75	54.77	-22.02	AVG
3	0.5580	13.69	20.41	34.10	56.00	-21.90	QP
4	0.5580	5.30	20.41	25.71	46.00	-20.29	AVG
5	1.2780	13.45	20.13	33.58	56.00	-22.42	QP
6	1.2780	2.44	20.13	22.57	46.00	-23.43	AVG
7	3.5540	15.55	19.96	35.51	56.00	-20.49	QP
8	3.5540	4.02	19.96	23.98	46.00	-22.02	AVG
9	9.4100	20.39	20.09	40.48	60.00	-19.52	QP
10	9.4100	6.20	20.09	26.29	50.00	-23.71	AVG
11	28.7020	11.07	20.70	31.77	60.00	-28.23	QP
12	28.7020	1.41	20.70	22.11	50.00	-27.89	AVG

Remark:

1. All readings are Quasi-Peak and Average values

- 2. Margin = Result (Result = Reading + Factor)-Limit
- 3. Factor=LISN factor+Cable loss+Limiter (10dB)





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	0.009~0.490 2400/F(KHz)		
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)

	(dBuV/m) (at 3M)			
FREQUENCY (MHz) PEAK AV	ERAGE			
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).

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

Shenzhen STS Test Services Co., Ltd.



For Radiated Emission

Spectrum Parameter	Setting		
Attenuation	Auto		
Detector	Peak/QP/AV		
Start Frequency	9 KHz/150KHz(Peak/QP/AV)		
Stop Frequency	150KHz/30MHz(Peak/QP/AV)		
	200Hz (From 9kHz to 0.15MHz)/		
RB / VB (emission in restricted	9KHz (From 0.15MHz to 30MHz);		
band)	200Hz (From 9kHz to 0.15MHz)/		
	9KHz (From 0.15MHz to 30MHz)		

Spectrum Parameter	Setting	
Attenuation	Auto	
Detector	Peak/QP	
Start Frequency	30 MHz(Peak/QP)	
Stop Frequency	1000 MHz (Peak/QP)	
RB / VB (emission in restricted	120 KHz / 300 KHz	
band)		

Spectrum Parameter	Setting		
Attenuation	Auto		
Detector	Peak/AV		
Start Frequency	1000 MHz(Peak/AV)		
Stop Frequency	10th carrier hamonic(Peak/AV)		
RB / VB (emission in restricted	1 MHz / 3 MHz(Peak)		
band)	1 MHz/1/T MHz(AVG)		

For Restricted band

Spectrum Parameter	Setting		
Detector	Peak/AV		
	Lower Band Edge: 2310 to 2410 MHz		
Start/Stop Frequency	Upper Band Edge: 2475 to 2500 MHz		
	1 MHz / 3 MHz(Peak)		
RB / VB	1 MHz/1/T MHz(AVG)		

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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 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 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree 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 polarization 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 QuasiPeak detector mode will be re-measured.
- e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was 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.

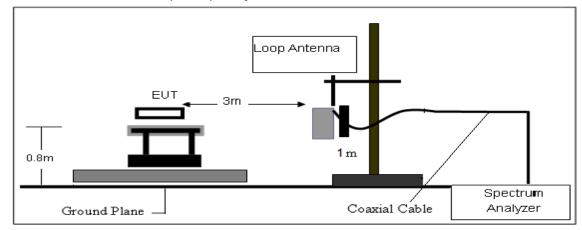
3.2.3 DEVIATION FROM TEST STANDARD

No deviation.

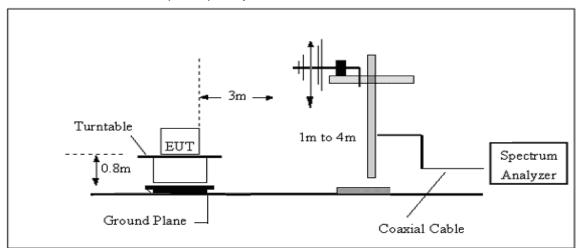


3.2.4 TESTSETUP

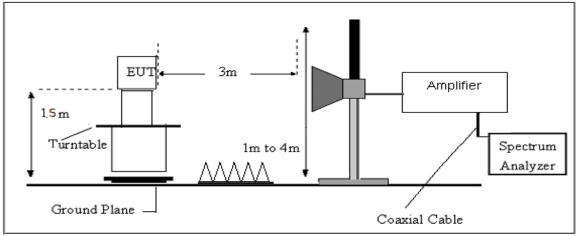
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



3.2.5 EUT OPERATING CONDITIONS Please refer to section 3.1.4 of this report.



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 - AGWhere 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



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3.2.7 TEST RESULTS

(9KHz-30MHz)

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Test Mode:	TX Mode

Freq.	Reading	Limit	Margin	State	Toot Docult	
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F	Test 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.





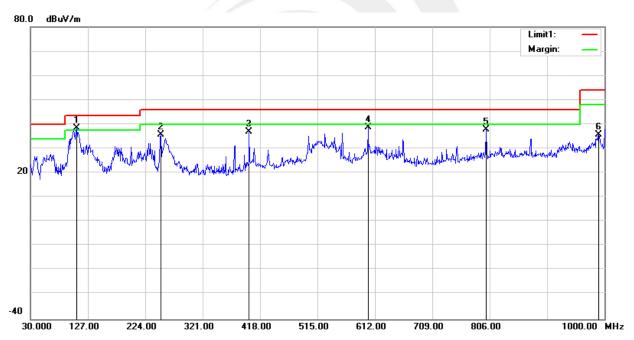
(30MHz-1000MHz)

Temperature:	23.1(C)	Relative Humidity:	60%RH	
Test Voltage:	AC 120V/60Hz	Phase:	Horizontal	
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode 3 worst mode)			

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	108.5700	57.68	-19.22	38.46	43.50	-5.04	QP
2	250.1900	51.77	-16.10	35.67	46.00	-10.33	QP
3	399.5700	48.04	-11.16	36.88	46.00	-9.12	QP
4	600.3600	44.50	-5.84	38.66	46.00	-7.34	QP
5	800.1800	40.00	-2.05	37.95	46.00	-8.05	QP
6	990.3000	33.74	2.05	35.79	54.00	-18.21	QP

Remark:

- 1. Margin = Result (Result = Reading + Factor)-Limit
- 2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





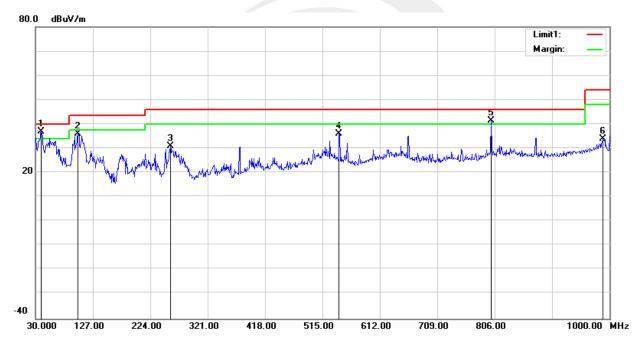
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Temperature:	23.1(C)	Relative Humidity:	60%RH	
Test Voltage:	AC 120V/60Hz	Phase:	Vertical	
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode 3 worst mode)			

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	39.7000	54.89	-17.88	37.01	40.00	-2.99	QP
2	101.7800	55.97	-19.94	36.03	43.50	-7.47	QP
3	257.9500	46.01	-15.02	30.99	46.00	-15.01	QP
4	543.1300	42.63	-6.52	36.11	46.00	-9.89	QP
5	800.1800	43.57	-2.05	41.52	46.00	-4.48	QP
6	989.3300	31.83	2.09	33.92	54.00	-20.08	QP

Remark:

- 1. Margin = Result (Result = Reading + Factor)–Limit
- 2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



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(1GHz~25GHz) Spurious emission Requirements

