

RADIO TEST REPORT

S T S

Report No.:STS2206212W05

Issued for

Lifeworks Technology Group LLC.

530 7th Ave 21st FI, New York, NY 10018, United States

Product Name:	Monster DNA One				
Brand:	MONSTER				
Model Number:	2MNSK0485				
Series Model(s):	2MNBD1115B9L2, 2MNBD1115W9L2, 2MNSK0485B0L2, 2MNSK0485W0L2				
FCC ID:	WWE-2MNSK0485A				
IC:	8047A-2MNSK0485				
Test Standard:	FCC Part 15.247 RSS-247 Issue 2, February 2017 RSS-Gen Issue 5, Amendment 2, February 2021				

Any reproduction of this document must be done in full. No single part of this document may be reproduced withou permission from STS, all test data presented in this report is only applicable to presented test sample.

APPROVA

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



TEST RESULT CERTIFICATION

Applicant's Name	Lifeworks Technology Group LLC.
Address	530 7th Ave 21st FI, New York, NY 10018, United States
Manufacturer's Name	Lifeworks Technology Group LLC.
Address	530 7th Ave 21st FI, New York, NY 10018, United States
Product Description	
Product Name:	Monster DNA One
Brand	MONSTER
Model Number	. 2MNSK0485
Series Model(s)	2MNBD1115B9L2, 2MNBD1115W9L2, 2MNSK0485B0L2, 2MNSK0485W0L2 FCC Part15.247
Test Standards	RSS-247 Issue 2, February 2017 RSS-Gen Issue 5, Amendment 2, February 2021
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/IC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of STS, this document may be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test

Test Result	Pass
Date of Issue	11 Jan. 2023
Date (s) of performance of tests:	30 June 2022 ~ 11 Jan. 2023
Date of receipt of test item	30 June 2022

Testing Engineer

is chen

(Chris Chen)

Technical Manager :

(Sean she)



Authorized Signatory :

honey Juney

(Bovey Yang)

Shenzhen STS Test Services Co., Ltd.

Page 3 of 81 Report No.: STS2206212W05



Table of Contents

1.	SUMMARY OF TEST RESULTS	6
	1.1 TEST FACTORY	7
	1.2 MEASUREMENT UNCERTAINTY	7
2.	GENERAL INFORMATION	8
	2.1 GENERAL DESCRIPTION OF THE EUT	8
	2.2 DESCRIPTION OF THE TEST MODES	10
	2.3 TEST SOFTWARE AND POWER LEVEL	10
	2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
	2.5 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	12
	2.6 EQUIPMENTS LIST	13
3.	EMC EMISSION TEST	14
	3.1 CONDUCTED EMISSION MEASUREMENT	14
	3.2 TEST PROCEDURE	15
	3.3 TEST SETUP	15
	3.4 EUT OPERATING CONDITIONS	15
	3.5 TEST RESULTS	16
4.	RADIATED EMISSION MEASUREMENT	18
	4.1 RADIATED EMISSION LIMITS	18
	4.2 TEST PROCEDURE	21
	4.3 TEST SETUP	22
	4.4 EUT OPERATING CONDITIONS	22
	4.5 FIELD STRENGTH CALCULATION	23
	4.6 TEST RESULTS	24
5.	CONDUCTED SPURIOUS & BAND EDGE EMISSION	37
	5.1 LIMIT	37
	5.2 TEST PROCEDURE	37
	5.3 TEST SETUP	37
	5.4 EUT OPERATION CONDITIONS	37
	5.5 TEST RESULTS	37
6.	POWER SPECTRAL DENSITY TEST	38
	6.1 LIMIT	38
	6.2 TEST PROCEDURE	38



Table of Contents

6.3 TEST SETUP	38
6.4 EUT OPERATION CONDITIONS	38
6.5 TEST RESULTS	38
7. BANDWIDTH TEST	39
7.1 LIMIT	39
7.2 TEST PROCEDURE	39
7.3 TEST SETUP	39
7.4 EUT OPERATION CONDITIONS	39
7.5 TEST RESULTS	39
8. PEAK OUTPUT POWER TEST	40
8.1 LIMIT	40
8.2 TEST PROCEDURE	40
8.3 TEST SETUP	41
8.4 EUT OPERATION CONDITIONS	41
8.5 TEST RESULTS	41
9. ANTENNA REQUIREMENT	42
9.1 STANDARD REQUIREMENT	42
9.2 EUT ANTENNA	42
10. FREQUENCY STABILITY	43
10.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT	43
10.2 TEST PROCEDURE	43
10.3 TEST RESULT	43
APPENDIX 1-TEST DATA	45
1. DUTY CYCLE	45
2. MAXIMUM AVERAGE CONDUCTED OUTPUT POWER	49
3. MAXIMUM PEAK CONDUCTED OUTPUT POWER	53
46DB BANDWIDTH	57
5. OCCUPIED CHANNEL BANDWIDTH	61
6. MAXIMUM POWER SPECTRAL DENSITY LEVEL	65
7. BAND EDGE	69
8. CONDUCTED RF SPURIOUS EMISSION	74



Table of Contents

APPENDIX 2- EUT TEST PHOTO

81

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	11 Jan. 2023	STS2206212W05	ALL	Initial Issue



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 RSS-247 Issue 2						
Standard Section	Test Item	Judgment	Remark			
15.207 RSS-Gen 8.8	Conducted Emission	PASS				
15.247 (a)(2) RSS-Gen 6.7 RSS-247 5.2 (a)	6dB&99% Bandwidth	PASS				
15.247 (b)(3) RSS-247 5.4 (d)	Output Power	PASS				
15.209 (a) RSS-Gen 8.9/8.10	Radiated Spurious Emission	PASS				
15.247 (d) RSS-247 5.5 RSS-Gen 8.9/8.10	Conducted Spurious & Band Edge Emission	PASS				
15.247 (e) RSS-247 5.2 (b)	Power Spectral Density	PASS				
15.205 RSS-Gen 8.9/8.10	Restricted bands of operation	PASS				
Part 15.247(d)/part 15.209(a) RSS-247 5.5 RSS-Gen 8.9/8.10	Band Edge Emission	PASS				
15.203 RSS-Gen 6.8	Antenna Requirement	PASS				
RSS-Gen 6.11/8.11	Frequency Stability	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	±1.197dB
2	Unwanted Emissions, conducted	±2.896dB
3	All emissions, radiated 9K-30MHz	±3.84dB
4	All emissions, radiated 30M-1GHz	±3.94dB
5	All emissions, radiated 1G-6GHz	±4.59dB
6	All emissions, radiated>6G	±5.22dB
7	Conducted Emission (9KHz-150KHz)	±2.14dB
7	Conducted Emission (150KHz-30MHz)	±2.54dB



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name/PMN	Monster DNA One			
Brand	MONSTER			
Model Number/HVIN	2MNSK0485			
Series Model(s)	2MNBD1115B9L2, 2MNBD1115W9L2, 2MNSK0485B0L2, 2MNSK0485W0L2			
Model Difference	All the model are the except the model na	e same circuit and RF module, ame and color.		
	The EUT is a Monst	er DNA One		
	Operation Frequency:	2402~2480 MHz		
	Modulation Type:	GFSK		
	Radio Technology:	BLE		
Product Description	Bluetooth			
·	Configuration:	LE(Support 1M PHY, 2M PHY)		
	Number Of Channel:	40		
	Antenna Type:	PIFA		
	Antenna Gain (dBi)	0 dBi		
Channel List	Please refer to the N	Note 3.		
Adapter	Input: 100-240V~ 50			
Battery	Output: 5V3A; 9V2A; 12V1.5A Rated Voltage: 7.4V Charge Limit Voltage:8.45V Capacity: 2600mAh			
Hardware version number	R32ADNAONEmain	-110		
Software version number/FVIN	BT ONE_220709_01.xuv;DSP One 2 9-1_en.MVA			
Serial Numbers	812350247093			
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)	Channel	Frequenc y (MHz)
	00	2402	10	2	2422	20	2442	30	2462
	01	2404	11	2	2424	21	2444	31	2464
	02	2406	12	2	2426	22	2446	32	2466
	03	2408	13	2	2428	23	2448	33	2468
	04	2410	14	2	2430	24	2450	34	2470
	05	2412	15	2	2432	25	2452	35	2472
	06	2414	16	2	2434	26	2454	36	2474
	07	2416	17	2	2436	27	2456	37	2476
	08	2418	18	2	2438	28	2458	38	2478
	09	2420	19	2440		29	2460	39	2480
3.	. Table for Filed Antenna								
	Ant.	Brand	Model Na	me	Anter	na Type	Connector	Gain (dBi)	NOTE
	1	MONSTER	2MNSK0	485		PIFA	N/A	0 dBi	BLE ANT

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





2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Worst Mode	Description	Data/Modulation
Mode 1	TX CH00(2402MHz)	1 MHz/GFSK
Mode 2	TX CH19(2440MHz)	1 MHz/GFSK
Mode 3	TX CH39(2480MHz)	1 MHz/GFSK

Worst Mode	Description	Data/Modulation
Mode 4	TX CH00(2402MHz)	2M PHY /GFSK
Mode 5	TX CH19(2440MHz)	2M PHY /GFSK
Mode 6	TX CH39(2480MHz)	2M PHY /GFSK

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/60Hz is shown in the report.

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

For AC Conducted Em	nission
---------------------	---------

	Test Case
AC Conducted Emission	Mode 7 : Keeping BT TX

2.3 TEST SOFTWARE AND POWER LEVEL

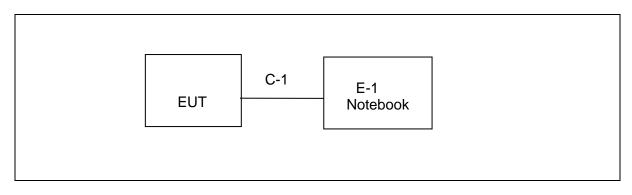
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

RF Function	Туре	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
BLE(With 2M	BLE_1M PHY	GFSK	0	Default	Bulo Teet 2
PHY) BL	BLE_2M PHY	GFSK	0	Default	BuleTest3

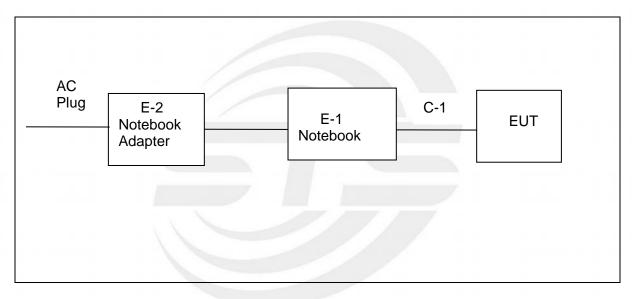


2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Conducted Emission Test







2.5 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.

	Necessary accessories							
Item	Equipment	Mfr/Brand Model/Type No.		Length	Note			
N/A	N/A	N/A	N/A	N/A	N/A			

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	Notebook	LENOVO	Think Pad E470	N/A	N/A
E-2	Notebook Adapter	LENOVO	ADLX45DLC3A	N/A	N/A
C-1	USB Cable	N/A	N/A	150cm	NO
	4				

Note:

- (1) For detachable type I/O cable should be specified the length in cm in ^CLength₂ column.
- (2) "YES" is means "with core"; "NO" is means "without core".



Report No.: STS2206212W05

2.6 EQUIPMENTS LIST

		RF Radiation Tes	t Equipment		
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2022.03.02	2023.03.01
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2022.07.04	2023.07.03
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2022.09.29	2023.09.28
Pre-mplifier (18G-40G)	SKET	LNPA_1840-50	SK2018101801	2022.07.23	2023.07.22
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2022.09.29	2023.09.28
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Active loop Antenna	ZHINAN	ZN30900C	16035	2022.03.02	2023.03.01
Bilog Antenna	TESEQ	CBL6111D	34678	2022.09.30	2024.09.29
Horn Antenna	SCHWARZBE CK	BBHA 9120D	02014	2021.10.11	2023.10.10
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2021.09.28	2023.09.27
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	SC100_1	60531	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC Power Supply	Zhaoxin	RXN 605D	20R605D11010081	N/A	N/A
Test SW	EZ-EMC		Ver.STSLAB-03A	1 RE	
		Conduction Test	equipment		
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2022.09.29	2023.09.28
LISN	R&S	ENV216	101242	2022.09.28	2023.09.27
LISN	EMCO	3810/2NM	23625	2022.09.28	2023.09.27
Temperature & Humidity	HH660	Mieo	N/A	2022.09.30	2023.09.29
Test SW	EZ-EMC		Ver.STSLAB-03A	1 CE	
		RF Connect	ed Test		
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY51510623	2022.03.01	2023.02.28
Switch control box	MW	MW100-RFCB	N/A	N/A	N/A
Temperature & Humidity	HH660	Mieo	N/A	2022.09.30	2023.09.29
Test SW	MW		MTS 8310_2.0	.0.0	

Т



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 Emiss	sion limit (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

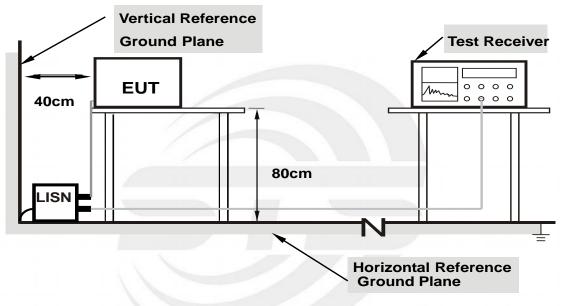
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



3.2 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.

3.3 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.

3.4 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.



3.5 TEST RESULTS

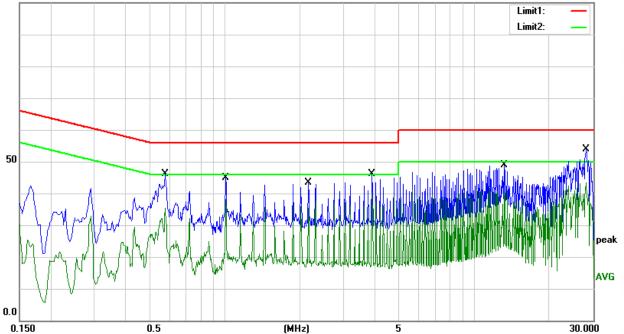
Temperature:	25.6(C)	Relative Humidity:	45%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 7		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(d B)	(dBuV)	(dBuV)	(dB)	
1	0.5780	35.56	10.47	46.03	56.00	-9.97	QP
2	0.5780	25.02	10.47	35.49	46.00	-10.51	AVG
3	1.0100	34.59	10.30	44.89	56.00	-11.11	QP
4	1.0100	27.81	10.30	38.11	46.00	-7.89	AVG
5	2.1660	32.96	10.30	43.26	56.00	-12.74	QP
6	2.1660	27.38	10.30	37.68	46.00	-8.32	AVG
7	3.8980	35.75	10.40	46.15	56.00	-9.85	QP
8	3.8980	29.82	10.40	40.22	46.00	-5.78	AVG
9	13.1340	38.32	11.53	49.85	60.00	-10.15	QP
10	13.1340	31.05	11.53	42.58	50.00	-7.42	AVG
11	28.1460	39.66	12.81	52.47	60.00	-7.53	QP
12	28.1460	29.53	12.81	42.34	50.00	-7.66	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)

100.0 dBuV



Shenzhen STS Test Services Co., Ltd.



Temperature:	25.6(C)	Relative Humidity:	45%RH
Test Voltage:	AC 120V/60Hz	Phase:	Ν
Test Mode:	Mode 7		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(d B)	(dBuV)	(dBuV)	(dB)	
1	0.5780	36.04	10.47	46.51	56.00	-9.49	QP
2	0.5780	25.48	10.47	35.95	46.00	-10.05	AVG
3	1.0100	34.41	10.30	44.71	56.00	-11.29	QP
4	1.0100	27.42	10.30	37.72	46.00	-8.28	AVG
5	2.3100	32.98	10.32	43.30	56.00	-12.70	QP
6	2.3100	27.01	10.32	37.33	46.00	-8.67	AVG
7	3.8980	35.27	10.40	45.67	56.00	-10.33	QP
8	3.8980	29.04	10.40	39.44	46.00	-6.56	AVG
9	10.2460	38.94	11.23	50.17	60.00	-9.83	QP
10	10.2460	33.46	11.23	44.69	50.00	-5.31	AVG
11	28.4260	40.40	12.84	53.24	60.00	-6.76	QP
12	28.4260	31.88	12.84	44.72	50.00	-5.28	AVG

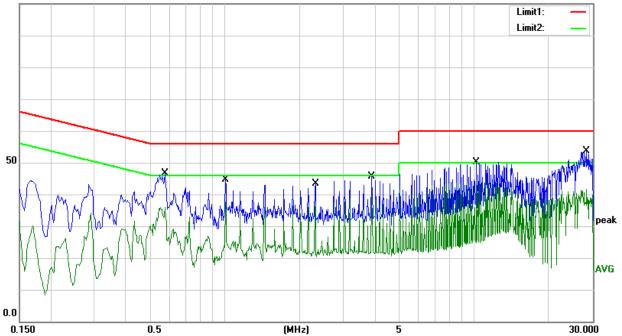
Remark:

1. All readings are Quasi-Peak and Average values

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

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

100.0 dBuV



Shenzhen STS Test Services Co., Ltd.



4. RADIATED EMISSION MEASUREMENT

4.1 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) &RSS-247 Issue 2, February 2017 (5.5) limit in the table and according to ANSI C63.10-2013 below has to be followed.

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

	(dBuV/m) (at 3M)		
FREQUENCY (MHz)	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).

LIMITS OF RESTRICTED FREQUENCY BANDS

FCC:

00.			
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.



Page 19 of 81 Report No.: STS2206212W05

IC:

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 – 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		



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 band)	120 KHz / 300 KHz

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	
Stort/Stop Frequency	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)	

Shenzhen STS Test Services Co., Ltd.

Т



Page 21 of 81 Report No.: STS2206212W05

Receiver Parameter	Setting
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

4.2 TEST PROCEDURE

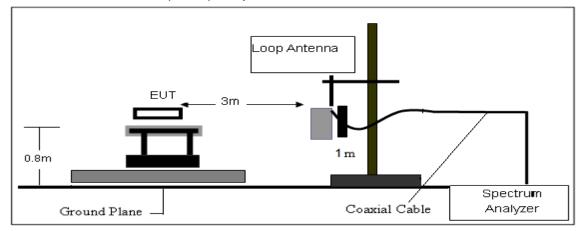
- a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the 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.

