

FCC RF Test Report

(BLE)

Applicant: PAX Technology Limited

Address of Applicant: Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour, Hong Kong

Equipment Under Test (EUT)

Product Name: Smart Kiosk

Model No.: SK300

Trade mark: PAX

FCC ID: V5PSK300

Applicable standards: FCC CFR Title 47 Part 15C (§15.247)

Date of sample receipt: 24 Jan., 2022

Date of Test: 25 Jan., to 03 Mar., 2022

Date of report issued: 04 Mar., 2022

Test Result: PASS

Tested by:	<u>Mike Ou</u>	Date:	<u>04 Mar., 2022</u>
Reviewed by:	<u>Wenwen Zhang</u>	Date:	<u>04 Mar., 2022</u>
Approved by:	<u>Wenwen Zhang</u>	Date:	<u>04 Mar., 2022</u>

Test Engineer
Project Engineer
Manager

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

2 Version

Version No.	Date	Description
00	04 Mar., 2022	Original

3 Contents

Page

1	COVER PAGE.....	1
2	VERSION	2
3	CONTENTS	3
4	GENERAL INFORMATION.....	4
4.1	CLIENT INFORMATION.....	4
4.2	GENERAL DESCRIPTION OF E.U.T.....	4
4.3	TEST MODE AND TEST ENVIRONMENT	5
4.4	DESCRIPTION OF SUPPORT UNITS.....	5
4.5	MEASUREMENT UNCERTAINTY.....	5
4.6	ADDITIONS TO, DEVIATIONS, OR EXCLUSIONS FROM THE METHOD.....	5
4.7	LABORATORY FACILITY.....	5
4.8	LABORATORY LOCATION	5
4.9	TEST INSTRUMENTS LIST.....	6
5	MEASUREMENT SETUP AND PROCEDURE	8
5.1	TEST CHANNEL	8
5.2	TEST SETUP	8
5.3	TEST PROCEDURE	10
6	TEST RESULTS.....	11
6.1	SUMMARY	11
6.1.1	Clause and data summary	11
6.1.2	Test Limit.....	12
6.2	ANTENNA REQUIREMENT	13
6.3	CONDUCTED EMISSION	14
6.4	BAND EDGE (RADIATED METHOD).....	16
6.5	SPURIOUS EMISSION (RADIATED METHOD)	32
	APPENDIX A – BLE-1M PHY.....	38
	APPENDIX B – BLE-2M PHY.....	57
	APPENDIX C – BLE-CODED PHY,S=2	76
	APPENDIX D – BLE-CODED PHY,S=8	95

4 General Information

4.1 Client Information

Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour, Hong Kong
Manufacturer:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	401 and 402, Building 3, Shenzhen Software Park, Nanshan District, Shenzhen City, Guangdong Province, P.R.C

4.2 General Description of E.U.T.

Product Name:	Smart Kiosk
Model No.:	SK300
Operation Frequency:	2402 MHz - 2480 MHz
Channel numbers:	40
Channel separation:	2MHz
Modulation technology:	GFSK
Data speed:	1 Mbps (LE 1M PHY), 2 Mbps (LE 2M PHY) 125 kbps (LE Coded PHY, S=8), 500 kbps (LE Coded PHY, S=2)
Antenna Type:	Internal Antenna
Antenna gain:	1.5dBi
AC adapter:	Model: G065A1-240002700 Input: AC100-240V, 50/60Hz, 1.5A Output: DC 24.0V, 2.7A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

4.3 Test Mode and Test Environment

Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation
<i>Remark: For AC power line conducted emission and radiated spurious emission (below 1GHz), pre-scan all data speed, found 1 Mbps (LE 1M PHY) was worse case mode. The report only reflects the test data of worst mode.</i>	
Operating Environment:	
Temperature:	15°C ~ 35°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1010 mbar

4.4 Description of Support Units

The EUT has been tested as an independent unit.

4.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
Conducted Emission for LISN (9kHz ~ 150kHz)	±3.11 dB
Conducted Emission for LISN (150kHz ~ 30MHz)	±2.62 dB
Radiated Emission (30MHz ~ 1GHz) (3m SAC)	±4.45 dB
Radiated Emission (1GHz ~ 18GHz) (3m SAC)	±5.34 dB
Radiated Emission (18GHz ~ 40GHz) (3m SAC)	±5.34 dB

Note: All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

4.6 Additions to, Deviations, or Exclusions from the Method

No

4.7 Laboratory Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● FCC - Designation No.: CN1211 JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551. ● ISED – CAB identifier.: CN0021 The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● CNAS - Registration No.: CNAS L15527 JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf
--

4.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd. Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info-JYTee@lets.com, Website: http://jyt.lets.com

4.9 Test Instruments list

Radiated Emission(3m SAC):					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal.Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	ETS	9m*6m*6m	WXJ001-1	01-19-2021	01-18-2024
BiConiLog Antenna	Schwarzbeck	VULB9163	WXJ002	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Biconical Antenna	Schwarzbeck	VUBA9117	WXJ002-1	06-20-2021	06-19-2022
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-2	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-3	06-18-2021	06-17-2022
Pre-amplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9743B	WXG001-7	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Pre-amplifier (1GHz ~ 18GHz)	SKET	LNPA_0118G-50	WXG001-3	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Pre-amplifier (18GHz ~ 40GHz)	RF System	TRLA-180400G45B	WXG001-9	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
EMI Test Receiver	Rohde & Schwarz	ESRP7	WXJ003-1	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Spectrum Analyzer	KEYSIGHT	N9010B	WXJ004-2	11-27-2021	11-26-2022
Coaxial Cable (30MHz ~ 1GHz)	JYTSZ	JYT3M-1G-NN-8M	WXG001-4	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Coaxial Cable (1GHz ~ 18GHz)	JYTSZ	JYT3M-18G-NN-8M	WXG001-5	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Coaxial Cable (18GHz ~ 40GHz)	JYTSZ	JYT3M-40G-SS-8M	WXG001-7	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Band Reject Filter Group	Tonscend	JS0806-F	WXJ089	N/A	
Test Software	Tonscend	TS+	Version: 3.0.0.1		

Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal.Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI 3	WXJ003	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
RF Switch	TOP PRECISION	RSU0301	WXG003	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
LISN	Schwarzbeck	NSLK 8127	QCJ001-13	03-18-2021	03-17-2022
				02-17-2022	02-16-2023
LISN	Rohde & Schwarz	ESH3-Z5	WXJ005-1	06-18-2021	06-17-2022
LISN Coaxial Cable (9kHz ~ 30MHz)	JYTSZ	JYTCE-1G-NN-2M	WXG003-1	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Test Software	AUDIX	E3	Version: 6.110919b		

Conducted Method:					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Spectrum Analyzer	Keysight	N9010B	WXJ004-3	10-25-2021	10-24-2022
Vector Signal Generator	Keysight	N5182B	WXJ006-6	10-25-2021	10-24-2022
Signal Generator	Keysight	N5173B	WXJ006-4	10-25-2021	10-24-2022
Wireless Connectivity Tester	Rohde & Schwarz	CMW270	WXJ008-7	10-25-2021	10-24-2022
DC Power Supply	Keysight	E3642A	WXJ025-2	10-25-2021	10-24-2022
Temperature Humidity Chamber	HONG ZHI	CZ-A-80D	WXJ032-3	03-19-2021	03-18-2022
Power Detector Box	MWRFTEST	MW100-PSB	WXJ007-4	10-25-2021	10-24-2022
RF Control Unit	MWRFTEST	MW100-RFCB	WXG006	N/A	
Test Software	MWRFTEST	MTS 8310	Version: 2.0.0.0		

5 Measurement setup and procedure

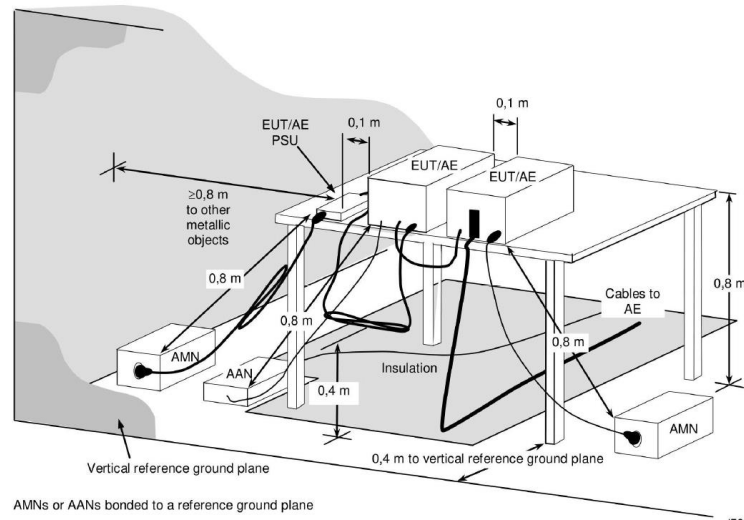
5.1 Test channel

According to ANSI C63.10-2013 chapter 5.6.1 Table 4 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	20	2442	39	2480

5.2 Test setup

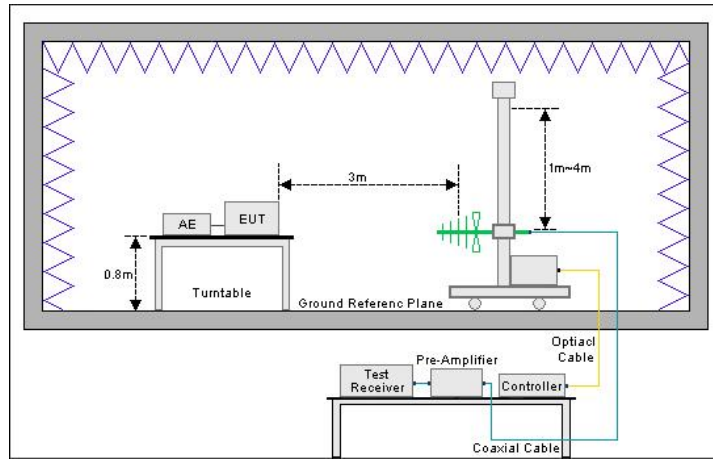
1) Conducted emission measurement:



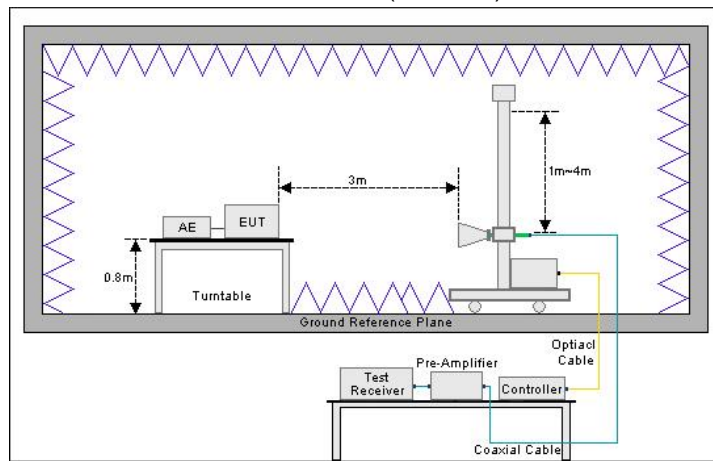
Note: The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

2) Radiated emission measurement:

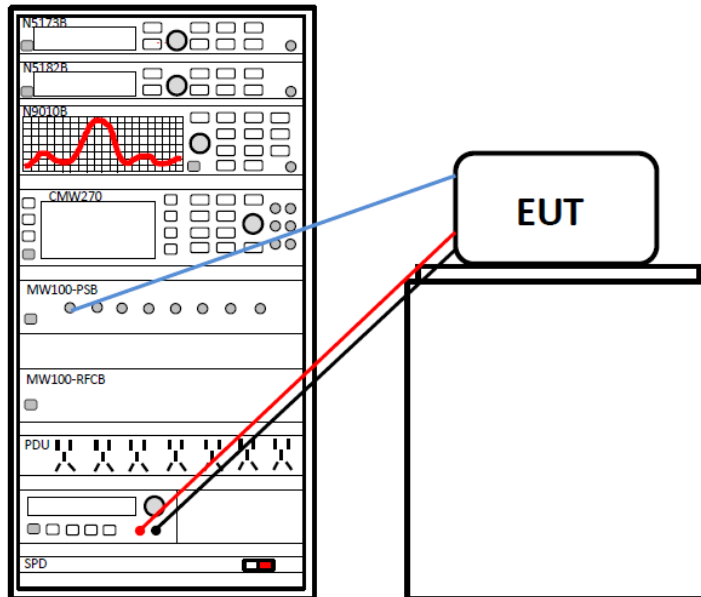
Below 1GHz (3m SAC)



Above 1GHz (3m SAC)



3) Conducted test method



5.3 Test procedure

Test method	Test step
Conducted emission	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Radiated emission	<p>For below 1GHz:</p> <ol style="list-style-type: none"> 1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m. 2. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. <p>For above 1GHz:</p> <ol style="list-style-type: none"> 1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m. 2. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
Conducted test method	<ol style="list-style-type: none"> 1. The BLE antenna port of EUT was connected to the test port of the test system through an RF cable. 2. The EUT is keeping in continuous transmission mode and tested in all modulation modes. 3. Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software.

6 Test Results

6.1 Summary

6.1.1 Clause and data summary

Test Items	FCC Part Section(s)	Test Data	Result
Antenna Requirement	15.203 15.247 (b)(4)	See Section 6.2	Pass
AC Power Line Conducted Emission	15.207	See Section 6.3	Pass
Conducted Peak Output Power	15.247 (b)(3)	Appendix A – LE 1M PHY Appendix B – LE 2M PHY Appendix C – LE Coded PHY, S=2 Appendix D – LE Coded PHY, S=8	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Appendix A – LE 1M PHY Appendix B – LE 2M PHY Appendix C – LE Coded PHY, S=2 Appendix D – LE Coded PHY, S=8	Pass
Power Spectral Density	15.247 (e)	Appendix A – LE 1M PHY Appendix B – LE 2M PHY Appendix C – LE Coded PHY, S=2 Appendix D – LE Coded PHY, S=8	Pass
Band Edge (Conducted Method)	15.247 (d)	Appendix A – LE 1M PHY Appendix B – LE 2M PHY Appendix C – LE Coded PHY, S=2 Appendix D – LE Coded PHY, S=8	Pass
Band Edge (Radiated Method)	15.205 15.209	See Section 6.4	Pass
Spurious Emission (Conducted Method)	15.247(d)	Appendix A – LE 1M PHY Appendix B – LE 2M PHY Appendix C – LE Coded PHY, S=2 Appendix D – LE Coded PHY, S=8	Pass
Spurious Emission (Radiated Method)	15.205 15.209	See Section 6.5	Pass
Remark:			
1. Pass: The EUT complies with the essential requirements in the standard.			
2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).			
Test Method:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02		

6.1.2 Test Limit

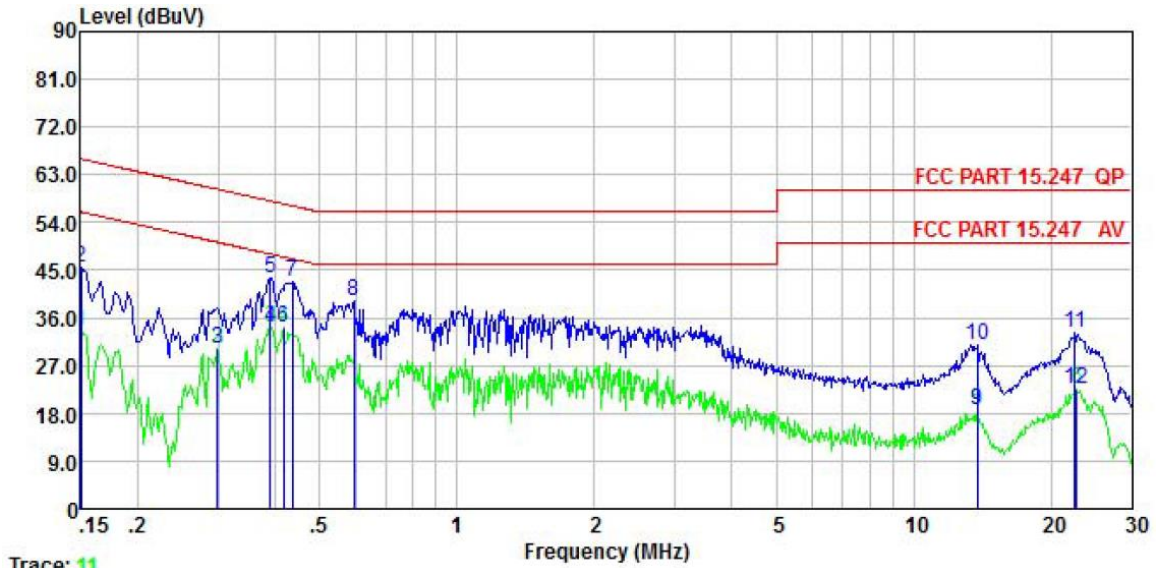
Items	Limit																							
AC Power Line Conducted Emission	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table> <p>* Decreases with the logarithm of the frequency.</p>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50									
Frequency range (MHz)	Limit (dBuV)																							
	Quasi-peak	Average																						
0.15-0.5	66 to 56*	56 to 46*																						
0.5-5	56	46																						
5-30	60	50																						
Conducted Peak Output Power	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.																							
6dB Emission Bandwidth	The minimum 6 dB bandwidth shall be at least 500 kHz.																							
Power Spectral Density	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.																							
Conducted Band Edge and Conducted Spurious Emission	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. Attenuation below the general limits specified in §15.209(a) is not required. In addition, 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)).																							
Radiated Band Edge	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (dBuV/m @3m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Above 1GHz</td> <td>54.0</td> <td>Average Value</td> </tr> <tr> <td>74.0</td> <td>Peak Value</td> </tr> </tbody> </table>	Frequency	Limit (dBuV/m @3m)	Remark	Above 1GHz	54.0	Average Value	74.0	Peak Value															
Frequency	Limit (dBuV/m @3m)	Remark																						
Above 1GHz	54.0	Average Value																						
	74.0	Peak Value																						
Radiated Spurious Emission	<p>Below 1GHz (Measurement distance for 3 m):</p> <table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (dBuV/m @3m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-88MHz</td> <td>40.0</td> <td>Quasi-peak Value</td> </tr> <tr> <td>88MHz-216MHz</td> <td>43.5</td> <td>Quasi-peak Value</td> </tr> <tr> <td>216MHz-960MHz</td> <td>46.0</td> <td>Quasi-peak Value</td> </tr> <tr> <td>960MHz-1GHz</td> <td>54.0</td> <td>Quasi-peak Value</td> </tr> </tbody> </table> <p>Above 1GHz (Measurement distance for 3 m):</p> <table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (dBuV/m @3m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Above 1GHz</td> <td>54.0</td> <td>Average Value</td> </tr> <tr> <td>74.0</td> <td>Peak Value</td> </tr> </tbody> </table>	Frequency	Limit (dBuV/m @3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Frequency	Limit (dBuV/m @3m)	Remark	Above 1GHz	54.0	Average Value	74.0	Peak Value
Frequency	Limit (dBuV/m @3m)	Remark																						
30MHz-88MHz	40.0	Quasi-peak Value																						
88MHz-216MHz	43.5	Quasi-peak Value																						
216MHz-960MHz	46.0	Quasi-peak Value																						
960MHz-1GHz	54.0	Quasi-peak Value																						
Frequency	Limit (dBuV/m @3m)	Remark																						
Above 1GHz	54.0	Average Value																						
	74.0	Peak Value																						

