



Engineering Solutions & Electromagnetic Compatibility Services

FCC & ISCED Class 2 Permissive Change Report

Harris Corporation  
221 Jefferson Ridge Parkway  
Lynchburg, VA 24501

Model: XL-200P Multiband Portable Land Mobile Radio

FCC ID: OWDTR-0133-E  
IC: 3636B-0133

August 22, 2018

| Standards Referenced for this Report |                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------|
| Part 2: 2017                         | Frequency Allocations and Radio Treaty Matters; General Rules and Regulations                     |
| Part 90: 2017                        | Private Land Mobile Radio Services                                                                |
| RSS-119 Issue 12 2015                | Land Mobile and Fixed Equipment Operating in the Frequency Range 27.41-960 MHz                    |
| RSS-Gen Issue 5 2018                 | General Requirements for Compliance of Radio Apparatus                                            |
| ANSI C63.26-2015                     | American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services |

| Frequency Range (MHz) | Rated Transmit Power (W) (Conducted) | Frequency Tolerance (ppm) | Mode            | Emission Designator (Transmit Mode) |
|-----------------------|--------------------------------------|---------------------------|-----------------|-------------------------------------|
| 806-816, 851-861      | 0.5 – 3.0                            | 0.6                       | HVD-TDMA SMR    | 18K5F1W                             |
| 806-816, 851-861      | 0.5 – 3.0                            | 0.6                       | HVD-TDMA NPSPAC | 12K9F1W                             |

Report Prepared By: Daniel Baltzell

Document Number: 2018103

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*These tests are accredited and meet the requirements of ISO/IEC 17025 as verified by ANAB. Refer to certificate and scope of accreditation AT-1445.*

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## 1 Test Result Summary

| Test                                    | FCC Reference  | ISED Reference | Result   |
|-----------------------------------------|----------------|----------------|----------|
| Spurious Emissions at Antenna Terminals | 2.1051         | RSS-119 5.8    | Complies |
| Occupied Bandwidth/Emission Masks       | 2.1049, 90.210 | RSS-119 5.5    | Complies |

## 2 General Information

The following Class 2 Permissive Change Report is prepared on behalf of Harris Corporation in accordance with the Federal Communications Commission and ISED rules and regulations. The Equipment Under Test (EUT) was the XL-200P Multiband Portable Land Mobile Radio; FCC ID: OWDTR-0133-E, IC: 3636B-0133.

The purpose of this Class 2 Permissive Change is to add emission designator 18K5F1W (HVD-TDMA SMR) and 12K9F1W (HVD-TDMA NPSPAC).

All measurements contained in this application were conducted in accordance with the applicable sections of FCC Rules and Regulations CFR 47 Parts 2 and 90. Calibration checks are performed regularly on the instruments, and all accessories including high pass filter, coaxial attenuator, preamplifier and cables.

### 2.1 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the parking lot of Rhein Tech Laboratories, Inc. 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report submitted to, and approved by, the Federal Communications Commission to perform AC line conducted and radiated emissions testing.

### 2.2 Related Submittal(s)/Grant(s)

The original FCC and ISED certifications were granted March 12, 2015 and July 21, 2015 respectively. FCC and ISED Class 2 permissive changes were granted August 7, 2015 and August 10, 2015, and January 27, 2016 and January 20, 2016 respectively. The Harris model numbers included in this ISED family certification are XL-PFM1M, XL-PFM1Y, XL-PFM1B, XL-PFM1G, XL-PPM1M, XL-PPM1Y, XL-PPM1B, and XL-PPM1G, as well as XL-PFM1P and XL-PPM1P certified November 27, 2017.

### 2.3 Grant Notes

Power continuously variable from 0.5 W to 3 W.

### 3 Tested System Details

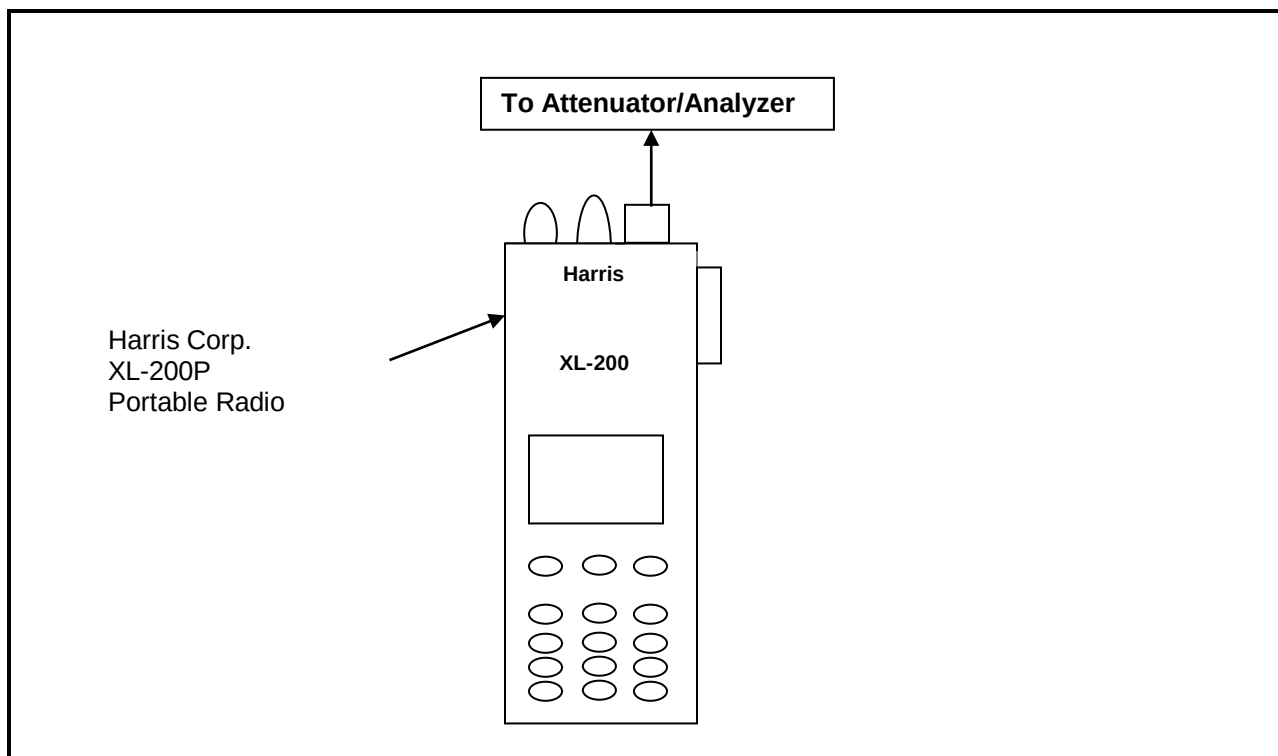
The test sample was received on July 25, 2018. Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable.