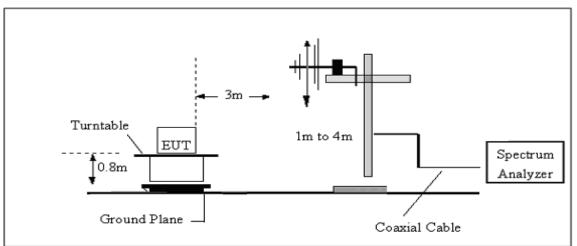


4.3 TEST SETUP

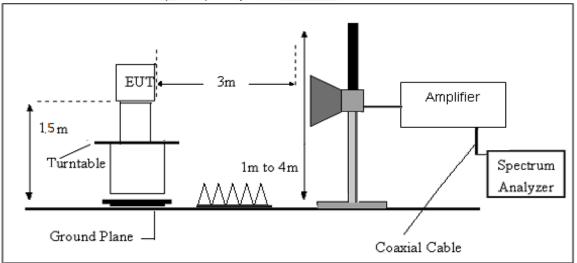
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.4 EUT OPERATING CONDITIONS Please refer to section 3.4 of this report.

Shenzhen STS Test Services Co., Ltd.



4.5 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



4.6 TEST RESULTS

(Between 9KHz - 30 MHz)

Temperature:	23.1(C)	Relative Humidtity:	60%RH
Test Voltage:	DC 7.4V	Polarization:	
Test Mode:	TX Mode		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
				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:	DC 7.4V	Phase:	Horizontal					
Test Mode:	Mode 1/2/3/4/5/6 (Mode 1 worst mode)							

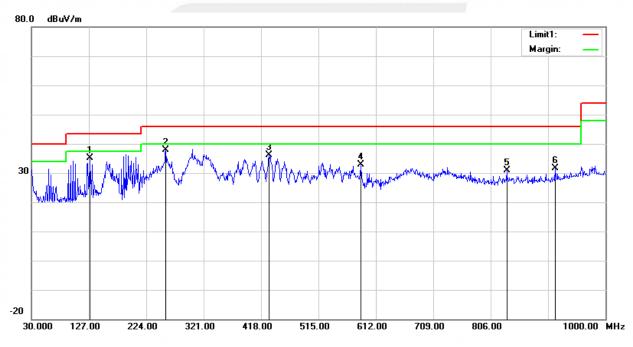
1M PHY

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/ m)	(dBuV/m)	(dBuV/m)	(dB)	
1	128.9400	53.27	-18.26	35.01	43.50	-8.49	peak
2	256.9800	53.04	-15.13	37.91	46.00	-8.09	peak
3	431.5800	46.14	-10.13	36.01	46.00	-9.99	peak
4	586.7800	38.64	-5.81	32.83	46.00	-13.17	peak
5	833.1600	31.53	-0.62	30.91	46.00	-15.09	peak
6	914.6400	31.73	-0.10	31.63	46.00	-14.37	peak

Remark:

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

2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





Page 26 of 81 Report No.: STS2206212W05

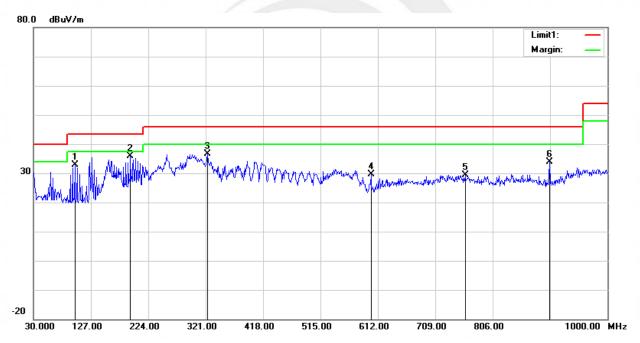
Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 7.4V	Phase:	Vertical
Test Mode:	Mode 1/2/3/4/5/6 (Mode 1 wo	rst mode)	

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/ m)	(dBuV/m)	(dBuV/m)	(dB)	
1	99.8400	53.13	-20.15	32.98	43.50	-10.52	peak
2	193.9300	56.99	-21.11	35.88	43.50	-7.62	peak
3	323.9100	50.60	-13.88	36.72	46.00	-9.28	peak
4	600.3600	35.43	-5.84	29.59	46.00	-16.41	peak
5	759.4400	31.57	-2.16	29.41	46.00	-16.59	peak
6	902.0300	34.25	-0.40	33.85	46.00	-12.15	peak

Remark:

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

2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





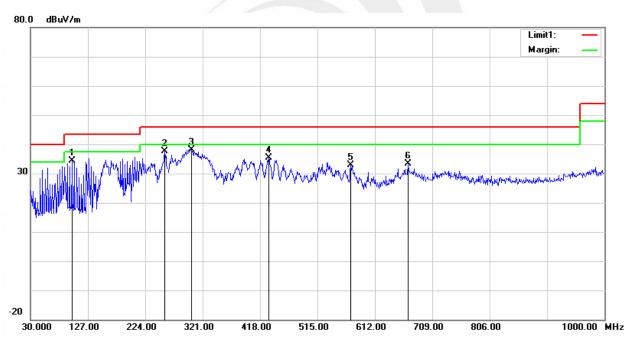
2M PHY

Temperature:	23.1(C)	Relative Humidity:	60%RH						
Test Voltage:	DC 7.4V	Phase:	Horizontal						
Test Mode:	Mode 1/2/3/4/5/6 (Mode 1 wo	Mode 1/2/3/4/5/6 (Mode 1 worst mode)							

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/ m)	(dBuV/m)	(dBuV/m)	(dB)	
1	99.8400	54.47	-20.15	34.32	43.50	-9.18	peak
2	256.9800	52.72	-15.13	37.59	46.00	-8.41	peak
3	302.5700	52.95	-14.72	38.23	46.00	-7.77	peak
4	432.5500	45.43	-10.13	35.30	46.00	-10.70	peak
5	571.2600	38.38	-5.62	32.76	46.00	-13.24	peak
6	668.2600	37.98	-4.62	33.36	46.00	-12.64	peak

Remark:

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





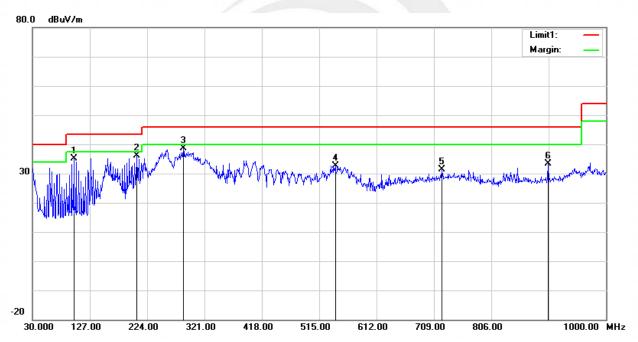
Page 28 of 81 Report No.: STS2206212W05

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 7.4V	Phase:	Vertical
Test Mode:	Mode 1/2/3/4/5/6 (Mode 1 wo	rst mode)	

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/ m)	(dBuV/m)	(dBuV/m)	(dB)	
1	99.8400	55.30	-20.15	35.15	43.50	-8.35	peak
2	206.5400	56.65	-20.63	36.02	43.50	-7.48	peak
3	285.1100	53.95	-15.43	38.52	46.00	-7.48	peak
4	542.1600	39.19	-6.63	32.56	46.00	-13.44	peak
5	722.5800	34.48	-3.04	31.44	46.00	-14.56	peak
6	902.0300	33.90	-0.40	33.50	46.00	-12.50	peak

Remark:

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





Report No.: STS2206212W05

(1GHz-25GHz) Spurious emission Requirements

1M PHY GFSK

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 Cl	nannel (GFSK/	2402 MHz)						
3264.72	62.24	44.70	6.70	28.20	-9.80	52.44	74.00	-21.56	PK	Vertical		
3264.72	51.50	44.70	6.70	28.20	-9.80	41.70	54.00	-12.30	AV	Vertical		
3264.66	62.14	44.70	6.70	28.20	-9.80	52.34	74.00	-21.66	PK	Horizontal		
3264.66	50.66	44.70	6.70	28.20	-9.80	40.86	54.00	-13.14	AV	Horizontal		
4804.46	58.19	44.20	9.04	31.60	-3.56	54.63	74.00	-19.37	PK	Vertical		
4804.46	50.35	44.20	9.04	31.60	-3.56	46.79	54.00	-7.21	AV	Vertical		
4804.46	58.19	44.20	9.04	31.60	-3.56	54.63	74.00	-19.37	PK	Horizontal		
4804.46	50.25	44.20	9.04	31.60	-3.56	46.69	54.00	-7.31	AV	Horizontal		
5359.79	48.18	44.20	9.86	32.00	-2.34	45.84	74.00	-28.16	PK	Vertical		
5359.79	39.26	44.20	9.86	32.00	-2.34	36.92	54.00	-17.08	AV	Vertical		
5359.61	48.16	44.20	9.86	32.00	-2.34	45.82	74.00	-28.18	PK	Horizontal		
5359.61	38.70	44.20	9.86	32.00	-2.34	36.36	54.00	-17.64	AV	Horizontal		
7205.92	54.80	43.50	11.40	35.50	3.40	58.20	74.00	-15.80	PK	Vertical		
7205.92	44.69	43.50	11.40	35.50	3.40	48.09	54.00	-5.91	AV	Vertical		
7205.79	53.76	43.50	11.40	35.50	3.40	57.16	74.00	-16.84	PK	Horizontal		
7205.79	43.68	43.50	11.40	35.50	3.40	47.08	54.00	-6.92	AV	Horizontal		
				Middle (Channel (GFSK	/2440 MHz)						
3263.10	61.99	44.70	6.70	28.20	-9.80	52.19	74.00	-21.81	PK	Vertical		
3263.10	51.03	44.70	6.70	28.20	-9.80	41.23	54.00	-12.77	AV	Vertical		
3263.06	61.67	44.70	6.70	28.20	-9.80	51.87	74.00	-22.13	PK	Horizontal		
3263.06	50.25	44.70	6.70	28.20	-9.80	40.45	54.00	-13.55	AV	Horizontal		
4879.86	59.04	44.20	9.04	31.60	-3.56	55.48	74.00	-18.52	PK	Vertical		
4879.86	50.05	44.20	9.04	31.60	-3.56	46.49	54.00	-7.51	AV	Vertical		
4880.02	58.45	44.20	9.04	31.60	-3.56	54.89	74.00	-19.11	PK	Horizontal		
4880.02	50.42	44.20	9.04	31.60	-3.56	46.86	54.00	-7.14	AV	Horizontal		
5357.26	49.24	44.20	9.86	32.00	-2.34	46.89	74.00	-27.11	PK	Vertical		
5357.26	40.04	44.20	9.86	32.00	-2.34	37.70	54.00	-16.30	AV	Vertical		
5357.39	47.91	44.20	9.86	32.00	-2.34	45.57	74.00	-28.43	PK	Horizontal		
5356.95	38.20	44.20	9.86	32.00	-2.34	35.85	54.00	-18.15	AV	Horizontal		
7320.85	54.80	43.50	11.40	35.50	3.40	58.20	74.00	-15.80	PK	Vertical		
7320.85	44.83	43.50	11.40	35.50	3.40	48.23	54.00	-5.77	AV	Vertical		
7320.41	54.20	43.50	11.40	35.50	3.40	57.60	74.00	-16.40	PK	Horizontal		
7320.41	44.31	43.50	11.40	35.50	3.40	47.71	54.00	-6.29	AV	Horizontal		



Page 30 of 81 Report No.: STS2206212W05

				High Char	nnel (GFSK/2	2480 MHz)				
3264.89	62.11	44.70	6.70	28.20	-9.80	52.31	74.00	-21.69	PK	Vertical
3264.89	51.22	44.70	6.70	28.20	-9.80	41.42	54.00	-12.58	AV	Vertical
3264.68	61.30	44.70	6.70	28.20	-9.80	51.50	74.00	-22.50	PK	Horizontal
3264.68	50.72	44.70	6.70	28.20	-9.80	40.92	54.00	-13.08	AV	Horizontal
4960.54	58.34	44.20	9.04	31.60	-3.56	54.78	74.00	-19.22	PK	Vertical
4960.54	49.18	44.20	9.04	31.60	-3.56	45.62	54.00	-8.38	AV	Vertical
4960.32	59.35	44.20	9.04	31.60	-3.56	55.79	74.00	-18.21	PK	Horizontal
4960.32	50.34	44.20	9.04	31.60	-3.56	46.78	54.00	-7.22	AV	Horizontal
5359.65	48.03	44.20	9.86	32.00	-2.34	45.68	74.00	-28.32	PK	Vertical
5359.65	38.97	44.20	9.86	32.00	-2.34	36.62	54.00	-17.38	AV	Vertical
5359.83	47.68	44.20	9.86	32.00	-2.34	45.34	74.00	-28.66	PK	Horizontal
5359.83	38.18	44.20	9.86	32.00	-2.34	35.84	54.00	-18.16	AV	Horizontal
7439.85	53.59	43.50	11.40	35.50	3.40	56.99	74.00	-17.01	PK	Vertical
7439.85	43.98	43.50	11.40	35.50	3.40	47.38	54.00	-6.62	AV	Vertical
7439.91	53.64	43.50	11.40	35.50	3.40	57.04	74.00	-16.96	PK	Horizontal
7439.91	44.29	43.50	11.40	35.50	3.40	47.69	54.00	-6.31	AV	Horizontal

Note:

1) Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Reading + Factor.

2) 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.



Page 31 of 81

Report No.: STS2206212W05

2M PHY GFSK

	61.613											
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 Cl	nannel (GFSK/	2402 MHz)		•				
3264.83	61.51	44.70	6.70	28.20	-9.80	51.71	74.00	-22.29	PK	Vertical		
3264.83	51.18	44.70	6.70	28.20	-9.80	41.38	54.00	-12.62	AV	Vertical		
3264.85	61.64	44.70	6.70	28.20	-9.80	51.84	74.00	-22.16	PK	Horizontal		
3264.85	50.25	44.70	6.70	28.20	-9.80	40.45	54.00	-13.55	AV	Horizontal		
4804.58	59.53	44.20	9.04	31.60	-3.56	55.97	74.00	-18.03	PK	Vertical		
4804.58	49.98	44.20	9.04	31.60	-3.56	46.42	54.00	-7.58	AV	Vertical		
4804.59	58.52	44.20	9.04	31.60	-3.56	54.96	74.00	-19.04	PK	Horizontal		
4804.59	49.12	44.20	9.04	31.60	-3.56	45.56	54.00	-8.44	AV	Horizontal		
5359.65	48.13	44.20	9.86	32.00	-2.34	45.79	74.00	-28.21	PK	Vertical		
5359.65	40.05	44.20	9.86	32.00	-2.34	37.70	54.00	-16.30	AV	Vertical		
5359.57	47.98	44.20	9.86	32.00	-2.34	45.64	74.00	-28.36	PK	Horizontal		
5359.57	38.37	44.20	9.86	32.00	-2.34	36.03	54.00	-17.97	AV	Horizontal		
7205.91	53.89	43.50	11.40	35.50	3.40	57.29	74.00	-16.71	PK	Vertical		
7205.91	43.69	43.50	11.40	35.50	3.40	47.09	54.00	-6.91	AV	Vertical		
7205.82	54.53	43.50	11.40	35.50	3.40	57.93	74.00	-16.07	PK	Horizontal		
7205.82	43.78	43.50	11.40	35.50	3.40	47.18	54.00	-6.82	AV	Horizontal		
				Middle C	Channel (GFSK	/2440 MHz)						
3262.95	61.40	44.70	6.70	28.20	-9.80	51.60	74.00	-22.40	PK	Vertical		
3262.95	50.98	44.70	6.70	28.20	-9.80	41.18	54.00	-12.82	AV	Vertical		
3263.04	61.54	44.70	6.70	28.20	-9.80	51.74	74.00	-22.26	PK	Horizontal		
3263.04	51.01	44.70	6.70	28.20	-9.80	41.21	54.00	-12.79	AV	Horizontal		
4879.90	58.52	44.20	9.04	31.60	-3.56	54.96	74.00	-19.04	PK	Vertical		
4879.90	49.98	44.20	9.04	31.60	-3.56	46.42	54.00	-7.58	AV	Vertical		
4880.07	58.67	44.20	9.04	31.60	-3.56	55.11	74.00	-18.89	PK	Horizontal		
4880.07	50.22	44.20	9.04	31.60	-3.56	46.66	54.00	-7.34	AV	Horizontal		
5357.23	48.19	44.20	9.86	32.00	-2.34	45.84	74.00	-28.16	PK	Vertical		
5357.23	39.14	44.20	9.86	32.00	-2.34	36.79	54.00	-17.21	AV	Vertical		
5357.39	47.65	44.20	9.86	32.00	-2.34	45.30	74.00	-28.70	PK	Horizontal		
5357.01	38.25	44.20	9.86	32.00	-2.34	35.91	54.00	-18.09	AV	Horizontal		
7320.85	54.46	43.50	11.40	35.50	3.40	57.86	74.00	-16.14	PK	Vertical		
7320.85	43.70	43.50	11.40	35.50	3.40	47.10	54.00	-6.90	AV	Vertical		
7320.37	54.59	43.50	11.40	35.50	3.40	57.99	74.00	-16.01	PK	Horizontal		
7320.37	44.47	43.50	11.40	35.50	3.40	47.87	54.00	-6.13	AV	Horizontal		



Page 32 of 81 Report No.: STS2206212W05

				High Char	nnel (GFSK/	2480 MHz)				
3264.74	61.96	44.70	6.70	28.20	-9.80	52.16	74.00	-21.84	PK	Vertical
3264.74	51.36	44.70	6.70	28.20	-9.80	41.56	54.00	-12.44	AV	Vertical
3264.58	61.38	44.70	6.70	28.20	-9.80	51.58	74.00	-22.42	PK	Horizontal
3264.58	50.12	44.70	6.70	28.20	-9.80	40.32	54.00	-13.68	AV	Horizontal
4960.50	58.39	44.20	9.04	31.60	-3.56	54.83	74.00	-19.17	PK	Vertical
4960.50	49.36	44.20	9.04	31.60	-3.56	45.80	54.00	-8.20	AV	Vertical
4960.39	58.39	44.20	9.04	31.60	-3.56	54.83	74.00	-19.17	PK	Horizontal
4960.39	49.81	44.20	9.04	31.60	-3.56	46.25	54.00	-7.75	AV	Horizontal
5359.65	48.26	44.20	9.86	32.00	-2.34	45.91	74.00	-28.09	PK	Vertical
5359.65	40.08	44.20	9.86	32.00	-2.34	37.74	54.00	-16.26	AV	Vertical
5359.63	48.35	44.20	9.86	32.00	-2.34	46.01	74.00	-27.99	PK	Horizontal
5359.63	38.10	44.20	9.86	32.00	-2.34	35.75	54.00	-18.25	AV	Horizontal
7439.86	53.70	43.50	11.40	35.50	3.40	57.10	74.00	-16.90	PK	Vertical
7439.86	44.75	43.50	11.40	35.50	3.40	48.15	54.00	-5.85	AV	Vertical
7439.79	53.53	43.50	11.40	35.50	3.40	56.93	74.00	-17.07	PK	Horizontal
7439.79	43.56	43.50	11.40	35.50	3.40	46.96	54.00	-7.04	AV	Horizontal

Note:

1) Factor = Antenna Factor + Cable Loss – Pre-amplifier.

