

# FCC RF Test Report

## (U-NII)

**Report No.:** JYTSZ-R12-2301611

**Applicant:** TECNO MOBILE LIMITED

**Address of Applicant:** FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE  
19-25 SHAN MEI STREET FOTAN NT HONGKONG

### Equipment Under Test (EUT)

**Product Name:** Mobile Phone

**Model No.:** KJ7s

**Trade Mark:** TECNO

**FCC ID:** 2ADYY-KJ7S

**Applicable Standards:** FCC CFR Title 47 Part 15E (§15.407)

**Date of Sample Receipt:** 17 Nov., 2023

**Date of Test:** 18 Nov., to 28 Nov., 2023

**Date of Report Issued:** 29 Nov., 2023

**Test Result:** PASS

**Tested by:**

**Date:** 29 Nov., 2023

**Reviewed by:**

**Date:** 29 Nov., 2023

**Approved by:**

**Date:** 29 Nov., 2023

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.

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## 1 Version

Version No.	Date	Description
00	29 Nov., 2023	<i>Original</i>

## 2 Contents

	Page
<b>Cover Page .....</b>	<b>1</b>
<b>1 Version.....</b>	<b>2</b>
<b>2 Contents.....</b>	<b>3</b>
<b>3 General Information .....</b>	<b>4</b>
3.1 Client Information .....	4
3.2 General Description of E.U.T. ....	4
3.3 Test Mode and Environment .....	5
3.4 Description of Test Auxiliary Equipment .....	5
3.5 Measurement Uncertainty .....	5
3.6 Additions to, Deviations, or Exclusions from the Method.....	5
3.7 Laboratory Facility .....	5
3.8 Laboratory Location.....	5
3.9 Test Instruments List .....	5
<b>4 Measurement Setup and Procedure .....</b>	<b>6</b>
4.1 Test Channel.....	6
4.2 Test Setup .....	6
4.3 Test Procedure.....	8
<b>5 Test Results.....</b>	<b>9</b>
5.1 Summary .....	9
5.1.1 Clause and Data Summary.....	9
5.1.2 Test Limit.....	10
5.2 Conducted Output Power Spot-check.....	12

### 3 General Information

#### 3.1 Client Information

Applicant:	TECNO MOBILE LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Manufacturer:	TECNO MOBILE LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Factory:	SHENZHEN TECNO TECHNOLOGY CO., LTD.
Address:	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China

#### 3.2 General Description of E.U.T.

Product Name:	Mobile Phone
Model No.:	KJ7s
Operation Frequency:	Band 1: 5150 MHz - 5250 MHz Band 4: 5725 MHz - 5850 MHz
Channel Numbers:	Band 1: 4, Band 4: 5 (802.11a, n-HT20, ac-VHT20) Band 1, 4: 2 (802.11n-HT40, ac-VHT40) Band 1, 4: 1 (802.11ac-VHT80)
Modulation Technology: (IEEE 802.11a/802.11n)	OFDM-BPSK, QPSK, 16QAM, 64QAM
Modulation Technology: (IEEE 802.11ac)	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type:	Internal Antenna
Antenna Gain:	ANT12: -2.31 dBi (declare by applicant) ANT14: -3.19 dBi (declare by applicant)
Antenna Transmit Mode:	SISO (1TX, 1RX) (with ANT 12 and ANT 14, and they stand alone to transmit)
Power Supply:	Rechargeable Li-ion Polymer Battery DC3.87V, 4900mAh
AC Adapter:	Model: U330TSB Input: AC100-240V, 50/60Hz, 1.5A Output: DC 5.0V, 3.0A 15.0W or 5.0-10.0V, 3.3A or 11.0V, 3.0A 33.0W MAX
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

### 3.3 Test Mode and Environment

Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301386.

### 3.4 Description of Test Auxiliary Equipment

Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301386.

### 3.5 Measurement Uncertainty

Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301386.

### 3.6 Additions to, Deviations, or Exclusions from the Method

No

### 3.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **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>

### 3.8 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>

### 3.9 Test Instruments List

Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301386.

## 4 Measurement Setup and Procedure

### 4.1 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:

#### Operation frequency: 5150 MHz – 5250 MHz

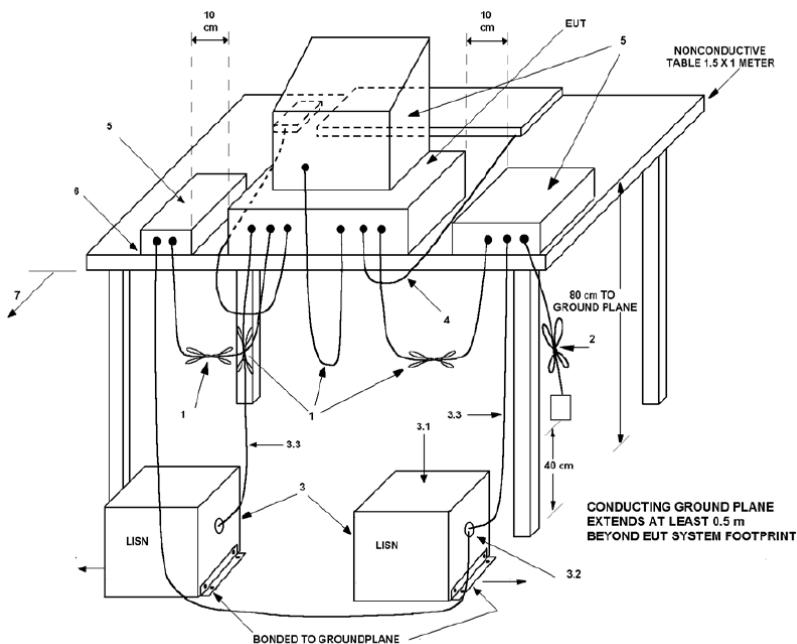
Modulation mode	Lowest channel		Middle channel		Highest channel	
	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
802.11a, n-HT20, ac-VHT20	36	5180	40	5200	48	5240
802.11n-HT40, ac-VHT40	38	5190	/	/	46	5230
802.11ac-VHT80	/	/	42	5210	/	/

