PCTEST ENGINEERING LABORATORY, INC.
7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. 410.290.6652 / Fax 410.290.6654
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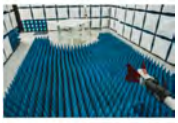


# MEASUREMENT REPORT
## FCC Part 30 5G mmWave

**Applicant Name:**
Samsung Electronics Co., Ltd.
129, Samsung-ro,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

**Date of Testing:**
05/14 - 07/12/2019
**Test Site/Location:**
PCTEST Lab. Columbia, MD, USA
**Test Report Serial No.:**
1M1905130071-06-R1.A3L

| | |
|---|---|
| **FCC ID:** | **A3LSMN976V** |
| **APPLICANT:** | **Samsung Electronics Co., Ltd.** |

| | |
|---|---|
| **Application Type:** | Certification |
| **Model:** | SM-N976V |
| **Additional Model(s):** | SM-N976XU |
| **EUT Type:** | Portable Handset |
| **FCC Classification:** | Part 30 Mobile Transmitter (5GM) |
| **FCC Rule Part(s):** | 30 |
| **Test Procedure(s):** | ANSI C63.26-2015, KDB 971168 D01 v03r01, KDB 842590 D01 v01 |

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1M1905130071-06-R1.A3L) supersedes and replaces the previously issued test report (S/N: 1M1905130071-06.A3L) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

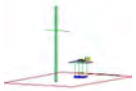
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Randy Ortanez
President

ACCREDITED
TESTING CERT#2041.01

# TABLE OF CONTENTS

# MEASUREMENT REPORT
## FCC Part 30



| Band | FCC Rule Part | Mode | Antenna | Bandwidth (MHz) | CCs Active | Tx Frequency (MHz) | EIRP | | Emission Designator | Modulation |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Max. Power (W) | Max. Power (dBm) | | |
| n261 | 30 | SISO | J Dipole | 50 | 1 | 27500 - 28350 | 0.106 | 20.27 | 47M4G7D | QPSK |
| n261 | 30 | SISO | J Dipole | 50 | 1 | 27500 - 28350 | 0.091 | 19.61 | 46M4W7D | 16QAM |
| n261 | 30 | SISO | J Dipole | 50 | 1 | 27500 - 28350 | 0.054 | 17.34 | 46M5W7D | 64QAM |
| n261 | 30 | SISO | J Dipole | 100 | 1 | 27500 - 28350 | 0.085 | 19.32 | 94M5G7D | QPSK |
| n261 | 30 | SISO | J Dipole | 100 | 1 | 27500 - 28350 | 0.072 | 18.57 | 94M4W7D | 16QAM |
| n261 | 30 | SISO | J Dipole | 100 | 1 | 27500 - 28350 | 0.046 | 16.60 | 94M2W7D | 64QAM |
| n261 | 30 | SISO | J Dipole | 200 | 4 | 27500 - 28350 | 0.067 | 18.25 | 219MG7D | QPSK |
| n261 | 30 | SISO | J Dipole | 200 | 4 | 27500 - 28350 | 0.054 | 17.30 | 198MW7D | 16QAM |
| n261 | 30 | SISO | J Dipole | 200 | 4 | 27500 - 28350 | 0.034 | 15.32 | 196MW7D | 64QAM |
| n261 | 30 | SISO | J Dipole | 400 | 4 | 27500 - 28350 | 0.054 | 17.34 | 397MG7D | QPSK |
| n261 | 30 | SISO | J Dipole | 400 | 4 | 27500 - 28350 | 0.046 | 16.61 | 395MW7D | 16QAM |
| n261 | 30 | SISO | J Dipole | 400 | 4 | 27500 - 28350 | 0.027 | 14.39 | 393MW7D | 64QAM |
| n261 | 30 | SISO | J Patch | 50 | 1 | 27500 - 28350 | 0.185 | 22.67 | 47M3G7D | QPSK |
| n261 | 30 | SISO | J Patch | 50 | 1 | 27500 - 28350 | 0.139 | 21.43 | 46M5W7D | 16QAM |
| n261 | 30 | SISO | J Patch | 50 | 1 | 27500 - 28350 | 0.088 | 19.45 | 46M6W7D | 64QAM |
| n261 | 30 | SISO | J Patch | 100 | 1 | 27500 - 28350 | 0.174 | 22.40 | 94M6G7D | QPSK |
| n261 | 30 | SISO | J Patch | 100 | 1 | 27500 - 28350 | 0.131 | 21.17 | 94M4W7D | 16QAM |
| n261 | 30 | SISO | J Patch | 100 | 1 | 27500 - 28350 | 0.088 | 19.46 | 94M1W7D | 64QAM |
| n261 | 30 | SISO | J Patch | 200 | 4 | 27500 - 28350 | 0.128 | 21.06 | 201MG7D | QPSK |
| n261 | 30 | SISO | J Patch | 200 | 4 | 27500 - 28350 | 0.102 | 20.10 | 197MW7D | 16QAM |
| n261 | 30 | SISO | J Patch | 200 | 4 | 27500 - 28350 | 0.064 | 18.08 | 196MW7D | 64QAM |
| n261 | 30 | SISO | J Patch | 400 | 4 | 27500 - 28350 | 0.110 | 20.43 | 395MG7D | QPSK |
| n261 | 30 | SISO | J Patch | 400 | 4 | 27500 - 28350 | 0.087 | 19.42 | 394MW7D | 16QAM |
| n261 | 30 | SISO | J Patch | 400 | 4 | 27500 - 28350 | 0.054 | 17.34 | 393MW7D | 64QAM |
| n261 | 30 | SISO | K Patch | 50 | 1 | 27500 - 28350 | 0.122 | 20.85 | 47M4G7D | QPSK |
| n261 | 30 | SISO | K Patch | 50 | 1 | 27500 - 28350 | 0.093 | 19.71 | 46M5W7D | 16QAM |
| n261 | 30 | SISO | K Patch | 50 | 1 | 27500 - 28350 | 0.057 | 17.52 | 46M7W7D | 64QAM |
| n261 | 30 | SISO | K Patch | 100 | 1 | 27500 - 28350 | 0.118 | 20.71 | 94M6G7D | QPSK |
| n261 | 30 | SISO | K Patch | 100 | 1 | 27500 - 28350 | 0.095 | 19.77 | 94M4W7D | 16QAM |
| n261 | 30 | SISO | K Patch | 100 | 1 | 27500 - 28350 | 0.062 | 17.90 | 94M3W7D | 64QAM |
| n261 | 30 | SISO | K Patch | 200 | 4 | 27500 - 28350 | 0.073 | 18.62 | 201MG7D | QPSK |
| n261 | 30 | SISO | K Patch | 200 | 4 | 27500 - 28350 | 0.060 | 17.76 | 197MW7D | 16QAM |
| n261 | 30 | SISO | K Patch | 200 | 4 | 27500 - 28350 | 0.036 | 15.57 | 196MW7D | 64QAM |
| n261 | 30 | SISO | K Patch | 400 | 4 | 27500 - 28350 | 0.080 | 19.05 | 396MG7D | QPSK |
| n261 | 30 | SISO | K Patch | 400 | 4 | 27500 - 28350 | 0.066 | 18.21 | 395MW7D | 16QAM |
| n261 | 30 | SISO | K Patch | 400 | 4 | 27500 - 28350 | 0.038 | 15.83 | 393MW7D | 64QAM |
| n261 | 30 | SISO | L Patch | 50 | 1 | 27500 - 28350 | 0.104 | 20.19 | 47M4G7D | QPSK |
| n261 | 30 | SISO | L Patch | 50 | 1 | 27500 - 28350 | 0.087 | 19.41 | 46M5W7D | 16QAM |
| n261 | 30 | SISO | L Patch | 50 | 1 | 27500 - 28350 | 0.057 | 17.54 | 46M5W7D | 64QAM |
| n261 | 30 | SISO | L Patch | 100 | 1 | 27500 - 28350 | 0.111 | 20.46 | 94M4G7D | QPSK |
| n261 | 30 | SISO | L Patch | 100 | 1 | 27500 - 28350 | 0.087 | 19.40 | 94M3W7D | 16QAM |
| n261 | 30 | SISO | L Patch | 100 | 1 | 27500 - 28350 | 0.059 | 17.70 | 94M3W7D | 64QAM |
| n261 | 30 | SISO | L Patch | 200 | 4 | 27500 - 28350 | 0.070 | 18.45 | 200MG7D | QPSK |
| n261 | 30 | SISO | L Patch | 200 | 4 | 27500 - 28350 | 0.058 | 17.65 | 197MW7D | 16QAM |
| n261 | 30 | SISO | L Patch | 200 | 4 | 27500 - 28350 | 0.035 | 15.43 | 196MW7D | 64QAM |
| n261 | 30 | SISO | L Patch | 400 | 4 | 27500 - 28350 | 0.062 | 17.93 | 395MG7D | QPSK |
| n261 | 30 | SISO | L Patch | 400 | 4 | 27500 - 28350 | 0.049 | 16.89 | 394MW7D | 16QAM |
| n261 | 30 | SISO | L Patch | 400 | 4 | 27500 - 28350 | 0.029 | 14.57 | 393MW7D | 64QAM |

**EUT Overview (n261 - SISO)**

| Band | FCC Rule Part | Mode | Antenna | Bandwidth (MHz) | CCs Active | Tx Frequency (MHz) | EIRP | | Emission Designator | Modulation |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Max. Power (W) | Max. Power (dBm) | | |
| n261 | 30 | MIMO | J Dipole | 50 | 1 | 27500 - 28350 | 0.141 | 21.49 | 47M4G7D | QPSK |
| n261 | 30 | MIMO | J Dipole | 50 | 1 | 27500 - 28350 | 0.122 | 20.87 | 46M4W7D | 16QAM |
| n261 | 30 | MIMO | J Dipole | 50 | 1 | 27500 - 28350 | 0.072 | 18.60 | 46M5W7D | 64QAM |
| n261 | 30 | MIMO | J Dipole | 100 | 1 | 27500 - 28350 | 0.120 | 20.80 | 94M5G7D | QPSK |
| n261 | 30 | MIMO | J Dipole | 100 | 1 | 27500 - 28350 | 0.103 | 20.15 | 94M4W7D | 16QAM |
| n261 | 30 | MIMO | J Dipole | 100 | 1 | 27500 - 28350 | 0.062 | 17.91 | 94M2W7D | 64QAM |
| n261 | 30 | MIMO | J Patch | 50 | 1 | 27500 - 28350 | 0.335 | 25.25 | 47M3G7D | QPSK |
| n261 | 30 | MIMO | J Patch | 50 | 1 | 27500 - 28350 | 0.235 | 23.72 | 46M5W7D | 16QAM |
| n261 | 30 | MIMO | J Patch | 50 | 1 | 27500 - 28350 | 0.158 | 21.97 | 46M6W7D | 64QAM |
| n261 | 30 | MIMO | J Patch | 100 | 1 | 27500 - 28350 | 0.348 | 25.41 | 94M6G7D | QPSK |
| n261 | 30 | MIMO | J Patch | 100 | 1 | 27500 - 28350 | 0.247 | 23.93 | 94M4W7D | 16QAM |
| n261 | 30 | MIMO | J Patch | 100 | 1 | 27500 - 28350 | 0.159 | 22.03 | 94M1W7D | 64QAM |
| n261 | 30 | MIMO | K Patch | 50 | 1 | 27500 - 28350 | 0.197 | 22.94 | 47M4G7D | QPSK |
| n261 | 30 | MIMO | K Patch | 50 | 1 | 27500 - 28350 | 0.148 | 21.71 | 46M5W7D | 16QAM |
| n261 | 30 | MIMO | K Patch | 50 | 1 | 27500 - 28350 | 0.104 | 20.16 | 46M7W7D | 64QAM |
| n261 | 30 | MIMO | K Patch | 100 | 1 | 27500 - 28350 | 0.185 | 22.68 | 94M6G7D | QPSK |
| n261 | 30 | MIMO | K Patch | 100 | 1 | 27500 - 28350 | 0.144 | 21.59 | 94M4W7D | 16QAM |
| n261 | 30 | MIMO | K Patch | 100 | 1 | 27500 - 28350 | 0.103 | 20.12 | 94M3W7D | 64QAM |
| n261 | 30 | MIMO | L Patch | 50 | 1 | 27500 - 28350 | 0.153 | 21.85 | 47M4G7D | QPSK |
| n261 | 30 | MIMO | L Patch | 50 | 1 | 27500 - 28350 | 0.117 | 20.69 | 46M5W7D | 16QAM |
| n261 | 30 | MIMO | L Patch | 50 | 1 | 27500 - 28350 | 0.073 | 18.63 | 46M5W7D | 64QAM |
| n261 | 30 | MIMO | L Patch | 100 | 1 | 27500 - 28350 | 0.166 | 22.20 | 94M4G7D | QPSK |
| n261 | 30 | MIMO | L Patch | 100 | 1 | 27500 - 28350 | 0.128 | 21.06 | 94M3W7D | 16QAM |
| n261 | 30 | MIMO | L Patch | 100 | 1 | 27500 - 28350 | 0.096 | 19.83 | 94M3W7D | 64QAM |

**EUT Overview (n261 - MIMO)**

| Band | FCC Rule Part | Mode | Antenna | Bandwidth (MHz) | CCs Active | Tx Frequency (MHz) | EIRP | | Emission Designator | Modulation |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Max. Power (W) | Max. Power (dBm) | | |
| n260 | 30 | SISO | J Dipole | 50 | 1 | 37000 - 40000 | 0.050 | 17.01 | 47M5G7D | QPSK |
| n260 | 30 | SISO | J Dipole | 50 | 1 | 37000 - 40000 | 0.048 | 16.79 | 46M6W7D | 16QAM |
| n260 | 30 | SISO | J Dipole | 50 | 1 | 37000 - 40000 | 0.030 | 14.81 | 46M7W7D | 64QAM |
| n260 | 30 | SISO | J Dipole | 100 | 1 | 37000 - 40000 | 0.055 | 17.37 | 94M6G7D | QPSK |
| n260 | 30 | SISO | J Dipole | 100 | 1 | 37000 - 40000 | 0.049 | 16.94 | 94M4W7D | 16QAM |
| n260 | 30 | SISO | J Dipole | 100 | 1 | 37000 - 40000 | 0.033 | 15.13 | 94M3W7D | 64QAM |
| n260 | 30 | SISO | J Dipole | 200 | 4 | 37000 - 40000 | 0.049 | 16.86 | 200MG7D | QPSK |
| n260 | 30 | SISO | J Dipole | 200 | 4 | 37000 - 40000 | 0.043 | 16.29 | 197MW7D | 16QAM |
| n260 | 30 | SISO | J Dipole | 200 | 4 | 37000 - 40000 | 0.032 | 15.03 | 196MW7D | 64QAM |
| n260 | 30 | SISO | J Dipole | 400 | 4 | 37000 - 40000 | 0.050 | 17.02 | 392MG7D | QPSK |
| n260 | 30 | SISO | J Dipole | 400 | 4 | 37000 - 40000 | 0.046 | 16.60 | 392MW7D | 16QAM |
| n260 | 30 | SISO | J Dipole | 400 | 4 | 37000 - 40000 | 0.037 | 15.74 | 391MW7D | 64QAM |
| n260 | 30 | SISO | J Patch | 50 | 1 | 37000 - 40000 | 0.147 | 21.67 | 47M7G7D | QPSK |
| n260 | 30 | SISO | J Patch | 50 | 1 | 37000 - 40000 | 0.115 | 20.59 | 46M7W7D | 16QAM |
| n260 | 30 | SISO | J Patch | 50 | 1 | 37000 - 40000 | 0.074 | 18.71 | 46M7W7D | 64QAM |
| n260 | 30 | SISO | J Patch | 100 | 1 | 37000 - 40000 | 0.148 | 21.71 | 94M8G7D | QPSK |
| n260 | 30 | SISO | J Patch | 100 | 1 | 37000 - 40000 | 0.120 | 20.81 | 94M5W7D | 16QAM |
| n260 | 30 | SISO | J Patch | 100 | 1 | 37000 - 40000 | 0.082 | 19.14 | 94M2W7D | 64QAM |
| n260 | 30 | SISO | J Patch | 200 | 4 | 37000 - 40000 | 0.108 | 20.35 | 208MG7D | QPSK |
| n260 | 30 | SISO | J Patch | 200 | 4 | 37000 - 40000 | 0.093 | 19.69 | 198MW7D | 16QAM |
| n260 | 30 | SISO | J Patch | 200 | 4 | 37000 - 40000 | 0.067 | 18.29 | 196MW7D | 64QAM |
| n260 | 30 | SISO | J Patch | 400 | 4 | 37000 - 40000 | 0.106 | 20.26 | 396MG7D | QPSK |
| n260 | 30 | SISO | J Patch | 400 | 4 | 37000 - 40000 | 0.094 | 19.74 | 396MW7D | 16QAM |
| n260 | 30 | SISO | J Patch | 400 | 4 | 37000 - 40000 | 0.067 | 18.28 | 393MW7D | 64QAM |
| n260 | 30 | SISO | K Patch | 50 | 1 | 37000 - 40000 | 0.099 | 19.95 | 47M4G7D | QPSK |
| n260 | 30 | SISO | K Patch | 50 | 1 | 37000 - 40000 | 0.078 | 18.91 | 46M5W7D | 16QAM |
| n260 | 30 | SISO | K Patch | 50 | 1 | 37000 - 40000 | 0.051 | 17.06 | 46M8W7D | 64QAM |
| n260 | 30 | SISO | K Patch | 100 | 1 | 37000 - 40000 | 0.110 | 20.40 | 94M7G7D | QPSK |
| n260 | 30 | SISO | K Patch | 100 | 1 | 37000 - 40000 | 0.082 | 19.16 | 94M5W7D | 16QAM |
| n260 | 30 | SISO | K Patch | 100 | 1 | 37000 - 40000 | 0.057 | 17.57 | 94M4W7D | 64QAM |
| n260 | 30 | SISO | K Patch | 200 | 4 | 37000 - 40000 | 0.079 | 19.00 | 210MG7D | QPSK |
| n260 | 30 | SISO | K Patch | 200 | 4 | 37000 - 40000 | 0.069 | 18.42 | 198MW7D | 16QAM |
| n260 | 30 | SISO | K Patch | 200 | 4 | 37000 - 40000 | 0.048 | 16.83 | 197MW7D | 64QAM |
| n260 | 30 | SISO | K Patch | 400 | 4 | 37000 - 40000 | 0.079 | 18.97 | 395MG7D | QPSK |
| n260 | 30 | SISO | K Patch | 400 | 4 | 37000 - 40000 | 0.069 | 18.36 | 395MW7D | 16QAM |
| n260 | 30 | SISO | K Patch | 400 | 4 | 37000 - 40000 | 0.053 | 17.24 | 394MW7D | 64QAM |
| n260 | 30 | SISO | L Patch | 50 | 1 | 37000 - 40000 | 0.098 | 19.92 | 47M4G7D | QPSK |
| n260 | 30 | SISO | L Patch | 50 | 1 | 37000 - 40000 | 0.079 | 18.97 | 46M6W7D | 16QAM |
| n260 | 30 | SISO | L Patch | 50 | 1 | 37000 - 40000 | 0.053 | 17.25 | 46M6W7D | 64QAM |
| n260 | 30 | SISO | L Patch | 100 | 1 | 37000 - 40000 | 0.113 | 20.53 | 94M5G7D | QPSK |
| n260 | 30 | SISO | L Patch | 100 | 1 | 37000 - 40000 | 0.092 | 19.66 | 94M5W7D | 16QAM |
| n260 | 30 | SISO | L Patch | 100 | 1 | 37000 - 40000 | 0.063 | 18.00 | 94M4W7D | 64QAM |
| n260 | 30 | SISO | L Patch | 200 | 4 | 37000 - 40000 | 0.073 | 18.66 | 219MG7D | QPSK |
| n260 | 30 | SISO | L Patch | 200 | 4 | 37000 - 40000 | 0.064 | 18.07 | 200MW7D | 16QAM |
| n260 | 30 | SISO | L Patch | 200 | 4 | 37000 - 40000 | 0.045 | 16.58 | 198MW7D | 64QAM |
| n260 | 30 | SISO | L Patch | 400 | 4 | 37000 - 40000 | 0.069 | 18.42 | 433MG7D | QPSK |
| n260 | 30 | SISO | L Patch | 400 | 4 | 37000 - 40000 | 0.062 | 17.89 | 432MW7D | 16QAM |
| n260 | 30 | SISO | L Patch | 400 | 4 | 37000 - 40000 | 0.047 | 16.68 | 488MW7D | 64QAM |

