



FCC RF Test Report

(2.4G Wi-Fi)

Report No.: JYTSZ-R12-2301607

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 15C (§15.247)

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

Project by:

Yiwei Zhang
Project Engineer

Date:

29 Nov., 2023

Reviewed by:

Yiwei Zhang
Senior Engineer

Date:

29 Nov., 2023

Approved by:

James Wei
Manager

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.

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.

1 Version

| Version No. | Date | Description |
|-------------|---------------|-------------|
| 00 | 29 Nov., 2023 | Original |
| | | |
| | | |
| | | |
| | | |

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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: | 2412 MHz - 2462 MHz (802.11b, g, n-HT20) 2422 MHz - 2452 MHz (802.11n-HT40) |
| Channel Numbers: | 11 (802.11b, g, n-HT20) 7 (802.11n-HT40) |
| Channel Separation: | 5MHz |
| Modulation Technology: (IEEE 802.11b) | DSSS-DBPSK, DQPSK, CCK |
| Modulation Technology: (IEEE 802.11g/802.11n) | OFDM-BPSK, QPSK, 16QAM, 64QAM |
| Antenna Type: | Internal Antenna |
| Antenna Gain: | ANT12: -4.12 dBi (declare by applicant) ANT14: -3.37 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-R12-2301379.

3.4 Description of Test Auxiliary Equipment

Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301379.

3.5 Measurement Uncertainty

Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301379.

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-R12-2301379.

4 Measurement Setup and Procedure

4.1 Test Channel

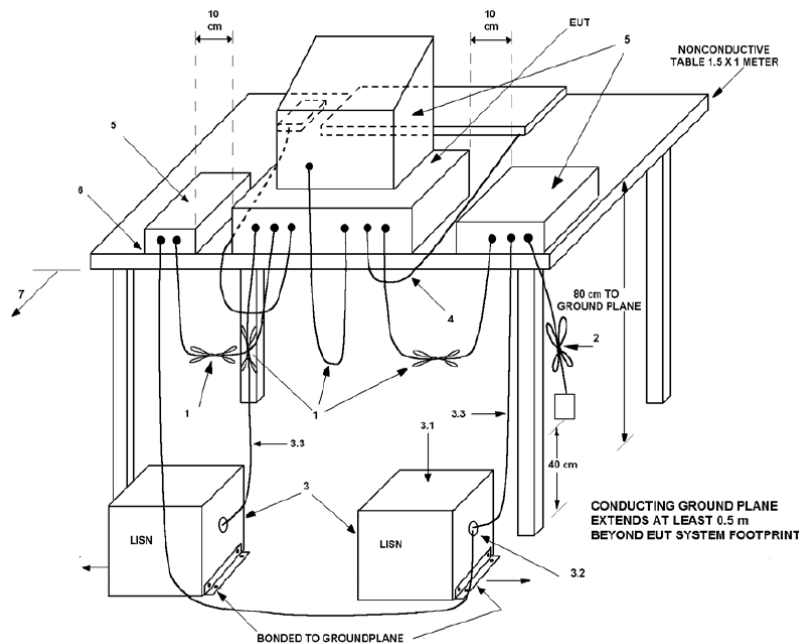
According to ANSI C63.10-2013 chapter 5.6.1 Table 4 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

| 802.11b, 802.11g, 802.11n-HT20 | | | | | |
|--------------------------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Lowest channel | | Middle channel | | Highest channel | |
| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
| 1 | 2412 | 6 | 2437 | 11 | 2462 |

| 802.11n-HT40 | | | | | |
|----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Lowest channel | | Middle channel | | Highest channel | |
| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
| 3 | 2422 | 6 | 2437 | 9 | 2452 |