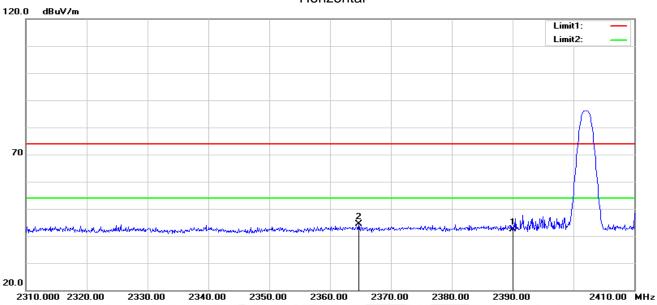
Emission Level = Reading + Factor.

2) 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.



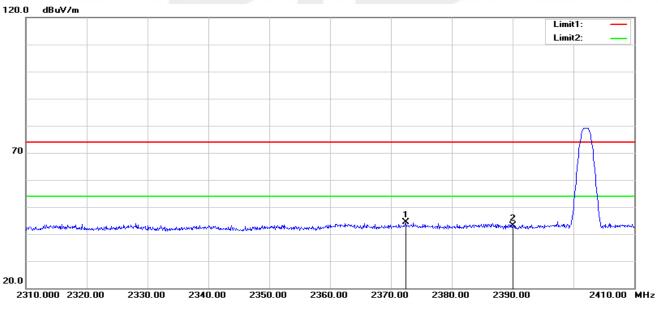
4.6 TEST RESULTS (Restricted Bands Requirements)





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	38.05	4.34	42.39	74.00	-31.61	peak
2	2364.700	40.51	3.96	44.47	74.00	-29.53	peak





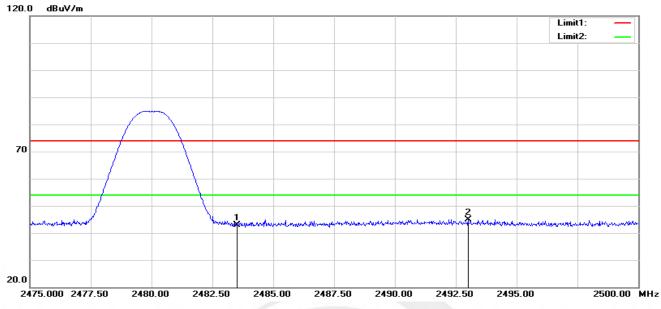
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2372.400	40.32	4.08	44.40	74.00	-29.60	peak
2	2390.000	38.69	4.34	43.03	74.00	-30.97	peak



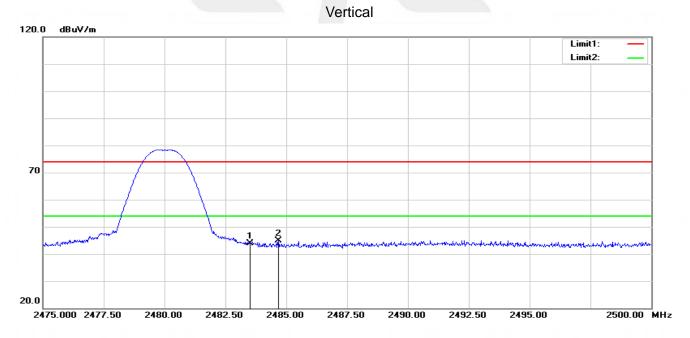
Page 34 of 81

Report No.: STS2206212W05

GFSK-High Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	38.33	4.60	42.93	74.00	-31.07	peak
2	2493.000	40.17	4.64	44.81	74.00	-29.19	peak

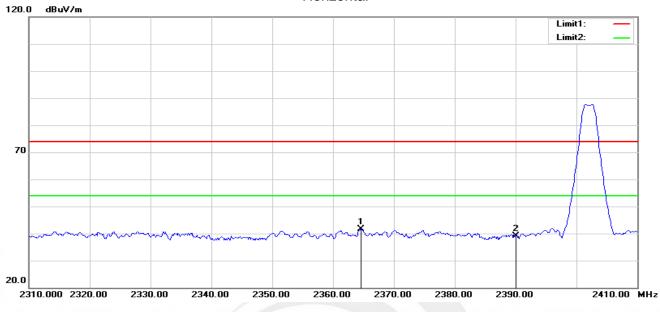


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	39.33	4.60	43.93	74.00	-30.07	peak
2	2484.675	40.16	4.61	44.77	74.00	-29.23	peak



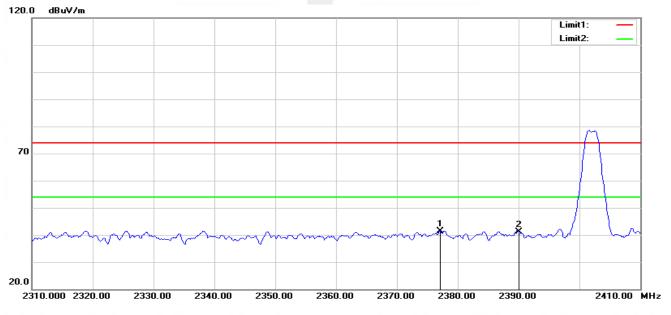
Report No.: STS2206212W05

2M PHY GFSK-Low Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2364.600	37.56	3.96	41.52	74.00	-32.48	peak
2	2390.000	34.85	4.34	39.19	74.00	-34.81	peak

Vertical



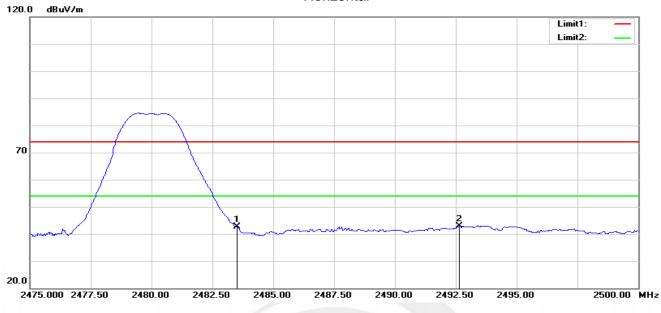
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2377.100	37.30	4.14	41.44	74.00	-32.56	peak
2	2390.000	36.88	4.34	41.22	74.00	-32.78	peak



Page 36 of 81

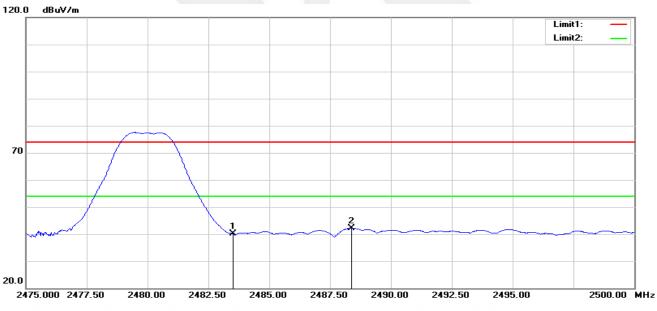
Report No.: STS2206212W05

GFSK-High Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	38.00	4.60	42.60	74.00	-31.40	peak
2	2492.650	38.34	4.64	42.98	74.00	-31.02	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.50	4.60	40.10	74.00	-33.90	peak
2	2488.375	37.51	4.62	42.13	74.00	-31.87	peak



5. CONDUCTED SPURIOUS & BAND EDGE EMISSION

5.1 LIMIT

According to FCC section 15.247(d) &RSS-247 Issue 2, 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.

5.2 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
	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	

5.3 TEST SETUP



The EUT is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna termina is 50 Ohm; 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.

5.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

5.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



6. POWER SPECTRAL DENSITY TEST

6.1 LIMIT

FCC Part 15.247,Subpart C RSS-247 Issue 2					
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247(e) RSS-247 Issue 2	Power Spectral Density	≤8 dBm (RBW≥3KHz)	2400-2483.5	PASS	

6.2 TEST PROCEDURE

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS channel bandwidth.
- 3. Set the RBW to: 100 kHz \ge RBW \ge 3 kHz.
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.3 TEST SETUP



6.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

6.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



7. BANDWIDTH TEST

7.1 LIMIT

FCC Part 15.247,Subpart C					
		RSS-Gen Clause 6.7	7		
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247(a)(2) RSS-247 5.2 (a)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS	
RSS-Gen Clause 6.7	99% Bandwidth	For reporting purposes only	2400-2483.5	PASS	

7.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW \geq 3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be \geq 6 dB.

7.3 TEST SETUP



7.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

7.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



8. PEAK OUTPUT POWER TEST

8.1 LIMIT

FCC Part 15.247,Subpart C					
		RSS-247 Issue 2			
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247(b)(3) RSS 247 Issue 2	Output Power	1 watt or 30dBm	2400-2483.5	PASS	
RSS-247	EIRP	4W	2400-2483.5	PASS	

8.2 TEST PROCEDURE

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

RBW ≥ DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW \geq DTS bandwidth.

b) Set VBW \geq [3 × RBW].

c) Set span \geq [3 × RBW].

d) Sweep time = auto couple.

e) Detector = peak.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

h) Use peak marker function to determine the peak amplitude level.

Integrated band power method:

The following procedure can be used when the maximum available RBW of the instrument is less than the

DTS bandwidth:

a) Set the RBW = 1 MHz.

b) Set the VBW \geq [3 × RBW].

c) Set the span \geq [1.5 × DTS bandwidth].

d) Detector = peak.

e) Sweep time = auto couple.

f) Trace mode = max hold.

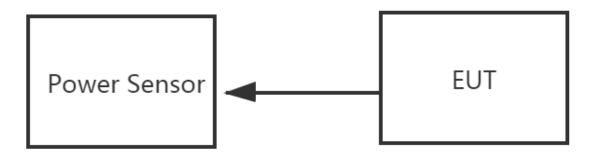
g) Allow trace to fully stabilize.

h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

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 DTS bandwidth and shall use a fast-responding diode detector.





8.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

8.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203&RSS Gen requirement: For intentional device, according to 15.203&RSS Gen: 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.

9.2 EUT ANTENNA

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

Shenzhen STS Test Services Co., Ltd.



10. FREQUENCY STABILITY

10.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/-0.02% of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees.

10.2 TEST PROCEDURE

- 1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- 2. Turn the EUT on and couple its output to spectrum analyzer.
- 3. Turn the EUT off and set the chamber to the highest temperature specified.
- 4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize,turn the EUT on and measure the operating frequency after 2,5,and 10 minutes.
- 5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

10.3 TEST RESULT

1M PHY

Channel 19 (2440MHz)

Voltage vs. Frequency Stability

Voltage(V)	Measurement Frequency(MHz)	
8.51	2440.0016	
7.4	2440.0014	
6.29	2440.0011	
Max.Deviation(MHz)	0.0016	
Max.Deviation(ppm)	0.66	

Rated working voltage: DC 7.4V Temperature vs. Frequency Stability

. Trequency etabling	
Temperature(°C)	Measurement Frequency(MHz)
-30	2440.0016
-20	2440.0013
-10	2440.0015
0	2440.0010
10	2440.0013
20	2440.0013
30	2440.0009
40	2440.0008
50	2440.0008
Max.Deviation(MHz)	0.0016
Max.Deviation(ppm)	0.66



2M PHY Channel 19 (2440MHz) Voltage vs. Frequency Stability

Voltage(V)	Measurement Frequency(MHz)
8.51	2440.0016
7.4	2440.0014
6.29	2440.0011
Max.Deviation(MHz)	0.0016
Max.Deviation(ppm)	0.66

Rated working voltage: DC 7.4V Temperature vs. Frequency Stability

Temperature(°C)	Measurement Frequency(MHz)	
-30	2440.0016	
-20	2440.0013	
-10	2440.0015	
0	2440.0010	
10	2440.0013	
20	2440.0013	
30	2440.0009	
40	2440.0008	
50	2440.0008	
Max.Deviation(MHz)	0.0016	
Max.Deviation(ppm)	0.66	

Shenzhen STS Test Services Co., Ltd.



Page 45 of 81 Report No.: STS2206212W05

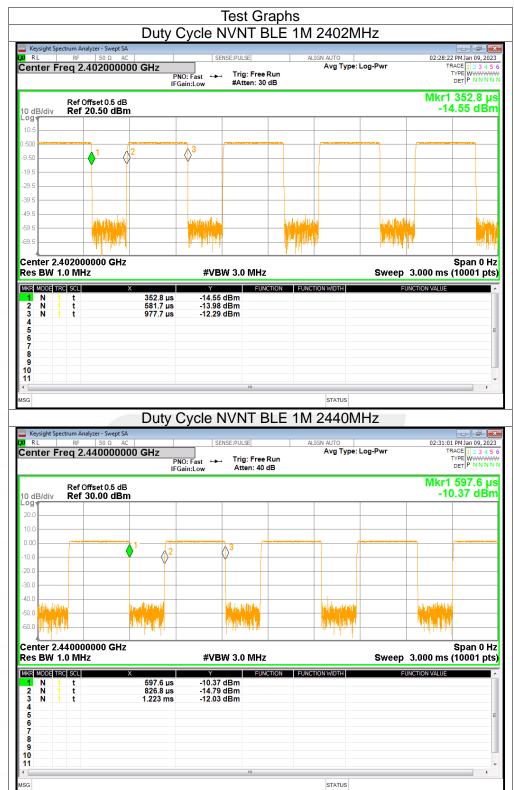
APPENDIX 1-TEST DATA

1. Duty Cycle

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	63.37	1.98	2.53
NVNT	BLE 1M	2440	63.34	1.98	2.53
NVNT	BLE 1M	2480	63.37	1.98	2.53
NVNT	BLE 2M	2402	33.97	4.69	4.71
NVNT	BLE 2M	2440	33.73	4.72	4.74
NVNT	BLE 2M	2480	33.75	4.72	4.74

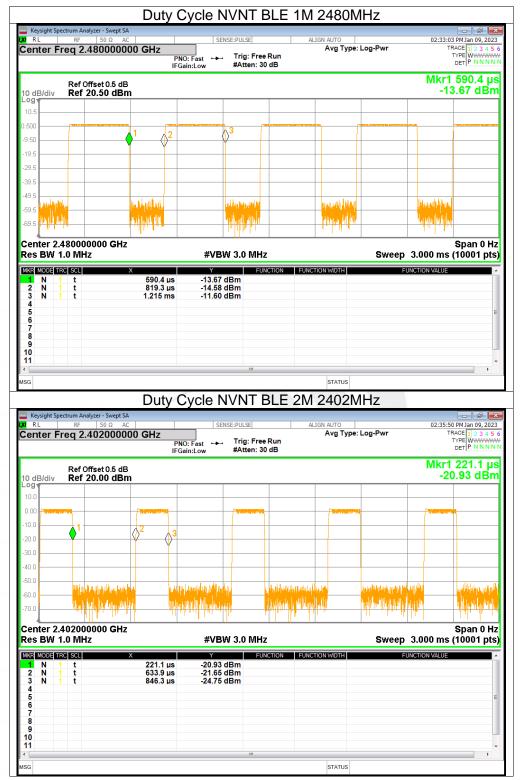


Page 46 of 81 Report No.: STS2206212W05





Page 47 of 81 Report No.: STS2206212W05



Shenzhen STS Test Services Co., Ltd.



Page 48 of 81 Report No.: STS2206212W05



Duty Cycle NVNT BLE 2M 2440MHz



Page 49 of 81 Report No.: STS2206212W05

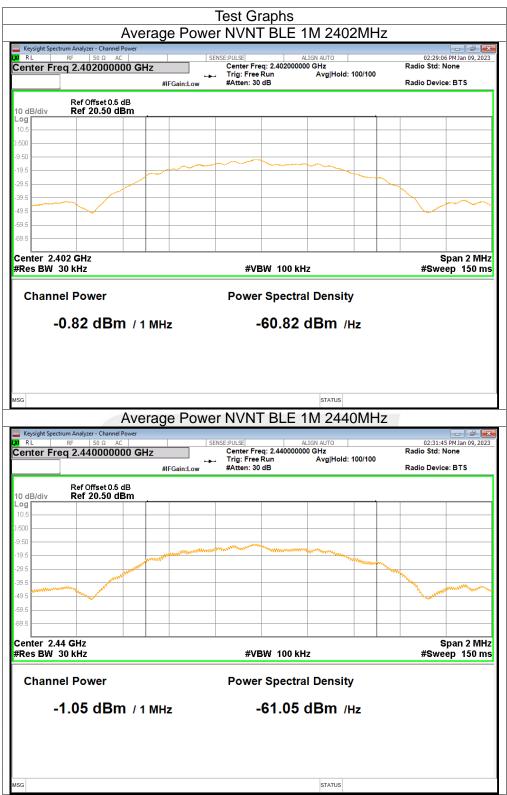
2. Maximum Average Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	-0.82	1.98	1.16	<=30	Pass
NVNT	BLE 1M	2440	-1.05	1.98	0.93	<=30	Pass
NVNT	BLE 1M	2480	-0.72	1.98	1.26	<=30	Pass
NVNT	BLE 2M	2402	-4.71	4.69	-0.02	<=30	Pass
NVNT	BLE 2M	2440	-5.81	4.72	-1.09	<=30	Pass
NVNT	BLE 2M	2480	-4.97	4.72	-0.25	<=30	Pass

Shenzhen STS Test Services Co., Ltd.