The device was programmed for multiple test patterns; commands using the HVD-TDMA mode were used.

**Table 3-1: Equipment Under Test (EUT)**

| Part                        | Manufacturer       | Model               | PN/SN        | FCC ID       | RTL Bar Code |
|-----------------------------|--------------------|---------------------|--------------|--------------|--------------|
| XL-200P Radio               | Harris Corporation | 14036-1000-01 Rev G | A40302000966 | OWDTR-0133-E | 23016        |
| Li-Ion Rechargeable Battery | Harris Corporation | 14035-4010-05 Rev   | 010661       | N/A          | 23071        |

**Figure 3-1: Configuration of Tested System**



#### 4 FCC Rules and Regulations §2.1051: Spurious Emissions at Antenna Terminals; §90.210: Emissions Masks; RSS-119 §4.2: Transmitter Unwanted Emissions

##### 4.1 Test Procedure

The transmitter is terminated with a 50  $\Omega$  load and interfaced with a signal analyzer. The device uses digital modulation modulated to its maximum extent using a pseudo random data sequence.

##### 4.2 Test Data

Frequency range of measurement per Part 2.1057: 9 kHz to 10xFc.

Limit:  $P(\text{dBm}) - (43 + 10 \times \text{LOG } P(\text{W}))$

The worst case (unwanted emissions) channels are shown. The magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

No Emissions were found greater than 20 dB below the limit.

**Table 4-1: Test Equipment Used for Testing Spurious Emissions**

| RTL Asset # | Manufacturer    | Model         | Part Type               | Serial Number | Calibration Due Date |
|-------------|-----------------|---------------|-------------------------|---------------|----------------------|
| 901581      | Rohde & Schwarz | FSU           | Spectrum Analyzer       | 1166.1660.50  | 4/26/21              |
| 901724      | Weinschel Corp  | 48-40-34      | Attenuator, 40 dB, 100W | CJ8921        | 8/1/19               |
| 901128      | Par Electronics | 806-902 (25W) | UHF Notch Filter        | N/A           | 8/21/18              |

##### Test Personnel:

Daniel Baltzell  
EMC Test Engineer



Signature

August 2, 2018  
Date of Test

## 5 FCC Rules and Regulations §2.1049(c)(1); §90.210; RSS-119 §5.8: Occupied Bandwidth

### 5.1 Test Procedure

Notes: FCC 90.210 specifies masks G and H for the 800 MHz band operation of this equipment; RSS-119 specifies Mask G; all data is presented on the following pages.

#### FCC §90.210

| Applicable Emission Masks          |                                               |                                                  |
|------------------------------------|-----------------------------------------------|--------------------------------------------------|
| Frequency Band (MHz)               | Mask for Equipment with Audio Low Pass Filter | Mask for Equipment without Audio Low Pass Filter |
| Below 25 <sup>1</sup> .....        | A or B                                        | A or C                                           |
| 25–50.....                         | B                                             | C                                                |
| 72–76.....                         | B                                             | C                                                |
| 150–174 <sup>2</sup> .....         | B, D, or E                                    | C, D, or E                                       |
| 150 Paging-only .....              | B                                             | C                                                |
| 220–222 .....                      | F                                             | F                                                |
| 421–512 <sup>2</sup> .....         | B, D, or E                                    | C, D, or E                                       |
| 450 Paging-only .....              | B                                             | G                                                |
| 806–809/851–854 .....              | B                                             | H                                                |
| 809–824/854–869 <sup>3</sup> ..... | B                                             | G                                                |
| 896–901/935–940 .....              | I                                             | J                                                |
| 902–928 .....                      | K                                             | K                                                |
| 929–930 .....                      | B                                             | G                                                |
| 4940–4990 MHz .....                | L or M                                        | L or M                                           |
| 5850–5925 <sup>4</sup> .....       |                                               |                                                  |
| All other bands                    | B                                             | C                                                |

<sup>1</sup> Equipment using single sideband J3E emission must meet the requirements of Emission Mask A. Equipment using other emissions must meet the requirements of Emission Mask B or C, as applicable.

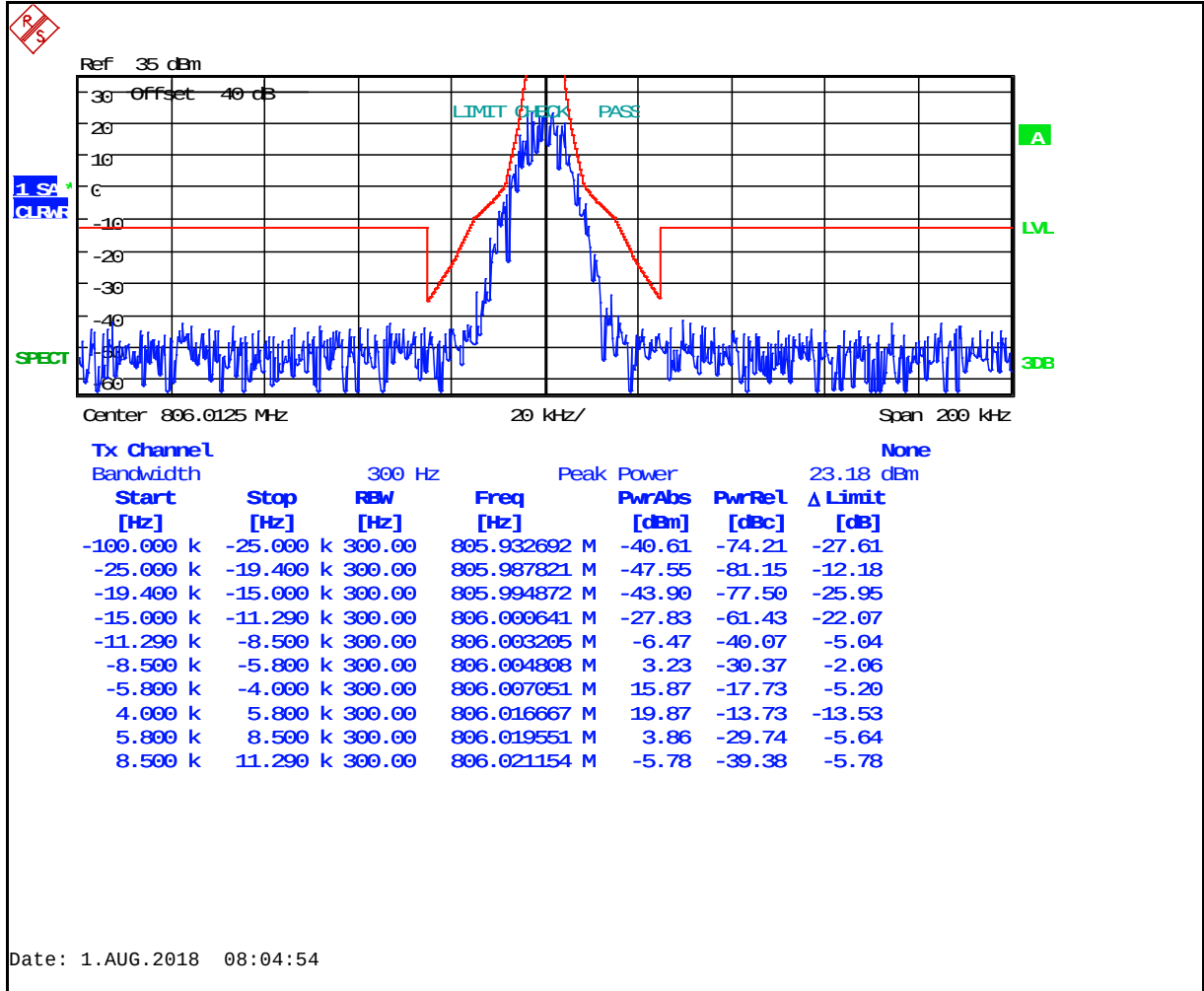
<sup>2</sup> Equipment designed to operate with a 25 kHz channel bandwidth must meet the requirements of Emission Mask B or C, as applicable. Equipment designed to operate with a 12.5 kHz channel bandwidth must meet the requirements of Emission Mask D, and equipment designed to operate with a 6.25 kHz channel bandwidth must meet the requirements of Emission Mask E.