#### Operation frequency: 5725 MHz – 5850 MHz

Modulation mode	Lowest channel		Middle channel		Highest channel	
	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
802.11a, n-HT20, ac-VHT20	149	5745	157	5785	165	5825
802.11n-HT40, ac-VHT40	151	5755	/	/	159	5795
802.11ac-VHT80	/	/	155	5775	/	/

### 4.2 Test Setup

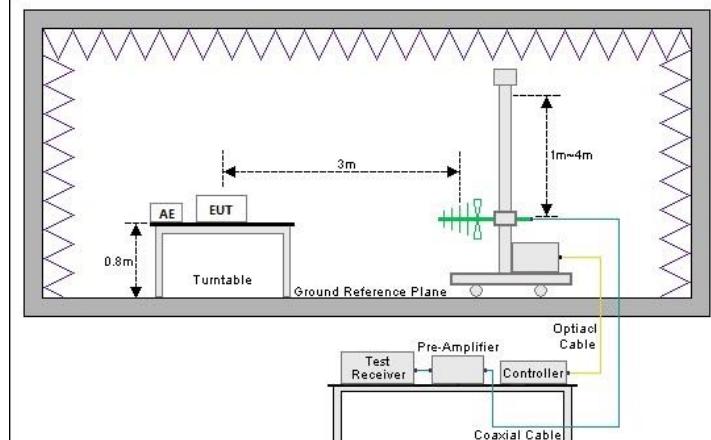
#### 1) Conducted emission measurement:



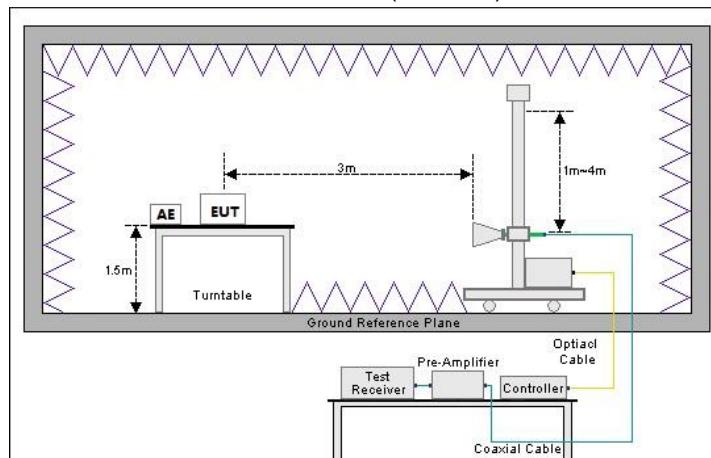
Note: The detailed descriptions please refer to Figure 8 of ANSI C63.4:2014.

#### 2) Radiated emission measurement:

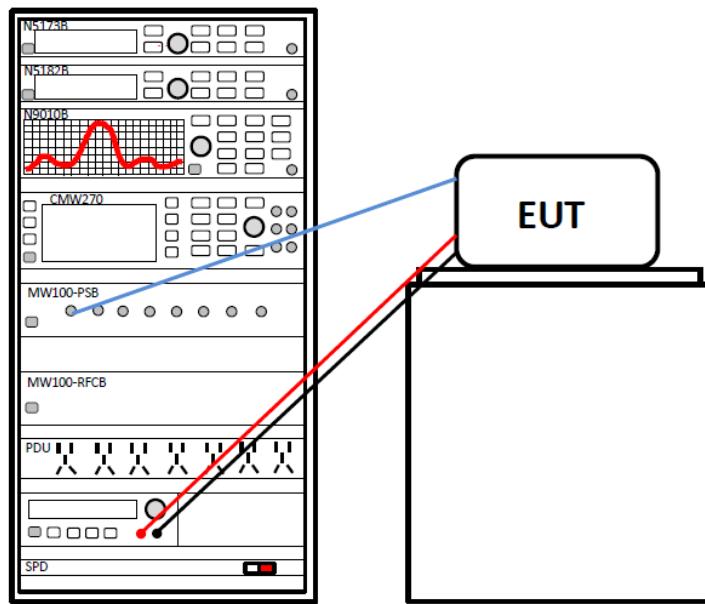
Below 1GHz (3m SAC)



Above 1GHz (3m FAR)



### 3) Conducted test method



### 4.3 Test Procedure

Test method	Test step
Conducted emission	<ol style="list-style-type: none"> <li>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.</li> <li>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).</li> <li>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.</li> </ol>
Radiated emission	<p><b>For below 1GHz:</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>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 &amp; 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.</li> <li>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.</li> </ol> <p><b>For above 1GHz:</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>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 &amp; 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.</li> <li>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.</li> </ol>
Conducted test method	<ol style="list-style-type: none"> <li>1. The Wi-Fi antenna port of EUT was connected to the test port of the test system through an RF cable.</li> <li>2. The EUT is keeping in continuous transmission mode and tested in all modulation modes.</li> <li>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.</li> </ol>

## 5 Test Results

### 5.1 Summary

#### 5.1.1 Clause and Data Summary

This report is revised according to the JYTSZ-R12-2301386 report, FCC ID: 2ADYY-KJ7 issued by JianYan Testing Group Shenzhen Co., Ltd. Differences: Dual card to single card, change the SIM card seat, by replacing the software and card to achieve, PCBA has not changed. And model update, so need to spot-check WiFi Conducted Output Power.

