

NTEK 北测[®]

RADIO TEST REPORT FCC ID: 2AYVT-S3953AA

Product: Smart Watch V7 Cyber Trade Mark: SKG Model No.: S3953AA Family Model: N/A Report No.: S23071900505002 Issue Date: Aug 03, 2023

Prepared for

SKG Health Technologies Co., Ltd.

23A Floor,Building 3,Zhongke R&D Park,No.009,Gaoxin South 1st Road, High-tech Zone Community,Yuehai street, Nanshan District,Shenzhen City,Guangdong Province,P.R.China

Prepared by

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1 TEST RESULT CERTIFICATION

Applicant's name SKG Health Technologies Co., Ltd.					
Address:	23A Floor,Building 3,Zhongke R&D Park,No.009,Gaoxin South 1st Road, High-tech Zone Community,Yuehai street, Nanshan District,Shenzhen City,Guangdong Province,P.R.China				
Manufacturer's Name:	SKG Health Technologies Co., Lt	td.			
Address:	23A Floor,Building 3,Zhongke R&D Park,No.009,Gaoxin South 1st Road, High-tech Zone Community,Yuehai street, Nanshan District,Shenzhen City,Guangdong Province,P.R.China				
Product description					
Product name:	Smart Watch V7 Cyber				
Trade Mark:	: SKG				
Model and/or type reference: S3953AA					
Family Model N/A					
Test Sample number: S230719005006					
Measurement Procedure Used:					
APPLICABLE STANDARDS					
APPLICABLE STANDARD/ TEST PROCEDURE TEST RESULT					
FCC 47 CFR Part 2, Subpart J					
FCC 47 CFR Part 15, Subpart C					
ANSI C63.10-2013 Complied					
KDB 558074 D01 15.247 Meas Guidance v05r02					
KDB 558074 D01 15.247 Meas Guidance v05r02					

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

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

:	Jul 19, 2023 ~ Aug 03, 2023	
:	Mukri Lee	
	(Mukzi Lee)	
:	Alese	
	(Alex Li)	
	· :	: Mukri Lee (Mukri Lee)

2 SUMMARY OF TEST RESULTS

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FCC Part15 (15.247), Subpart C						
Standard Section Test Item Verdict Remark						
15.207	Conducted Emission	PASS				
15.247 (a)(2)	6dB Bandwidth	PASS				
15.247 (b)	Peak Output Power	PASS				
15.209 (a) 15.205 (a)	Radiated Spurious Emission	PASS				
15.247 (e)	Power Spectral Density	PASS				
15.247 (d)	Band Edge Emission	PASS				
15.247 (d)	Spurious RF Conducted Emission	PASS				
15.203	Antenna Requirement	PASS				

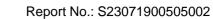
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Remark:

 "N/A" denotes test is not applicable in this Test Report.
All test items were verified and recorded according to the standards and without any deviation during the test.





3 FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at 1/F, Building E, Fenda Science Park, Sanwei Community,Xixiang Street Bao'an District, Shenzhen 518126 P.R. China The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

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3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
CNAS-Lab.	: The Certificate Registration Number is L5516.
IC-Registration	The Certificate Registration Number is 9270A.
	CAB identifier:CN0074
FCC- Accredited	Test Firm Registration Number: 463705.
	Designation Number: CN1184
A2LA-Lab.	The Certificate Registration Number is 4298.01
	This laboratory is accredited in accordance with the recognized
	International Standard ISO/IEC 17025:2005 General requirements for
	the competence of testing and calibration laboratories.
	This accreditation demonstrates technical competence for a defined
	scope and the operation of a laboratory quality management system
	(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).
Name of Firm	: Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street
	Bao'an District, Shenzhen 518126 P.R. China

3.3 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	Conducted Emission Test	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	Occupied bandwidth	±3.7dB
5	All emissions, radiated(9KHz~30MHz)	±6dB
6	All emissions, radiated(30MHz~1GHz)	±2.64dB
7	All emissions, radiated(1GHz~6GHz)	±2.40dB
8	All emissions, radiated(>6GHz)	±2.52dB
9	Temperature	±0.5°C
10	Humidity	±2%



4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification				
Equipment Smart Watch V7 Cyber				
Trade Mark	SKG			
FCC ID	2AYVT-S3953AA			
Model No.	S3953AA			
Family Model	N/A			
Model Difference	N/A			
Operating Frequency	2402MHz~2480MHz			
Modulation	GFSK			
Number of Channels	40 Channels			
Antenna Type	PIFA Antenna			
Antenna Gain	-0.18 dBi			
Adapter	N/A			
Battery	DC 3.8V, 300mAh, 1.14Wh			
Power supply	DC 3.8V from battery or DC 5V from magnetic charging port.			
HW Version	0.00.00.01			
FW Version	0.00.00.01			
SW Version	0.00.00.01			

Note 1: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

Note 2: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.





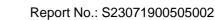
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Report No.	Version	Description	Issued Date
S23071900505002	Rev.01	Initial issue of report	Aug 03, 2023





5 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

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The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (1Mbps/2Mbps for GFSK modulation) were used for all test.

The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

Carrier Frequency and Channel list:

Channel	Frequency(MHz)
0	2402
1	2404
19	2440
20	2442
38	2478
39	2480

Note: fc=2402MHz+kx2MHz k=0 to 39

The following summary table is showing all test modes to demonstrate in compliance with the standard.

Test Cases		
Test Item	Data Rate/ Modulation	
AC Conducted Emission	Mode 1: normal link mode	
	Mode 1: normal link mode	
Radiated Test	Mode 2: GFSK Tx Ch00_2402MHz_1Mbps/2Mbps	
Cases	Mode 3: GFSK Tx Ch19_2440MHz_1Mbps/2Mbps	
	Mode 4: GFSK Tx Ch39_2480MHz_1Mbps/2Mbps	
Conducted Test	Mode 2: GFSK Tx Ch00_2402MHz_1Mbps/2Mbps	
Conducted Test Cases	Mode 3: GFSK Tx Ch19_2440MHz_1Mbps/2Mbps	
Cases	Mode 4: GFSK Tx Ch39_2480MHz_1Mbps/2Mbps	

Note:

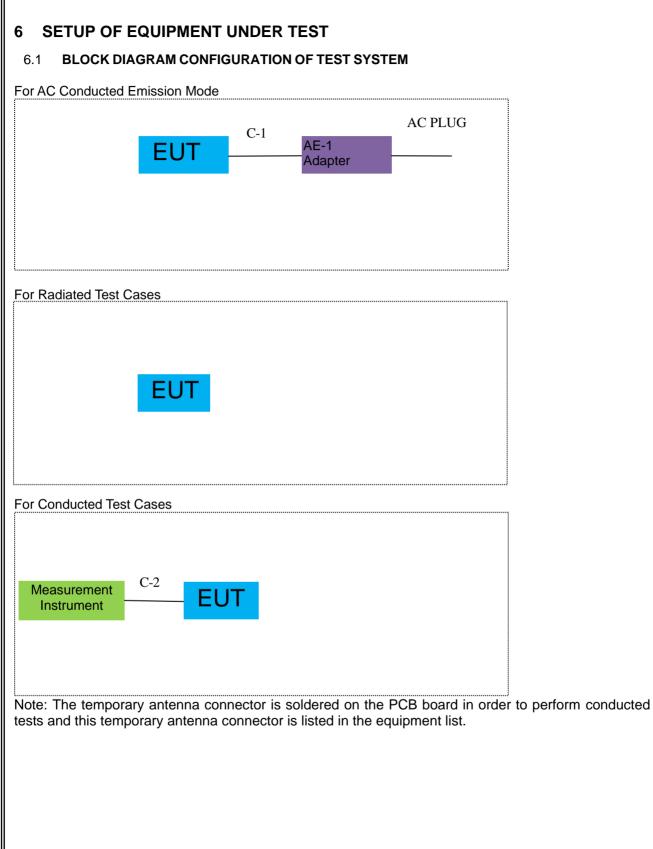
1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode(duty cycle =100% during the test)

2. AC power line Conducted Emission was tested under maximum output power.

3. For radiated test cases, the worst mode data rate 1Mbps was reported only, because this data rate has the highest RF output power at preliminary tests, and no other significantly frequencies found in conducted spurious emission.

4. EUT built-in battery-powered, the battery is fully-charged.





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6.2 SUPPORT EQUIPMENT

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	Adapter	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	Power Cable	NO	NO	0.3m
C-2	RF Cable	YES	NO	0.1m

Notes:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in [Length] column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

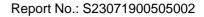
Radiation& Conducted Test equipment

	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2023.03.27	2024.03.26	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2023.05.29	2024.05.28	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2023.05.29	2024.05.28	1 year
4	Test Receiver	R&S	ESPI7	101318	2023.03.27	2024.04.26	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2023.03.16	2024.03.16	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2023.05.29	2024.05.28	3 year
7	Horn Antenna	SCHWARZBE CK	BBHA 9120 D	2816	2023.01.12	2024.01.11	1 year
8	Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2022.11.07	2023.11.06	1 year
9	Amplifier	EMC	EMC051835 SE	980246	2023.05.29	2024.05.28	1 year
10	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2022.11.04	2023.11.03	1 year
11	Power Meter	DARE	RPR3006W	15I00041SN 084	2023.05.29	2024.05.28	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
14	High Test Cable(1G-40G Hz)	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
15	Filter	TRILTHIC	2400MHz	29	2023.03.26	2026.03.25	3 year
16	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list





AC Co	AC Conduction Test equipment						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2023.03.27	2024.03.26	1 year
2	LISN	R&S	ENV216	101313	2023.03.27	2024.03.26	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2023.03.27	2024.03.26	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2023.05.06	2026.05.05	3 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2023.05.06	2026.05.05	3 year

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Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.