4.2 Test Setup

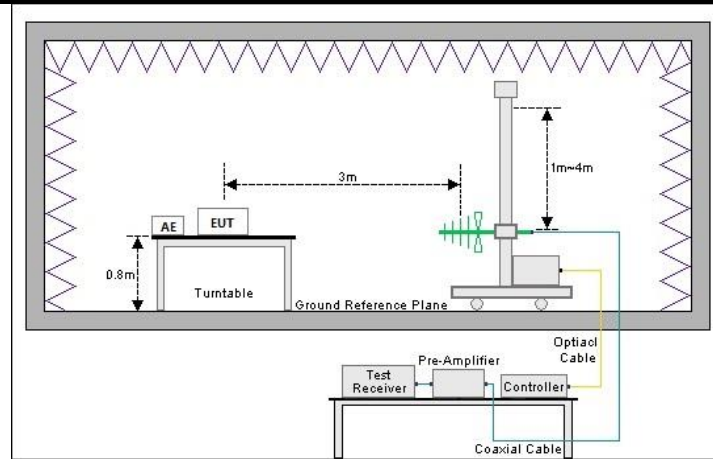
1) Conducted emission measurement:



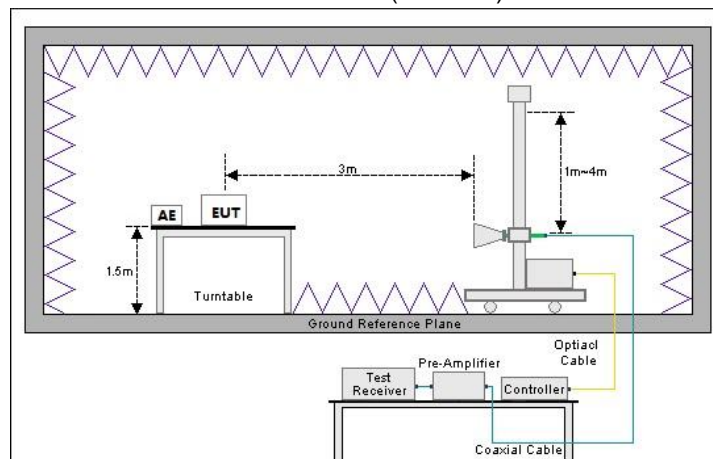
Note: The detailed descriptions please refer to Figure 8 of ANSI C63.4:2014.

2) Radiated emission measurement:

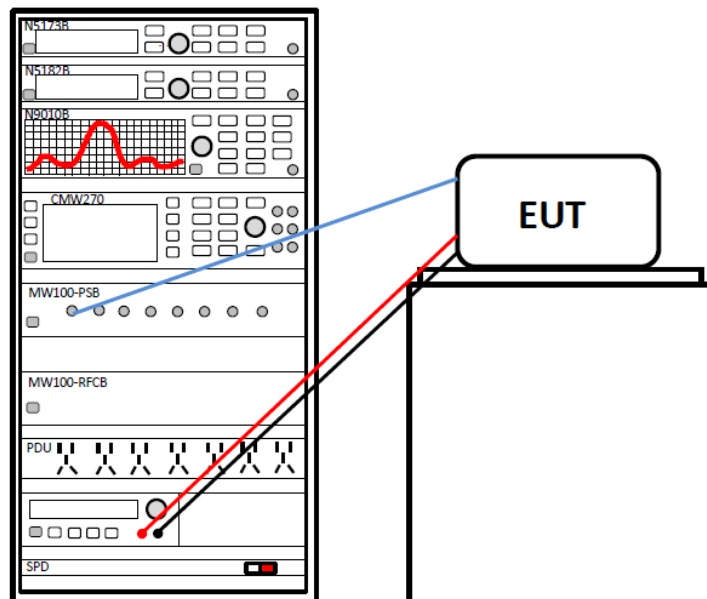
Below 1GHz (3m SAC)



Above 1GHz (3m FAR)



3) Conducted test method



4.3 Test Procedure

| Test method | Test step |
|-----------------------|---|
| Conducted emission | <ol style="list-style-type: none"> 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 Wi-Fi 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. |