Frequency	Meter Reading	Amplifier	Loss	Antenna Factor	Corrected Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
				Low Ch	nannel (GFSK/2	2402 MHz)				
3264.69	61.37	44.70	6.70	28.20	-9.80	51.57	74.00	-22.43	PK	Vertical
3264.69	51.40	44.70	6.70	28.20	-9.80	41.60	54.00	-12.40	AV	Vertical
3264.71	61.63	44.70	6.70	28.20	-9.80	51.83	74.00	-22.17	PK	Horizontal
3264.71	50.23	44.70	6.70	28.20	-9.80	40.43	54.00	-13.57	AV	Horizontal
4804.33	58.20	44.20	9.04	31.60	-3.56	54.64	74.00	-19.36	PK	Vertical
4804.33	50.53	44.20	9.04	31.60	-3.56	46.97	54.00	-7.03	AV	Vertical
4804.45	58.62	44.20	9.04	31.60	-3.56	55.06	74.00	-18.94	PK	Horizontal
4804.45	49.37	44.20	9.04	31.60	-3.56	45.81	54.00	-8.19	AV	Horizontal
5359.75	49.00	44.20	9.86	32.00	-2.34	46.66	74.00	-27.34	PK	Vertical
5359.75	39.69	44.20	9.86	32.00	-2.34	37.35	54.00	-16.65	AV	Vertical
5359.69	47.52	44.20	9.86	32.00	-2.34	45.18	74.00	-28.82	PK	Horizontal
5359.69	38.66	44.20	9.86	32.00	-2.34	36.32	54.00	-17.68	AV	Horizontal
7205.69	53.94	43.50	11.40	35.50	3.40	57.34	74.00	-16.66	PK	Vertical
7205.69	44.27	43.50	11.40	35.50	3.40	47.67	54.00	-6.33	AV	Vertical
7205.80	54.46	43.50	11.40	35.50	3.40	57.86	74.00	-16.14	PK	Horizontal
7205.80	44.68	43.50	11.40	35.50	3.40	48.08	54.00	-5.92	AV	Horizontal
				Middle C	Channel (GFSK	(/2441 MHz)				
3264.84	61.87	44.70	6.70	28.20	-9.80	52.07	74.00	-21.93	PK	Vertical
3264.84	51.31	44.70	6.70	28.20	-9.80	41.51	54.00	-12.49	AV	Vertical
3264.68	61.36	44.70	6.70	28.20	-9.80	51.56	74.00	-22.44	PK	Horizontal
3264.68	51.23	44.70	6.70	28.20	-9.80	41.43	54.00	-12.57	AV	Horizontal
4882.38	58.67	44.20	9.04	31.60	-3.56	55.11	74.00	-18.89	PK	Vertical
4882.38	49.82	44.20	9.04	31.60	-3.56	46.26	54.00	-7.74	AV	Vertical
4882.34	58.92	44.20	9.04	31.60	-3.56	55.36	74.00	-18.64	PK	Horizontal
4882.34	50.41	44.20	9.04	31.60	-3.56	46.85	54.00	-7.15	AV	Horizontal
5359.60	49.09	44.20	9.86	32.00	-2.34	46.75	74.00	-27.25	PK	Vertical
5359.60	39.40	44.20	9.86	32.00	-2.34	37.06	54.00	-16.94	AV	Vertical
5359.61	48.48	44.20	9.86	32.00	-2.34	46.14	74.00	-27.86	PK	Horizontal
5359.61	38.36	44.20	9.86	32.00	-2.34	36.02	54.00	-17.98	AV	Horizontal
7323.81	53.61	43.50	11.40	35.50	3.40	57.01	74.00	-16.99	PK	Vertical
7323.81	43.72	43.50	11.40	35.50	3.40	47.12	54.00	-6.88	AV	Vertical
7323.72	53.93	43.50	11.40	35.50	3.40	57.33	74.00	-16.67	PK	Horizontal
7323.72	43.93	43.50	11.40	35.50	3.40	47.33	54.00	-6.67	AV	Horizontal



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				High Char	nnel (GFSK/	2480 MHz)				
3264.88	61.71	44.70	6.70	28.20	-9.80	51.91	74.00	-22.09	PK	Vertical
3264.88	50.49	44.70	6.70	28.20	-9.80	40.69	54.00	-13.31	AV	Vertical
3264.74	61.55	44.70	6.70	28.20	-9.80	51.75	74.00	-22.25	PK	Horizontal
3264.74	51.08	44.70	6.70	28.20	-9.80	41.28	54.00	-12.72	AV	Horizontal
4960.42	58.91	44.20	9.04	31.60	-3.56	55.35	74.00	-18.65	PK	Vertical
4960.42	49.88	44.20	9.04	31.60	-3.56	46.32	54.00	-7.68	AV	Vertical
4960.53	59.08	44.20	9.04	31.60	-3.56	55.52	74.00	-18.48	PK	Horizontal
4960.53	49.27	44.20	9.04	31.60	-3.56	45.71	54.00	-8.29	AV	Horizontal
5359.69	48.82	44.20	9.86	32.00	-2.34	46.48	74.00	-27.52	PK	Vertical
5359.69	40.36	44.20	9.86	32.00	-2.34	38.02	54.00	-15.98	AV	Vertical
5359.72	48.23	44.20	9.86	32.00	-2.34	45.89	74.00	-28.11	PK	Horizontal
5359.72	38.19	44.20	9.86	32.00	-2.34	35.85	54.00	-18.15	AV	Horizontal
7439.76	54.23	43.50	11.40	35.50	3.40	57.63	74.00	-16.37	PK	Vertical
7439.76	44.80	43.50	11.40	35.50	3.40	48.20	54.00	-5.80	AV	Vertical
7439.91	53.94	43.50	11.40	35.50	3.40	57.34	74.00	-16.66	PK	Horizontal
7439.91	43.83	43.50	11.40	35.50	3.40	47.23	54.00	-6.77	AV	Horizontal

Note:

- 1) Scan with GFSK, π /4-DQPSK, 8DPSK, the worst case is GFSK Mode.
- 2) Factor = Antenna Factor + Cable Loss Pre-amplifier.

Emission Level = Reading + Factor

3) 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.



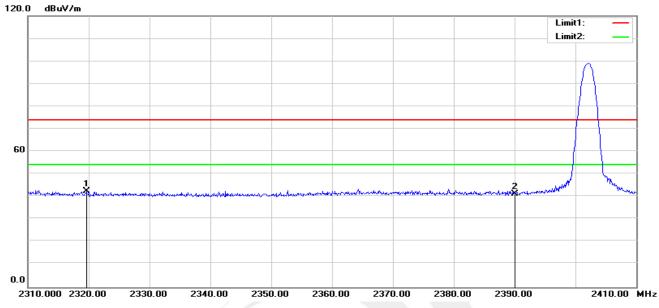
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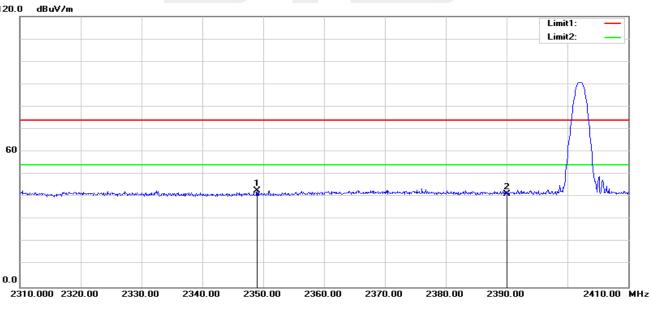
Restricted band Requirements

GFSK-Low Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2319.600	38.76	3.58	42.34	74.00	-31.66	peak
2	2390.000	36.89	4.34	41.23	74.00	-32.77	peak

120.0



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2349.000	39.00	3.74	42.74	74.00	-31.26	peak
2	2390.000	36.93	4.34	41.27	74.00	-32.73	peak

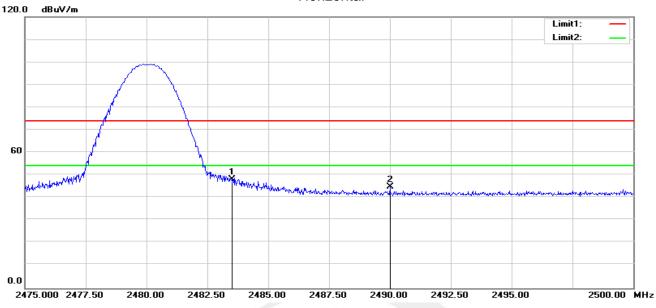
Vertical



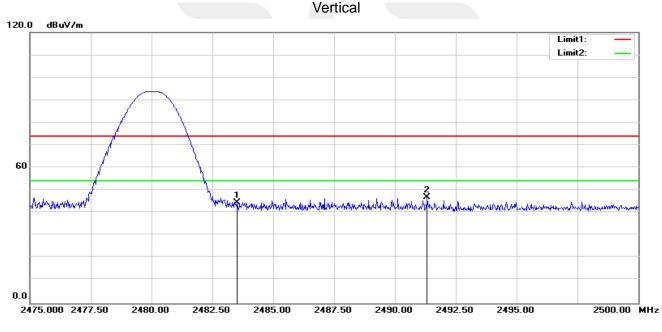
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GFSK-High Horizontal



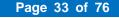
No.	Frequency	Reading	Correct	Result Limit		Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	43.64	4.60	48.24	74.00	-25.76	peak
2	2490.000	40.08	4.63	44.71	74.00	-29.29	peak



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	39.82	4.60	44.42	74.00	-29.58	peak
2	2491.325	42.41	4.63	47.04	74.00	-26.96	peak

Note: GFSK, $\pi/4$ -DQPSK, 8DPSK of the nohopping and hopping mode all have been test, the worst case is GFSK of the nohopping mode, this report only show the worst case.

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4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 LIMIT

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

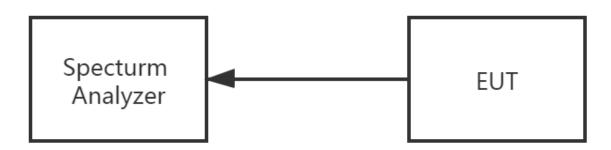
Spectrum Parameter	Setting
Detector	Peak
Stort/Stop Eroguopou	Lower Band Edge: 2300 – 2407 MHz
Start/Stop Frequency	Upper Band Edge: 2475 – 2500 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Hopping Band edge

Spectrum Parameter	Setting			
Detector	Peak			
Stort/Stop Eroguopou	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			







The EUT is connected 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. Tune the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, the span is set to be greater than RBW.

4.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.