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7 TEST REQUIREMENTS

7.1 CONDUCTED EMISSIONS TEST

7.1.1 Applicable Standard

According to FCC Part 15.207(a)

7.1.2 **Conformance Limit**

Frequency(MHz)	Conducted Emission Limit		
Frequency(MI12)	Quasi-peak	Average	
0.15-0.5	66-56*	56-46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

Note: 1. *Decreases with the logarithm of the frequency

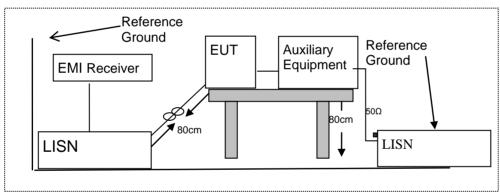
2. The lower limit shall apply at the transition frequencies

3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

7.1.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.1.4 **Test Configuration**



7.1.5 **Test Procedure**

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- 3. Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 4. 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 40cm long.
- 5. 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.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item -EUT Test Photos.





7.1.6 Test Results

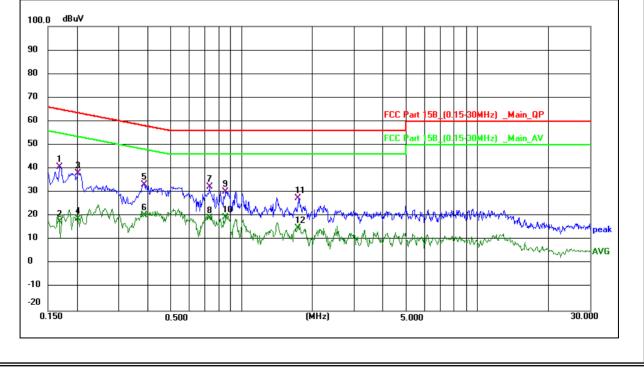
EUT:	Smart Watch V7 Cyber	Model Name :	S3953AA
Temperature:	22 ℃	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	L
	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domork
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1675	30.83	9.97	40.80	65.08	-24.28	QP
0.1675	7.65	9.97	17.62	55.08	-37.46	AVG
0.2020	27.92	10.03	37.95	63.53	-25.58	QP
0.2020	8.84	10.03	18.87	53.53	-34.66	AVG
0.3860	22.95	10.42	33.37	58.15	-24.78	QP
0.3860	10.02	10.42	20.44	48.15	-27.71	AVG
0.7300	21.09	11.11	32.20	56.00	-23.80	QP
0.7300	8.03	11.11	19.14	46.00	-26.86	AVG
0.8540	18.92	11.36	30.28	56.00	-25.72	QP
0.8540	8.00	11.36	19.36	46.00	-26.64	AVG
1.7340	14.53	13.12	27.65	56.00	-28.35	QP
1.7340	1.93	13.12	15.05	46.00	-30.95	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.







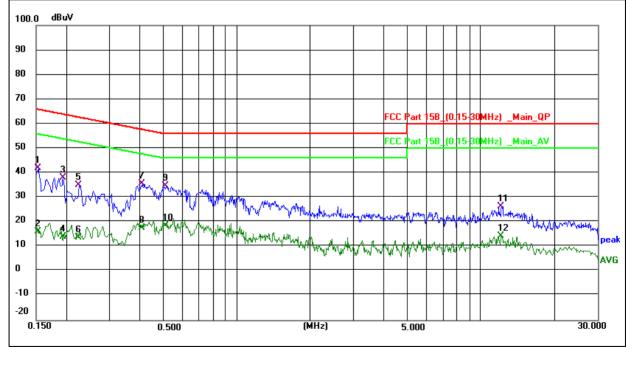
EUT:	Smart Watch V7 Cyber	Model Name :	S3953AA
Temperature:	22 ℃	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	Ν
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Demerik
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1524	31.97	9.93	41.90	65.87	-23.97	QP
0.1524	6.31	9.93	16.24	55.87	-39.63	AVG
0.1940	28.00	10.01	38.01	63.86	-25.85	QP
0.1940	4.19	10.01	14.20	53.86	-39.66	AVG
0.2230	24.86	10.08	34.94	62.71	-27.77	QP
0.2230	3.77	10.08	13.85	52.71	-38.86	AVG
0.4061	25.14	10.47	35.61	57.73	-22.12	QP
0.4061	7.28	10.47	17.75	47.73	-29.98	AVG
0.5100	23.95	10.67	34.62	56.00	-21.38	QP
0.5100	7.76	10.67	18.43	46.00	-27.57	AVG
12.0700	16.67	9.70	26.37	60.00	-33.63	QP
12.0700	4.51	9.70	14.21	50.00	-35.79	AVG

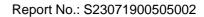
Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.







7.2 RADIATED SPURIOUS EMISSION

7.2.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and ANSI C63.10-2013

7.2.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)). According to FCC Part15.205, Restricted bands

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MHz	MHz	GHz	
16.42-16.423	399.9-410	4.5-5.15	
16.69475-16.69525	608-614	5.35-5.46	
16.80425-16.80475	960-1240	7.25-7.75	
25.5-25.67	1300-1427	8.025-8.5	
37.5-38.25	1435-1626.5	9.0-9.2	
73-74.6	1645.5-1646.5	9.3-9.5	
74.8-75.2	1660-1710	10.6-12.7	
123-138	2200-2300	14.47-14.5	
149.9-150.05	2310-2390	15.35-16.2	
156.52475-156.52525	2483.5-2500	17.7-21.4	
156.7-156.9	2690-2900	22.01-23.12	
162.0125-167.17	3260-3267	23.6-24.0	
167.72-173.2	3332-3339	31.2-31.8	
240-285	3345.8-3358	36.43-36.5	
322-335.4	3600-4400	(2)	
	MHz 16.42-16.423 16.69475-16.69525 16.80425-16.80475 25.5-25.67 37.5-38.25 73-74.6 74.8-75.2 123-138 149.9-150.05 156.52475-156.52525 156.7-156.9 162.0125-167.17 167.72-173.2 240-285	MHzMHz16.42-16.423399.9-41016.69475-16.69525608-61416.80425-16.80475960-124025.5-25.671300-142737.5-38.251435-1626.573-74.61645.5-1646.574.8-75.21660-1710123-1382200-2300149.9-150.052310-2390156.52475-156.525252483.5-2500156.7-156.92690-2900162.0125-167.173260-3267167.72-173.23332-3339240-2853345.8-3358	

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	24000/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

	Class B (dBuV/m) (at 3M)		
Frequency(MHz)	PEAK	AVERAGE	
Above 1000	74	54	

Remark :1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. For Frequency 9kHz~30MHz: Distance extrapolation factor =40log(Specific distance/ test distance)(dB); Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz: Distance extrapolation factor =20log(Specific distance/ test distance)(dB); Limit line=Specific limits(dBuV) + distance extrapolation factor.

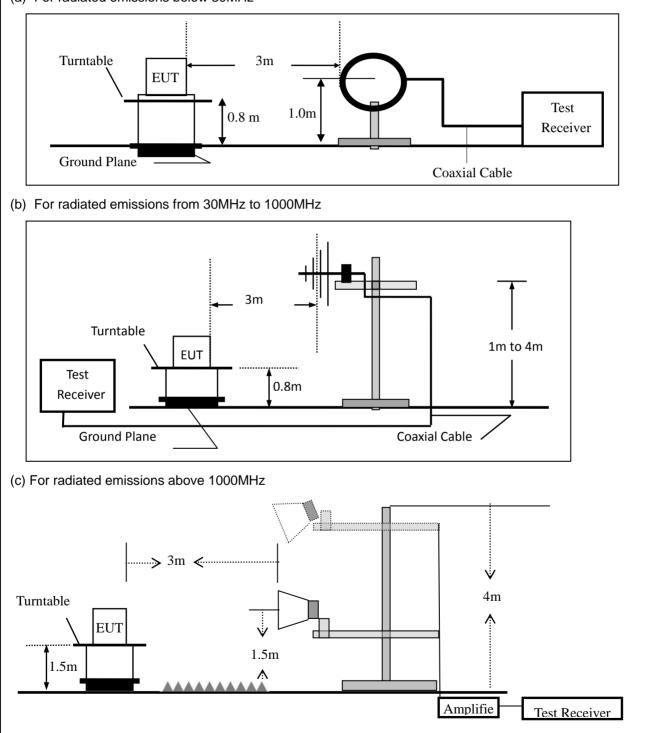


7.2.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.2.4 Test Configuration

(a) For radiated emissions below 30MHz







7.2.5 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

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

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

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.

- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

- e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- g. 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



During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

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Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth		
30 to 1000	30 to 1000 QP		300 kHz		
Above 4000	Peak	1 MHz	1 MHz		
Above 1000	Average	1 MHz	1 MHz		

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.2.6 Test Results

■ Spurious Emission below 30MHz (9KHz to 30MHz)

EUT:	Smart Watch V7 Cyber	Model No.:	S3953AA
Temperature:	20 ℃	Relative Humidity:	48%
Lest Mode.	Mode1/Mode2/Mode3/ Mode4	Test By:	Mukzi Lee

Freq.	Ant.Pol.	Emission Level(dBuV/m)		Limit 3	m(dBuV/m)	Over(dB)		
(MHz)	H/V	PK	AV	PK	AV	PK	AV	

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



Spurious Emission below 1GHz (30MHz to 1GHz) All the modulation modes have been tested, and the worst result was report as below:

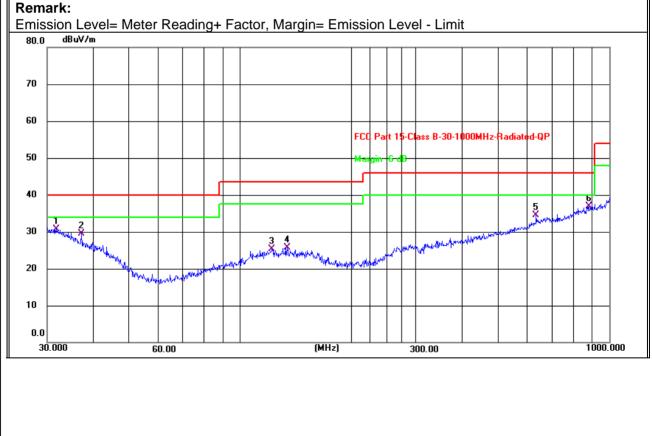
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EUT:	Smart Watch V7 Cyber	Model Name :	S3953AA
Temperature:	25 ℃	Relative Humidity:	55%
Pressure:	1010hPa	Test Mode:	Mode 2
Test Voltage :	DC 3.8V		