5 Test Results

5.1 Summary

5.1.1 Clause and Data Summary

This report is revised according to the JYTSZ-R12-2301379 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 15.247 (b)(4) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| AC Power Line Conducted Emission | 15.207 | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Duty Cycle | ANSI C63.10-2013 | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Conducted Output Power | 15.247 (b)(3) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| 6dB Emission Bandwidth 99% Occupied Bandwidth | 15.247 (a)(2) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Power Spectral Density | 15.247 (e) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Band-edge Emission Conduction Spurious Emission | 15.247 (d) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Emissions in Restricted Frequency Bands | 15.205 15.247 (d) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Emissions in Non-restricted Frequency Bands | 15.209 15.247(d) | Please refer to report No.: JYTSZ-R12-2301379. | Please refer to report No.: JYTSZ-R12-2301379. |
| Remark: 1. Please refer to FCC ID: 2ADYY-KJ7, report No.: JYTSZ-R12-2301379 issue by JianYan Testing Group Shenzhen Co., Ltd. 2. N/A: Not Applicable. 3. 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 | | |

5.1.2 Test Limit

| Test items | Limit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------------------------|----------------|--|------------|---------|------------|--------------------------------|--------------------------------|---------|------------|----------|--------|------|------------|-----------|------|------|------------|------------|------|------|------------|-----------|---------------------|--|---------|-------|-------------|------|------|
| AC Power Line Conducted Emission | <table><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dBµV)</th></tr><tr><th>Quasi-Peak</th><th>Average</th></tr><tr><td>0.15 – 0.5</td><td>66 to 56 <small>Note 1</small></td><td>56 to 46 <small>Note 1</small></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></table> <p>Note 1: The limit level in dBµV decreases linearly with the logarithm of frequency. Note 2: The more stringent limit applies at transition frequencies.</p> | Frequency (MHz) | Limit (dBµV) | | Quasi-Peak | Average | 0.15 – 0.5 | 66 to 56 <small>Note 1</small> | 56 to 46 <small>Note 1</small> | 0.5 – 5 | 56 | 46 | 5 – 30 | 60 | 50 | | | | | | | | | | | | | | | | |
| Frequency (MHz) | Limit (dBµV) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Quasi-Peak | Average | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.15 – 0.5 | 66 to 56 <small>Note 1</small> | 56 to 46 <small>Note 1</small> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 – 5 | 56 | 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 – 30 | 60 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conducted 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99% Occupied Bandwidth | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Band-edge Emission Conduction 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)). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Emissions in Restricted Frequency Bands Emissions in Non-restricted Frequency Bands | <table><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dBµV/m)</th><th rowspan="2">Detector</th></tr><tr><th>@ 3m</th><th>@ 10m</th></tr><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></table> <p>Note: The more stringent limit applies at transition frequencies.</p> <table><tr><th rowspan="2">Frequency</th><th colspan="2">Limit (dBµV/m) @ 3m</th></tr><tr><th>Average</th><th>Peake</th></tr><tr><td>Above 1 GHz</td><td>54.0</td><td>74.0</td></tr></table> <p>Note: The measurement bandwidth shall be 1 MHz or greater.</p> | Frequency (MHz) | Limit (dBµV/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 (dBµV/m) @ 3m | | Average | Peake | Above 1 GHz | 54.0 | 74.0 |
| Frequency (MHz) | Limit (dBµV/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 (dBµV/m) @ 3m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Average | Peake | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Above 1 GHz | 54.0 | 74.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

