



# TEST REPORT

Applicant: Shenzhen Hongshengda Photoelectric Technology Co. , Ltd

Address of Applicant: Floor 3, Building 4, No. 161, Xingye 1st Road, Fenghuang Community,Fuyong Street, Bao'an District, Shenzhen,China

Manufacturer: Shenzhen Hongshengda Photoelectric Technology Co. , Ltd

Address of Manufacturer: Floor 3, Building 4, No. 161, Xingye 1st Road, Fenghuang Community,Fuyong Street, Bao'an District, Shenzhen,China

Product Name: Portable Touchscreen Smart TV

Model No.: M03F,M03,HSD-M03,HSD-32\*\*\*\*,M03\*\*\*\*,HSD-M03\*\*\*\*,H\*\*\*\*\*,M\*\*\*\*\* ('\*' represents numbers 0-9, letters A-Z, a-z, symbols, or spaces, representing different colors and sales regions, which do not affect the safety and electromagnetic compatibility performance of the product)

Trade Mark: N/A

FCC ID: 2BVSY-M03F

Applicable standards: CFR Title 47 Part 15.407

Date of Test: Aug.24, 2026- Oct.10, 2026

Date of report issued: Oct.10, 2026

**Remark:**

*The results shown in this test report refer only to the sample(s) tested , this test report cannot be reproduced, except in full without prior written permission of the company.*

*The report would be invalid without specific stamp of test institute and the signatures of compiler and approver*

## Prepared By

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## 1 Test Summary

| Test Item                        | Section in CFR 47                                                    | Result | Test by     |
|----------------------------------|----------------------------------------------------------------------|--------|-------------|
| Antenna requirement              | 47CFR part 15.203                                                    | Pass   | /           |
| AC Power Line Conducted Emission | 47CFR part 15.207                                                    | Pass   | Jason Huang |
| Conducted Output Power           | 47CFR part 15.407 (a)(1)/(a)(3)                                      | Pass   | Oliver Wang |
| 26dB Bandwidth                   | 47CFR part 15.407 (a)(12)                                            | Pass   | Oliver Wang |
| 6dB Bandwidth                    | 47CFR part 15.407 (e)                                                | Pass   | Oliver Wang |
| Power Spectral Density           | 47CFR part 15.407(a)(1)/(a)(3)                                       | Pass   | Oliver Wang |
| Band Edge                        | 47CFR part 15.407(b)(1)/(b)(4)                                       | Pass   | Oliver Wang |
| Spurious Emission                | 47CFR part 15.205/15.209<br>47CFR part<br>15.407(b)(1)/(b)(4)/(b)(8) | Pass   | Leo Zhong   |

### Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
3. Note: Compliance determination rules
  - 1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacturer. If measurement uncertainty is taken into account, the applicant/manufacturer will bear all possible risks of non-compliance.
  - 2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

### 1.1 Measurement Uncertainty

| Test Item                         | Measurement Uncertainty | Notes |
|-----------------------------------|-------------------------|-------|
| Occupied Channel Bandwidth        | 0.72%                   | (1)   |
| RF output power, conducted        | ±0.67 dB                | (1)   |
| Power Spectral Density, conducted | ±0.51 dB                | (1)   |
| Unwanted Emissions, conducted     | ±0.64 dB                | (1)   |
| AC Power Line Conducted Emission  | ± 3.38 dB               | (1)   |
| Radiated emissions 9K-30MHz       | ±4.26 dB                | (1)   |
| Radiated emissions 30M- 1GHz      | ±4.88 dB                | (1)   |
| Radiated emissions 1GHz-18GHz     | ± 4.16 dB               | (1)   |
| Radiated emissions 18GHz-40GHz    | ±4.14 dB                | (1)   |
| Frequency error                   | Uc=6X10 <sup>-7</sup>   | (1)   |
| Duty Cycle                        | ±0.03%                  | (1)   |

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

## 2 General Information

### 2.1 General Description of EUT

|                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:                                                                                                                                                                              | Portable Touchscreen Smart TV                                                                                                                                                                                                                                                                                                                                                                                                   |
| Model No.:                                                                                                                                                                                 | M03F,M03,HSD-M03,HSD-32****,M03****,HSD-M03****,H*****,M***** ('*' represents numbers 0-9, letters A-Z, a-z, symbols, or spaces, representing different colors and sales regions, which do not affect the safety and electromagnetic compatibility performance of the product)                                                                                                                                                  |
| Difference of model(s)                                                                                                                                                                     | All models have the same electrical design (i.e. circuit design, PCB layout, RF module/circuit, antenna type and position, components on PCB, etc.), mechanical structure and design are the same, only the model name and color are different                                                                                                                                                                                  |
| Test Model:                                                                                                                                                                                | M03F                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Hardware Version:                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Software Version:                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Power supply:                                                                                                                                                                              | DC 19V/3.42A from adapter or DC 14.8V from battery                                                                                                                                                                                                                                                                                                                                                                              |
| Adapter information:                                                                                                                                                                       | Model: FX65C-190342Z<br>Input: AC100-240V~50/60Hz 1.5Amax<br>Output: DC19V 3.42A<br>Model: CW75A1903420PI<br>Input: AC100-240V~50/60Hz 1.8Amax<br>Output: DC19V 3.42A                                                                                                                                                                                                                                                           |
| Battery:                                                                                                                                                                                   | DC 14.8V 9600mAh                                                                                                                                                                                                                                                                                                                                                                                                                |
| Radio Technology:                                                                                                                                                                          | 5G RLAN                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Operation Frequency:                                                                                                                                                                       | <input checked="" type="checkbox"/> 5180-5240MHz for 802.11a/n20/ac20<br>5190-5230MHz for 802.11n40/ac40<br>5210MHz for 802.11ac80<br><input checked="" type="checkbox"/> 5745-5825 MHz for 802.11a/n20/ac20;<br>5755-5795 MHz for 802.11n40/ac40;<br>5775MHz for 802.11 ac80                                                                                                                                                   |
| Channel numbers:                                                                                                                                                                           | <input checked="" type="checkbox"/> 4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band;<br>2 channels for 802.11 n40/ac40 in the 5190-5230MHz band ;<br>1 channels for 802.11 ac80 in the 5210MHz band ;<br><input checked="" type="checkbox"/> 5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ;<br>2 channels for 802.11 n40/ac40 in the 5755-5795MHz band ;<br>1 channels for 802.11 ac80 in the 5775MHz band |
| Channel bandwidth:                                                                                                                                                                         | 802.11an20/ ac20 : 20MHz<br>802.11n40/ac40 : 40MHz<br>802.11ac80: 80MHz                                                                                                                                                                                                                                                                                                                                                         |
| Modulation technology:                                                                                                                                                                     | Orthogonal Frequency Division Multiplexing (OFDM)<br>with BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM                                                                                                                                                                                                                                                                                                                                  |
| Antenna Type:                                                                                                                                                                              | Metal plate antenna                                                                                                                                                                                                                                                                                                                                                                                                             |
| Antenna gain:                                                                                                                                                                              | 2.93dB                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Note:</b><br>1. Other information please Reference user manual.<br>2. Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information. |                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Operation Frequency each of channel |           |         |           |         |           |         |           |
|-------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel                             | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 36                                  | 5180MHz   | 38      | 5190MHz   | 40      | 5200MHz   | 42      | 5210MHz   |
| 44                                  | 5220MHz   | 46      | 5230MHz   | 48      | 5240MHz   | /       | /         |
| Channel                             | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 149                                 | 5745MHz   | 151     | 5755MHz   | 153     | 5765MHz   | 155     | 5775MHz   |
| 157                                 | 5785MHz   | 159     | 5795MHz   | 161     | 5805MHz   | /       | /         |
| 165                                 | 5825MHz   | /       |           |         |           |         |           |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

| Test channel    | Frequency (MHz)    |                 |            |
|-----------------|--------------------|-----------------|------------|
|                 | 802.11 a /n20/ac20 | 802.11 n40/ac40 | 802.11ac80 |
| Lowest channel  | 5180               | 5190            | 5210       |
| Middle channel  | 5200               | X               |            |
| Highest channel | 5240               |                 |            |

| Test channel    | Frequency (MHz)    |                 |            |
|-----------------|--------------------|-----------------|------------|
|                 | 802.11 a /n20/ac20 | 802.11 n40/ac40 | 802.11ac80 |
| Lowest channel  | 5745               | 5755            | 5775       |
| Middle channel  | 5785               | X               |            |
| Highest channel | 5825               |                 |            |

## 2.2 Test mode

|                                                                                           |                                                 |
|-------------------------------------------------------------------------------------------|-------------------------------------------------|
| Transmitting mode                                                                         | Keep the EUT in continuously transmitting mode. |
| <i>Remark: For battery operated equipment, the EUT was performed using a new DC 14.8V</i> |                                                 |

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

| Pretest Mode | Description                                                                 |
|--------------|-----------------------------------------------------------------------------|
| Mode 1       | 802.11a / n20/ ac20 CH36/CH40/CH48<br>802.11a /n 20/ac 20 CH149/CH157/CH165 |
| Mode 2       | 802.11n 40/ac40 CH38/CH46<br>802.11n 40/ac40 CH 151/CH159                   |
| Mode 3       | 802.11 ac80 CH 42/CH155                                                     |
| Mode 4       | /                                                                           |
| Mode 5       | Link Mode                                                                   |

| Conducted Emission |             |
|--------------------|-------------|
| Final Test Mode    | Description |
| Mode 5             | Link Mode   |

| For Radiated Emission |                                                                             |
|-----------------------|-----------------------------------------------------------------------------|
| Final Test Mode       | Description                                                                 |
| Mode 1                | 802.11a / n20/ ac20 CH36/CH40/CH48<br>802.11a /n 20/ac 20 CH149/CH157/CH165 |
| Mode 2                | 802.11n 40/ac40 CH38/CH46<br>802.11n 40/ac40 CH 151/CH159                   |
| Mode 3                | 802.11 ac80 CH 42/CH155                                                     |
| Mode 4                | /                                                                           |

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.



## 2.3 Description of Support Units

| No. | Description | Manufacturer | Model       | Serial Number |
|-----|-------------|--------------|-------------|---------------|
| 1   | LAPTOP      | DELL         | VOSTRO 3520 | /             |
| 2   | MOUSE       | DELL         | MS116       | /             |

## 2.4 Test Facility

|                             |                                                                                                                           |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Test laboratory:            | Shenzhen ETR Standard Technology Co., Ltd.                                                                                |
| CNAS Registration Number:   | L11864                                                                                                                    |
| A2LA Certificate Number:    | 6640.01                                                                                                                   |
| FCC Designation Number:     | CN1326                                                                                                                    |
| FCC Test Firm Registration: | 183064                                                                                                                    |
| IC Company Number:          | 28440                                                                                                                     |
| IC CAB identifier:          | CN0132                                                                                                                    |
| Laboratory location:        | No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |

## 2.5 Additional Instructions

|                   |                                       |
|-------------------|---------------------------------------|
| Test Software     | Manufacturer-specific serial commands |
| Power level setup | Default                               |

### 3 Test Instruments list

#### Conducted Emission

| Item | Equipment name           | Manufacturer  | Model    | Serial No. | Calibration date | Due date  |
|------|--------------------------|---------------|----------|------------|------------------|-----------|
| 1    | EMI Test Receiver        | Rohde&schwarz | ESCI3    | 102696     | 2026.3.05        | 2027.3.04 |
| 2    | Artificial power network | schwarabeck   | NSLK8127 | 8127483    | 2026.3.05        | 2027.3.04 |
| 3    | Artificial power network | ETS           | 3186/2NM | 1132       | 2026.3.05        | 2027.3.04 |
| 4    | 10dB attenuator          | HUBER+SUHNER  | 10dB     | /          | 2026.3.05        | 2027.3.04 |
| 5    | Cable 4                  | HUBER SUNNER  | 3M       | /          | 2026.3.05        | 2027.3.04 |
| 6    | Absorbing Clamp          | schwarabeck   | MDS21    | D69250     | 2025.3.06        | 2026.3.05 |

#### Radiated Emission & RF Conducted test:

| Item | Equipment name           | Manufacturer        | Model          | Serial No.   | Calibration date | Due date  |
|------|--------------------------|---------------------|----------------|--------------|------------------|-----------|
| 1    | EMI Test Receiver        | Rohde&schwarz       | ESCI7          | 101032       | 2026.3.05        | 2027.3.04 |
| 2    | Broadband antenna        | schwarabeck         | VULB9168       | 1064         | 2026.3.11        | 2028.3.10 |
| 3    | Horn antenna             | schwarabeck         | BBHA9120D      | 9120D-1145   | 2026.3.08        | 2028.3.07 |
| 4    | Amplifier                | EMtrace             | RP01A          | 50117        | 2026.3.05        | 2027.3.04 |
| 5    | Amplifier                | Space-Dtronics      | EWLAN0118G-P40 | 19113001     | 2026.3.05        | 2027.3.04 |
| 6    | Spectrum analyzer        | KEYSIGHT            | N9020A         | MY55370280   | 2026.3.05        | 2027.3.04 |
| 7    | Power detector meter     | MWRFtest            | MW100-PSB      | MW201020JYT  | 2026.3.05        | 2027.3.04 |
| 8    | Signal generator         | Agilent             | N5182A         | MY49060455   | 2026.3.05        | 2027.3.04 |
| 9    | Spectrum analyzer        | Rohde&schwarz       | FSV-40N        | 102137       | 2026.3.05        | 2027.3.04 |
| 10   | Amplifier                | SKET                | LNPA_1840-50   | SK2019040302 | 2026.3.05        | 2027.3.04 |
| 11   | Horn antenna             | schwarabeck         | BBHA 9170      | 946          | 2026.3.08        | 2028.3.07 |
| 12   | Loop antenna             | schwarabeck         | FMZB 1519 B    | 128          | 2026.3.08        | 2028.3.07 |
| 13   | Cable 6                  | HUBER SUNNER        | 0.5M           | /            | 2026.3.05        | 2027.3.04 |
| 14   | Cable7                   | HUBER SUNNER        | 2.0M           | /            | 2026.3.05        | 2027.3.04 |
| 15   | Cable8                   | HUBER SUNNER        | 6.0M           | /            | 2026.3.05        | 2027.3.04 |
| 16   | Filter                   | Xin bo              | XBLBQ-GTA29    | 210410-3-2   | 2026.3.05        | 2027.3.04 |
| 17   | Power Sensor             | Keysight            | U2021XA        | MY54111006   | 2026.3.05        | 2027.3.04 |
| 18   | Temp. & Humidity Chamber | Jiecheng Instrument | QA-LP-80       | 20160705001  | 2026/3/06        | 2027/3/05 |