**EUT Overview (n260 - SISO)**

| Band | FCC Rule Part | Mode | Antenna | Bandwidth (MHz) | CCs Active | Tx Frequency (MHz) | EIRP | | Emission Designator | Modulation |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Max. Power (W) | Max. Power (dBm) | | |
| n260 | 30 | MIMO | J Dipole | 50 | 1 | 37000 - 40000 | 0.088 | 19.46 | 47M5G7D | QPSK |
| n260 | 30 | MIMO | J Dipole | 50 | 1 | 37000 - 40000 | 0.067 | 18.29 | 46M6W7D | 16QAM |
| n260 | 30 | MIMO | J Dipole | 50 | 1 | 37000 - 40000 | 0.042 | 16.18 | 46M7W7D | 64QAM |
| n260 | 30 | MIMO | J Dipole | 100 | 1 | 37000 - 40000 | 0.092 | 19.66 | 94M6G7D | QPSK |
| n260 | 30 | MIMO | J Dipole | 100 | 1 | 37000 - 40000 | 0.076 | 18.79 | 94M4W7D | 16QAM |
| n260 | 30 | MIMO | J Dipole | 100 | 1 | 37000 - 40000 | 0.047 | 16.72 | 94M3W7D | 64QAM |
| n260 | 30 | MIMO | J Patch | 50 | 1 | 37000 - 40000 | 0.176 | 22.45 | 47M7G7D | QPSK |
| n260 | 30 | MIMO | J Patch | 50 | 1 | 37000 - 40000 | 0.137 | 21.37 | 46M7W7D | 16QAM |
| n260 | 30 | MIMO | J Patch | 50 | 1 | 37000 - 40000 | 0.088 | 19.44 | 46M7W7D | 64QAM |
| n260 | 30 | MIMO | J Patch | 100 | 1 | 37000 - 40000 | 0.178 | 22.50 | 94M8G7D | QPSK |
| n260 | 30 | MIMO | J Patch | 100 | 1 | 37000 - 40000 | 0.140 | 21.45 | 94M5W7D | 16QAM |
| n260 | 30 | MIMO | J Patch | 100 | 1 | 37000 - 40000 | 0.094 | 19.74 | 94M2W7D | 64QAM |
| n260 | 30 | MIMO | K Patch | 50 | 1 | 37000 - 40000 | 0.136 | 21.32 | 47M4G7D | QPSK |
| n260 | 30 | MIMO | K Patch | 50 | 1 | 37000 - 40000 | 0.107 | 20.28 | 46M5W7D | 16QAM |
| n260 | 30 | MIMO | K Patch | 50 | 1 | 37000 - 40000 | 0.071 | 18.52 | 46M8W7D | 64QAM |
| n260 | 30 | MIMO | K Patch | 100 | 1 | 37000 - 40000 | 0.149 | 21.75 | 94M7G7D | QPSK |
| n260 | 30 | MIMO | K Patch | 100 | 1 | 37000 - 40000 | 0.114 | 20.58 | 94M5W7D | 16QAM |
| n260 | 30 | MIMO | K Patch | 100 | 1 | 37000 - 40000 | 0.077 | 18.87 | 94M4W7D | 64QAM |
| n260 | 30 | MIMO | L Patch | 50 | 1 | 37000 - 40000 | 0.121 | 20.82 | 47M4G7D | QPSK |
| n260 | 30 | MIMO | L Patch | 50 | 1 | 37000 - 40000 | 0.098 | 19.91 | 46M6W7D | 16QAM |
| n260 | 30 | MIMO | L Patch | 50 | 1 | 37000 - 40000 | 0.065 | 18.16 | 46M6W7D | 64QAM |
| n260 | 30 | MIMO | L Patch | 100 | 1 | 37000 - 40000 | 0.123 | 20.91 | 94M5G7D | QPSK |
| n260 | 30 | MIMO | L Patch | 100 | 1 | 37000 - 40000 | 0.102 | 20.07 | 94M5W7D | 16QAM |
| n260 | 30 | MIMO | L Patch | 100 | 1 | 37000 - 40000 | 0.066 | 18.23 | 94M4W7D | 64QAM |

**EUT Overview (n260 - MIMO)**

# 1.0 INTRODUCTION

## 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

## 1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

## 1.3 Test Facility / Accreditations

**Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.**

- PCTEST is an ISO 17025-2005 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).

- PCTEST facility is a registered (2451B) test laboratory with the site description on file with ISED.

# 2.0 PRODUCT INFORMATION

## 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMN976V**. The test data contained in this report pertains only to the emissions due to the EUT's 5G mmWave function.

The EUT has 2 array antenna configurations. Type1: 4 patches and 4 dipoles, placed on the rear side (denoted as J Patch and J Dipole). Type 2: 4 patches only, placed on the left and right side (denoted as K patch and L Patch). Each of the patch antennas is comprised of two separate antenna feeds - one for horizontal and one for vertical polarization. Only one array antenna can be active at a time. Dipole antenna does not radiate when patch antenna radiates.

The EUT supports up to 8CC for DL, and 4CC for UL. For each CC, the EUT supports both 50MHz bandwidth and 100MHz bandwidth. For modulation, the EUT supports QPSK, 16QAM and 64QAM. Different Beam IDs are supported, each corresponding to a different position in space for each antenna. During testing, FTM (Factory Test Mode) was used to operate the transmitter. MIMO operation was achieved by enabling two Beam IDs at the same time: one is from the list of H Beam IDs and other is from the list of V Beam IDs.

**Test Device Serial No.:** 0103M, 0465M

## 2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev0/A, 1x Advanced (BC0, BC1), 850/1900 GSM/GPRS/EDGE, 850/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, Bluetooth (1x, EDR, LE), NFC, ANT+, Wireless Power Transfer, n261/n260 5G NR

## 2.3 Test Configuration

The EUT was tested per the guidance of KDB 842590 D01 v01 and ANSI C63.26-2015. See Section 7.0 of this test report for a description of the radiated tests.

EIRP Simulation data for all Beam IDs was used to determine the worst case Beam ID for SISO operation and Beam ID pair for MIMO operation. These Beam ID's were used for final measurements.

All testing was performed using FTM (Factory Test Mode) software at continuous Tx operation. When implemented out in the field, the EUT will operate with a maximum uplink configuration (i.e., a maximum uplink duty cycle of 100%).

## 2.4 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

# 3.0 DESCRIPTION OF TESTS

## 3.1 Measurement Procedure

The measurement procedures described in the document titled "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.26-2015) and the guidance provided in KDB 842590 D01 v01 were used in the measurement of the EUT.

## 3.2 Radiated Power and Radiated Spurious Emissions

**§30.202, §30.203**

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary for radiated emissions measurements in the spurious domain. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m for measurements above 1GHz.

Radiated power (EIRP) measurements were performed in a full anechoic chamber (FAC) conforming to the site validation requirements of CISPR 16-1-4. A positioner was used to manipulate the EUT through several positions in space by rotating about the roll axis as shown in the figure below. The positioner was mounted on top of a turntable bringing the total EUT height to 1.5m.

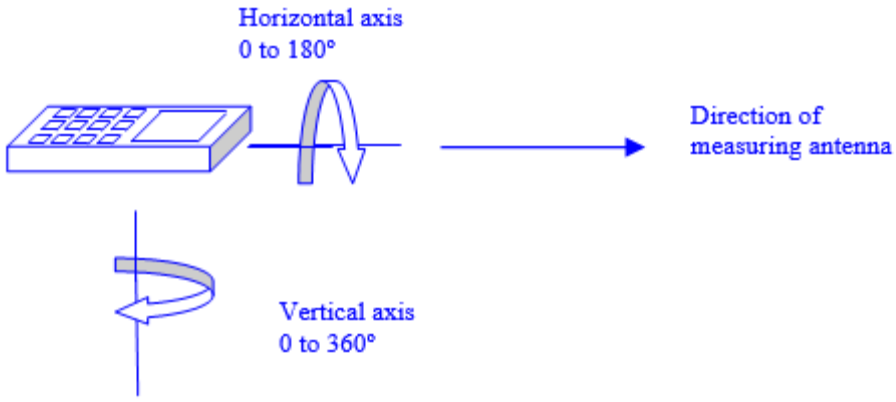



**Figure 3-1. Rotation of the EUT through horizontal and vertical axis**

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable. The measurement antenna is in the far field of the EUT per formula $2D^2/\lambda$ where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, D is the largest dimension of the measurement antenna. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

| Frequency Range (GHz) | Wavelength(cm) | Far Field Distance (m) | Measurement Distance (m) |
|---|---|---|---|
| 18-40 | 0.749 | 0.54 | 1.00 |
| 40-60 | 0.500 | 1.39 | 1.50 |
| 60-90 | 0.333 | 0.91 | 1.00 |
| 90-140 | 0.214 | 0.58 | 1.00 |
| 140-200 | 0.150 | 0.39 | 1.00 |

**Table 3-1. Far-Field Distance & Measurment Distance per Frequency Range**

Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning. It was determined that H=0 degree and V=90 degree are the worst case positions when the EUT was transmitting horizontally and vertically polarized beams, respectively.

The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration bandwidth set to the emissions' occupied bandwidth. The EIRP is calculated from the raw power level measured with the spectrum analyzer using the formulas shown below.

## Effective Isotropic Radiated Power Sample Calculation

The measured e.i.r.p is converted to E-field in V/m. Then, the distance correction is applied before converting back to calculated e.i.r.p, as explained in KDB 971168 D01.

**Field Strength [dBμV/m]** = Measured Value [dBm] + AFCL [dB/m] + 107

= - 32.74 dBm + (40.7dB/m + 8.78dB) + 107 = 123.74dBuV/m

= 10^(123.74/20)/1000000 = 1.54 V/m

**e.i.r.p. [dBm]** = 10 * log((E-Field*$D_m$)^2/30) + 30dB

= 10*log((1.54V/m * 1.00m)^2/30) + 30dB

= 18.98 dBm e.i.r.p.

## Sample MIMO e.i.r.p. Calculation:

The e.i.r.p of the H Beam and V Beam were first measured individually. The measured values were then summed in linear power units then converted back to dBm per the guidance of KDB 662911 D01.

Conversion to linear value = 10^(e.i.r.p/10) = 10^(17.45/10) = 55.59mW

MIMO e.i.r.p. = $e.i.r.p._H$ + $e.i.r.p._V$

= 55.59mW + 20.04mW

=10*log(75.63mW)

= 18.79dBm

# 4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the $U_{CISPR}$ measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Contribution | Expanded Uncertainty (±dB) |
|---|---|
| Conducted Bench Top Measurements | 1.13 |
| Radiated Disturbance (<1GHz) | 4.98 |
| Radiated Disturbance (>1GHz) | 5.07 |
| Radiated Disturbance (>18GHz) | 5.09 |

# 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to an accredited ISO/IEC 17025 calibration facility. Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

| Manufacturer | Model | Description | Cal Date | Cal Interval | Cal Due | Serial Number |
|---|---|---|---|---|---|---|
| Agilent | N9030A | PXA Signal Analyzer (44GHz) | 7/25/2018 | Annual | 7/25/2019 | MY52350166 |
| Com-Power | AL-130 | 9kHz - 30MHz Loop Antenna | 10/10/2017 | Biennial | 10/10/2019 | 121034 |
| Com-Power | PAM-103 | Pre-Amplifier (1-1000MHz) | 9/17/2018 | Annual | 9/17/2019 | 441119 |
| Emco | 3115 | Horn Antenna (1-18GHz) | 3/28/2018 | Biennial | 3/28/2020 | 9704-5182 |
| Espec | ESX-2CA | Environmental Chamber | 6/13/2019 | Annual | 6/13/2020 | 17620 |
| Keysight Technologies | N9030A | 3Hz-44GHz PXA Signal Analyzer | 5/2/2019 | Annual | 5/2/2020 | MY49430494 |
| OML, Inc. | M19RH | Horn Antenna (40 - 60GHz) | 7/30/2018 | Annual | 7/30/2019 | 18073001 |
| OML, Inc. | M12RH | Horn Antenna (60 - 90GHz) | 7/30/2018 | Annual | 7/30/2019 | 18073001 |
| OML, Inc. | M08RH | Horn Antenna (90 - 140GHz) | 7/30/2018 | Annual | 7/30/2019 | 18073001 |
| OML, Inc. | M05RH | Horn Antenna (140 - 220GHz) | 7/30/2018 | Annual | 7/30/2019 | 18073001 |
| Rohde & Schwarz | FSW67 | Signal / Spectrum Analyzer | 8/17/2018 | Annual | 8/17/2019 | 103200 |
| Rohde & Schwarz | 180-442-KF | Horn (Small) | 8/21/2018 | Annual | 8/21/2019 | U157403-01 |
| Rohde & Schwarz | ESU26 | EMI Test Receiver (26.5GHz) | 6/5/2019 | Annual | 6/5/2020 | 100342 |
| Rohde & Schwarz | SFUNIT-Rx | Shielded Filter Unit | 6/18/2018 | Annual | 6/18/2019 | 102134 |
| Sunol | JB5 | Bi-Log Antenna (30M - 5GHz) | 4/19/2018 | Biennial | 4/19/2020 | A051107 |
| Virginia Diodes Inc | SAX252 | SAX Module (60 - 90GHz) | 8/14/2018 | Annual | 8/14/2019 | SAX252 |
| Virginia Diodes Inc | SAX253 | SAX Module (90 - 140GHz) | 8/8/2018 | Annual | 8/8/2019 | SAX253 |
| Virginia Diodes Inc | SAX254 | SAX Module (140 - 220GHz) | 8/22/2018 | Annual | 8/22/2019 | SAX254 |

**Table 5-1. Test Equipment**

**Notes:**

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

# 6.0 SAMPLE CALCULATIONS

## Emission Designator

### QPSK Modulation

**Emission Designator = 800MG7D**

BW = 800 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

### QAM Modulation

**Emission Designator = 802MW7D**

BW = 802 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

# 7.0 TEST RESULTS

## 7.1 Summary

Company Name: Samsung Electronics Co., Ltd.