4.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	50%
Test Mode:	GFSK(1Mbps)-00/39/78 CH	Test Voltage:	AC 120V/60Hz

00 CH

	RF 50	DΩ AC		SENSE:INT		ALIGN AUTO		07:19:	53 PM Jan 26, 20
enter F	req 12.51	5000000 GHz	PNO: Fast G FGain:Low	Trig: Fre #Atten: 3		Avg Type	: Log-Pwr		RACE 1 2 3 4 5 TYPE MWWW DET P P P P
0 dB/div	Ref Offset Ref_13.7								.402 GF .698 dB
.70	1								
30									-15.33 d
5.3									
6.3 6.3									
5.3	<u>^2</u>		/\ <mark>3</mark>						
	wellow when	Why have been and the second sec	and when and	plant, marked and	م	without the second of the	and a start and a start and a start a	Longood W han	- And
5.3 									
tart 30 I Res BW	iviHz / 100 kHz		#VE	3W 300 kH	z		s	Stop weep 2.39) 25.00 GH s (1001 pi
KR MODE T	TRC SCL 1 f (Δ)	× 2.402 GH	(A) 3.69	FU B dBm	NCTION F	UNCTION WIDTH		FUNCTION VALUE	
2 N	1 f 1 f (Δ)	2.951 GH 7.396 GH	-56.350	dBm					
3 N		24.476 GH							
4 N	1 f								
4 N 5	1 T								
4 N 5 6 7 8 9	1 T								
4 N 5 7 8									

39 CH

RL		<mark>nalyzer - Sw</mark> F 50 Ω	AC		SENSE:INT		ALIGNAUTO		07-33-	16 PM Jan 26, 2
			000000 GHz	PNO: Fast (IFGain:Low	Trig: Fr #Atten:		Avg Type	: Log-Pwr		TYPE MWWW DET P P P P
dB/div		ef Offset 0. ef 14.67								.452 GI .674 dB
57										
3										-14.91
3		_								
		C	2	A3						
-	المعالمية	and water way	مهداست المحالية	manner	مهيرمرلوب المساهيوب	ment when	and a stranger wanter	and the second states a	and the	handrad
3										
) MHz W 100			#V	BW 300 k	Hz		Si	Stop weep 2.39) 25.00 G s (1001 p
MODE N	TRC SO		× 2.452 GH	γ z (Δ) 467	4 dBm	UNCTION	FUNCTION WIDTH		FUNCTION VALUE	
N N N	1 f 1 f 1 f	(Δ)	3.900 GH 7.496 GH 24.700 GH	z -50.89 z (Δ) -56.40	5 dBm 1 dBm 3 dBm					



78 CH

R	L		RF	5	50Ω A	IC				SENSE:	INT		AL	IGN AUT				07:5	8:50 PM Jan 26, 2
er	iter	Fre	ed .	12.51	15000	0000		PNO: FGain	Fast C :Low	₽ Tr #A	ig: Free tten: 30	Run dB		Avg	Type:	Log-Pwr			TRACE 1 2 3 4 TYPE M WAANA DET P P P P
) d	B/div				t0.5 dE 1 dBi														2.477 GH 4.808 dB
9 .81	\vdash			1		_													
19	\vdash																		-14.57 0
5.2 5.2																			
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.2	when	nat	مسم	Jam	herror	Ner and	and the set of the set	m	in the	the way	with	and the set	mandad.ryth	and the second	U(have been a second	hartyurk	gravit N Va	" " "
5.2 5.2																			
	t 30 s B			kHz					#V	BW 30	00 kHz	 _					Swe	Sto ep 2.39	op 25.00 GH 9 s (1001 pi
_	MODE	TRC 1		(4)		×	77.011	(4)	Y	. 18	FUN	ICTION	FUNCT	ION WID	ТН		FUN	CTION VALUE	
2	NN	1	f	(Δ)		3.9	77 GHz		-50.27	8 dBm 8 dBm									
3	N N	1	f f	(Δ)			44 GHz 75 GHz			9 dBm 6 dBm									
5																			
3																			
5																			
2																			
3														STAT					



Shenzhen STS Test Services Co., Ltd.



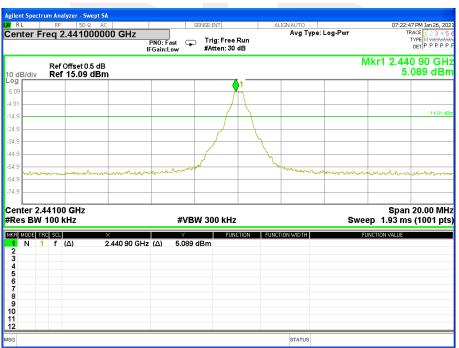


For Band edge(it's also the reference level for conducted spurious emission)

		alyzer - Swept S										
RL	RF				SI	ENSE:INT		ALIGN AUTO			07:19:2	4 PM Jan 26,
enter F	req	2.3535000		PNO: F IFGain:L		Trig: Free #Atten: 30	Run dB	Avg	Гуре: Log-Pwr		TF.	ACE 1 2 3 TYPE M WAAA DET P P P
dB/div		Offset 0.5 dE 14.67 dBr								Mk	r1 2.40: 4.	2 19 G 669 di
.67												•
.33												
5.3												-153
5.3												
5.3	<u>ہ 2</u>											- 4
5.3 	\mathcal{Y}	have a start wat have	-	mont	والمعر والمحار والمحار	dument	, Ing-hap-plates	APT-Toronal and the second	the second second	- Colomburn	Mundelphane	JA 4
.3	-											
.3												
art 2.30 Res BW					#VBV	V 300 kHz	·		٤	weep	Stop 2.4 10.3 ms	
R MODE T			X		Y		CTION	FUNCTION WIDTH	1	FUNCT	ION VALUE	
N 1	1 f 1 f		2.402 19 GH 2.307 70 GH	z	4.669 c -58.451 c	Bm						
N N	1 f 1 f	(Δ)	2.398 76 GH 2.400 05 GH	z (Δ) z	-57.991 d -56.003 d							
)												
1 												

00 CH

39 CH





78 CH

RL	RF 50		SENS	E:INT	ALIGN AUTO		07:58:20 PM Jan 26, 2
nter Fre	eq 2.4875	00000 GHz	PNO: Fast 😱 . IFGain:Low	Frig: Free Run Atten: 30 dB	Avg Type: I	Log-Pwr	TRACE 1 2 3 4 TYPE M WAAW DET P P P P
dB/div	Ref Offset 0 Ref 15.43					Mkr	1 2.479 900 GH 5.434 dB
43		1					
57							
.6							-14.57
6							
6		$/ \rightarrow$					
6			∧2∧3				
6	manstord	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mannum and	A. d. A			
6							
6							
art 2.475 es BW 1			#VBW :	300 kHz		Sweep	Stop 2.50000 G 2.40 ms (1001 p
R MODE TRC	SCL	×	Y	FUNCTION	FUNCTION WIDTH	FUNC	TION VALUE
N 1	f (∆) f	2.479 900 GHz 2.483 500 GHz					
N 1	f (Δ)		z (Δ) -57.176 dBi	n			
	1	2.491 500 GH	-57.981 061				
1							



Shenzhen STS Test Services Co., Ltd.





For Hopping Band edge

GFSK

RL	RF	50 Ω AC		SENSE:INT		ALIGNAUTO		08:09:33 P	M Jan 26, 21
enter	Freq 2.35	1500000 GHz		Trig: Free #Atten: 30	e Run) dB	Avg Type:	Log-Pwr	TYP	E 1 2 3 4 1 E M WAAWAA T P P P P I
) dB/div	Ref Offse Ref 14.						М	kr1 2.401 8 4.5	67 GH 35 dB
54									
46									
.5									-15.46
.5									
.5									
.5								<u>∧2</u>	^
.5	havenne	Mandhan and	www.wantebrium.		a same to and a	man		and the second	ment
.5						-			
.5						_			
	30000 GHz							Stop 2.40	
	N 100 kHz			/BW 300 kH	_			ep 9.87 ms (1001 p
1 N 2 N	TRC SCL 1 f 1 f 1 f	× 2.401 867 2.390 022 2.400 013	GHz -58.9	35 dBm 86 dBm 64 dBm	NCTION FU	NCTION WIDTH	E	UNCTION VALUE	
1 5 5									
4 5 7 8									
1 5 7 3 9						STATUS			

08:11:41 PM Jan 26,		IGNAUTO	/	T	SENSE:I			50 Ω AC	RF	_	_
TRACE 1 2 3 4 TYPE M WAAW DET P P P F	Log-Pwr	Avg Type		g: Free Rui ten: 30 dB	Tri #At	PNO: Fast FGain:Low		48950000	eq 2	Fre	er
2.479 903 G 5.374 dE	Mki							ffset 0.5 dB 5.37 dBm		v	/div
										\ 1	_
										\square	Į
-14.63					_				\mathbf{x}	/	V
									+		
	^3				_			4			
mannen	Xurman	mark	man	manyagan	mm	mann	Norman	Aman			
Stop 2.50000 G 2.07 ms (1001 p	Sweep			0 kHz	/BW 30	#`			000 G 100 k		
ION VALUE	FUN	ION WIDTH	FUN	FUNCTIO		ļ ,		×	SCL	_	
					74 dBm 33 dBm	-59.3	79 903 GHz 83 515 GHz	2.4	f f	1	N N
					25 dBm	-56.5	193 847 GHz	2.4	f	1	N



Page 40 of 76 Report No.: STS2101154W07

Temperature:	25 ℃	Relative Humidity:	50%
	π/4-DQPSK(2Mbps)– 00/39/78 CH	Test Voltage:	AC 120V/60Hz

		ctrum		lyzer - Swej							_				
XI R			RF		AC	0.011		_	SENSE:INT		ALI	GN AUTO	e: Log-Pwr	07:	:33:10 PM Jan 26, 202 TRACE 1 2 3 4 5
Cen	iter	Fre	r p	2.5150	0000	U GHZ	PNO: IFGair			Free Run n: 30 dB		Avgiy	e. Log-Pwr		TYPE MWWWW DET P P P P P
	B/div			Offset 0.5 9.62 dB											2.402 GH: -0.377 dBm
Log -0.38			- (1											
-10.4	\vdash		_												-20.01 dBr
-20.4 -30.4															-20.01 05
-40.4				A2											
-50.4	-		_	won		(3			allan marker	No such and	and and the second	-	manon	wow enderstyward
-60.4 -70.4	and the second	يوالحي	d and		A/8-1	on white		and a fell at the	winnere and						
-80.4															
	L rt30 sB\			(Hz				#VI	300 BW 300	kHz					op 25.00 GHz 9 s (1001 pts
MKR	MODE	TRC			Х			Y		FUNCTION	FUNCT	ON WIDTH		FUNCTION VALU	
1 2 3	N N N	1 1 1	f f	(Δ) (Δ)			Hz Hz (Δ)	-51.111 -55.570) dBm						
4	Ν	1	f		2	4.526 G	Hz	-47.96	1 dBm						
2 3 4 5 6 7 8 9															
11															
12															