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

| Software Name           | Manufacturer | Model    | Version           |
|-------------------------|--------------|----------|-------------------|
| RF test software        | MWRFtest     | MTS 8310 | V2.0.0.0          |
| Conducted test software | EZ-EMC       | Farad    | Ver.EMC-CON 3A1.1 |
| Radiated test software  | EZ-EMC       | Farad    | Ver.FA-03A2 RE    |

## 4 Test results and Measurement Data

### 4.1 Antenna requirement

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 47CFR Part 15.203 |
| <i>15.203 requirement:</i><br><i>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.</i> |                   |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
| The antenna is Metal plate antenna, the best case gain of the antenna is 2.93dBi, reference to the internal photo for details.                                                                                                                                                                                                                                                                                                                                                          |                   |

## 4.2 Conducted Emissions

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |              |     |           |          |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|-----|-----------|----------|
| Test Requirement:                                | 47CFR Part 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |              |     |           |          |
| Test Method:                                     | ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 §6.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |              |     |           |          |
| Test Frequency Range:                            | 150KHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |              |     |           |          |
| Class / Severity:                                | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |              |     |           |          |
| Receiver setup:                                  | RBW=9KHz, VBW=30KHz, Sweep time=auto                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |              |     |           |          |
| Limit:                                           | 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        |          |
| * Decreases with the logarithm of the frequency. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |              |     |           |          |
| Test setup:                                      | <div><div>Reference Plane</div><div><div></div><div>40cm</div><div></div></div><div><div>LISN</div><div>AUX Equipment</div><div>E.U.T</div><div>LISN</div><div>80cm</div><div>Filter</div><div>AC power</div><div>EMI Receiver</div></div></div> <div>Remark<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network</div>                                                                                                                                                                                                                                                                                                                                                                                                                               |        |              |     |           |          |
| Test procedure:                                  | <div>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.</div> <div>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).</div> <div>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 C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 on conducted measurement.</div> |        |              |     |           |          |
| Test Instruments:                                | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |              |     |           |          |
| Test mode:                                       | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |              |     |           |          |
| Test environment:                                | Temp.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 24.2°C | Humid.:      | 53% | Press.:   | 1012mbar |
| Test voltage:                                    | AC 120V/60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |              |     |           |          |
| Test results:                                    | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |              |     |           |          |

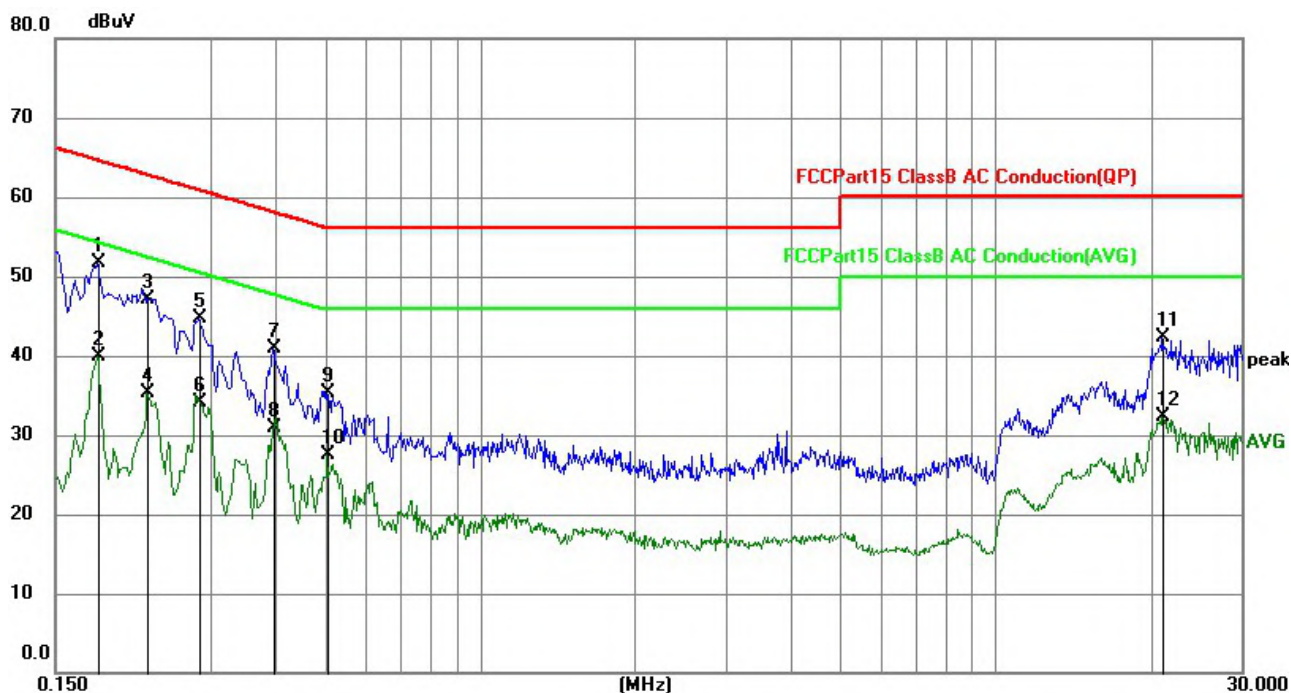
### Remark:

1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.

All adapters have been pre tested, with FX65C-190342Z adapter having the worst data. This report only records the worst a(5745MHz) data.

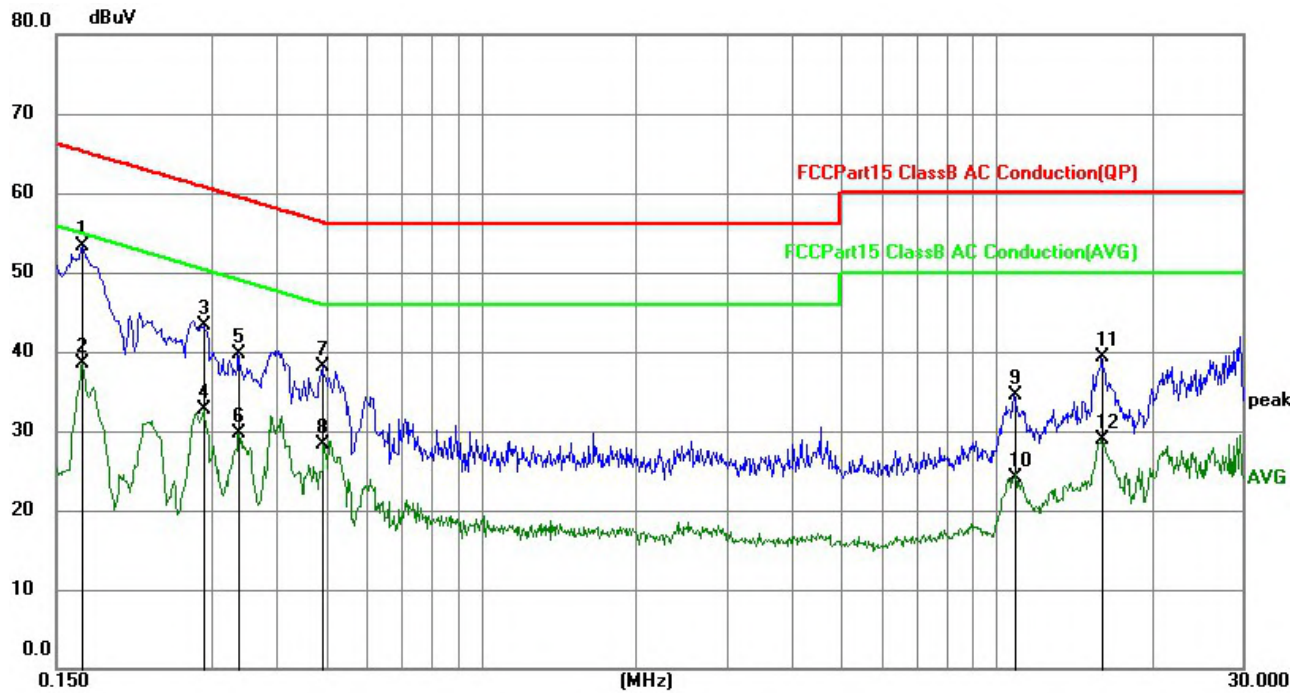
## Measurement Result

Line:



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|
| 1   | 0.1815          | 41.78          | 9.97        | 51.75        | 64.42        | -12.67      | QP       |
| 2   | 0.1815          | 29.86          | 9.97        | 39.83        | 54.42        | -14.59      | AVG      |
| 3   | 0.2265          | 37.15          | 9.98        | 47.13        | 62.58        | -15.45      | QP       |
| 4   | 0.2265          | 25.26          | 9.98        | 35.24        | 52.58        | -17.34      | AVG      |
| 5   | 0.2850          | 34.62          | 10.00       | 44.62        | 60.67        | -16.05      | QP       |
| 6   | 0.2850          | 24.06          | 10.00       | 34.06        | 50.67        | -16.61      | AVG      |
| 7   | 0.3975          | 30.77          | 10.05       | 40.82        | 57.91        | -17.09      | QP       |
| 8   | 0.3975          | 20.81          | 10.05       | 30.86        | 47.91        | -17.05      | AVG      |
| 9   | 0.5055          | 25.16          | 10.08       | 35.24        | 56.00        | -20.76      | QP       |
| 10  | 0.5055          | 17.38          | 10.08       | 27.46        | 46.00        | -18.54      | AVG      |
| 11  | 21.0660         | 32.45          | 9.91        | 42.36        | 60.00        | -17.64      | QP       |
| 12  | 21.0660         | 22.33          | 9.91        | 32.24        | 50.00        | -17.76      | AVG      |

**Neutral:**

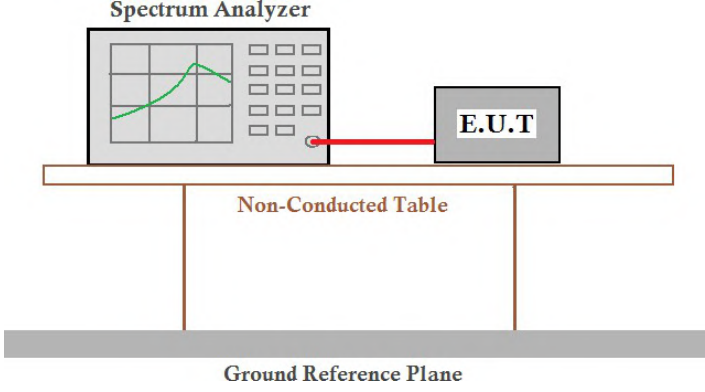


| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|
| 1   | 0.1685          | 43.29          | 9.97        | 53.26        | 65.03        | -11.77      | QP       |
| 2   | 0.1685          | 28.47          | 9.97        | 38.44        | 55.03        | -16.59      | AVG      |
| 3   | 0.2894          | 33.31          | 10.00       | 43.31        | 60.54        | -17.23      | QP       |
| 4   | 0.2894          | 22.69          | 10.00       | 32.69        | 50.54        | -17.85      | AVG      |
| 5   | 0.3390          | 29.73          | 10.03       | 39.76        | 59.23        | -19.47      | QP       |
| 6   | 0.3390          | 19.68          | 10.03       | 29.71        | 49.23        | -19.52      | AVG      |
| 7   | 0.4919          | 28.00          | 10.08       | 38.08        | 56.14        | -18.06      | QP       |
| 8   | 0.4919          | 18.14          | 10.08       | 28.22        | 46.14        | -17.92      | AVG      |
| 9   | 10.8015         | 24.38          | 10.06       | 34.44        | 60.00        | -25.56      | QP       |
| 10  | 10.8015         | 14.05          | 10.06       | 24.11        | 50.00        | -25.89      | AVG      |
| 11  | 15.9855         | 29.31          | 9.99        | 39.30        | 60.00        | -20.70      | QP       |
| 12  | 15.9855         | 18.86          | 9.99        | 28.85        | 50.00        | -21.15      | AVG      |

**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
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

### 4.3 Duty cycle

|                   |                                                                                                                                                                                                                                                                                                                |               |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Test Method :     | ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024§ § 12.2                                                                                                                                                                                                                                   |               |
| Limit:            | /                                                                                                                                                                                                                                                                                                              |               |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p> |               |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                               |               |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                               |               |
| Test environment: | Temp.: 24.2°C                                                                                                                                                                                                                                                                                                  | Humid.: 53%RH |
| Test voltage:     | DC 14.8V from battery                                                                                                                                                                                                                                                                                          |               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                           |               |



## Measurement Result

5180-5240MHz

| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) |
|-----------|------|-----------------|---------|----------------|------------------------|
| NVNT      | a    | 5180            | Ant1    | 100            | 0                      |
| NVNT      | a    | 5200            | Ant1    | 100            | 0                      |
| NVNT      | a    | 5240            | Ant1    | 100            | 0                      |
| NVNT      | n20  | 5180            | Ant1    | 100            | 0                      |
| NVNT      | n20  | 5200            | Ant1    | 100            | 0                      |
| NVNT      | n20  | 5240            | Ant1    | 100            | 0                      |
| NVNT      | n40  | 5190            | Ant1    | 100            | 0                      |
| NVNT      | n40  | 5230            | Ant1    | 100            | 0                      |
| NVNT      | ac20 | 5180            | Ant1    | 100            | 0                      |
| NVNT      | ac20 | 5200            | Ant1    | 100            | 0                      |
| NVNT      | ac20 | 5240            | Ant1    | 100            | 0                      |
| NVNT      | ac40 | 5190            | Ant1    | 100            | 0                      |
| NVNT      | ac40 | 5230            | Ant1    | 100            | 0                      |
| NVNT      | ac80 | 5210            | Ant1    | 100            | 0                      |