Test items	Standard clause	Test data	Result
Antenna Requirement	15.203	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
AC Power Line Conducted Emission	15.207 15.407 (b)(9)	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
Duty Cycle	ANSI C63.10-2013	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
Conducted Peak Output Power Power Spectral Density	15.407 (a)(1)(iv), (a)(3)(i)	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
26dB Emission Bandwidth 99% Occupied Bandwidth	15.407 (a)(12)	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
6dB Emission Bandwidth	15.407 (e)	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
Unwanted Emissions	15.205 15.209 15.407 (b)(1), (4), (9), (10)	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
Frequency Stability	15.407 (g)	Please refer to report No.: JYTSZ-R12-2301386.	Please refer to report No.: JYTSZ-R12-2301386.
Dynamic frequency selection	15.407 (h)(2)	N/A	N/A
<b>Remark:</b>	<ol style="list-style-type: none"><li>1. Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301386 issue by JianYan Testing Group Shenzhen Co., Ltd.</li><li>2. N/A: Not Applicable.</li><li>3. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 1.0dB (provided by the customer).</li></ol>		
<b>Test Method:</b>	ANSI C63.10-2013 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01		

## 5.1.2 Test Limit

Test items	Limit		
	Frequency (MHz)	Limit (dB $\mu$ V)	
AC Power Line Conducted Emission		Quasi-Peak	Average
0.15 – 0.5	66 to 56 Note 1	56 to 46 Note 1	
0.5 – 5	56	46	
5 – 30	60	50	
<p><b>Note 1:</b> The limit level in dB<math>\mu</math>V decreases linearly with the logarithm of frequency.</p> <p><b>Note 2:</b> The more stringent limit applies at transition frequencies.</p>			
<p><b>For the 5.15-5.25 GHz band:</b>  For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p> <p><b>For the band 5.725-5.895 GHz:</b>  For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, Fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.</p>			
Conducted Peak Output Power			
Power Spectral Density			
26dB Emission Bandwidth 99% Occupied Bandwidth	N/A		
6dB Emission Bandwidth	Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.		

Unwanted Emissions	<p>(1) <b>For transmitters operating in the 5.15-5.25 GHz band:</b> All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of ?27 dBm/MHz.</p> <p>(2) <b>For transmitters operating solely in the 5.725-5.850 GHz band:</b> All emissions shall be limited to a level of ?27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</p> <p>(3) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. The provisions of § 15.205 apply to intentional radiators operating under this section:</p> <table border="1" data-bbox="579 830 1437 1021"><thead><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dB<math>\mu</math>V/m)</th><th rowspan="2">Detector</th></tr><tr><th>@ 3m</th><th>@ 10m</th></tr></thead><tbody><tr><td>30 – 88</td><td>40.0</td><td>30.0</td><td>Quasi-peak</td></tr><tr><td>88 – 216</td><td>43.5</td><td>33.5</td><td>Quasi-peak</td></tr><tr><td>216 – 960</td><td>46.0</td><td>36.0</td><td>Quasi-peak</td></tr><tr><td>960 – 1000</td><td>54.0</td><td>44.0</td><td>Quasi-peak</td></tr></tbody></table> <p><b>Note:</b> The more stringent limit applies at transition frequencies.</p> <table border="1" data-bbox="579 1021 1437 1189"><thead><tr><th rowspan="2">Frequency</th><th colspan="2">Limit (dB<math>\mu</math>V/m) @ 3m</th></tr><tr><th>Average</th><th>Peake</th></tr></thead><tbody><tr><td>Above 1 GHz</td><td>54.0</td><td>74.0</td></tr></tbody></table> <p><b>Note:</b> The measurement bandwidth shall be 1 MHz or greater.</p>	Frequency (MHz)	Limit (dB $\mu$ V/m)		Detector	@ 3m	@ 10m	30 – 88	40.0	30.0	Quasi-peak	88 – 216	43.5	33.5	Quasi-peak	216 – 960	46.0	36.0	Quasi-peak	960 – 1000	54.0	44.0	Quasi-peak	Frequency	Limit (dB $\mu$ V/m) @ 3m		Average	Peake	Above 1 GHz	54.0	74.0
Frequency (MHz)	Limit (dB $\mu$ V/m)		Detector																												
	@ 3m	@ 10m																													
30 – 88	40.0	30.0	Quasi-peak																												
88 – 216	43.5	33.5	Quasi-peak																												
216 – 960	46.0	36.0	Quasi-peak																												
960 – 1000	54.0	44.0	Quasi-peak																												
Frequency	Limit (dB $\mu$ V/m) @ 3m																														
	Average	Peake																													
Above 1 GHz	54.0	74.0																													
Frequency Stability	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.																														