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Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	31.7312	5.29	25.51	30.80	40.00	-9.20	QP
V	37.1550	6.95	22.55	29.50	40.00	-10.50	QP
V	121.5485	6.63	18.74	25.37	43.50	-18.13	QP
V	134.0880	6.88	18.80	25.68	43.50	-17.82	QP
V	633.9071	7.65	26.94	34.59	46.00	-11.41	QP
V	881.4067	6.30	30.57	36.87	46.00	-9.13	QP







Polar	Freque	ency		Mete eadi		Factor		iss eve	ion el		Limi	ts	Ма	argir		Rer	narl
(H/V)	(MH	z)	((dBu\	/)	(dB)	(dB	luV	'/m)		(dBuV	/m)	(dB)			
Н	30.63	371		5.49)	26.11	3	1.6	0		40.0	0	-6	3.40		C	ΩΡ
Н	123.6	984		6.60)	18.75	2	5.3	5		43.5	0	-1	8.15		C	ΩΡ
Н	268.4	852		5.42)	19.72	2	5.1	4		46.0	0	-2	0.86		C	ΩΡ
Н	656.5	300		6.19)	27.32	3	3.5	1		46.0	0	-1	2.49		C	ΩΡ
Н	711.6	734		6.77	,	28.16	3	4.9	3		46.0	0	-1	1.07		C	ΩΡ
Н	776.8	777		6.51		29.26	3	5.7	7		46.0	0	-1	0.23		C	ΩΡ
		Meter I	Read	ling+	- Fa	ctor, Margir	n= Emi	issi	on	_ev	vel - Limi	it					
70								_									
60								FCC	Part	15-C	lass B-30-10	DOOMHz-	Radiate	:d-QP			
40								Han 	gin 6	- B -						_	
				-								14	Upper the stack	a starting	5 6 	veryalit	r
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10			, 						_							_	-
0.0 30.000		60.	00				(MHz)				300.00					1000).000





EUT:		Smart Wa	tch V7 Cyl	oer l	Model No.:		S3953AA			
Temperatu	ure:	20 °C		I	Relative Humi	dity:	48%			
Test Mode	Test Mode: Mode2/Mode3/Mode4 Test By:				Test By:		Mukzi Lee			
		·							·	
Frequency	Read Level	Cable loss	Antenna Factor	Pream Factor		Limits	Margin	Remark	Comment	
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/n	n) (dB)			
			Low	Channel ((2402 MHz)(GFS	K)Above	1G			
4804	69.64	5.21	35.59	44.30	66.14	74.00	-7.86	Pk	Vertical	
4804	49.83	5.21	35.59	44.30	46.33	54.00	-7.67	AV	Vertical	
7206	70.78	6.48	36.27	44.60	68.93	74.00	-5.07	Pk	Vertical	
7206	48.03	6.48	36.27	44.60	46.18	54.00	-7.82	AV	Vertical	
4804	69.9	5.21	35.55	44.30	66.36	74.00	-7.64	Pk	Horizontal	
4804	47.01	5.21	35.55	44.30) 43.47	54.00	-10.53	AV	Horizontal	
7206	68.51	6.48	36.27	44.52	2 66.74	74.00	-7.26	Pk	Horizontal	
7206	48.14	6.48	36.27	44.52	2 46.37	54.00	-7.63	AV	Horizontal	
Mid Channel (2440 MHz)(GFSK)Above 1G										
4880	69.37	5.21	35.66	44.20	66.04	74.00	-7.96	Pk	Vertical	
4880	49.44	5.21	35.66	44.20	9 46.11	54.00	-7.89	AV	Vertical	
7320	70.29	7.10	36.50	44.43	69.46	74.00	-4.54	Pk	Vertical	
7320	45.29	7.10	36.50	44.43	3 44.46	54.00	-9.54	AV	Vertical	
4880	68.16	5.21	35.66	44.20	64.83	74.00	9.17	Pk	Horizontal	
4880	49.49	5.21	35.66	44.20	46.16	54.00	-7.84	AV	Horizontal	
7320	69.44	7.10	36.50	44.43	68.61	74.00	-5.39	Pk	Horizontal	
7320	48.59	7.10	36.50	44.43	3 47.76	54.00	-6.24	AV	Horizontal	
			High	Channel ((2480 MHz)(GFS	K) Above	÷1G			
4960	70.21	5.21	35.52	44.21	1 66.73	74.00	-7.27	Pk	Vertical	
4960	48.24	5.21	35.52	44.21	1 44.76	54.00	-9.24	AV	Vertical	
7440	68.21	7.10	36.53	44.60	67.24	74.00	-6.76	Pk	Vertical	
7440	45.75	7.10	36.53	44.60) 44.78	54.00	-9.22	AV	Vertical	
4960	69.1	5.21	35.52	44.21	65.62	74.00	-8.38	Pk	Horizontal	
4960	49.75	5.21	35.52	44.21	46.27	54.00	-7.73	AV	Horizontal	
7440	69.13	7.10	36.53	44.60	68.16	74.00	-5.84	Pk	Horizontal	
7440	49.24	7.10	36.53	44.60) 48.27	54.00	-5.73	AV	Horizontal	

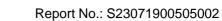
Note:

(1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor

(2)All other emissions more than 20dB below the limit.

(3)Only the worst data is recorded in the report, the data rates (1Mbps for GFSK modulation) test result is the worst

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EUT:	Smart V	/atch V7	Cyber	Mode	l No.:	S3	953AA			
Temperature:	20 ℃			Relati	ve Humidity	/: 48	%			
Fest Mode:	Mode2/ Mode4			Test E	By:	Mu	ıkzi Lee			
	Meter	Meter Cable Antenna Preamp Emission								
Frequency	Reading	Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment	
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/r	n) (dB)	Туре		
1Mbps(GFSK)										
2310.00	70.4	2.97	27.80	43.80	57.37	74	-16.63	Pk	Horizontal	
2310.00	50.15	2.97	27.80	43.80	37.12	54	-16.88	AV	Horizontal	
2310.00	68.43	2.97	27.80	43.80	55.40	74	-18.60	Pk	Vertical	
2310.00	47.91	2.97	27.80	43.80	34.88	54	-19.12	AV	Vertical	
2390.00	70.91	3.14	27.21	43.80	57.46	74	-16.54	Pk	Vertical	
2390.00	48.6	3.14	27.21	43.80	35.15	54	-18.85	AV	Vertical	
2390.00	69.77	3.14	27.21	43.80	56.32	74	-17.68	Pk	Horizontal	
2390.00	46.01	3.14	27.21	43.80	32.56	54	-21.44	AV	Horizontal	
2483.50	69.21	3.58	27.70	44.00	56.49	74	-17.51	Pk	Vertical	
2483.50	45.1	3.58	27.70	44.00	32.38	54	-21.62	AV	Vertical	
2483.50	69.87	3.58	27.70	44.00	57.15	74	-16.85	Pk	Horizontal	
2483.50	45.58	3.58	27.70	44.00	32.86	54	-21.14	AV	Horizontal	

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Note: (1) All other emissions more than 20dB below the limit.

(2)Only the worst data is recorded in the report, the data rates (1Mbps for GFSK modulation) test result is the worst

· · ·	s Emissio	n in Restrie	cted Band	3260MHz	-18000MHz					
EUT:	Sma	art Watch \	/7 Cyber	Model	No.:	S395	S3953AA			
Temperature	perature: 20 °C				ve Humidity	: 48%	48%			
Test Mode:	st Mode: Mode2/ Mode4			Test E	By:	Mukz	Lee			
Frequency	Reading Level	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment	
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
3260	68.87	4.04	29.57	44.70	57.78	74	-16.22	Pk	Vertical	
3260	47.22	4.04	29.57	44.70	36.13	54	-17.87	AV	Vertical	
3260	68.7	4.04	29.57	44.70	57.61	74	-16.39	Pk	Horizontal	
3260	45.63	4.04	29.57	44.70	34.54	54	-19.46	AV	Horizontal	
3332	70.91	4.26	29.87	44.40	60.64	74	-13.36	Pk	Vertical	
3332	50.71	4.26	29.87	44.40	40.44	54	-13.56	AV	Vertical	
3332	69.46	4.26	29.87	44.40	59.19	74	-14.81	Pk	Horizontal	
3332	47.64	4.26	29.87	44.40	37.37	54	-16.63	AV	Horizontal	
17797	49.29	10.99	43.95	43.50	60.73	74	-13.27	Pk	Vertical	
17797	32.49	10.99	43.95	43.50	43.93	54	-10.07	AV	Vertical	
17788	59.96	11.81	43.69	44.60	70.86	74	-3.14	Pk	Horizontal	
17788	38.7	11.81	43.69	44.60	49.60	54	-4.40	AV	Horizontal	

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Note: (1) All other emissions more than 20dB below the limit.

(2)Only the worst data is recorded in the report, the data rates (1Mbps for GFSK modulation) test result is the worst



7.3 6DB BANDWIDTH

7.3.1 Applicable Standard

According to FCC Part 15.247(a)(2) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.2.

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7.3.2 Conformance Limit

The minimum permissible 6dB bandwidth is 500 kHz.

7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.3.4 Test Setup

Please refer to Section 6.1 of this test report.

7.3.5 **Test Procedure**

The testing follows Subclause 11.8 of ANSI C63.10

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) \geq 3*RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3.6 Test Results

EUT:	Smart Watch V7 Cyber	Model No.:	S3953AA
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mukzi Lee





7.4 DUTY CYCLE

7.4.1 Applicable Standard

According to KDB 558074 D01 15.247 Meas Guidance v05r02s Section 6.

7.4.2 Conformance Limit

No limit requirement.

7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

7.4.5 **Test Procedure**

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value. Set VBW \geq RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T \leq 16.7 microseconds.)