5745-5825 MHz

| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) |
|-----------|------|-----------------|---------|----------------|------------------------|
| NVNT      | a    | 5745            | Ant1    | 100            | 0                      |
| NVNT      | a    | 5785            | Ant1    | 100            | 0                      |
| NVNT      | a    | 5825            | Ant1    | 100            | 0                      |
| NVNT      | n20  | 5745            | Ant1    | 100            | 0                      |
| NVNT      | n20  | 5785            | Ant1    | 100            | 0                      |
| NVNT      | n20  | 5825            | Ant1    | 100            | 0                      |
| NVNT      | n40  | 5755            | Ant1    | 100            | 0                      |
| NVNT      | n40  | 5795            | Ant1    | 100            | 0                      |
| NVNT      | ac20 | 5745            | Ant1    | 100            | 0                      |
| NVNT      | ac20 | 5785            | Ant1    | 100            | 0                      |
| NVNT      | ac20 | 5825            | Ant1    | 100            | 0                      |
| NVNT      | ac40 | 5755            | Ant1    | 100            | 0                      |
| NVNT      | ac40 | 5795            | Ant1    | 100            | 0                      |
| NVNT      | ac80 | 5775            | Ant1    | 100            | 0                      |

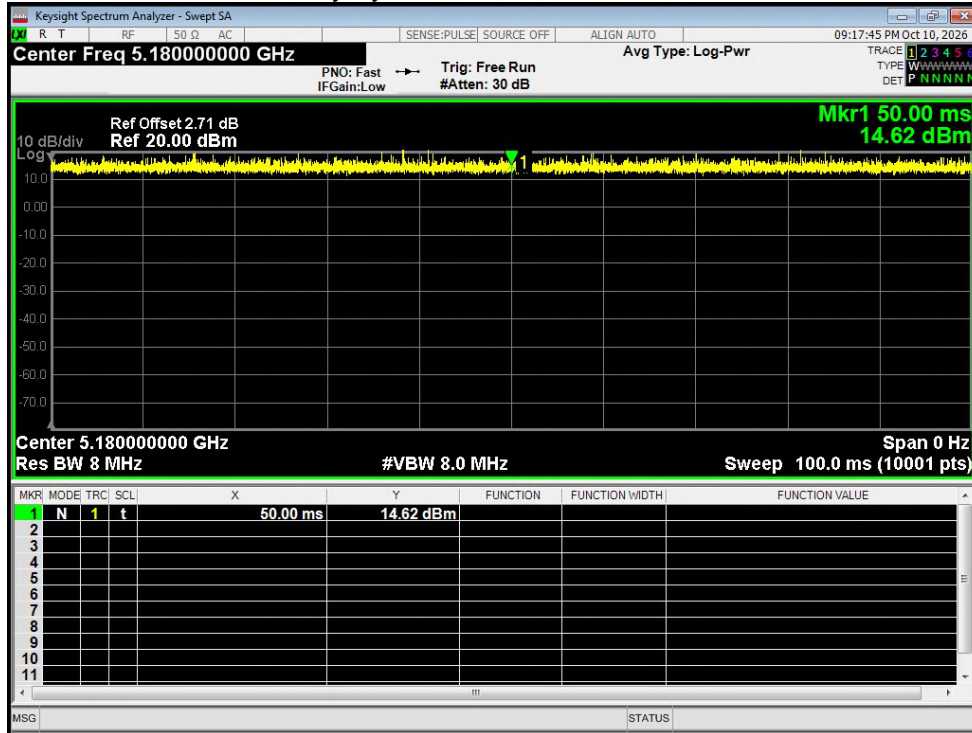
Note: Duty cycle factor (dB) =  $10 * \log (1 / \text{Duty cycle})$