6.2 Antenna requirement

Standard requirement:	FCC Part 15 C Section 15.203 /247(b)
<p>15.203 requirement: 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>15.247(b) (4) requirement: (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p>	
E.U.T Antenna:	
<p>The BLE antenna is an Internal antenna which cannot replace by end-user, the best case gain of the antenna is 1.5 dBi. See product internal photos for details.</p>	

6.3 Conducted Emission

Product name:	Smart Kiosk	Product model:	SK300
Test by:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz		



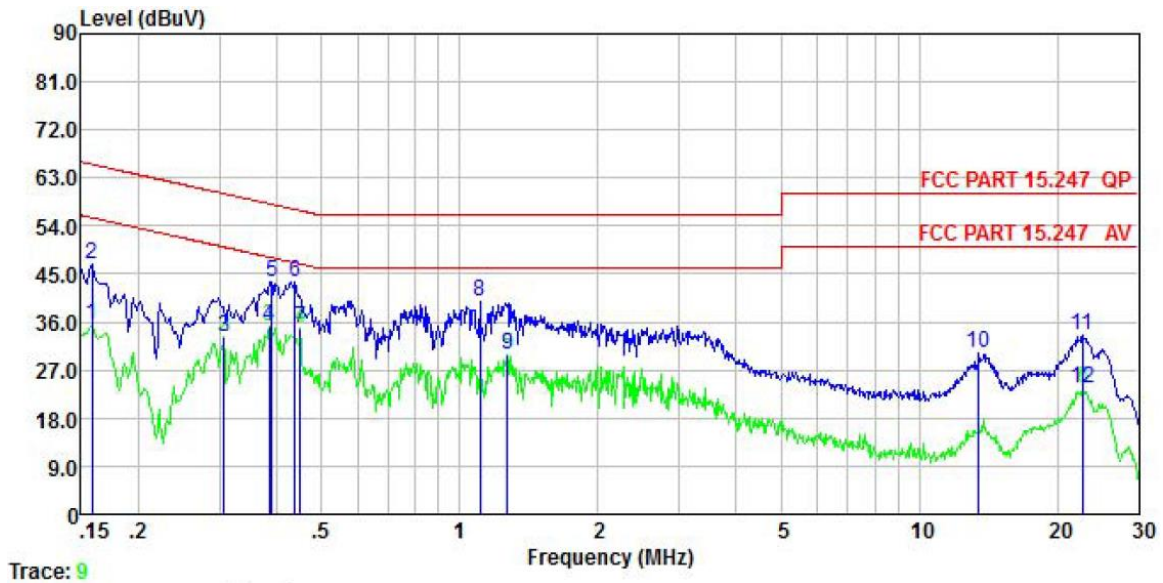
Trace: 11

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	33.33	0.04	0.01	33.38	56.00	-22.62	Average
2	0.150	45.52	0.04	0.01	45.57	66.00	-20.43	QP
3	0.299	30.14	0.04	0.03	30.21	50.28	-20.07	Average
4	0.389	34.04	0.04	0.04	34.12	48.08	-13.96	Average
5	0.389	43.28	0.04	0.04	43.36	58.08	-14.72	QP
6	0.417	34.17	0.04	0.04	34.25	47.51	-13.26	Average
7	0.435	42.72	0.04	0.03	42.79	57.15	-14.36	QP
8	0.595	39.05	0.04	0.02	39.11	56.00	-16.89	QP
9	13.768	18.24	0.26	0.12	18.62	50.00	-31.38	Average
10	13.841	30.47	0.26	0.12	30.85	60.00	-29.15	QP
11	22.535	32.81	0.34	0.16	33.31	60.00	-26.69	QP
12	22.775	21.94	0.35	0.16	22.45	50.00	-27.55	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

Product name:	Smart Kiosk	Product model:	SK300
Test by:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz		



Trace: 9

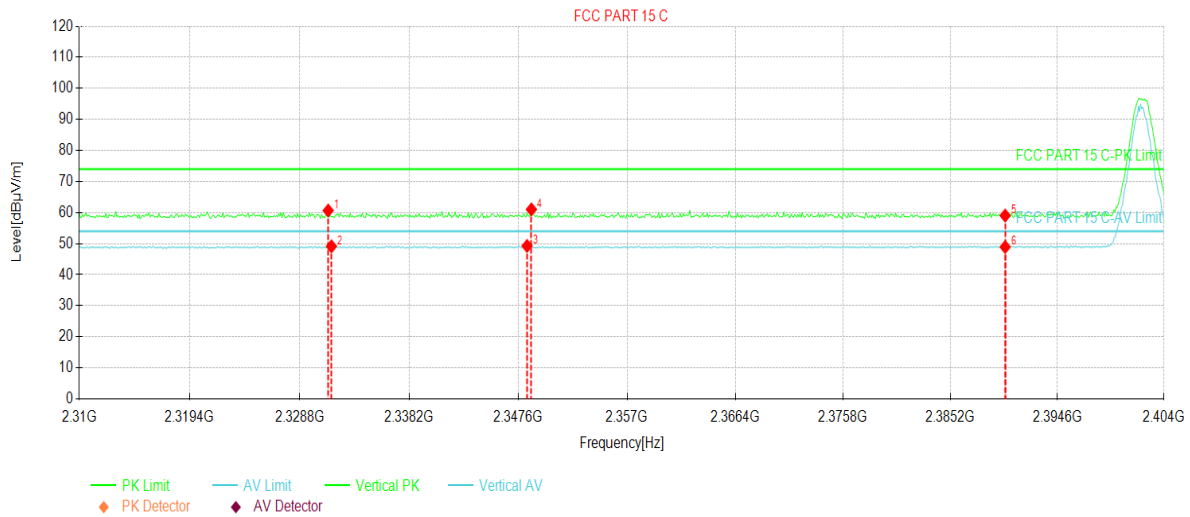
	Read Freq	LISN Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.158	35.59	0.05	0.01	35.65	55.56	-19.91	Average
2	0.158	46.86	0.05	0.01	46.92	65.56	-18.64	QP
3	0.307	33.01	0.04	0.03	33.08	50.06	-16.98	Average
4	0.385	35.13	0.04	0.03	35.20	48.17	-12.97	Average
5	0.389	43.44	0.04	0.04	43.52	58.08	-14.56	QP
6	0.437	43.55	0.04	0.03	43.62	57.11	-13.49	QP
7	0.449	34.67	0.04	0.03	34.74	46.89	-12.15	Average
8	1.106	39.74	0.05	0.07	39.86	56.00	-16.14	QP
9	1.269	29.89	0.05	0.10	30.04	46.00	-15.96	Average
10	13.479	29.81	0.23	0.11	30.15	60.00	-29.85	QP
11	22.655	33.02	0.33	0.16	33.51	60.00	-26.49	QP
12	22.775	23.11	0.33	0.16	23.60	50.00	-26.40	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

6.4 Band Edge (Radiated Method)

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

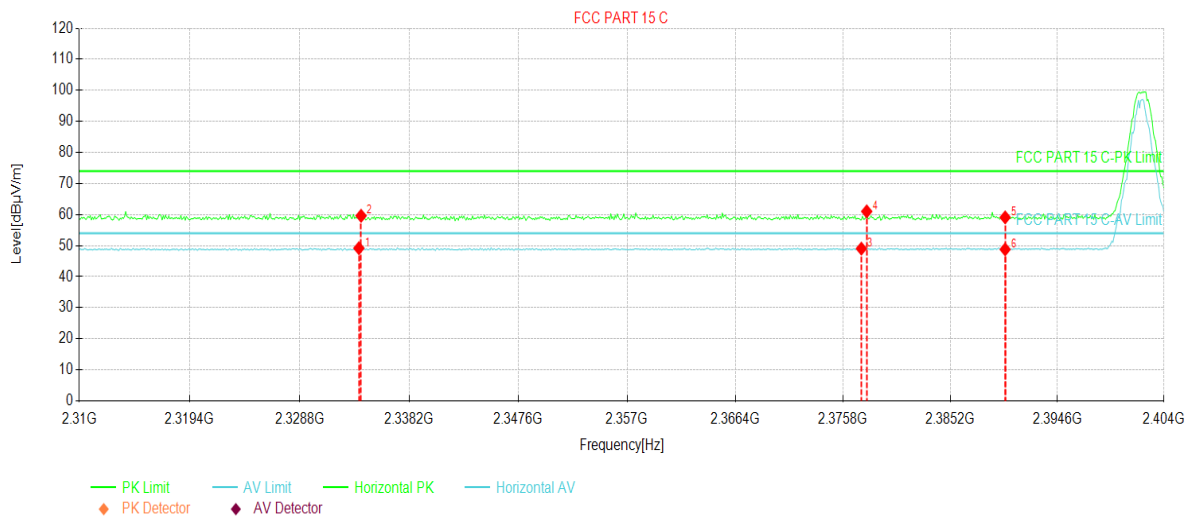


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2331.24	25.23	60.65	35.42	74.00	13.35	PK	Vertical
2	2331.52	13.71	49.13	35.42	54.00	4.87	AV	Vertical
3	2348.35	13.71	49.25	35.54	54.00	4.75	AV	Vertical
4	2348.72	25.47	61.02	35.55	74.00	12.98	PK	Vertical
5	2390.00	23.20	59.04	35.84	74.00	14.96	PK	Vertical
6	2390.00	13.08	48.92	35.84	54.00	5.08	AV	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Pre-amplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

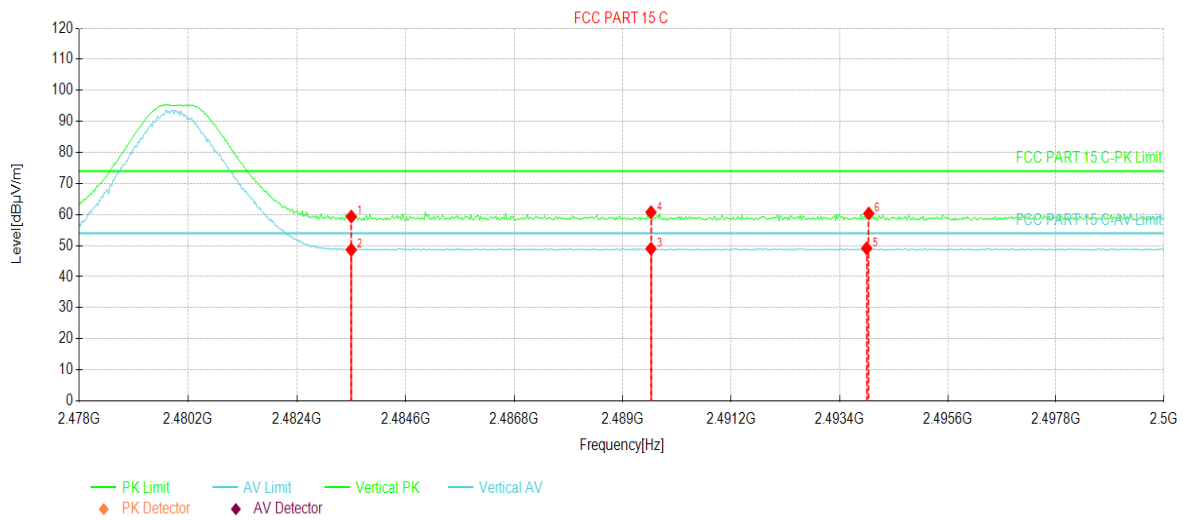


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2333.87	13.73	49.17	35.44	54.00	4.83	AV	Horizontal
2	2334.06	24.17	59.61	35.44	74.00	14.39	PK	Horizontal
3	2377.39	13.28	49.03	35.75	54.00	4.97	AV	Horizontal
4	2377.86	25.27	61.02	35.75	74.00	12.98	PK	Horizontal
5	2390.00	23.25	59.09	35.84	74.00	14.91	PK	Horizontal
6	2390.00	12.94	48.78	35.84	54.00	5.22	AV	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

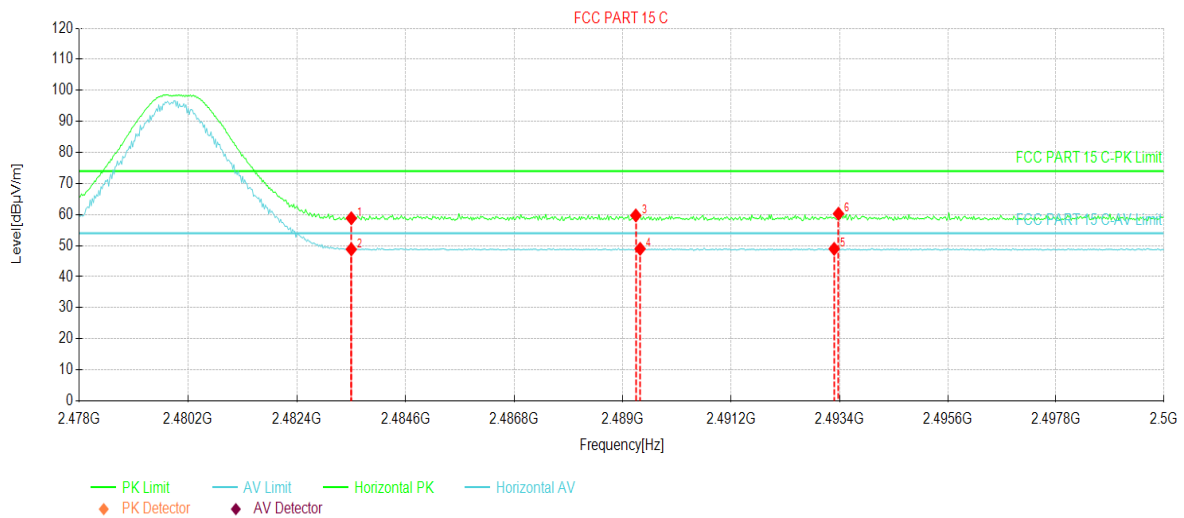


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.64	59.36	35.72	74.00	14.64	PK	Vertical
2	2483.50	12.92	48.64	35.72	54.00	5.36	AV	Vertical
3	2489.57	13.31	49.01	35.70	54.00	4.99	AV	Vertical
4	2489.57	25.07	60.77	35.70	74.00	13.23	PK	Vertical
5	2493.95	13.45	49.14	35.69	54.00	4.86	AV	Vertical
6	2493.99	24.64	60.33	35.69	74.00	13.67	PK	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

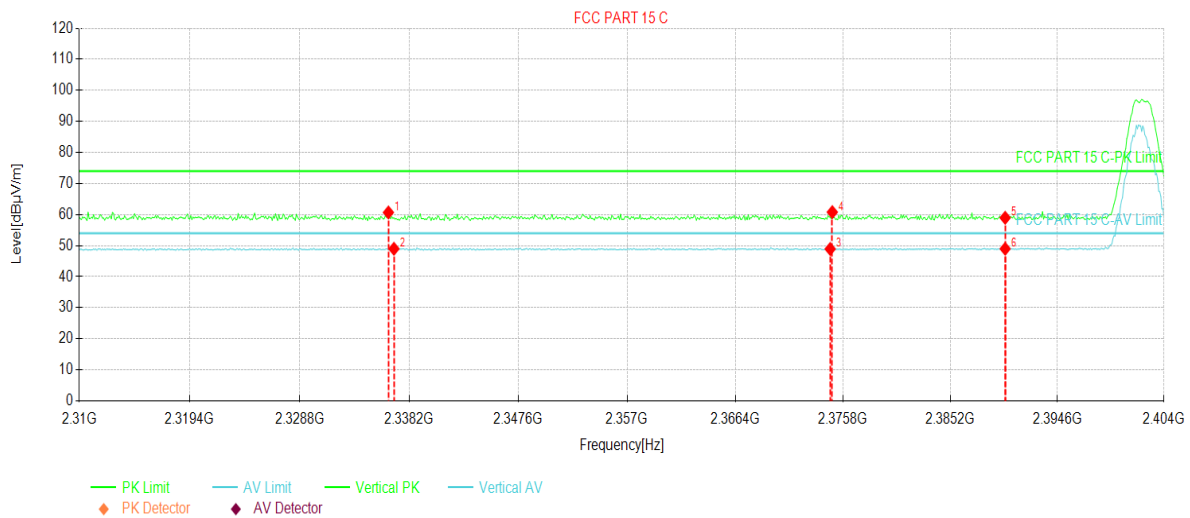


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.09	58.81	35.72	74.00	15.19	PK	Horizontal
2	2483.50	13.09	48.81	35.72	54.00	5.19	AV	Horizontal
3	2489.26	24.02	59.72	35.70	74.00	14.28	PK	Horizontal
4	2489.35	13.27	48.97	35.70	54.00	5.03	AV	Horizontal
5	2493.29	13.25	48.95	35.70	54.00	5.05	AV	Horizontal
6	2493.37	24.57	60.27	35.70	74.00	13.73	PK	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 2M PHY)
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