<sup>3</sup> Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of §90.691.

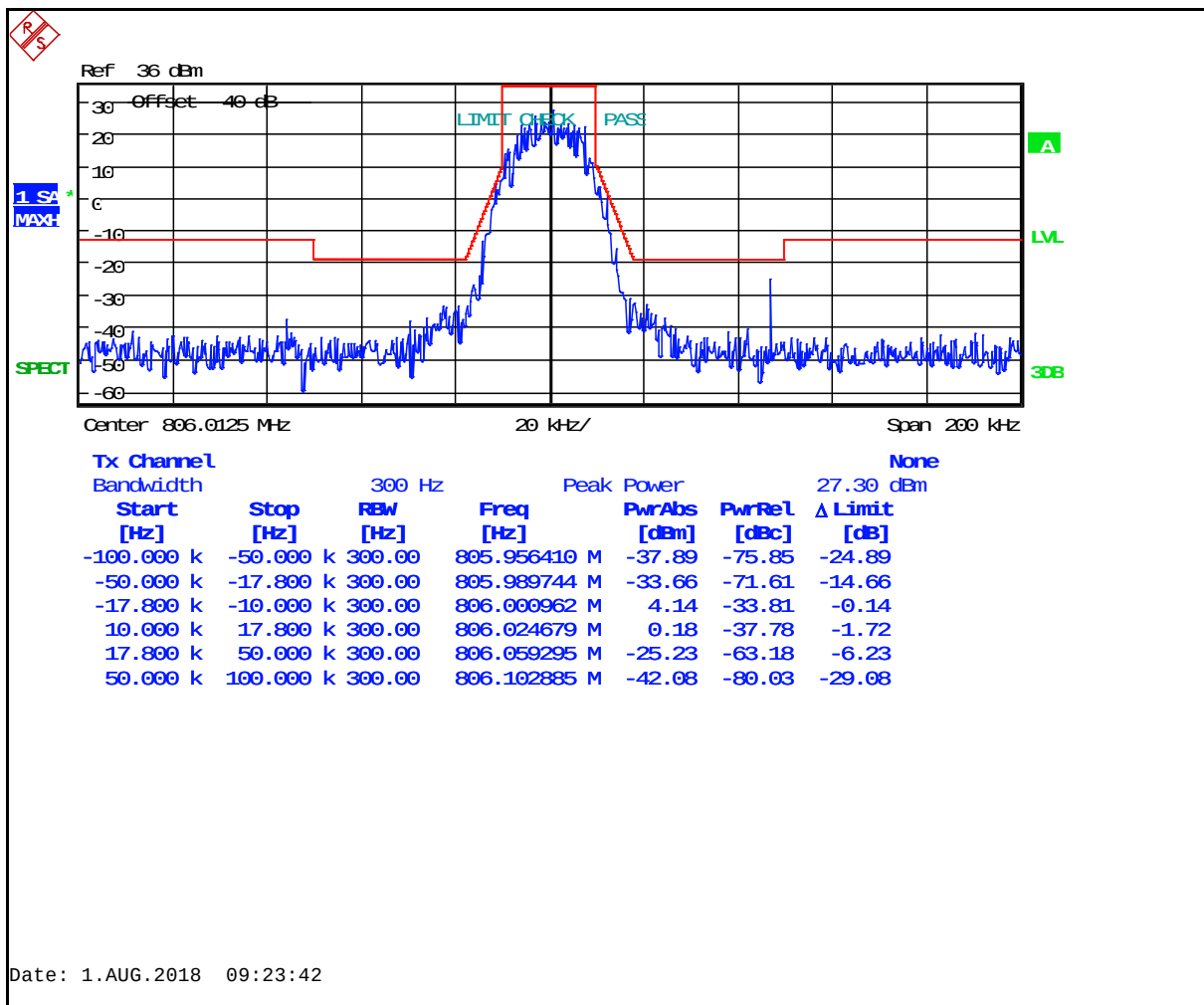
<sup>4</sup> DSRCS Roadside Unit equipment in the 5850–5925 MHz band is governed under subpart M of this part.