The transmitter output is connected to the Spectrum Analyzer. We tested accroding to the zero-span measurement method, 6.0)b) in KDB 558074

The largest available value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if $T \le 6.25$ microseconds. (50/6.25 = 8)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/T.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = Zero Span RBW = 8MHz(the largest available value) VBW = 8MHz (\geq RBW) Number of points in Sweep >100 Detector function = peak Trace = Clear write Measure T_{total} and T_{on} Calculate Duty Cycle = T_{on} / T_{total}





7.4.6 Test Results

EUT:	Smart Watch V7 Cyber	Model No.:	S3953AA
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mukzi Lee



7.5 PEAK OUTPUT POWER

7.5.1 Applicable Standard

According to FCC Part 15.247(b)(3) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.3.1.

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7.5.2 **Conformance Limit**

The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm). If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

7.5.5 **Test Procedure**

The testing follows Subclause 11.9.1.1 of ANSI C63.10 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Set the RBW \geq DTS bandwidth. Set VBW =3*RBW. Set the span \geq 3*RBW Set Sweep time = auto couple. Set Detector = peak. Set Trace mode = max hold. Allow trace to fully stabilize. Use peak marker function to determine the peak amplitude level.

7.5.6 Test Results

EUT:	Smart Watch V7 Cyber	Model No.:	S3953AA
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mukzi Lee



7.6 POWER SPECTRAL DENSITY

7.6.1 Applicable Standard

According to FCC Part 15.247(e) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.4.

7.6.2 **Conformance Limit**

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.6.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

7.6.5 **Test Procedure**

The testing follows Measurement Procedure Subclause 11.10.2 of ANSI C63.10 This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

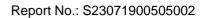
The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5*DTS bandwidth.
- c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW \geq 3 RBW.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.





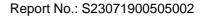
7.6.6 Test Results

EUT:	Smart Watch V7 Cyber	Model No.:	S3953AA
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mukzi Lee

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7.7 CONDUCTED BAND EDGE MEASUREMENT

7.7.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

7.7.2 **Conformance Limit**

In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 **Test Procedure**

The testing follows FCC KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.

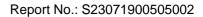
Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Repeat above procedures until all measured frequencies were complete.

7.7.6 Test Results

EUT:	Smart Watch V7 Cyber	Model No.:	S3953AA
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode4	Test By:	Mukzi Lee





7.8 SPURIOUS RF CONDUCTED EMISSIONS

7.8.1 Conformance Limit

1. Below -20dB of the highest emission level in operating band.

2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

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7.8.2 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.3 Test Setup

Please refer to Section 6.1 of this test report.

7.8.4 **Test Procedure**

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength , and measure frequency range from 30MHz to 26.5GHz.

7.8.5 Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.





7.9 ANTENNA APPLICATION

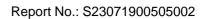
7.9.1 Antenna Requirement

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

7.9.2 **Result**

The EUT antenna is permanent attached PIFA antenna (Gain: -0.18dBi). It comply with the standard requirement.





8 TEST RESULTS

8.1 **1M**

8.1.1 **Duty Cycle**

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	85.6	0.68	0.47
NVNT	BLE 1M	2440	Ant1	86	0.65	0.47
NVNT	BLE 1M	2480	Ant1	86	0.65	0.47

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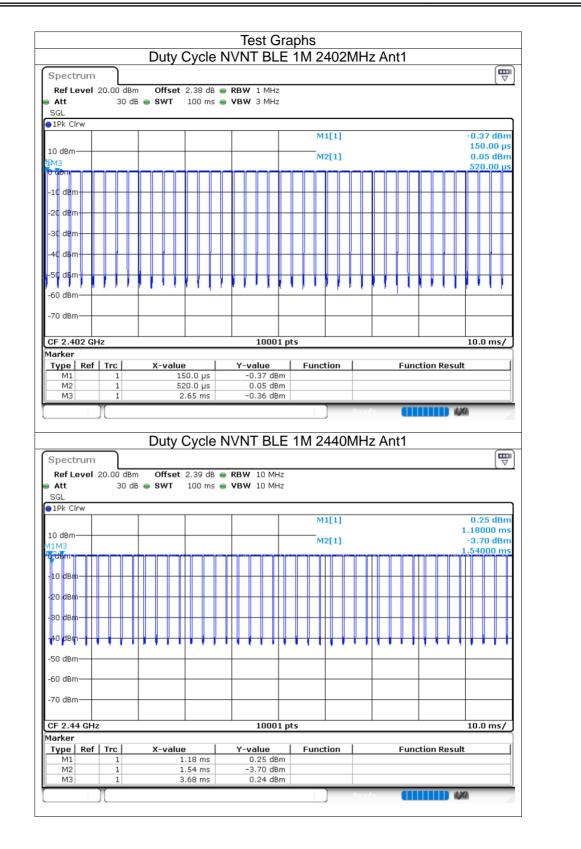


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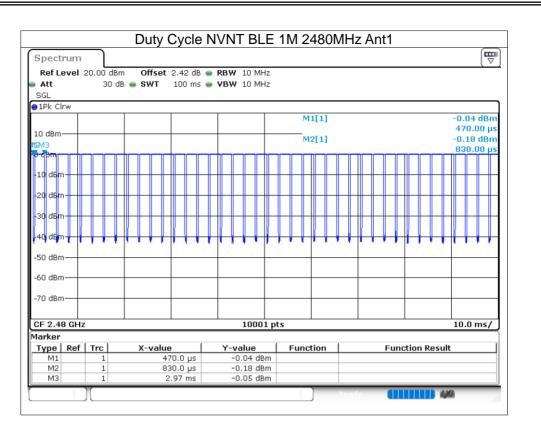
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Report No.: S23071900505002







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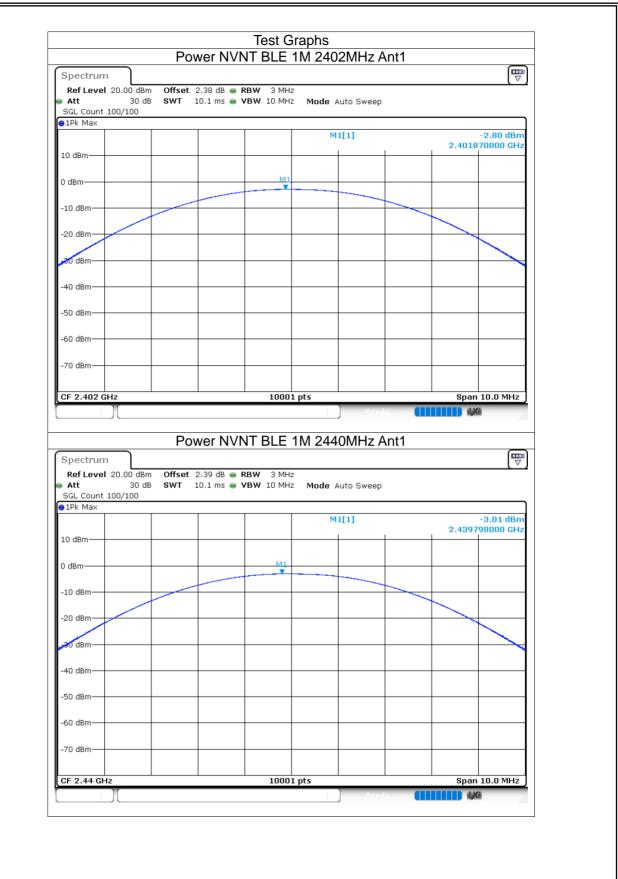


8.1.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-2.8	30	Pass
NVNT	BLE 1M	2440	Ant1	-3.01	30	Pass
NVNT	BLE 1M	2480	Ant1	-3.48	30	Pass

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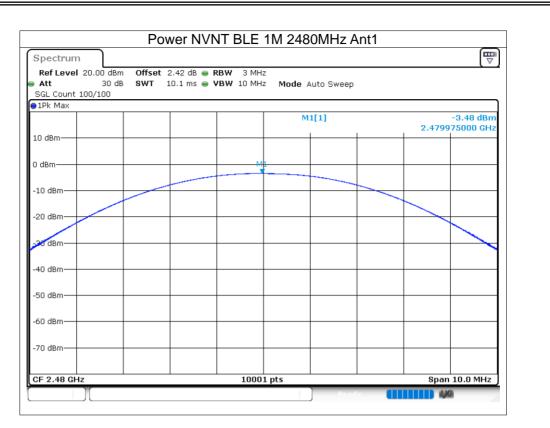




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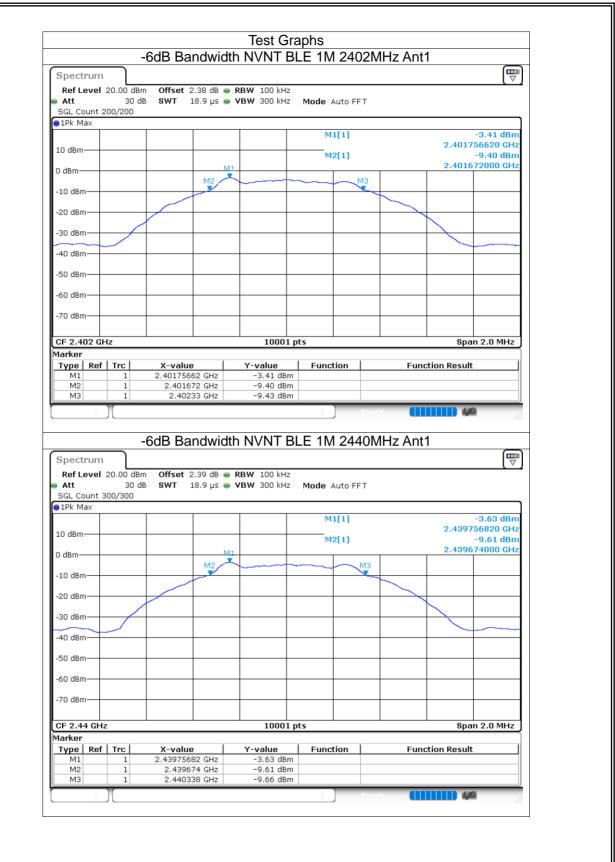