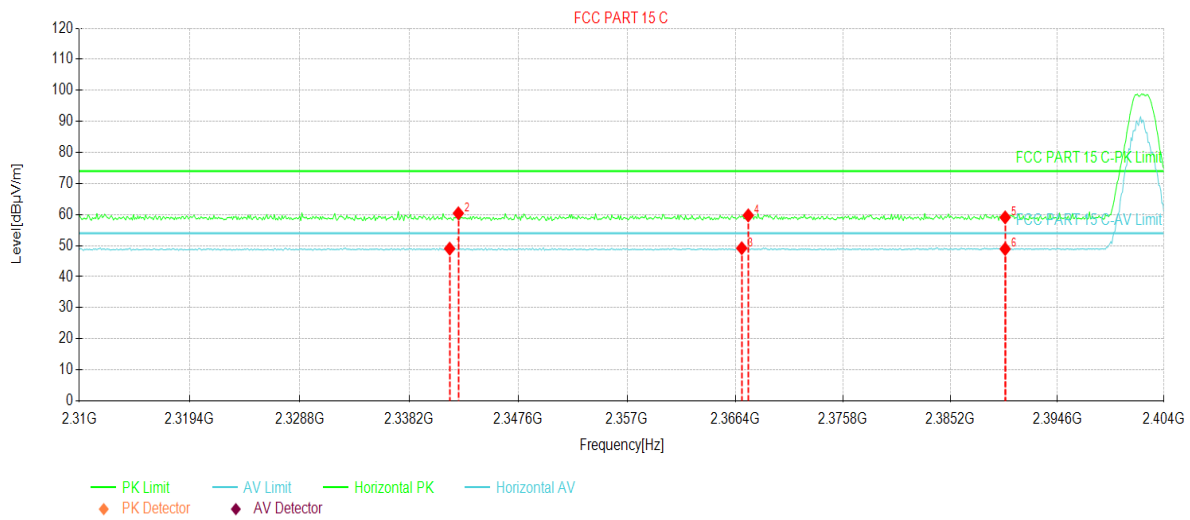


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2336.41	25.22	60.68	35.46	74.00	13.32	PK	Vertical
2	2336.88	13.52	48.98	35.46	54.00	5.02	AV	Vertical
3	2374.67	13.18	48.91	35.73	54.00	5.09	AV	Vertical
4	2374.86	25.05	60.78	35.73	74.00	13.22	PK	Vertical
5	2390.00	23.11	58.95	35.84	74.00	15.05	PK	Vertical
6	2390.00	13.13	48.97	35.84	54.00	5.03	AV	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 2M PHY)
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

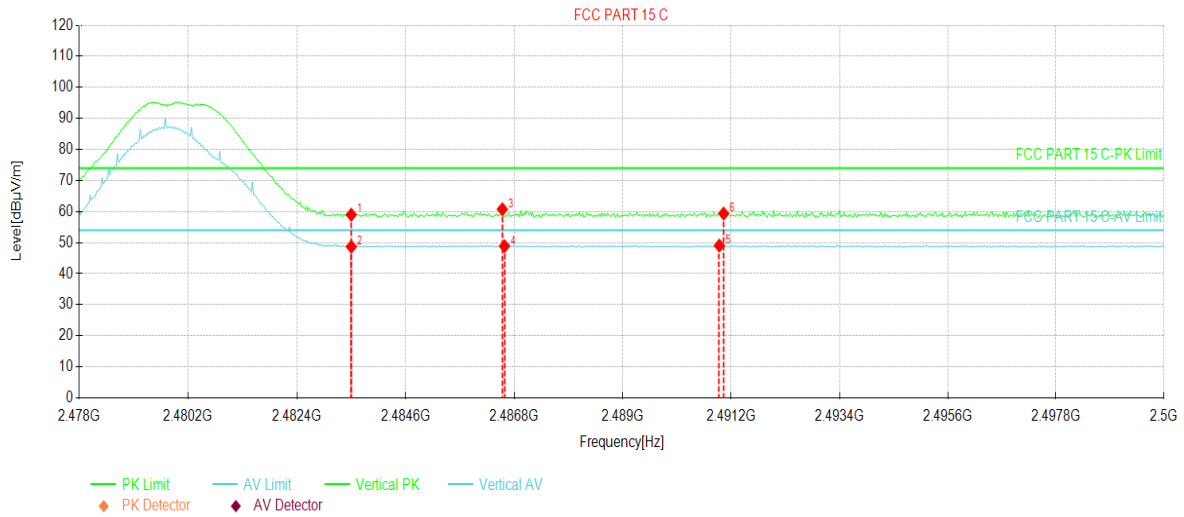


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2341.67	13.52	49.02	35.50	54.00	4.98	AV	Horizontal
2	2342.43	24.91	60.41	35.50	74.00	13.59	PK	Horizontal
3	2366.96	13.50	49.18	35.68	54.00	4.82	AV	Horizontal
4	2367.52	24.06	59.74	35.68	74.00	14.26	PK	Horizontal
5	2390.00	23.26	59.10	35.84	74.00	14.90	PK	Horizontal
6	2390.00	13.07	48.91	35.84	54.00	5.09	AV	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Pre-amplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 2M PHY)
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

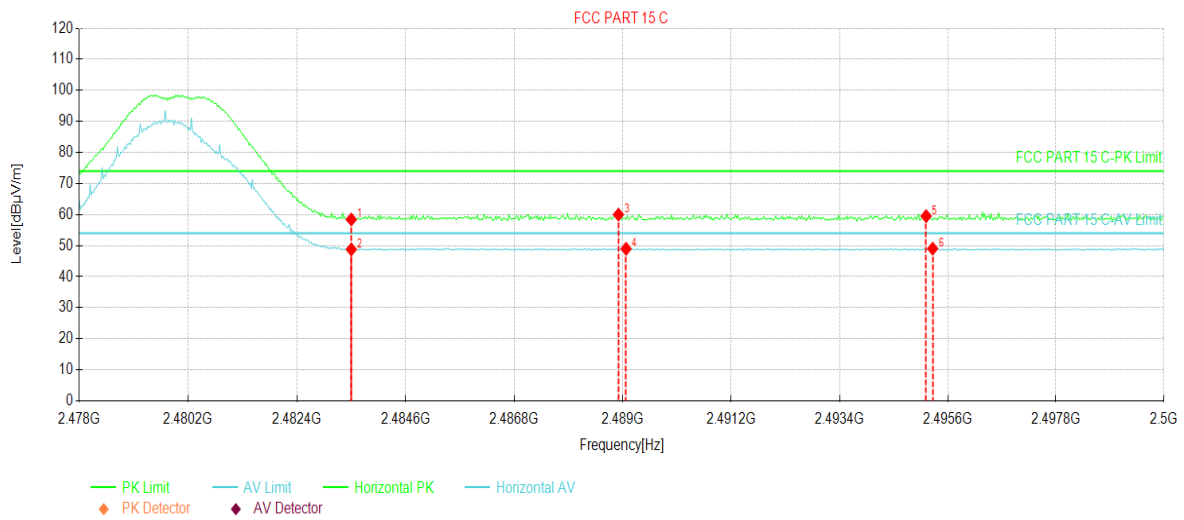


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.28	59.00	35.72	74.00	15.00	PK	Vertical
2	2483.50	12.98	48.70	35.72	54.00	5.30	AV	Vertical
3	2486.55	25.03	60.74	35.71	74.00	13.26	PK	Vertical
4	2486.60	13.16	48.87	35.71	54.00	5.13	AV	Vertical
5	2490.95	13.36	49.06	35.70	54.00	4.94	AV	Vertical
6	2491.04	23.66	59.36	35.70	74.00	14.64	PK	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 2M PHY)
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

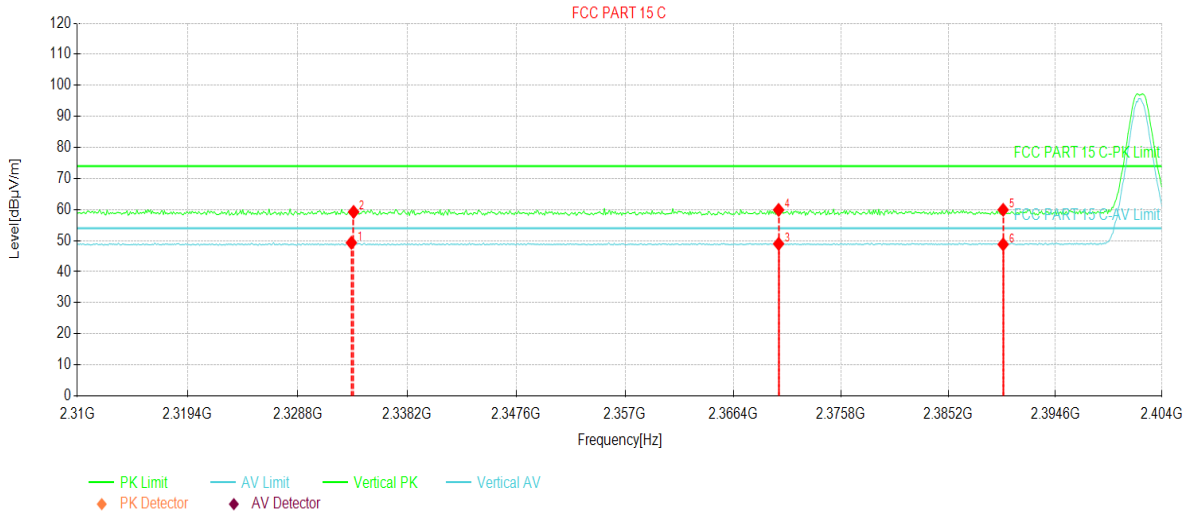


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	22.70	58.42	35.72	74.00	15.58	PK	Horizontal
2	2483.50	13.07	48.79	35.72	54.00	5.21	AV	Horizontal
3	2488.91	24.28	59.99	35.71	74.00	14.01	PK	Horizontal
4	2489.06	13.26	48.97	35.71	54.00	5.03	AV	Horizontal
5	2495.16	23.82	59.51	35.69	74.00	14.49	PK	Horizontal
6	2495.29	13.34	49.03	35.69	54.00	4.97	AV	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=2)
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

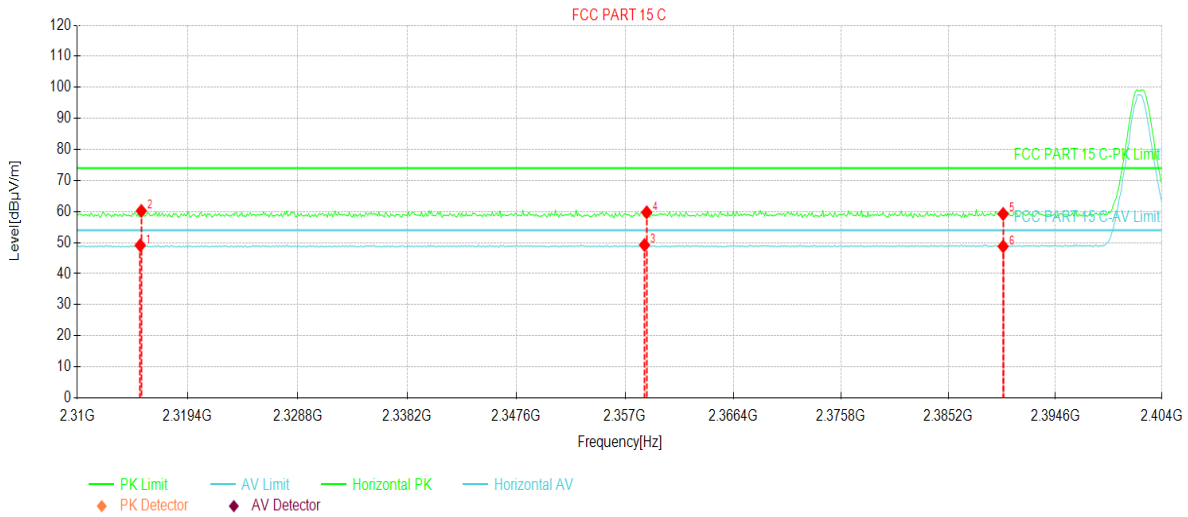


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2333.40	13.87	49.31	35.44	54.00	4.69	AV	Vertical
2	2333.59	23.81	59.25	35.44	74.00	14.75	PK	Vertical
3	2370.34	13.27	48.97	35.70	54.00	5.03	AV	Vertical
4	2370.34	24.19	59.89	35.70	74.00	14.11	PK	Vertical
5	2390.00	24.07	59.91	35.84	74.00	14.09	PK	Vertical
6	2390.00	12.94	48.78	35.84	54.00	5.22	AV	Vertical

Remark:

1. Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=2)
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

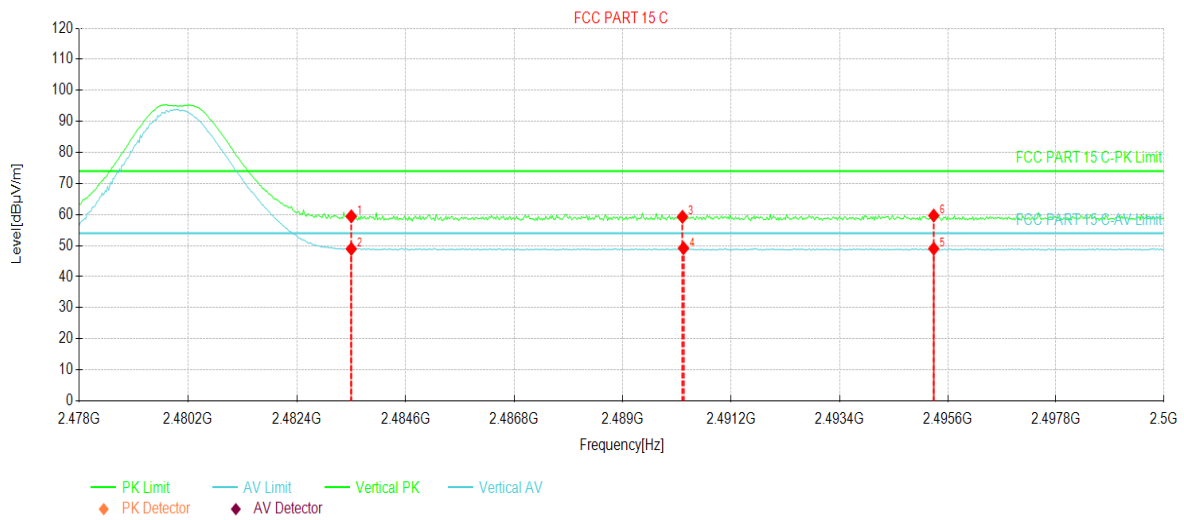


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2315.35	13.81	49.12	35.31	54.00	4.88	AV	Horizontal
2	2315.45	24.91	60.22	35.31	74.00	13.78	PK	Horizontal
3	2358.69	13.60	49.22	35.62	54.00	4.78	AV	Horizontal
4	2358.88	24.14	59.76	35.62	74.00	14.24	PK	Horizontal
5	2390.00	23.40	59.24	35.84	74.00	14.76	PK	Horizontal
6	2390.00	12.94	48.78	35.84	54.00	5.22	AV	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=2)
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

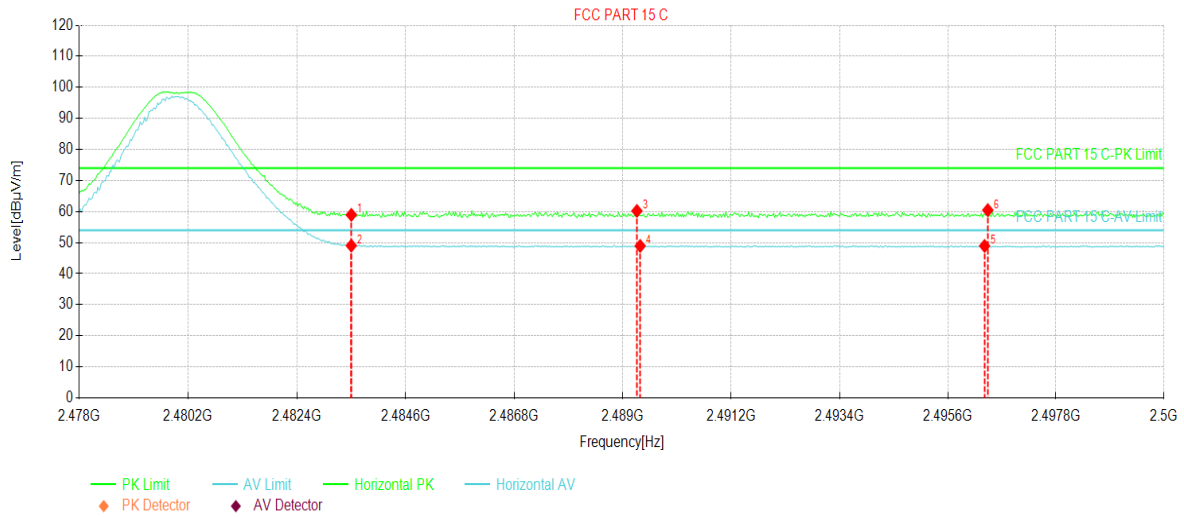


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.71	59.43	35.72	74.00	14.57	PK	Vertical
2	2483.50	13.22	48.94	35.72	54.00	5.06	AV	Vertical
3	2490.21	23.58	59.28	35.70	74.00	14.72	PK	Vertical
4	2490.23	13.47	49.17	35.70	54.00	4.83	AV	Vertical
5	2495.31	13.32	49.01	35.69	54.00	4.99	AV	Vertical
6	2495.31	23.99	59.68	35.69	74.00	14.32	PK	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=2)
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