5.2 Conducted Output Power Spot-check

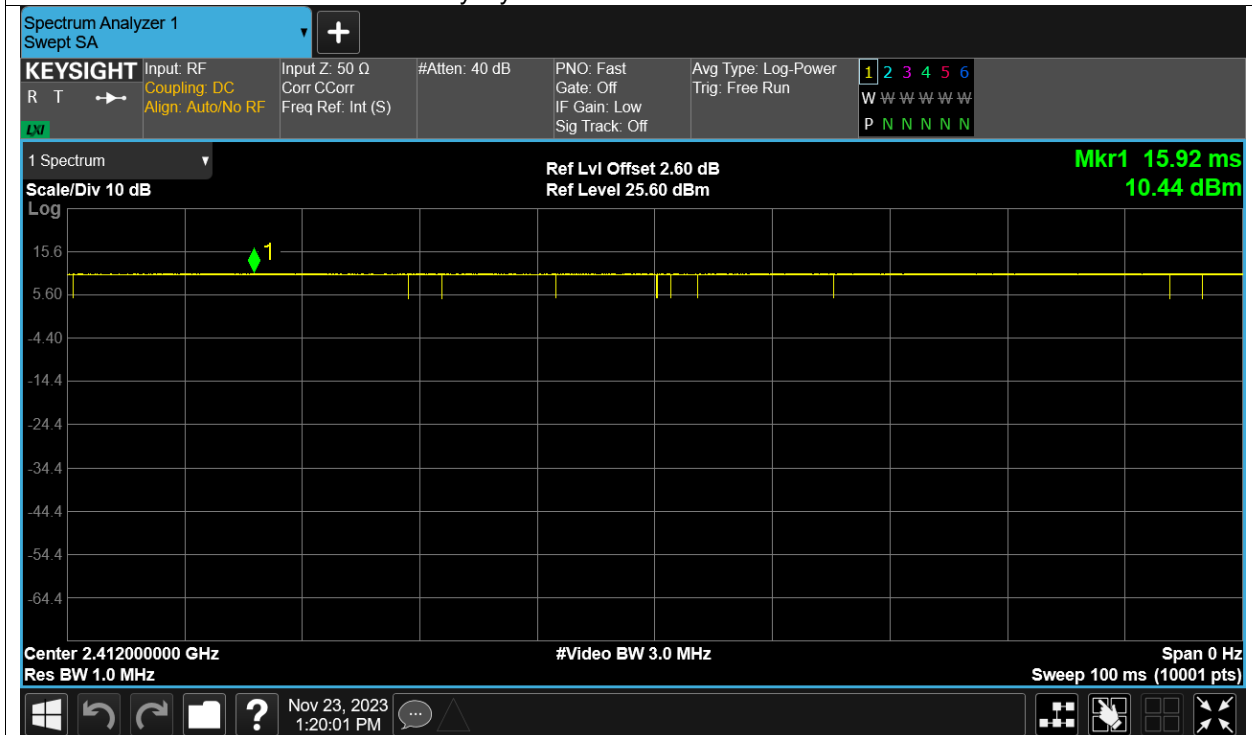
ANT12:

Duty Cycle

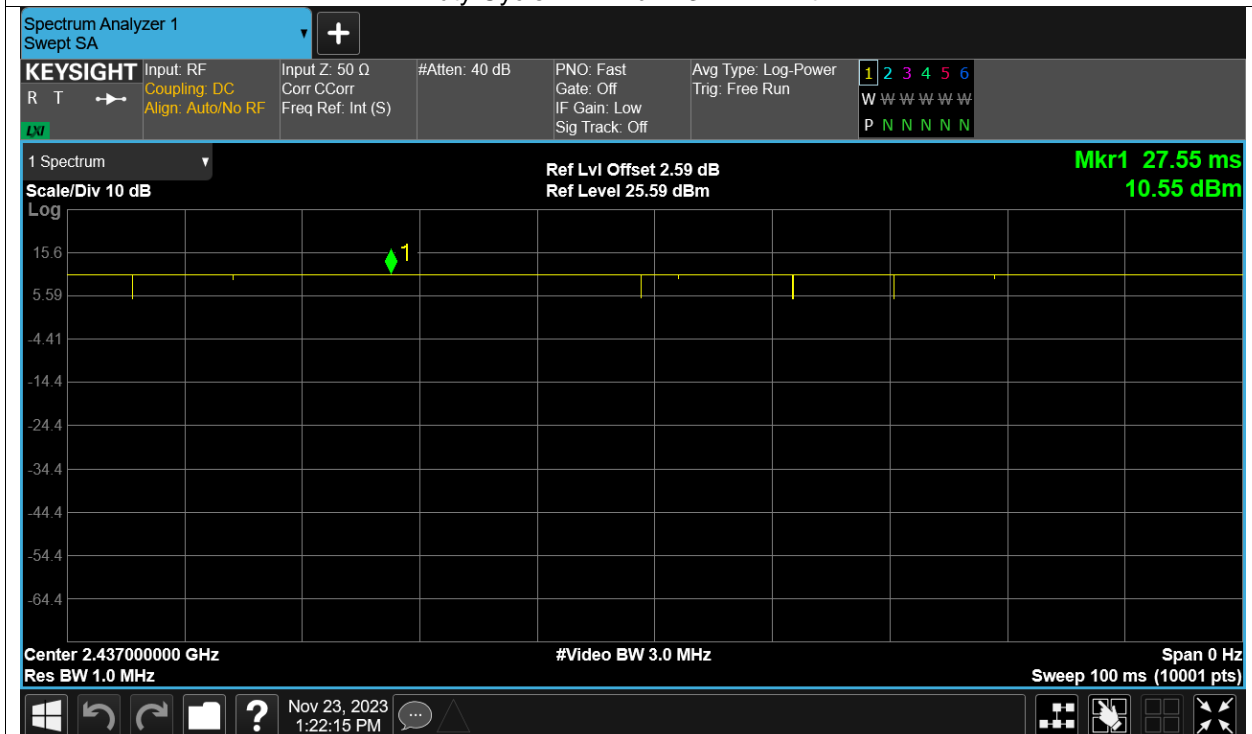
| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) |
|-----------|------|-----------------|---------|----------------|------------------------|
| NVNT | b | 2412 | Ant12 | 100 | 0 |
| NVNT | b | 2437 | Ant12 | 100 | 0 |
| NVNT | b | 2462 | Ant12 | 100 | 0 |