FCC ID: A3LSMN976V

FCC Classification: Part 30 Mobile Transmitter (5GM)

Mode(s): TDD

| FCC Part Section(s) | Test Description | Test Limit | Test Condition | Test Result | Reference |
|---|---|---|---|---|---|
| 2.1049 | Occupied Bandwidth | N/A | RADIATED | PASS | Section 7.2 |
| 2.1046, 30.202 | Equivalent Isotropic Radiated Power | 43dBm | | PASS | Section 7.3 |
| 2.1051, 30.203 | Spurious Emissions | -13dBm/MHz for all out-of-band emissions | | PASS | Section 7.4 |
| 2.1051, 30.203 | Out-of-Band Emissions at the Band Edge | -13dBm/MHz for all out-of-band emissions, -5dBm/MHz from the band edge up to 10% of the channel BW | | PASS | Section 7.5 |
| 2.1055 | Frequency Stability | Fundamental emissions stay within authorized frequency block | | PASS | Section 7.6 |

**Table 7-1. Summary of Radiated Test Results**

**Notes:**

1) All modes of operation and modulations were investigated. The test results shown in the following sections represent the worst case emissions.
2) Per 2.1057(a)(2), spurious emissions were investigated up to 100GHz for n261 and up to 200GHz for n260.
3) All radiated emission measurements at the band edge are converted to an equivalent conductive power by subtracting the known antenna gain from the EIRP measured at each frequency of interest. These emissions are compared to the 30.203 spurious emission limits as conductive power levels.
4) The radiated RF output power and all out-of-band emissions in the spurious domain are evaluated to the EIRP limits.
5) "CC" refers to "Component Carriers".
6) Beam IDs were chosed based on which Beam ID produces the highest EIRP during EIRP simulation.
7) All testing was performed using FTM (Factory Test Mode) software at continuous Tx operation (100% duty cycle).

## 7.2 Occupied Bandwidth

**§2.1049**

### Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

### Test Procedure Used

ANSI C63.26-2015 Section 5.4.3
KDB 842590 D01 v01 Section 4.3

### Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

### Test Notes

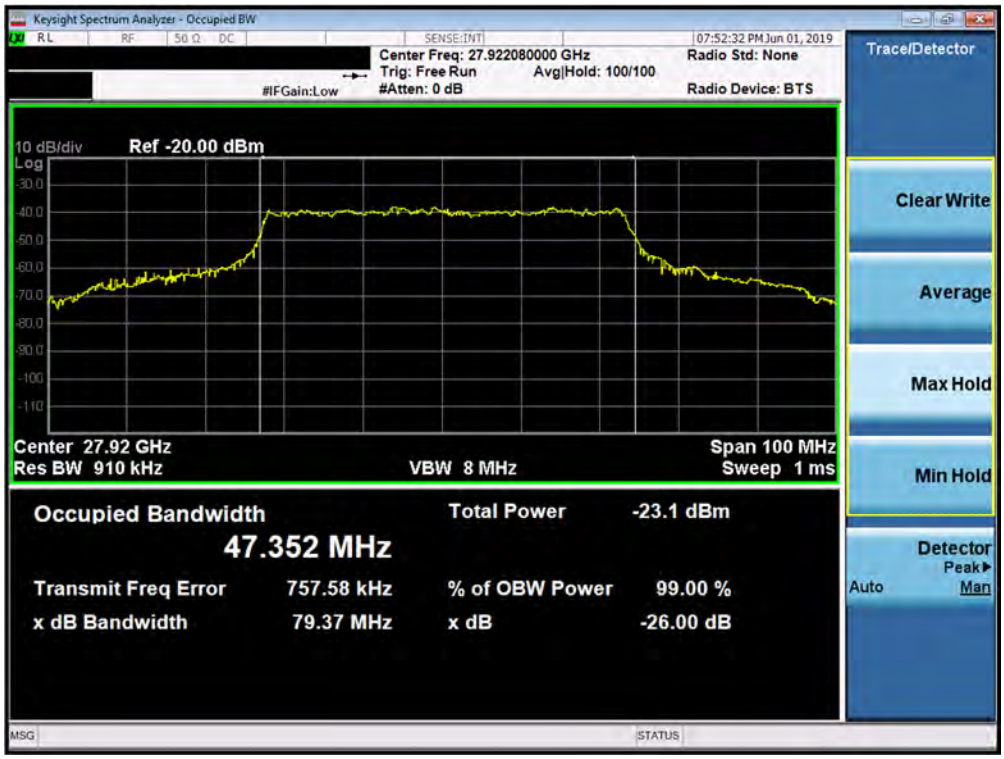
None.

### 7.2.1 n261 Occupied Bandwidth

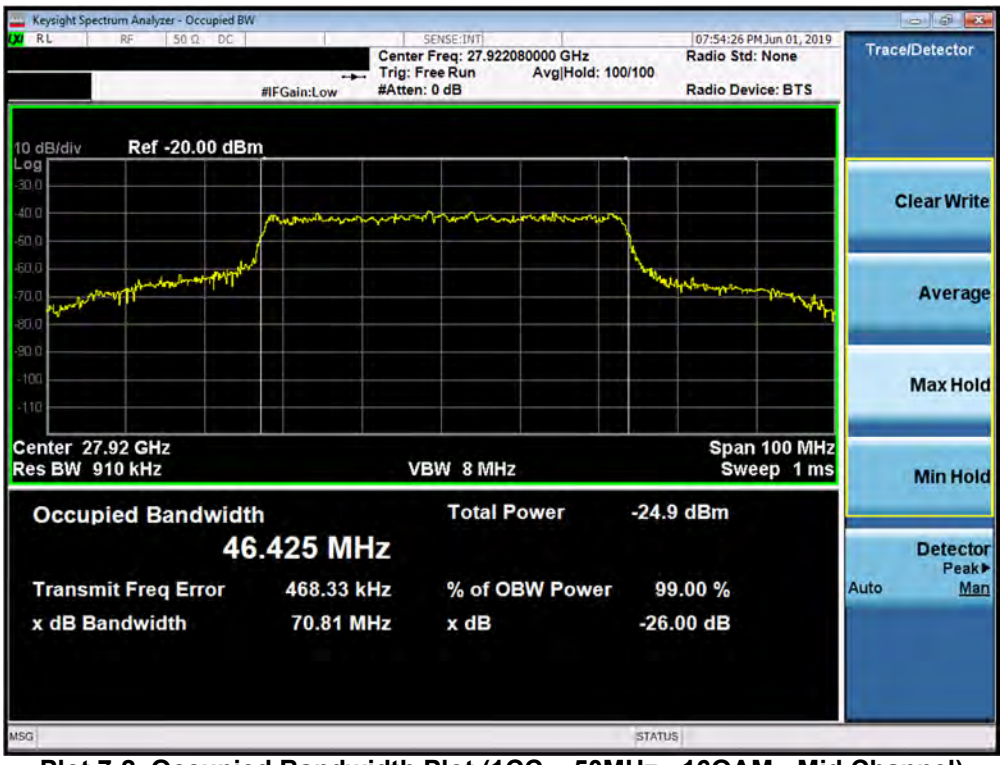
### J Dipole Occupied Bandwidth (n261)

| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.35 |
| Mid | 50 | 1 | 16QAM | 46.43 |
| Mid | 50 | 1 | 64QAM | 46.46 |
| Mid | 100 | 1 | QPSK | 94.54 |
| Mid | 100 | 1 | 16QAM | 94.36 |
| Mid | 100 | 1 | 64QAM | 94.18 |
| Mid | 200 | 4 | QPSK | 218.86 |
| Mid | 200 | 4 | 16QAM | 197.98 |
| Mid | 200 | 4 | 64QAM | 196.00 |
| Mid | 400 | 4 | QPSK | 396.55 |
| Mid | 400 | 4 | 16QAM | 395.31 |
| Mid | 400 | 4 | 64QAM | 392.79 |

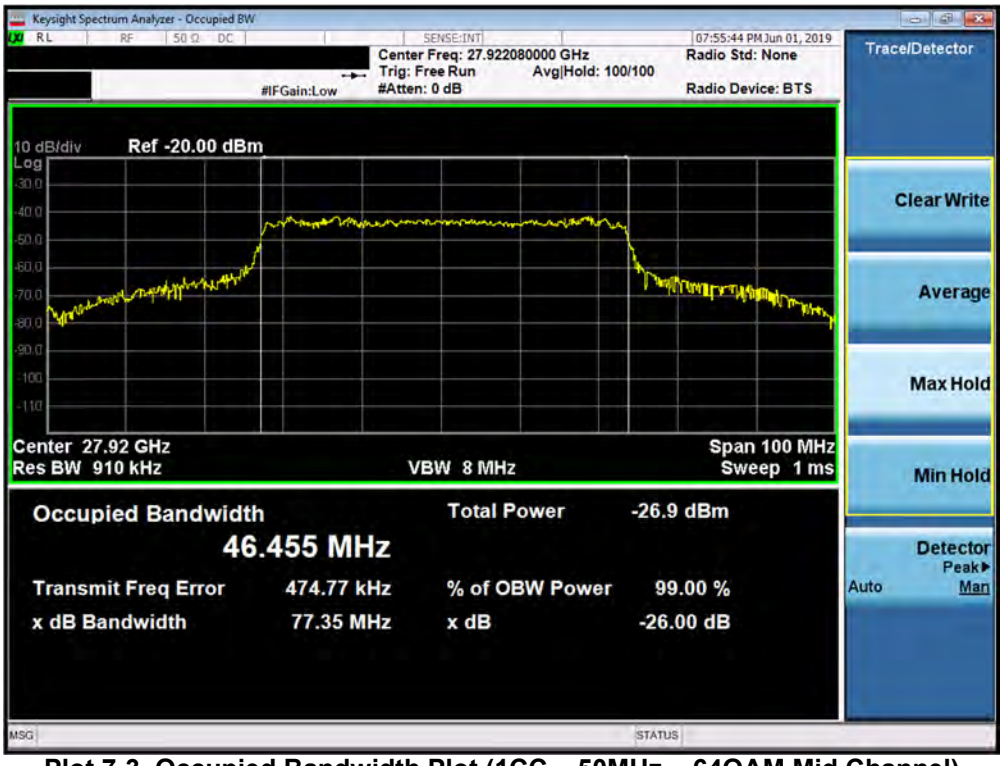
**Table 7-2. Summary of J Dipole Occupied Bandwidths (n261)**