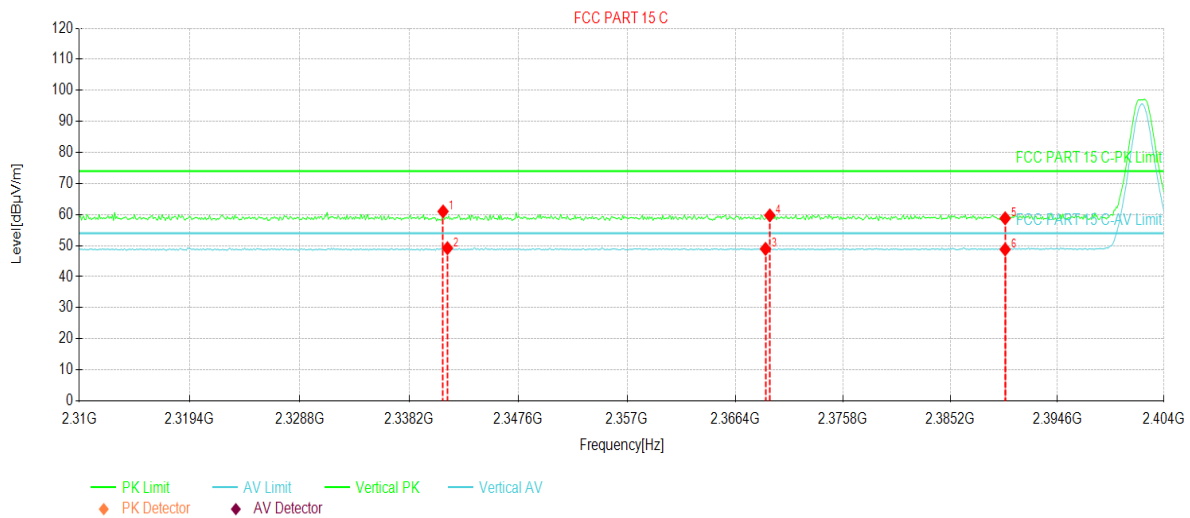


NO.	Freq. [MHz]	Reading [dBuV/m]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.22	58.94	35.72	74.00	15.06	PK	Horizontal
2	2483.50	13.31	49.03	35.72	54.00	4.97	AV	Horizontal
3	2489.28	24.51	60.21	35.70	74.00	13.79	PK	Horizontal
4	2489.35	13.21	48.91	35.70	54.00	5.09	AV	Horizontal
5	2496.34	13.23	48.92	35.69	54.00	5.08	AV	Horizontal
6	2496.41	24.78	60.47	35.69	74.00	13.53	PK	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=8)
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

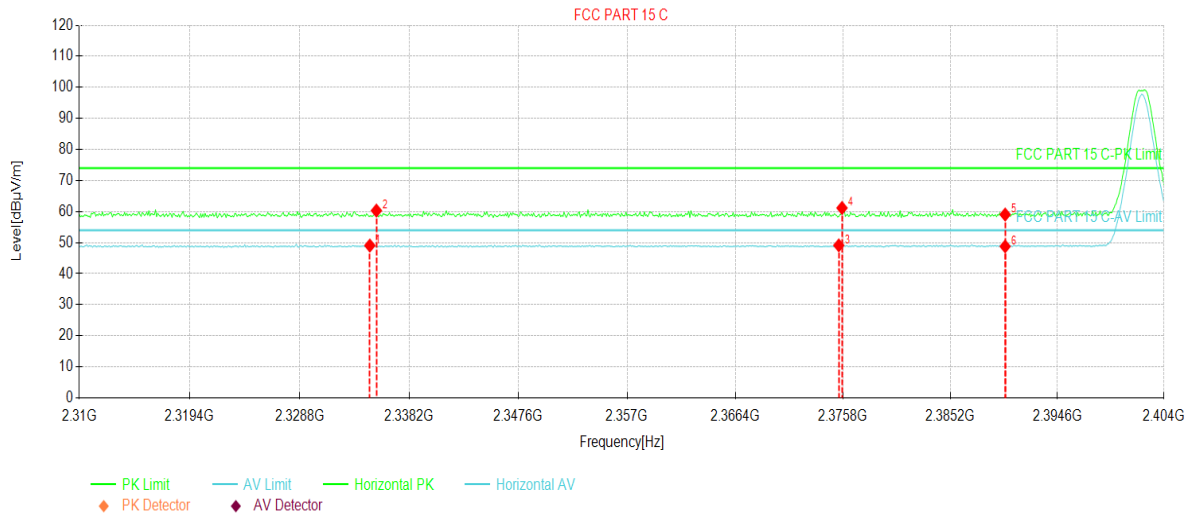


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2341.11	25.52	61.01	35.49	74.00	12.99	PK	Vertical
2	2341.49	13.68	49.17	35.49	54.00	4.83	AV	Vertical
3	2369.03	13.26	48.95	35.69	54.00	5.05	AV	Vertical
4	2369.40	24.04	59.73	35.69	74.00	14.27	PK	Vertical
5	2390.00	22.96	58.80	35.84	74.00	15.20	PK	Vertical
6	2390.00	12.93	48.77	35.84	54.00	5.23	AV	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=8)
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

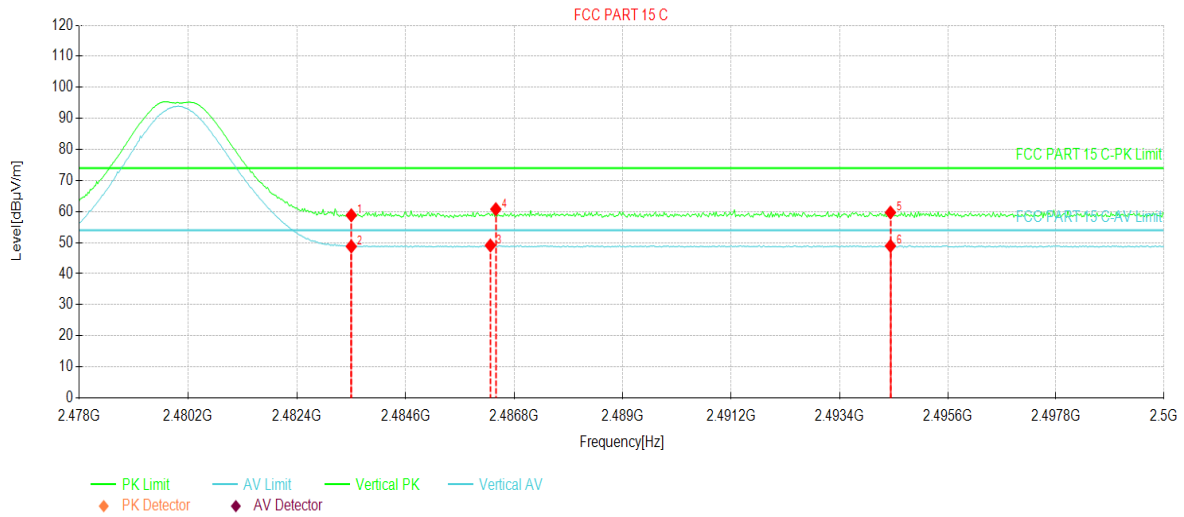


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2334.81	13.60	49.05	35.45	54.00	4.95	AV	Horizontal
2	2335.38	24.87	60.32	35.45	74.00	13.68	PK	Horizontal
3	2375.42	13.38	49.12	35.74	54.00	4.88	AV	Horizontal
4	2375.70	25.42	61.16	35.74	74.00	12.84	PK	Horizontal
5	2390.00	23.20	59.04	35.84	74.00	14.96	PK	Horizontal
6	2390.00	12.94	48.78	35.84	54.00	5.22	AV	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor)..
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=8)
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

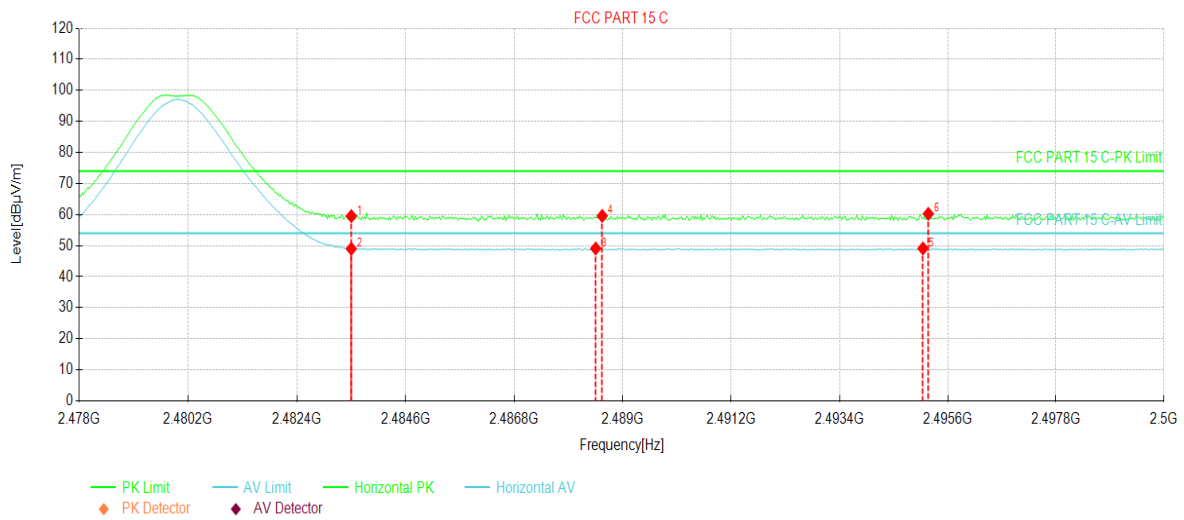


NO.	Freq. [MHz]	Reading [dBuV/m]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.08	58.80	35.72	74.00	15.20	PK	Vertical
2	2483.50	13.05	48.77	35.72	54.00	5.23	AV	Vertical
3	2486.31	13.37	49.08	35.71	54.00	4.92	AV	Vertical
4	2486.42	25.06	60.77	35.71	74.00	13.23	PK	Vertical
5	2494.43	24.00	59.69	35.69	74.00	14.31	PK	Vertical
6	2494.43	13.24	48.93	35.69	54.00	5.07	AV	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE Coded PHY, S=8)
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		



NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	23.80	59.52	35.72	74.00	14.48	PK	Horizontal
2	2483.50	13.26	48.98	35.72	54.00	5.02	AV	Horizontal
3	2488.45	13.37	49.08	35.71	54.00	4.92	AV	Horizontal
4	2488.58	23.86	59.57	35.71	74.00	14.43	PK	Horizontal
5	2495.09	13.41	49.10	35.69	54.00	4.90	AV	Horizontal
6	2495.20	24.55	60.24	35.69	74.00	13.76	PK	Horizontal

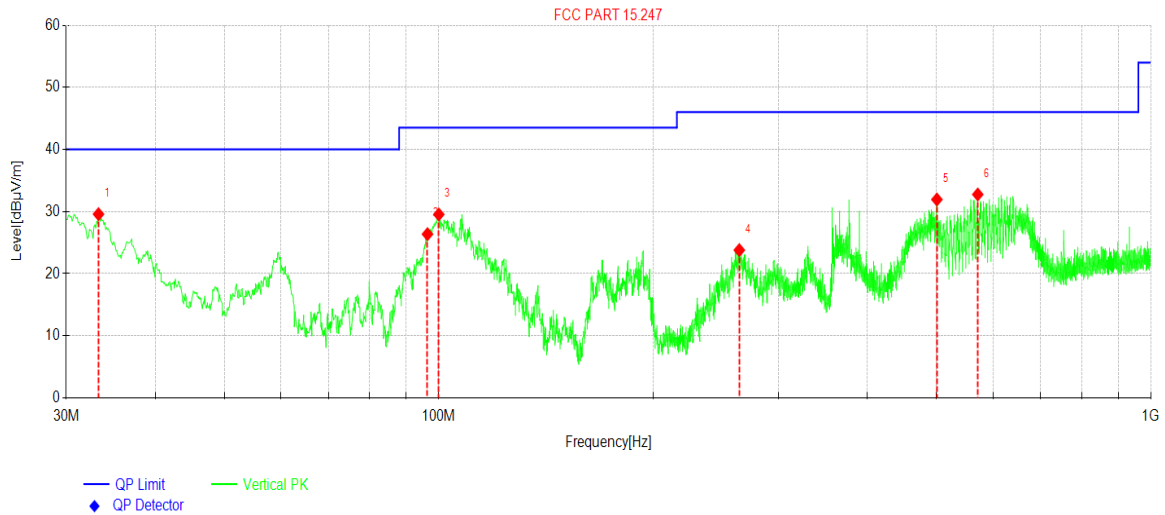
Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Pre-amplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

6.5 Spurious Emission (Radiated Method)

Below 1GHz:

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

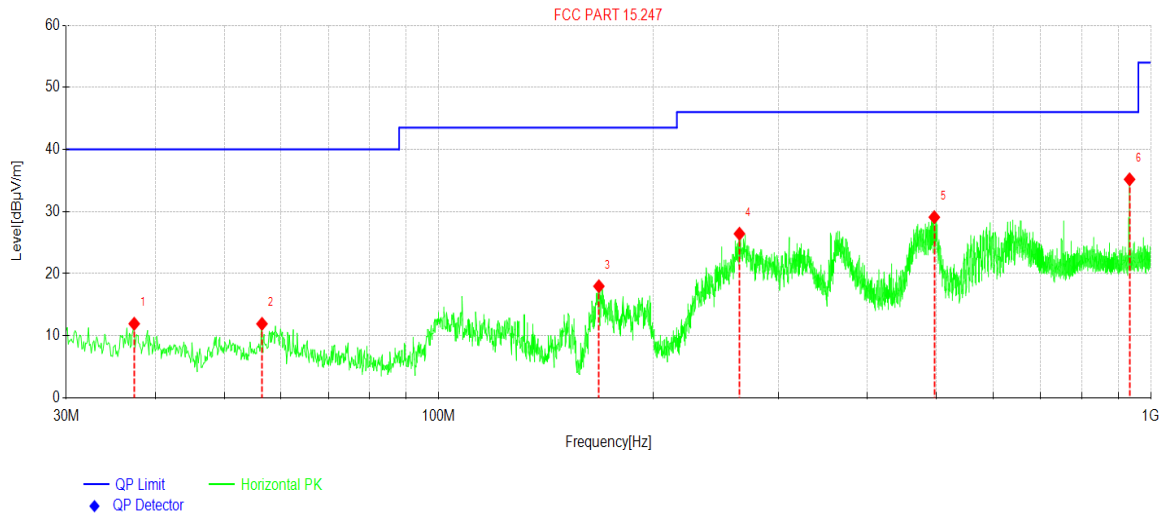


NO.	Freq. [MHz]	Reading[dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	33.2983	44.98	29.58	-15.40	40.00	10.42	PK	Vertical
2	96.4516	43.19	26.36	-16.83	43.50	17.14	PK	Vertical
3	100.041	45.71	29.54	-16.17	43.50	13.96	PK	Vertical
4	264.278	37.36	23.79	-13.57	46.00	22.21	PK	Vertical
5	500.594	38.89	31.94	-6.95	46.00	14.06	PK	Vertical
6	571.217	39.00	32.75	-6.25	46.00	13.25	PK	Vertical

Remark:

1. Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Smart Kiosk	Product Model:	SK300
Test By:	Mike	Test mode:	BLE Tx (LE 1M PHY)
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		



NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	37.3727	26.68	11.93	-14.75	40.00	28.07	PK	Horizontal
2	56.4836	26.66	11.92	-14.74	40.00	28.08	PK	Horizontal
3	167.850	35.07	17.98	-17.09	43.50	25.52	PK	Horizontal
4	264.375	39.99	26.43	-13.56	46.00	19.57	PK	Horizontal
5	496.422	36.18	29.09	-7.09	46.00	16.91	PK	Horizontal
6	933.063	36.36	35.19	-1.17	46.00	10.81	PK	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Above 1GHz

BLE Tx (LE 1M PHY)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	56.55	-9.60	46.95	74.00	27.05	Vertical
4804.00	56.48	-9.60	46.88	74.00	27.12	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	49.35	-9.60	39.75	54.00	14.25	Vertical
4804.00	48.81	-9.60	39.21	54.00	14.79	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	56.49	-9.04	47.45	74.00	26.55	Vertical
4884.00	56.13	-9.04	47.09	74.00	26.91	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	49.39	-9.04	40.35	54.00	13.65	Vertical
4884.00	48.77	-9.04	39.73	54.00	14.27	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	56.38	-8.45	47.93	74.00	26.07	Vertical
4960.00	56.11	-8.45	47.66	74.00	26.34	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	49.65	-8.45	41.20	54.00	12.80	Vertical
4960.00	49.22	-8.45	40.77	54.00	13.23	Horizontal
<i>Remark:</i>						
1. <i>Final Level = Receiver Read level + Factor.</i>						
2. <i>The emission levels of other frequencies are lower than the limit 20dB and not show in test report.</i>						

BLE Tx (LE 2M PHY)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	56.45	-9.60	46.85	74.00	27.15	Vertical
4804.00	56.13	-9.60	46.53	74.00	27.47	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	49.75	-9.60	40.15	54.00	13.85	Vertical
4804.00	48.96	-9.60	39.36	54.00	14.64	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	56.04	-9.04	47.00	74.00	27.00	Vertical
4884.00	56.14	-9.04	47.10	74.00	26.90	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	50.02	-9.04	40.98	54.00	13.02	Vertical
4884.00	48.50	-9.04	39.46	54.00	14.54	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	56.21	-8.45	47.76	74.00	26.24	Vertical
4960.00	55.65	-8.45	47.20	74.00	26.80	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	49.82	-8.45	41.37	54.00	12.63	Vertical
4960.00	48.37	-8.45	39.92	54.00	14.08	Horizontal
<i>Remark:</i>						
1. <i>Final Level = Receiver Read level + Factor.</i>						
2. <i>The emission levels of other frequencies are lower than the limit 20dB and not show in test report.</i>						

BEL Tx (LE Coded PHY, S=2)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	56.87	-9.60	47.27	74.00	26.73	Vertical
4804.00	55.79	-9.60	46.19	74.00	27.81	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	49.97	-9.60	40.37	54.00	13.63	Vertical
4804.00	49.32	-9.60	39.72	54.00	14.28	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	56.78	-9.04	47.74	74.00	26.26	Vertical
4884.00	55.38	-9.04	46.34	74.00	27.66	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	50.27	-9.04	41.23	54.00	12.77	Vertical
4884.00	49.25	-9.04	40.21	54.00	13.79	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	57.06	-8.45	48.61	74.00	25.39	Vertical
4960.00	55.77	-8.45	47.32	74.00	26.68	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	49.86	-8.45	41.41	54.00	12.59	Vertical
4960.00	49.06	-8.45	40.61	54.00	13.39	Horizontal
Remark: 1. <i>Final Level = Receiver Read level + Factor.</i> 2. <i>The emission levels of other frequencies are lower than the limit 20dB and not show in test report.</i>						