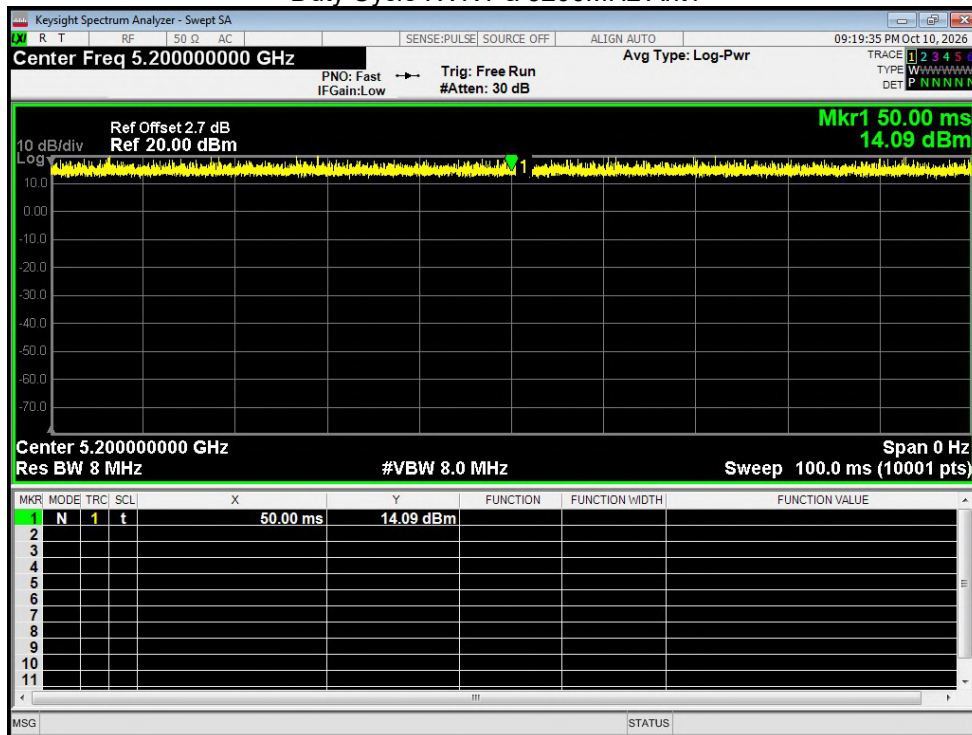
Test plot

5180-5240MHz

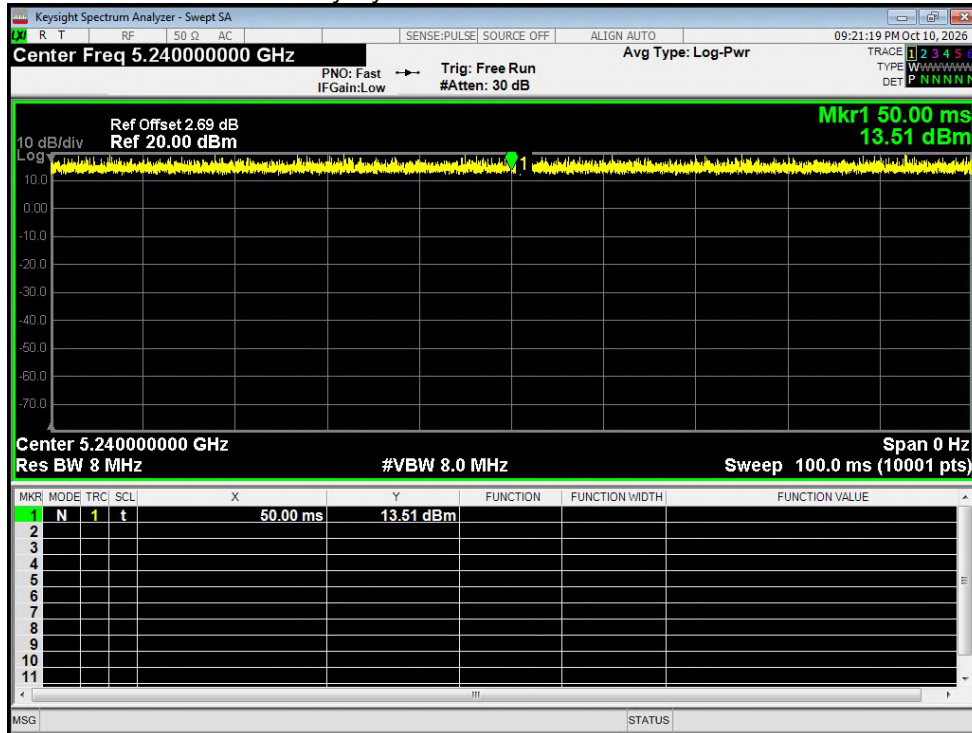
Duty Cycle NVNT a 5180MHz Ant1



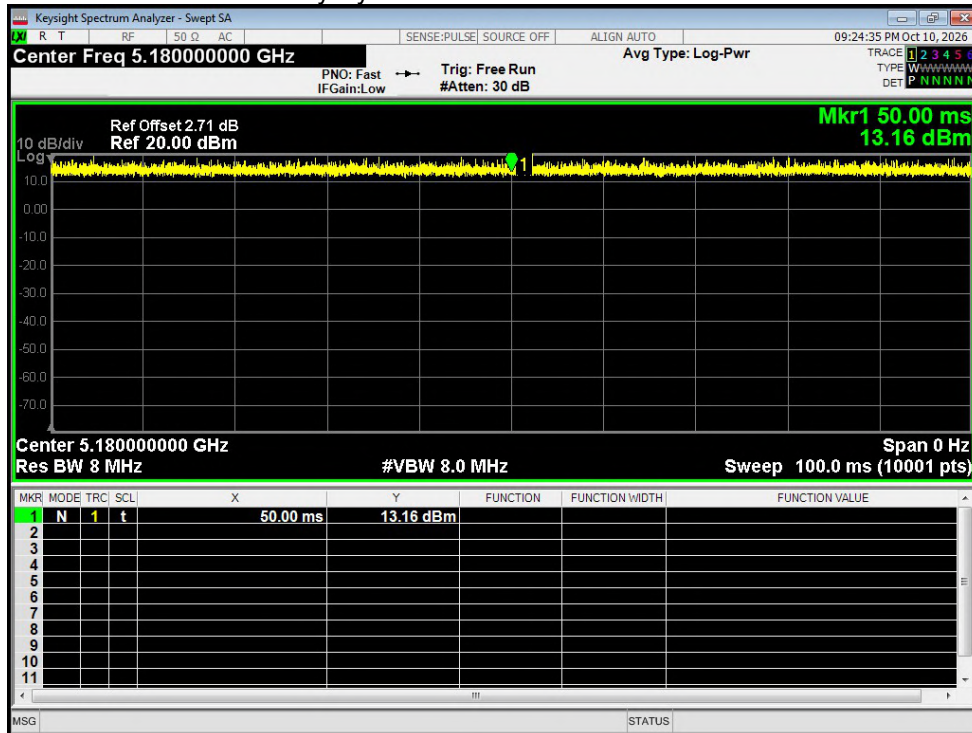
Duty Cycle NVNT a 5200MHz Ant1



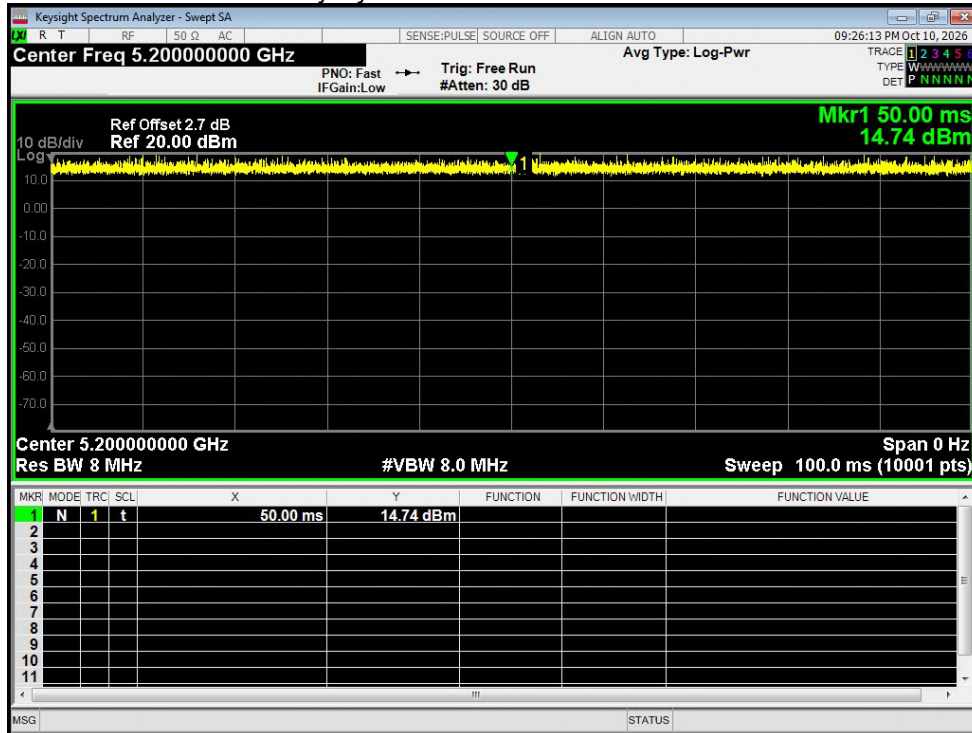
### Duty Cycle NVNT a 5240MHz Ant1



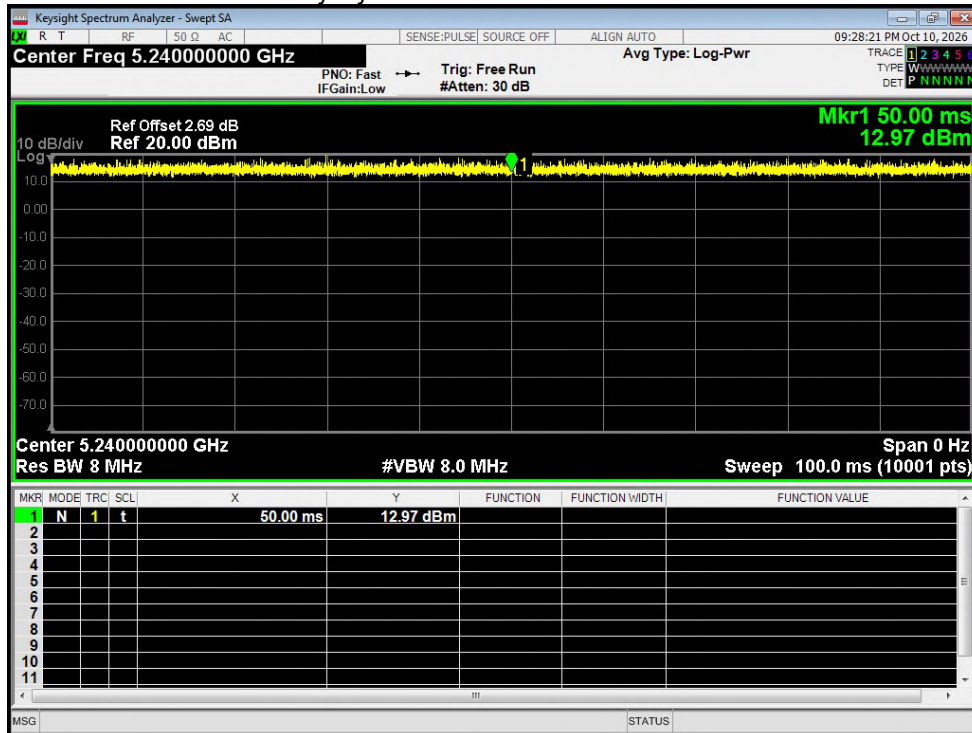
### Duty Cycle NVNT n20 5180MHz Ant1



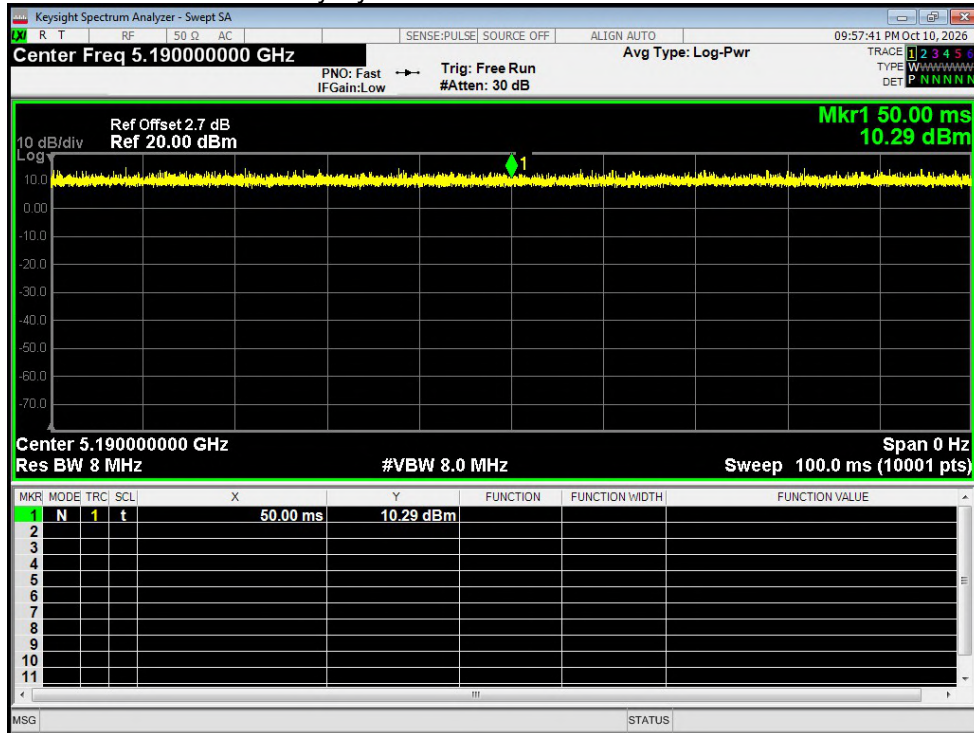
### Duty Cycle NVNT n20 5200MHz Ant1



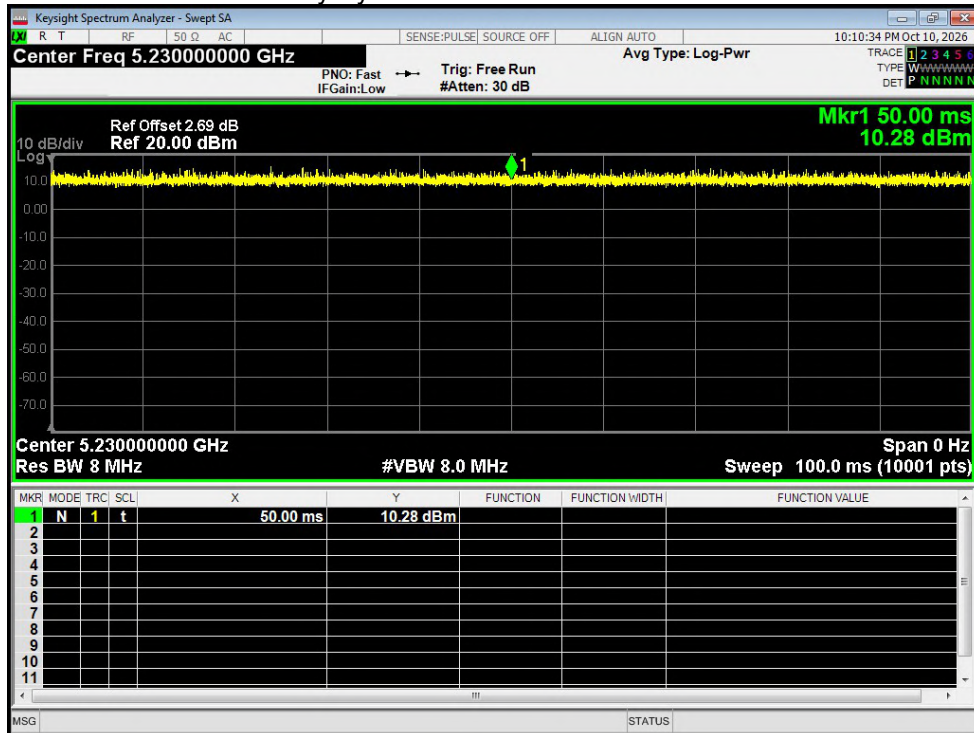
### Duty Cycle NVNT n20 5240MHz Ant1



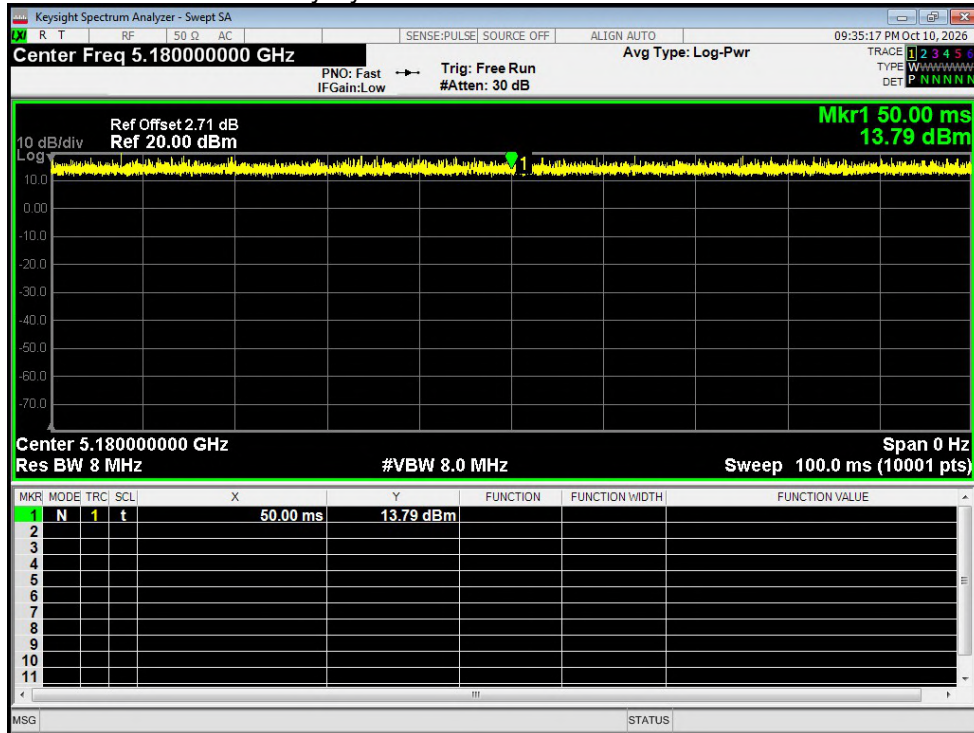
### Duty Cycle NVNT n40 5190MHz Ant1



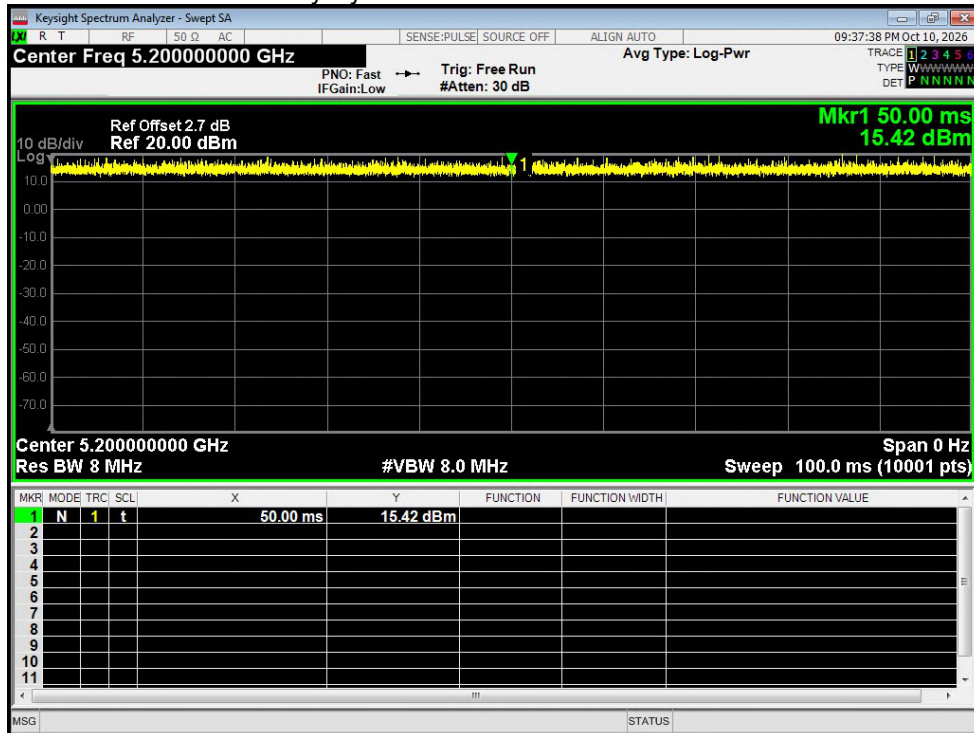
### Duty Cycle NVNT n40 5230MHz Ant1



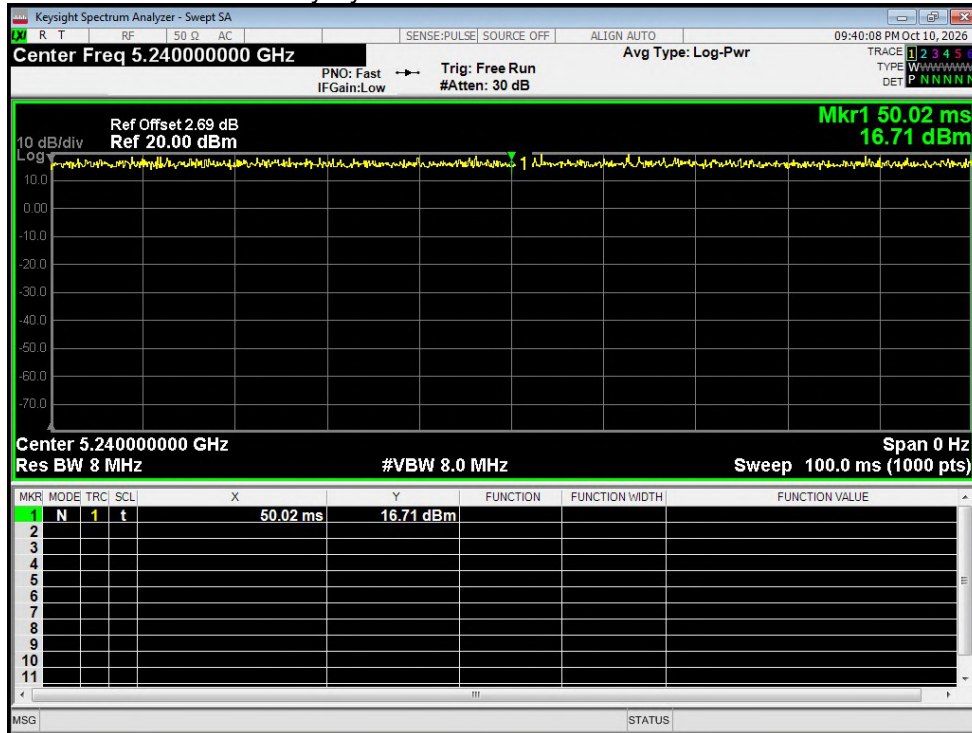
### Duty Cycle NVNT ac20 5180MHz Ant1



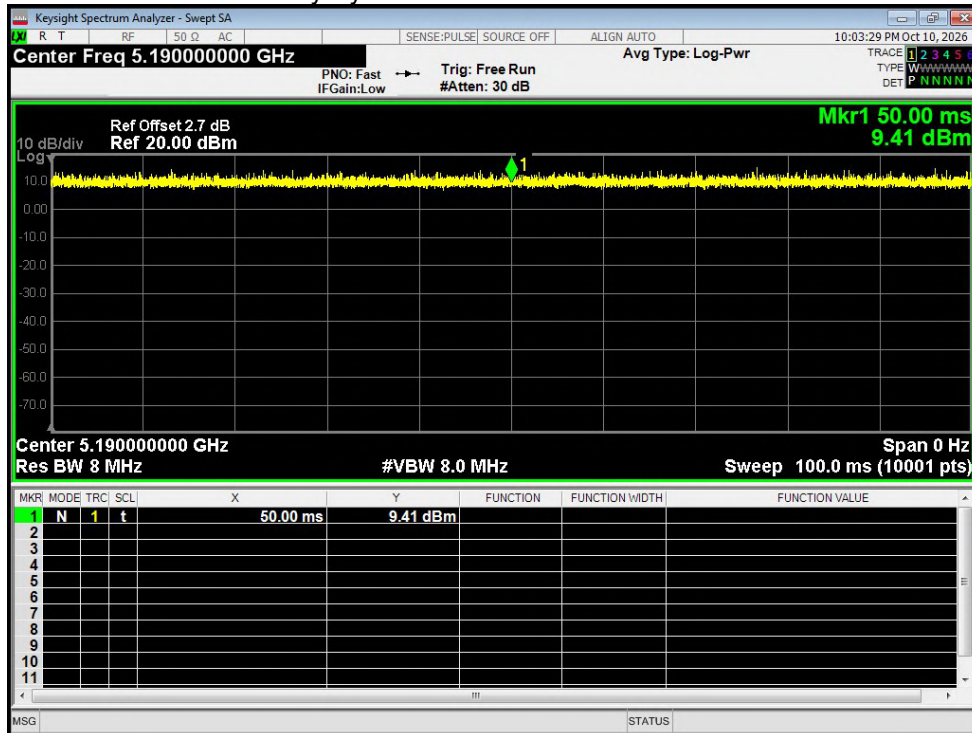
### Duty Cycle NVNT ac20 5200MHz Ant1



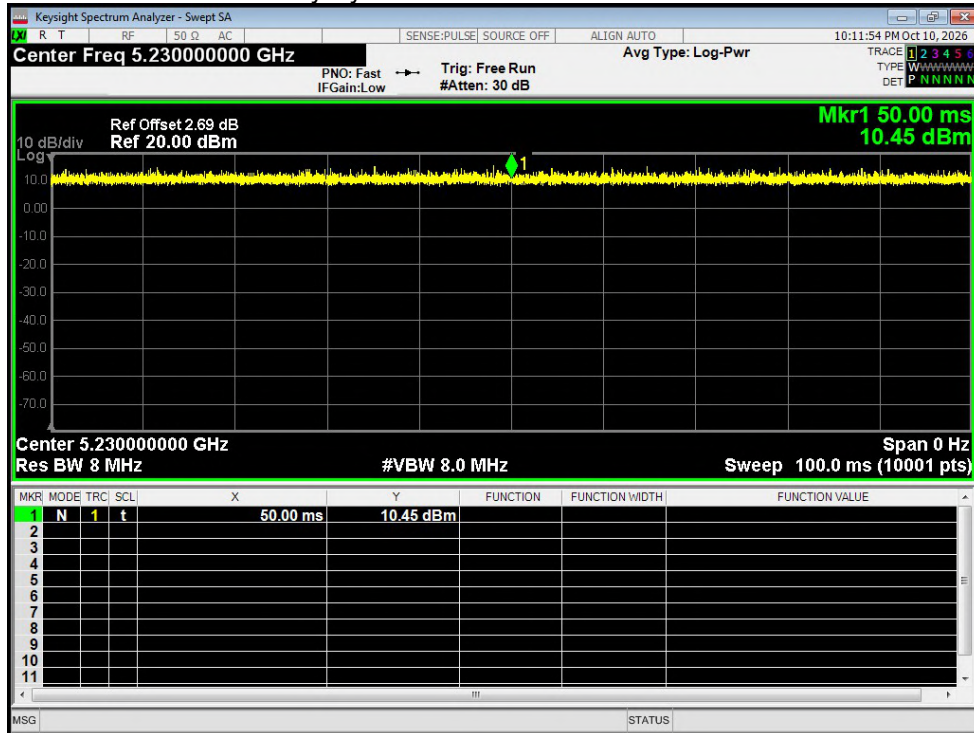
### Duty Cycle NVNT ac20 5240MHz Ant1



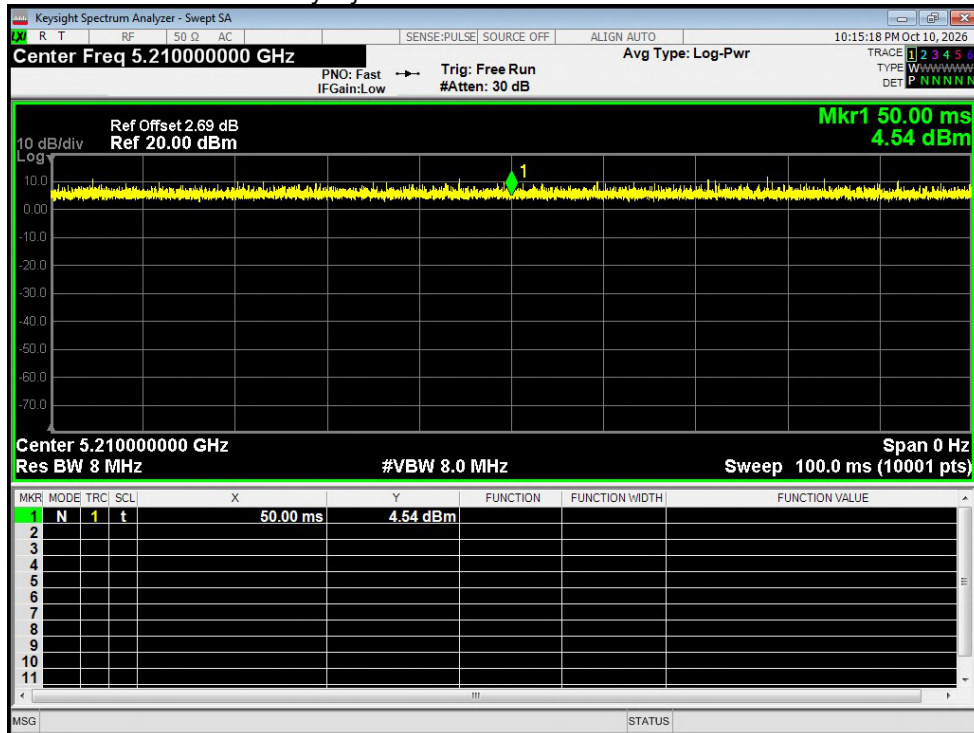
### Duty Cycle NVNT ac40 5190MHz Ant1



### Duty Cycle NVNT ac40 5230MHz Ant1

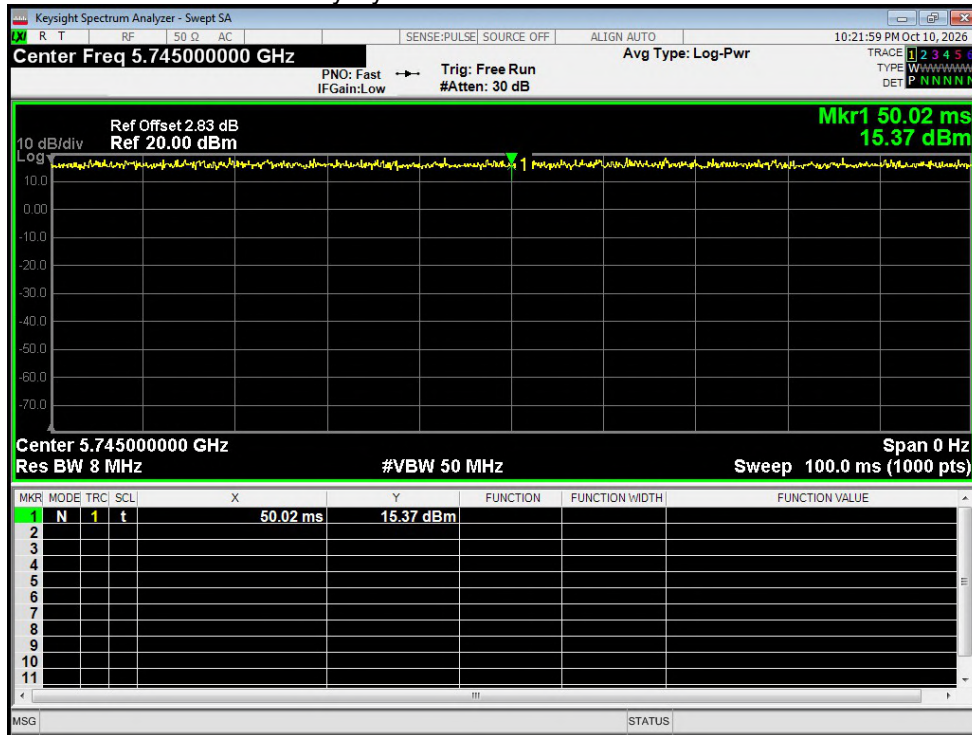


### Duty Cycle NVNT ac80 5210MHz Ant1

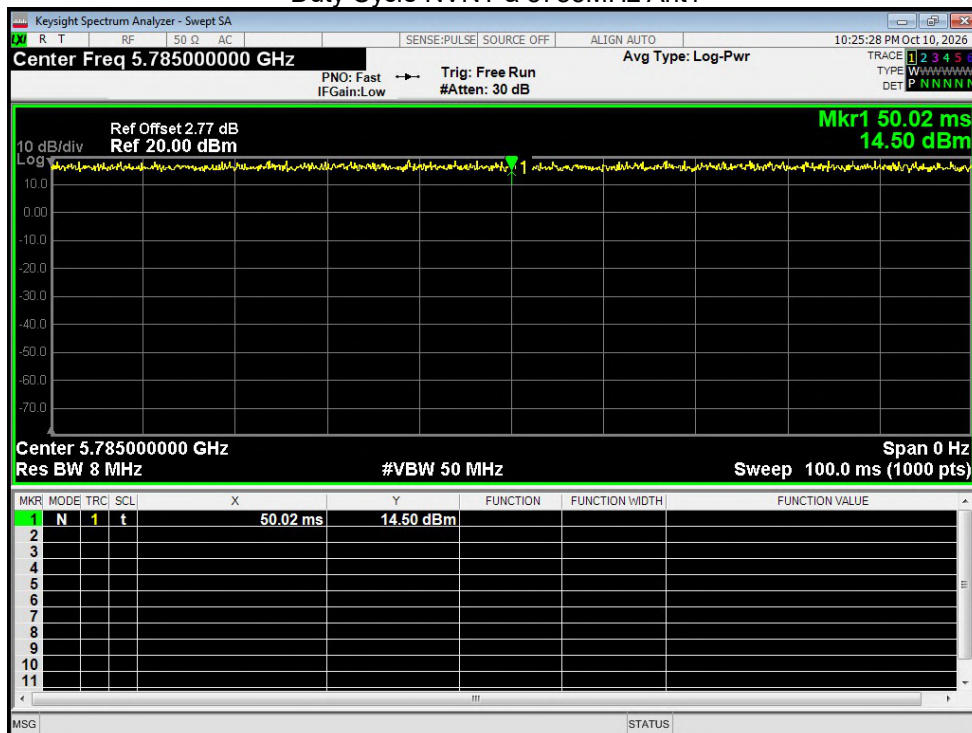


5745-5825 MHz

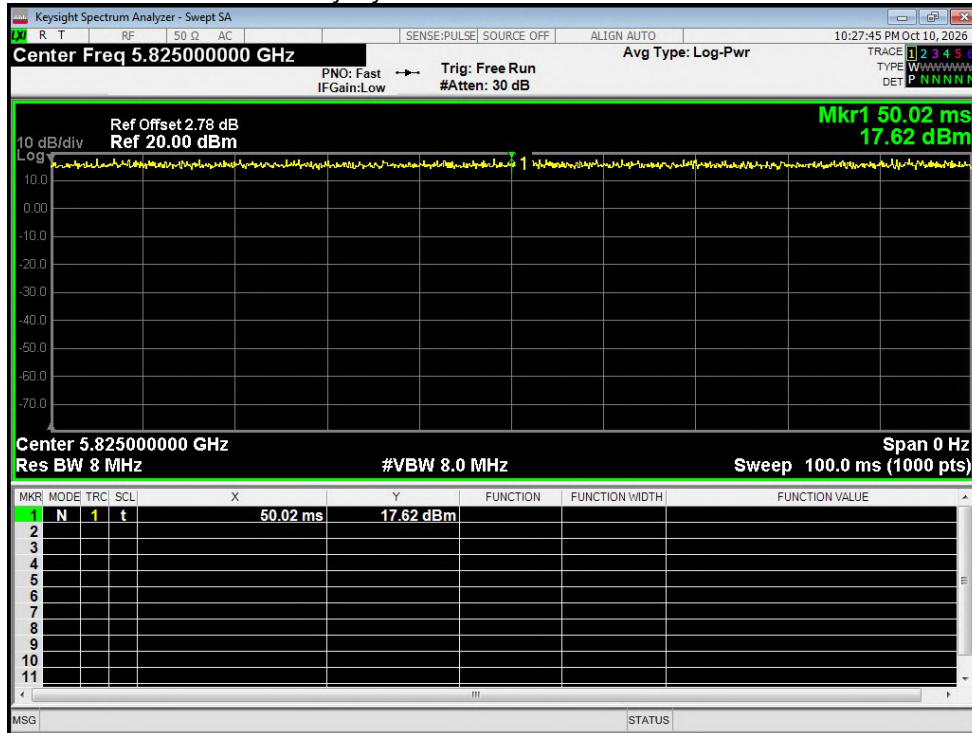
### Duty Cycle NVNT a 5745MHz Ant1



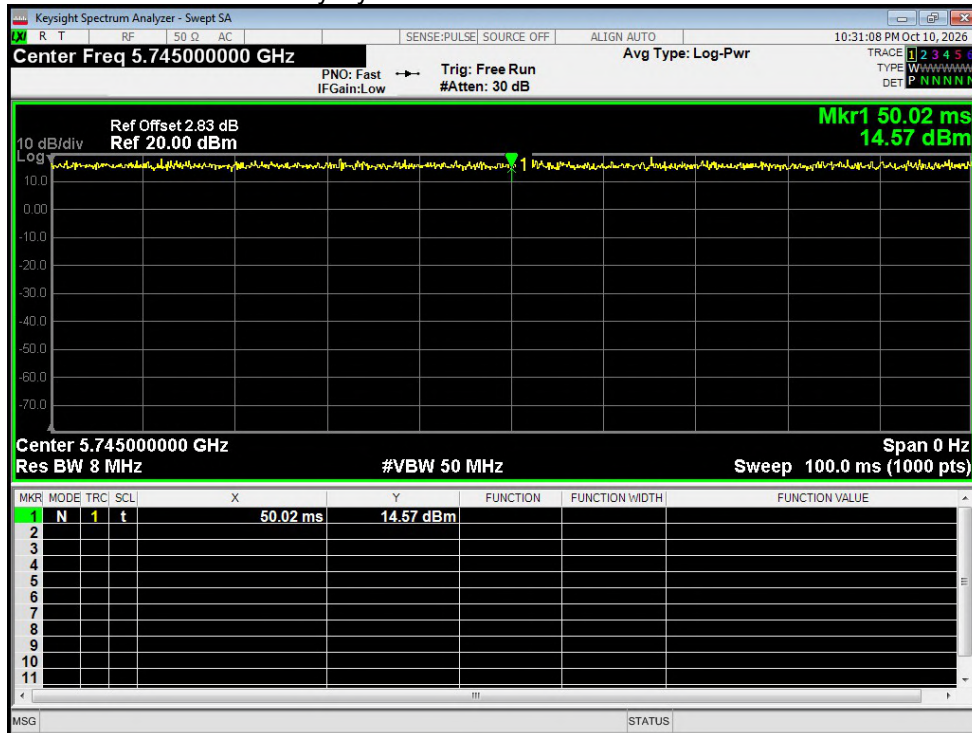
### Duty Cycle NVNT a 5785MHz Ant1



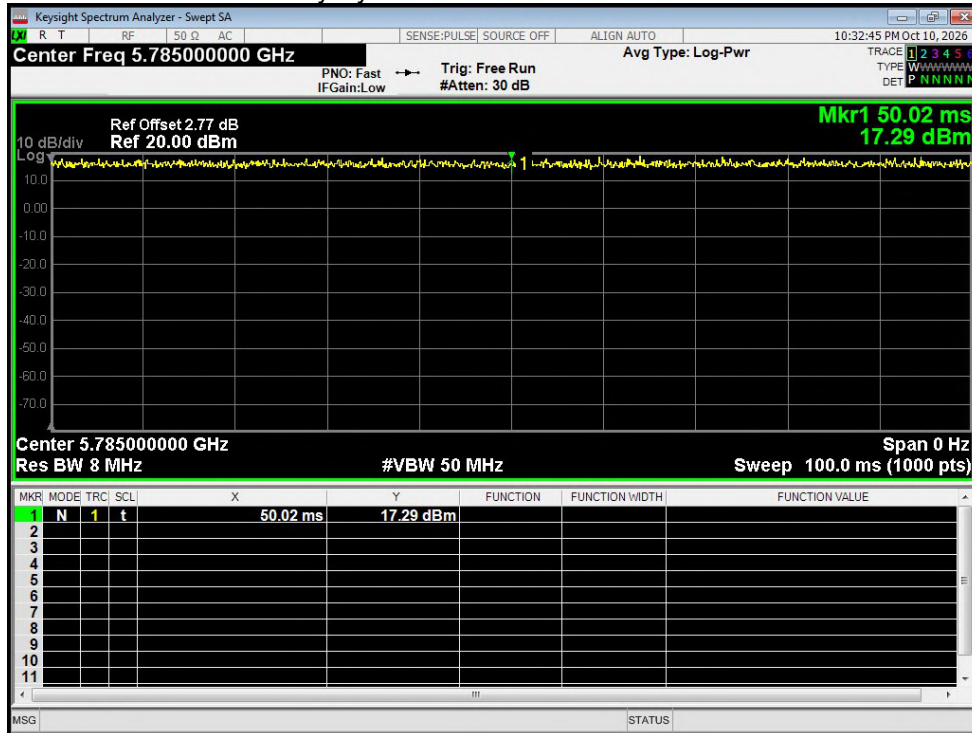
### Duty Cycle NVNT a 5825MHz Ant1



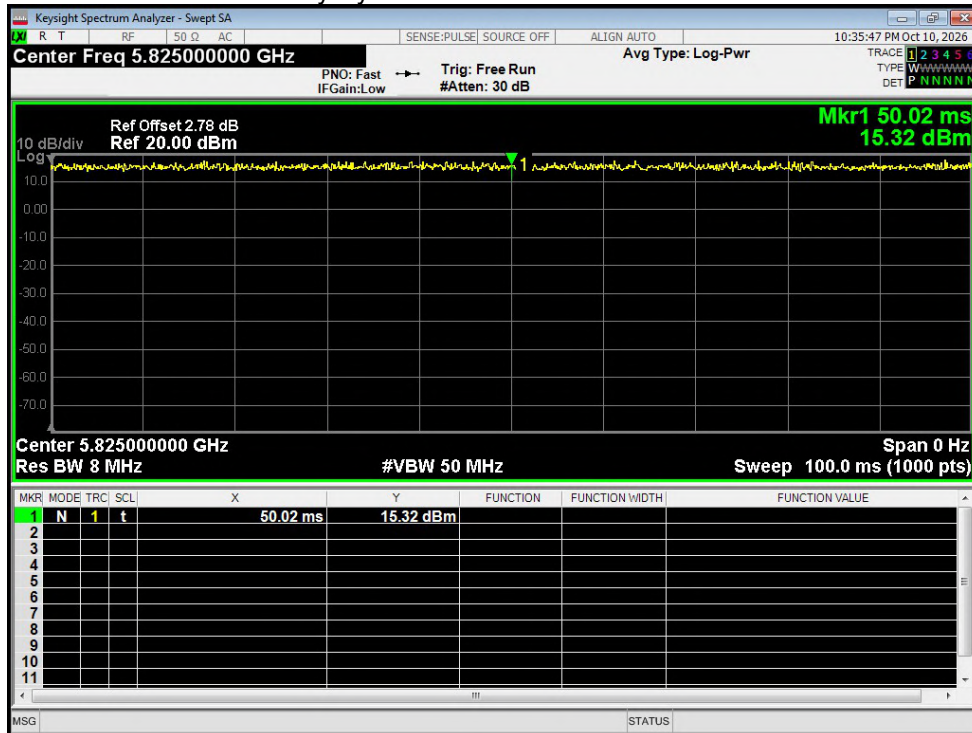
### Duty Cycle NVNT n20 5745MHz Ant1



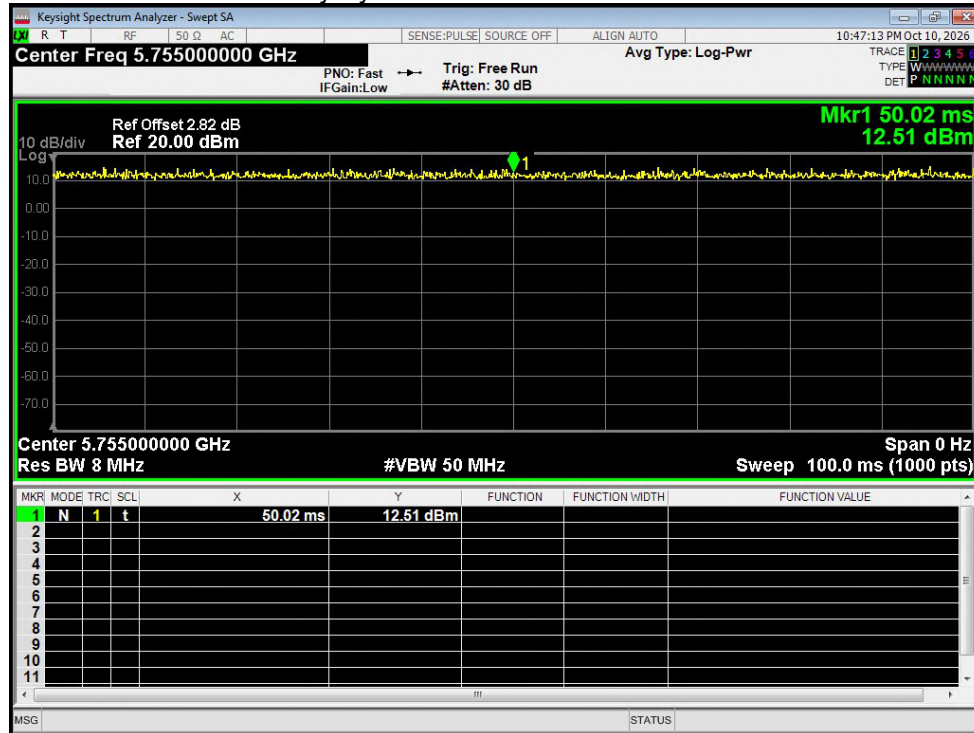
### Duty Cycle NVNT n20 5785MHz Ant1



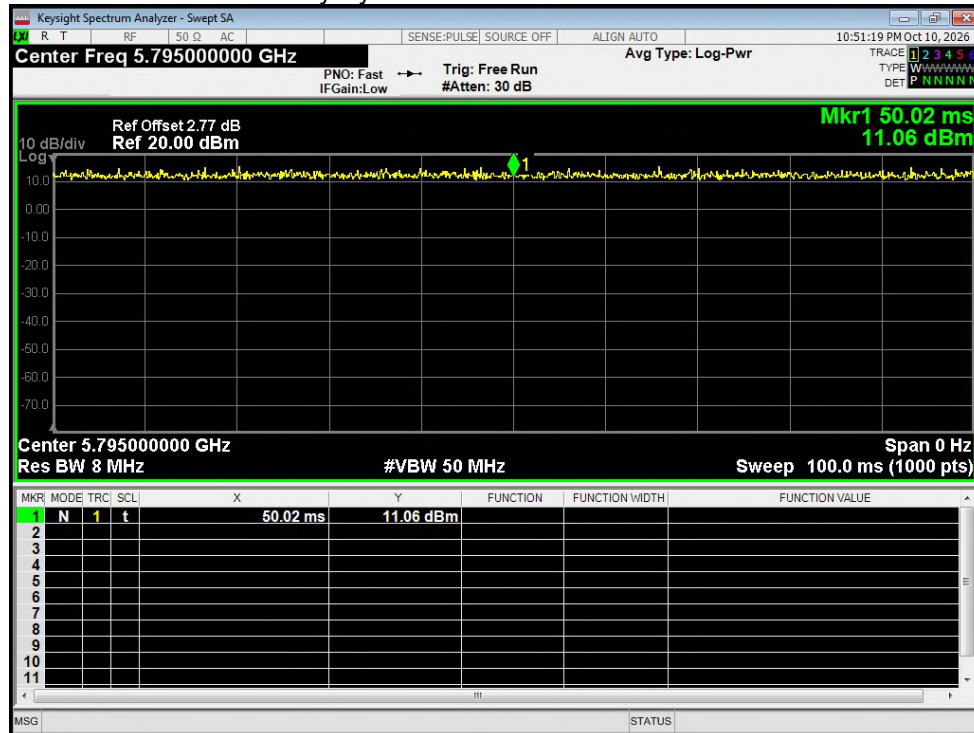
### Duty Cycle NVNT n20 5825MHz Ant1



### Duty Cycle NVNT n40 5755MHz Ant1

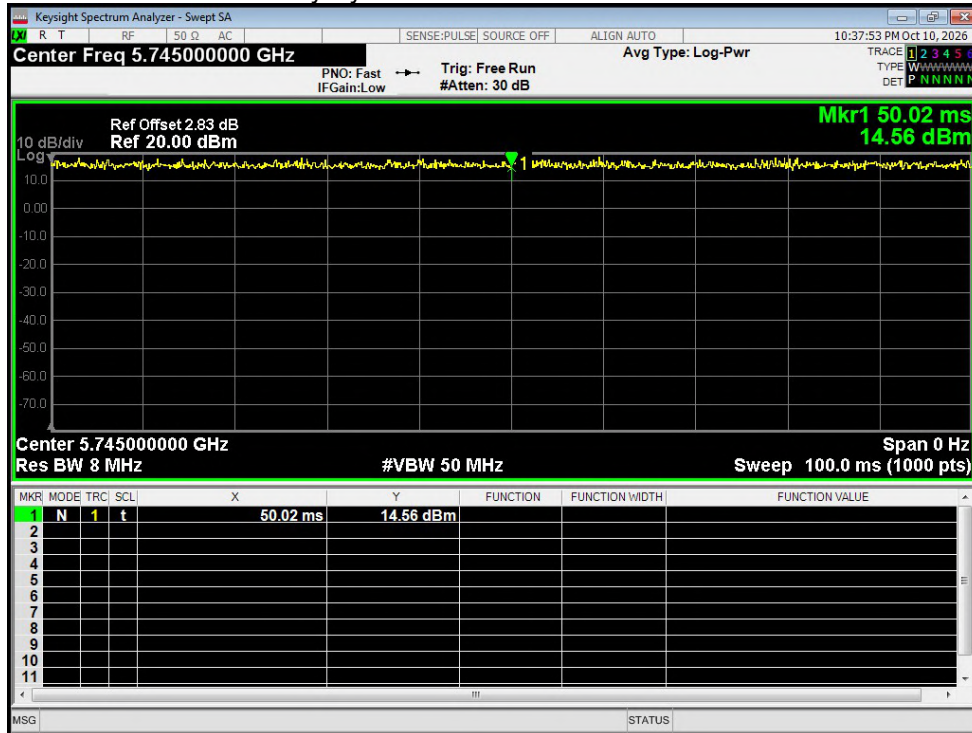


### Duty Cycle NVNT n40 5795MHz Ant1

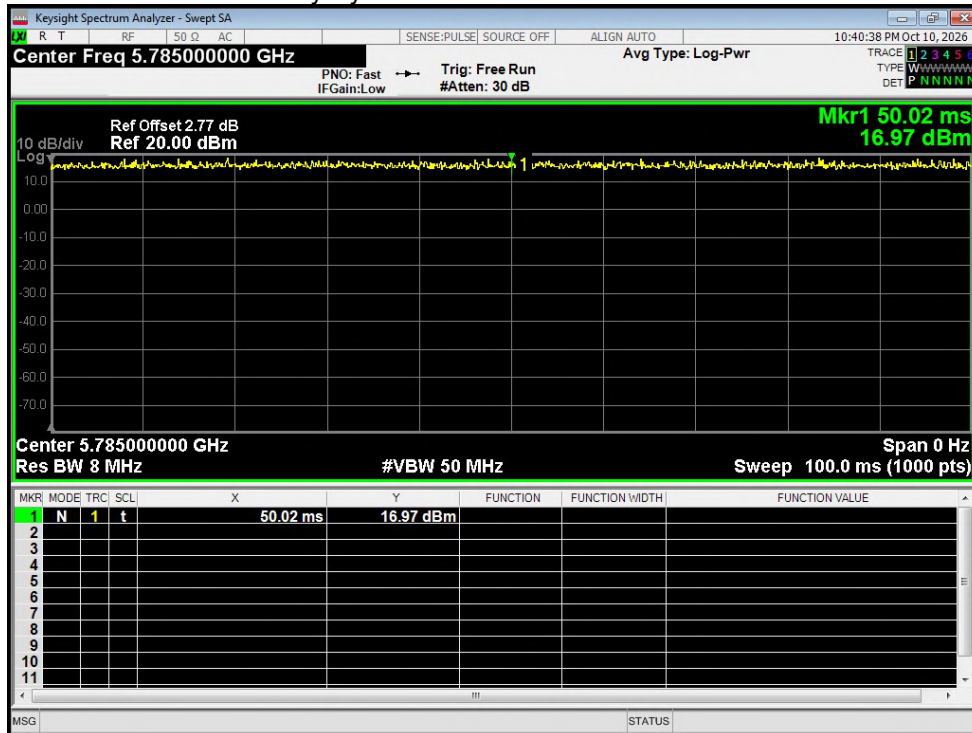




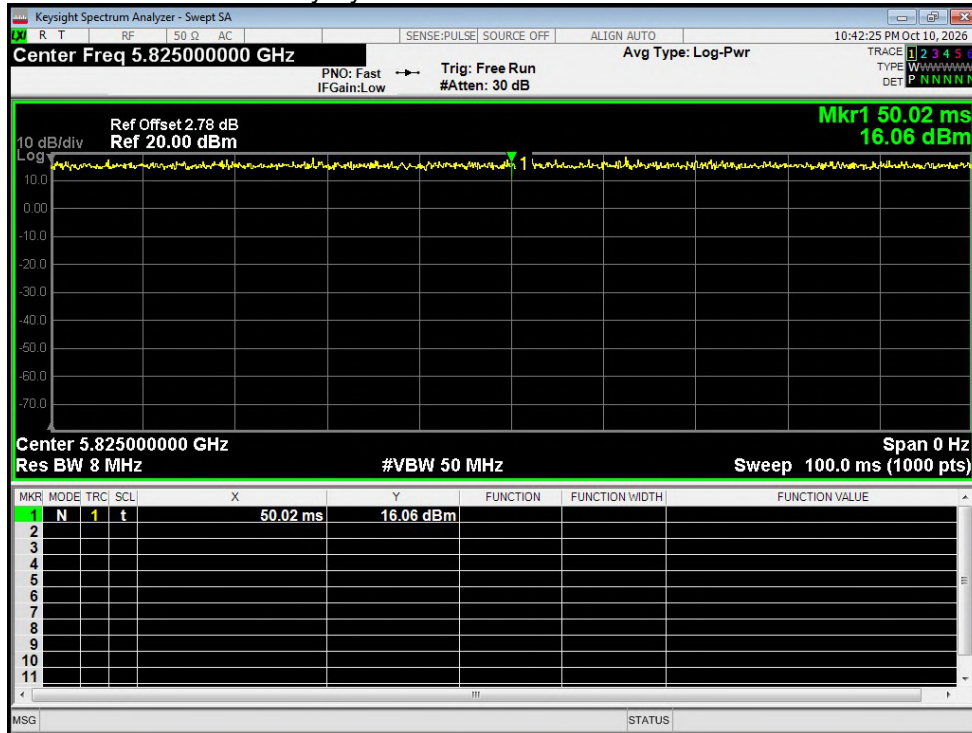
Duty Cycle NVNT ac20 5745MHz Ant1



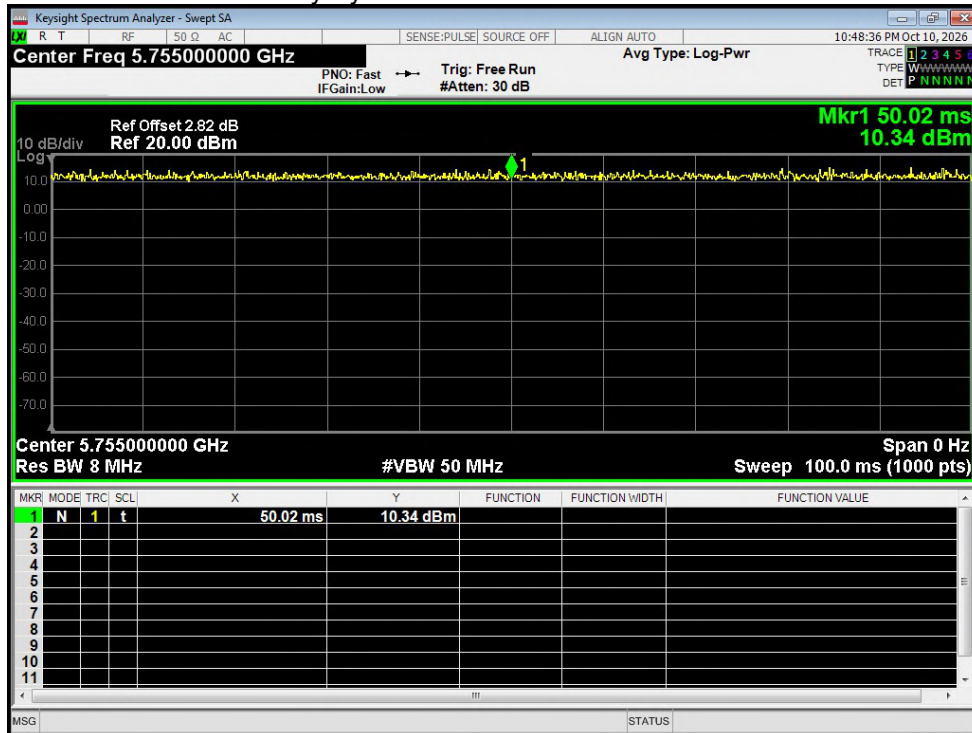
Duty Cycle NVNT ac20 5785MHz Ant1