Test Graphs

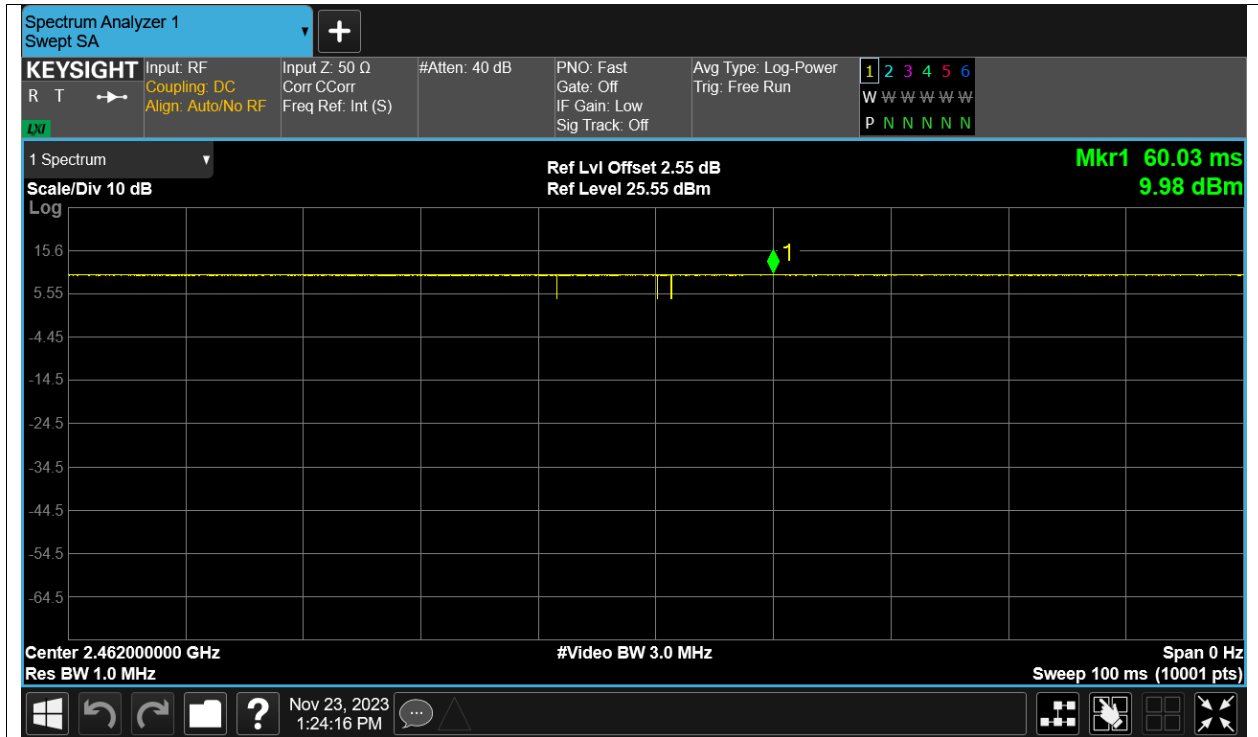
Duty Cycle NVNT b 2412MHz Ant12



Duty Cycle NVNT b 2437MHz Ant12



Duty Cycle NVNT b 2462MHz Ant12



Maximum Conducted Output Power

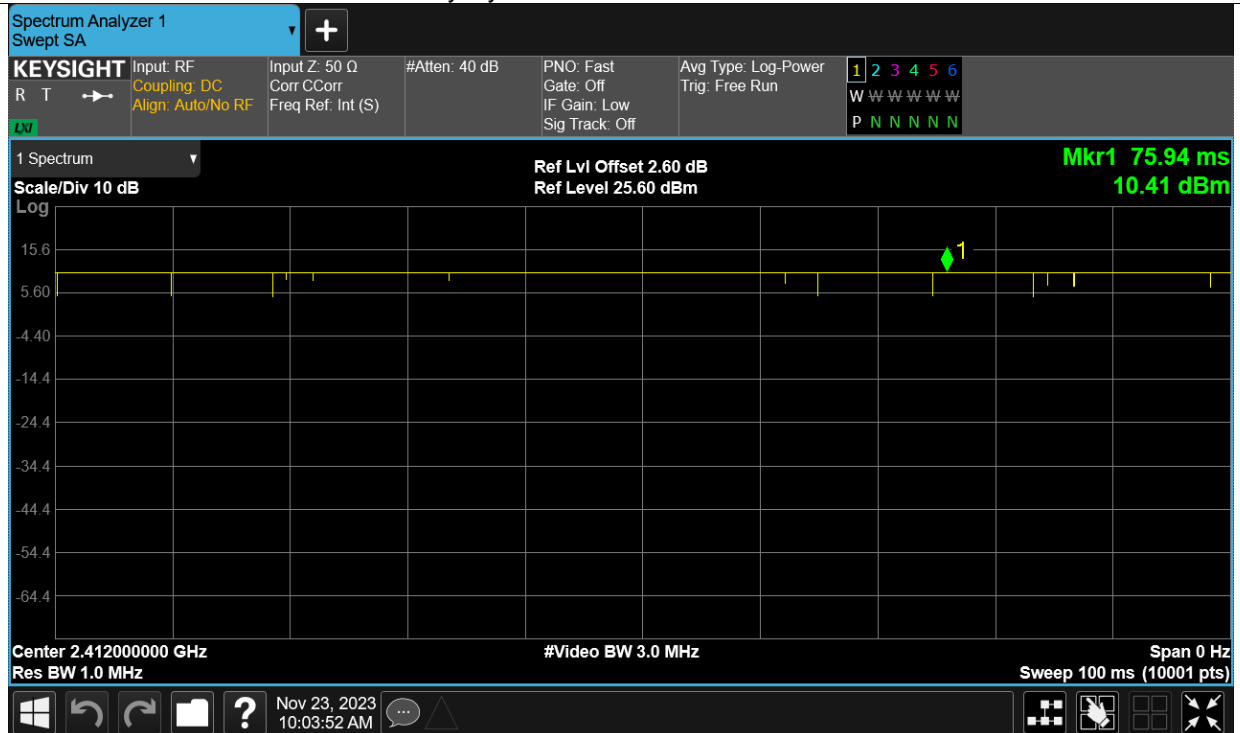
| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|-----------------------|------------------|-------------------|-------------|---------|
| NVNT | b | 2412 | Ant12 | 15.3 | 0 | 15.3 | 30 | Pass |
| NVNT | b | 2437 | Ant12 | 15.6 | 0 | 15.6 | 30 | Pass |
| NVNT | b | 2462 | Ant12 | 15.37 | 0 | 15.37 | 30 | Pass |