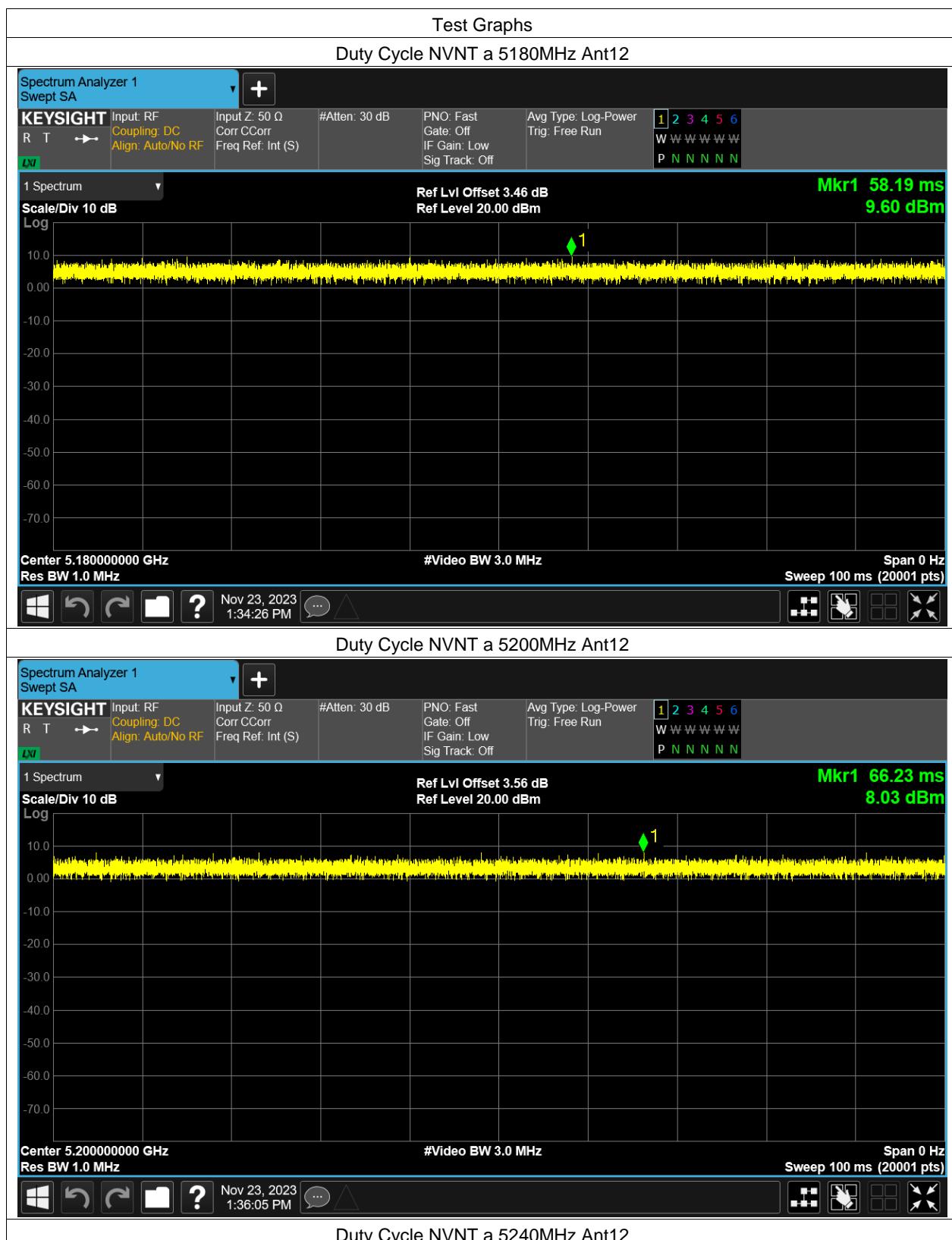
## 5.2 Conducted Output Power Spot-check

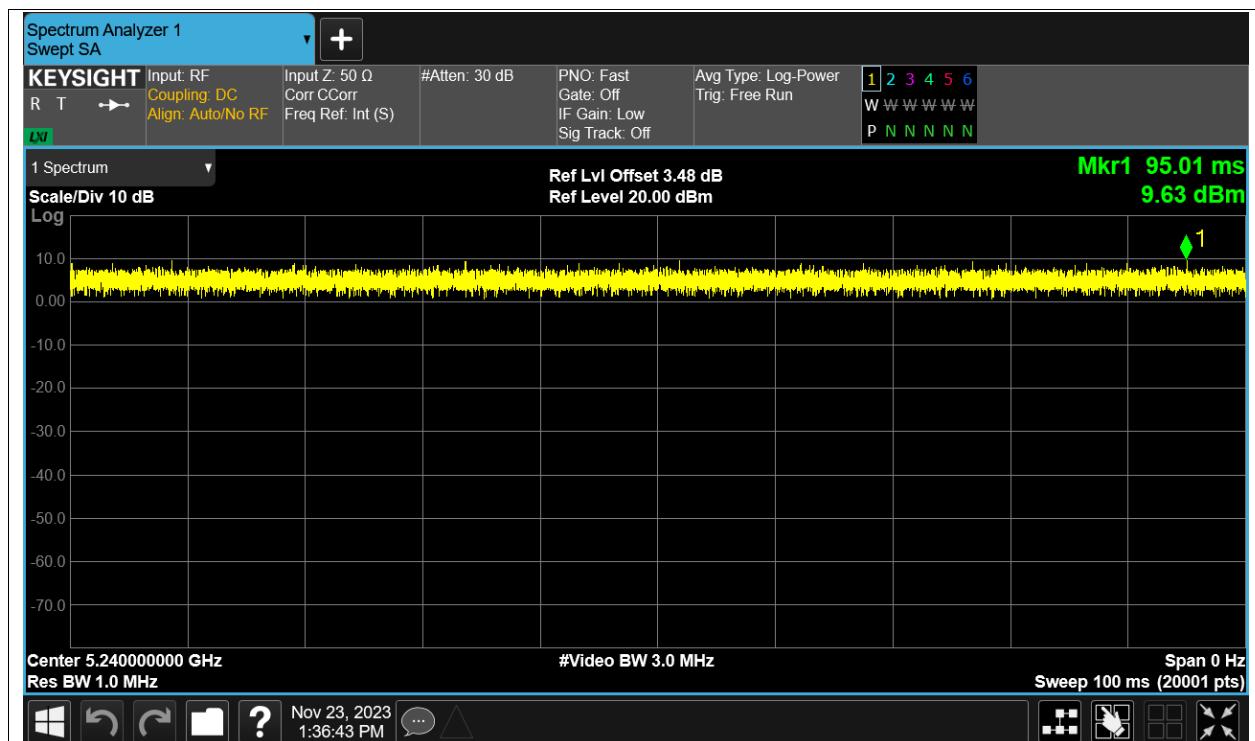
ANT 12:

### Appendix – 5.2G Wi-Fi

#### Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5180	Ant12	100	0
NVNT	a	5200	Ant12	100	0
NVNT	a	5240	Ant12	100	0



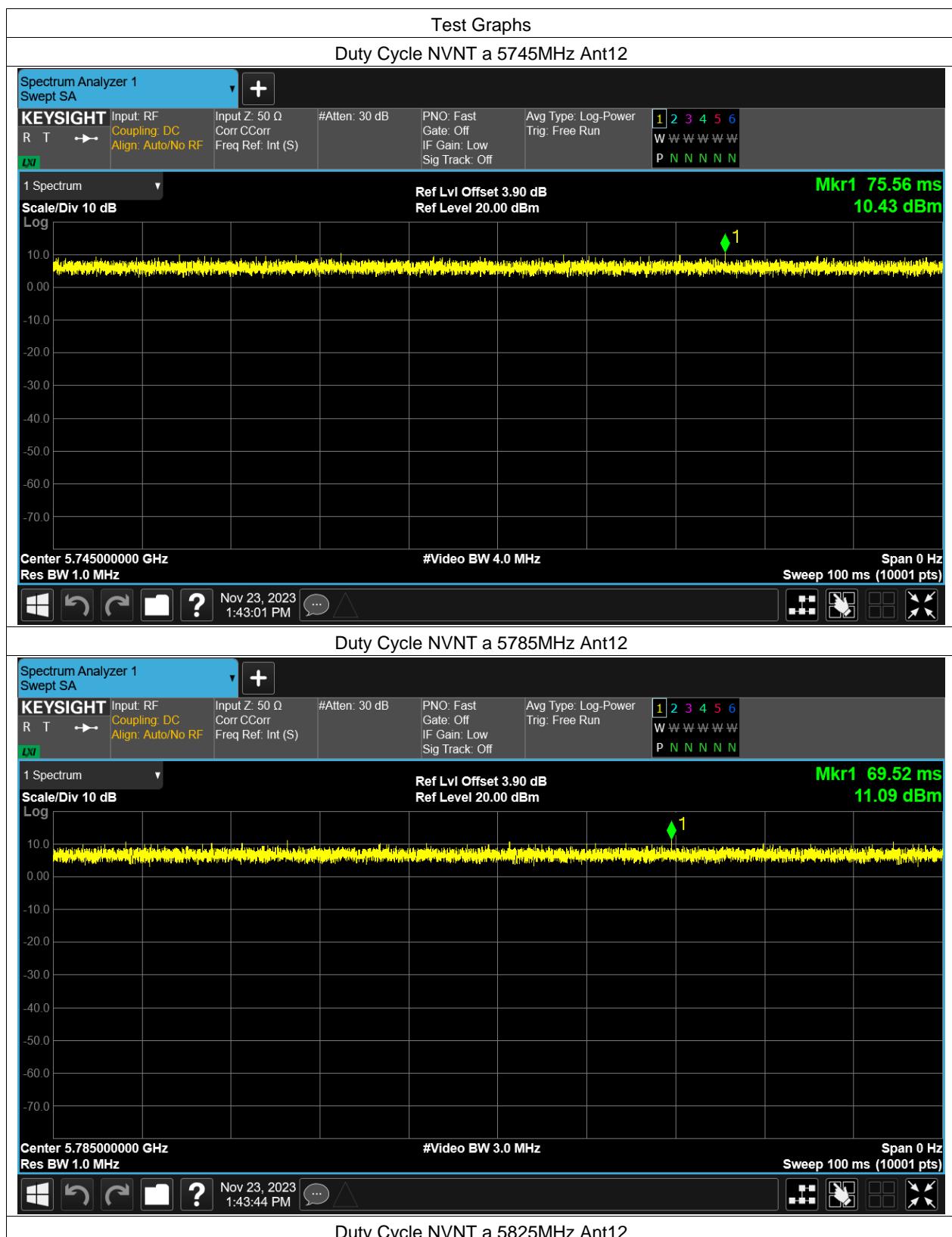


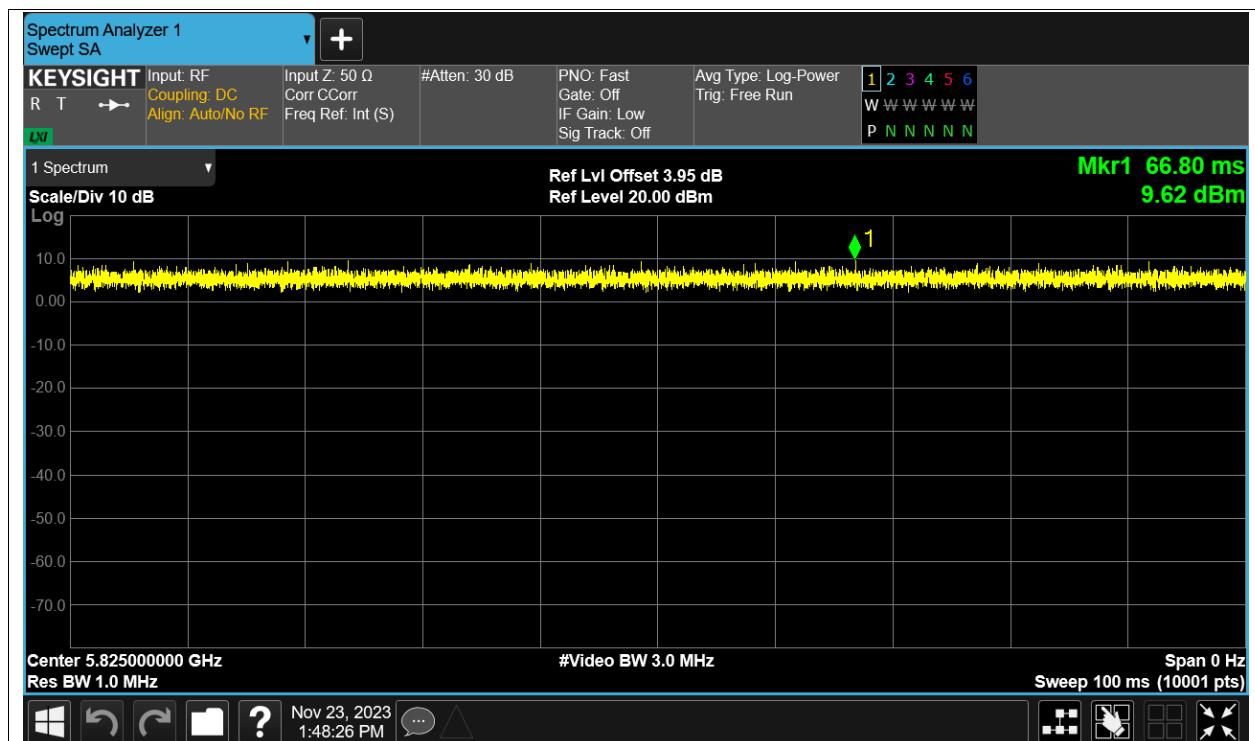
**Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant12	12.61	0	12.61	24	Pass
NVNT	a	5200	Ant12	11	0	11	24	Pass
NVNT	a	5240	Ant12	12.02	0	12.02	24	Pass

**Appendix – 5.8G Wi-Fi****Duty Cycle**

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5745	Ant12	100	0
NVNT	a	5785	Ant12	100	0
NVNT	a	5825	Ant12	100	0