BEL Tx (LE Coded PHY, S=8)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	56.98	-9.60	47.38	74.00	26.62	Vertical
4804.00	56.19	-9.60	46.59	74.00	27.41	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4804.00	49.61	-9.60	40.01	54.00	13.99	Vertical
4804.00	48.98	-9.60	39.38	54.00	14.62	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	56.84	-9.04	47.80	74.00	26.20	Vertical
4884.00	56.24	-9.04	47.20	74.00	26.80	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4884.00	49.77	-9.04	40.73	54.00	13.27	Vertical
4884.00	48.71	-9.04	39.67	54.00	14.33	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	56.57	-8.45	48.12	74.00	25.88	Vertical
4960.00	56.35	-8.45	47.90	74.00	26.10	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
4960.00	49.46	-8.45	41.01	54.00	12.99	Vertical
4960.00	48.79	-8.45	40.34	54.00	13.66	Horizontal
<i>Remark:</i>						
1. <i>Final Level = Receiver Read level + Factor.</i>						
2. <i>The emission levels of other frequencies are lower than the limit 20dB and not show in test report.</i>						

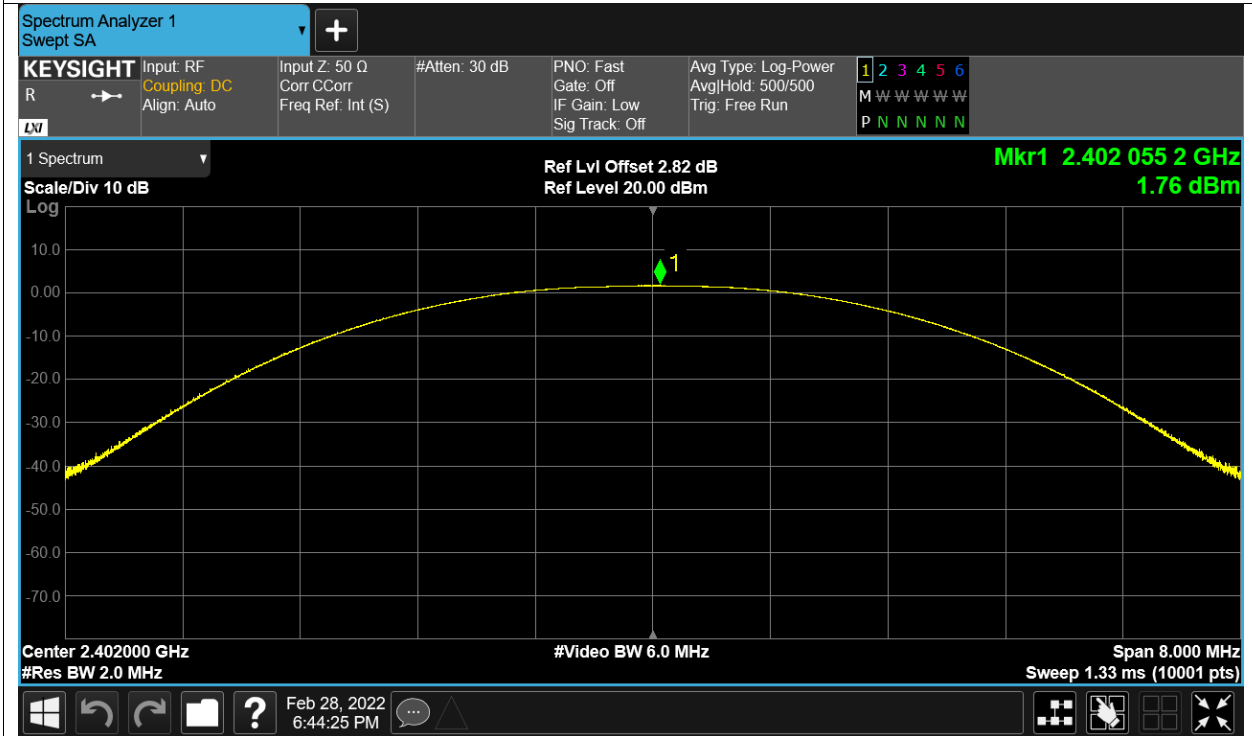
Appendix A – BLE-1M PHY

Maximum Conducted Output Power

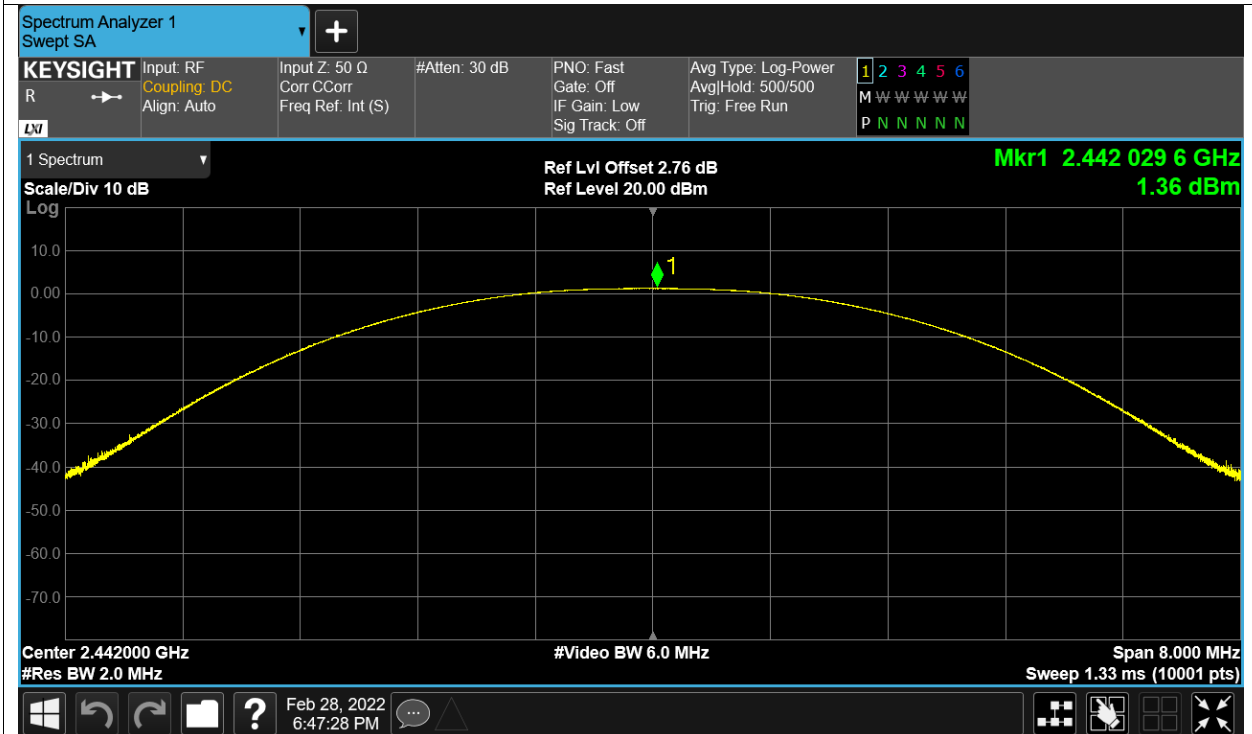
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	1.762	0	1.762	30	Pass
NVNT	BLE	2442	Ant1	1.363	0	1.363	30	Pass
NVNT	BLE	2480	Ant1	0.806	0	0.806	30	Pass

Test Graphs

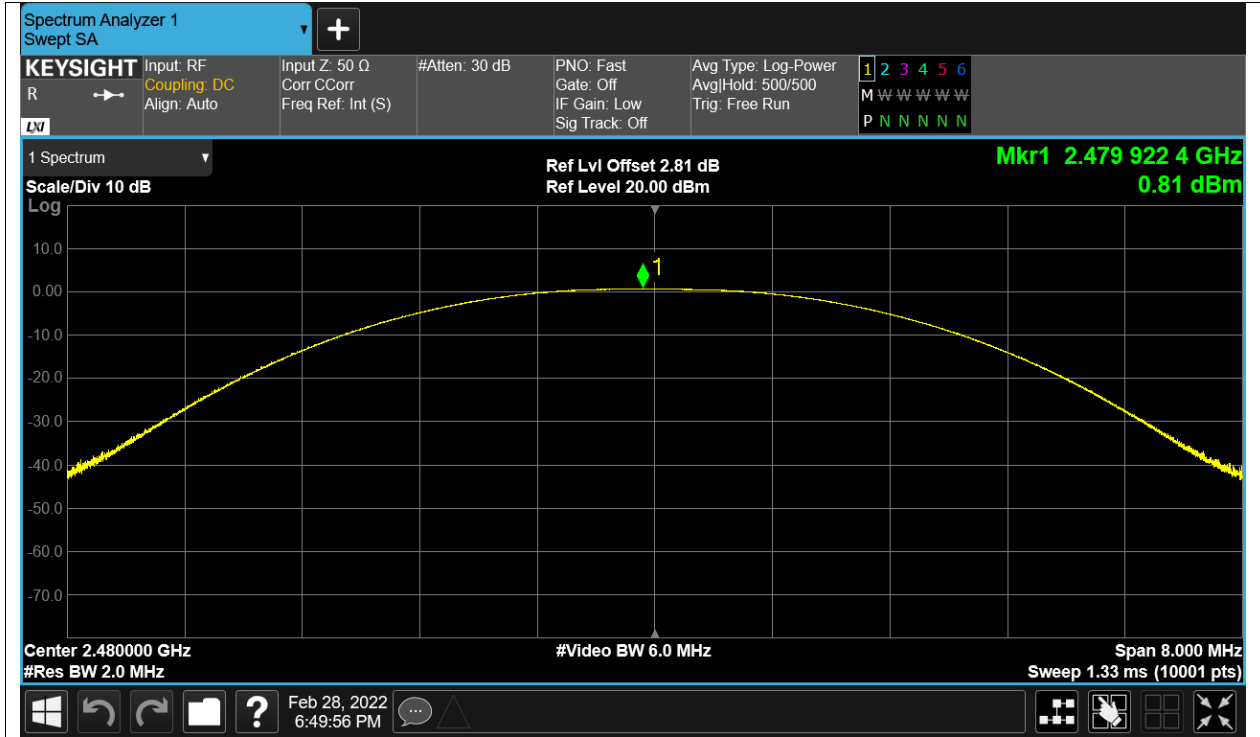
Power NVNT BLE 2402MHz Ant1



Power NVNT BLE 2442MHz Ant1



Power NVNT BLE 2480MHz Ant1



-6dB Bandwidth

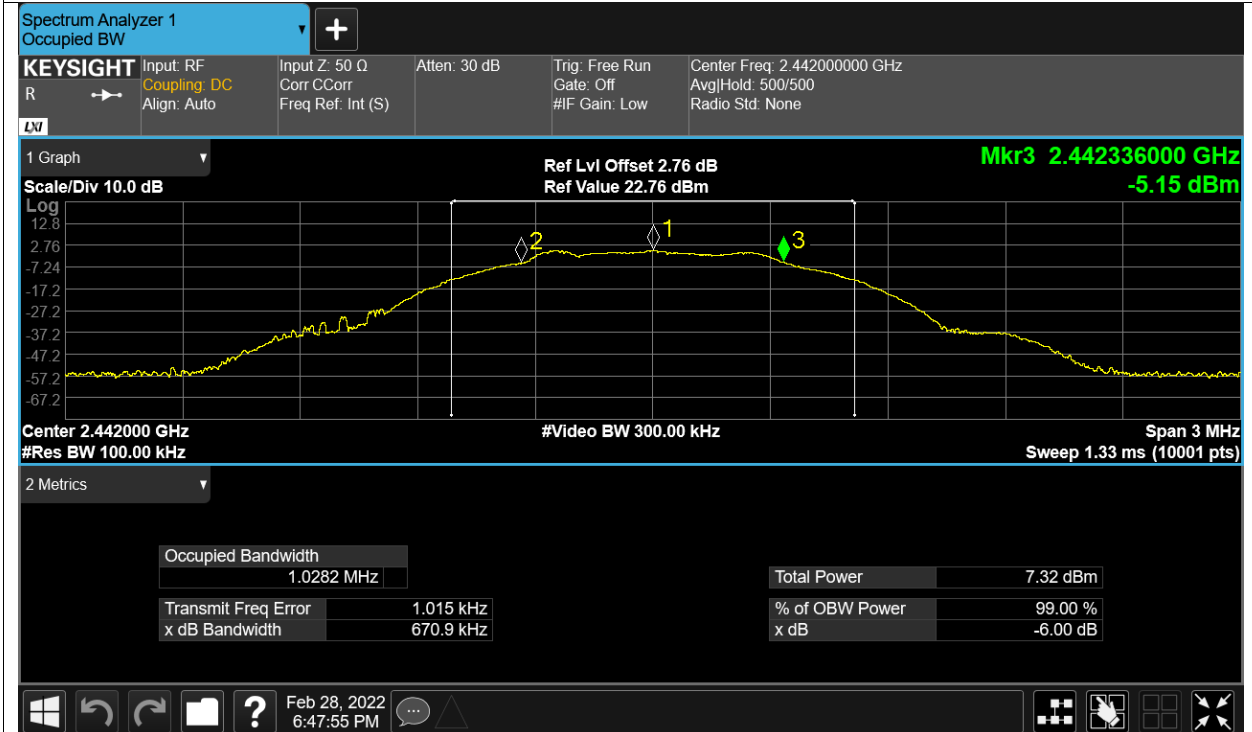
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant1	0.659	0.5	Pass
NVNT	BLE	2442	Ant1	0.671	0.5	Pass
NVNT	BLE	2480	Ant1	0.66	0.5	Pass

Test Graphs

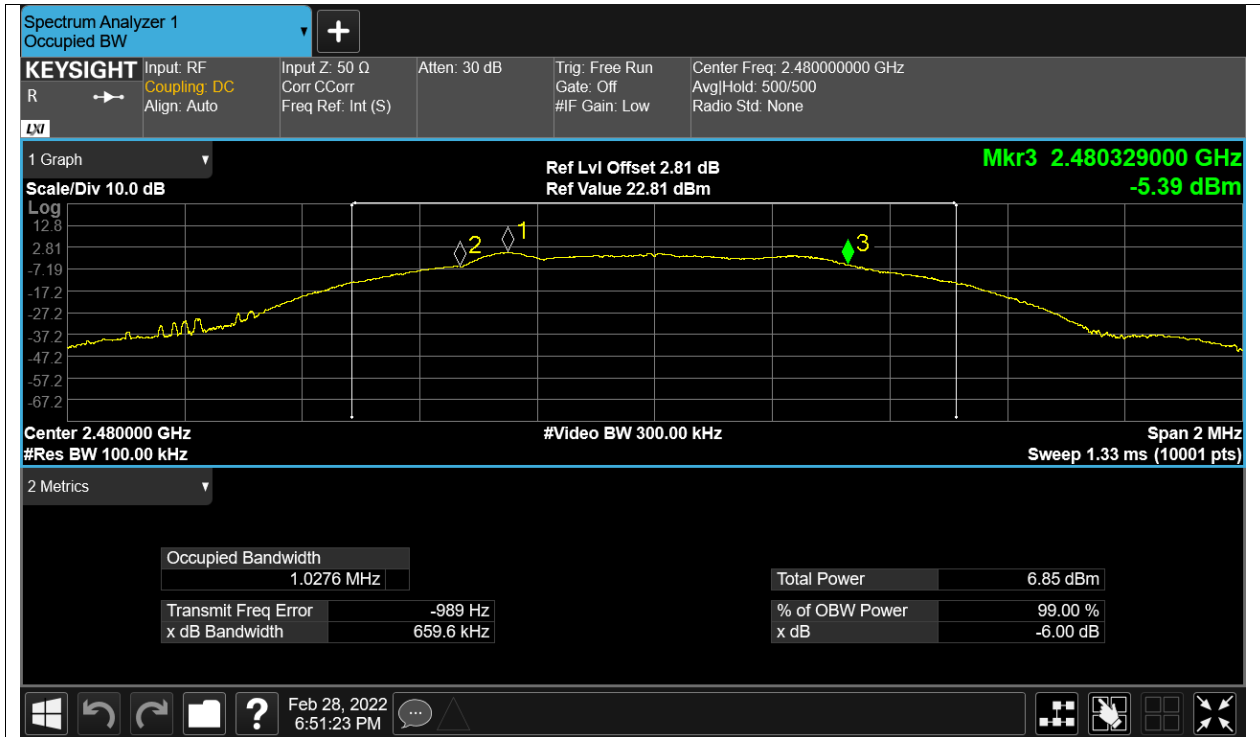
-6dB Bandwidth NVNT BLE 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2442MHz Ant1