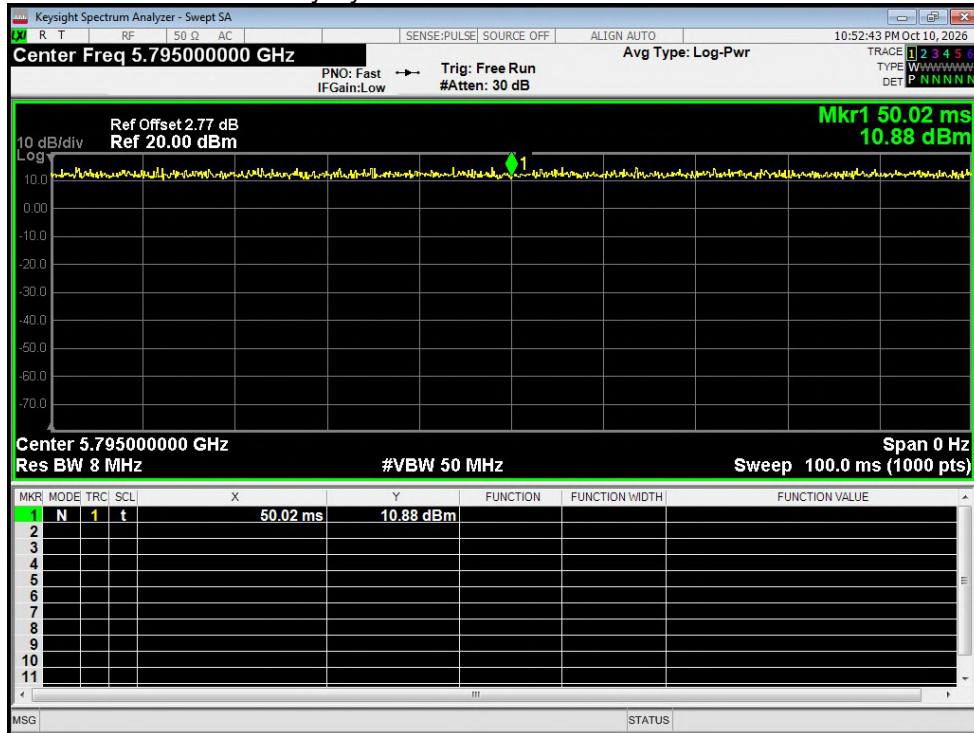
### Duty Cycle NVNT ac20 5825MHz Ant1



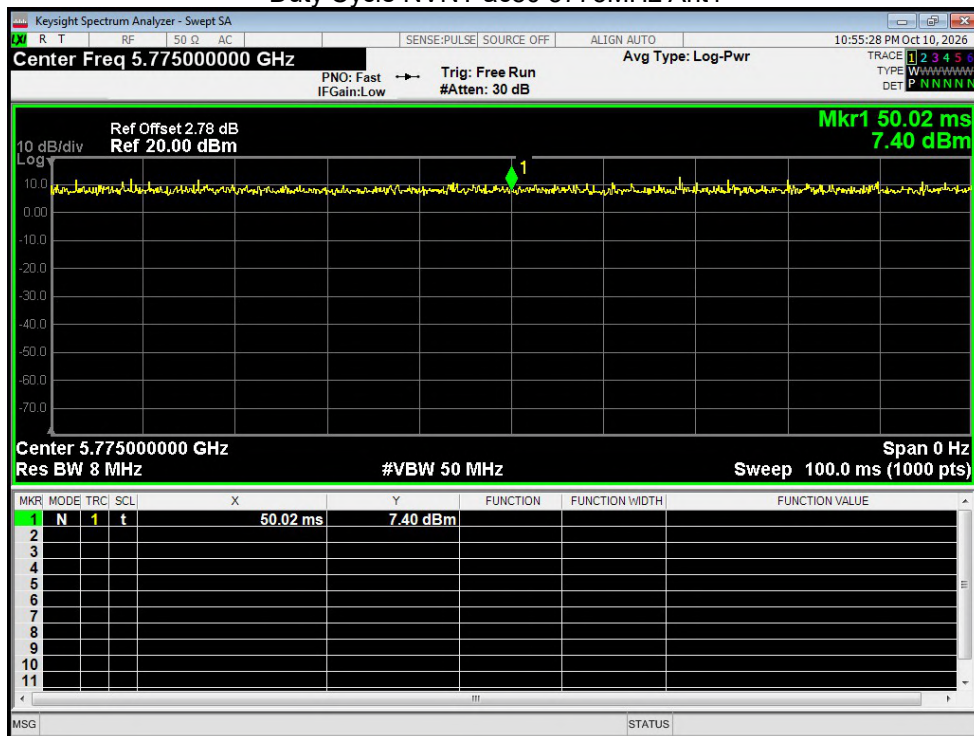
### Duty Cycle NVNT ac40 5755MHz Ant1



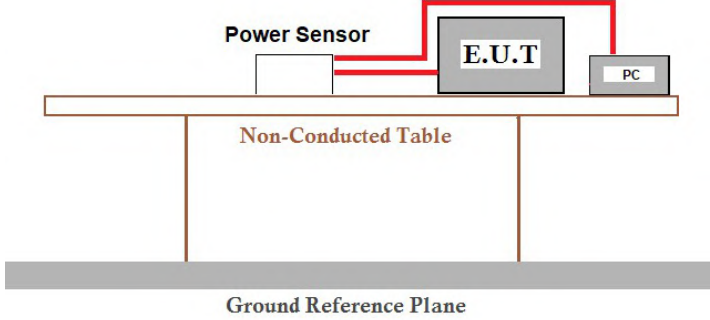
### Duty Cycle NVNT ac40 5795MHz Ant1



### Duty Cycle NVNT ac80 5775MHz Ant1



#### 4.4 Conducted Output Power

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Test Requirement: | 47CFR Part 15.407 (a)(1)/(a)(3)                                                                                                                                                                                                                                                                                                                                                                                                                |               |
| Test Method:      | KDB 789033 D02 General U-NII Test Procedures New Rules v02r01<br>ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 § 12.4.3.1                                                                                                                                                                                                                                                                                               |               |
| Limit:            | 5150-5250MHz : 250mW<br>5725~5850MHz : 1W                                                                                                                                                                                                                                                                                                                                                                                                      |               |