8.1.3 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.658	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.664	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.659	0.5	Pass





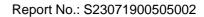
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pectrum							
Ref Level	20.00 dB	m Offset 2.42 d	B 👄 RBW 100 kH;	2			L.
Att	30 d		is 🖷 VBW 300 kHa				
GL Count 3	00/300						
1Pk Max							
				M1[1]			4.07 dBm
0 dBm							5620 GHz
				M2[1]			0.07 dBm 7000 GHz
dBm			- M1			2.47907	7000 GH2
		M2		M	3		
LO dBm							
20 dBm							
.0 0.0							
30 dBm —							
+0 dBm							
50 dBm							
50 dBm							
70 dBm —							
F 2.48 GHz	2		10001	L pts		Span	2.0 MHz
arker							
ſype│ Ref	Trc	X-value	Y-value	Function	Func	tion Result	
M1	1	2.47975562 GH					
M2 M3	1	2.479677 GH 2.480336 GH					

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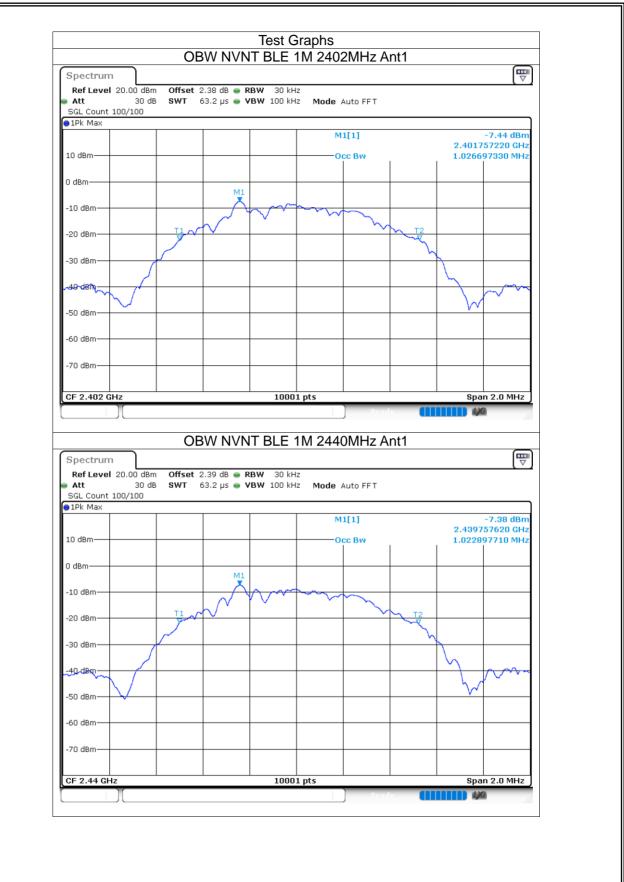


8.1.4 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.027
NVNT	BLE 1M	2440	Ant1	1.023
NVNT	BLE 1M	2480	Ant1	1.03

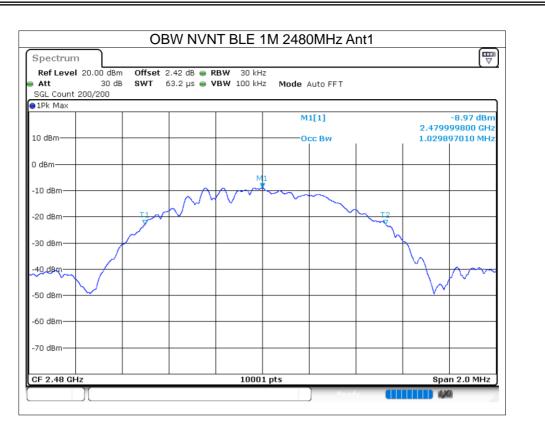
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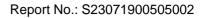
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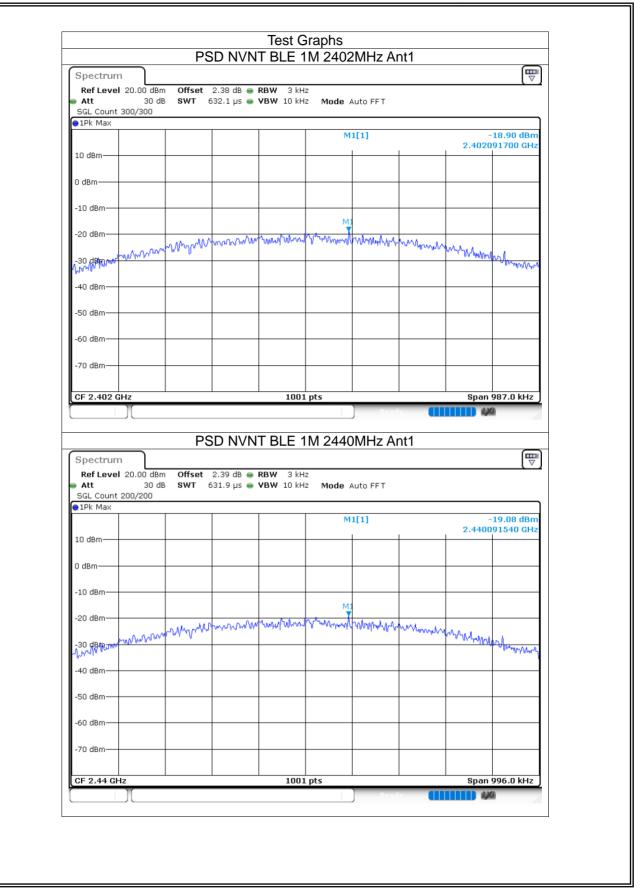


8.1.5 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-18.9	8	Pass
NVNT	BLE 1M	2440	Ant1	-19.08	8	Pass
NVNT	BLE 1M	2480	Ant1	-19.59	8	Pass

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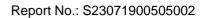
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Spectrum		
Ref Level 20.00 dBm Offset 2.42 di Att 30 dB SWT 631.9 µ SGL Count 300/300	3 ● RBW 3 kHz s ● VBW 10 kHz Mode Auto FFT	C.
1Pk Max	M1[1]	-19.59 dBm
	(inter)	2.480091840 GHz
10 dBm		
) dBm		
10 dBm	ма	
20 dBm		
Mary Mary Mary	the new contrast and a second and a database of a	Month Martines 1
TAMP PARA	www.andrew.	an all the should be shoul
40 dBm		
50 dBm		
60 dBm		
70 dBm		
/U UBIII		
CF 2.48 GHz	1001 pts	Span 988.5 kHz
T .	Deady	

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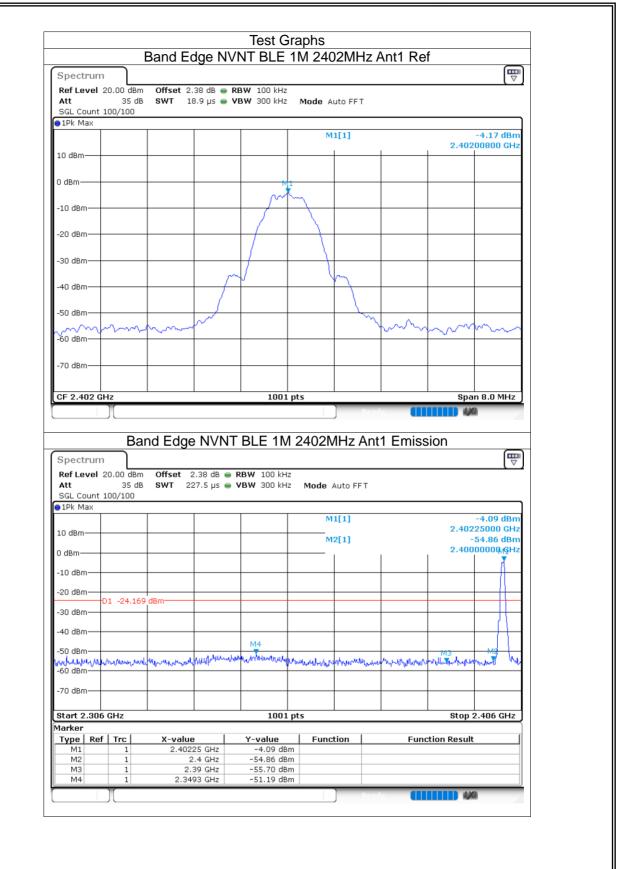


8.1.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-47.01	-20	Pass
NVNT	BLE 1M	2480	Ant1	-38.03	-20	Pass