## 5.2 Test Data

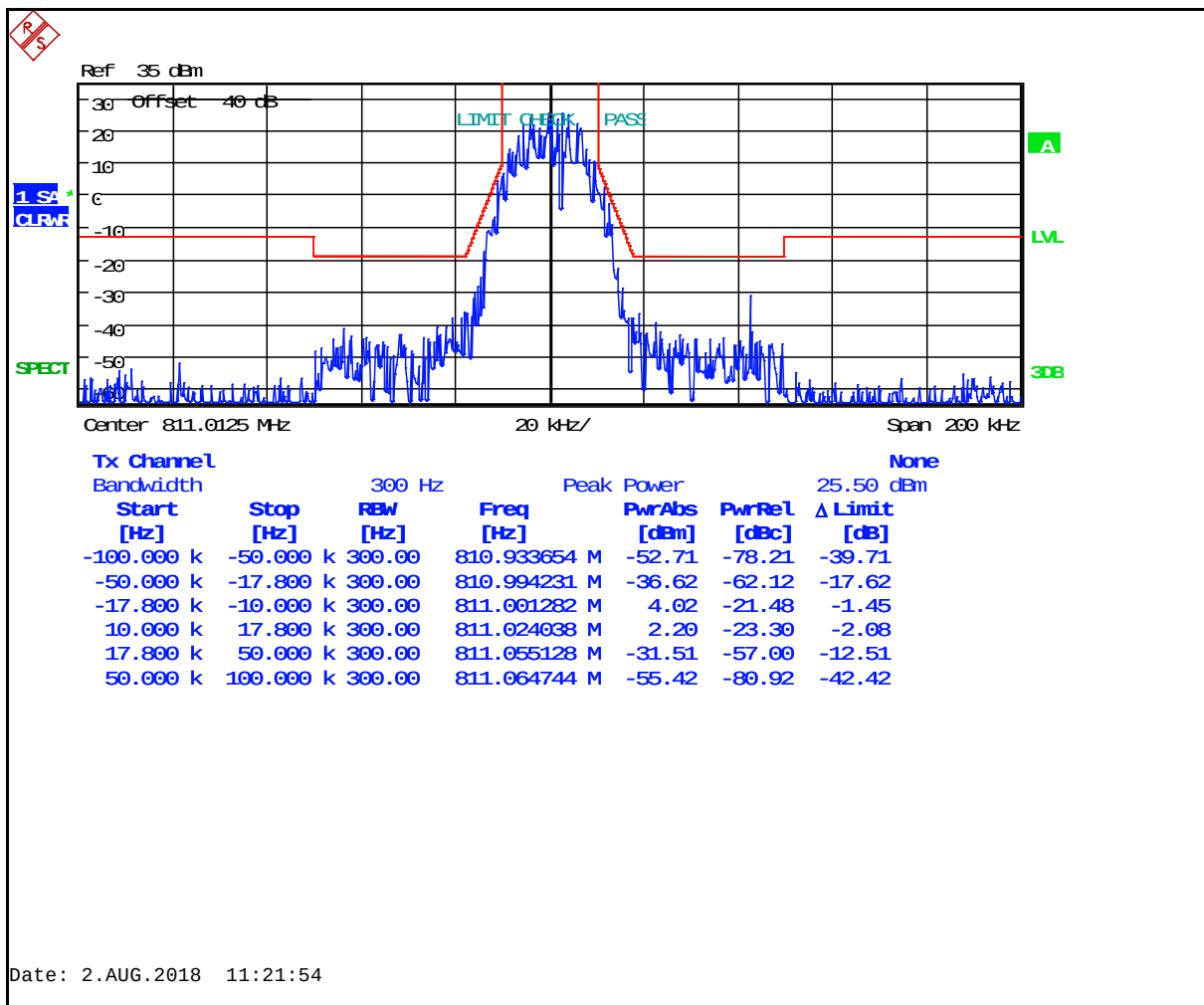
Plot 5-1: Occupied Bandwidth – HVD-TDMA NPSPAC; 806.0125 MHz; Mask H



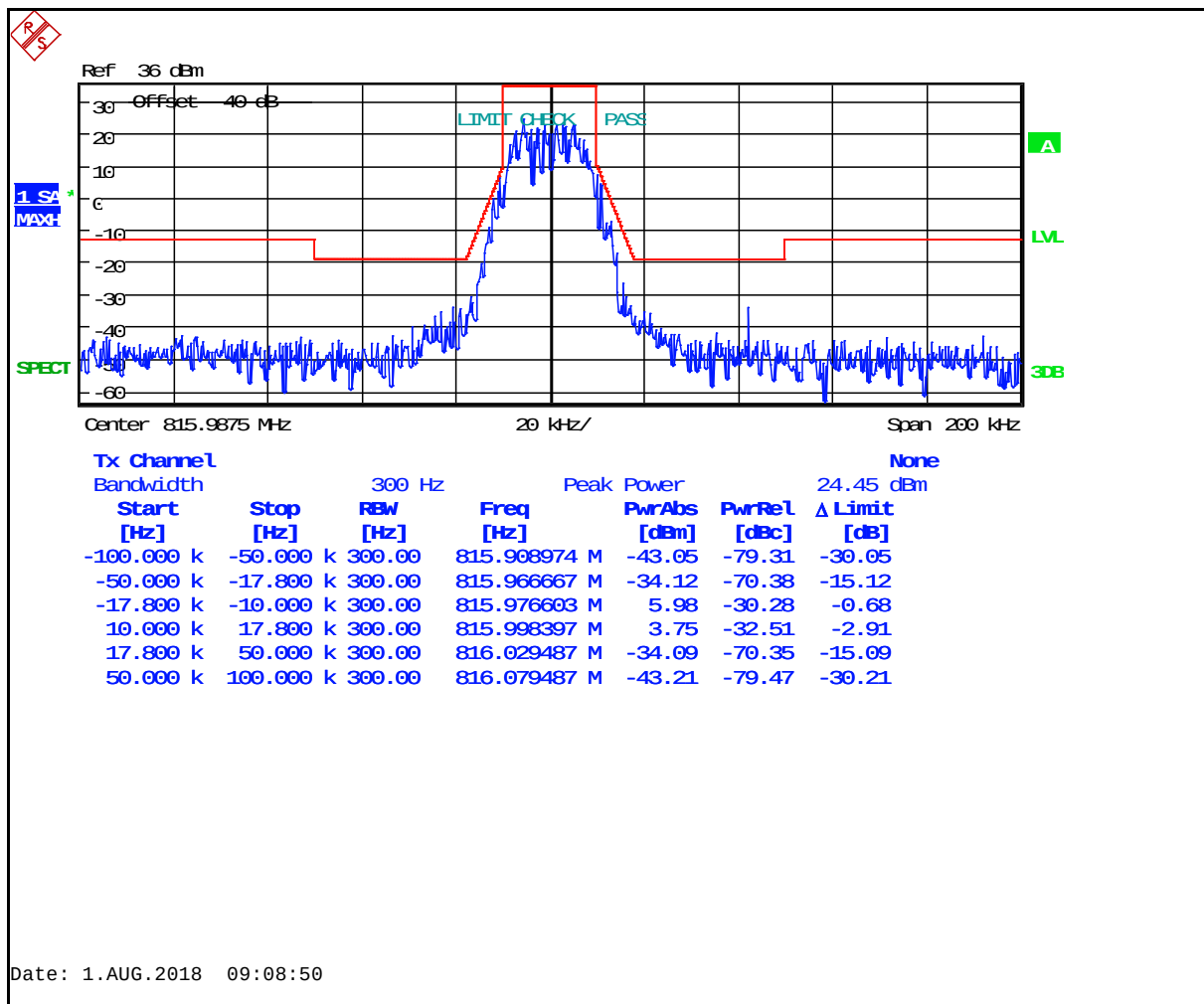
**Plot 5-2: Occupied Bandwidth – HVD-TDMA SMR; 806.0125 MHz; Mask G (ISED)**