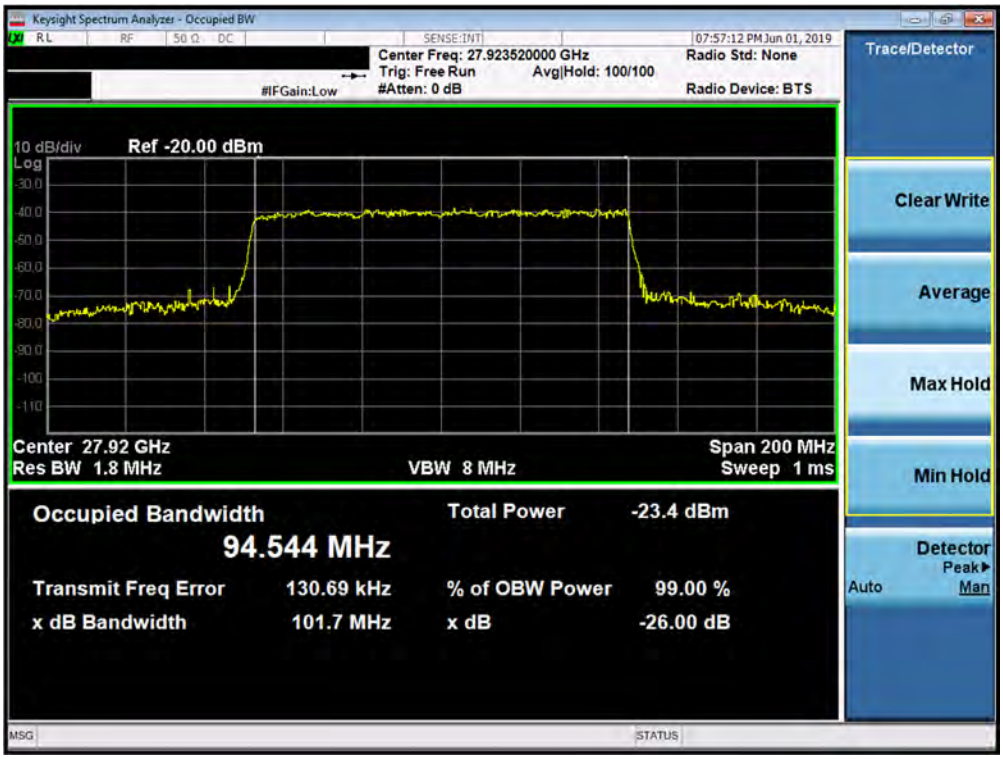

**Plot 7-1. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**



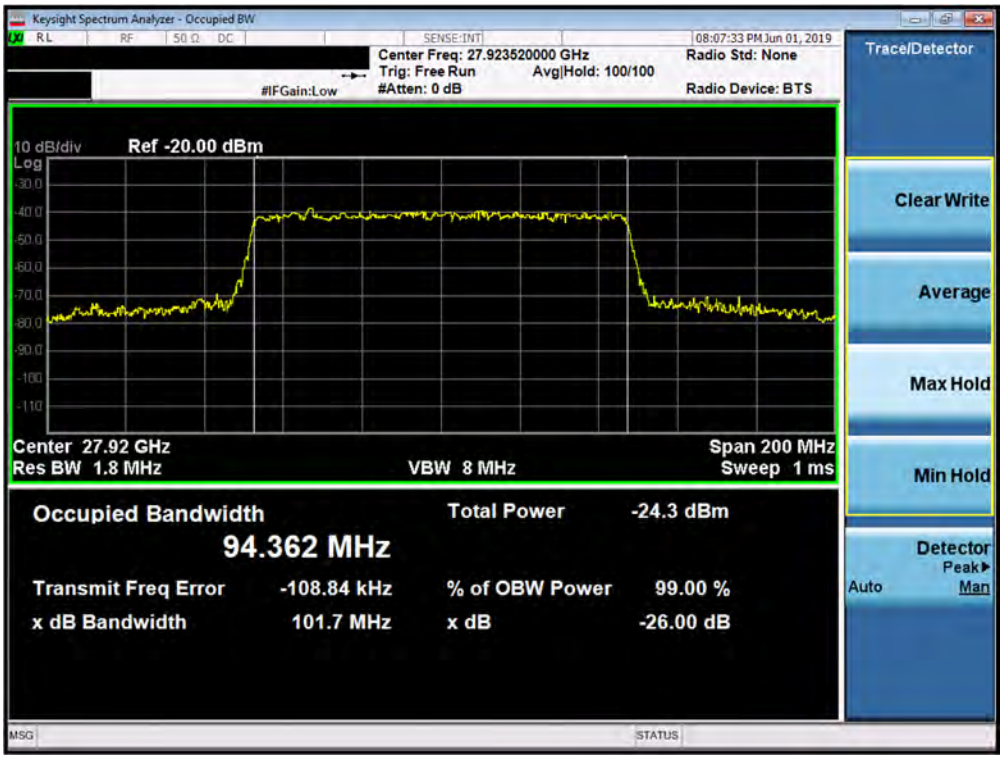

**Plot 7-2. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**



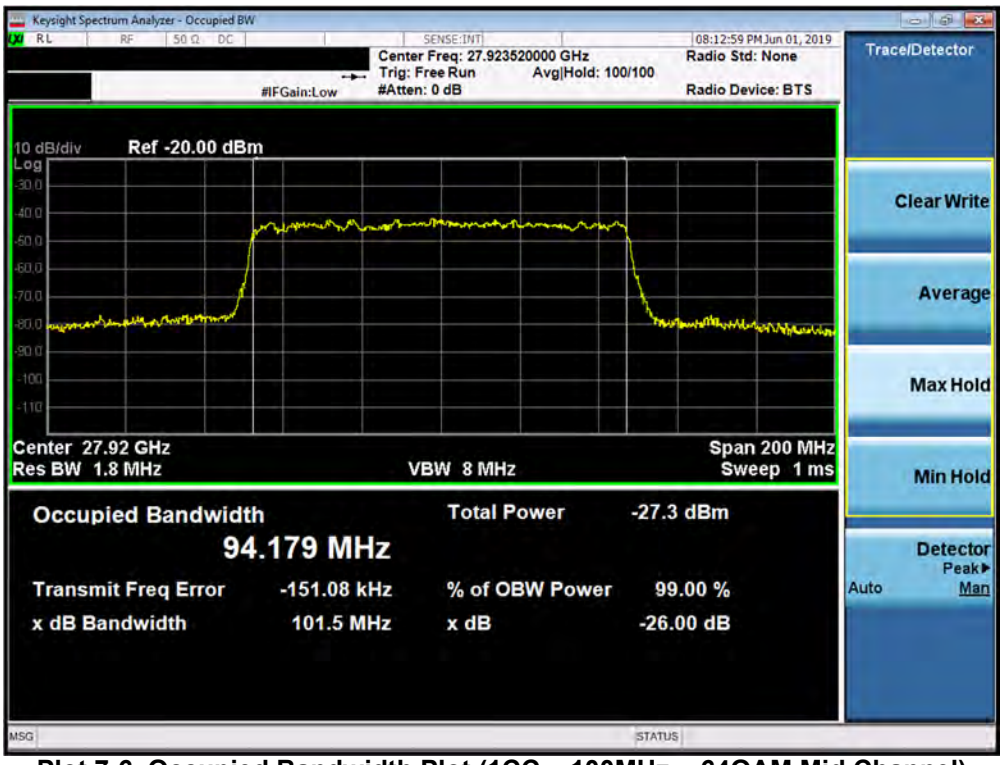

**Plot 7-3. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



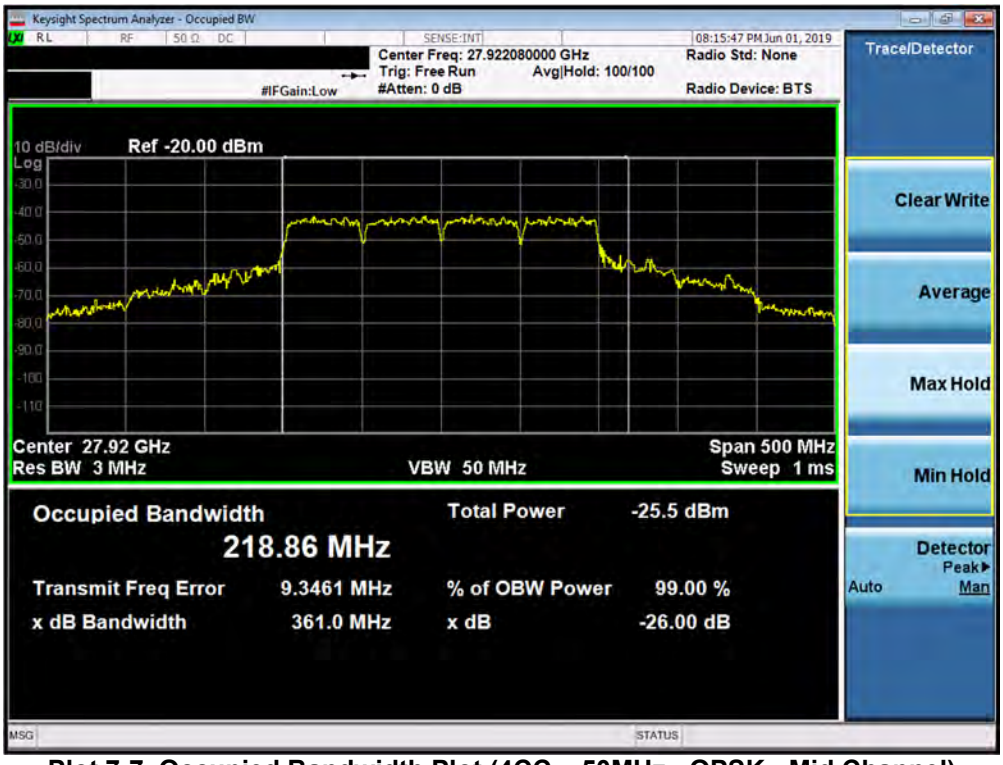

**Plot 7-4. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



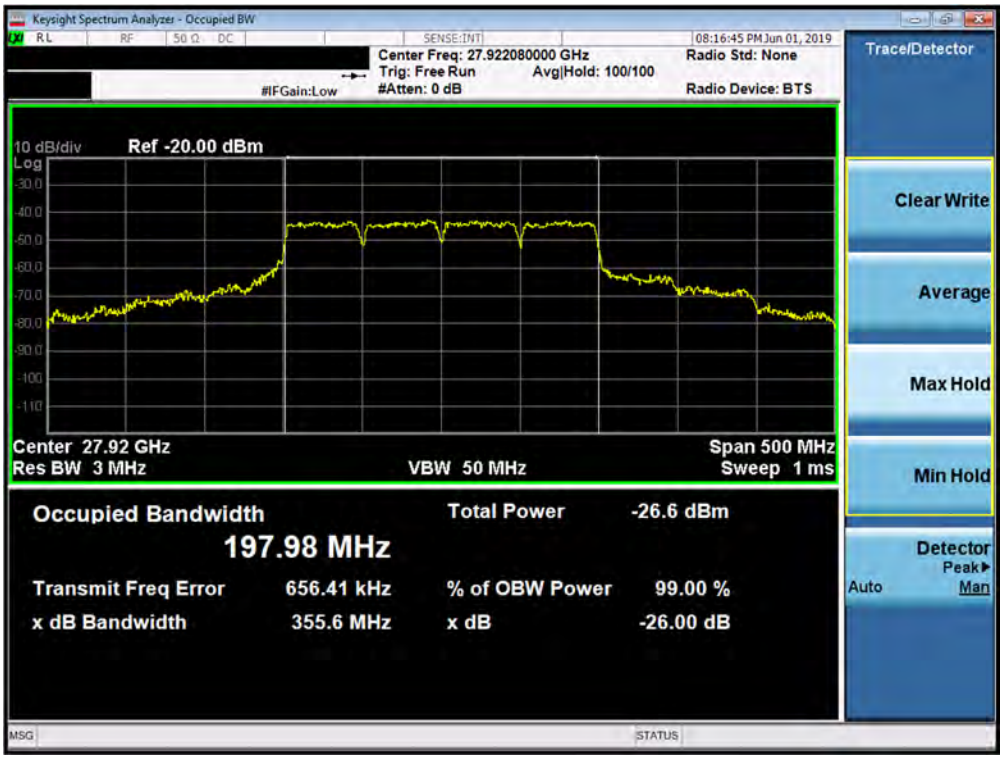

**Plot 7-5. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**




**Plot 7-6. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**




**Plot 7-7. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**

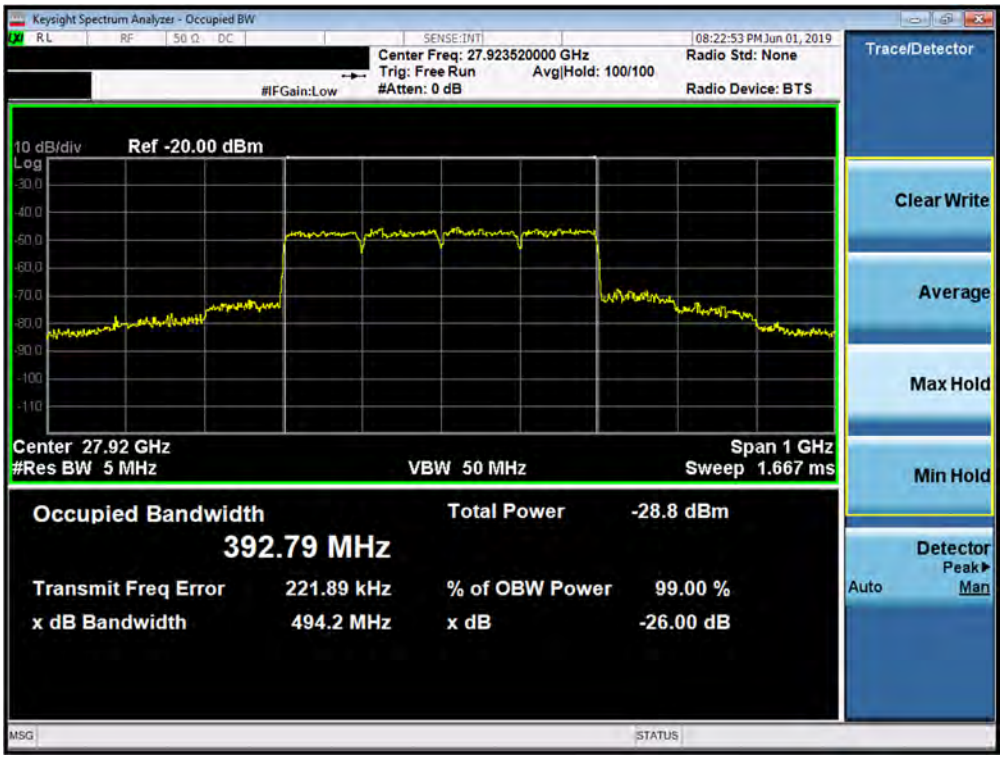



**Plot 7-8. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**


**Plot 7-9. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**


**Plot 7-10. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-11. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**

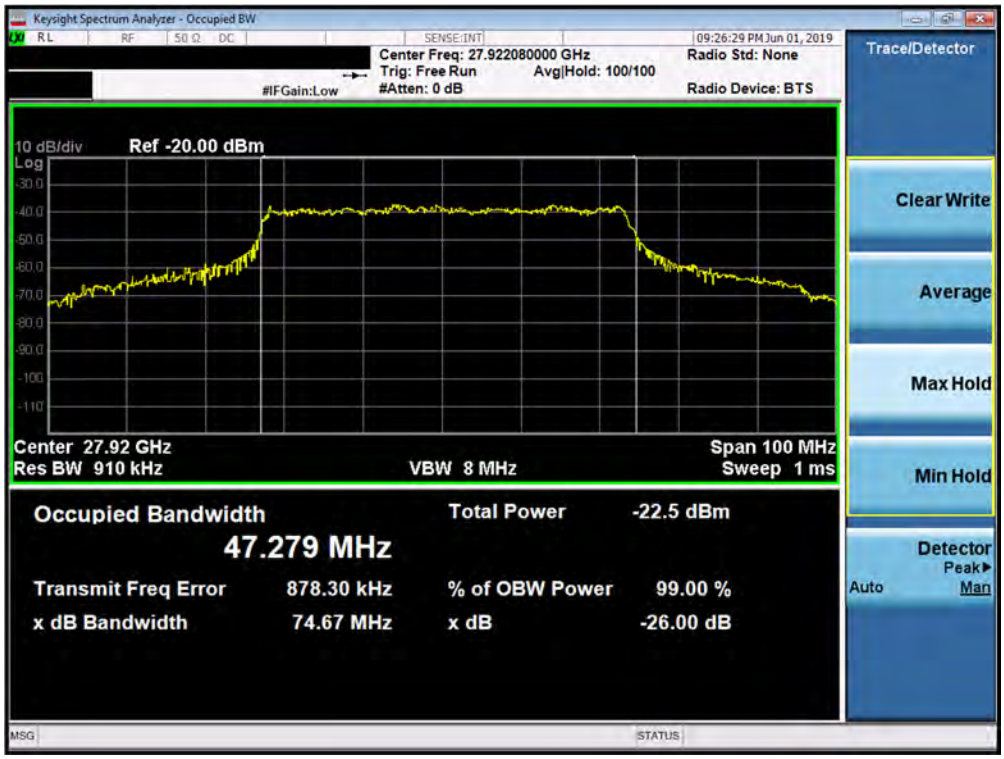



**Plot 7-12. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

## J Patch Occupied Bandwidth (n261)

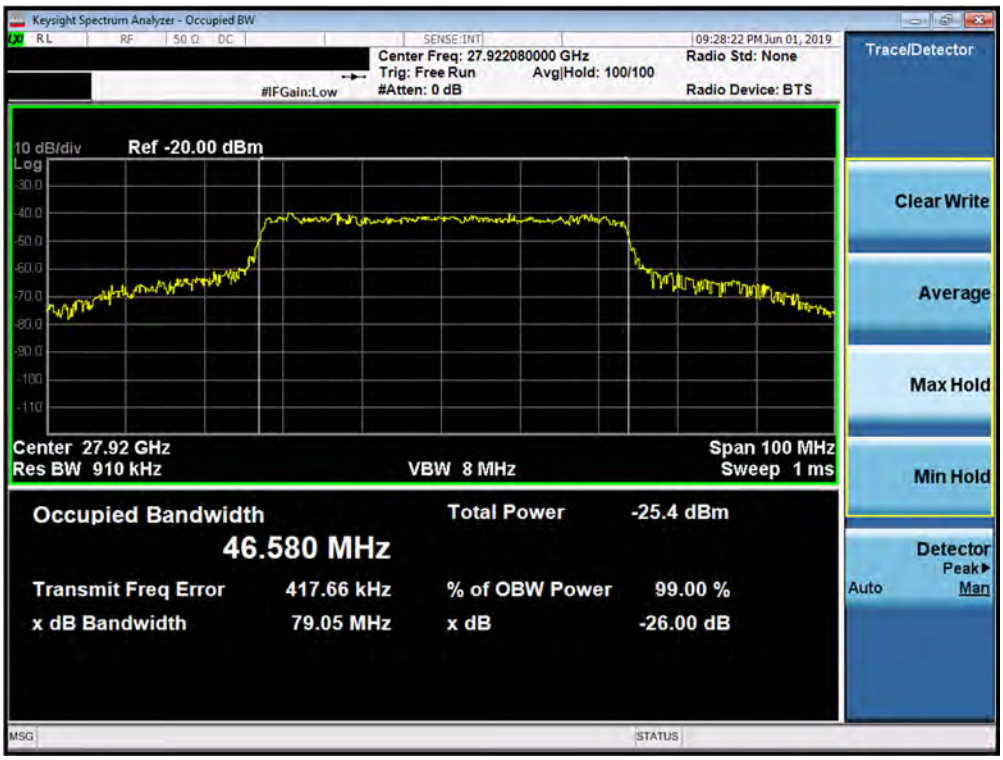
| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.28 |
| Mid | 50 | 1 | 16QAM | 46.48 |
| Mid | 50 | 1 | 64QAM | 46.58 |
| Mid | 100 | 1 | QPSK | 94.59 |
| Mid | 100 | 1 | 16QAM | 94.39 |
| Mid | 100 | 1 | 64QAM | 94.11 |
| Mid | 200 | 4 | QPSK | 201.35 |
| Mid | 200 | 4 | 16QAM | 196.90 |
| Mid | 200 | 4 | 64QAM | 195.75 |
| Mid | 400 | 4 | QPSK | 394.69 |
| Mid | 400 | 4 | 16QAM | 394.03 |
| Mid | 400 | 4 | 64QAM | 392.76 |