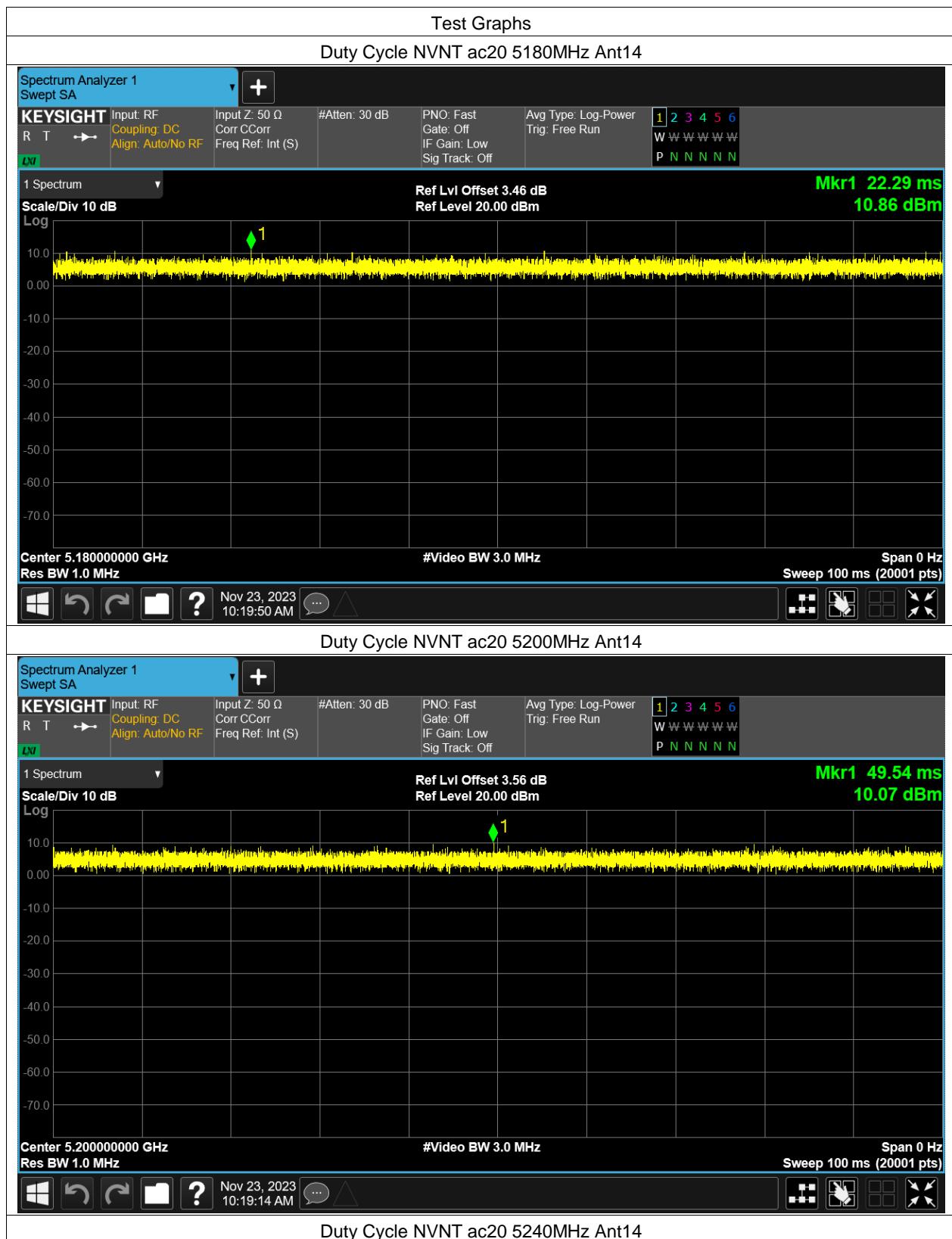


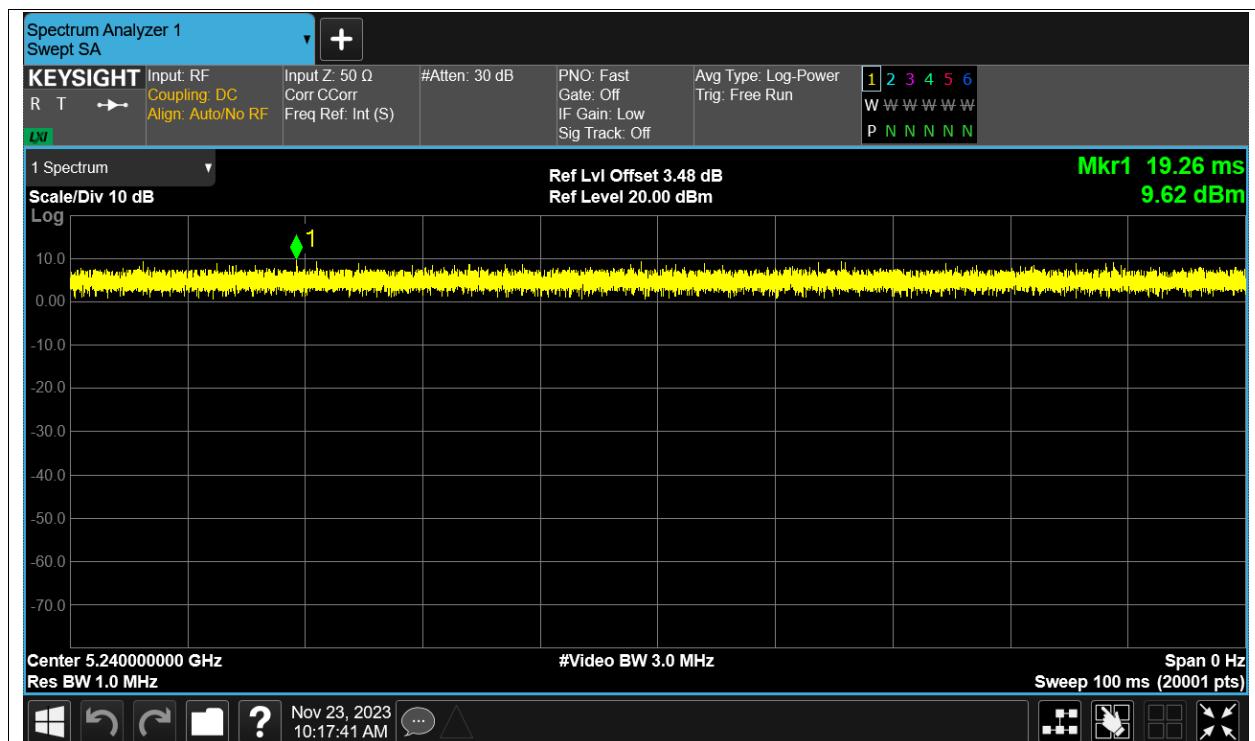
**Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant12	12.95	0	12.95	30	Pass
NVNT	a	5785	Ant12	13.28	0	13.28	30	Pass
NVNT	a	5825	Ant12	12.61	0	12.61	30	Pass

**ANT 14:****Appendix – 5.2G****Duty Cycle**

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	ac20	5180	Ant14	100	0
NVNT	ac20	5200	Ant14	100	0
NVNT	ac20	5240	Ant14	100	0