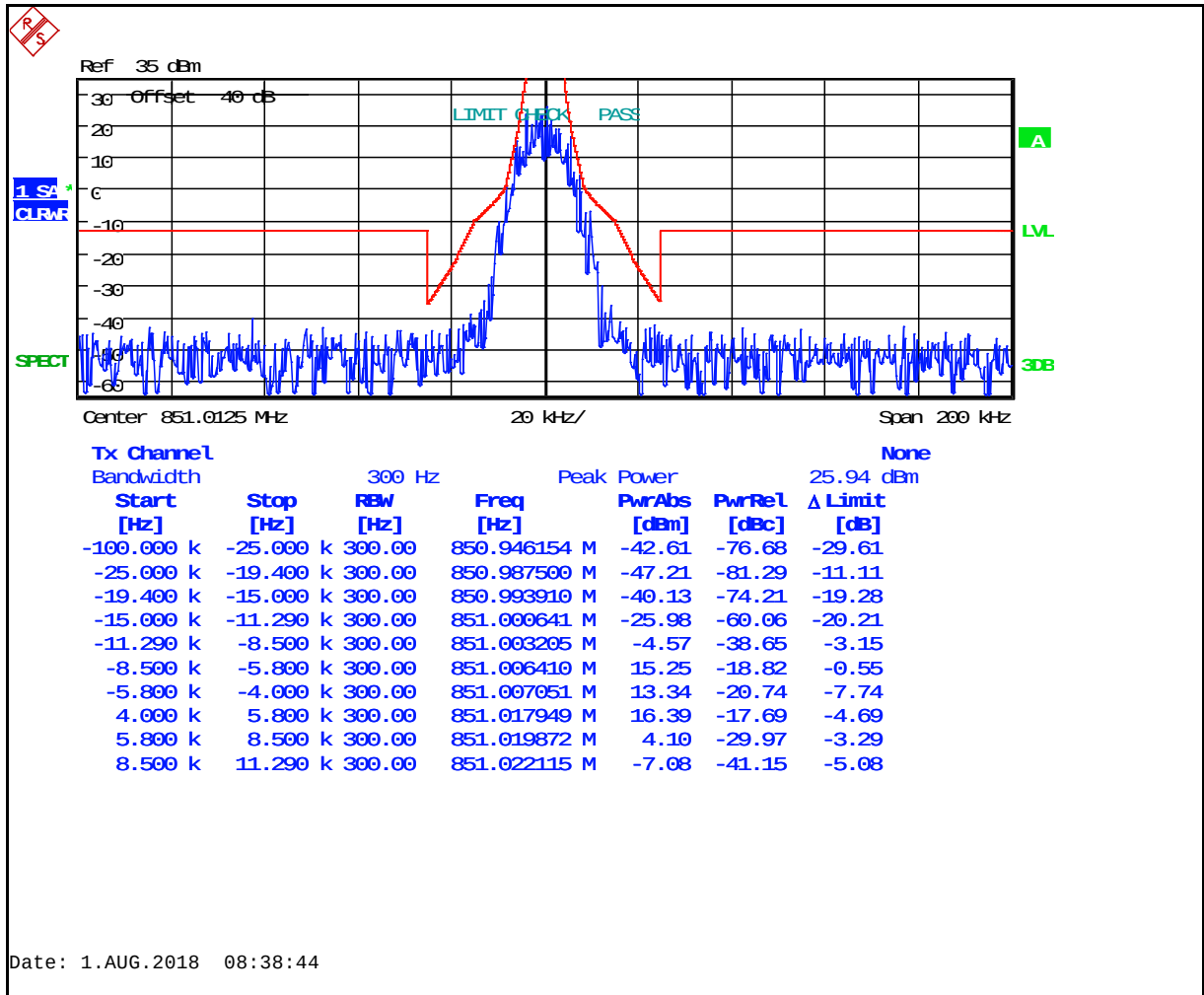
**Plot 5-3: Occupied Bandwidth – HVD-TDMA SMR; 811.0125 MHz; Mask G**