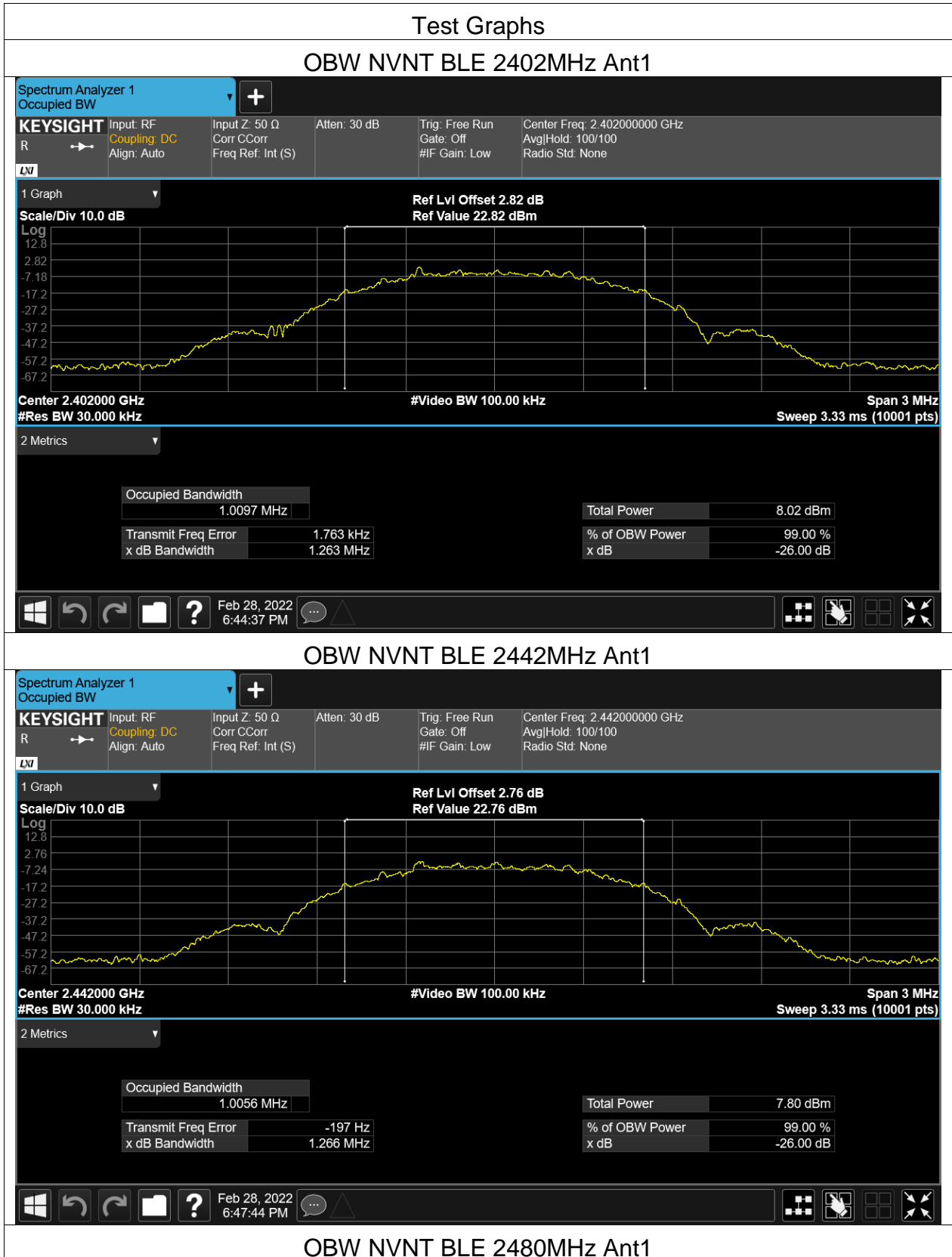


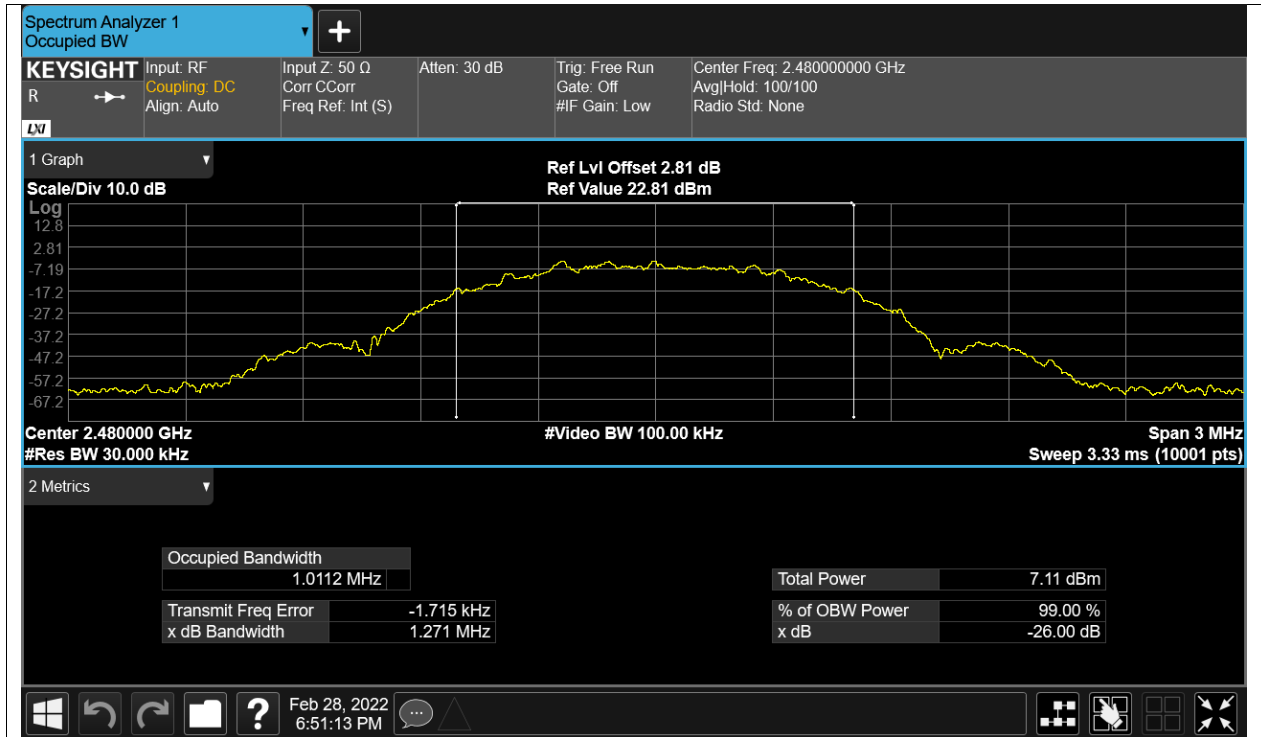
-6dB Bandwidth NVNT BLE 2480MHz Ant1



Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant1	1.009686991
NVNT	BLE	2442	Ant1	1.005617554
NVNT	BLE	2480	Ant1	1.011246123



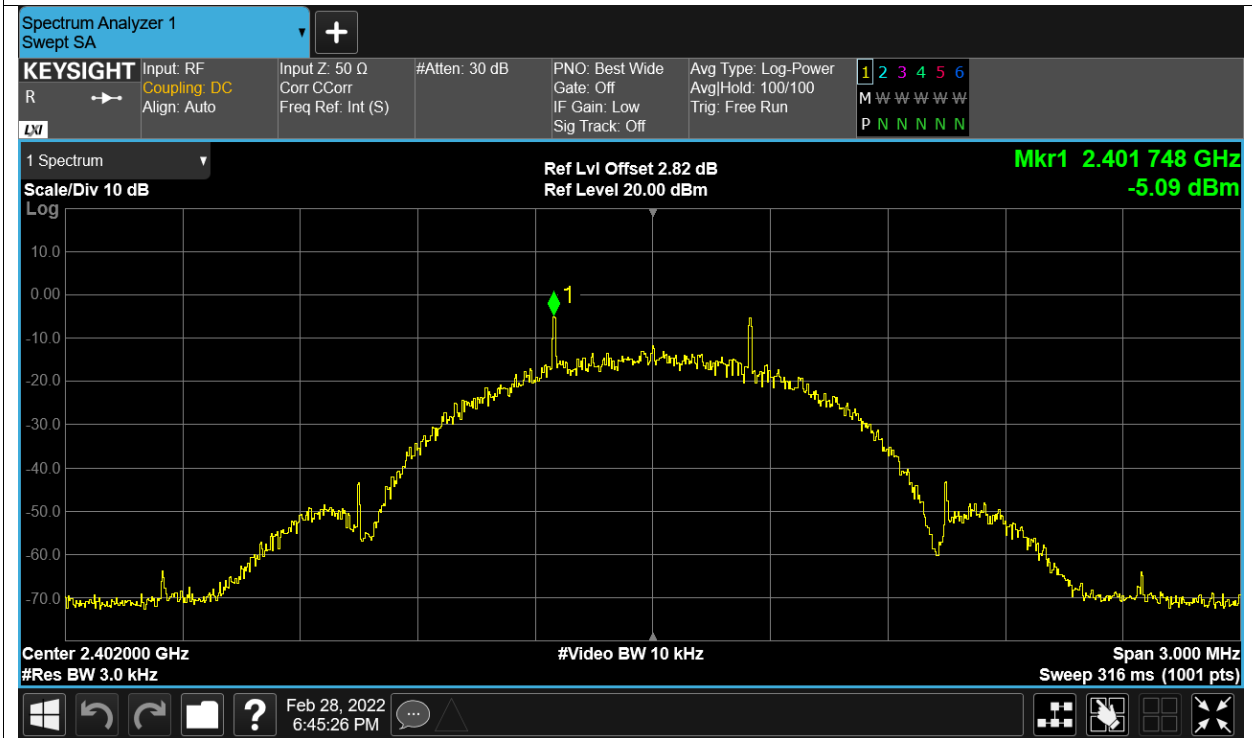


Maximum Power Spectral Density Level

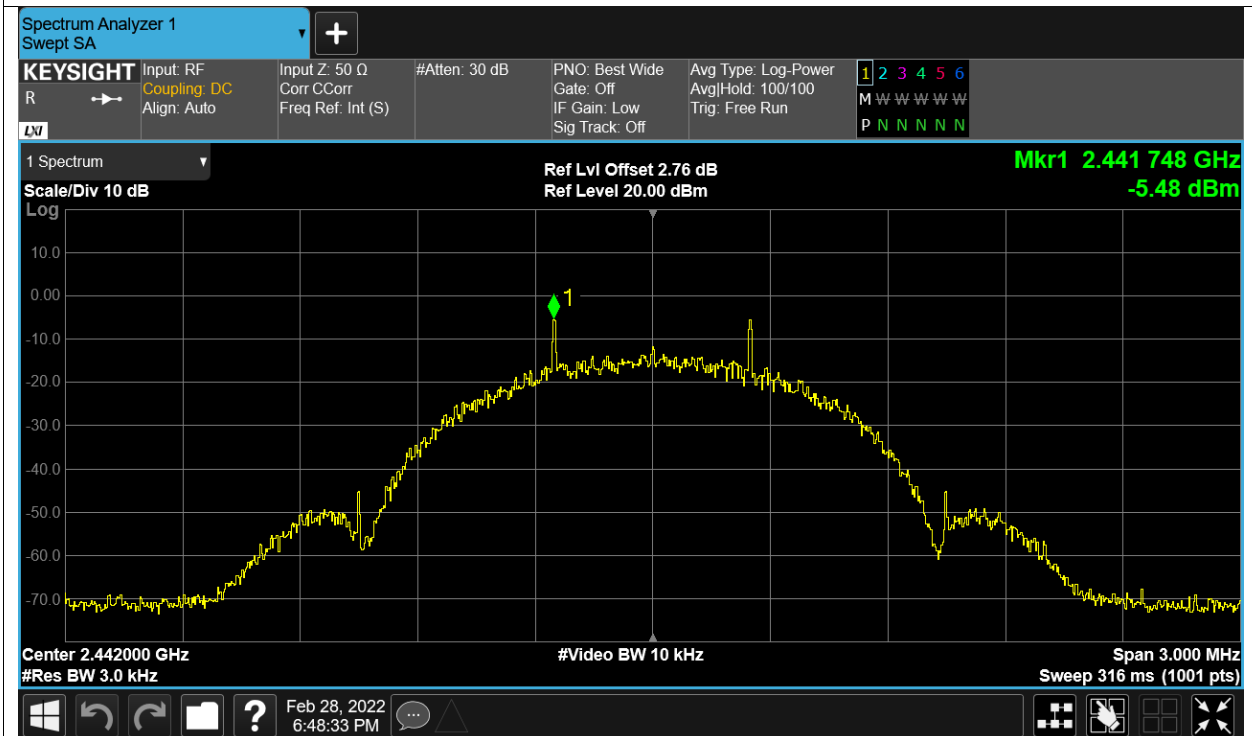
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-5.094	8	Pass
NVNT	BLE	2442	Ant1	-5.48	8	Pass
NVNT	BLE	2480	Ant1	-5.937	8	Pass

Test Graphs

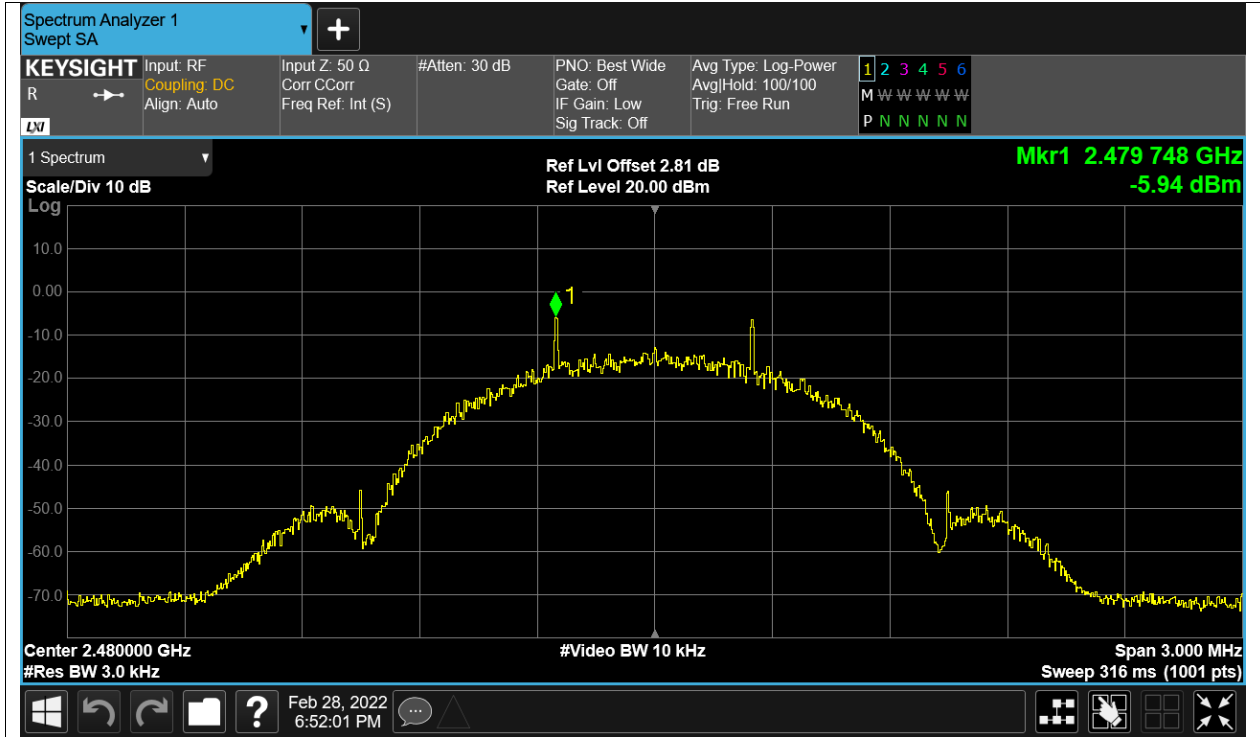
PSD NVNT BLE 2402MHz Ant1



PSD NVNT BLE 2442MHz Ant1



PSD NVNT BLE 2480MHz Ant1

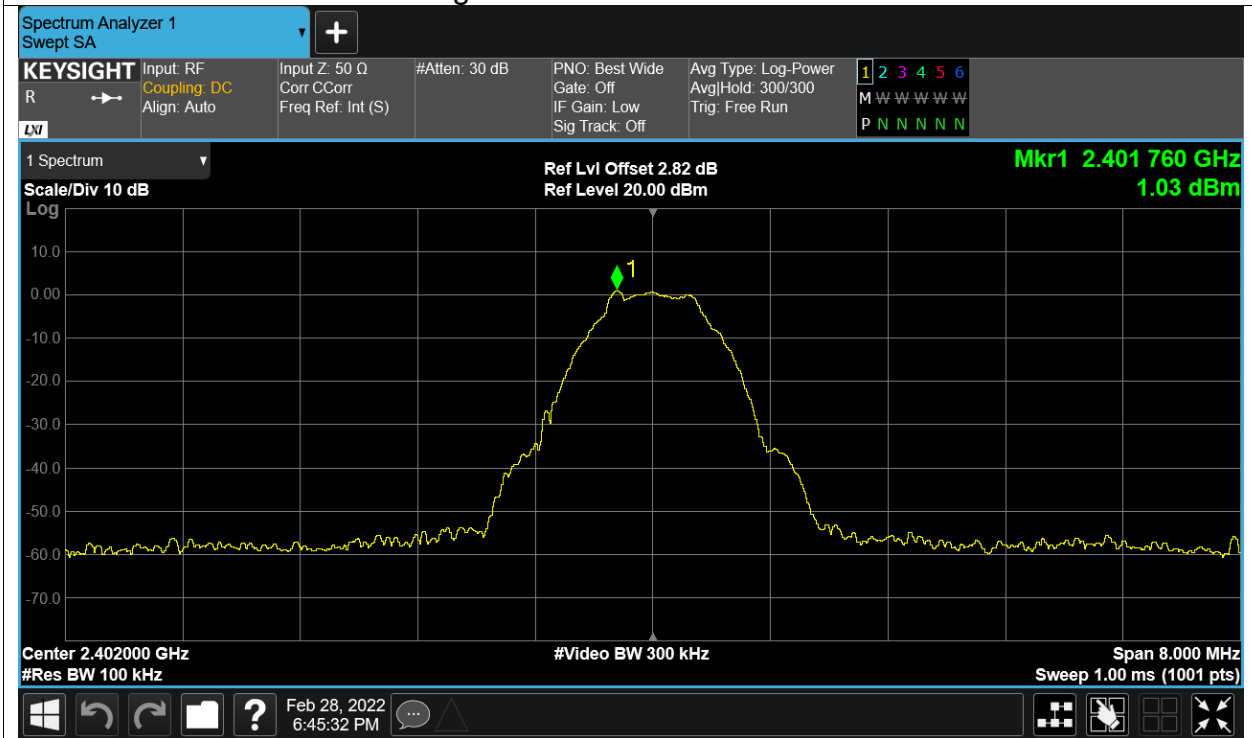


Band Edge

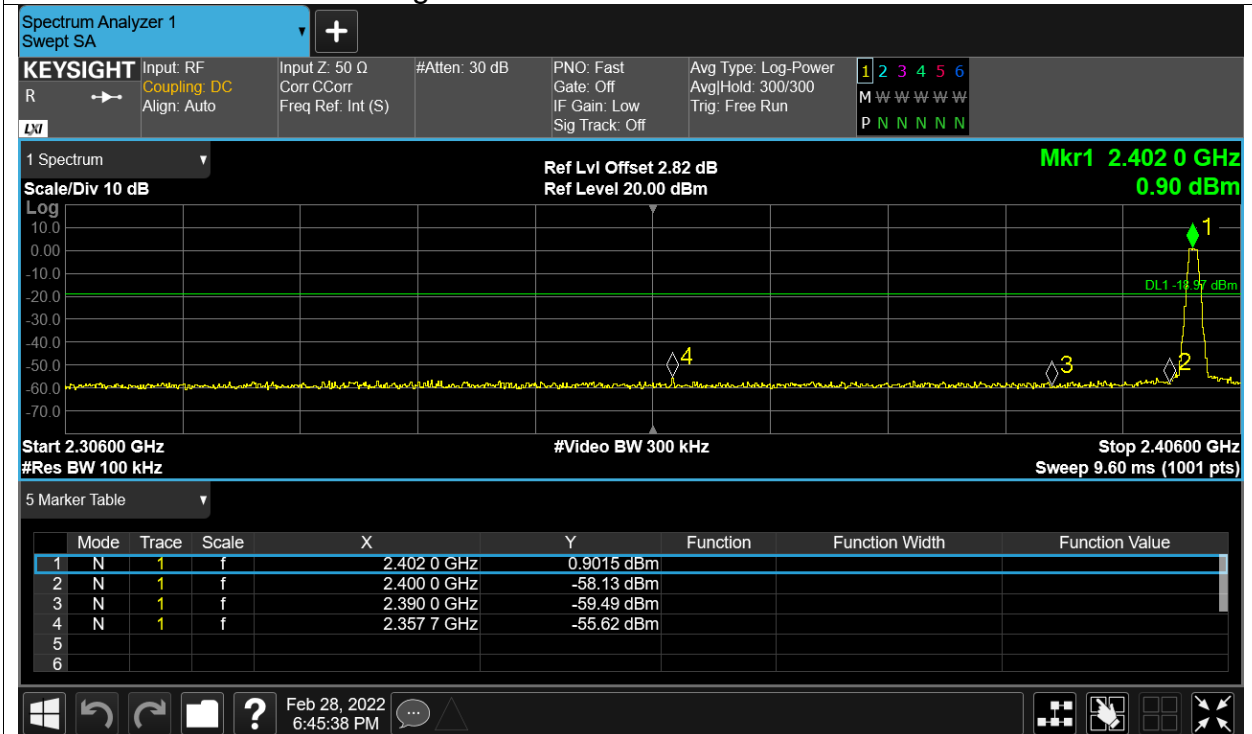
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-56.65	-20	Pass
NVNT	BLE	2480	Ant1	-56.33	-20	Pass