**Table 7-3. Summary of J Patch Occupied Bandwidths (n261)**

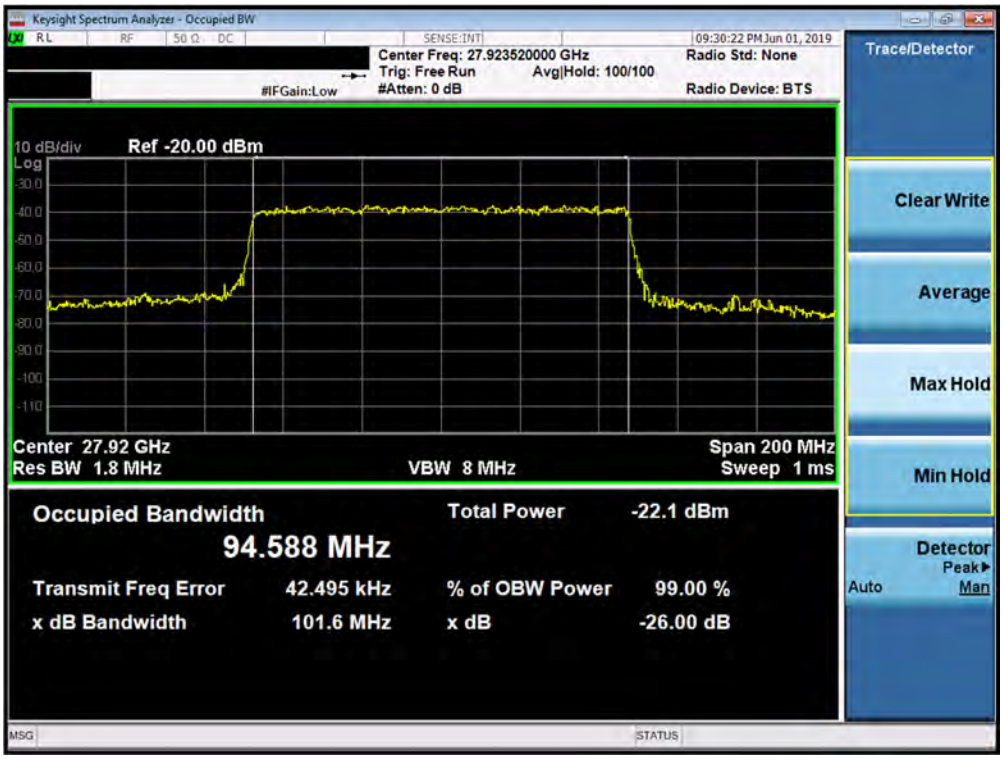



**Plot 7-13. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**

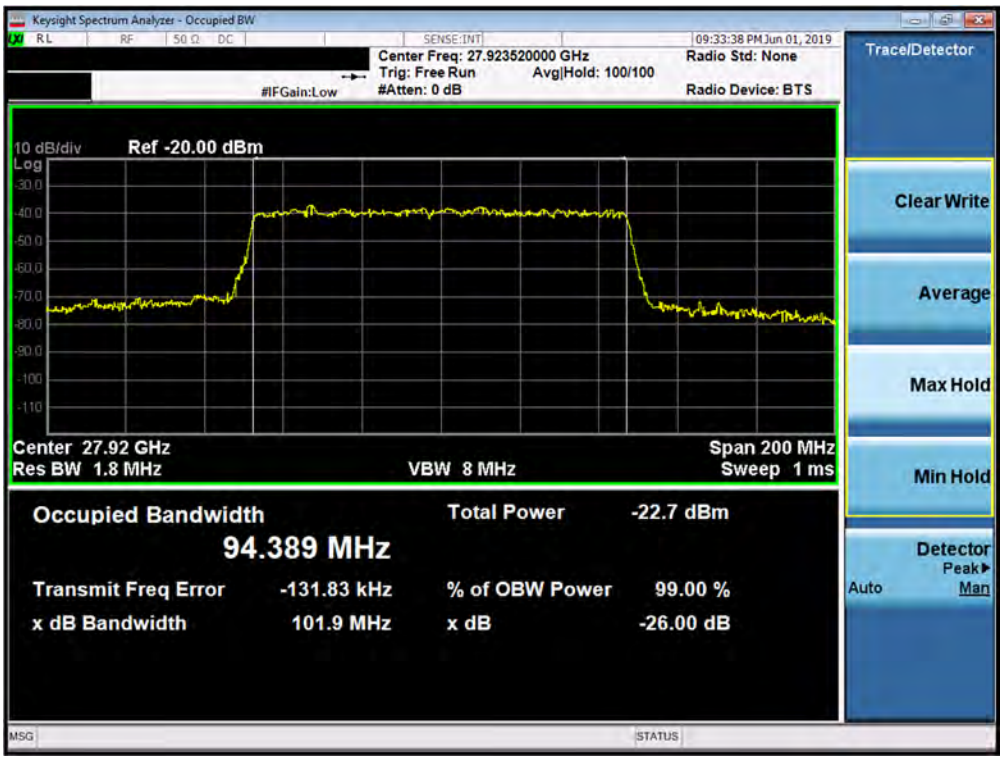

**Plot 7-14. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**



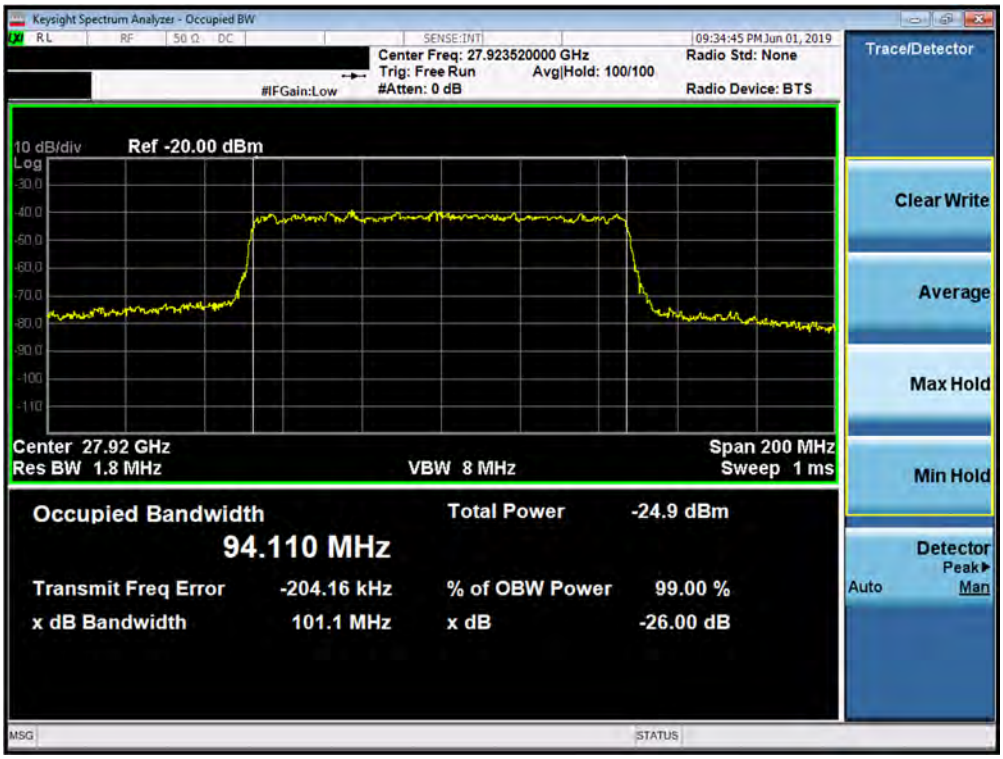

**Plot 7-15. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



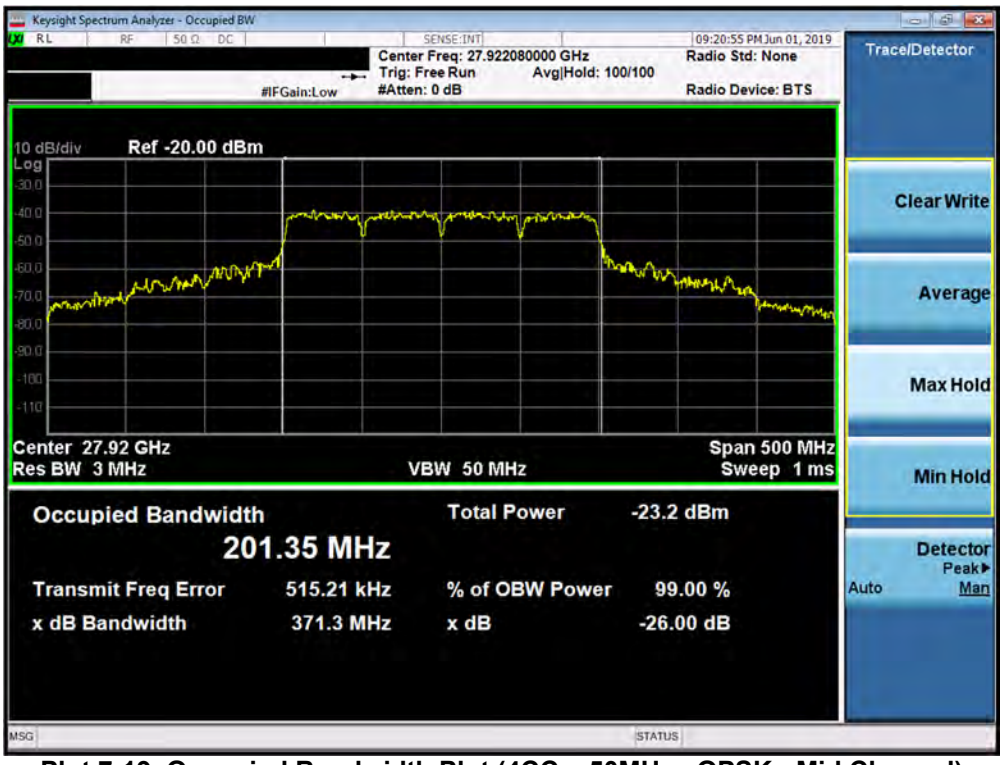

**Plot 7-16. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



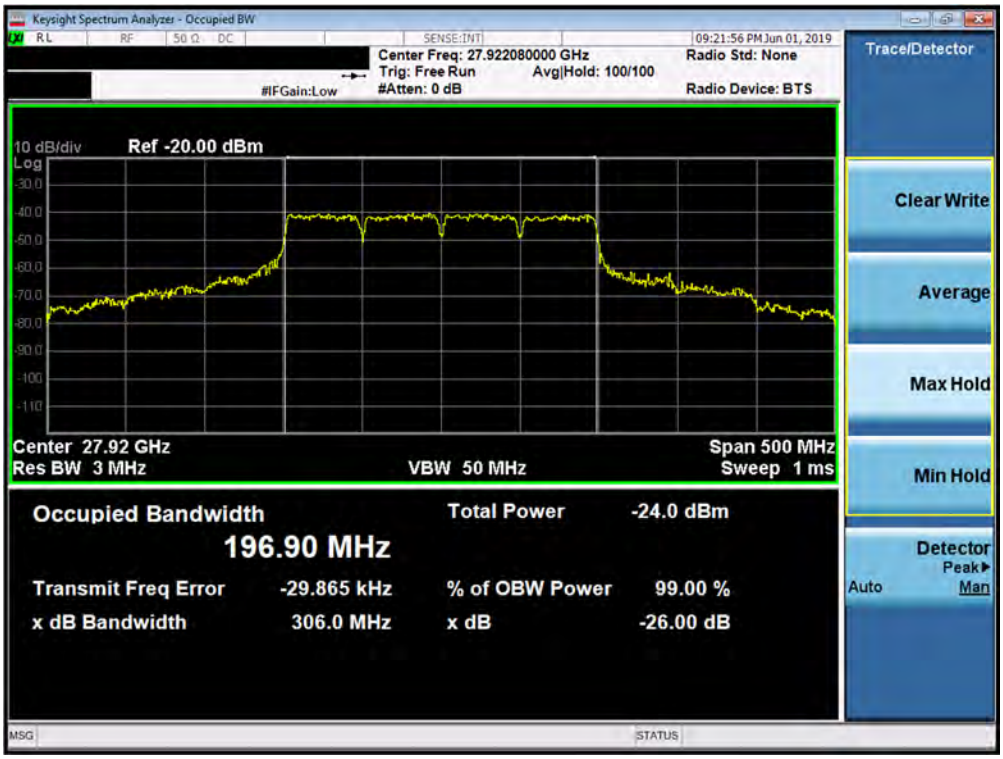

**Plot 7-17. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**




**Plot 7-18. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**




**Plot 7-19. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**

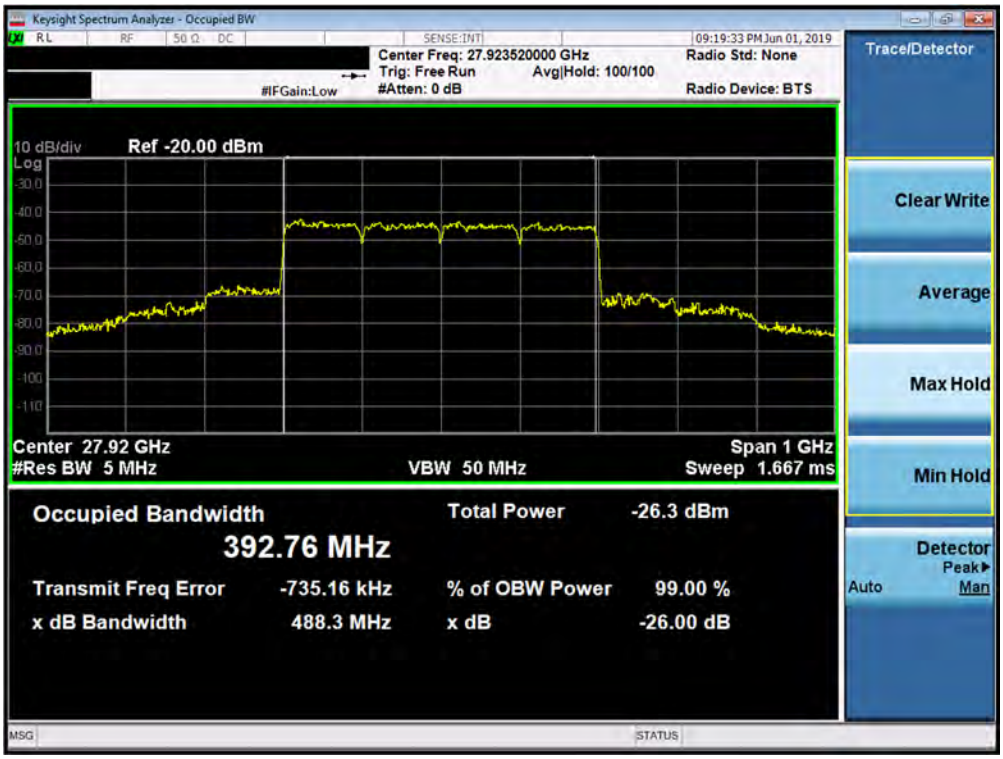



**Plot 7-20. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**


**Plot 7-21. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**


**Plot 7-22. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-23. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**

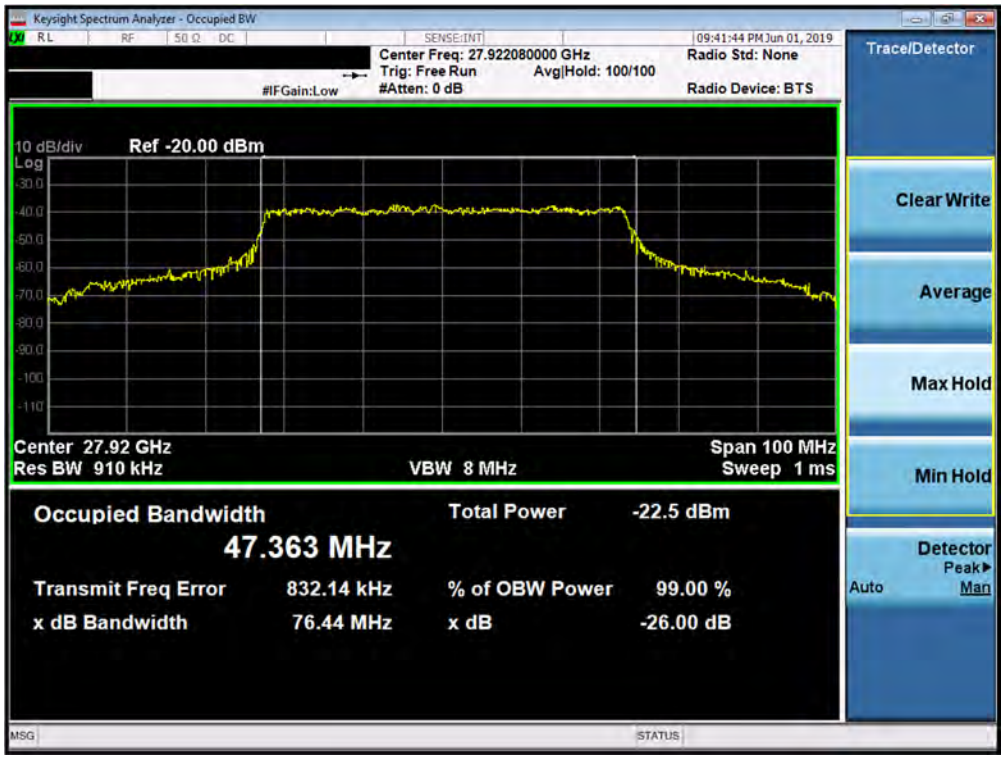



**Plot 7-24. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

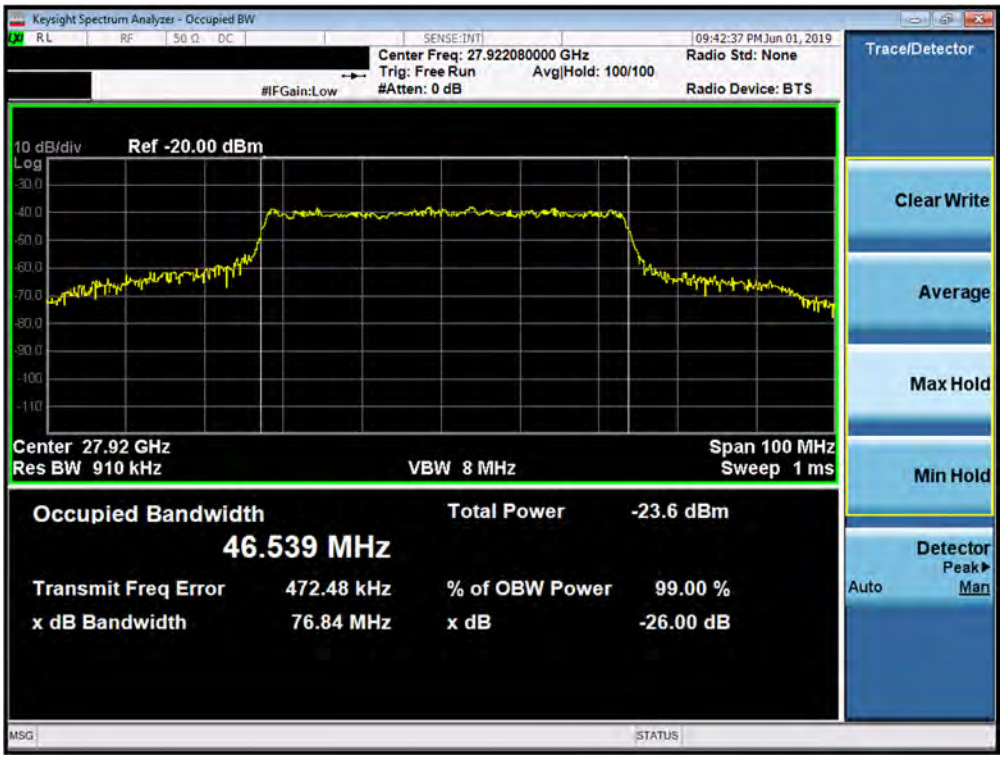
## K Patch Occupied Bandwidth (n261)

| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.36 |
| Mid | 50 | 1 | 16QAM | 46.54 |
| Mid | 50 | 1 | 64QAM | 46.72 |
| Mid | 100 | 1 | QPSK | 94.63 |
| Mid | 100 | 1 | 16QAM | 94.36 |
| Mid | 100 | 1 | 64QAM | 94.25 |
| Mid | 200 | 4 | QPSK | 200.95 |
| Mid | 200 | 4 | 16QAM | 197.45 |
| Mid | 200 | 4 | 64QAM | 196.08 |
| Mid | 400 | 4 | QPSK | 396.19 |
| Mid | 400 | 4 | 16QAM | 395.49 |
| Mid | 400 | 4 | 64QAM | 393.44 |