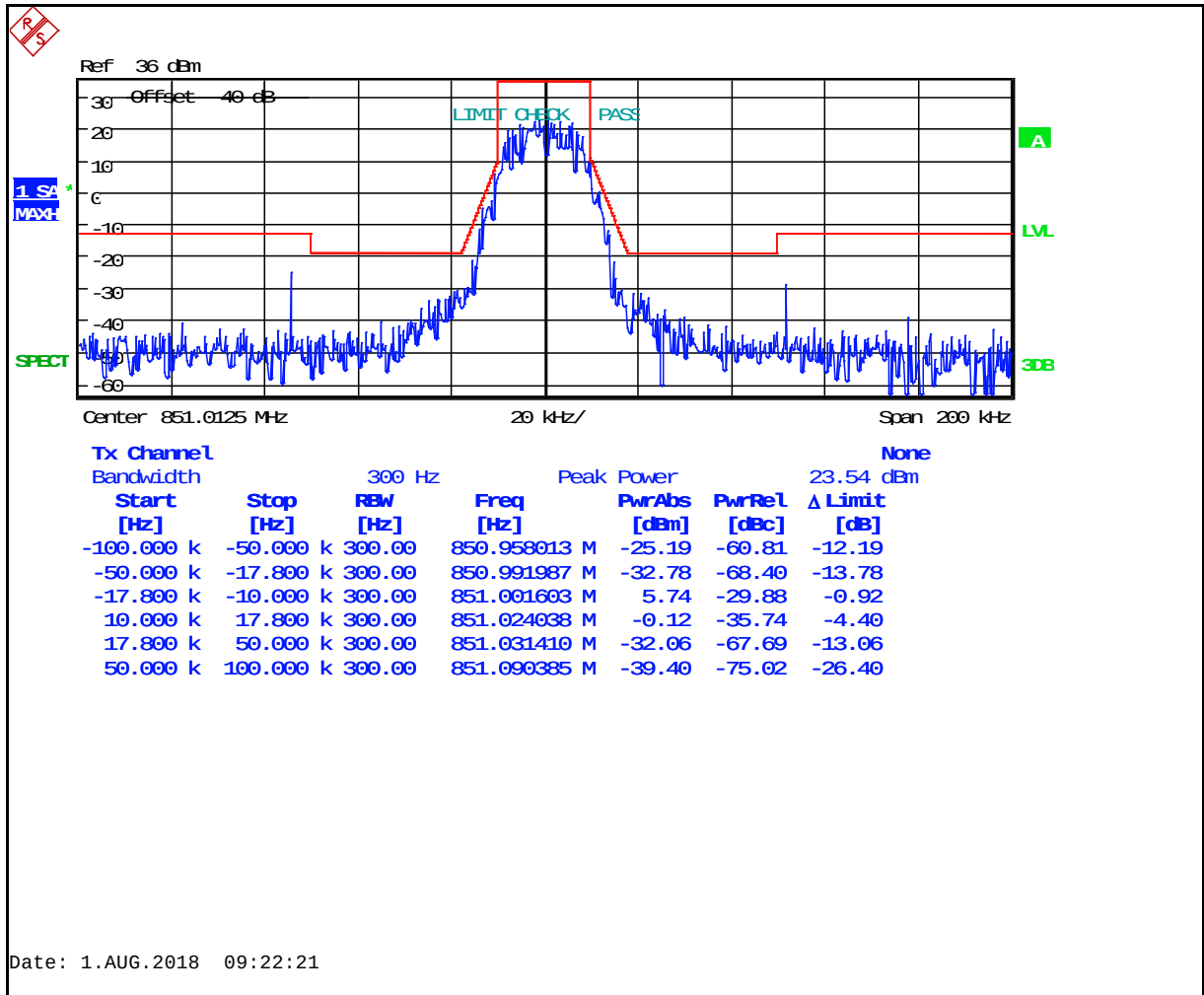
**Plot 5-4: Occupied Bandwidth – HVD-TDMA SMR; 815.9875 MHz; Mask G**



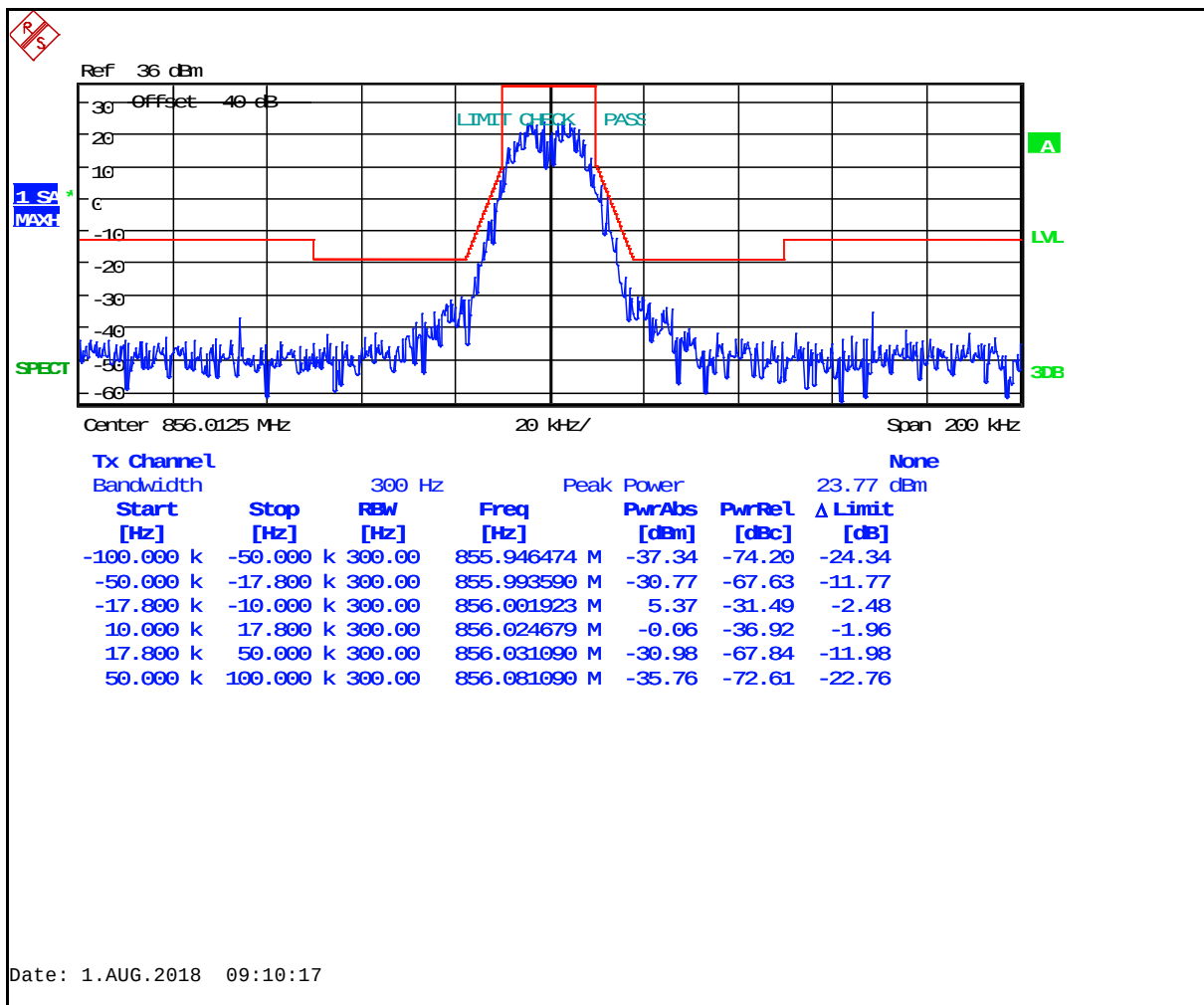
**Plot 5-5: Occupied Bandwidth – HVD-TDMA NPSPAC; 851.0125 MHz; Mask H**