Test Graphs

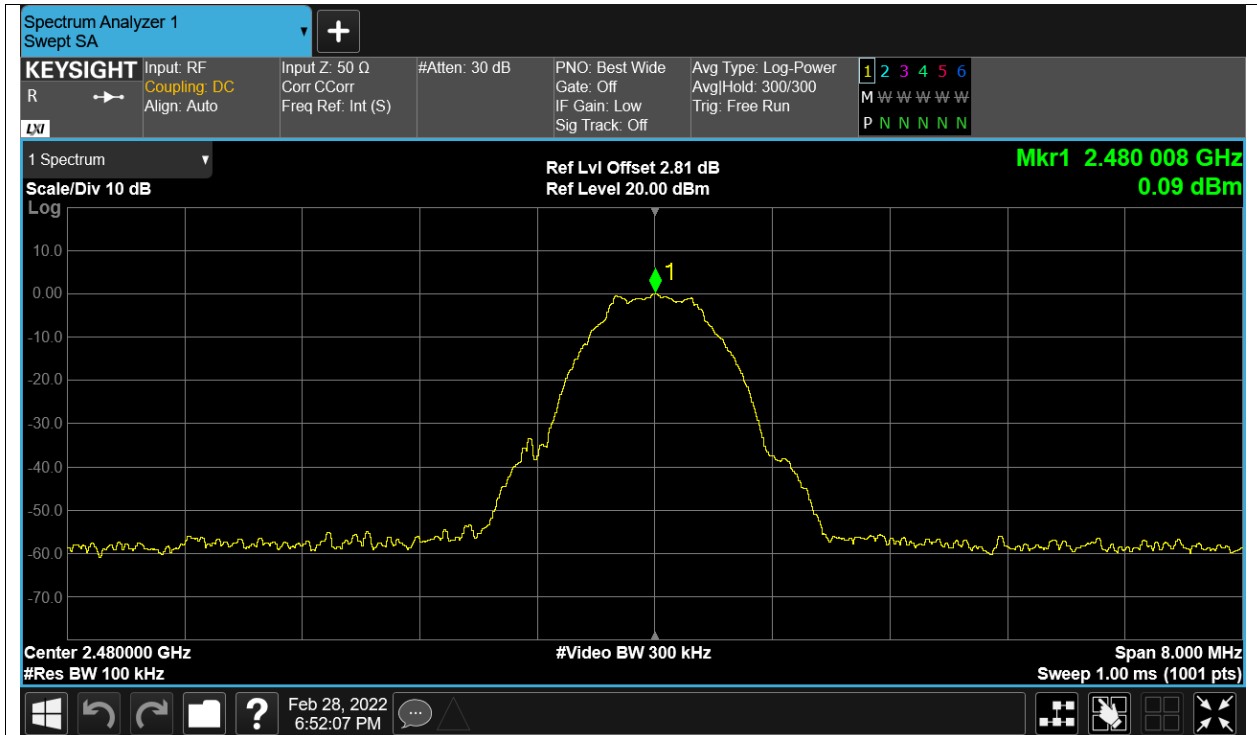
Band Edge NVNT BLE 2402MHz Ant1 Ref



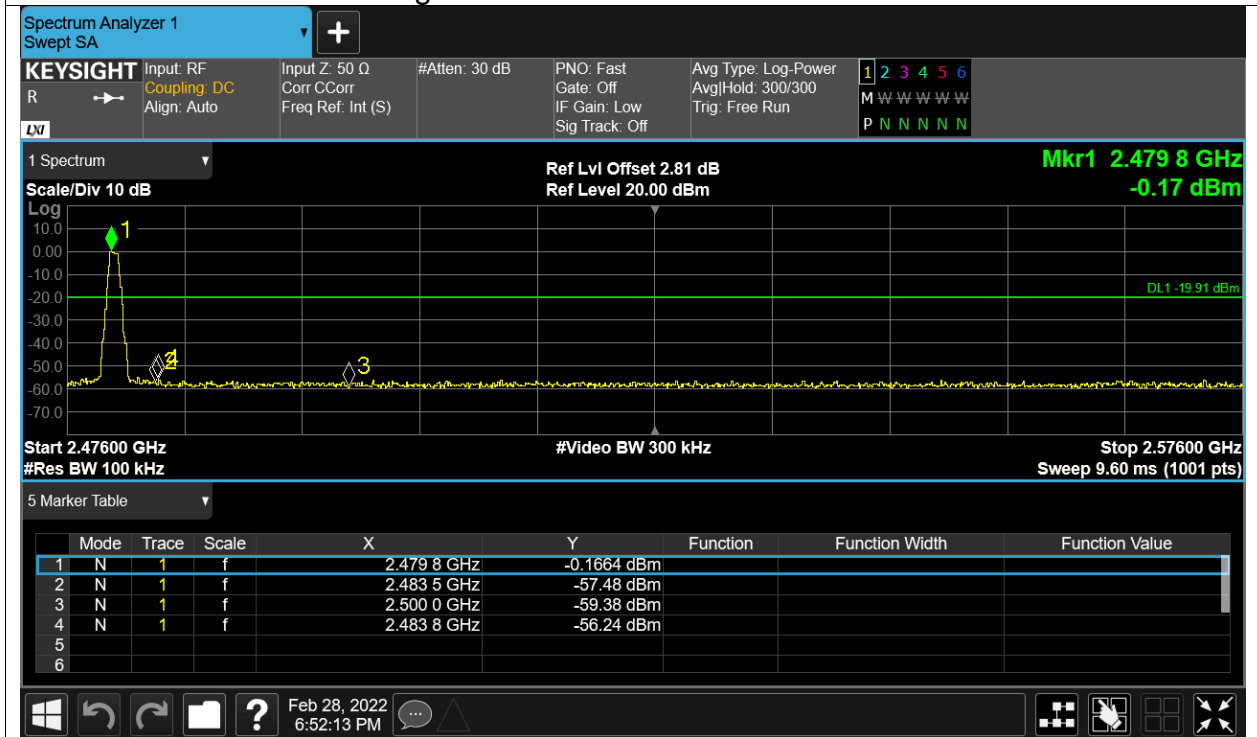
Band Edge NVNT BLE 2402MHz Ant1 Emission



Band Edge NVNT BLE 2480MHz Ant1 Ref



Band Edge NVNT BLE 2480MHz Ant1 Emission

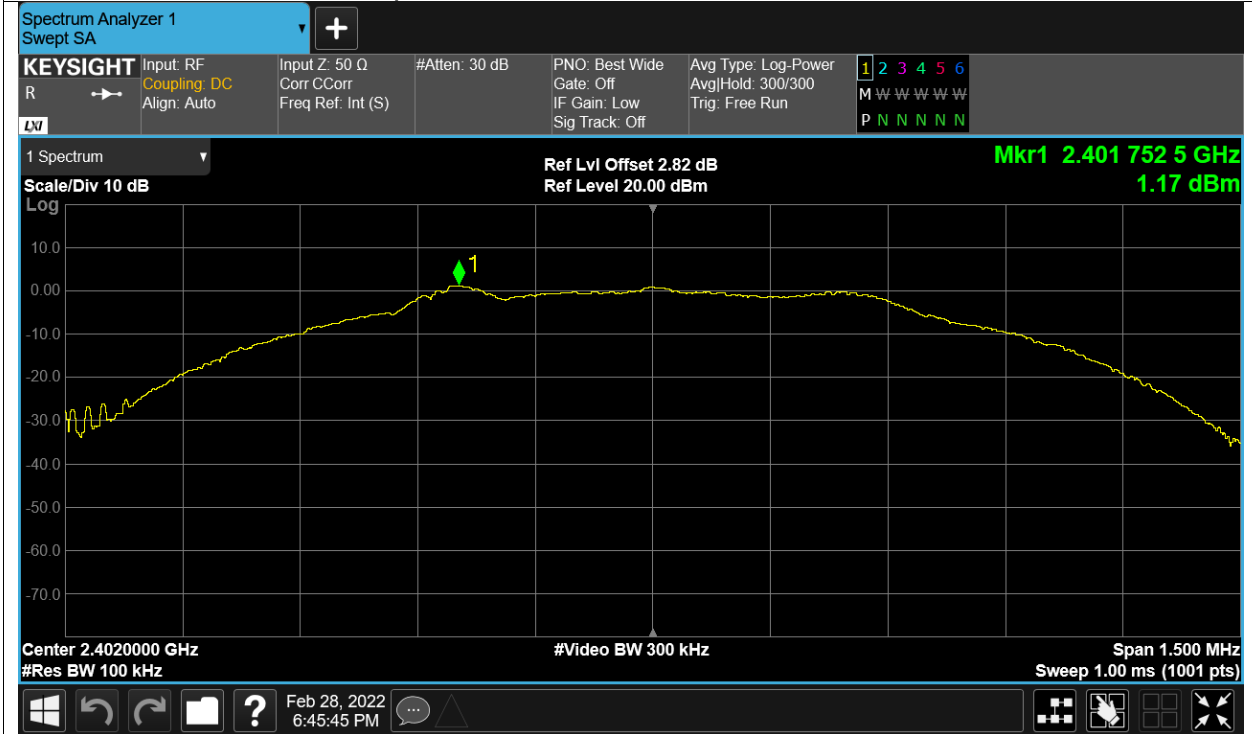


Conducted RF Spurious Emission

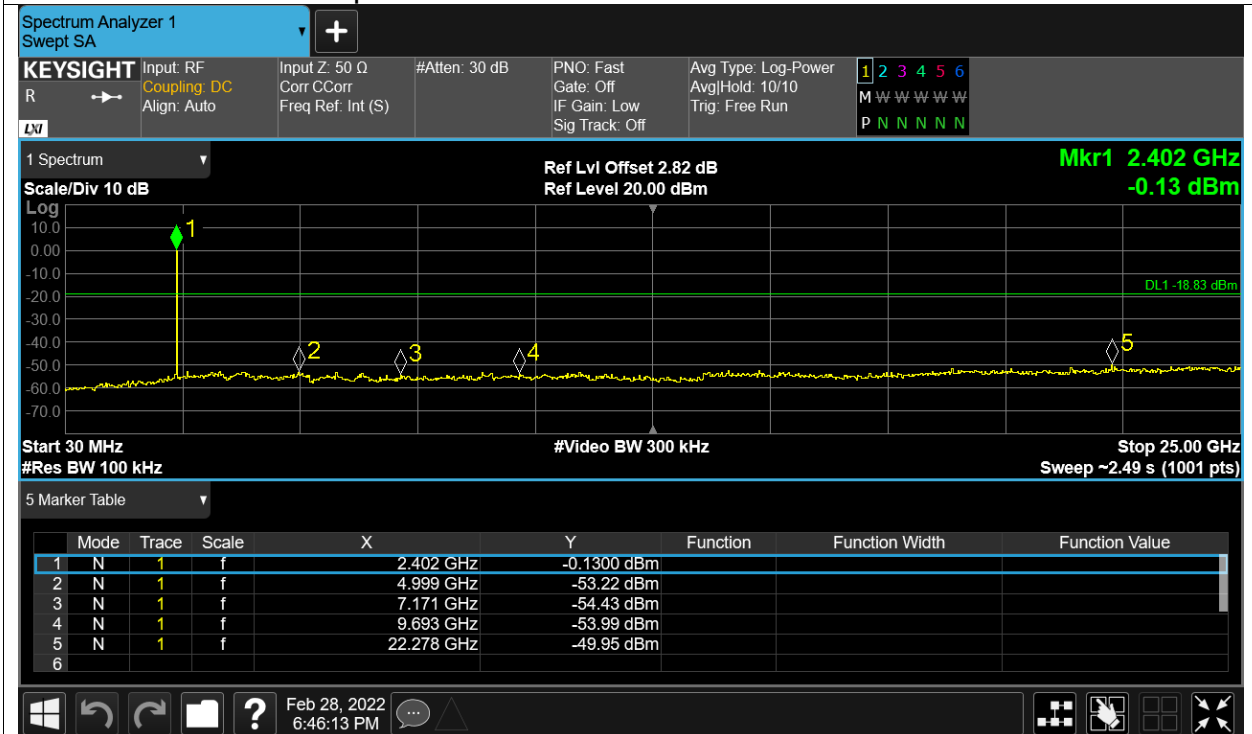
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-51.11	-20	Pass
NVNT	BLE	2442	Ant1	-51.1	-20	Pass
NVNT	BLE	2480	Ant1	-50.78	-20	Pass

Test Graphs

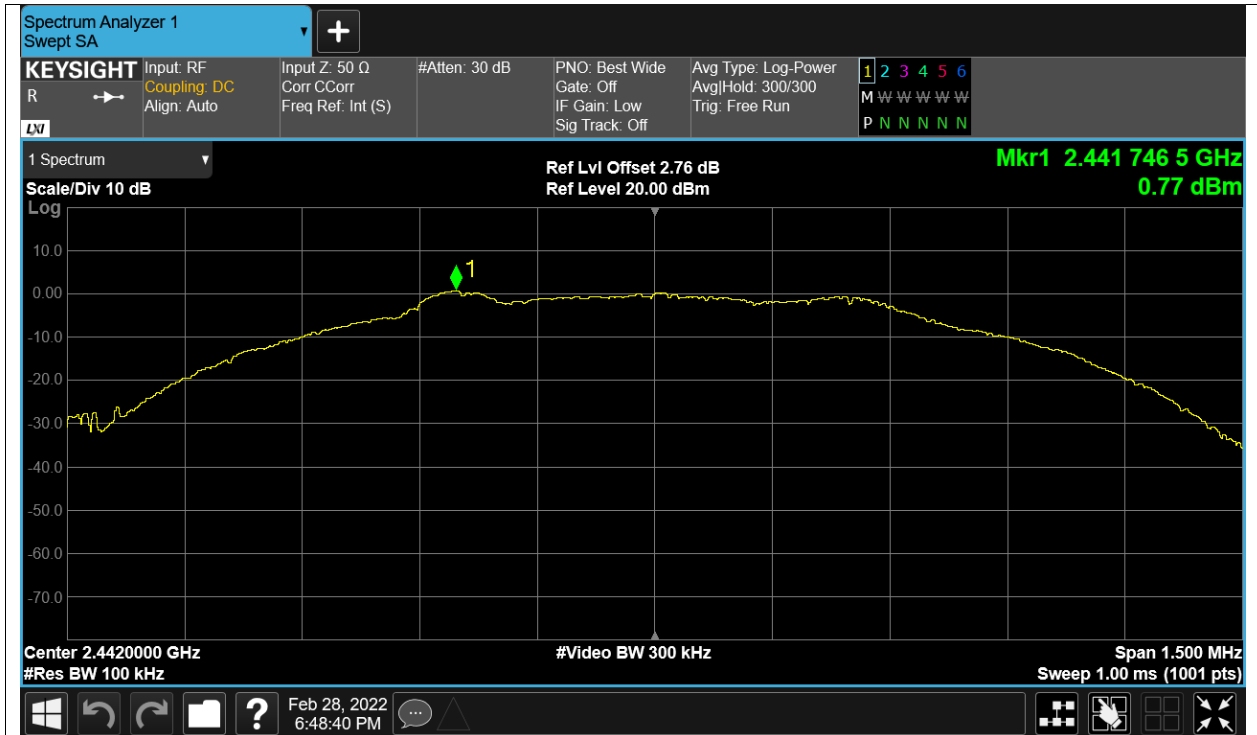
Tx. Spurious NVNT BLE 2402MHz Ant1 Ref



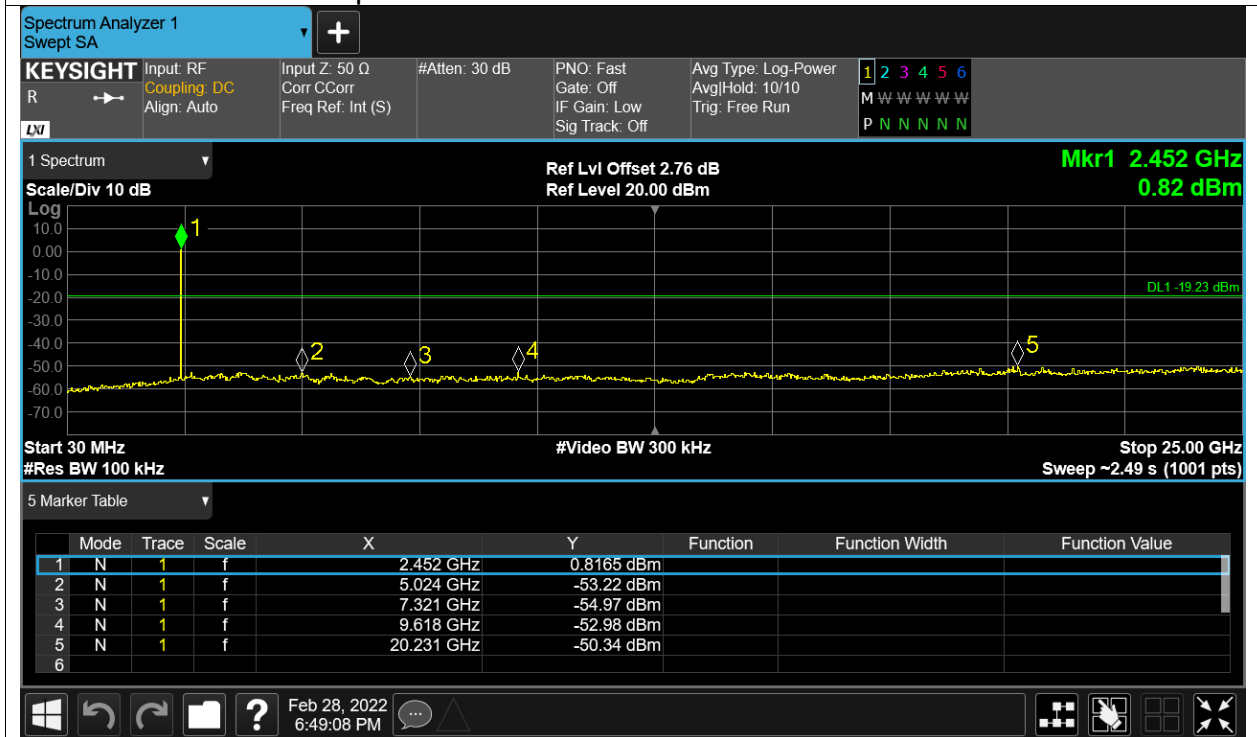
Tx. Spurious NVNT BLE 2402MHz Ant1 Emission