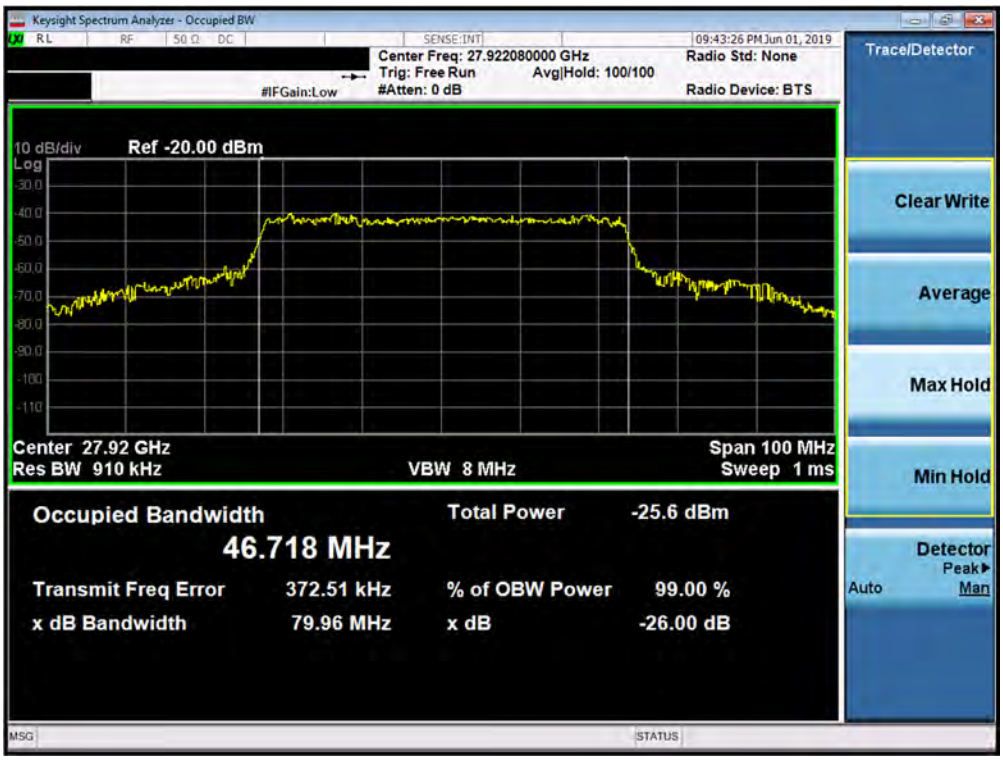
**Table 7-4. Summary of K Patch Occupied Bandwidths (n261)**



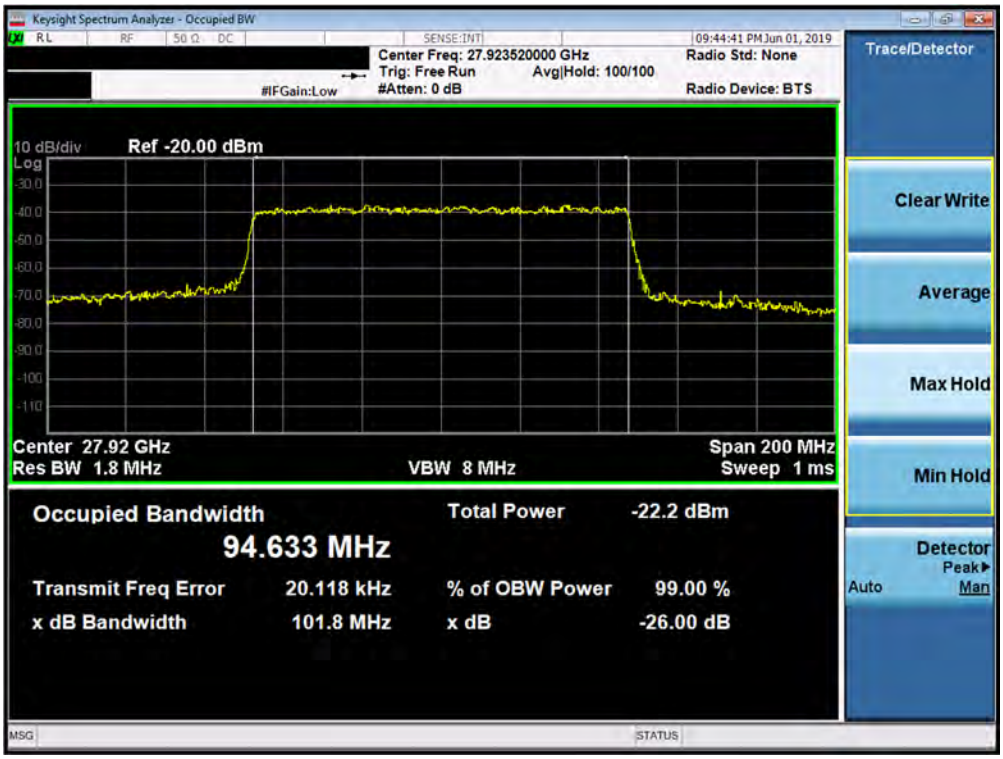

**Plot 7-25. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**



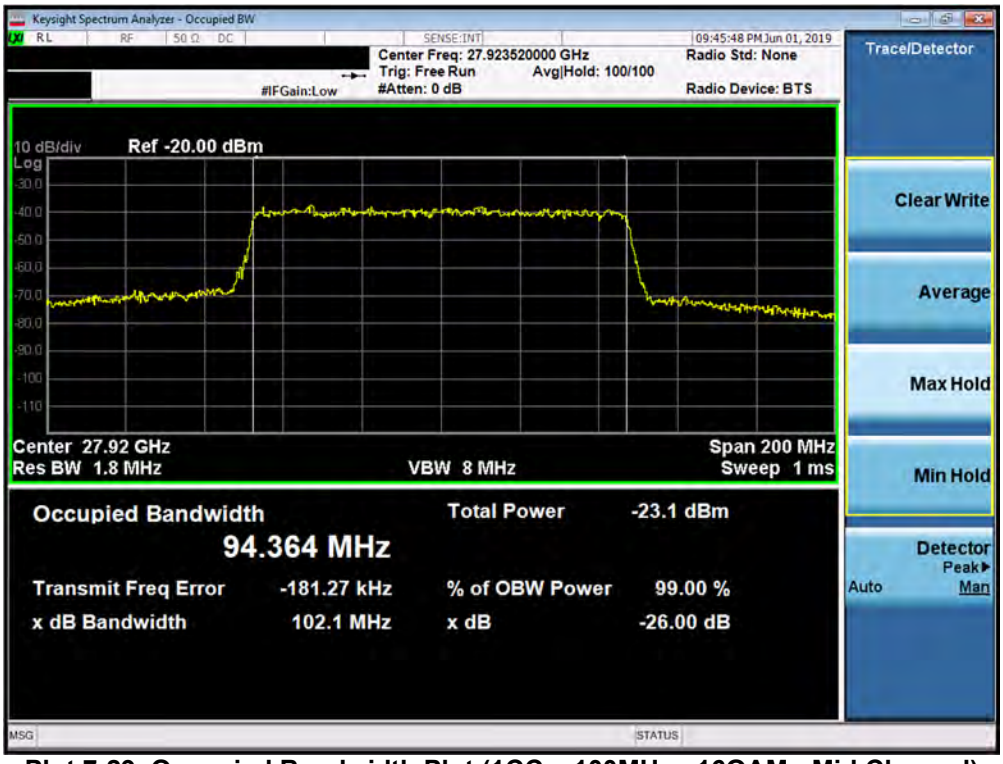

**Plot 7-26. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**



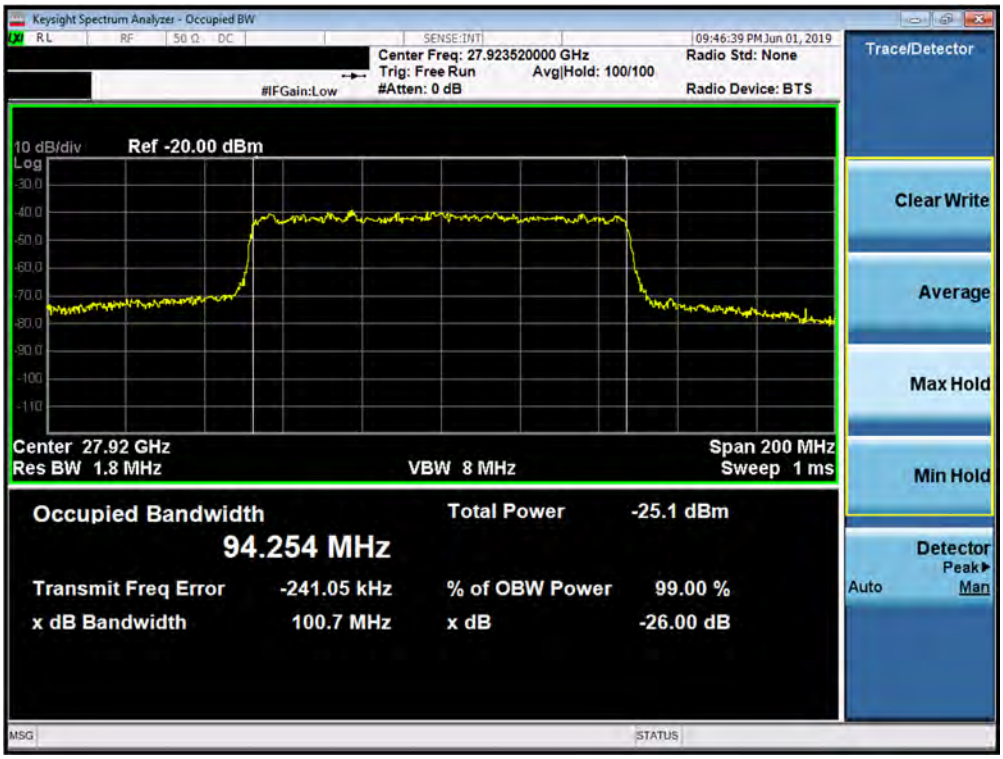

**Plot 7-27. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



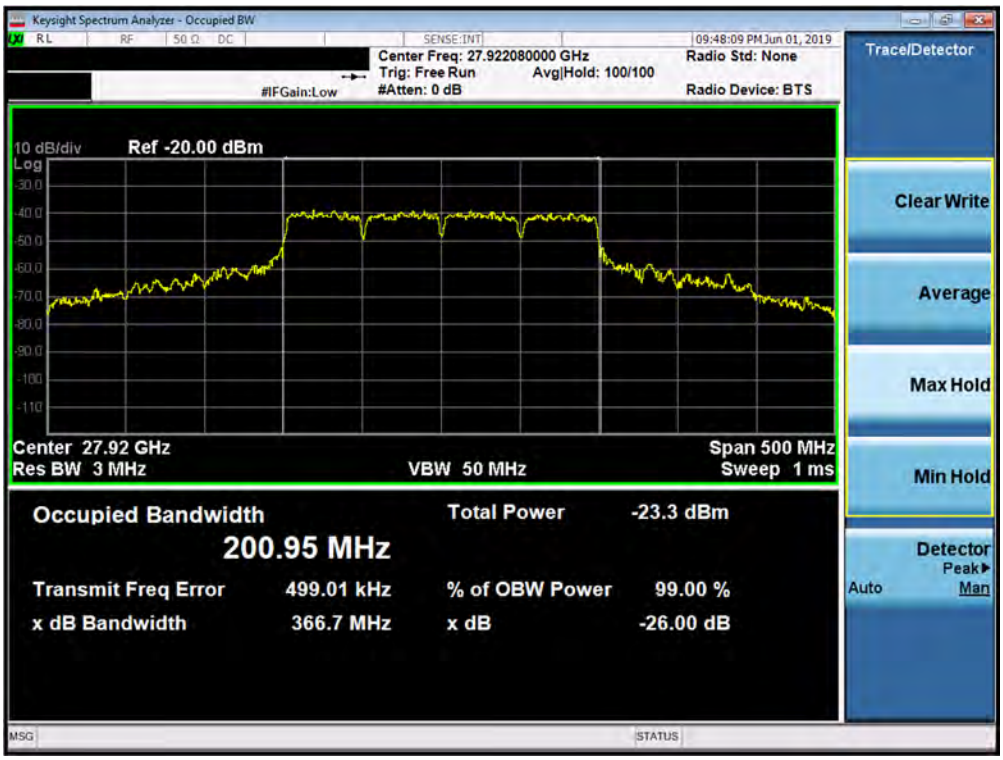

**Plot 7-28. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



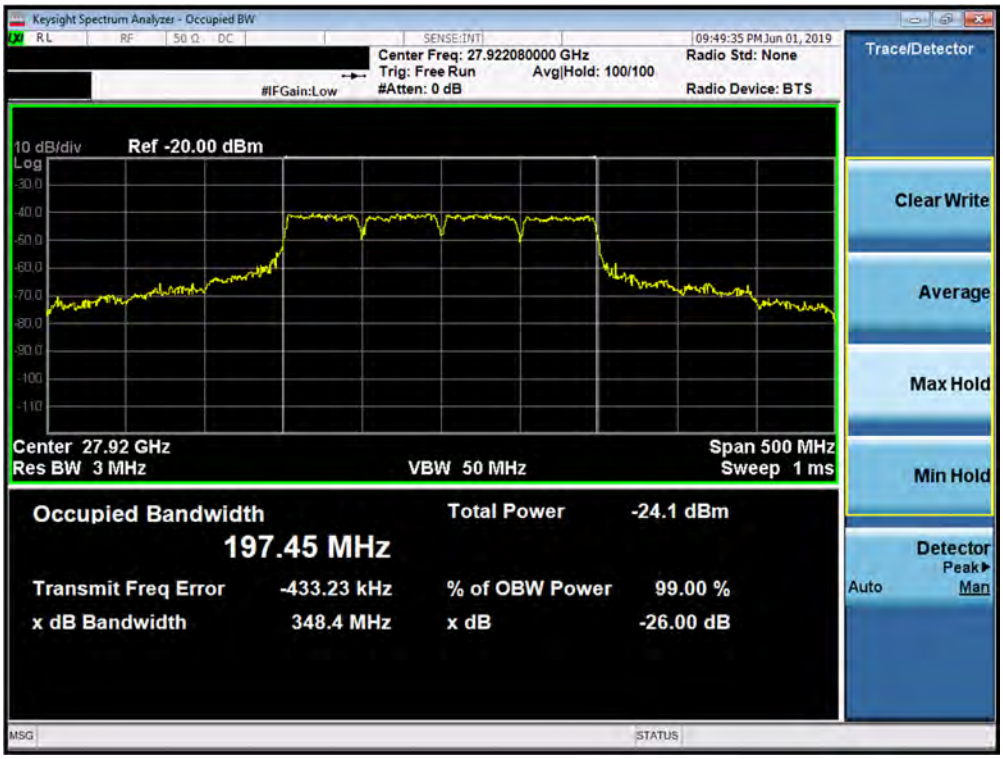

**Plot 7-29. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**




**Plot 7-30. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**




**Plot 7-31. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**

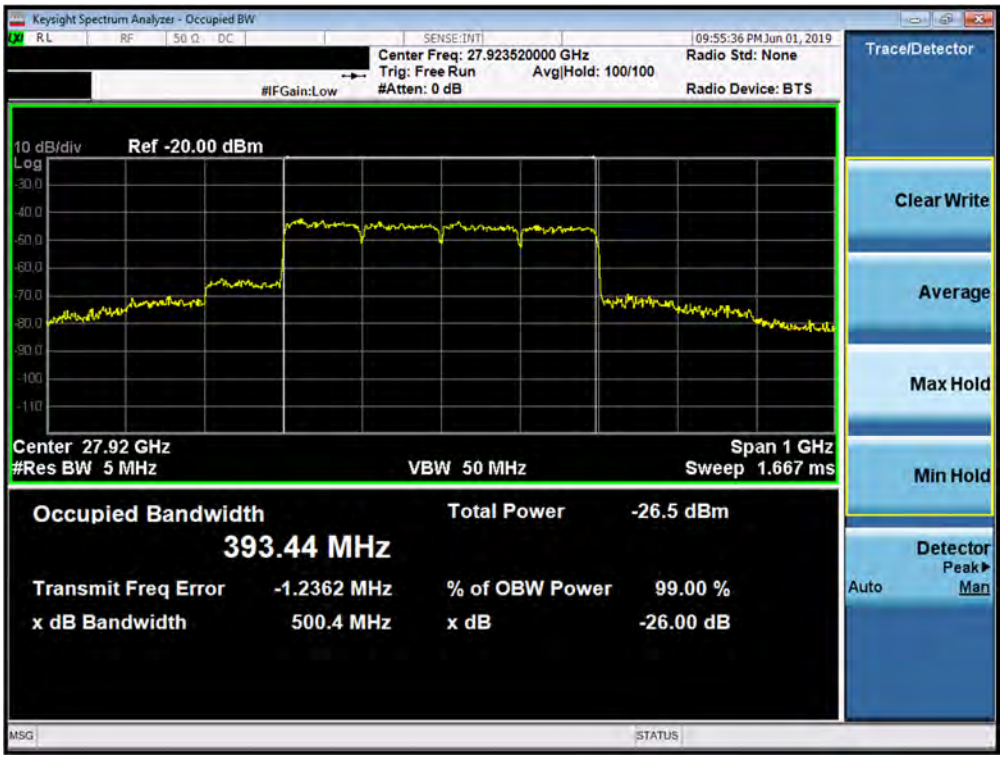



**Plot 7-32. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**


**Plot 7-33. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**


**Plot 7-34. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-35. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**