ANT 14:
Duty Cycle

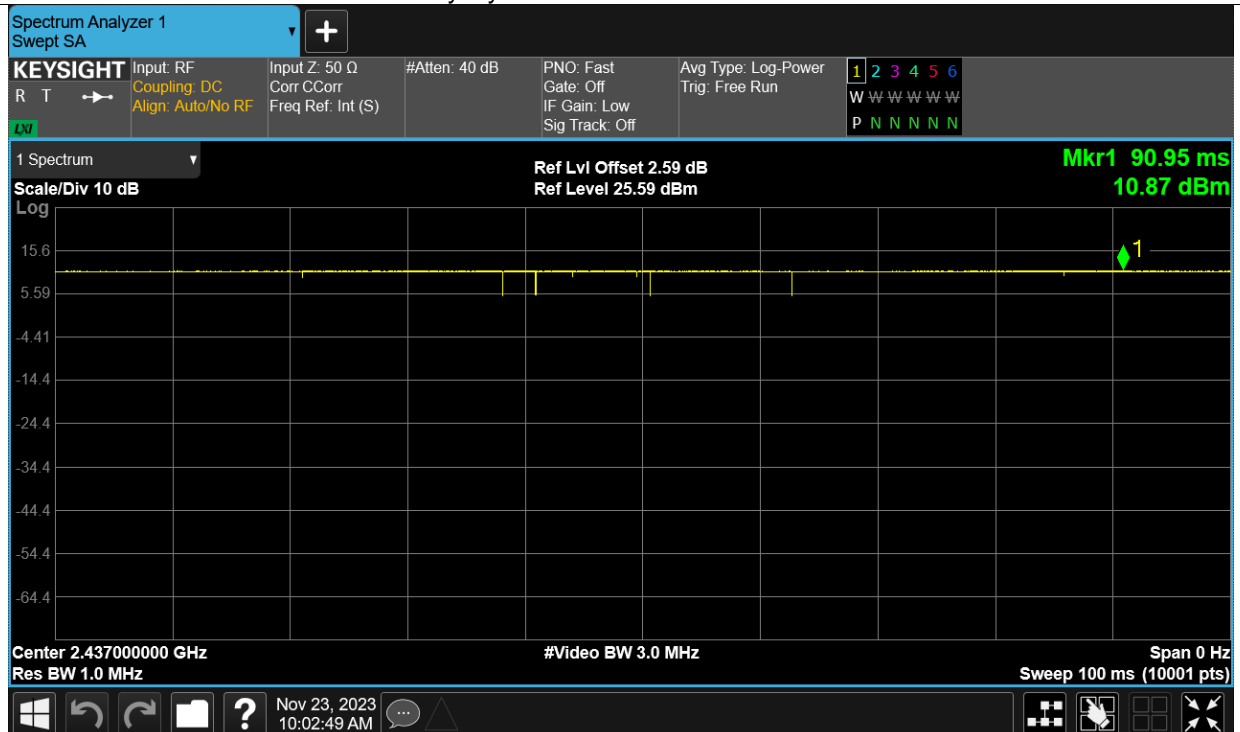
| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) |
|-----------|------|-----------------|---------|----------------|------------------------|
| NVNT | b | 2412 | Ant14 | 100 | 0 |
| NVNT | b | 2437 | Ant14 | 100 | 0 |
| NVNT | b | 2462 | Ant14 | 100 | 0 |