00 CH

39	CH
00	0

					39	СН					
lant Enert	um Analı	rzer - Swept S				-					
RL	RF	50Ω A	C		SENSE:INT		ALI	GN AUTO			50 PM Jan 26, 3
enter F	req 12	2.515000		PNO: Fast Gain:Low	Trig: #Atte	Free Run n: 30 dB		Avg Ty	oe: Log-Pwr	Т	TYPE M WANN DET P P P F
dB/div		ffset 0.5 dE 6.13 dBm									.452 G .866 dE
87		1									
8.9											
.9											-19.75
.9										-	
.9		() ²									
.9	Jannah	mylenen	a monoresterer	Anna	manum	man man	للمررعة والمحرواليسم	and the second strange	A general and	and the second second	mart
1.9		and control of									
.9											
.9											
art 30 M les BW		Hz		#	VBW 300	kHz			s	Stop weep 2.39	o 25.00 G s (1001 p
R MODE T			×		Y	FUNCTION	FUNCTI	ON WIDTH		FUNCTION VALUE	
N 1 N 1	f		2.452 GHz 3.900 GHz	-50.	866 dBm 784 dBm						
3 N 1 I N 1		Δ)	5.748 GHz 21.030 GHz		238 dBm 525 dBm						
5											
·											
3											
)											
2											
3								STATUS			



78 CH

		RF	50 Ω			SENSE:INT		ALIGN AUTO			18 PM Jan 26, 21
enter	r Fre	eq 1:	2.51500	0000 GHz	PNO: Fast Gain:Lov		ee Run 30 dB	Avg Type:	Log-Pwr		RACE 1 2 3 4 1 TYPE M WAAWA DET P P P P I
) dB/di)ffset 0.5 d 3.82 dBr								.477 GI 180 dB
18			1								
5.2											-19.67
5.2 —											
5.2											
.2		_	\ <mark>2</mark>	/	3						
.2	الارداد	al mar	home	and the second s	here	w-low maked spron	wanter and the second	got an on the stand when a	and the second wat	warmer W Nelles	whethere
6.2											
5.2											
5.2											
art 3	0 MI	-Iz								Stop	25.00 G
tes B	3W 1		Hz			#VBW 300 k	Hz		5	weep 2.39 9	s (1001 p
		00 k	Hz	×				NCTION WIDTH		weep 2.39 s	s (1001 p
R MODE		00 k SCL f (Hz ∆)	2.477 GHz	(Δ) -	Y 5.180 dBm		NCTION WIDTH			s (1001 p
N N N N N N	E TRC 1 1	00 k scu f (f (2.477 GHz 2.627 GHz 7.446 GHz	 (Δ) -4 -5 (Δ) -5 	5.180 dBm 5.249 dBm 5.372 dBm		NCTION WIDTH			s (1001 p
P MOD N 2 N 3 N 4 N	e Trc 1	00 k SEL f (Δ)	2.477 GHz 2.627 GHz	 (Δ) -4 -5 (Δ) -5 	7 5.180 dBm 5.249 dBm		NCTION WIDTH			s (1001 p
R MODE N 2 N 3 N 4 N 5	E TRC 1 1	00 k scu f (f (Δ)	2.477 GHz 2.627 GHz 7.446 GHz	 (Δ) -4 -5 (Δ) -5 	5.180 dBm 5.249 dBm 5.372 dBm		NCTION WIDTH			s (1001 p
R NOO 1 N 2 N 3 N 4 N 5 5 7 3	E TRC 1 1	00 k scu f (f (Δ)	2.477 GHz 2.627 GHz 7.446 GHz	 (Δ) -4 -5 (Δ) -5 	5.180 dBm 5.249 dBm 5.372 dBm		NCTION WIDTH			s (1001 p
2 N 3 N	E TRC 1 1	00 k scu f (f (Δ)	2.477 GHz 2.627 GHz 7.446 GHz	 (Δ) -4 -5 (Δ) -5 	5.180 dBm 5.249 dBm 5.372 dBm		NCTION WIDTH			s (1001 p
R MODE 1 N 2 N 3 N 4 N 5 7 3 - - -	E TRC 1 1	00 k scu f (f (Δ)	2.477 GHz 2.627 GHz 7.446 GHz	 (Δ) -4 -5 (Δ) -5 	5.180 dBm 5.249 dBm 5.372 dBm		NCTION WIDTH			s (1001 p
R MODI N 2 N 3 N 4 N 5 5 7 8 9	E TRC 1 1	00 k scu f (f (Δ)	2.477 GHz 2.627 GHz 7.446 GHz	 (Δ) -4 -5 (Δ) -5 	5.180 dBm 5.249 dBm 5.372 dBm		NETION WIDTH			s (1001 p



Shenzhen STS Test Services Co., Ltd.



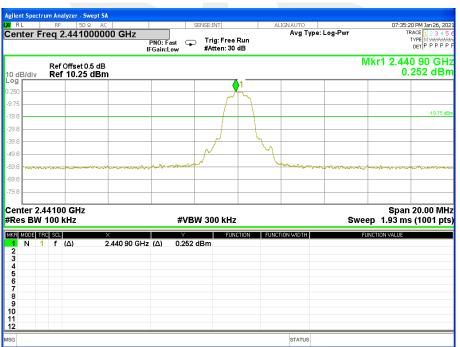


For Band edge(it's also the reference level for conducted spurious emission)

		ectru		alyzer - Sw	vept SA																
LXI F			RF							SENSE:I	NT		AL	IGN AUTO							n 26, 202:
Cei	nter	Fre	peq	2.3535	00000	GHz	P	'NO: Gain	_ Fast ⊂, :Low		g: Free ten: 30			Avg	Type:	Log-Pv				DET P	2345(PPPPF
10 c Log	IB/di	v		Offset 0. f 9.99 d													N	/kr	1 2.40 -0		dBm
-0.01																					<u> </u>
-10.0																					<u>A</u> —
-20.0							_														-20 01 dBm
-30.0 -40.0	1									-											
-40.0								^2												1/14	4
-60.0			*****	and the second	Marcharadra	an generation of the second	- All and the	2	اروبوا مارمور				i Adama		Lyno-1999.	www			يىرىيەرسامەم	Wan,	/ home
-70.0																		-			
-80.0	-						_											-			
				GHz kHz					#VE	SW 30	0 kHz						Swe		Stop 2 10.3 m		
MKR 1	MODE	TRC	f SCL	(Δ)	×	01 86	GHz	(Δ)	-0.012	dBm	FUN	CTION	FUNC	TION WIDT	H		F	UNCTI	ON VALUE		
2 3	N	1	f	(Δ)	2.3	32 74 98 65	GHz		-58.698	dBm											
4	N	1	f	(Δ)		00 05		(Δ)	-56.835												
6																					
4 5 6 7 8 9																					
10 11																					
12																					
MSG														STAT	US						

00 CH

39 CH



П



78 CH

	RF 50 Ω	ept SA AC	SEN	SE:INT	ALIGN AUTO		07:59:4	18 PM Jan 26, 21
iter Fr	req 2.48750			Trig: Free Run #Atten: 30 dB	Avg Type:	Log-Pwr		RACE 1 2 3 4 TYPE M WAAWA DET P P P P
lB/div	Ref Offset 0. Ref 10.33					Mk	r1 2.479 0.	900 GH 327 dB
		0 1						
		$f \rightarrow$						-19.67 (
·								-13.07
7								
,	~	M	.2 .3				4	
Anna	mannen		And the line	مىسىمىيەرىيەر مىيەتلەردە	www.www.		·	
	500 GHz 100 kHz		#VBW	300 kHz		Swee	Stop 2. p 2.40 ms	50000 GI s (1001 pi
MODE TR		×	Y	FUNCTION	FUNCTION WIDTH	FUN	ICTION VALUE	
	f (Δ) f	2.479 900 GHz 2.483 500 GHz						
N 1 N 1	f (Δ)		(Δ) -58.109 dB -58.068 dB					
		2.494 925 GHz						
N 1 N 1		2.494 925 GHz						
N 1 N 1		2.494 925 GH2						
N 1 N 1		2.494 925 GH						
N 1 N 1		2.494 925 GH						
N 1 N 1		2.494 925 GH			STATUS			



Shenzhen STS Test Services Co., Ltd.