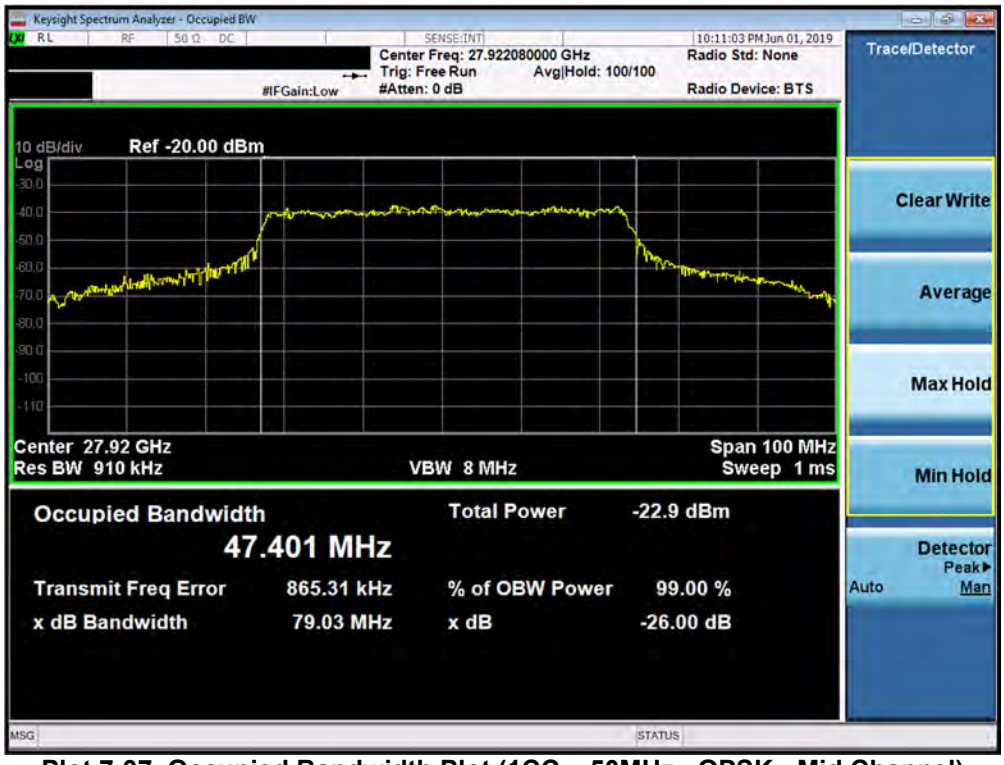



**Plot 7-36. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

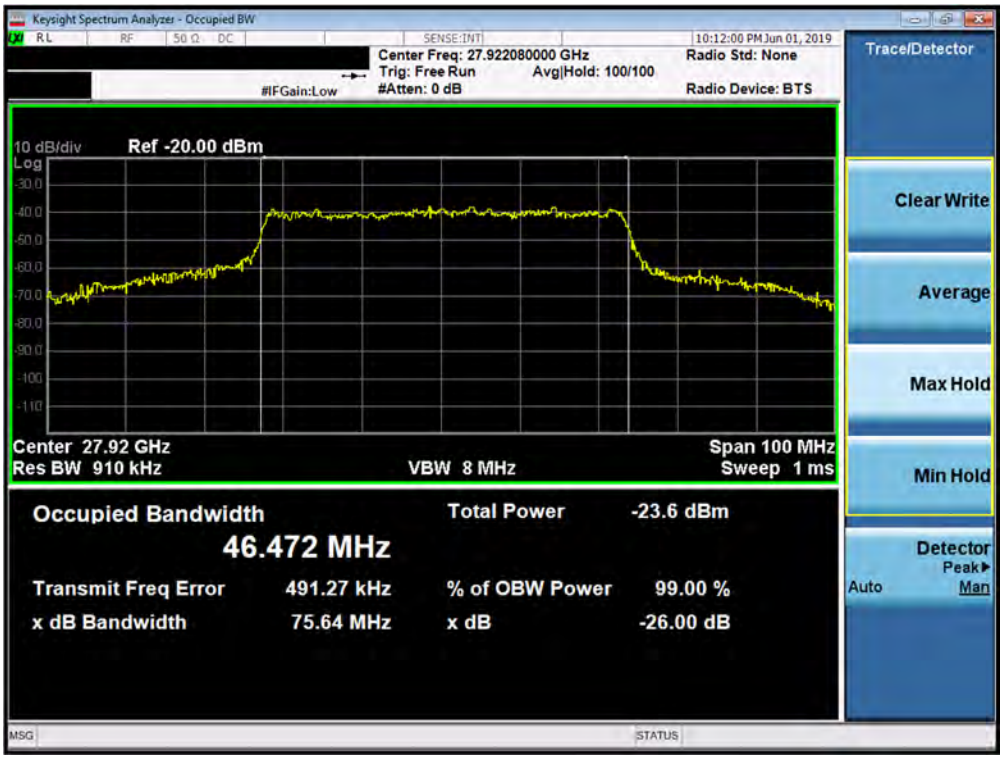
## L Patch Occupied Bandwidth (n261)

| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.40 |
| Mid | 50 | 1 | 16QAM | 46.47 |
| Mid | 50 | 1 | 64QAM | 46.53 |
| Mid | 100 | 1 | QPSK | 94.42 |
| Mid | 100 | 1 | 16QAM | 94.33 |
| Mid | 100 | 1 | 64QAM | 94.33 |
| Mid | 200 | 4 | QPSK | 200.14 |
| Mid | 200 | 4 | 16QAM | 196.84 |
| Mid | 200 | 4 | 64QAM | 195.98 |
| Mid | 400 | 4 | QPSK | 394.74 |
| Mid | 400 | 4 | 16QAM | 394.33 |
| Mid | 400 | 4 | 64QAM | 393.18 |

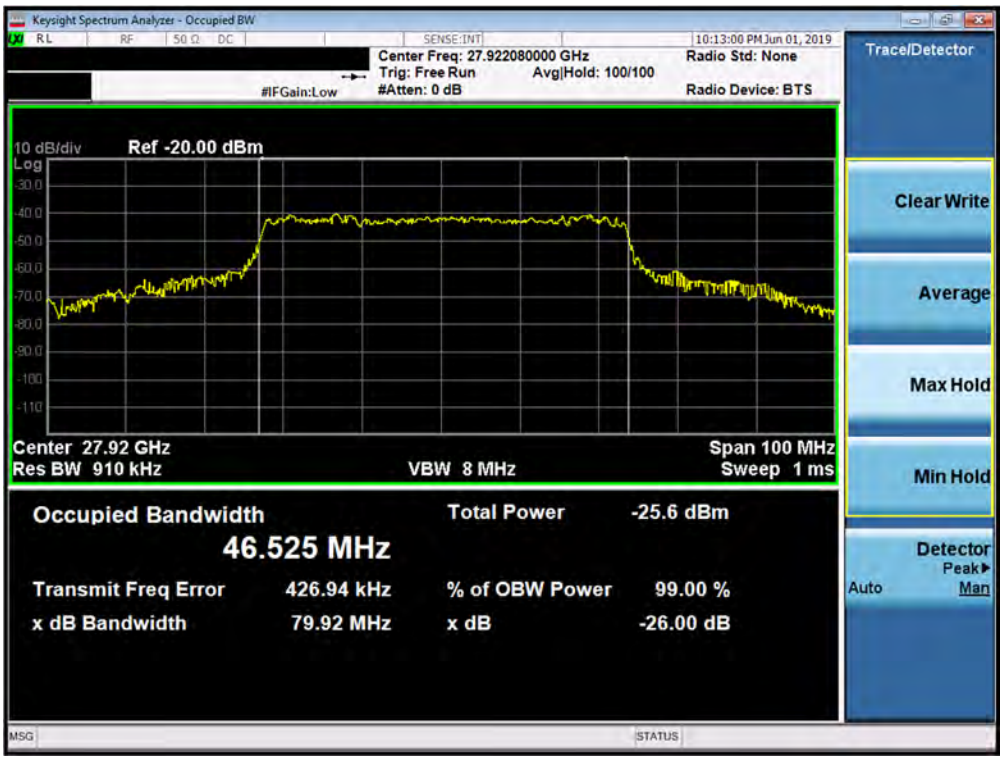
**Table 7-5. Summary of L Patch Occupied Bandwidths (n261)**