Test Graphs

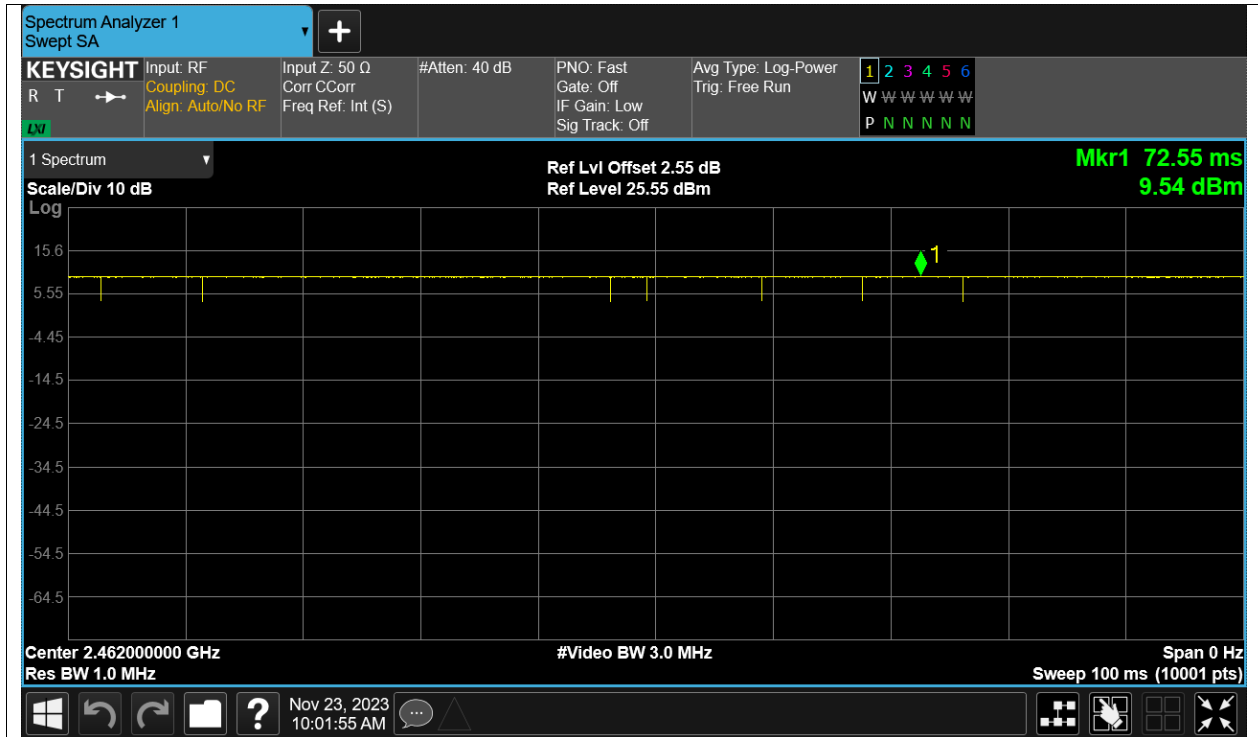
Duty Cycle NVNT b 2412MHz Ant14



Duty Cycle NVNT b 2437MHz Ant14



Duty Cycle NVNT b 2462MHz Ant14



Maximum Conducted Output Power

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|-----------------------|------------------|-------------------|-------------|---------|
| NVNT | b | 2412 | Ant14 | 15.21 | 0 | 15.21 | 30 | Pass |
| NVNT | b | 2437 | Ant14 | 15.77 | 0 | 15.77 | 30 | Pass |
| NVNT | b | 2462 | Ant14 | 15.59 | 0 | 15.59 | 30 | Pass |

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