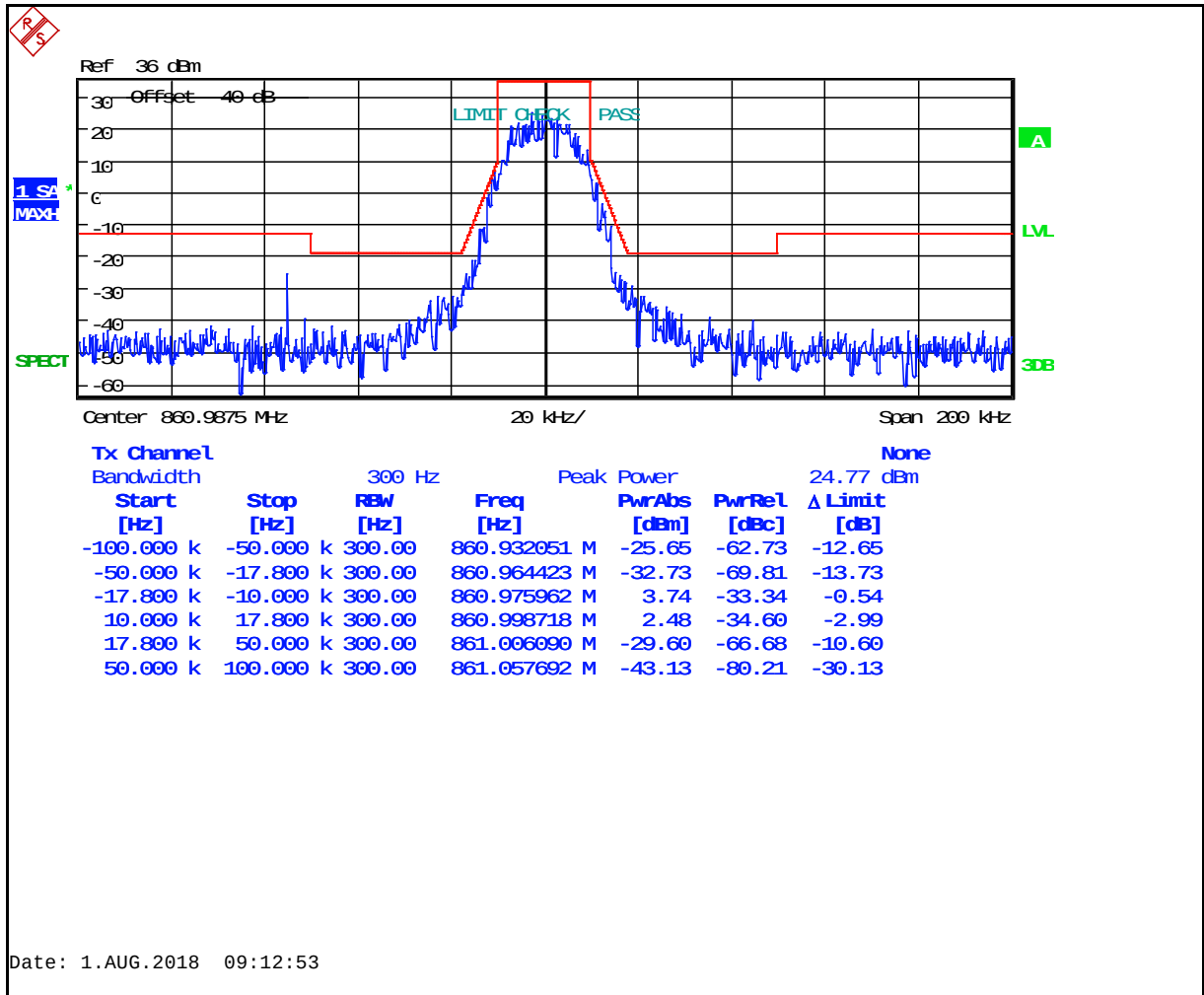
**Plot 5-6: Occupied Bandwidth – HVD-TDMA SMR; 851.0125 MHz; Mask G (ISED)**



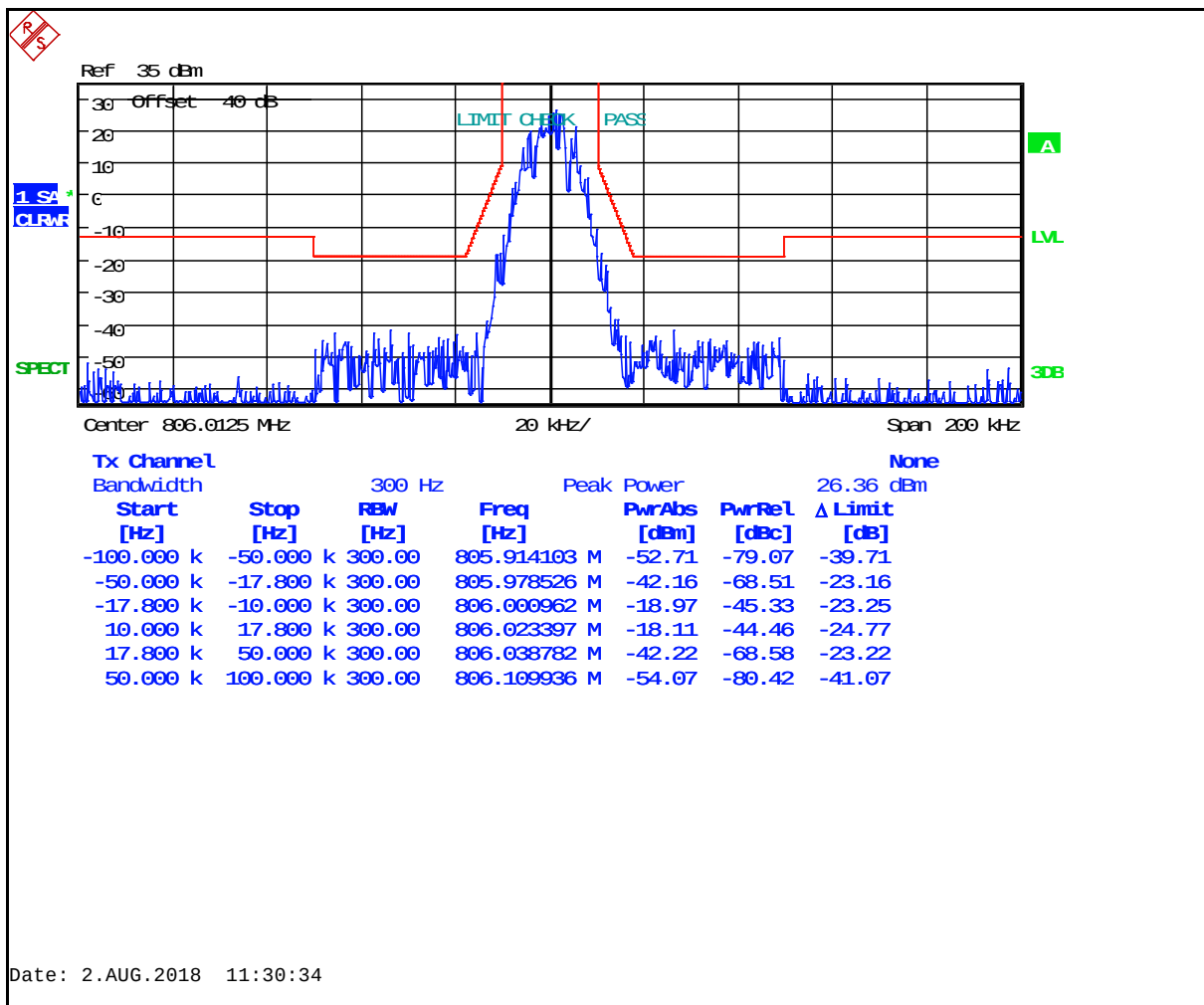
**Plot 5-7: Occupied Bandwidth – HVD-TDMA SMR; 856.0125 MHz; Mask G**