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Spectrum	۱									
Ref Level				BW 100 kHz						
Att		SWT 18.9	9 µs 👄 ۷	'BW 300 kHz	Mode Auto	FFT				
SGL Count	100/100									
⊜1Pk Max		1 1		1					4.04.40.00	
					M1[1	4		2 490	-4.94 dBm 24780 GHz	
20 dBm-								2.100	21700 012	
10 dBm-										
10 0.0										
0 dBm										
o abiii					M1					
-10 dBm				1 mil	\sim					
-10 UBIII										
-20 dBm										
				/						
-30 dBm										
			\sim	ψ	Y-					
-40 dBm								^		
m	$\sim\sim\sim$	fun	\sim			m	m	m	m	
-50 dBm-				+ +						
-60 dBm				+ +						
									n 8.0 MHz	1
CF 2.48 GH	z			1001 ו	ots			Spa	ri 8.0 MHZ I	
) Ba	nd Edge	NVNT	1001		Pead Iz Ant1	I Emiss			_
Spectrum) Ba			BLE 1M	2480MH	Dooth Iz Ant1	I Emiss			_
Spectrum	Ba	Offset 2.4	42 dB 😑		2480MH		I Emiss			_
Spectrum Ref Level Att SGL Count	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH		I Emiss			_
Spectrum Ref Level Att SGL Count	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto	o FFT	I Emiss	ion		_
Spectrum Ref Level Att SGL Count	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH	o FFT	1 Emiss	iion	-4.78 dBm	_
Spectrum Ref Level Att SGL Count	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	iion 2.480	-4.78 dBm 25000 GHz	_
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Spectrum Ref Level Att SGL Count 1Pk Max	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm	Ba 30.00 dBm 45 dB	Offset 2.4	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 cBm	Ba 30.00 dBm 45 dB 100/100	Offset 2.4 SWT 227	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	Ba 30.00 dBm 45 dB	Offset 2.4 SWT 227	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 cBm	Ba 30.00 dBm 45 dB 100/100	Offset 2.4 SWT 227	42 dB 😑	BLE 1M	2480MH Mode Auto M1[1	o FFT	1 Emiss	ion 2.480	-4.78 dBm 25000 GHz 44.56 dBm	-
Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	Ba 30.00 dBm 45 dB 100/100	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 	o FFT]]		2.480	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	-
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 cBm -30 cBm -40 dBm	Ba 30.00 dBm 45 dB 100/100	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 	o FFT]]		2.480	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 cBm -30 cBm -40 dBm	D1 -24.94	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 	o FFT]]		2.480	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 cBm -30 cBm -30 cBm -40 dBm -50 dBm	D1 -24.94	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 	o FFT]]		2.480	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 cBm -30 cBm -40 dBm	D1 -24.94	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 	o FFT]]		2.480	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -40 dBm -50 dBm	D1 -24.94	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 M2[1	o FFT]]		2.480 2.483	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -40 dBm -60 dBm -50 dBm	D1 -24.94	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 M2[1	o FFT]]		2.480 2.483	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -60 dBm -60 dBm	D1 -24.94	Offset 2.4 SWT 227	42 dB ● 7.5 µs ●	BLE 1M	2480MH Mode Auto M1[1 M2[1	o FFT]]	shipman	2.480 2.483	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count IPk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -10 dBm -20 dBm -20 dBm -10 dBm -20 dBm -20 dBm -20 dBm -10 dBm -20 dBm -20 dBm -20 dBm -10 dBm -20 dBm -50 dBm -50 dBm -50 dBm -50 dBm -10	D1 -24.94%	Offset 2 SWT 227	42 dB .5 μs .5 μs .5 μs .5 gr .5 gr .5 gr .5 gr .5 gr .5 gr .5 μs .5 μs	BLE 1M	2480MH	o FFT]]	shipman	2.480 2.483	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count IPk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -30 dBm -30 dBm -40 dBm -40 dBm -50 dB	Ba 30.00 dBm 45 dB 100/100 D1 -24.94 (uk-uk/W(k/)) 5 GHz f Trc 1 1	Offset 2.4 SWT 227	42 dB .5 μs .5 μs	BLE 1M	2480MH Mode Auto M1[1 M2] M2[1 M2[1 M2[1 M2] M2[1 M2[1 M2[1 M2] M2[1 M2[1 M2] M2[1 M2] M2[1 M2] M2[1 M2] M2[1 M2] M2[1 M2] M2] M2[1 M2] M2] M2[1 M2] M2] M2] M2[1 M2] M2] M2] M2] M2] M2] M2] M2]	o FFT]]	shipman	2.480 2.483	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	
Spectrum Ref Level Att SGL Count IPk Max 20 dBm 0 dBm -10 dBm -20 cBm -20 cBm -30 cBm -30 cBm -30 cBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -70 dBm	D1 -24.94%	Offset 2.4 SWT 227	42 dB ● 5 μs ● 5 μs ● 5 μs ■ 	BLE 1M	2480MH	o FFT]]	shipman	2.480 2.483	-4.78 dBm 25000 GHz 44.56 dBm 50000 GHz	

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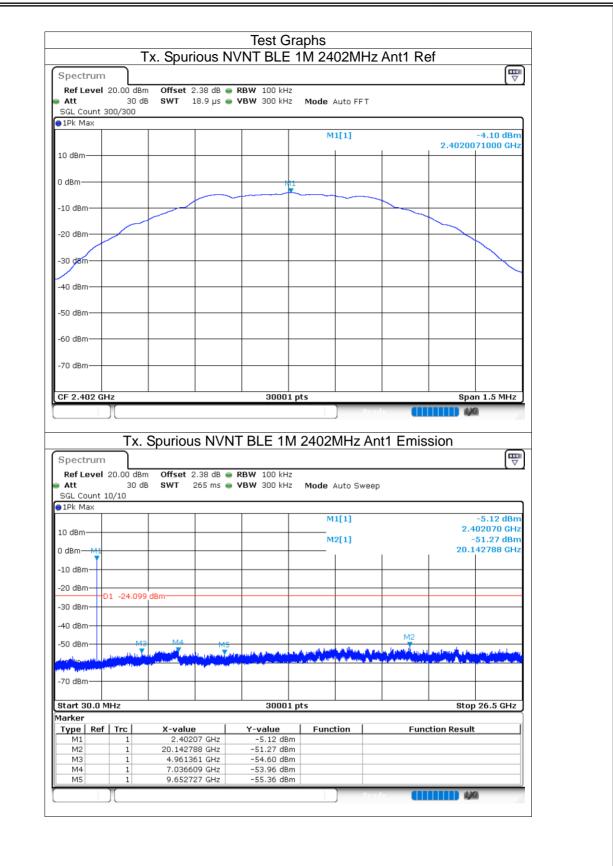


8.1.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-47.17	-20	Pass
NVNT	BLE 1M	2440	Ant1	-48.19	-20	Pass
NVNT	BLE 1M	2480	Ant1	-47.44	-20	Pass

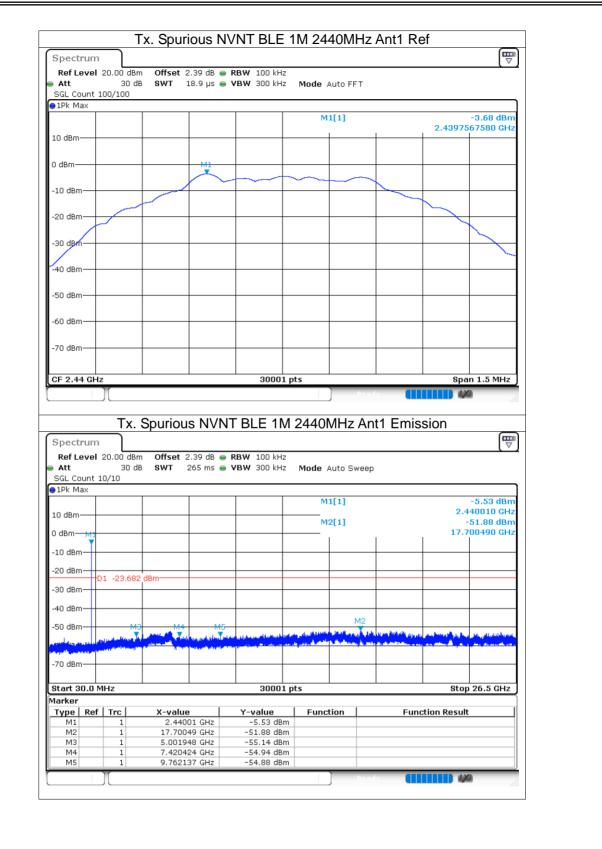
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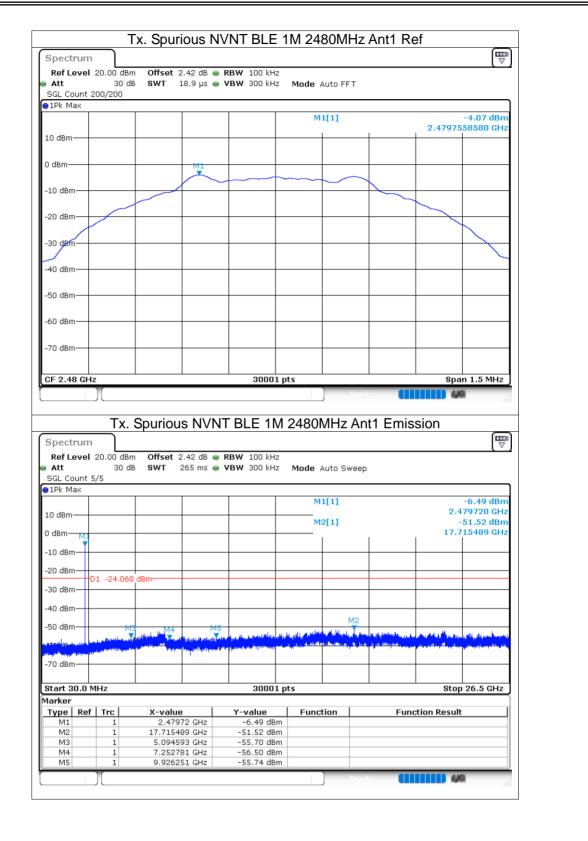
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8.2 **2M**

8.2.1 **Duty Cycle**

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 2M	2402	Ant1	87.2	0.59	0.93
NVNT	BLE 2M	2440	Ant1	87.91	0.56	0.92
NVNT	BLE 2M	2480	Ant1	87.2	0.59	0.93