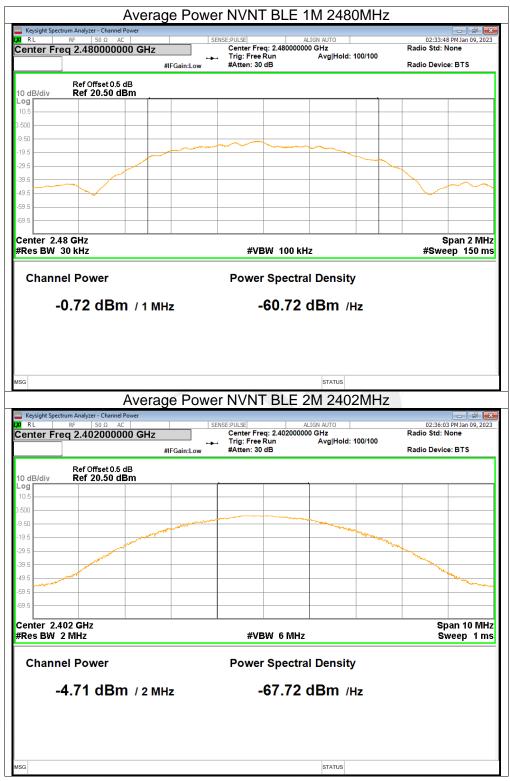


Page 50 of 81 Report No.: STS2206212W05



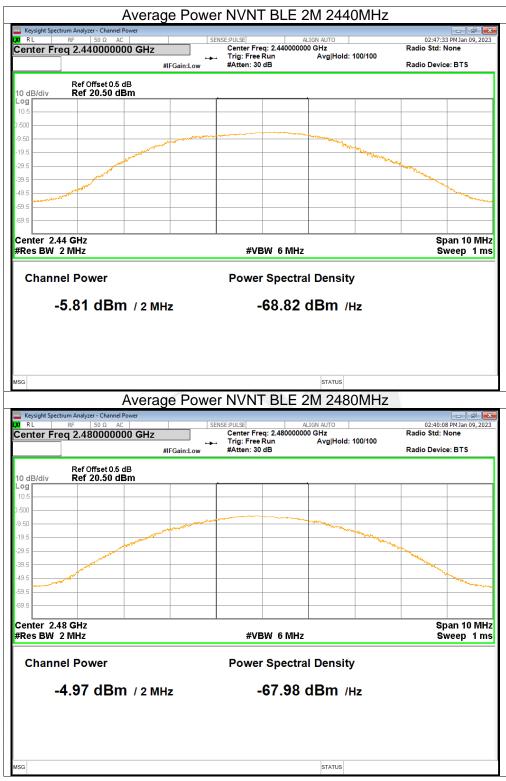


Page 51 of 81 Report No.: STS2206212W05





Page 52 of 81 Report No.: STS2206212W05



Shenzhen STS Test Services Co., Ltd.



Page 53 of 81 Report No.: STS2206212W05

3. Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	1.96	<=30	Pass
NVNT	BLE 1M	2440	1.69	<=30	Pass
NVNT	BLE 1M	2480	1.96	<=30	Pass
NVNT	BLE 2M	2402	1.89	<=30	Pass
NVNT	BLE 2M	2440	1.68	<=30	Pass
NVNT	BLE 2M	2480	1.95	<=30	Pass

EIRP 1M PHY

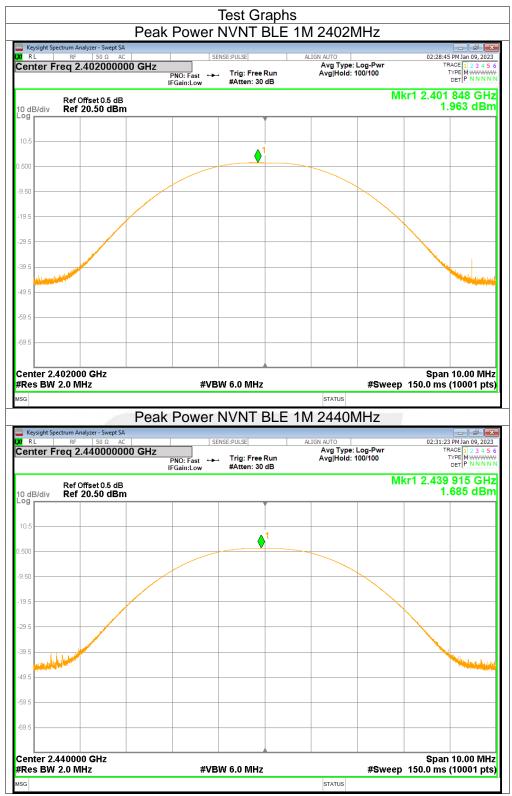
Test Channel	Frequency	Peak Conducted Output Power	Antenna Gain	EIRP Power	LIMIT
	(MHz)	(dBm)	(dBi)	(dBm)	dBm
СНО	2402	1.96	0.00	1.96	36.02
CH19	2440	1.69	0.00	1.69	36.02
СН39	2480	1.96	0.00	1.96	36.02

2M PHY

Test Channel	Frequency	Peak Conducted Output Power	Antenna Gain	EIRP Power	LIMIT
	(MHz)	(dBm)	(dBi)	(dBm)	dBm
СН0	2402	4.69	0.00	4.69	36.02
CH19	2440	4.72	0.00	4.72	36.02
CH39	2480	4.72	0.00	4.72	36.02

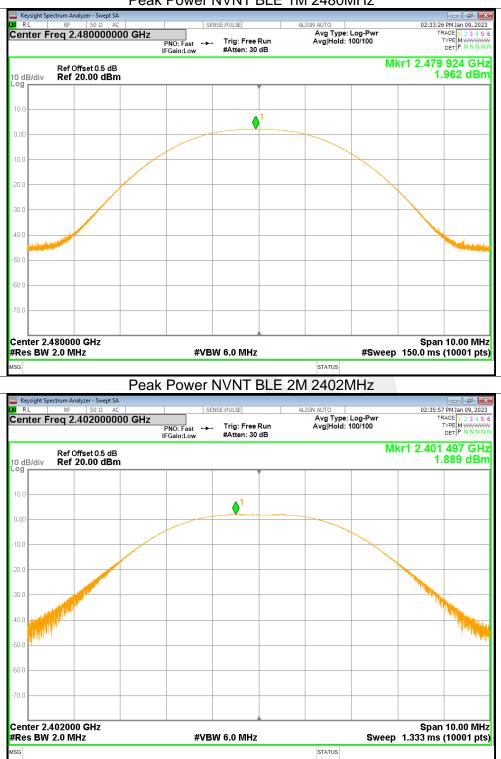


Page 54 of 81 Report No.: STS2206212W05





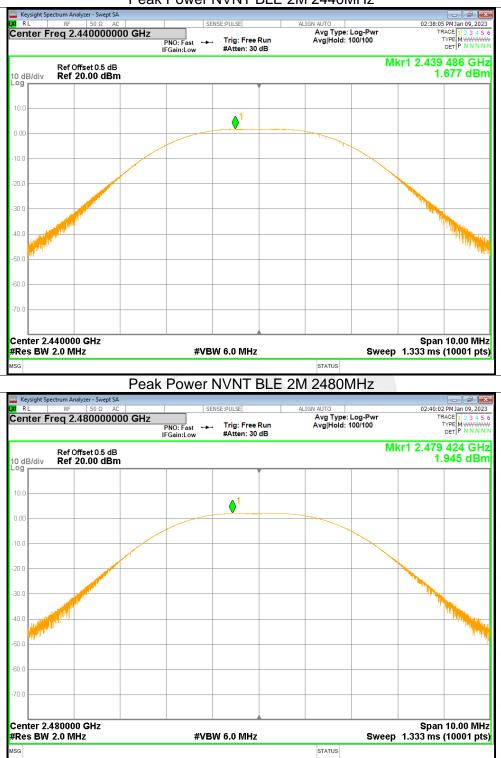
Page 55 of 81 Report No.: STS2206212W05



Peak Power NVNT BLE 1M 2480MHz



Page 56 of 81 Report No.: STS2206212W05



Peak Power NVNT BLE 2M 2440MHz

П



Page 57 of 81 Report No.: STS2206212W05

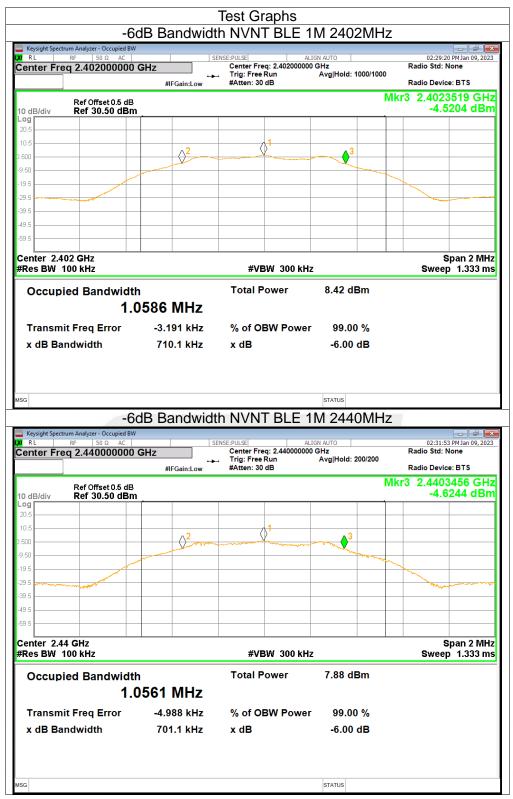
4. -6dB Bandwidth

Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	0.7101	>=0.5	Pass
NVNT	BLE 1M	2440	0.7011	>=0.5	Pass
NVNT	BLE 1M	2480	0.7101	>=0.5	Pass
NVNT	BLE 2M	2402	1.2325	>=0.5	Pass
NVNT	BLE 2M	2440	1.1678	>=0.5	Pass
NVNT	BLE 2M	2480	1.1417	>=0.5	Pass

Shenzhen STS Test Services Co., Ltd.

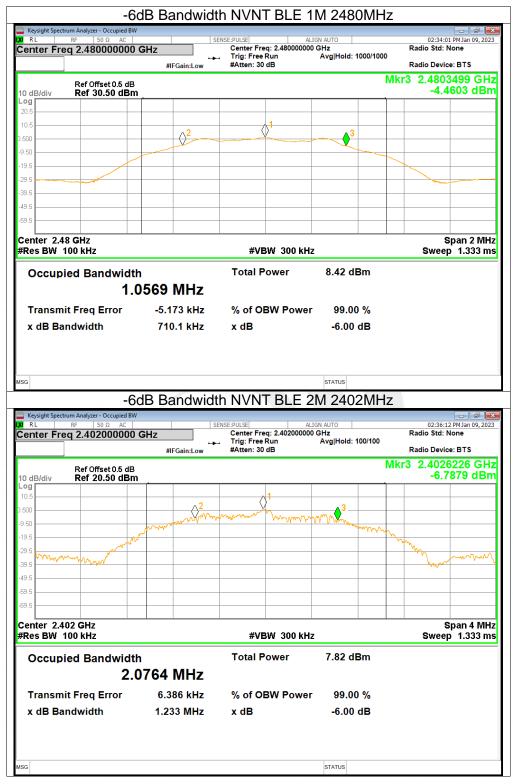


Page 58 of 81 Report No.: STS2206212W05



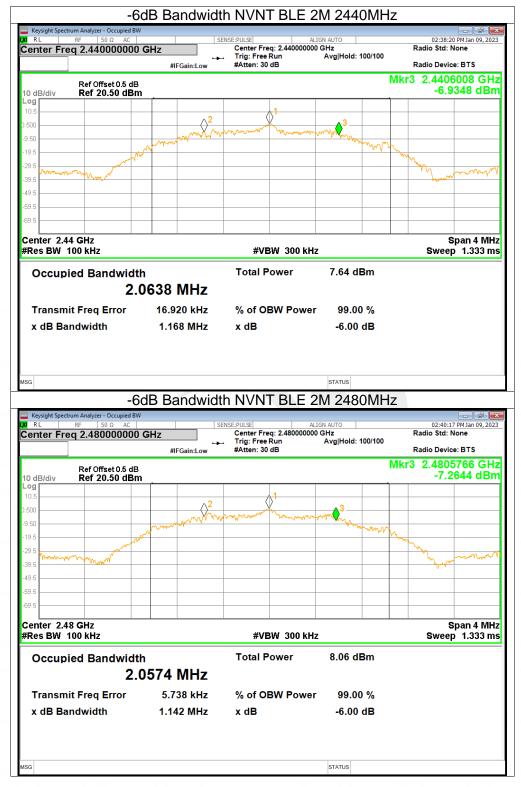


Page 59 of 81 Report No.: STS2206212W05





Page 60 of 81 Report No.: STS2206212W05



Shenzhen STS Test Services Co., Ltd.



Page 61 of 81 Report No.: STS2206212W05

5. Occupied Channel Bandwidth

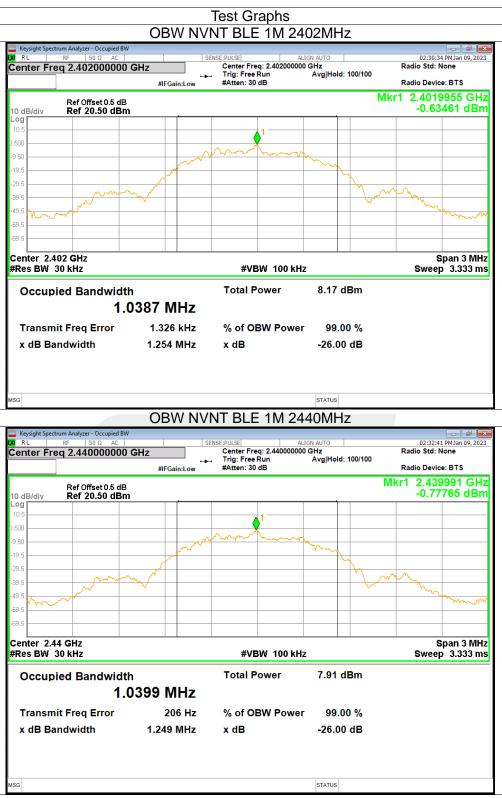
Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	BLE 1M	2402	1.0387
NVNT	BLE 1M	2440	1.0399
NVNT	BLE 1M	2480	1.0332
NVNT	BLE 2M	2402	2.0554
NVNT	BLE 2M	2440	2.0509
NVNT	BLE 2M	2480	2.0426

Shenzhen STS Test Services Co., Ltd.



Page 62 of 81

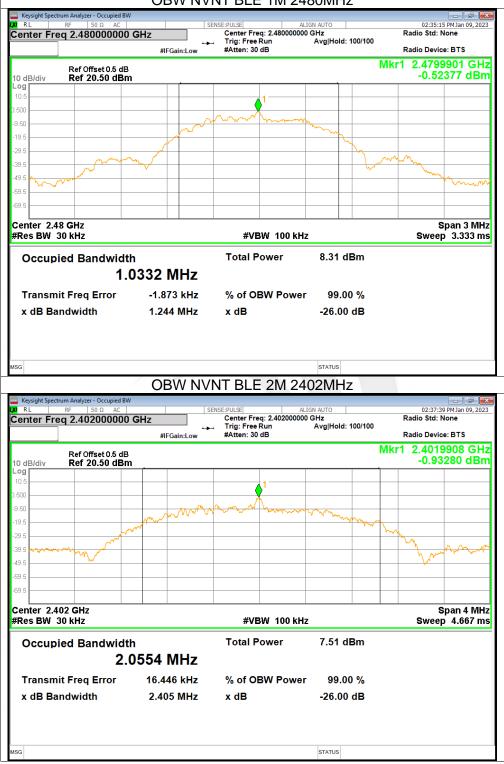
Report No.: STS2206212W05





Page 63 of 81 Report No.: STS2206212W05

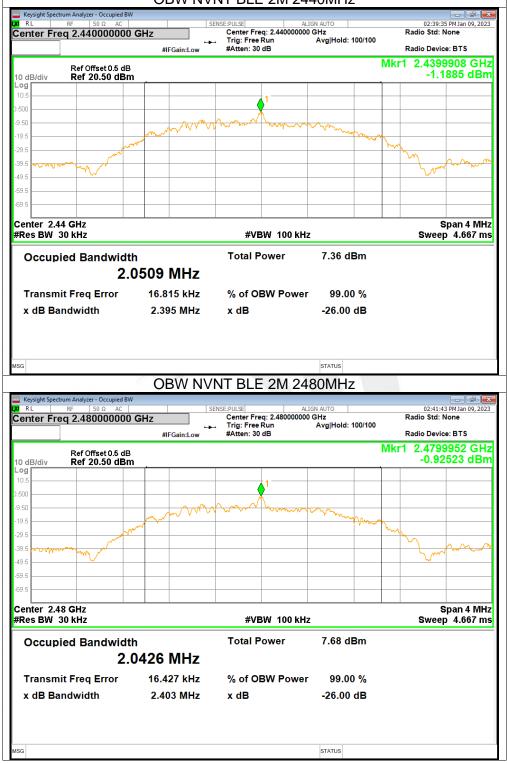
OBW NVNT BLE 1M 2480MHz





Page 64 of 81 Report No.: STS2206212W05

OBW NVNT BLE 2M 2440MHz





Page 65 of 81 Report No.: STS2206212W05

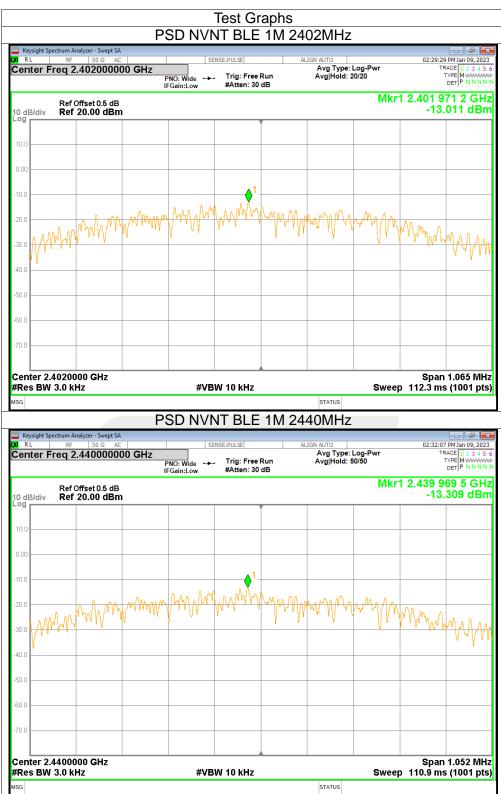
6. Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	-13.01	<=8	Pass
NVNT	BLE 1M	2440	-13.31	<=8	Pass
NVNT	BLE 1M	2480	-13.03	<=8	Pass
NVNT	BLE 2M	2402	-15.97	<=8	Pass
NVNT	BLE 2M	2440	-16.15	<=8	Pass
NVNT	BLE 2M	2480	-15.84	<=8	Pass

Shenzhen STS Test Services Co., Ltd.