For Hopping Band edge

π/4-DQPSK

RL	RF	l <mark>lyzer - Swept</mark> 50 Ω			SENSE:INT	AL	IGNAUTO			. PM Jan 26, 2
enter F	req 2	2.351500	000 GHz	PNO: Fast IFGain:Low	Trig: Free F #Atten: 30 d	tun IB	Avg Type:	Log-Pwr	T	ACE 1 2 3 4 YPE M WAAW DET P P P P
dB/div		Offset 0.5 d 9.69 dBr						М	kr1 2.402 -0.3	897 GI 313 dB
9 31										
.3										
.3										-20.31
3										
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3 00000	ممسمو			And More wanted	hanne war an ante	manholimetra	-		www.www.www.www.www.www.www.www.www.ww	mum
з —										
.3										
art 2.30 es BW				#VB	W 300 kHz			Swe	Stop 2.4 ep 9.87 ms	
MODE T			×	Y	FUNC	FION FUNCT	ION WIDTH	F	UNCTION VALUE	
	1 f 1 f 1 f		2.402 897 GH 2.390 022 GH 2.400 013 GH	z -59.397	dBm					

or Fr		500000 GHz	SEN	SE:INT	ALIGN AU	⊤o g Type: Log-Pw		08:18:09 PM Jan 26, 2 TRACE 1 2 3 4
	eq 2.409			Trig: Free Run #Atten: 30 dB		a . , po. 20g . A		DET P P P
B/div	Ref Offset Ref 10.1						Mkr1 2.	479 903 GI 0.173 dB
	1							
·~/·	<u>\</u>							
								-19.83
<u> </u>	- \\				<u>^</u>			
<u> </u>		\wedge^2			∂ ³ —			
	\~	man 2 mar	- marada ana bas	and an and a local stand st	hann	renerandar manhara	- Antonia	- Inder a start and a start and a start
	900 GHz 100 kHz		#VBW	300 kHz				op 2.50000 G 7 ms (1001 p
MODE TF		×	Y	FUNCTION	FUNCTION WI	DTH	FUNCTION V4	ALUE
N 1 N 1	f f	2.479 903 GHz 2.483 515 GHz	0.173 dB -58.444 dB	m				
N 1	f	2.490 445 GHz	-56.319 dB	m				

Shenzhen STS Test Services Co., Ltd.



Page 45 of 76 Report No.: STS2101154W07

Temperature:	25 ℃	Relative Humidity:	50%
Test Mode:	8DPSK(3Mbps) -00/39/78 CH	Test Voltage:	AC 120V/60Hz

00 CH

U RL	RF	50 Ω	AC	9	SENSE:INT		ALIGN AUTO		07:49:0	9 PM Jan 26, 20
enter	Freq	12.51500	0000 GHz		Tui III Funda I	Run	Avg Type	: Log-Pwr	TR	ACE 1 2 3 4 5
			ı IF	'NO: Fast 🛛 🖵 Gain:Low	#Atten: 30					DETPPPF
0 dB/di		Offset 0.5 d f 5.39 dBn							Mkr1 2. -4	402 G⊦ 609 dB
og 🔽		1 <u>3.39 ubn</u>								
4.61		Ĭ								
14.6										-20.11 0
24.6										
84.6										
44.6		\triangle^2		/	3		. Internet			-hout the server
54.6	here was	Janolin men		un myon mark	Rennathornally	hannely a hand have	Wednesd	y your when	man and the state	pris nelle
54.6										
74.6										
84.6										
tart 3	0 MHz									
start 3	0 MHz W 100	kHz		#VB	N 300 kHz			S	Stop weep 2.39 s	
Start 3 Res B			× 2.402 CH=	Y	FUNC	TION FUN	CTION WIDTH			
Start 3 Res B KB M000 1 N 2 N	SW 100 1 TEC SCI 1 f 1 f	(Δ)	2.402 GHz 3.176 GHz	 (Δ) -4.609 -56.191 	FUND dBm dBm	TION FUN	CTION WIDTH		weep 2.39 s	25.00 GH (1001 pt
Start 3 Res B 1 N 2 N 3 N	W 100 3 TEC SOL 1 f 1 f 1 f		2.402 GHz 3.176 GHz 9.993 GHz	 (Δ) -4.609 -56.191 (Δ) -58.264 	fund dBm dBm dBm	TION FUN	CTION WIDTH		weep 2.39 s	
tart 3 Res B 1 N 2 N 3 N 4 N 5	SW 100 1 TEC SCI 1 f 1 f	(Δ)	2.402 GHz 3.176 GHz	 (Δ) -4.609 -56.191 	fund dBm dBm dBm	Tion Fun	CTION WIDTH		weep 2.39 s	
tart 30 Res B 1 N 2 N 3 N 4 N 5 6 7	W 100 3 TEC SOL 1 f 1 f 1 f	(Δ)	2.402 GHz 3.176 GHz 9.993 GHz	 (Δ) -4.609 -56.191 (Δ) -58.264 	fund dBm dBm dBm	TION FUN	CTION WIDTH		weep 2.39 s	
tart 3 Res B Res B N 2 N 2 N 3 N 4 N 5 6 7 8	W 100 3 TEC SOL 1 f 1 f 1 f	(Δ)	2.402 GHz 3.176 GHz 9.993 GHz	 (Δ) -4.609 -56.191 (Δ) -58.264 	fund dBm dBm dBm	Tion Fun	CTION WIDTH		weep 2.39 s	
tart 3 Res B 1 N 2 N 3 N 4 N 5 6 7 8 9	W 100 3 TEC SOL 1 f 1 f 1 f	(Δ)	2.402 GHz 3.176 GHz 9.993 GHz	 (Δ) -4.609 -56.191 (Δ) -58.264 	fund dBm dBm dBm	TION FUN	CTION WIDTH		weep 2.39 s	
tart 3 Res B 1 N 2 N 3 N 4 N 5 6 7 8 9	W 100 3 TEC SOL 1 f 1 f 1 f	(Δ)	2.402 GHz 3.176 GHz 9.993 GHz	 (Δ) -4.609 -56.191 (Δ) -58.264 	fund dBm dBm dBm	TION FUN	CTION WIDTH		weep 2.39 s	

39 CH

		ctrur		alyzer - Swep										
L XI R			RF				SE	VSE:INT		ALIC	GN AUTO		(07:53:39 PM Jan 26, 21
Cer	nter	Fre	p.	12.51500		PNO: Fa Gain:L		Trig: Free #Atten: 30			Avg Type:	Log-Pwr		TYPE MUMUM DET P P P P
	B/div			Offset 0.5 of 8.65 dB									Mki	r1 2.452 GF -1.346 dB
Log -1.35				1										
-11.4														
-21.4														-19.85 d
-31.4														
-41.4 -51.4				2	/	3								
-61.4	رمر	الارور	يلحقها	-	when a man and	way m	monum	and the second	- Andrew and	Lanson Marka	- All Carlos	and a market	Non-March M.	Allow Allow and
-71.4														
-81.4														
	rt30 sB∖			kHz			#VBW	300 kH;	2			5		Stop 25.00 GH .39 s (1001 pt
MKR	MODE	TRC	SCL		X		Y	FUN	ICTION	FUNCTIO	IN WIDTH		FUNCTION VA	
1	N N	1	f f		2.452 GHz 3.176 GHz		-1.346 dE -55.441 dE							
34	N	1	f	(Δ)	7.421 GHz 24.675 GHz	(Δ)	-55.863 de -48.109 de	3m						
5		-			24.070 0112		40.105 al	5111						
7														
9														
10														
10 11 12														



78 CH

RL	RF	: 50 Ω	AC		SENSE:INT		ALIGN AUTO			29 PM Jan 26, 20
enter F	req	12.5150	100000 GHz F	PNO: Fast G Gain:Low	⊃ Trig: Fre #Atten: 3	e Run 10 dB	Avg Type	: Log-Pwr		TYPE MWWW DET P P P P
dB/div		f Offset 0.5 f 8.32 dE								.477 GH .678 dB
68		1								
.7		_								
.7		_								-19.60
.7		_								
7		2 ²	3							
7	meline	man		4 Harrison	undergraphing and	Jan make	Jan Marken way	and the second of the second s	an and the start of the start o	And and a large of the
7 										
.7										
art 30	MU7								Stor	25.00 G
tes BW		kHz		#VE	300 kH	z		s	weep 2.39	
RMODE			×	Y		JNCTION FUN	CTION WIDTH		FUNCTION VALUE	
N 2 N	1 f 1 f	(Δ)	2.477 GHz 3.251 GHz	(Δ) -1.678 -55.52 ²	dBm dBm					
3 N	1 f	(Δ)	5.823 GHz	(Δ) -55.748	dBm					
4 N	1 f		24.576 GHz	-48.684	dBm					
;										
3										
I										



Shenzhen STS Test Services Co., Ltd.



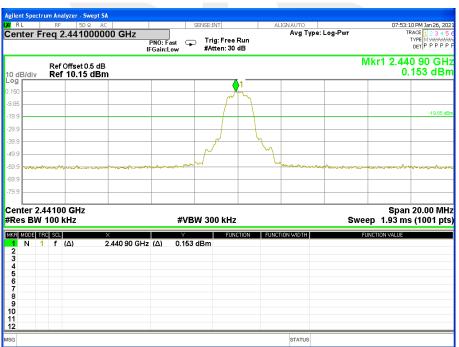


For Band edge(it's also the reference level for conducted spurious emission)

		ectru		alyzer -																					
l,XI F			RF			AC					SENS	SE:INT			AL	.IGN AU						07:4	8:40 PM		
Cer	nter	Fre	peq	2.353	35000	000	GHz	F	PNO: Gain	Fast :Low	P	Trig: Fr #Atten:	ee F 30 d	tun IB		Av	д Тур	e: Log	-Pwr				TRACE TYPE DET	MIAW	9456 9999 PPPF
10 d Log	IB/di	v		f Offse f 9.89																N	lkr	1 2.4	01 8 0.01		
-0.11													_										_	- 🗙	1
-10.1	\vdash										_		_					_			_		_	-	
-20.1	\vdash			_									-					-						-20	11 dBm
-30.1	1																	+						+	
-40.1 -50.1	1																							4	ţ
-60.1	1				$\langle \rangle^2$							والحاربة وروائم		tradition of	-							les etc. A.		¢#	-
-70.1																									
-80.1				_		_					_		_												
				GHz kHz						#\	/BW	300 ki	Hz						s	wee		Stop 10.3 r			
MKR 1	MODE N	1	f SCL	(Δ)		X 2.40	1 96	GHz	(٨)	.0 O	14 dB		UNC.	TION	FUNC	TION WI	DTH			FU	NCTI	ON VALUE			
2 3	N	1	f	(Δ)		2.31	7 55			-59.0	24 dB 04 dB	m													
4	N	1	f	((2))		2.40			(Δ)		32 dB														
6																									
4 5 6 7 8 9																									
10																									
11 12																									
MSG																ST	ATUS								