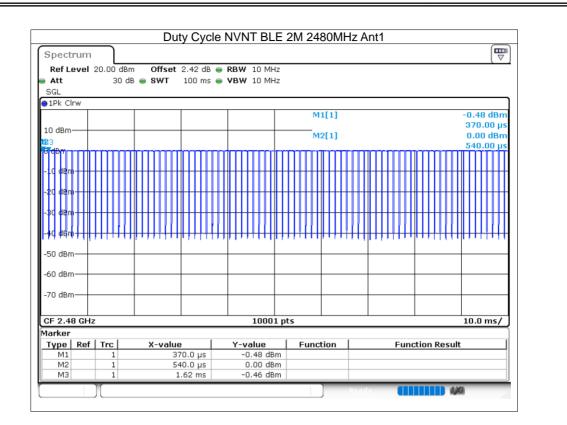


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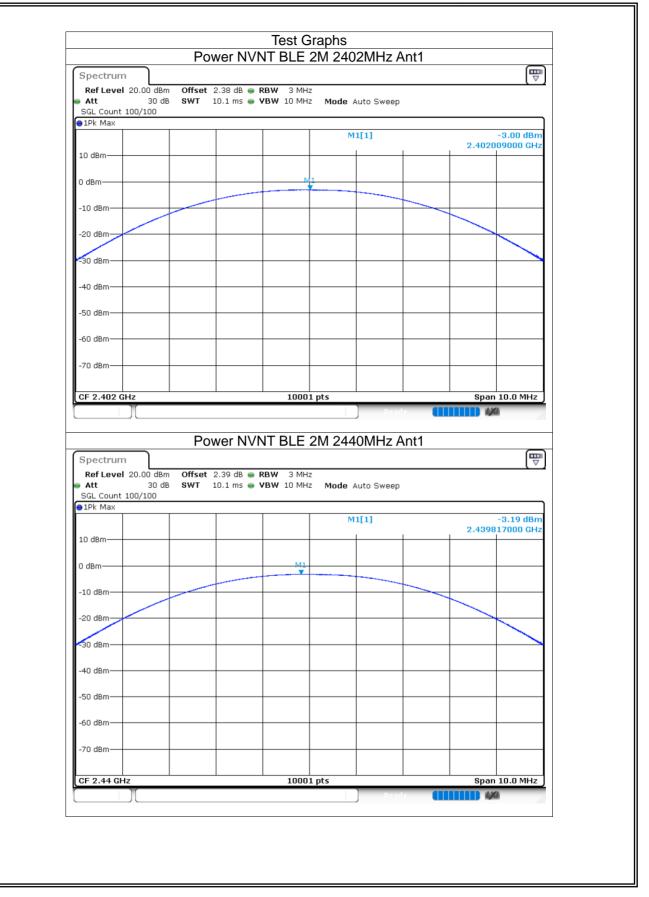
8.2.2 Maximum Conducted Output Power

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Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 2M	2402	Ant1	-3	30	Pass
NVNT	BLE 2M	2440	Ant1	-3.19	30	Pass
NVNT	BLE 2M	2480	Ant1	-3.66	30	Pass

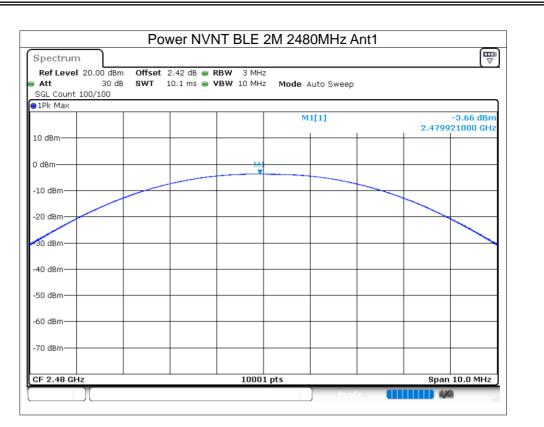
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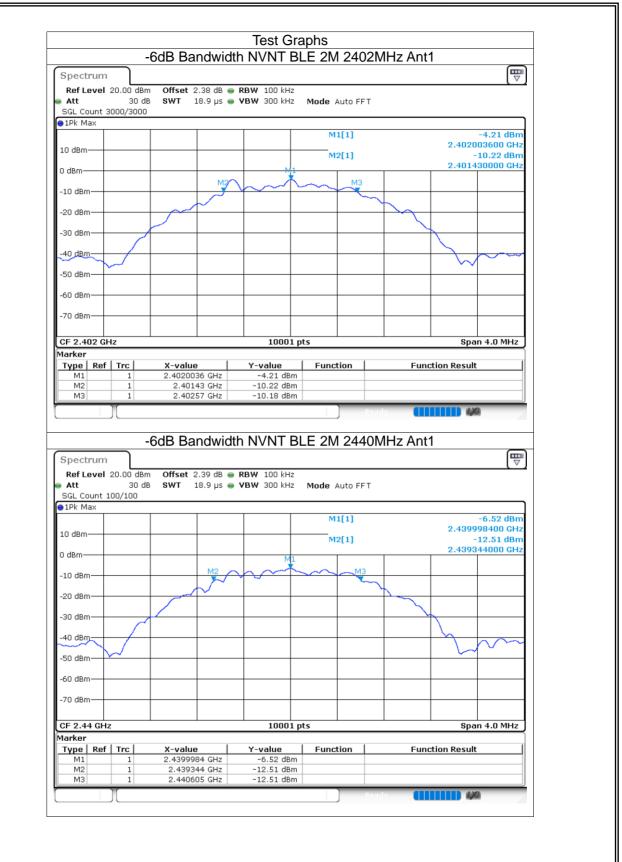




8.2.3 -6dB Bandwidth

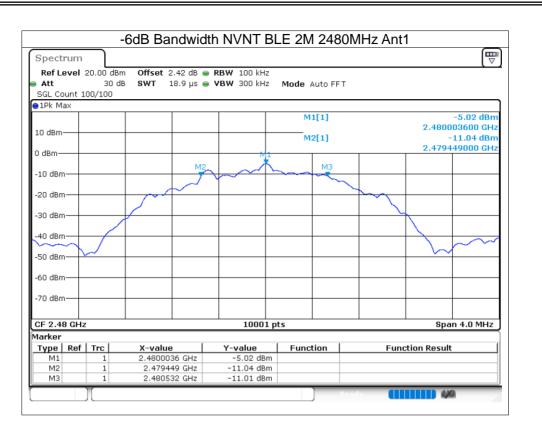
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 2M	2402	Ant1	1.14	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.261	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.083	0.5	Pass





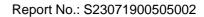
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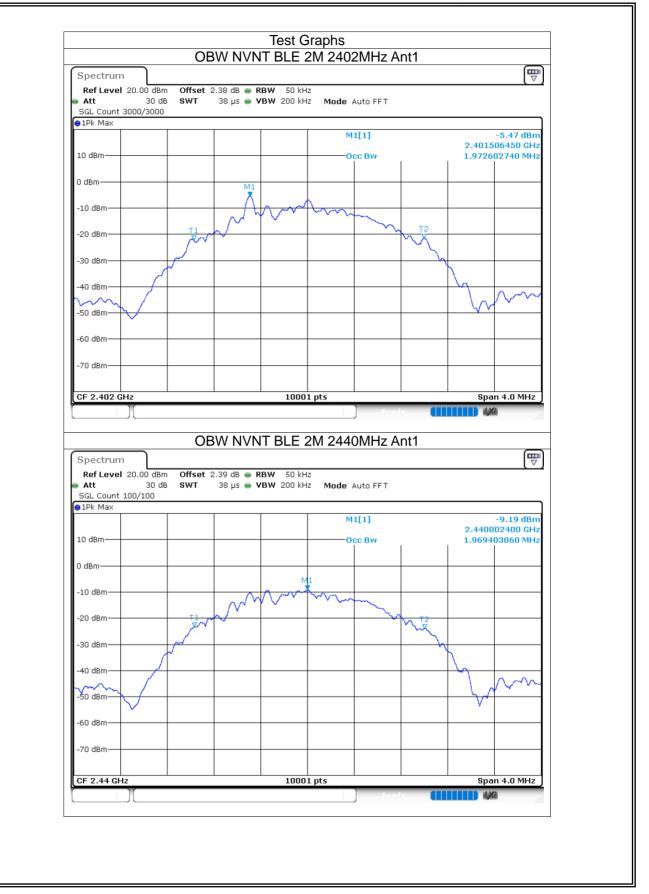


8.2.4 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 2M	2402	Ant1	1.973
NVNT	BLE 2M	2440	Ant1	1.969
NVNT	BLE 2M	2480	Ant1	1.942

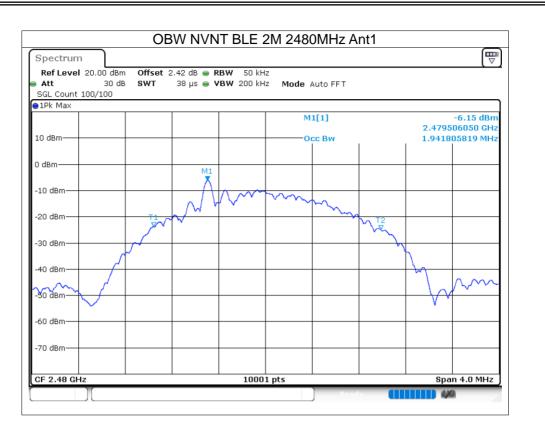
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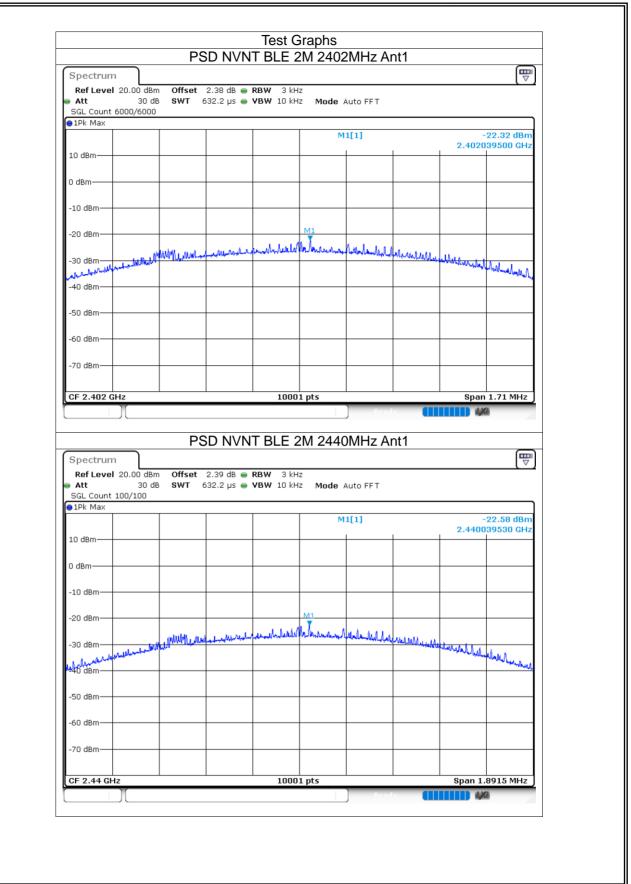