Page 66 of 81 Report No.: STS2206212W05



Shenzhen STS Test Services Co., Ltd.



Report No.: STS2206212W05

Page 67 of 81 PSD NVNT BLE 1M 2480MHz Keysight Spectrum Analyzer - Swept SA RL_____ RF 50 Ω AC 02:34:10 PM Jan 09, 2023 Center Freq 2.480000000 GHz TRACE 1 2 3 4 5 TYPE MWWWW DET P NNNN Avg Type: Log-Pwi Avg|Hold: 20/20 Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low **н**н Mkr1 2.479 969 1 GHz Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div -13.032 dBm n n MMMMM Mayna 30.0 40.0 50. 60. Center 2.4800000 GHz Span 1.065 MHz #Res BW 3.0 kHz #VBW 10 kHz Sweep 112.3 ms (1001 pts) sG STATUS PSD NVNT BLE 2M 2402MHz Keysight Spect 02:36:38 PM Jan 09, 2023 Avg Type: Log-Pwr Avg|Hold: 100/100 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N Center Freq 2.402000000 GHz PNO: Wide +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.402 007 4 GHz Ref Offset 0.5 dB Ref 20.00 dBm -15.966 dBm 10 dB/div 10. 30.0 'WI YW 40.

#VBW 10 kHz

Shenzhen STS Test Services Co., Ltd.

Center 2.4020000 GHz

#Res BW 3.0 kHz

SG

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 Http://www.stsapp.com E-mail: sts@stsapp.com

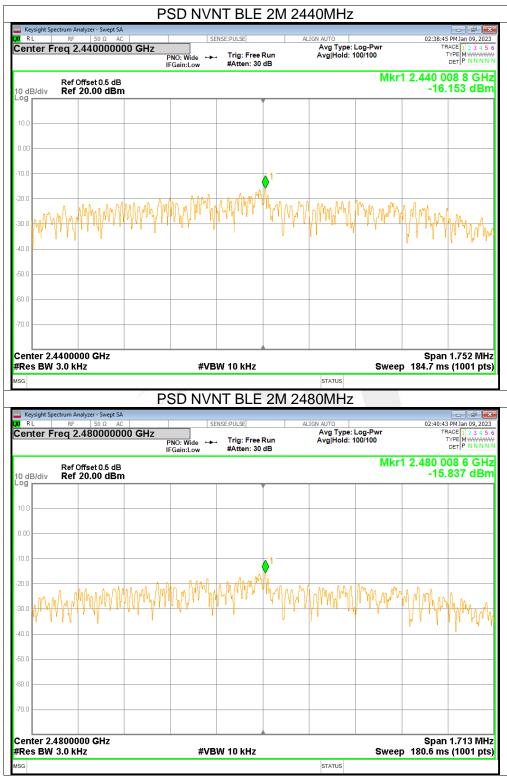
STATUS

Span 1.849 MHz

Sweep 194.9 ms (1001 pts)



Page 68 of 81 Report No.: STS2206212W05



Shenzhen STS Test Services Co., Ltd.



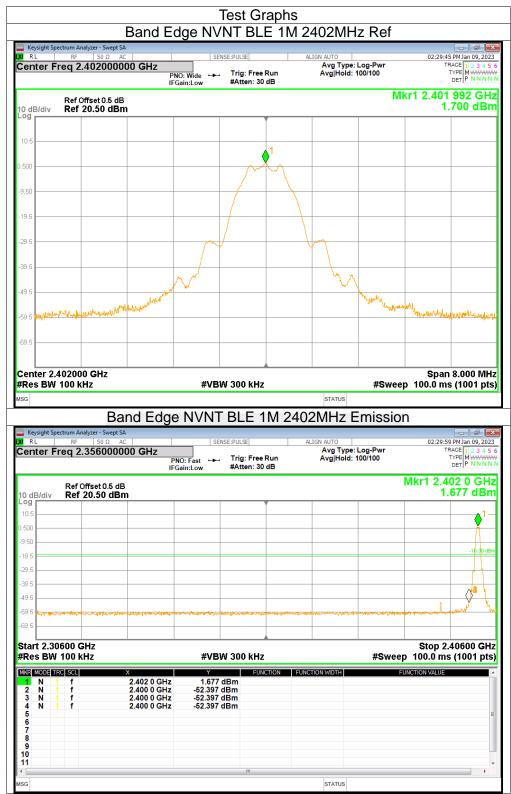
Page 69 of 81 Report No.: STS2206212W05

7. Band Edge

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	-54.09	<=-20	Pass
NVNT	BLE 1M	2480	-54.59	<=-20	Pass
NVNT	BLE 2M	2402	-31.15	<=-20	Pass
NVNT	BLE 2M	2480	-56.13	<=-20	Pass



Page 70 of 81 Report No.: STS2206212W05





Page 71 of 81 Report No.: STS2206212W05

enter F	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.480000000 G		SENSE:PULSE → Trig: Free Run #Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:27 PM Jan 09, 20 TRACE 1 2 3 4 5 TYPE M WWW DET P N N N
0 dB/div	Ref Offset 0.5 dB Ref 20.50 dBm			Mk	r1 2.479 992 GH 1.733 dBi
^{og}					
10.5					
.500			∲ '		
9.50			+/		
19.5					
29.5				M	
39.5					
49.5		\sim			
	Annuar markalment	where a start and a start a st		When where all and a second se	monstand have also all the second second
59.5 <mark>MUHurlaw</mark>	IL AVAINTAR MARKEN				<u></u>
69.5					
enter 2.4 Res BW	180000 GHz				Span 8.000 MH
	100 KH2	#V	BW 300 kHz	status	100.0 ms (1001 pt
	Band				
Keysight Spe	Band ectrum Analyzer - Swept SA	Edge NVN	T BLE 1M 24	180MHz Emission	
RL			SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:34:40 PM Jan 09, 202 TRACE 1 2 3 4 5
RL	ectrum Analyzer - Swept SA RF 50 Ω AC			180MHz Emission	02:34:40 PM Jan 09, 202 TRACE 1 2 3 4 5 TYPE M WANN
RL Senter F	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09, 20 TRACE 1 2 3 4 9 TYPE M WWWW DET P NNN Akr1 2.480 0 GH
0 dB/div	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,20 TRACE 1 2 3 4 5 TYPE M WWWW DET P NNNT
C dB/div	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,20 TRACE 1 2 3 4 5 TYPE M WWWW DET P NNNT
0 dB/div 0 dB/div 0 dB/div 0 dB/div	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,20 TRACE 1 2 3 4 5 TYPE M WWWW DET P NNNT
0 dB/div 0 dB/div 0 dB/div 0 g 0 g 0 g 0 g 0 g 0 g 0 g 0 g	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM3an 09,20 TRACE [2 3 4 4 TYPE[M WWW DET]P NN NT Akr1 2.480 0 GH 1.717 dBr
0 dB/div - og 10.5 .500 9.50 19.5 29.5	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACET 2 3 4 3 TYPE M WWW DET P NNN Akr1 2.480 0 GH 1.717 dBr
RL enter F 0 dB/div 0 g 10.5 500 9.50 19.5 39.5	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM3an 09,20 TRACE [2 3 4 4 TYPE[M WWW DET]P NN NT Akr1 2.480 0 GH 1.717 dBr
0 dB/div .og 9.50 9.5	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM 09, 202 TRACE 12 2 3 4 TYPE M WWWW DET P N N N Akr1 2.480 0 GH 1.717 dBr
Center F	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACET 2 3 4 3 TYPE M WWW DET P NNN Akr1 2.480 0 GH 1.717 dBr
Center F 0 dB/div 0 dB/d	ectrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB	iHz PNO: Fast ←	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM 3an 09,202 TRACE 1 2 3 4 5 TYPE M WWW DET P NNN Akr1 2.480 0 GH 1.717 dBr
0 dB/div 10.6 10	ctrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 600 GHz 100 KHZ	PNO: Fast IFGain:Low	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACE [1 2 3 4 3 TYPE [M WWW DET [P NN N Akr1 2.480 0 GH 1.717 dBr
Conter F Conter F Con	cerum Analyzer - Swept SA RF 50 Ω AC req 2.5260000000 G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 600 GHz 100 kHz 100 kHz 2	Hz PNO: Fast IFGain:Low 3 4 #V 0 0 GHz 1.7	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACET 2 3 4 3 TYPE M WWW DET P NNN Akr1 2.480 0 GH 1.717 dBr
0 dB/div 9 0 9 0 10.5 500 9.50 19.5 29.5 39.5 49.5 50.6	ctrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 1 1 1 2 4 1 1 600 GHz 100 kHz 1 1 100 kHz 1 1 1	Hz PNO: Fast IFGein:Low #V 0 0 GHz 3 6 GHz -57.7 -51.7 -5	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACE [1 2 3 4 3 TYPE [M WWW DET [P NN N Akr1 2.480 0 GH 1.717 dBr
0 dB/div 0 dB/div 0 g 0 f 0 f 0 f 0 f 0 f 0 f 0 f 0 f	ctrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 1 1 1 2 4 1 1 600 GHz 100 kHz 1 1 100 kHz 1 1 1	Hz PN0: Fast IFGein:Low #V 0 0 GHz 3 6 GHz -57.7 -51.7 -5	SENSE:PULSE → Trig: Free Run #Atten: 30 dB	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACE [1 2 3 4 3 TYPE [M WWW DET [P NN N Akr1 2.480 0 GH 1.717 dBr
0 dB/div 0 dB/div 0 g 0 g 0 g 0 g 0 g 0 g 0 g 0 g	ctrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 1 1 1 2 4 1 1 600 GHz 100 kHz 1 1 100 kHz 1 1 1	Hz PNO: Fast IFGein:Low #V 0 0 GHz 3 6 GHz -57.7 -51.7 -5	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	C2:34:40 PM3an 09,20 TRACE [2 3 4 4 TYPE M WHW DET P NN N1 Akr1 2.480 0 GH 1.717 dBr
RL center F 0 dB/div 10.5 10.5 10.5 9.50 9.50 9.50 9.50 59.5 543.5 553.5 544.5 553.5 544.5 1 1 1 1 1 1 1 1 1 2 1 2 1	ctrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 1 1 1 2 4 1 1 600 GHz 100 kHz 1 1 100 kHz 1 1 1	Hz PNO: Fast IFGein:Low #V 0 0 GHz 3 6 GHz -57.7 -51.7 -5	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	C2:34:40 PM3an 09,20 TRACE [2 3 4 4 TYPE M WHW DET P NN N1 Akr1 2.480 0 GH 1.717 dBr
0 dB/div 0 dB/div 0 g 0 g 0 g 0 g 0 g 0 g 0 g 0 g	ctrum Analyzer - Swept SA RF 50 Ω AC req 2.526000000 G G Ref Offset 0.5 dB Ref 20.50 dBm 1 1 1 1 1 2 4 1 1 600 GHz 100 kHz 1 1 100 kHz 1 1 1	Hz PNO: Fast IFGein:Low #V 0 0 GHz 3 6 GHz -57.7 -51.7 -5	SENSE:PULSE	ALIGN AUTO AVG Type: Log-Pwr Avg Hold: 100/100	02:34:40 PM Jan 09,202 TRACE [1 2 3 4 3 TYPE [M WWW DET [P NN N Akr1 2.480 0 GH 1.717 dBr

Band Edge NVNT BLE 1M 2480MHz Ref

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 3686 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

T



Page 72 of 81 Report No.: STS2206212W05

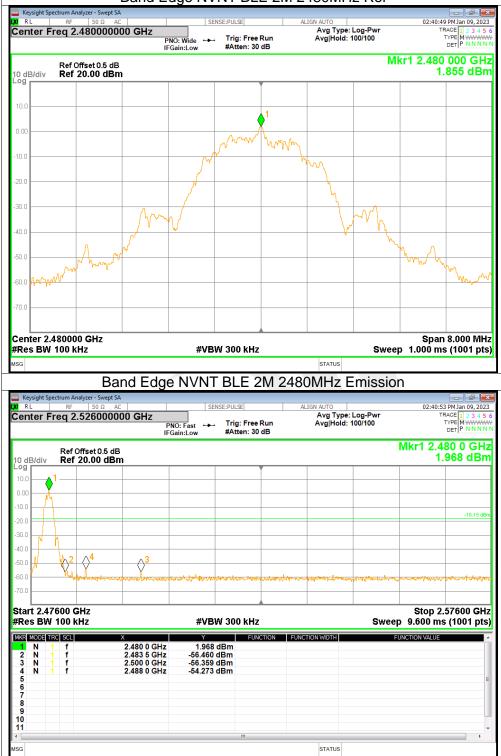
enter Freq 2.40	P	NO: Wide	:PULSE Trig: Free Run #Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:44 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P NNN
Ref Offse	t 0.5 dB	FGain:Low	#Atten: 30 dB	N	lkr1 2.402 000 GI 1.658 dB
dB/div Ref 20.0	D0 dBm		Y		1.000 UB
.0					
			4 1		
10			- mark		
0		~	Many Mar	m	
				M	
0					
0	<u></u>				
	fim	W		Muril	
	N			- L	² Υ ΔΔ
0	Law M				han your by
man					myhon
.0					
nter 2.402000 G es BW 100 kHz	Hz	#VBW	300 kHz	Swee	Span 8.000 Mi p 1.000 ms (1001 pt
				STATUS	
	Band Edg	e NVNT I	BLE 2M 24	102MHz Emissic	n
	r - Swept SA	e NVNT I	BLE 2M 24	102MHz Emissic	n
R L RF	r - Swept SA 50 Ω AC		BLE 2M 24	402MHz Emissic	02:36:49 PM Jan 09, 20 TRACE 1 2 3 4
R L RF	r - Swept SA 50 Ω AC 6000000 GHz	SENSE		ALIGN AUTO	02:36:49 PM Jan 09, 20
R L RF	r-Swept SA 50 Ω AC 60000000 GHz IF	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N Mkr1 2.402 0 GF
RL RF enter Freq 2.35 B/div Ref Offse Ref 20.1	r-Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N
RL RF Inter Freq 2.35 Ref Offse dB/div Ref 20.1 9 0	r-Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N Mkr1 2.402 0 GF
RL RF Inter Freq 2.35	- Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N Mkr1 2.402 0 GF
RL RF Inter Freq 2.35 dB/div Ref Offse 0 Ref 20.1 0 Ref 20.1	- Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N Mkr1 2.402 0 GF
RL RF Inter Freq 2.35 dB/div Ref Offse 0 Ref 20.1 0 0 0 0 0 0 0 0	- Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE [] 20 TYPE MWWW DET P NNN Mkr1 2.402 0 GF 1.762 dB
RL RF Inter Freq 2.35/ dB/div Ref Offse 0 Ref 20. 0 0 0 0 0 0	- Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE [] 20 TYPE MWWW DET P NNN Mkr1 2.402 0 GF 1.762 dB
RL RF Inter Freq 2.35/ dB/div Ref Offse 0 Ref 20.	- Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type: Log-Pwr	02:36:49 PM Jan 09, 20 TRACE [] 20 TYPE MWWW DET P NNN Mkr1 2.402 0 GF 1.762 dB
RL RF Inter Freq 2.35 Bill Ref Offse Bill Ref 20. G	- Swept SA 50 Ω AC 6000000 GHz F IF ot 0.5 dB	SENSE PNO: Fast +	:PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE [] 20 TYPE MWWW DET P NNN Mkr1 2.402 0 GF 1.762 dB
RL RF Inter Freq 2.35 Ref Offse B/div Ref 20.35 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- Swept SA 50 Ω AC 6000000 GHz 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast +	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 10, 20 TYPE MWWW DET P NNN Mkr1 2.402 0 GF 1.762 dB 0 0 0 0 0 0 0 0 0 0 0 0 0
RL Rf mter Freq 2.35 Bildiv Ref Offse 9 - 00 -	- Swept SA 50 Ω AC 6000000 GHz 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast FGain:Low	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 12.34 DET P NNN Mkr1 2.402 0 GF 1.762 dB
RL RF Enter Freq 2.35 Before Ref Offse B/div Ref 20.35 B	- Swept SA 50 Ω AC 6000000 GHz 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast FGain:Low	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 1 2:402 0 GF 1.762 dB 0.1762 dB 0
Ref Offse dB/div Ref 20 9 9 9 9 9 9 9 9 9 9 9 9 9	- Swept SA 50 Q AC 6000000 GHz 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast →→ FGain:Low FGain:Low #VBW	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 12.34 DET P NNN Mkr1 2.402 0 GF 1.762 dB
RL RF Inter Freq 2.35 Ref Offse Block Ref 20.35 Ref Offse Ref 20.35 Ref Ref 20.35 Ref 20.35	- Swept SA 50 Q AC 6000000 GHz F 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast →→ FGain:Low #VBW 1.762 dE -29.496 dE -29.496 dE	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 1 2:402 0 GF 1.762 dB 0.1762 dB 0
RL RF Enter Freq 2.35 Biter Freq 2.30600 Biter Freq 3.3 Biter Freq 3.4 Biter Freq3.4	- Swept SA 50 Q AC 6000000 GHz 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast →→ FGain:Low #VBW 1.762 dE -29.496 dE -29.496 dE	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 1 2:402 0 GF 1.762 dB 0.1762 dB 0
RL RF Enter Freq 2.35 Biter Freq 2.30600 Biter Freq 3.3 Biter Freq 3.4 Biter Freq3.4	- Swept SA 50 Q AC 6000000 GHz F 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast →→ FGain:Low #VBW 1.762 dE -29.496 dE -29.496 dE	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 1 2:402 0 GF 1.762 dB 0.1762 dB 0
RL RF Enter Freq 2.35 Ref Offse BJdiv Ref 20.35 BB/div Ref 20.35 Diamondary Ref 30.35 Diamondary <	- Swept SA 50 Q AC 6000000 GHz F 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast →→ FGain:Low #VBW 1.762 dE -29.496 dE -29.496 dE	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 1 2:402 0 GF 1.762 dB 0.1762 dB 0
RL RF Enter Freq 2.35 Biter Freq 2.30600 Biter Freq 3.3 Biter Freq 3.4 Biter Freq3.4	- Swept SA 50 Q AC 6000000 GHz F 10 10 10 10 10 10 10 10 10 10	SENSE PNO: Fast →→ FGain:Low #VBW 1.762 dE -29.496 dE -29.496 dE	PULSE	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:36:49 PM Jan 09, 20 TRACE 1 2:402 0 GF 1.762 dB 0.1762 dB 0

Band Edge NVNT BLE 2M 2402MHz Ref

T



Page 73 of 81 Report No.: STS2206212W05



Band Edge NVNT BLE 2M 2480MHz Ref



Page 74 of 81 Report No.: STS2206212W05

8. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	-37.3	<=-20	Pass
NVNT	BLE 1M	2440	-46.97	<=-20	Pass
NVNT	BLE 1M	2480	-36.83	<=-20	Pass
NVNT	BLE 2M	2402	-56.44	<=-20	Pass
NVNT	BLE 2M	2440	-56.51	<=-20	Pass
NVNT	BLE 2M	2480	-56.38	<=-20	Pass

Shenzhen STS Test Services Co., Ltd.