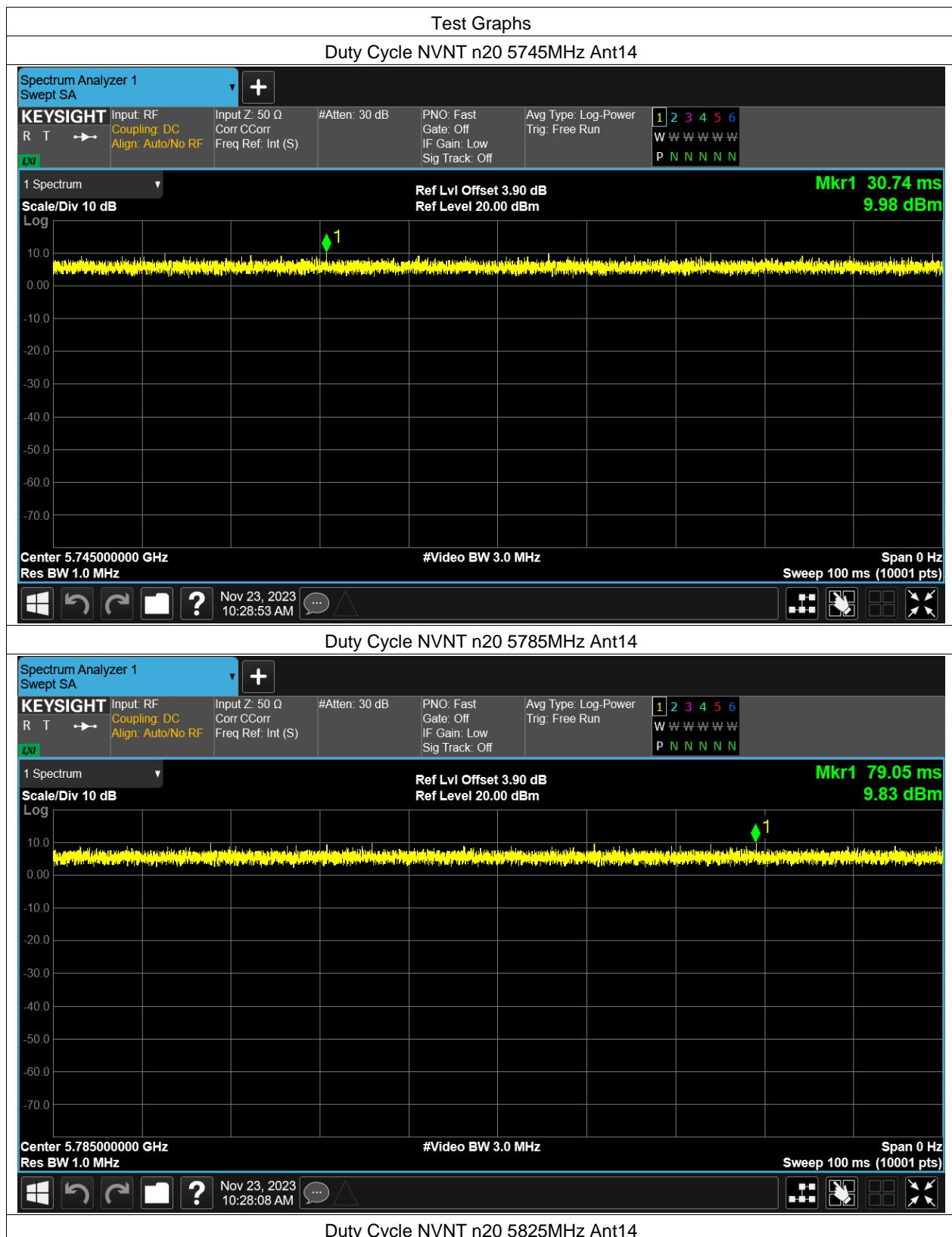


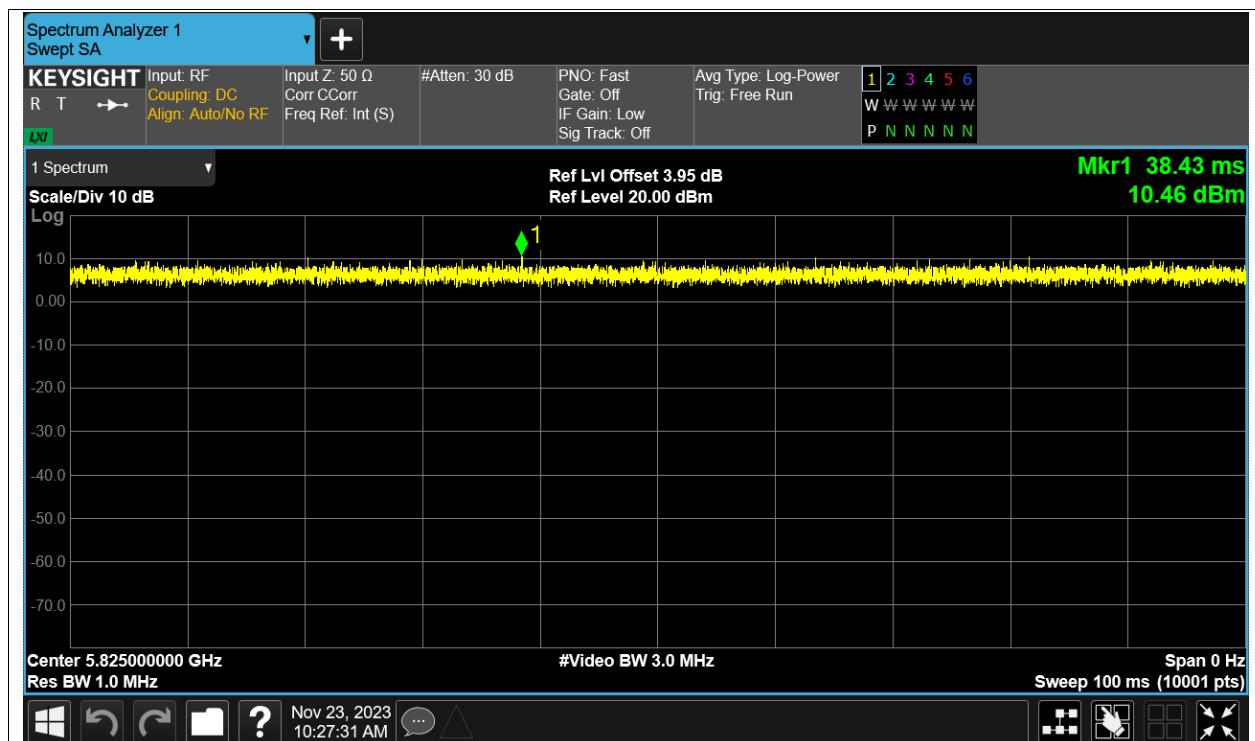
**Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	ac20	5180	Ant14	12.94	0	12.94	24	Pass
NVNT	ac20	5200	Ant14	12.38	0	12.38	24	Pass
NVNT	ac20	5240	Ant14	12.78	0	12.78	24	Pass

**Appendix – 5.8G Wi-Fi****Duty Cycle**

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	n20	5745	Ant14	100	0
NVNT	n20	5785	Ant14	100	0
NVNT	n20	5825	Ant14	100	0





**Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	n20	5745	Ant14	12.79	0	12.79	30	Pass
NVNT	n20	5785	Ant14	13.09	0	13.09	30	Pass
NVNT	n20	5825	Ant14	13.3	0	13.3	30	Pass

-----End of report-----