00 CH

39 CH



П



78 CH

		RF	alyzer - Sv 50 9	2 AC				SENSE:INT		AL	IGN AUTO		07:	56:00 PM Jan 26, 2
enter	· Fre	pe 2	2.4875	0000		PNO: IFGain	Fast ⊂ stast ⊂	⊃ Trig: F #Atten	ree Run 30 dB		Avg Type	: Log-Pwr		TRACE 1 2 3 4 TYPE M WAAAA DET P P P P
dB/di			Offset 0 f 10.40									N		79 900 GI 0.398 dB
00 -					1	_								
60				ſ	7	_			_					
.6						_								-19.60
.6 —				+	_	_								
.6 —				۲	- <u>\</u>									
.6			- M		- M		∕\ 2		- 63					
.6		4	mo		المر	man	Kanne	And the second second		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	har water and	-Azorto Anada (Lagonation	Annow	
.6														
.6														
art 2 tes B							#VE	SW 300 k	Hz			Sw		2.50000 G ms (1001 p
R MODI	E TRC			×			Y		FUNCTION	FUNCT	ION WIDTH		FUNCTION VALU	E
N 2 N	1	f	(Δ)		79 900 GH: 83 500 GH:		0.398	dBm dBm						
N	1	f f	(Δ)		87 475 GH: 98 300 GH;		-58.127 -58.093							
N	<u> </u>	•		2.4			-00.000	ubiii						
5														
N 5 7 8														
5 5 7 8														
5 5 7 3														



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For Hopping Band edge

8DPSK

RL	RF 5	ioΩ ac	SENS	EINT	ALIGN AUTO		08:23:44 PN	
enter F	req 2.351		PNO: Fast 😱 T Gain:Low #	rig: Free Run Atten: 30 dB	Avg Type:	Log-Pwr	TYPE	1234 M
dB/div	Ref Offset Ref 9.62					Mkr	1 2.403 00 -0.37	
38								
.4								-20.38
.4								-20.00
.4								
.4								
.4							<mark>2</mark>	
4		udan in the analysis and a	brutchion warned	alle and the second	Manandarahashinanan	hanne martha	monon Vinteron	Non-solice
.4								
.4								
	0000 GHz / 100 kHz		#VBW 3	00 kHz		Sweep	Stop 2.403 9.87 ms (1	
R MODE 1	TRC SCL	×	Y	FUNCTION	FUNCTION WIDTH	FUNC	TION VALUE	
: N	1 f 1 f 1 f	2.403 000 GHz 2.390 022 GHz 2.400 013 GHz	-0.378 dBn -59.468 dBn -57.582 dBn	n				
•								

En		Ω AC 500000 GHz	9	ENSE:INT	ALIGN AUTO	pe:Log-Pwr	08:25:52 PM Jan 26 TRACE 1 2 3
FI	eq 2.469;	500000 GH2	PNO: Fast 😱 IFGain:Low	Trig: Free Run #Atten: 30 dB	cry iy	Pe. Logi Hi	TYPE WWW DET P P
	Ref Offset (Ref 10.15					М	kr1 2.479 189 G 0.155 d
1							
							-19.
	6						
	<u>hy</u>	^ 2	3				
	\~	monplane	- Marine and the second			*1	on a mare har when an arrive
	00 GHz 00 kHz		#VBI	W 300 kHz		Swe	Stop 2.50000 (ep 2.07 ms (1001
ide Tro		× 2.479 189 GH	iz 0.155	FUNCTION	FUNCTION WIDTH	F	UNCTION VALUE
N 1 N 1	f f	2.483 515 GH	lz -59.045	dBm			
N 1	f	2.485 615 GH	lz -57.187	звт			



5. NUMBER OF HOPPING CHANNEL

5.1 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	300KHz
VB	300KHz
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= 300KHz, VBW=300KHz, Sweep time = Auto.

5.3 TEST SETUP



5.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.



5.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	60%
Test Mode:	Hopping Mode -GFSK Mode	Test Voltage:	AC 120V/60Hz

Number of Hopping Channel

79

Hopping channel

RL		RF	50Ω A				S	ENSE:INT		AL	IGN AUTO			B		9M Jan 26, 1
ente	er Fre	q 2.44	17500	00 GH	Р	NO: Fast Gain:Low	Ģ	Trig: Fre #Atten: \$	e Run 80 dB		Avg Typ	e: Log-	Pwr		TYI	2E 1 2 3 4 PE MWW ET P P P F
0 dB/c			et 0.5 dB .37 dBr										Mki	2 2.47		3 0 G 50 dE
og 5.37 1.63	Ŷ'n	ww	MM	mm	m	mm	m	WWW	m	ww	YYYYYY	mm	WW	VYYYYY	YYYY	YYYYY
4.6																
4.6 4.6							_								-	
4.6																
Res	2.4000 BW 30)0 kHz		× 02 171 0	CH-7		≠VBV 4.75 c		1z	FUNC	TION WIDTH			Sto ep 1.13	ims (3350 G 1001 p
2 N 3 4 5		ł		79 993 0			4.70 C									
6																
5 7 8 9 0																

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6. AVERAGE TIME OF OCCUPANCY

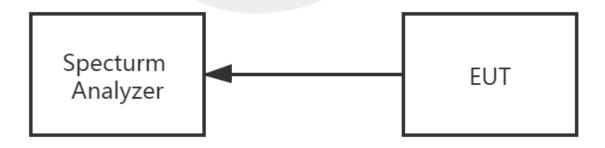
6.1 LIMIT

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). So the number of pulses in the observation period of 31.6 seconds is $3.37 \times 31.6 = 106.6$.
- j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots RX, 1 time slot TX). So the number of pulses in the observation period of 31.6 seconds is $5.06 \times 31.6 = 160$.
- 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 number of pulses in the observation period of 31.6 seconds is 10.12 x 31.6 = 320.

6.3 TEST SETUP



6.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.



6.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	50%
Test Mode:	GFSK(1Mbps)-DH1/DH3/DH5	Test Voltage:	AC 120V/60Hz

Data Packet	Channel	pulse time(ms)	Dwell Time(s)	Limits(s)
DH1	middle	0.388	0.124	0.4
DH3	middle	1.656	0.265	0.4
DH5	middle	2.898	0.309	0.4



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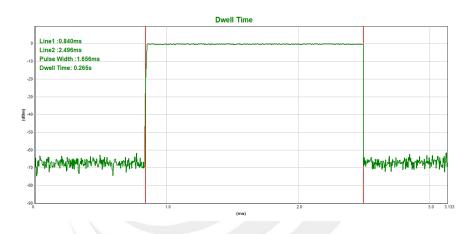
Page 54 of 76

Report No.: STS2101154W07

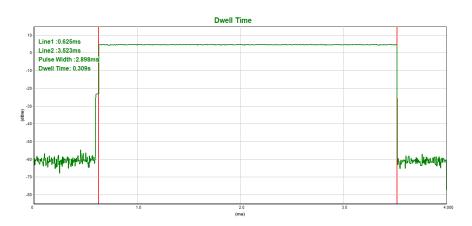
CH39-DH1



CH39-DH3







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Temperature:	25 ℃	Relative Humidity:	50%
	π/4-DQPSK(2Mbps)– 2DH1/2DH3/2DH5	Test Voltage:	AC 120V/60Hz

Data Packet	Channel	pulse time(ms)	Dwell Time(s)	Limits(s)
2DH1	middle	0.391	0.125	0.4
2DH3	middle	1.658	0.265	0.4
2DH5	middle	2.901	0.309	0.4

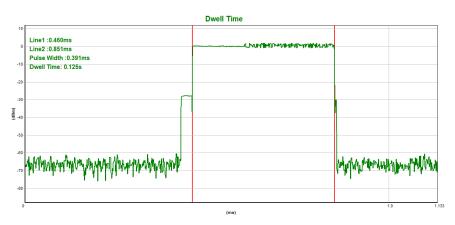


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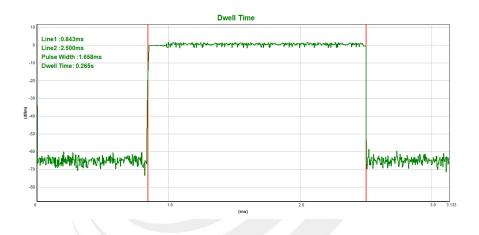


Report No.: STS2101154W07

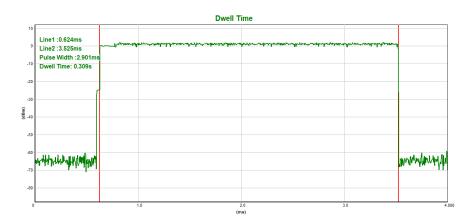
CH39-2DH1



CH39-2DH3







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Temperature:	25 ℃	Relative Humidity:	50%
	8DPSK(3Mbps)– 3DH1/3DH3/3DH5	Test Voltage:	AC 120V/60Hz

Data Packet	Channel	pulse time(ms)	Dwell Time(s)	Limits(s)
3DH1	middle	0.391	0.125	0.4
3DH3	middle	1.658	0.265	0.4
3DH5	middle	2.900	0.309	0.4

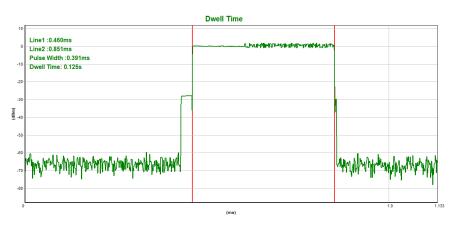


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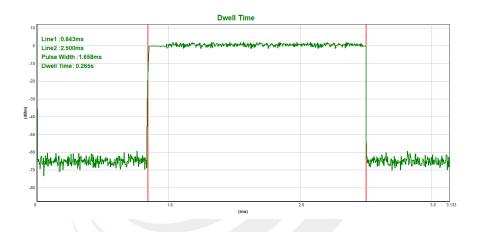


Report No.: STS2101154W07

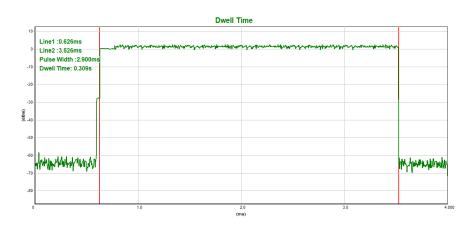
CH39-3DH1



CH39-3DH3







Shenzhen STS Test Services Co., Ltd.