8.2.5 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 2M	2402	Ant1	-22.32	8	Pass
NVNT	BLE 2M	2440	Ant1	-22.58	8	Pass
NVNT	BLE 2M	2480	Ant1	-23.11	8	Pass

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Spectrum		E 2M 2480MHz			
Ref Level 20.00 dBm Offse Att 30 dB SWT SGL Count 100/100	t 2.42 dB 👄 RBW 3 632 μs 👄 VBW 10	EkHz EkHz Mode Auto FFT			
1Pk Max					
		M1[1]		-23.11 dBm 2.480039470 GHz	
10 dBm				2.480039470 GH2	
) dBm					
-10 dBm					
20 dBm		M1			
and a man and a man	- Amangargal- Manully h	white many logale	land langer and and		
-30 dBm				structure to bellen ball	
40 dBm					
-50 dBm					
-60 dBm					
70 dBm					
CF 2.48 GHz	1	0001 pts	S	pan 1.6245 MHz 🖉	

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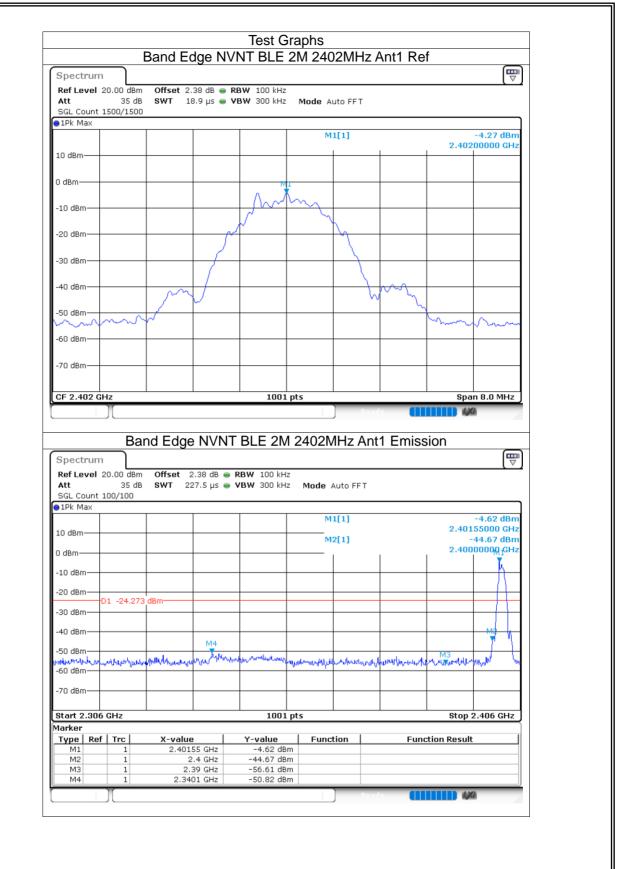




8.2.6 Band Edge

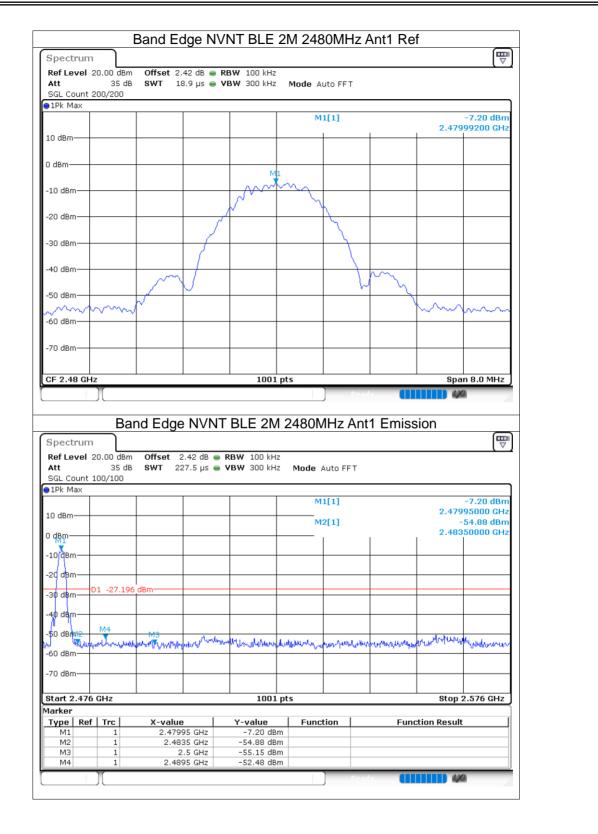
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 2M	2402	Ant1	-46.55	-20	Pass
NVNT	BLE 2M	2480	Ant1	-45.28	-20	Pass





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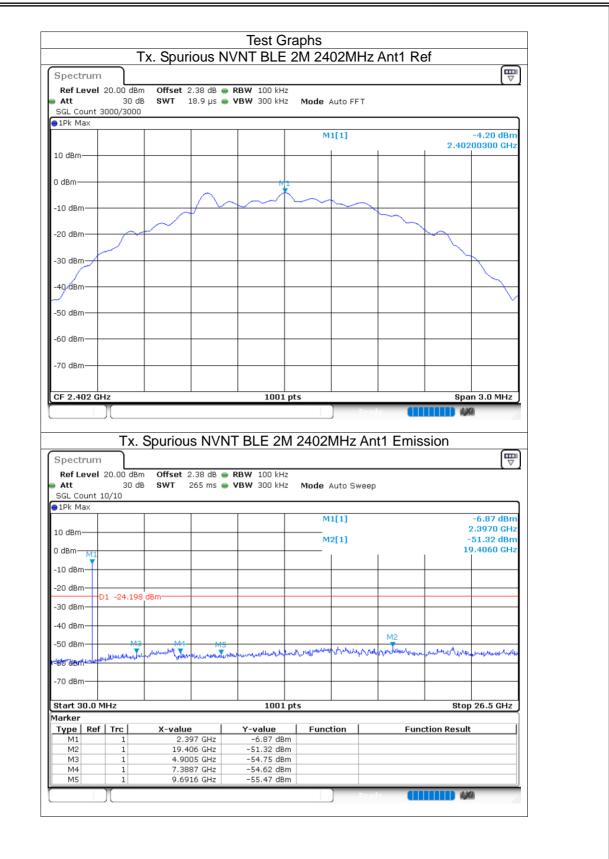
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8.2.7 Conducted RF Spurious Emission

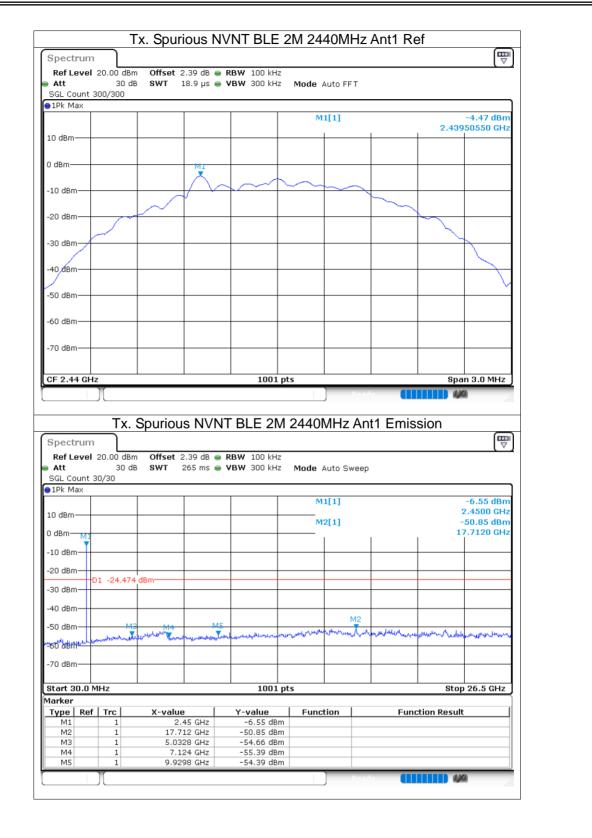
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 2M	2402	Ant1	-47.12	-20	Pass
NVNT	BLE 2M	2440	Ant1	-46.37	-20	Pass
NVNT	BLE 2M	2480	Ant1	-45.01	-20	Pass





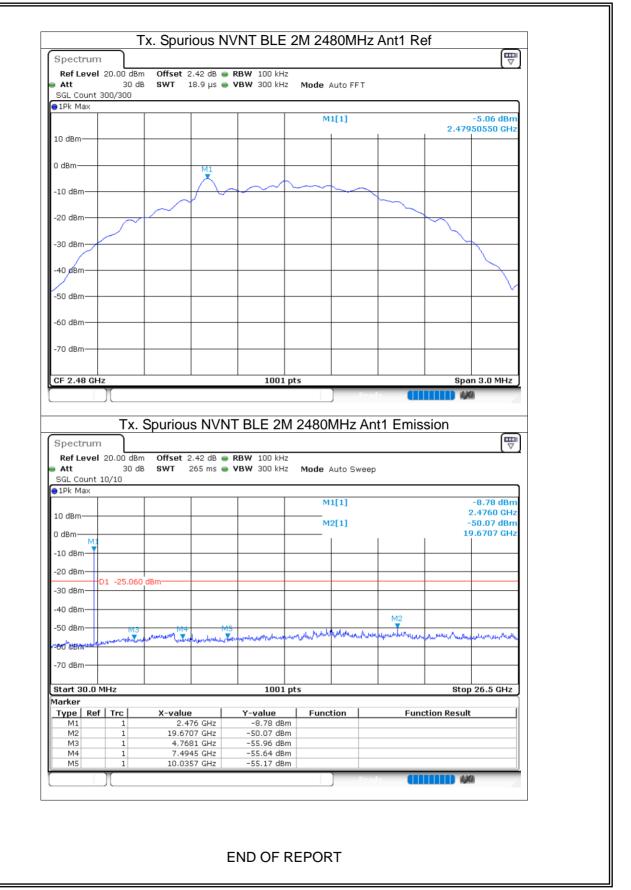
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