Page 75 of 81 Report No.: STS2206212W05

Kauaiaht Ca	ectrum Analyzer - Swept SA	-	rious N\	/NT BLE 1	M 2402M	Iz Ref		
X/RL	RF 50 Ω AC		SEN	SE:PULSE	ALIGN AUTO Avg Type:	Log-Pwr	02:30:1	L5 PM Jan 09, 2023 RACE 1 2 3 4 5
	req 2.4020000	P	NO: Wide	Trig: Free Run Atten: 40 dB	Avg Hold:	100/100		DET P NNNN
10 dB/div	Ref Offset 0.5 dB Ref 30.00 dBn					Mkr	1 2.401 9 1	94 0 GH .671 dBr
20.0								
10.0				. 1				
0.00								
10.0								
-10.0								
-20.0								
-30.0								
-40.0								
-50.0								
-60.0								
	4020000 GHz							
	4020000 GHZ 100 kHz		#VBV	V 300 kHz	STATUS	#Swee		
#Res BW	100 кнг Тх.	•		v 300 кнz Г BLE 1M 2			ep 100.0 m	
Keysight Sp	100 kHz Tx. RF 50 Ω AC		ıs NVN⊺		2402MHz	Emissio	ep 100.0 m DN 02:30:3	rs (1001 pts
Keysight Sp	100 kHz Tx.	000 GHz	ıs NVN⊺	BLE 1M	2402MHz	Emissio	p 100.0 m DN 02:30:7	ES (1001 pts ES PM Jan 09, 202 TRACE 1 2 3 4 5 TYPE M WWW DET P N N N
Keysight Sp Keysight Sp RL Center F 10 dB/div	100 kHz Tx. RF 50 Ω AC	000 GHz		TBLE 1M 2 SE:PULSE	2402MHz Align Auto Avg Type:	Emissio	200 02:30:2 Mkr1 2.4	ES (1001 pts 25 PMJan 09, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET P NNNN 101 7 GH
Keysight Sp Keysight Sp RL Center F	100 kHz Tx. rectrum Analyzer - Swept S2 RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz		TBLE 1M 2 SE:PULSE	2402MHz Align Auto Avg Type:	Emissio	200 02:30:2 Mkr1 2.4	ES (1001 pts 25 PMJan 09, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET P NNNN 101 7 GH
Keysight Sp Keysight Sp RL Center F 10 dB/div Log 20.0 10.0	100 kHz Tx. rectrum Analyzer - Swept S2 RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz		TBLE 1M 2 SE:PULSE	2402MHz Align Auto Avg Type:	Emissio	200 02:30:2 Mkr1 2.4	ES (1001 pts 25 PMJan 09, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N NN 101 7 GH:
Keysight Sp Keysight Sp R R L Center F 10 dB/div 20.0	100 kHz Tx. rectrum Analyzer - Swept S2 RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz		TBLE 1M 2 SE:PULSE	2402MHz Align Auto Avg Type:	Emissio	200 02:30:2 Mkr1 2.4	s (1001 pts 25 PMJan 09, 202 RACE 1 2 3 4 5 TYPE MWWWW 101 7 GH: .041 dBn
#Res BW INSG INSG INSG	100 kHz Tx. rectrum Analyzer - Swept S2 RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz		TBLE 1M 2 SE:PULSE	2402MHz Align Auto Avg Type:	Emissio	200 02:30:2 Mkr1 2.4	s (1001 pts 25 PMJan 09, 202 RACE 1 2 3 4 5 TYPE MWWWW 101 7 GH: .041 dBn
#Res BW INSG	100 kHz Tx. rectrum Analyzer - Swept S2 RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	n		TBLE 1M 2 SE:PULSE	2402MHz Align Auto Avg Type:	Emissio	200 02:30:2 Mkr1 2.4	IS (1001 pts IS PM an 09,202 RACE 1 2 3 4 5 TYPE MWWWW IO1 7 GH; IO41 dBn
#Res BW INSG INSG INSG	100 kHz Tx. rectrum Analyzer - Swept S/A Ref J50 Q Add Ref 30.00 dBm		JS NVN SEN PNO: Fast Gain:Low	TBLE 1M	ALIGN AUTO Avg Type: Avg Hold:	Emissio	ep 100.ó m ON 02:30:3 Mkr1 2.4 -3	1.500 MH s (1001 pts 55 PMan 09, 2023 FACE 2.3 4 5 TYPE M DET P NNNN 101 7 GH2 .041 dBn
Keysight Sp ISG Keysight Sp RL Center F Conter F 10.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0 .0.0	100 kHz Tx. rectrum Analyzer - Swept SA Ref 0ffset 0.5 dB Ref 30.00 dBr		JS NVN SEN PNO: Fast Gain:Low	TBLE 1M	ALIGN AUTO Avg Type: Avg Hold:	Emissio	ep 100.ó m ON 02:30:3 Mkr1 2.4 -3	s (1001 pts 25 PM Jan 09, 202 FRACE [1 2 3 4 5 TYPE MWWWW 001 7 GH; .041 dBn -18.33 dB
#Res BW ISG ISG	100 kHz Tx. Ref Offset 0.5 dB Ref 30.00 dBm		JS NVN SEN Gain:Low 5 Sen Line Sen Li	TBLE 1M	ALIGN AUTO Avg Type: Avg Hold:	Emissic	ep 100.0 m OD 02:30: Mkr1 2.4 -3	s (1001 pts 25 PM за 09, 202) гядеЕ [] 2.3 45 рет Р N N N 001 7 GH; .041 dBn .041 dBn
#Res BW Isg Isg	100 kHz Tx. rectrum Analyzer - Swept Sir Ref 0ffset 0.5 dB Ref 30.00 dBm 1 1 3 GHz 1 00 kHz Ref SEL	x	JS NVN SEN Gain:Low 5 Second Hole of the second second s	T BLE 1M : SE:PULSE Trig: Free Run Atten: 40 dB 	ALIGN AUTO Avg Type: Avg Hold:	Emissio	ep 100.0 m OD 02:30: Mkr1 2.4 -3	IS (1001 pts IS (1001 pts IS PMan 09, 2023 IS PM an 09, 2023 IS PM
Keysight Sp Keysight Sp RL Center F 10 dB/div 20.0 .000	100 kHz Tx. rectrum Analyzer - Swept S/2 Ref Offset 0.5 dB Ref 30.00 dBm 1 3 GHz 1 100 kHz Ref Set 1 100 kHz	2.401 7 GHz 2.401 7 GHz	JS NVN SEN SE	V 300 KHz	2402MHz	Emissio	2000 02:30: 000 02:30: 000 02:30: 000 000 000 000 000 000 000 000 000 00	s (1001 pts 25 PM за 09, 202) гядеЕ [] 2.3 45 рет Р N N N 001 7 GH; .041 dBn .041 dBn
#Res BW Isg	100 kHz Tx. rectum Analyzer - Swept S/A RF 50 Ω A/A req 13.265000 Ref Offset 0.5 dB Ref 30.00 dBm 1 3 GHz 1 0 0 kHz Ref Set	2.401 7 GHz	JS NVN	F BLE 1M : SE:PULSE Trig: Free Run Atten: 40 dB 	2402MHz	Emissio	2000 02:30: 000 02:30: 000 02:30: 000 000 000 000 000 000 000 000 000 00	s (1001 pts 25 PM за 09, 202) гядеЕ [] 2.3 45 рет Р N N N 001 7 GH; .041 dBn .041 dBn
#Res BW Iss Keyzight Sp RL RL Center F Conter F 10 dB/div Conter F 20.0 Conter F 10.0 Conter F 10.0 Conter F 20.0 Conter F 10.0 Conter F 20.0 Conter F 20.0 Conter F 30.0 Conter F 20.0 Conter F 30.0 Conter F Start 0.00 Conter F 1 N 2 N 3 N 4 N 6 N	100 kHz Tx. sectrum Analyzer - Swept S/A Ref Offset 0.5 dB Ref 30.00 dBm 1 3 GHz 1 100 kHz Ref Set 1 f 1 f	2.4017 GHz 26.020 9 GHz 4.768 1 GHz	IS NVN SEN SEN SEN SEN SEN SEN SEN SE	F BLE 1M : SE:PULSE Trig: Free Run Atten: 40 dB 	2402MHz	Emissio	2000 02:30: 000 02:30: 000 02:30: 000 000 000 000 000 000 000 000 000 00	s (1001 pts 25 PM за 09, 202) гядеЕ [] 2.3 45 рет Р N N N 001 7 GH; .041 dBn .041 dBn
Keysight Sp Ito dB/div 20.0 10.0 20.0 10.0 0.00	100 kHz Tx. sectrum Analyzer - Swept S/A Ref Offset 0.5 dB Ref 30.00 dBm 1 3 GHz 1 100 kHz Ref Set 1 f 1 f	2.4017 GHz 26.020 9 GHz 4.768 1 GHz	IS NVN SEN SEN SEN SEN SEN SEN SEN SE	F BLE 1M : SE:PULSE Trig: Free Run Atten: 40 dB 	2402MHz	Emissio	2000 02:30: 000 02:30: 000 02:30: 000 000 000 000 000 000 000 000 000 00	IS (1001 pts 25 PM Jan 09, 202 12 3 4 5 25 PM Jan 09, 202 12 3 4 5 25 PM Jan 09, 202 12 3 4 5 25 PM Jan 09, 202 12 3 4 5 12 4 12 4 5 12 4 12 4 1



Page 76 of 81 Report No.: STS2206212W05

RL RF 50 9	Ω AC	SENSE	PULSE	ALIGN AUTO		02:32:2	📼 🗗 🗗 2 PM Jan 09, 2
enter Freq 2.4400	00000 GHz			Avg Type:	Log-Pwr	TF	RACE 1 2 3 4
	PN		Trig: Free Run #Atten: 30 dB	Avg Hold: 1	100/100		
					Mkr	1 2.439 9	92 5 G
dB/div Ref Offset 0 dB/div							443 dE
g			Ť				
1.5							
			▲ 1				
50							
.5							
.5							
.5							
.5							
.5							
.5							
nter 2.4400000 GH	lz					Span	1.500 N
es BW 100 kHz		#VBW	300 kHz		#Swee	p 100.0 m	s (1001 p
i				STATUS			
	Ex. Spuriou	s NVNT	BLE 1M 2		Emiceir	n	
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Keysight Spectrum Analyzer - S	wept SA						
Keysight Spectrum Analyzer - Si R L RF 50 9	wept SA Ω AC	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr	02:32:3	2 PM Jan 09, 2
Keysight Spectrum Analyzer - Si R L RF 50 9	wept SA Ω AC 000000 GHz	SENSE		ALIGN AUTO	Log-Pwr	02:32:3	2 PM Jan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P NNT
Keysight Spectrum Analyzer - Sv RL RF 50 ! enter Freq 13.265	wept SA Ω AC 0000000 GHz IFG	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3 Tř	2 PM Jan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1
Keysight Spectrum Analyzer - Si RL RF 50 : Parter Freq 13.265 Ref Offset 0 dB/div Ref 20.50	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PM Jan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1 40 5 G
Keysight Spectrum Analyzer - Si RL RF 50 : Inter Freq 13.265 Ref Offset 0 dB/div Ref 20.50	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PM Jan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1 40 5 G
Keysight Spectrum Analyzer - Si RL RF 50 : enter Freq 13.265 Ref Offset 0 dB/div Ref 20.50 9 5 1	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PM Jan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1
Keysight Spectrum Analyzer - Si RL RF 50 : enter Freq 13.265 Ref Offset 0 dB/div Ref 20.50 9 1.5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PM Jan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1 40 5 G
Keysight Spectrum Analyzer - Si RL RF 50 : Inter Freq 13.265 dB/div Ref Offset 0 g 1 50 1 50 1	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PMJan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N NT 40 5 G 296 dE
Keysight Spectrum Analyzer - Si RL RF 50 : Inter Freq 13.265 dB/div Ref Offset 0 g 1 5 5 6 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PMJan 09, 2 RACE 1 2 3 4 TYPE MWWV DET P N N 1 40 5 G
Keysight Spectrum Analyzer - Si RL RF 50 : Inter Freq 13.265 dB/div Ref 20.50 g 1 5 6 6	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PMJan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1 40 5 G 296 dE
Keysight Spectrum Analyzer - Si RL RF 50 mter Freq 13.265 dB/div Ref 20.50 g 1 5 6 6	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO Avg Type:	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PMJan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1 40 5 G 296 dE
Keysight Spectrum Analyzer - Si RL RF 501 Inter Freq 13.265 B/div Ref 20.50 9 1 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	wept SA Ω AC 0000000 GHz PI IFC 0.5 dB	SENSE	:PULSE	ALIGN AUTO	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PMJan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N NT 40 5 G 296 dE
Keysight Spectrum Analyzer - Si RL RF 501 mter Freq 13.265 dB/div Ref 20.50 g	wept SA Q AC PI 0000000 GHz PI IFC 1.5 dB dBm 4 4 4	SENSE NO: Fast →→ Gain:Low	:PULSE	ALIGN AUTO	Log-Pwr 10/10	02:32:3: TF Mkr1 2.4	2 PMJan 09, 2 RACE 1 2 3 4 TYPE M WWW DET P N N 1 40 5 G 296 dE
Keysight Spectrum Analyzer - Si RL RF 501 Inter Freq 13.265 GB/div Ref 20.50 9 1 5 5 5 6 6 6 6 6 6 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1	wept SA Q AC PI 0000000 GHz PI IFC 1.5 dB dBm 4 4 4	SENSE NO: Fast →→ Gain:Low	:PULSE	ALIGN AUTO	Log-Pwr 10/10	02:32:3: Tr Mkr1 2.4 -3.	2 PM an 09, 2 Made 1 2 3 4 TYPE M WH DET P NNT 40 5 G 296 dE
Keysight Spectrum Analyzer - Si RL RF 50 (enter Freq 13.265 B/div Ref 20.50 1 1 1 1 1 1 1 1 1 1 1 1 1	wept SA Q AC PI 0000000 GHz PI IFC 1.5 dB dBm 4 4 4	SENSE NO: Fast Gain:Low	PULSE	ALIGN AUTO	Log-Pwr 10/10	02:32:3: TI Mkr1 2.4 -3.	26.50 G
Keysight Spectrum Analyzer - Si RL RF 50 (enter Freq 13.265	wept SA Q AC PI 0000000 GHz PI IFC 1.5 dB dBm 4 4 4	SENSE NO: Fast Gain:Low	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Keysight Spectrum Analyzer - Si RL RF 50 (enter Freq 13.265 B/div Ref 20.50 1 1 1 1 1 1 1 1 1 1 1 1 1	x	SENSE NO: Fast Gain:Low	:PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: TI Mkr1 2.4 -3.	26.50 G
Keysight Spectrum Analyzer - Si RL RF 50 regeneration of the second se	weept SA P 20000000 GHz P IFG P 0.5 dB dBm dBm P 2.5 dB P dBm P 2.5 dB P dBm P 2.5 dB P dBm P 2.40 5 GHz 26.469 1 GHz 26.469 1 GHz 26.469 1 GHz	SENSE NO: Fast Gain:Low	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Respective Rel NF S0 : 30 : 30 : 30 : 30 : 30 : 30 : 30 :	x 2 AC P 0000000 GHz P P IFG P P 0.5 dB dBm dBm 0.5 dB dBm P 0.6 dB dBm P 0.6 dB dBm P 2.6 469 1 GHz 4.908 4 GHz P 7.319 8 GHz P P	SENSE Sain:Low Sai	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Right Spectrum Analyzer - Signer Ref Signer RL RF Signer Signer Senter Freq 13.265 Ref Offset 0 Ref 20.50 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signer freq 13.265 G Image: Signer freq 13.265 Image: Signe: Si	x x x 2.440 5 GHz 2.440 5 GHz 4.908 4 GHz 4.908 4 GHz	SENSE NO: Fast → Gain:Low → Sain:Low →	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Keysight Spectrum Analyzer - Si RL RF Si Senter Freq 13.265 Ref Offset 0 dB/div Ref Offset 0 9 1 1 9 1 1 9 1 1 9 1 1 9 1 1 1 9 1 1 1 1 9 1 1 1 1 9 1 1 1 1 9 1 1 1 1 9 1 1 1 1 9 1 1 1 1	x 2 AC P 0000000 GHz P P IFG P P 0.5 dB dBm dBm 0.5 dB dBm P 0.6 dB dBm P 0.6 dB dBm P 2.6 469 1 GHz 4.908 4 GHz P 7.319 8 GHz P P	SENSE Sain:Low Sai	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Keysight Spectrum Analyzer - Si RL RF S0 1 Inter Freq 13.265 Ref Offset 0 Block Glock Glock Block Glock Glock Glock Block Glock Glock Glock Glock Block Glock Glock <td>x 2 AC P 0000000 GHz P P IFG P P 0.5 dB dBm dBm 0.5 dB dBm P 0.6 dB dBm P 0.6 dB dBm P 2.6 469 1 GHz 4.908 4 GHz P 7.319 8 GHz P P</td> <td>SENSE Sain:Low Sai</td> <td>PULSE</td> <td>ALIGN AUTO</td> <td>Log-Pwr 10/10 #Sweep</td> <td>02:32:3: T Mkr1 2.4 -3.</td> <td>26.50 G</td>	x 2 AC P 0000000 GHz P P IFG P P 0.5 dB dBm dBm 0.5 dB dBm P 0.6 dB dBm P 0.6 dB dBm P 2.6 469 1 GHz 4.908 4 GHz P 7.319 8 GHz P P	SENSE Sain:Low Sai	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Keysight Spectrum Analyzer - Signed Freq 13.265 RL RF Signed Freq 13.265 Ref Offset 0 Ref Offset 0 Black Ref Offset 0 Ref 20.50 9 1 1 50 1 1 50 1 1 50 1 1 51 1 1 52 1 1 1 53 1 1 1 1 64 N 1 1 1 7 1 1 1 1 7 1 1 1 1 7 1 1 1 1 8 1 1 1 1 1 1 1 1 1 1 8 1 1 1 1 1 8 1 1 1 1 1 8 1 1 1 1 1	x 2 AC P 0000000 GHz P P IFG P P 0.5 dB dBm dBm 0.5 dB dBm P 0.6 dB dBm P 0.6 dB dBm P 2.6 469 1 GHz 4.908 4 GHz P 7.319 8 GHz P P	SENSE Sain:Low Sai	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G
Right Spectrum Analyzer - Si RL RF S0 Enter Freq 13.265 Ref Offset 0 B/div Ref 20.50 Ref 20.50 Ref 20.50 Ref 20.50 R	x 2 AC P 0000000 GHz P P IFG P P 0.5 dB dBm dBm 0.5 dB dBm P 0.6 dB dBm P 0.6 dB dBm P 2.6 469 1 GHz 4.908 4 GHz P 7.319 8 GHz P P	SENSE Sain:Low Sai	PULSE	ALIGN AUTO	Log-Pwr 10/10 #Sweep	02:32:3: T Mkr1 2.4 -3.	26.50 G