7. HOPPING CHANNEL SEPARATION MEASUREMEN

7.1 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%
	CH00 / CH39 / CH78 (GFSK(1Mbps) Mode)	Test Voltage:	AC 120V/60Hz

Frequency	Mark1 Frequency (MHz)	Mark2 Frequency (MHz)	Ch. Separation (MHz)	Limit (MHz)	Result
2402 MHz	2401.885	2402.881	0.996	0.695	Complies
2441 MHz	2440.891	2441.890	0.999	0.695	Complies
2480 MHz	2478.888	2479.899	1.011	0.696	Complies

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

CH00 -1Mbps

RL	RF 50 Ω	AC	SENSE:	NT	ALIGN AUTO		07:21:15 PM Jan 26, 2
nter F	req 2.40250	Р	NO: Wide 😱 Tri Gain:Low #A	g: Free Run Iten: 30 dB	Avg Type: L	og-Pwr	TRACE 1 2 3 4 TYPE MWWW DET P P P P
dB/div	Ref Offset 0.5 Ref 12.10 d					Mkr2	2.402 881 GI 2.033 dB
			1		2		
			$\sim\sim\sim\sim$		\sim	\sim	
0		~~~~	~	~ ~~	1	- M	
9	~	~		~~~		~	2
9							
9							
9							
9							
9							
9							
.5							
	.402500 GHz 30 kHz		#VBW 10	0 kHz		Sweep	Span 3.000 M 3.20 ms (1001 p
R MODE T		×	Y	FUNCTION	FUNCTION WIDTH	FUNCTI	DN VALUE
	1 f (Δ) 1 f	2.401 885 GHz 2.402 881 GHz	(Δ) 2.17 dBm 2.03 dBm				
	• •	2.402 001 0112	2.00 0.011				