| Test setup:       |  <p>The diagram illustrates the test setup. A 'Power Sensor' is connected via red lines to an 'E.U.T.' (Equipment Under Test) and a 'PC'. Both the E.U.T. and the PC are placed on a 'Non-Conducted Table'. This table is supported by two vertical legs and sits on a 'Ground Reference Plane', which is represented by a thick grey bar at the bottom.</p> |               |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                               |               |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                               |               |
| Test environment: | Temp.: 24.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                  | Humid.: 53%RH |
| Test voltage:     | DC 14.8V from battery                                                                                                                                                                                                                                                                                                                                                                                                                          |               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |



## Measurement Result

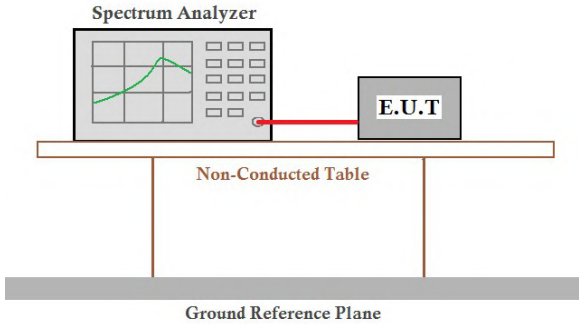
### 5180-5240MHz

| Test Mode  | Frequency | Correction Factor | Output power | Total Power | Result |
|------------|-----------|-------------------|--------------|-------------|--------|
|            | (MHz)     | (dB)              | (dBm)        | (dBm)       |        |
| 802.11a    | 5180      | 0                 | 14.44        | 14.44       | Pass   |
|            | 5200      | 0                 | 14.28        | 14.28       | Pass   |
|            | 5240      | 0                 | 14.03        | 14.03       | Pass   |
| 802.11n20  | 5180      | 0                 | 14.18        | 14.18       | Pass   |
|            | 5200      | 0                 | 14.18        | 14.18       | Pass   |
|            | 5240      | 0                 | 14.01        | 14.01       | Pass   |
| 802.11n40  | 5190      | 0                 | 13.16        | 13.16       | Pass   |
|            | 5230      | 0                 | 13.18        | 13.18       | Pass   |