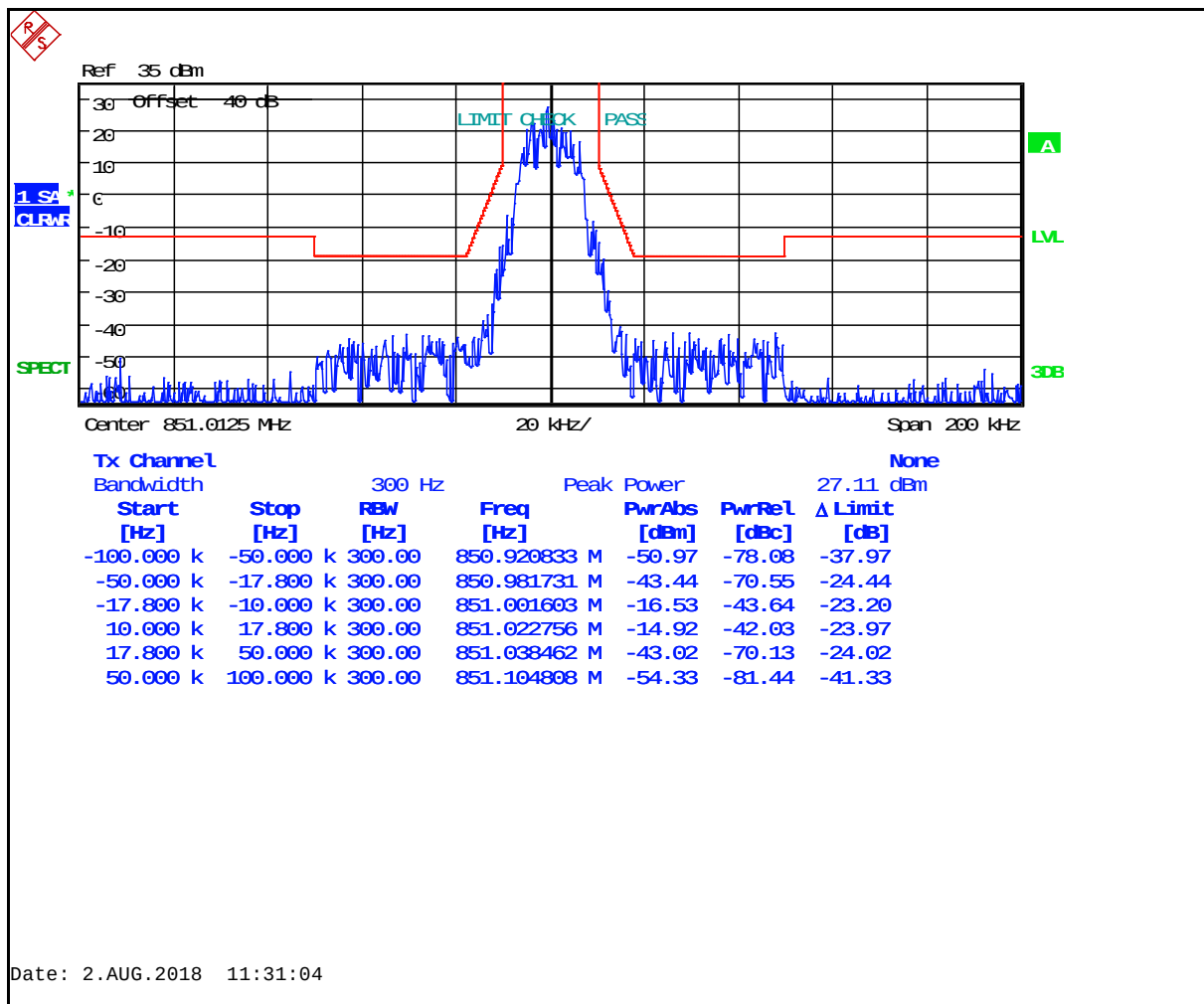
**Plot 5-8: Occupied Bandwidth – HVD-TDMA SMR; 860.9875 MHz; Mask G**



**Plot 5-9: Occupied Bandwidth – HVD-TDMA NPSPAC; 806.0125 MHz; Mask G (ISED)**



**Plot 5-10: Occupied Bandwidth – HVD-TDMA NPSPAC; 851.0125 MHz; Mask G (ISED)**

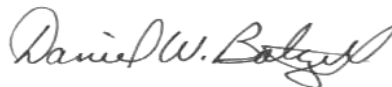


**Table 5-1: Test Equipment Used for Testing Occupied Bandwidth**

| RTL Asset # | Manufacturer    | Model    | Part Type               | Serial Number | Calibration Due Date |
|-------------|-----------------|----------|-------------------------|---------------|----------------------|
| 901581      | Rohde & Schwarz | FSU      | Spectrum Analyzer       | 1166.1660.50  | 4/26/21              |
| 901724      | Weinschel Corp  | 48-40-34 | Attenuator, 40 dB, 100W | CJ8921        | 8/1/19               |

**Test Personnel:**

Daniel Baltzell  
Test Engineer



Signature

August 2, 2018  
Date of Test

## 6 Conclusion

The data in this Class 2 measurement report shows that the Harris Corporation Model XL-200P Multiband Portable Land Mobile Radio; FCC ID: OWDTR-0133-E, IC: 3636B-0133, complies with the applicable requirements of FCC Parts 90 and 2, and ISED RSS-119 for a Class 2 permissive change.