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CH39 -1Mbps

RF 50 Ω AC	SENSE:INT	ALIGNAUTO	07:24:24 PM Jan
er Freq 2.441500000 GH	IZ PNO: Wide IFGain:Low #Atten: 30	Avg Type: Log-Pwr Run dB	TRACE 12 TYPE MM DET P P
Ref Offset 0.5 dB div Ref 12.50 dBm		Ν	/kr2 2.441 890 2.555 (
	⟨⟩1	2	
	And the second s	(man man man man man man man man man man	
~~~~			
	~		- h
			<u> </u>
er 2.441500 GHz			Span 3.000
BW 30 kHz	#VBW 100 kHz	Sw	eep 3.20 ms (100
IDE TRO SOL X		TION FUNCTION WIDTH	FUNCTION VALUE
N 1 f (Δ) 2.440 89 N 1 f 2.441 89			

#### CH78 -1Mbps



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Temperature:	25℃	Relative Humidity:	50%
	CH00 / CH39 / CH78 (π/4-DQPSK(2Mbps) Mode)	Test Voltage:	AC 120V/60Hz

Frequency	Mark1 Frequency (MHz)	Mark2 Frequency (MHz)	Ch. Separation (MHz)	Limit (MHz)	Result
2402 MHz	2401.879	2403.028	1.149	0.901	Complies
2441 MHz	2440.894	2441.890	0.996	0.902	Complies
2480 MHz	2478.897	2479.896	0.999	0.900	Complies

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

RL	rum Ana RF	50 Ω A	IC		SENSE:INT	β	LIGN AUTO		07:33:5	2 PM Jan 26, 2
enter F	req 2	.4025000	Р	NO: Wide 🕞 Gain:Low	Trig: Free #Atten: 30		Avg Type	: Log-Pwr	TR ·	ACE 1 2 3 4 YPE M WAAWA DET P P P P
0 dB/div		Offset 0.5 dB 7.29 dBm						MI	(r2 2.403 -3.	028 GH 067 dB
.71				1				2		
2.7			$\sim$	$\sim \sim$	Vmm	$\sim$	sher)	$\sim$	$\sim$	
2.7		~~~~							$\sim$	
2.7		/								$\backslash$
2.7	(									$\rightarrow$
2.7	- a									m
2.7										
2.7										
27										
enter 2. Res BW				#VB	W 100 kHz			Swee	Span p 3.20 ms	3.000 M (1001 p
KR MODE T			Х	Y		TION FUNC	TION WIDTH	FU	NCTION VALUE	
	1 f i 1 f		2.401 879 GHz 2.403 028 GHz		dBm dBm					
3				-0.01	ubiii					
4										
5 6 7										
6 7 8										
6 7 8 9										
6 7										

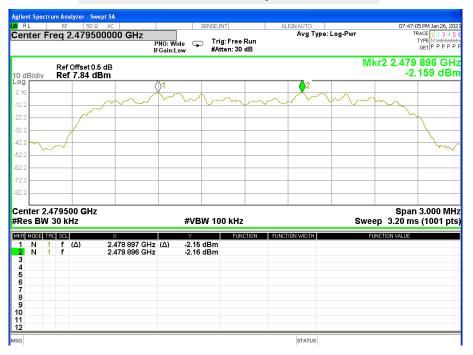
#### CH00 -2Mbps



#### CH39 -2Mbps

RF 50 Ω AC	SENSE:INT	ALIGN AUTO	07:44:16 PM Jan 2
er Freq 2.441500000 GHz	PNO: Wide Trig: Free Ru IFGain:Low #Atten: 30 dB		TRACE 1 2 TYPE M W DET P P
Ref Offset 0.5 dB /div Ref 7.52 dBm		IV	1kr2 2.441 890 ( -2.341 c
	i v v v m		$\sim$
~~			
er 2.441500 GHz BW 30 kHz	#VBW 100 kHz	Sur	Span 3.000 eep 3.20 ms (1001
	#VBW 100 KHZ		EUNGTION VALUE
N 1 f (Δ) 2.440 894 G N 1 f 2.441 890 G	Hz (Δ) -2.26 dBm		
2.441 030 01	12 -2.04 abiii		

#### CH78 -2Mbps



Shenzhen STS Test Services Co., Ltd.

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Temperature:	25℃	Relative Humidity:	50%
	CH00 / CH39 / CH78 (8DPSK(3Mbps)Mode)	Test Voltage:	AC 120V/60Hz

Frequency	Mark1 Frequency (MHz)	Mark2 Frequency (MHz)	Ch. Separation (MHz)	Limit (MHz)	Result
2402 MHz	2401.885	2402.887	1.002	0.901	Complies
2441 MHz	2440.888	2441.887	0.999	0.902	Complies
2480 MHz	2478.897	2479.893	0.996	0.899	Complies

For 8DPSK(3Mbps):Ch. Separation Limits: > two-thirds 20dB bandwidth

CH00 -3Mbps

RL	ectrum	RF	50 Ω AC		SENSE	INT	ALIGN AUTO		07:50:33	PM Jan 26, 21
	Fre		2500000 0	SHz PNO: V IFGain:	Vide 😱 Tı	rig: Free Run Atten: 30 dB		/pe: Log-Pwr	TRA T	ACE 1 2 3 4 1 YPE M WWWW DET P P P P
) dB/di			et 0.5 dB 9 dBm					N	kr2 2.402 kr2 -2.6	887 GH 611 dB
og 2.81				()1			2			
2.8			~~~	$\sim \sim \sim$	$\sim$	m	$\sim$	~~~~	$\sim$	
2.8			~~							
2.8									•	\
2.8										$\mathbf{h}$
2.8	5	~								have
2.8										
2.8										
2.0										
12.0										
		2500 Q 0 kHz	GHz		#VBW 1	00 kHz		Swe	Span : ep 3.20 ms	3.000 M (1001 p
KR MODI			×		Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
1 N 2 N	1	f (Δ)		85 GHz (∆) 87 GHz	-2.60 dBm -2.61 dBm					
3 4										
5										
6 7										
8 9										
0										

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#### CH39 -3Mbps

Avg Type: Log-Pwr       PNO: Wide PNO: Wide Trig: Free Run #Atten: 30 dB       Mkr2 2.4       Ref Offset 0.5 dB     Mkr2 2.4       IV     Ref 7.57 dBm       IV     1	TRACE 1 TYPE M DET P
IFGein: tow     #Atten: 30 dB       Mkr2 2.4       Ref Offset 0.5 dB     Mkr2 2.4       1     1     1     2       1     1     1     2       1     1     2     1       1     1     2.35 dBm     1	
Ref 7.37 dBm           1         1           2         2           4         4           1         1           2         2           4         4           1         1           1         1           2         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4           4         4	11 007
IIV         Ref 7.57 dBm           1         1           1         1           2.440 888 GHz         2.36 dBm	
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           2E TRE SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION VALUE           1         f         (Δ)         2.440 898 GHz         (Δ)         -2.35 dBm         FUNCTION	-2.381
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           2E TRE SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION VALUE           1         f         (Δ)         2.440 898 GHz         (Δ)         -2.35 dBm         FUNCTION	
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           2E TRE SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION VALUE           1         f         (Δ)         2.440 898 GHz         (Δ)         -2.35 dBm         FUNCTION	
3W         30 kHz         #VBW 100 kHz         Sweep 3.20           E         FRG         SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VIDTH         FUNCTION VIDTH </td <td>5</td>	5
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           ΣE TRG SCL         X         Y         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION WIDTH           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         FUNCTION	
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           ΣE TRG SCL         X         Y         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION WIDTH           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         FUNCTION	
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           ΣE TRG SCL         X         Y         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION WIDTH           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         FUNCTION	7
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           ΣE TRG SCL         X         Y         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION WIDTH           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         FUNCTION	
3W         30 kHz         #VBW 100 kHz         Sweep 3.20           E         FRG         SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VIDTH         FUNCTION VIDTH </td <td></td>	
3W         30 kHz         #VBW 100 kHz         Sweep 3.20           E         FRG         SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VIDTH         FUNCTION VIDTH </td <td></td>	
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           ΣE TRG SCL         X         Y         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION WIDTH           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         FUNCTION	
BW 30 kHz         #VBW 100 kHz         Sweep 3.20           ΣE TRG SCL         X         Y         FUNCTION WIDTH         FUNCTION WIDTH         FUNCTION WIDTH           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         FUNCTION	
ΣΕ TRG SCL         X         FUNCTION         FUNCTION WIDTH         FUNCTION VAL           1         f         (Δ)         2.440 888 GHz         (Δ)         -2.35 dBm         Function	an 3.00
1 f (Δ) 2.440 888 GHz (Δ) -2.35 dBm	
	JE

#### CH78 -3Mbps



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## 8. BANDWIDTH TEST

## 8.1 LIMIT

FCC Part15 15.247,Subpart C					
Section	Test Item	Limit	FrequencyRange (MHz)	Result	
15.247 (a)(1)	Bandwidth	N/A	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



### 8.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.



### **8.5 TEST RESULTS**

Temperature:	25℃	Relative Humidity:	50%
	GFSK(1Mbps) CH00 / CH39 / C78	Test Voltage:	AC 120V/60Hz

Frequency	20dB Bandwidth (MHz)	Result
2402 MHz	1.0420	PASS
2441 MHz	1.0430	PASS
2480 MHz	1.0440	PASS

#### CH00 -1Mbps



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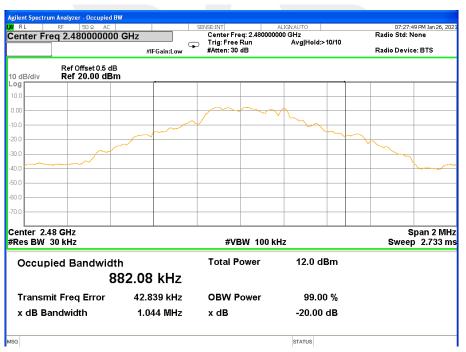
П



### CH39 -1Mbps



#### CH78 -1Mbps



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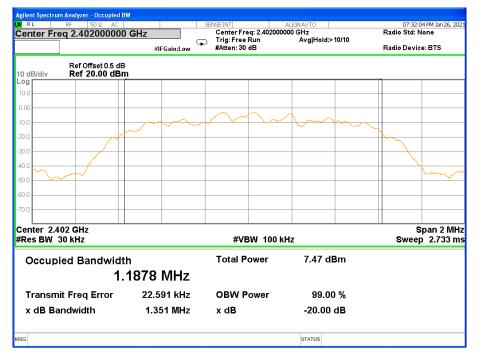


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Temperature:	25℃	Relative Humidity:	50%
	π/4-DQPSK(2Mbps) CH00 / CH39 / C78	Test Voltage:	AC 120V/60Hz

Frequency	20dB Bandwidth (MHz)	Result
2402 MHz	1.351	PASS
2441 MHz	1.353	PASS
2480 MHz	1.35	PASS

#### CH00 -2Mbps



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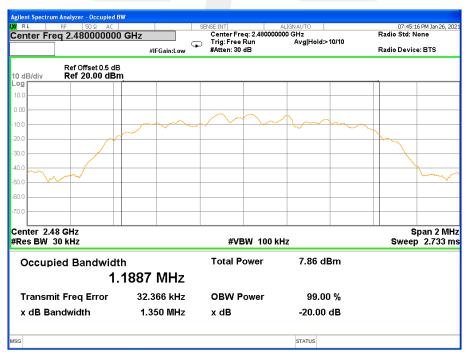
П



#### CH39 -2Mbps



#### CH78 -2Mbps





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Temperature:	25℃	Relative Humidity:	50%
	8DPSK(3Mbps) CH00 / CH39 / CH78	Test Voltage:	AC 120V/60Hz

Frequency	20dB Bandwidth (MHz) Result	
2402 MHz	1.351	PASS
2441 MHz	1.353	PASS
2480 MHz	1.348	PASS

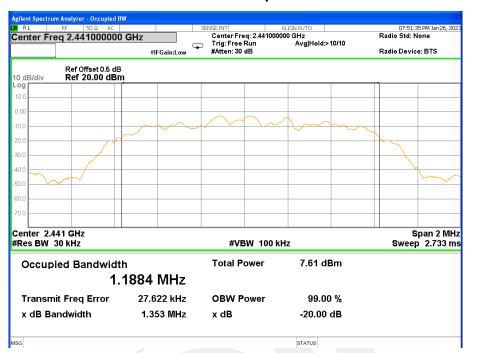
### CH00 -3Mbps

Agilent Spectrum Analyzer - Occupied B	W			
RL RF 50Ω AC Center Freq 2.402000000	GH7	SENSE:INT Center Freg: 2.402000	ALIGN AUTO	07:48:02 PM Jan 26, 20: Radio Std: None
	#IFGain:Low		Avg Hold:>10/10	Radio Device: BTS
Ref Offset 0.5 dB 0 dB/div Ref 20.00 dBm	1			
og				
.00			1.0	
0.0			1 mm	
0.0				- Marine - M
0.0				
0.0				
0.0				
0.0				
enter 2.402 GHz Res BW 30 kHz		#VBW 100 k		Span 2 MH Sweep 2.733 n
CODW JUKIZ				3weep 2.755 II
Occupied Bandwidt	h	Total Power	7.45 dBm	
1.	1880 MHz			
Transmit Freq Error	22.674 kHz	OBW Power	99.00 %	
x dB Bandwidth	1.351 MHz	x dB	-20.00 dB	
з			STATUS	

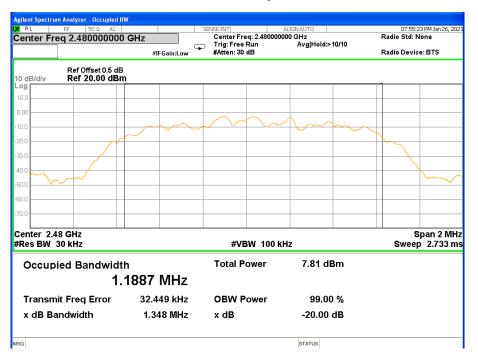
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#### CH39 -3Mbps



#### CH78 -3Mbps



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# 9. OUTPUT POWER TEST

### 9.1 LIMIT

FCC Part 15.247,Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result	
		1 W or 0.125W			
15.247 (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

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:

- a) Use the following spectrum analyzer settings:
- 1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
- 2) RBW > 20 dB bandwidth of the emission being measured.

3) VBW  $\geq$  RBW.

4) Sweep: Auto.

5) Detector function: Peak.

6) Trace: Max hold.

b) Allow trace to stabilize.

c) Use the marker-to-peak function to set the marker to the peak of the emission.

d) The indicated level is the peak output power, after any corrections for external attenuators and cables.

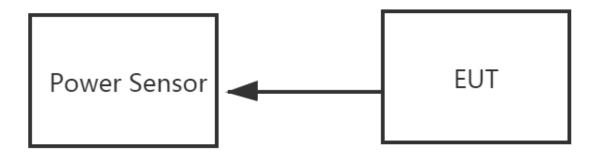
e) A plot of the test results and setup description shall be included in the test report.

NOTE—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer.

PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DSS bandwidth and shall use a fast-responding diode detector.

9.3 TEST SETUP



### 9.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

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#### 9.5 TEST RESULTS

Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	AC 120V/60Hz		

Mode Channel Number	Frequency (MHz)	Peak Power	Average Power	Limit	
		(dBm)	(dBm)	(dBm)	
	0	2402	5.18	3.84	20.97
GFSK(1M)	39	2441	5.66	4.35	20.97
	78	2480	5.67	4.34	20.97

Note: the channel separation >2/3 20dB bandwidth

Mode Channel Number		Frequency	Peak Power	Average Power	Limit
	(MHz)	(dBm)	(dBm)	(dBm)	
	0	2402	3.34	-0.53	20.97
π/4-DQPSK( 2M)	39	2441	3.71	-0.12	20.97
,	78	2480	3.53	-0.31	20.97

Note: the channel separation >2/3 20dB bandwidth

Mode Channel Number		Peak Power	Average Power	Limit	
		(dBm)	(dBm)	(dBm)	
	0	2402	3.56	-0.55	20.97
8-DPSK(3M)	39	2441	3.95	-0.28	20.97
	78	2480	3.76	-0.30	20.97

Note: the channel separation >2/3 20dB 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 PIFA Antenna. It comply with the standard requirement.



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### **APPENDIX-PHOTOS OF TEST SETUP**

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

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



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