| 802.11ac20 | 5180      | 0                 | 14.11        | 14.11       | Pass   |
|            | 5200      | 0                 | 14.23        | 14.23       | Pass   |
|            | 5240      | 0                 | 14.00        | 14.00       | Pass   |
| 802.11ac40 | 5190      | 0                 | 13.13        | 13.13       | Pass   |
|            | 5230      | 0                 | 13.23        | 13.23       | Pass   |
| 802.11ac80 | 5210      | 0                 | 12.96        | 12.96       | Pass   |

### 5745-5825 MHz

| Test Mode  | Frequency | Correction Factor | Output power | Total Power | Result |
|------------|-----------|-------------------|--------------|-------------|--------|
|            | (MHz)     | (dB)              | (dBm)        | (dBm)       |        |
| 802.11a    | 5745      | 0                 | 14.76        | 14.76       | Pass   |
|            | 5785      | 0                 | 14.25        | 14.25       | Pass   |
|            | 5825      | 0                 | 13.71        | 13.71       | Pass   |
| 802.11n20  | 5745      | 0                 | 14.40        | 14.40       | Pass   |
|            | 5785      | 0                 | 14.11        | 14.11       | Pass   |
|            | 5825      | 0                 | 13.66        | 13.66       | Pass   |
| 802.11n40  | 5755      | 0                 | 13.33        | 13.33       | Pass   |
|            | 5795      | 0                 | 12.90        | 12.90       | Pass   |
| 802.11ac20 | 5745      | 0                 | 14.26        | 14.26       | Pass   |
|            | 5785      | 0                 | 14.11        | 14.11       | Pass   |
|            | 5825      | 0                 | 14.38        | 14.38       | Pass   |
| 802.11ac40 | 5755      | 0                 | 13.13        | 13.13       | Pass   |
|            | 5795      | 0                 | 12.96        | 12.96       | Pass   |
| 802.11ac80 | 5210      | 0                 | 13.18        | 13.18       | Pass   |