Tx. Spurious NVNT BLE 1M 2440MHz Ref

Т



Page 77 of 81 Report No.: STS2206212W05

enter F	RF 50 Ω req 2.48000	00000 GHz		E:PULSE Trig: Free Run	ALIGN AUTO Avg Type: Avg Hold:	Log-Pwr 100/100	02:34:	56 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW
			NO: Wide ↔ Gain:Low	Atten: 40 dB				DET P N N N
) dB/div	Ref Offset 0.6 Ref 30.00 (MKr		992 5 GH I.671 dB
^{og}								
20.0								
10.0				_1				
0.00								
0.00								
10.0								
20.0								
30.0								
40.0								
40.0								
50.0								
50.0								
enter 2.4 Res BW	4800000 GH:	Z	#\/D\//	300 kHz		<i>"</i> –		n 1.500 Mi 1s (1001 pi
	100 KHZ		#1011	300 KHZ	STATUS	#Swee	5 100.011	13 (1001 p
SG		. Couriou						13 (1001 pt
SG	Т				status 2480MHz			
SG Keysight Sp RL	T ectrum Analyzer - Sw RF 50 Ω	ept SA AC	is NVNT		2480MHz	Emissio)N 02:35:	06 PM Jan 09, 20
SG Keysight Sp RL	T ectrum Analyzer - Sw RF 50 Ω	ept SA AC 000000 GHz P		BLE 1M	2480MHz	Emissio)N 02:35:	06 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW
SG Keysight Sp RL	T ectrum Analyzer - Sw RF 50 Ω	ept SA AC 000000 GHz P	JS NVNT	BLE 1M	2480MHz Align Auto Avg Type:	Emissic	02:35:	06 PM Jan 09, 20 TRACE 1 2 3 4 1 TYPE MWWW DET P N N N
Keysight Spr RL Center F	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: 02:35: Mkr1 2.4	06 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N N 480 2 GH
Keysight Spi RL Center F	T ectrum Analyzer - Sw RF 50 Ω req 13.2650	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: 02:35: Mkr1 2.4	06 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N N 480 2 GH
Keysight Spr RL Center F 0 dB/div 20.0	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: 02:35: Mkr1 2.4	00 PM Jan 09, 20, TRACE 12 34 TYPE MWWW DET P NNNI 480 2 GH 5.842 dBr
Keysight Spi RL Center F	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: 02:35: Mkr1 2.4	06 PM Jan 09, 20 TRACE 1 2 3 4 3 TYPE M WWW DET P N N N 480 2 GH
sg Keysight Sp RL Center F 0 dB/div 9 20.0	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: 02:35: Mkr1 2.4	06 PM Jan 09, 203 TRACE 1 2 3 4 5 TYPE M WWW DET P NNN 480 2 GH 5.842 dBr
SG Keysight Spi RL Denter F Center F 20.0 10.0 0.000	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: 02:35: Mkr1 2.4	06 PM Jan 09, 20 TRACE 1 2 3 4 3 TYPE M WWW DET P N N N 480 2 GH
SG Keysight Spi RL Center F Center F Center F 0 0.0 10.0 0.00 10.0 0.00	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB		BLE 1M	2480MHz	Emissic	00:35: Mkr1 2.4	06 PM Jan 09, 203 TRACE 1 2 3 4 5 TYPE M WWW DET P NNN 480 2 GH 5.842 dBr
SG Keysight Sp. RL . center F . 0 dB/div . 0 dD .	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB	SENSI NO: Fast	BLE 1M :	ALIGN AUTO AVIG Type: Avg Hold:	Emissic	00:35: Mkr1 2.4	06 PM Jan 09, 203 TRACE 1 2 3 4 5 TYPE M WWW DET P NNN 480 2 GH 5.842 dBr
C dB/div C dB/d	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB	JS NVNT SENSI PNO: Fast ↔ Gain:Low	BLE 1M	2480MHz	Emissic	00:35: Mkr1 2.4	06 PM Jan 09, 203 TRACE 1 2 3 4 5 TYPE M WWW DET P NNN 480 2 GH 5.842 dBr
SG Keysight Sp. RL . center F . 0 dB/div . 20.0 . 10.0 . 20.0 . . .	T ectrum Analyzer - Sw ℝF 50 Ω req 13.2650 Ref Offset 0.4	ept SA AC 000000 GHz IF 5 dB	JS NVNT SENSI PNO: Fast ↔ Gain:Low	BLE 1M :	2480MHz	Emissic	00:35: Mkr1 2.4	06 PM Jan 09, 203 TRACE 1 2 3 4 5 TYPE M WWW DET P NNN 480 2 GH 5.842 dBr
SG Keysight Spi RL RL Center F Senter F 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0 20.0 10.0	T sctrum Analyzer - Sw Ref 30 Ω Ref 0ffset 0.4 Ref 30.00 of 1 1 1 1 1 1 1 1 1 1 1 1 1	ept SA AC 000000 GHz IF 5 dB	IS NVNT	BLE 1M	2480MHz	Emissic	02:35: Mkr1 2.4 -6	06 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M VIET B NNN1 480 2 GH 5.842 dBI -16.33 d
SG Keysight Spi RL RL Center F Senter F 200 100	T ectrum Analyzer - Sw Ref 30 Ω Ref 0ffset 0.4 Ref 30.00 0	ept SA AC D000000 GHz IF 5 dB dBm	IS NVNT	BLE 1M		Emissic	02:35: Mkr1 2.4 -6 Sto 100.0 ms	06 PM Jan 09, 20 TRACE I 2 3 4 TYPE M VIET 8 842 dBi -18.33 d -18.33 d -18.33 d -18.33 d -18.33 d
Keysight Spright Sprigh	T ectrum Analyzer - Sw Ref 30 Ω Ref 0ffset 0.4 Ref 30.00 0	ept SA AC 000000 GHz IF 5 dB	IS NVNT	BLE 1M	2480MHz	Emissic	02:35: Mkr1 2.4 -6	06 PM Jan 09, 20 TRACE I 2 3 4 TYPE M VIET 8 842 dBi -18.33 d -18.33 d -18.33 d -18.33 d -18.33 d
Keysight Sp. RL Center F 20.0 20.0 10.0 20.0 30.0 40.0 50.0 60.0 20.0 30.0	T sctrum Analyzer - Sw Ref 30 Ω Ref 0ffset 0.0 Ref 30.00 of 1 1 3 GHz 100 kHz 3G SSL	ept SA AC D000000 GHz P F S dB dBm dBm dBm	SENSI SENSI SNO: Fast Gain:Low SNO: Fast Sensi	BLE 1M :		Emissic	02:35: Mkr1 2.4 -6 Sto 100.0 ms	06 PM Jan 09, 20 TRACE I 2 3 4 TYPE M VIET 8 842 dBi -18.33 d -18.33 d -18.33 d -18.33 d -18.33 d
SG Keysight Sp. RL Center F Conter F Conter F Conter Conter F <	T ectrum Analyzer - Sw Ref 30.00 (Ref 30.00 (1 1 1 3 3 3 3 3 3 3 3 3 3 3 3 3	ept SA AC D000000 GHz P F 5 dB dBm dBm 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	JS NVNT SENSI SENSI Gain:Low SGain:Low SGain:Low SGA2 df SGA2 df S	BLE 1M : E:PULSE		Emissic	02:35: Mkr1 2.4 -6 Sto 100.0 ms	06 PM Jan 09, 20 TRACE I 2 3 4 TYPE M VIET 8 842 dBi -18.33 d -18.33 d -18.33 d -18.33 d -18.33 d
SG Keysight Sp. RL Center F Conter F Conter F Conter Conter F <	Teq 13.2650 Ref Offset 0.1 Ref 30.00 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ept SA AC D000000 GHz P IF 5 dB dBm dBm dBm dBm dBm dBm dBm dBm dBm d	JS NVNT SENSI SNO: Fast →- Gain:Low SNO: Fast →- Gain:Low SNO: Fast →- Gain:Low SNO: Fast →- Gain:Low SNO: Fast →- Gain:Low	BLE 1M : E:PULSE		Emissic	02:35: Mkr1 2.4 -6 Sto 100.0 ms	06 PM Jan 09, 20 TRACE I 2 3 4 TYPE M VIET 8 842 dBi -18.33 d -18.33 d -18.33 d -18.33 d -18.33 d
SG Keysight Sp. RL Center F Conter F Conter F Conter Conter F <	T ectrum Analyzer - Sw Ref 30.00 (Ref 30.00 (1 1 1 3 3 3 3 3 3 3 3 3 3 3 3 3	ept SA AC D000000 GHz P F 5 dB dBm dBm 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	JS NVNT SENSI SENSI Gain:Low SGain:Low SGain:Low SGA2 df SGA2 df S	BLE 1M : E:PULSE		Emissic	02:35: Mkr1 2.4 -6 Sto 100.0 ms	06 PM Jan 09, 20 TRACE I 2 3 4 TYPE M VIET 8 842 dBi -18.33 d -18.33 d -18.33 d -18.33 d -18.33 d
Keysight Spin R Center F 0 20.0 0	T ectrum Analyzer - Sw Ref 30.00 (Ref 30.00 (1 1 1 3 3 3 3 3 3 3 3 3 3 3 3 3	ept SA AC D000000 GHz P F 5 dB dBm dBm 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	JS NVNT SENSI SENSI Gain:Low SGain:Low SGain:Low SGA2 df SGA2 df S	BLE 1M : E:PULSE		Emissic	02:35: Mkr1 2.4 -6 Sto 100.0 ms	00 PM Jan 09, 20 TRACE, I 2 3 4 4 TYPE MADE I 2 3 4 4 DET P NN N 480 2 GH 5.842 dBI 1833 d 1833 d 1833 d 1833 d 1833 d