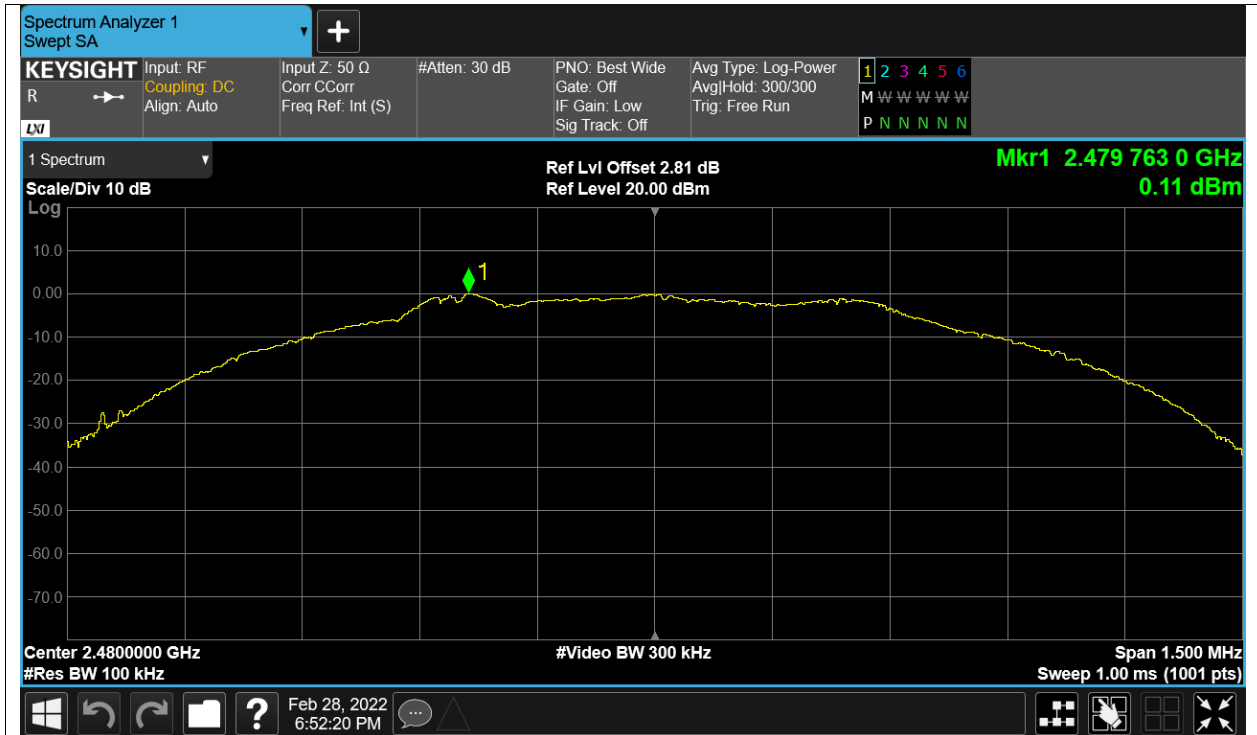
Tx. Spurious NVNT BLE 2442MHz Ant1 Ref



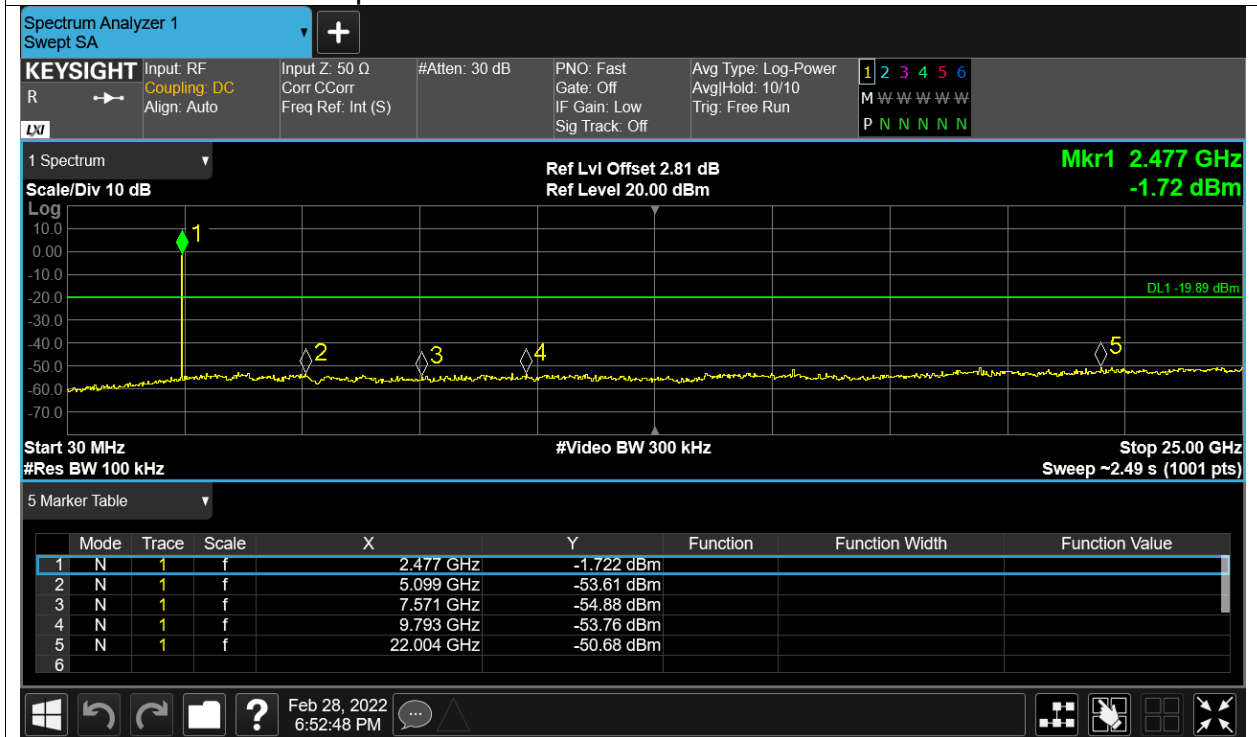
Tx. Spurious NVNT BLE 2442MHz Ant1 Emission



Tx. Spurious NVNT BLE 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2480MHz Ant1 Emission



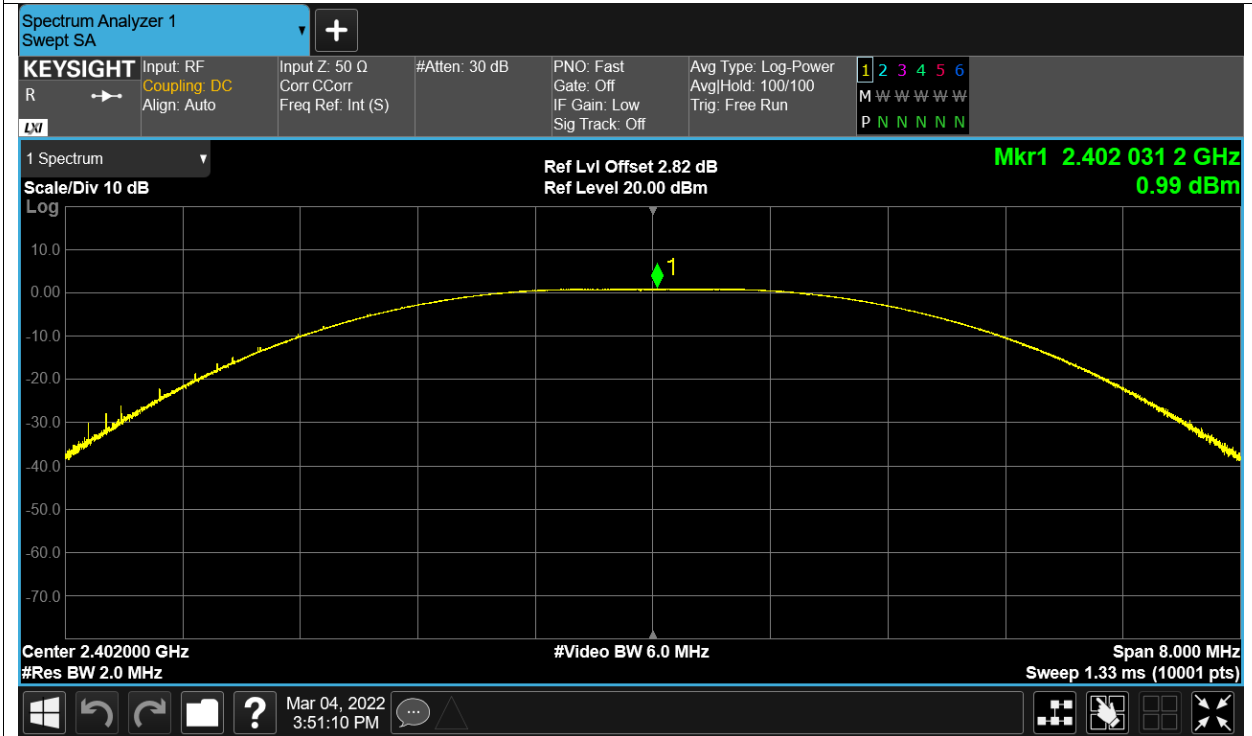
Appendix B – BLE-2M PHY

Maximum Conducted Output Power

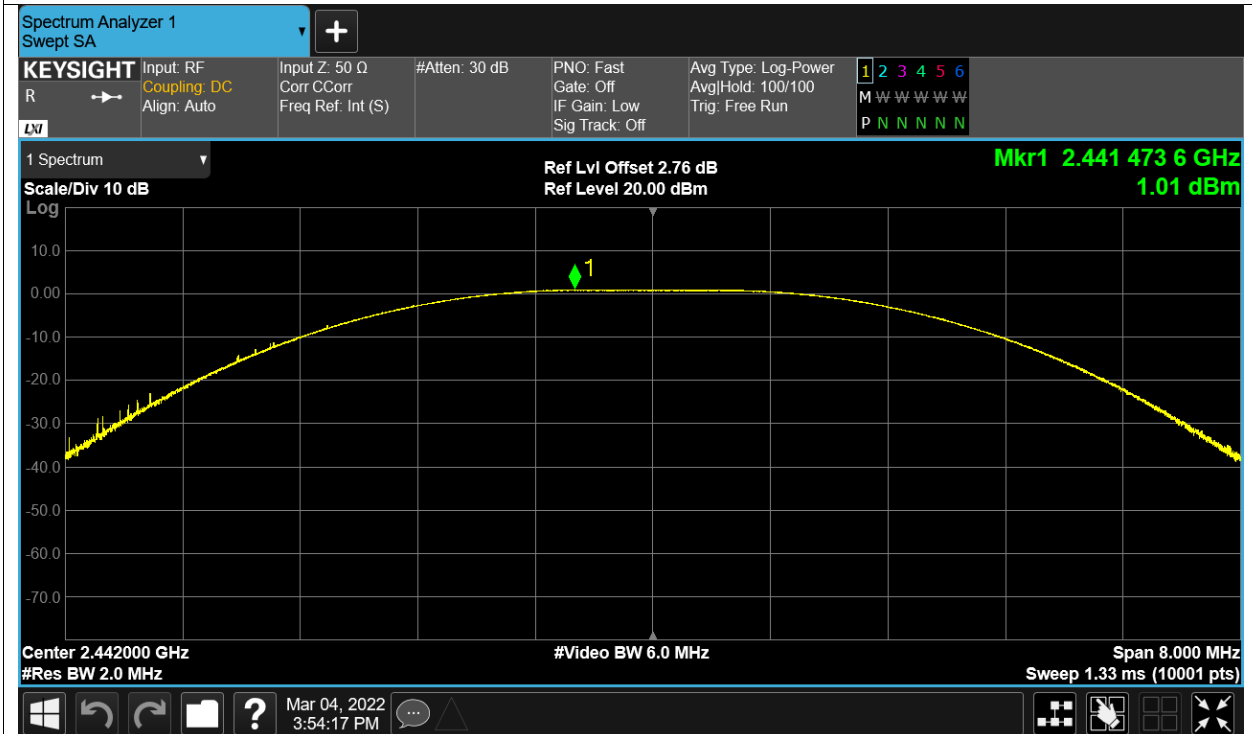
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	0.985	0	0.985	30	Pass
NVNT	BLE	2442	Ant1	1.012	0	1.012	30	Pass
NVNT	BLE	2480	Ant1	0.373	0	0.373	30	Pass

Test Graphs

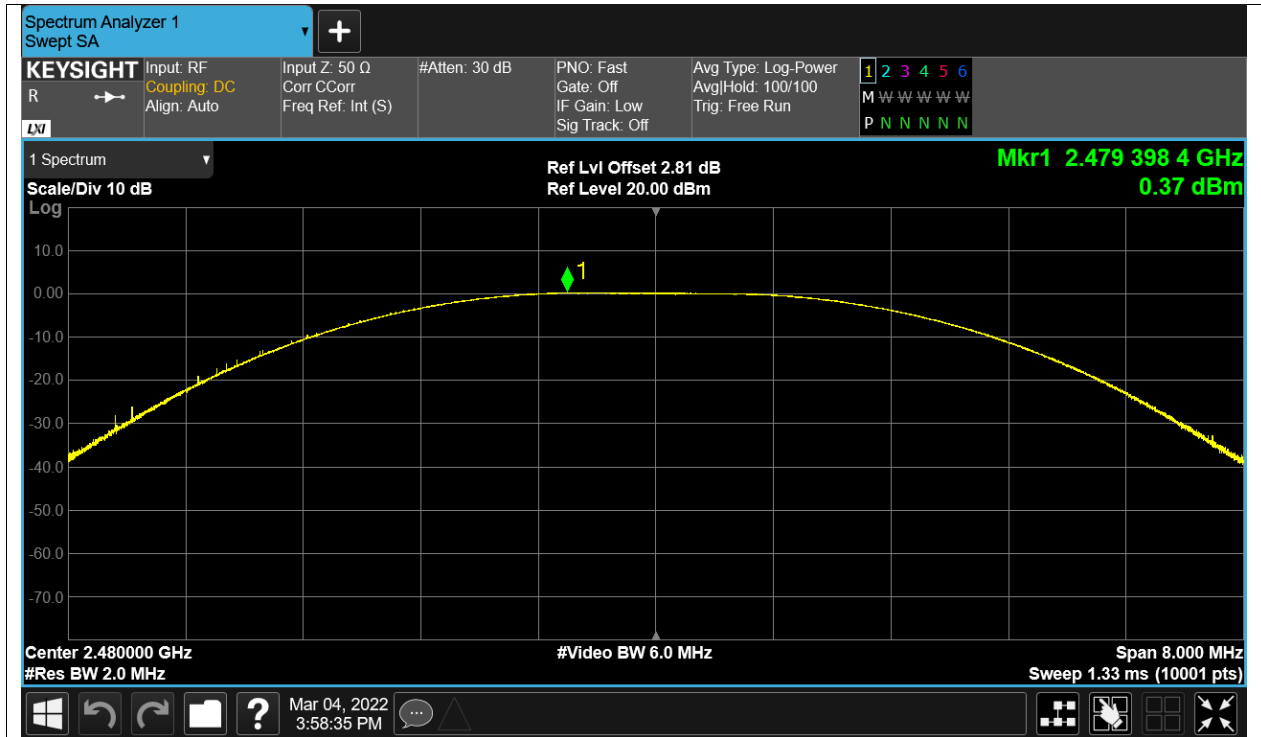
Power NVNT BLE 2402MHz Ant1



Power NVNT BLE 2442MHz Ant1



Power NVNT BLE 2480MHz Ant1



-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant1	1.178	0.5	Pass
NVNT	BLE	2442	Ant1	1.179	0.5	Pass
NVNT	BLE	2480	Ant1	1.161	0.5	Pass