#### 4.5 Occupy Bandwidth

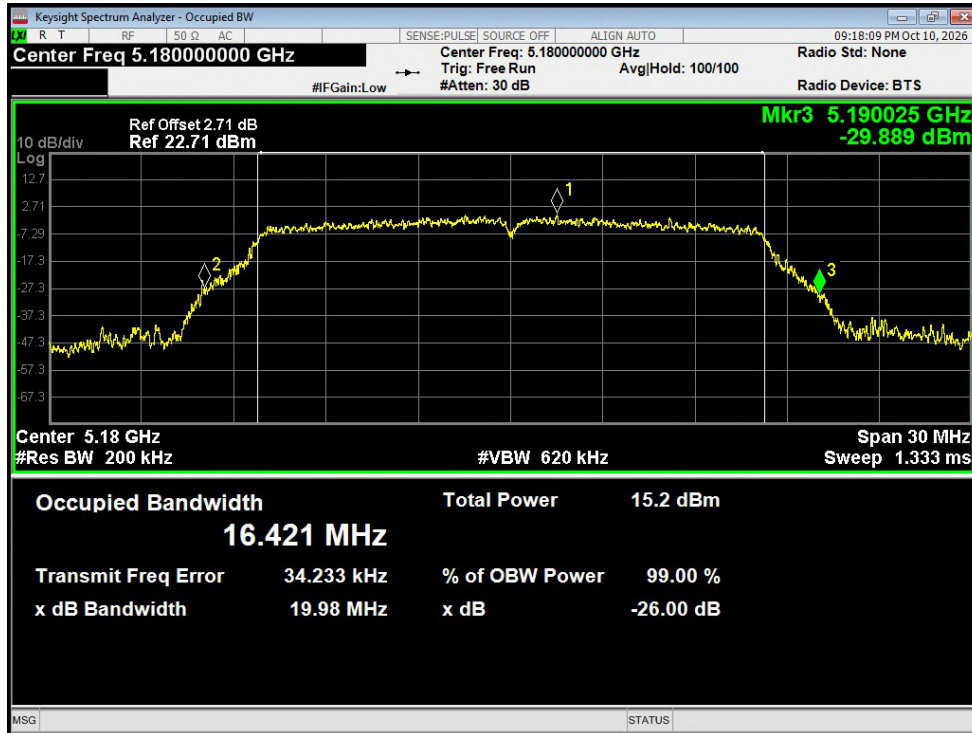
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Test Requirement: | 47CFR Part 15.407(a)(12)&15.407(e),                                                                                                                                                                                                                                                                                                                                                                                                                       |               |
| Test Method:      | KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024§12.5                                                                                                                                                                                                                                                                                                                  |               |
| Limit:            | <p>Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz.</p> <p>Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.</p> |               |
| Test setup:       |                                                                                                                                                                                                                                                                                                                                                                        |               |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                          |               |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                          |               |
| Test environment: | Temp.: 24.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                             | Humid.: 53%RH |
| Test voltage:     | DC 14.8V from battery                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |

#### Measurement Result

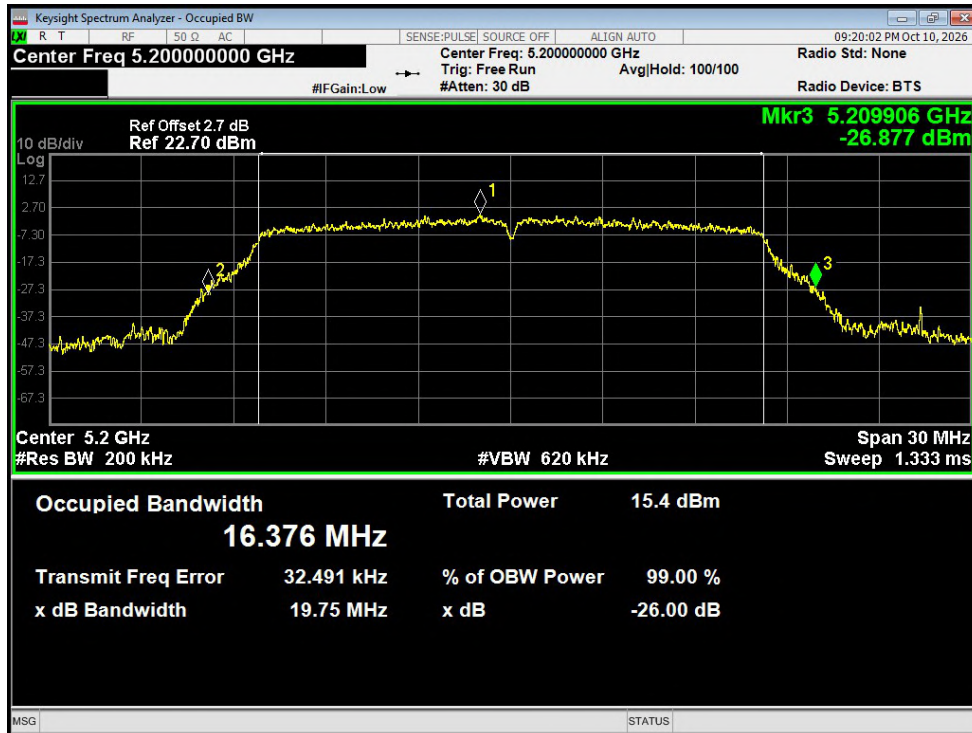
5180-5240MHz

| Condition | Mode | Frequency (MHz) | -26 dB Bandwidth (MHz) | Verdict |
|-----------|------|-----------------|------------------------|---------|
| NVNT      | a    | 5180            | 19.98                  | Pass    |
| NVNT      | a    | 5200            | 19.75                  | Pass    |
| NVNT      | a    | 5240            | 19.68                  | Pass    |
| NVNT      | n20  | 5180            | 20.03                  | Pass    |
| NVNT      | n20  | 5200            | 20.32                  | Pass    |
| NVNT      | n20  | 5240            | 20.16                  | Pass    |
| NVNT      | n40  | 5190            | 40.41                  | Pass    |
| NVNT      | n40  | 5230            | 40.26                  | Pass    |
| NVNT      | ac20 | 5180            | 20.02                  | Pass    |
| NVNT      | ac20 | 5200            | 20.13                  | Pass    |
| NVNT      | ac20 | 5240            | 19.92                  | Pass    |
| NVNT      | ac40 | 5190            | 40.19                  | Pass    |
| NVNT      | ac40 | 5230            | 40.41                  | Pass    |
| NVNT      | ac80 | 5210            | 79.99                  | Pass    |

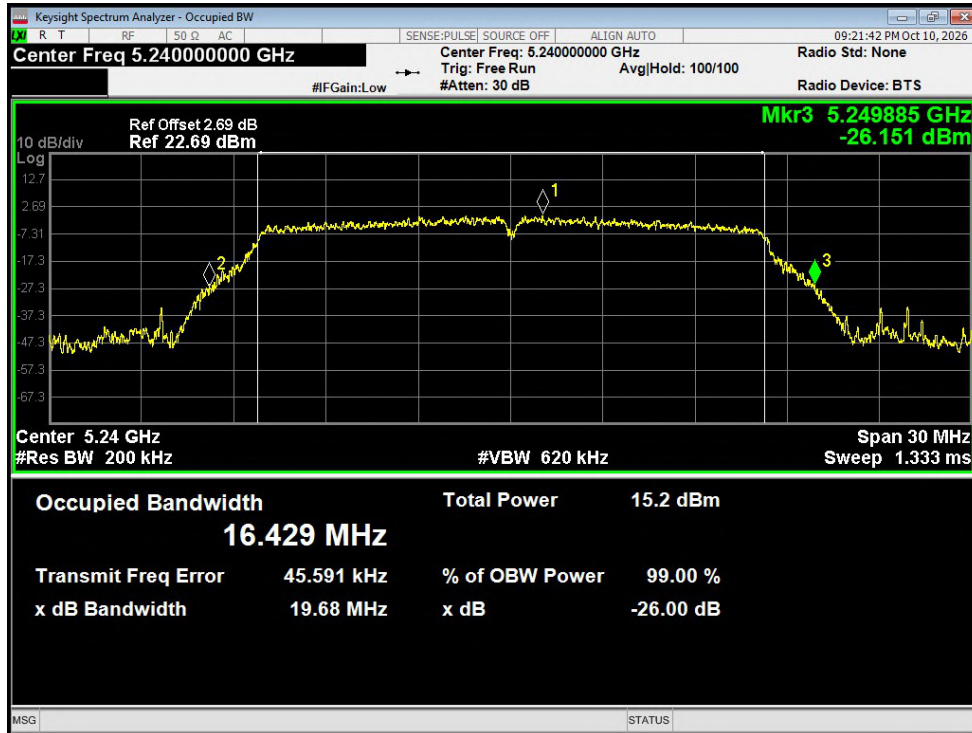
-26dB Bandwidth NVNT a 5180MHz Ant1



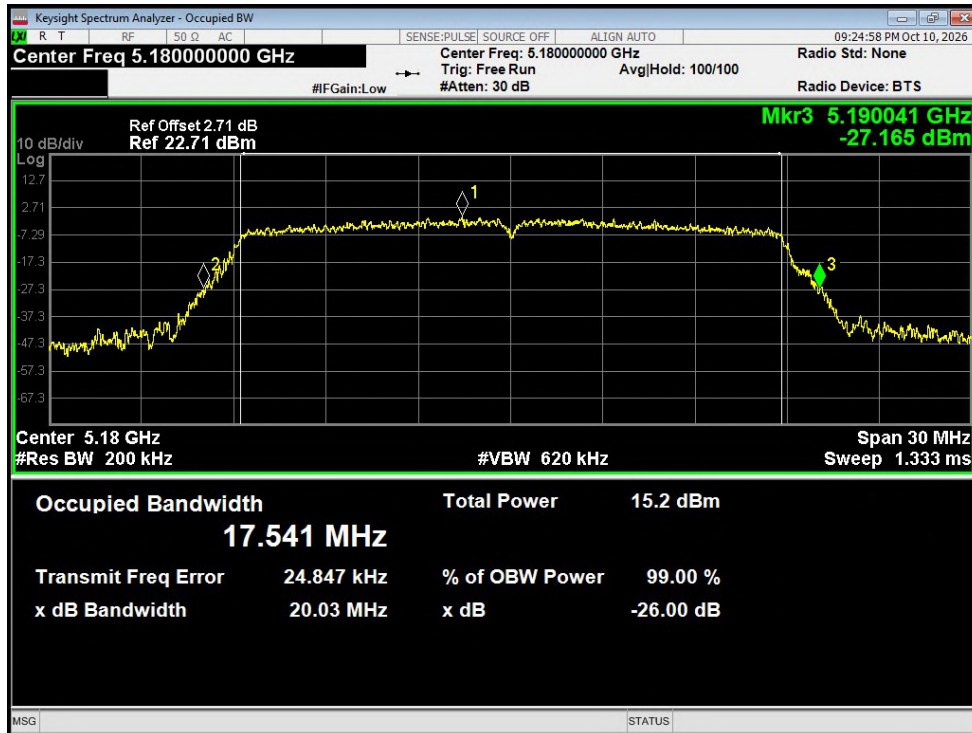
-26dB Bandwidth NVNT a 5200MHz Ant1



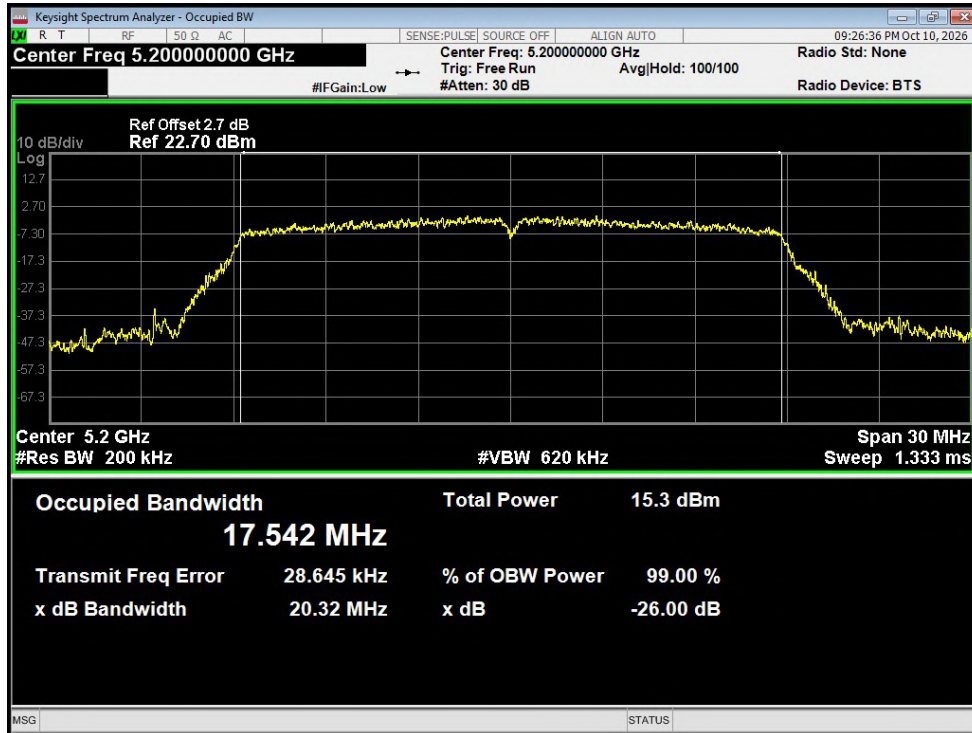
-26dB Bandwidth NVNT a 5240MHz Ant1



-26dB Bandwidth NVNT n20 5180MHz Ant1



-26dB Bandwidth NVNT n20 5200MHz Ant1



-26dB Bandwidth NVNT n20 5240MHz Ant1