Tx. Spurious NVNT BLE 1M 2480MHz Ref

Т



Page 78 of 81 Report No.: STS2206212W05

Keysight Spectrum Analyzer - RL RF 50 enter Freq 2.402	0 Ω AC 000000 GHz	SENS PNO: Wide FGain:Low	E:PULSE Trig: Free R #Atten: 20 d	un	IGN AUTO Avg Type: Avg Hold: 1	100/100	т	TYPE NNN
dB/div Ref 0ffset						IVI	kr1 2.402 1	.713 dB
g			4	1				
00		Maria	www	moren	m mann			
50	and when when when when when when when when	σγ V • Υ		.4.0 /		N N NN	An	
1.5 N	/v *					ل ل	ave h	
~~~~								My
0.5 A								h
0.5 <mark>W</mark>								h
9.5								
.5								
.5								
.5								
enter 2.402000 GH tes BW 100 kHz	Iz	#VBW	/ 300 kHz			Swee	Spar p 1.000 m	n 3.000 M Is (1001 p
3							-	
						Emioni	'n	
Keysight Spectrum Analyzer -					2MHz	Emissio		
Keysight Spectrum Analyzer - R L RF 50	Swept SA D Ω AC 5000000 GHz		BLE 2 :E:PULSE Trig: Free R #Atten: 20 d	un AL		Log-Pwr	02:37:3	RACE 1 2 3 4
Keysight Spectrum Analyzer - RL RF 50 Enter Freq 13.26 Ref Offset	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast ↔	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	BO PM Jan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P NNN 02 6 GH
Keysight Spectrum Analyzer- RL RF 5( enter Freq 13.26 Ref Offset dB/div Ref 10.5	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast ↔	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	00 PM Jan 09, 20 TRACE 1 2 3 4 TYPE MWWW DET P NNN 02 6 GH .873 dB
Keysight Spectrum Analyzer - RL RF 50 enter Freq 13.26 Ref Offset dB/div Ref 10.5 9 0 1 1 1 1 1 1 1 1 1 1 1 1 1	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast ↔	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	30 PMJan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P N N N 102 6 GH .873 dB
Keysight Spectrum Analyzer - RL RF SC enter Freq 13.26 Ref Offset dB/div Ref 10.50 9 0 0 0 0 0 0 0 0 0 0 0 0 0	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast ↔	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	RACE 1 2 3 4 TYPE MWW DET P NNN
Ref Offset	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast ↔	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	30 PMJan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P N N N 102 6 GH .873 dB
Keysight Spectrum Analyzer - RL RF 50 enter Freq 13.26 Ref Offset dB/div Ref 10.50 9 0 0 0 0 0 0 0 0 0 0 0 0 0	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast ↔	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	30 PMJan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P N N N 102 6 GH .873 dB
Rejoint Spectrum Analyzer - Standard Spectrum Analyzer - Standard Spectrum Analyzer - Spect	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast →→→ FGain:Low	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	30 PMJan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P N N N 102 6 GH .873 dB
Reside         Ref         SC           Ref         015         015           OBJ         015         015	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast →→→ FGain:Low	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4	30 PMJan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P N N N 102 6 GH .873 dB
Keysight Spectrum Analyzer - Stenter Freq 13.26           Ref Offset         Ref Offset           0 dB/div         Ref 10.50           0 dB/div         1           50         1           50         1           50         1           50         1           50         1           50         1           50         1           50         1           50         1           50         1           50         1           50         1           51         1           52         1           53         1           54         1           55         1           56         1           57         1           58         1           59.5         1           50.5         1	Swept SA 0 Ω AC 5000000 GHz 0.5 dB	SENS PNO: Fast →→→ FGain:Low	E:PULSE	un AL	2MHz	Log-Pwr	02:37:3 T Mkr1 2.4 -3	30 PMJan 09, 20 RACE 1 2 3 4 TYPE MWWW DET P N N N 102 6 GH .873 dB
Respective Analyzer - RL         RF         St           Ref Offset         Senter Freq 13.26         Senter Freq 13.26           0 dB/div         Ref Offset         Senter Freq 13.26           0 dB/div         Ref Offset         Senter Freq 13.26           0 dB/div         Ref 0 ffset         Senter Freq 14.26           0 dB/div         Ref 0 ffset         Senter Freq 14.26           0 dB/div         Ref 0 ffset         Senter F	Swept SA 20 AC 5000000 GHz 0.5 dB 0 dBm 4 4 4 4 4 4 4 4 4 4 4 4 4	SENS PNO: Fast →- FGain:Low	E:PULSE Trig: Free R #Atten: 20 d	un B	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3 -3 	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c
Keysight Spectrum Analyzer - Ref Offset           Ref Offset         Ref Offset           0 dB/div         Ref 10.50           9         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.5         -           9.6         -           9.7         -           9.8         -           9.7         -           9.8 <td< td=""><td>Swept SA 2 Q AC 5000000 GHz 1 0.5 dB 0 dBm 4 4 4 4 2.402 6 GHz</td><td>SENS PNO: Fast →- FGain:Low</td><td>E:PULSE Trig: Free R #Atten: 20 d</td><td>un AL</td><td>2MHz</td><td>Log-Pwr 10/10</td><td>02:37:3 T Mkr1 2.4 -3</td><td>10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c</td></td<>	Swept SA 2 Q AC 5000000 GHz 1 0.5 dB 0 dBm 4 4 4 4 2.402 6 GHz	SENS PNO: Fast →- FGain:Low	E:PULSE Trig: Free R #Atten: 20 d	un AL	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c
Keysight Spectrum Analyzer - RL         RF         SC           RL         RF         SC           Enter Freq 13.26         Ref Offset         Ref Offset           0 dB/div         Ref Offset         Ref Offset         Ref Offset           9 d         0         1         1         1           50         0         0         1         1         1           50         0         0         0         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <th1< th="">         1         1</th1<>	Swept SA D Q AC 5000000 GHz 1 0.5 dB 0 dBm 4 2.402 6 GHz 7.206 0 GHz 4.802 5 GHz 4.802 5 GHz	SENS PNO: Fast →- FGain:Low #VBW \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	f 300 kHz Bm Bm Bm	un B	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3 -3 	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c
Keysight Spectrum Analyzer-RL         RF         Scenter Freq 13.26           Def Def Colspan="2">Ref Offset         Ref Offset           0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	Swept SA 20 AC 5000000 GHz 1 0.5 dB 0 dBm 4 2 4 2 2.402 6 GHz 7.206 0 GHz	SENS PNC: Fast →- FGain:Low #VBW #VBW : -3,873 dl -54,739 dl -54,739 dl -54,739 dl	Trig: Free R #Atten: 20 d 7 300 kHz Bm Bm Bm Bm Bm	un B	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3 -3 	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c
Ref Offset           Ref Offset         Ref Offset           0 dB/div         Ref 10.50           0 dB/div         1           1 dV         1           1 dV         1           1 dV         1 <tr td="">         1</tr>	Swept SA 2 Q AC 5000000 GHz 1 0.5 dB 0 dBm 4 2 4 4 2 4 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5	SENS PNC: Fast →- FGain:Low #VBW #VBW : -3,873 dl -54,739 dl -54,739 dl -54,739 dl	Trig: Free R #Atten: 20 d 7 300 kHz Bm Bm Bm Bm Bm	un B	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3 -3 	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c
Respective Analyzer- RL         Ref Offset senter Freq 13.26           Ref Offset dB/div         Ref Offset set dB/div         Colspan="2">Ref Offset dB/div         Colspan="2">Ref Offset dB/div         Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan=	Swept SA 2 Q AC 5000000 GHz 1 0.5 dB 0 dBm 4 2 4 4 2 4 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5	SENS PNC: Fast →- FGain:Low #VBW #VBW : -3,873 dl -54,739 dl -54,739 dl -54,739 dl	Trig: Free R #Atten: 20 d 7 300 kHz Bm Bm Bm Bm Bm	un B	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3 -3 	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c
Keysight Spectrum Analyzer - RL         RF         Scenter Freq 13.26           Ref Offset           0 dB/div         Ref 0ffset         Ref 0ffset           0 dB/div         Ref 10.51         Ref 0ffset         Ref 0ffset           0 dB/div         Ref 0ffset         Ref 0ffset         Ref 0ffset           1 d         R         Ref 0ffset         Ref 0ffset           1 n         1         F	Swept SA 2 Q AC 5000000 GHz 1 0.5 dB 0 dBm 4 2 4 4 2 4 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5	SENS PNC: Fast →- FGain:Low #VBW #VBW : -3,873 dl -54,739 dl -54,739 dl -54,739 dl	Trig: Free R #Atten: 20 d 7 300 kHz Bm Bm Bm Bm Bm	un B	2MHz	Log-Pwr 10/10	02:37:3 T Mkr1 2.4 -3 -3 	10 PM Jan 09, 20 34 17 Roce 11 2 3 4 17 PM MWWW DET P NNN 102 6 GH .873 dB .1829 c .1829 c .1829 c

### Tx. Spurious NVNT BLE 2M 2402MHz Ref

Т



RL RF 50 Ω enter Freg 2.44000		SENSE	:PULSE	ALIGN AUTO Avg Type:		02:38:5 TF	1 PM Jan 09, 20 RACE 1 2 3 4
	PI		Trig: Free Run #Atten: 20 dB	Avg Hold:	100/100		RACE 1 2 3 4 TYPE MWWW DET P N N N
Ref Offset 0.5 dB/div Ref 10.50 d					М	kr1 2.439 1.	985 GI 357 dB
g			1				
00		0 00 000					
50	how	M. M. Marian	Vini V m	mouth and	m		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	now				°√√	www	
.5						(mr)	M
.5							- Wing
1.5 YW							
.5							
.5							
.5							
.5							
enter 2.440000 GHz						Span	3.000 M
es BW 100 kHz		#VBW	300 kHz		Swee	p 1.000 m	
		_		STATUS			
		IS NVNT	BLE 2M	2440MHz	Emissio	on	
Keysight Spectrum Analyzer - Swe RL RF 50 Ω		SENSE	-DUIL CE				
		JENJE	PULSE	ALIGN AUTO	Log-Pwr	02:39:2	7 PM Jan 09, 20
	100000 GHz P	NO: Fast	Trig: Free Run #Atten: 20 dB	ALIGN AUTO Avg Type: Avg Hold:	Log-Pwr 10/10	TF	RACE 1 2 3 4
	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET P NNN
Ref Offset 0.5 dB/div Ref 10.50 d	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	7 PM Jan 09, 20 RACE 1 2 3 4 TYPE M WWW DET P N N N 39 7 GF 178 dB
Ref Offset 0.6 dB/div Ref 10.50 c	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET P NNN
Ref Offset 0.6 dB/div Ref 10.50 c g 1 50	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET P NNN
Ref Offset 0.6 dB/div Ref 10.50 c 1 1 1 1 1 1 1 1 1 1 1 1 1	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET PNNN 39 7 GH 178 dB
Ref Offset 0.6 dB/div Ref 10.50 c 1 1 1 1 1 1 1 1 1 1 1 1 1	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET PNNN 39 7 GH 178 dB
Ref Offset 0.5 dB/div Ref 10.50 c 1 1 1 1 1 1 1 1 1 1 1 1 1	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET PNNN 39 7 GH 178 dB
Ref Offset 0.5 dB/div Ref 10.50 c 1 1 1 1 1 1 1 1 1 1 1 1 1	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET P NNN 39 7 GH 178 dB
Ref Offset 0.5 dB/div Ref 10.50 c	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:	Log-Pwr 10/10	Mkr1 2.4	ACE 1 2 3 4 TYPE MWWW DET P NNN 39 7 GH 178 dB
Ref Offset 0.5 dB/div Ref 10.50 d Ref 10.50 d Ref 10.50 d 1 1 1 1 1 1 1 1 1 1 1 1 1	1000000 GHz P IF1	NO: Fast	Trig: Free Run	Avg Type:		TH Mkr1 2.4 0.	26.50 GH
Ref Offset 0.5 0 dB/div Ref 10.50 d 9 d 9 d 9 d 9 d 9 d 9 d 9 d 9	X	NO: Fast	Trig: Free Run #Atten: 20 dB	Avg Type:	10/10	TH Mkr1 2.4 0.	26.50 GH
Ref Offset 0.5 Ref Offset 0.5 Ref 10.50 c 1 dB/div Ref 10.50 c	2.439 7 GHz 26.465 6 GHz	NO: Fast Gain:Low	Trig: Free Run #Atten: 20 dB	Avg Type: Avg Hold:	10/10	Tr Mkr1 2.4 0. Stopep 2.530 s	26.50 GH
Ref Offset 0.5 0 dB/div Ref 10.50 d 9 d 9 d 9 d 9 d 9 d 9 d 9 d 9	2439 7 GHz 2439 7 GHz 26.465 6 GHz 4.799 9 GHz 7.321 6 GHz	NO: Fast Gain:Low #VBW 0,178 dB -55.155 dB -66.286 dB -57.957 dB	Trig: Free Run #Atten: 20 dB	Avg Type: Avg Hold:	10/10	Tr Mkr1 2.4 0. Stopep 2.530 s	26.50 GH
Ref Offset 0.6 Ref Offset 0.6 Ref 10.50 of Ref 10.50 of 1 1 1 1 1 1 1 1 1 1 1 1 1	2.439 7 GHz 2.439 7 GHz 4.799 GHz	NO: Fast → Gain:Low → #VBW ¥VBW ¥ 0.178 dB -55.155 dB -66.288 dB	Trig: Free Run #Atten: 20 dB	Avg Type: Avg Hold:	10/10	Tr Mkr1 2.4 0. Stopep 2.530 s	26.50 GH
Ref Offset 0.6 Ref Offset 0.6 Ref 10.50 c 9 1 1 1 1 1 1 1 1 1 1 1 1 1	2439 7 GHz 2439 7 GHz 26.465 6 GHz 4.799 9 GHz 7.321 6 GHz	NO: Fast Gain:Low #VBW 0,178 dB -55.155 dB -66.286 dB -57.957 dB	Trig: Free Run #Atten: 20 dB	Avg Type: Avg Hold:	10/10	Tr Mkr1 2.4 0. Stopep 2.530 s	26.50 GH
Ref Offset 0.5 dB/div Ref 10.50 c Ref 0ffset 0.5	2439 7 GHz 2439 7 GHz 26.465 6 GHz 4.799 9 GHz 7.321 6 GHz	NO: Fast Gain:Low #VBW 0,178 dB -55.155 dB -66.286 dB -57.957 dB	Trig: Free Run #Atten: 20 dB	Avg Type: Avg Hold:	10/10	Tr Mkr1 2.4 0. Stopep 2.530 s	26.50 GH
Ref Offset 0.5 0 dB/div Ref 10.50 d 9 d 9 d 9 d 9 d 9 d 9 d 9 d 9	2439 7 GHz 2439 7 GHz 26.465 6 GHz 4.799 9 GHz 7.321 6 GHz	NO: Fast Gain:Low #VBW 0,178 dB -55.155 dB -66.286 dB -57.957 dB	Trig: Free Run #Atten: 20 dB	Avg Type: Avg Hold:	10/10	Tr Mkr1 2.4 0. Stopep 2.530 s	26.50 GH

Tx. Spurious NVNT BLE 2M 2440MHz Ref

Т



RL RF 50 Ω enter Freq 2.48000	00000 GHz	SENSE:PULSE	Free Run	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100	02:41:00 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW
			n: 20 dB	Avgineia, toorioo	DET P N N N
Ref Offset 0.5 dB/div Ref 10.50 0					Mkr1 2.480 018 GH 1.121 dB
og			a 1		
500					
	marchan	Mulmur	ma present	man all all and	
0.50	mand			Margan Maryton	mm
9.5					V V VA
29.5					NW C
191.0 Market					a de la dela dela dela dela dela dela de
39.5 \fr					
19.5					
59.5					
.9.5					
9.5					
enter 2.480000 GHz Res BW 100 kHz		#VBW 300	kHz	Sv	Span 3.000 Mi veep 1.000 ms (1001 pi
G					
				STATUS	
	x. Spurious	NVNT BL	E 2M 24		sion
Keysight Spectrum Analyzer - Swi	ept SA			80MHz Emis	- ¢
Keysight Spectrum Analyzer - Sw RL RF 50 Ω	ept SA AC	SENSE:PULSE		80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 1 2 3 4
Keysight Spectrum Analyzer - Sw RL RF 50 Ω	ept SA AC 1000000 GHz PN0	SENSE:PULSE		80MHz Emis	02:41:35 PM Jan 09, 20
Keysight Spectrum Analyzer - Swing RL RF So Ω enter Freq 13.2650 Ref Offset 0.6	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 1234 TYPE MWWW DET P NNN Mkr1 2.480 2 GH
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω center Freq 13.2650 Ref Offset 0.6 0 dB/div Ref 10.50 @	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 1 2 3 4 TYPE M WWW DET P N N N
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω enter Freq 13.2650 O dB/div Ref Offset 0.6 0 dB/div Ref 10.50 d 1 500 1 1	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 1234 TYPE MWWW DET P NNN Mkr1 2.480 2 GH
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω Ref Offset 0.5 O dB/div Ref Offset 0.5 0 dB/div Ref Offset 0.5 0 dB/div Ref Offset 0.5 0 dB/div Image: Colspan="2">Colspan="2" 0 dB/div Colspan="2" 0 dD Colspan="2"	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 1234 TYPE MWWW DET P NNN Mkr1 2.480 2 GH
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω enter Freq 13.2650 Ref Offset 0.6 0 dB/div Ref 10.50 d 90 1 0.50 1	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 12 34 TYPE NWW DET P NNN Mkr1 2.480 2 GF 0.174 dB
Keysight Spectrum Analyzer - Swing RL RF So Ω enter Freq 13.2650 Ref Offset 0.6	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 12 34 TYPE NWW DET P NNN Mkr1 2.480 2 GF 0.174 dB
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω center Freq 13.2650 Ref Offset 0.6 O dB/div Ref 10.50 d 9 1 0.50 1 9.50 1 9.50 29.5	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE	Free Run	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 12 34 TYPE NWW DET P NNN Mkr1 2.480 2 GF 0.174 dB
T Keysight Spectrum Analyzer - Sw. RL RF 50.0 Ref Offset 0.6 O dB/div Ref 10.50 o 90 1 3 3 3 3 3 3 3 3 3 3 3 3 5 3 5 3 5 3 5 3 5 3 5 3 5 4	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE D: Fast	Free Run n: 20 dB	80MHz Emis	02:41:35 PM Jan 09, 20 TRACE 12:34 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB -1888 d
T Keysight Spectrum Analyzer - Sw RL	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE D: Fast	Free Run n: 20 dB	ALIGN AUTO AVg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12:34 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB -1888 d
Keysight Spectrum Analyzer - Sw. RL RF 50 Q center Freq 13.265C Sector Ref Offset 0.6 0 dB/div Ref Offset 0.1 3.50 1 3.51 1 3.52 1 3.53 1 3.54 <td< td=""><td>AC AC PNG AC PNG AC FROM AC AC A</td><td>SENSE:PULSE D: Fast</td><td>Free Run n: 20 dB</td><td>ALIGN AUTO AVg Type: Log-Pwr Avg Hold: 10/10</td><td>02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB </td></td<>	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE D: Fast	Free Run n: 20 dB	ALIGN AUTO AVg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω center Freq 13.2650 Ref Offset 0.5 O dB/div Ref 10.50 d 90 1 3 91 1 3 92 1 3 93 1 3 94 1 3 95 1 3 96 1 3 97 1 3 98 1 3 99 1 3 91 1 3 92 1 3 93 1 3 94 1 3 95 1 3 96 1 3 97 1 3 98 1 3 99 1 3 90 1 3 91 1 3 92 1 3 93 1 3	AC AC PNG AC PNG AC FROM AC AC A	SENSE:PULSE D: Fast \rightarrow Trig: in:Low #Atte	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09: 02: 17:35 PM Jan 09: 02: 02:41:35 PM Jan 09: 02: TYPE MWWW DET /P NNN Mkr1 2:480 2 GH 0.174 dB 10:88 d 10:88 d 10:88 d 10:88 d 10:88 d
Keysight Spectrum Analyzer - Sw. RL RF 50 Q center Freq 13.265C Sector Ref Offset 0.6 0 dB/div Ref Offset 0.1 3.50 1 3.51 1 3.52 1 3.53 1 3.54 <td< td=""><td>AC AC PNG AC PNG PNG AB</td><td>SENSE:PULSE D: Fast</td><td>Free Run n: 20 dB</td><td>ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10</td><td>02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB </td></td<>	AC AC PNG AC PNG PNG AB	SENSE:PULSE D: Fast	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB
Terrer in Analyzer - Sw. RL RF 500 Ref Offset 0.5 0 dB/div Ref 10.50 9 0 0 0 90 0 0 0 90 0 0 0 90 0 0 0 0 91 0 0 0 0 92 0 0 0 0 93 0 0 0 0 0 93 0 0 0 0 0 0 93 0<	AC AC PNG AC PNG PNG AB	SENSE:PULSE D: Fast Trig: ain:Low #Atte	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB .1888 d .1888
T Keysight Spectrum Analyzer - Sw. RL RF 50 Ω Ref Offset 0.5 O B/div Ref Offset 0.5 0 B/div Ref 10.50 d 9 0 0 0 9.50 0 0 0 9.50 0 0 0 9.50 0 0 0 0 9.50 0 0 0 0 9.50 0 0 0 0 9.50 0	2.480 2 GHz 26.492 9 GHz 5.076 9 GHz	SENSE:PULSE D: Fast Trig: sin:Low #Atte 	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB .1888 d .1888
T Keysight Spectrum Analyzer - Sw. RL RF 50 20 Ref Offset 0.6 O dB/div Ref 10.63 Offset 0.6 O dB/div Ref 10.63 Offset 0.6 9 5	AC AC PNO PNO PNO PNO PNO PNO PNO PNO	SENSE:PULSE D: Fast	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB .1888 d .1888
T Keysight Spectrum Analyzer - Sw. RL RF 50 20 Ref Offset 0.6 O dB/div Ref 10.63 Offset 0.6 O dB/div Ref 10.63 Offset 0.6 9 5	2480 2 GHz 26.492 9 GHz 5.076 9 GHz 7.438 1 GHz	SENSE:PULSE D: Fast → Trig: in:.Low → #Atte 5 5 5 4 4 5 5 4 5 5 6 7 5 6 7 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB .1888 d .1888
Term Analyzer - Swa RL RF 50 Ω Ref Offset 0.0 O dB/div Ref 10.50 d 90 0 93 0 94 0 95 0 96 0 97 0 98 0 97 0 Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"C	2480 2 GHz 26.492 9 GHz 5.076 9 GHz 7.438 1 GHz	SENSE:PULSE D: Fast → Trig: in:.Low → #Atte 5 5 5 4 4 5 5 4 5 5 6 7 5 6 7 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB .1888 d .1888
T Keysight Spectrum Analyzer - Sw. RL RF 50 20 Ref Offset 0.6 O dB/div Ref 10.63 Offset 0.6 O dB/div Ref 10.63 Offset 0.6 9 5	2480 2 GHz 26.492 9 GHz 5.076 9 GHz 7.438 1 GHz	SENSE:PULSE D: Fast → Trig: in:.Low → #Atte 5 5 5 4 4 5 5 4 5 5 6 7 5 6 7 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	Free Run n: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10/10	02:41:35 PM Jan 09, 20 TRACE 12 3 4 TYPE MWWW DET P NNN Mkr1 2.480 2 GF 0.174 dB .1888 d .1888

Tx. Spurious NVNT BLE 2M 2480MHz Ref

T



APPENDIX 2- EUT TEST PHOTO

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

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