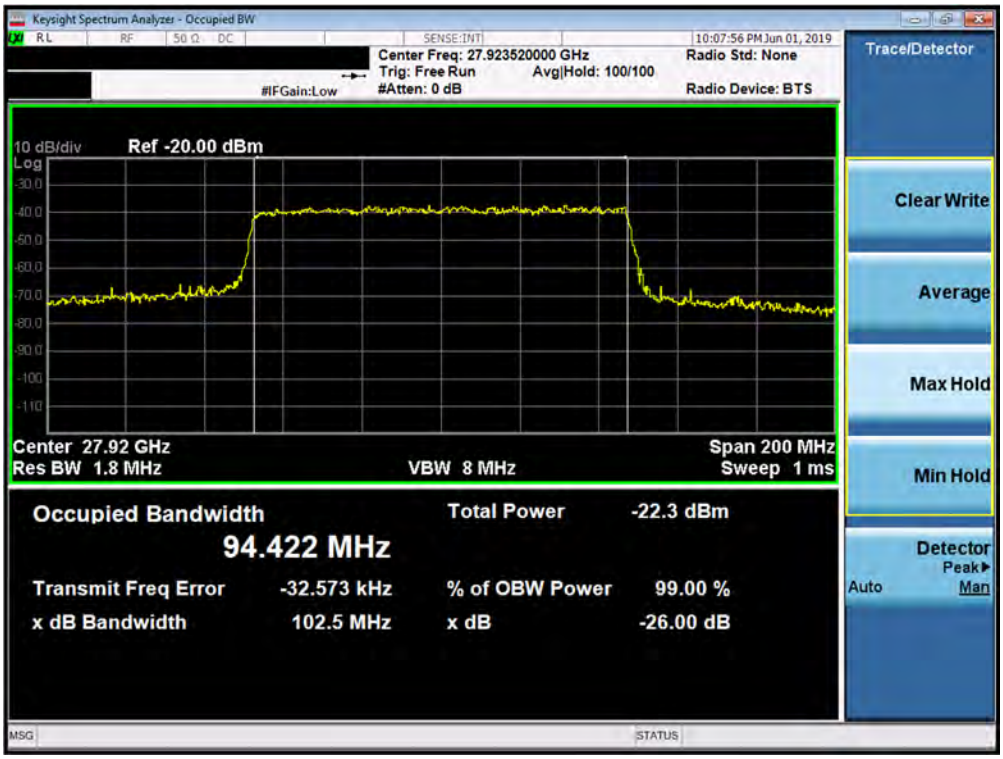

**Plot 7-37. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**



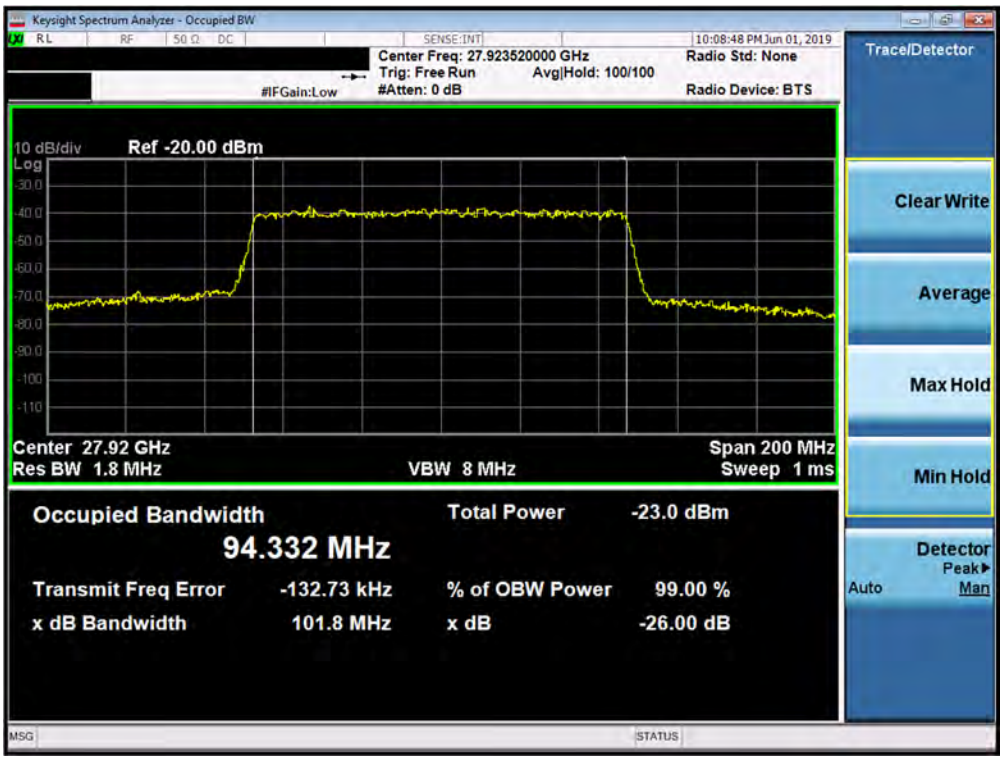

**Plot 7-38. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**



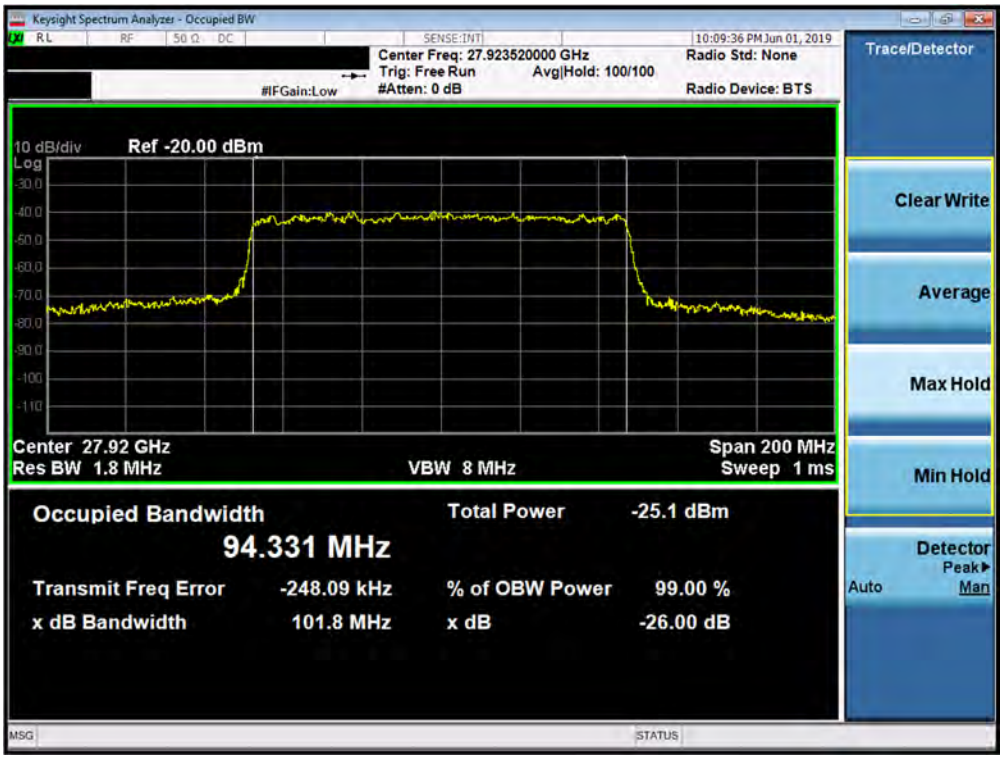

**Plot 7-39. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



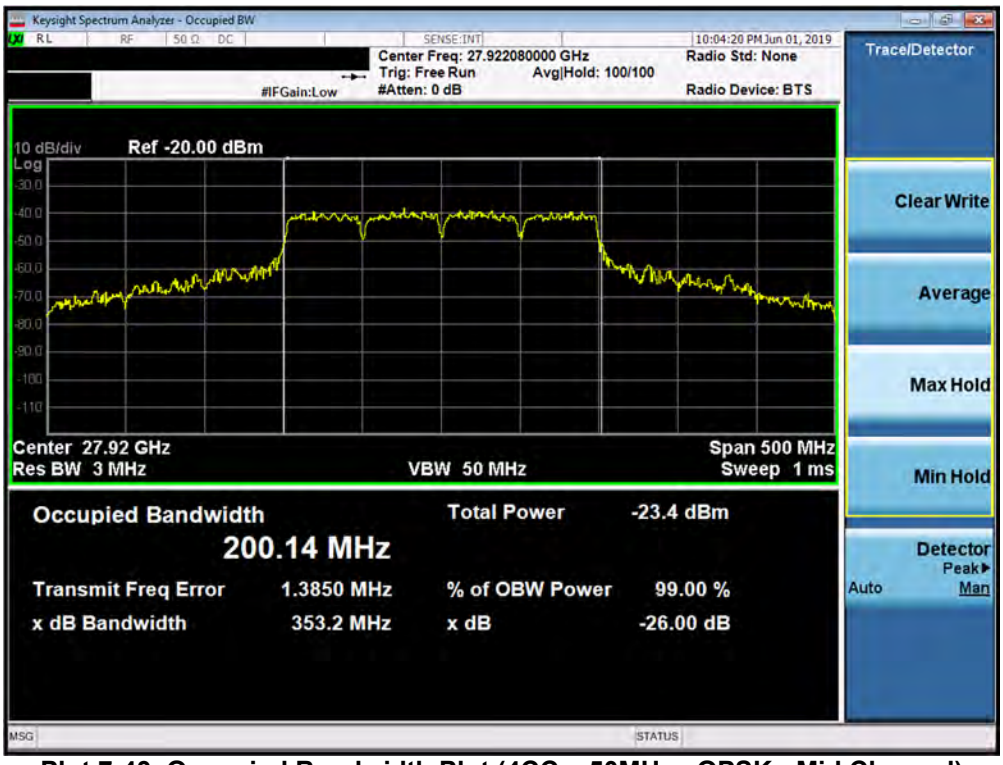

**Plot 7-40. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



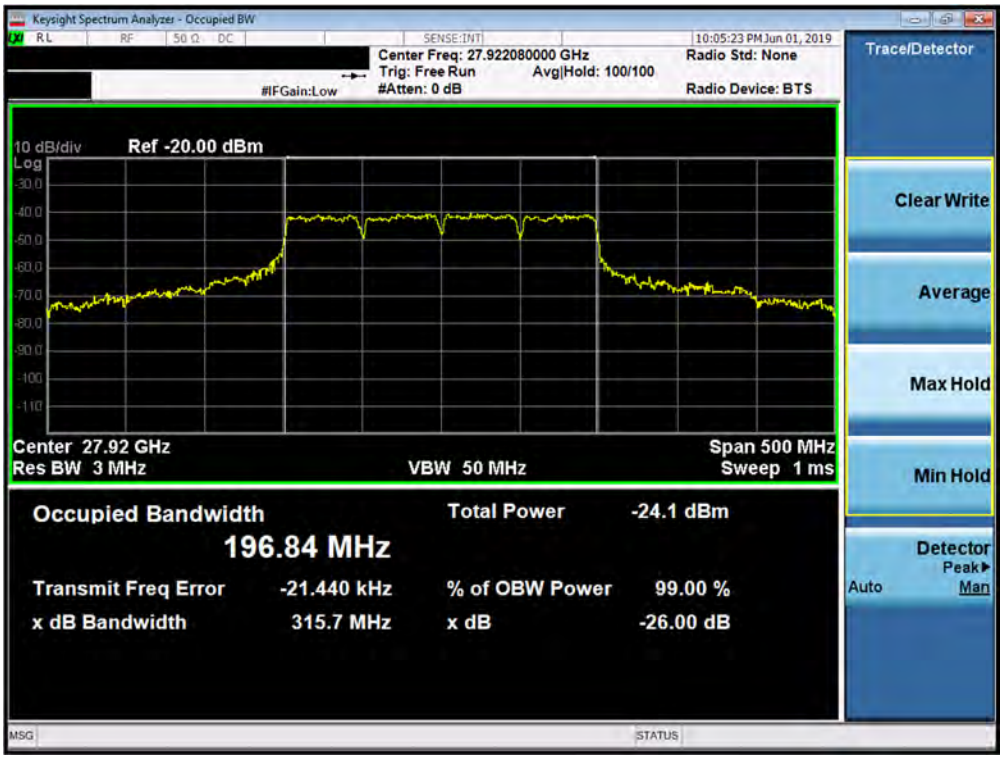

**Plot 7-41. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**




**Plot 7-42. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**

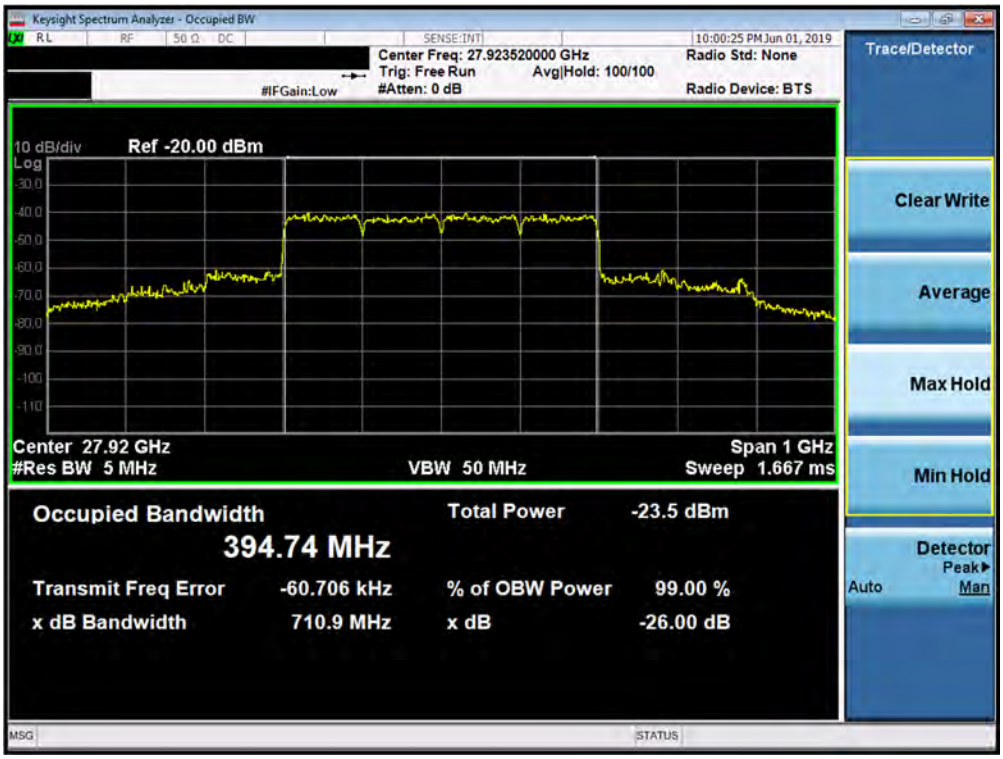



**Plot 7-43. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**



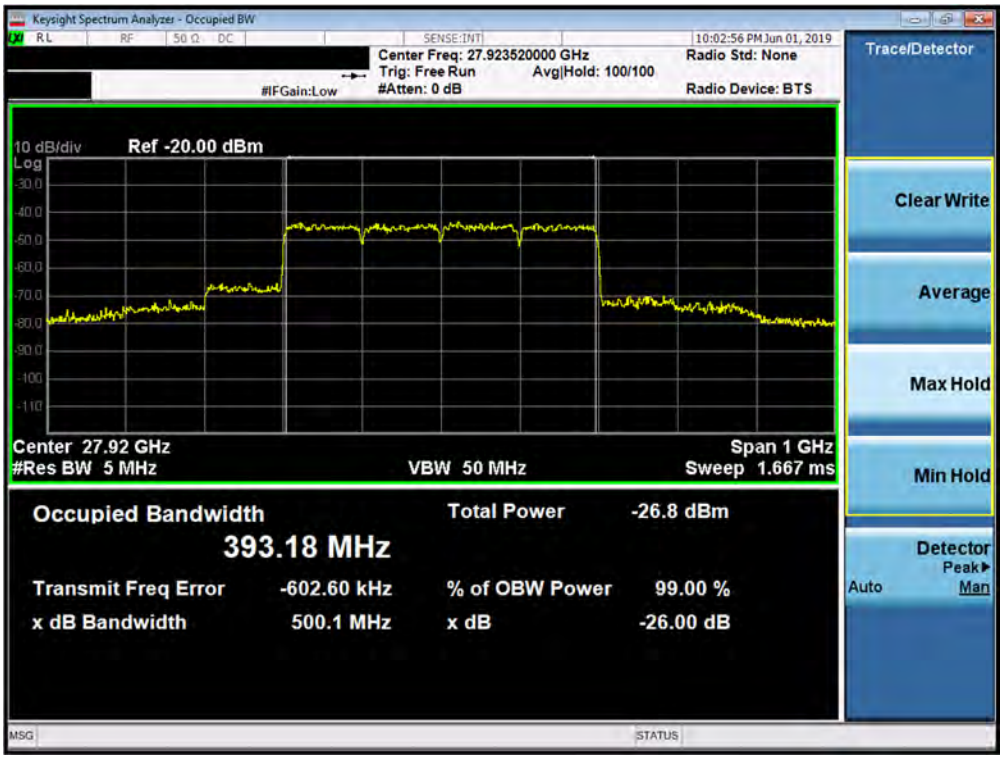

**Plot 7-44. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**


**Plot 7-45. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**




**Plot 7-46. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-47. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**



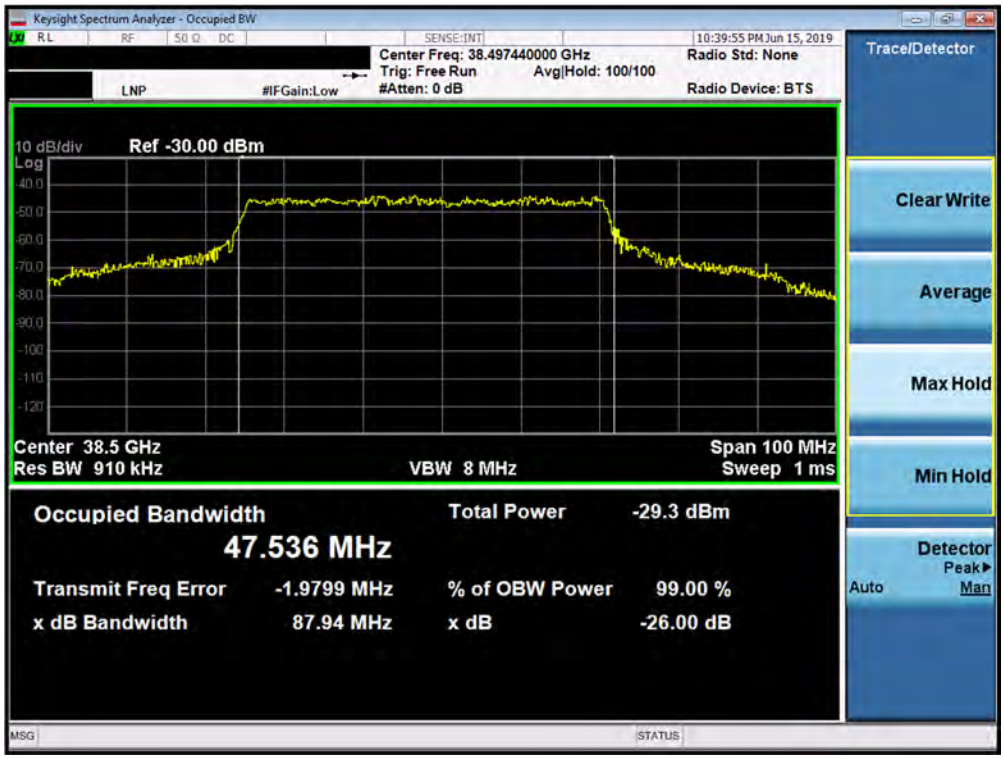

**Plot 7-48. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

## 7.2.2 n260 Occupied Bandwidth

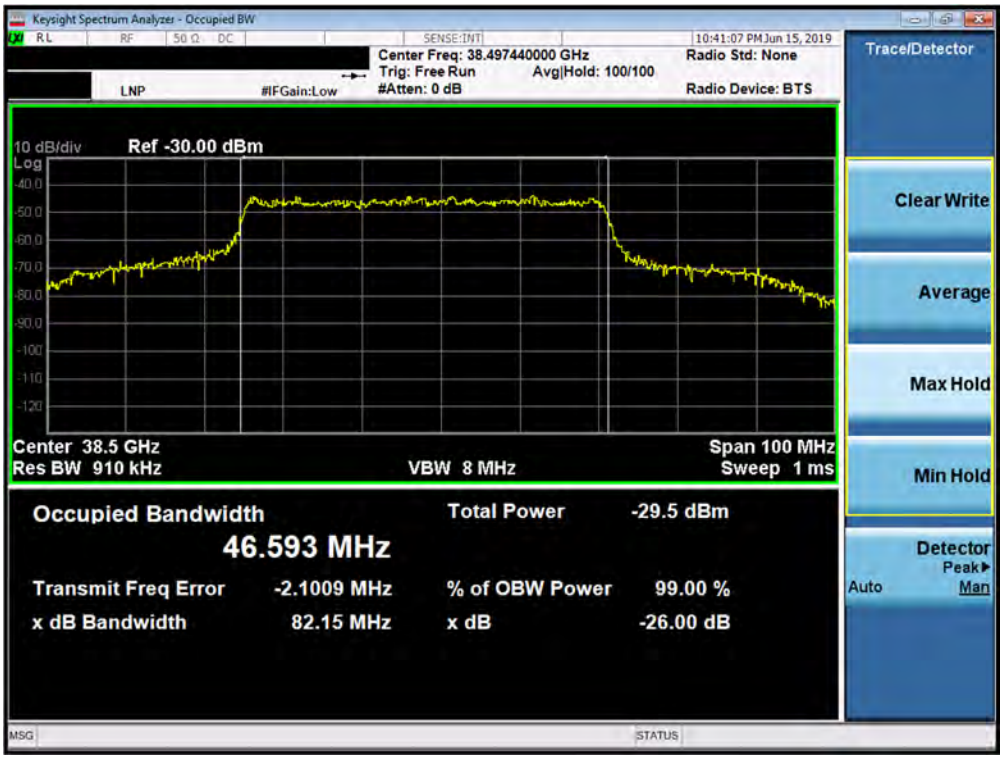
## J Dipole Occupied Bandwidth (n260)

| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.54 |
| Mid | 50 | 1 | 16QAM | 46.59 |
| Mid | 50 | 1 | 64QAM | 46.71 |
| Mid | 100 | 1 | QPSK | 94.62 |
| Mid | 100 | 1 | 16QAM | 94.42 |
| Mid | 100 | 1 | 64QAM | 94.35 |
| Mid | 200 | 4 | QPSK | 200.46 |
| Mid | 200 | 4 | 16QAM | 197.08 |
| Mid | 200 | 4 | 64QAM | 196.17 |
| Mid | 400 | 4 | QPSK | 392.45 |
| Mid | 400 | 4 | 16QAM | 391.71 |
| Mid | 400 | 4 | 64QAM | 390.52 |

**Table 7-6. Summary of J Dipole Occupied Bandwidths (n260)**

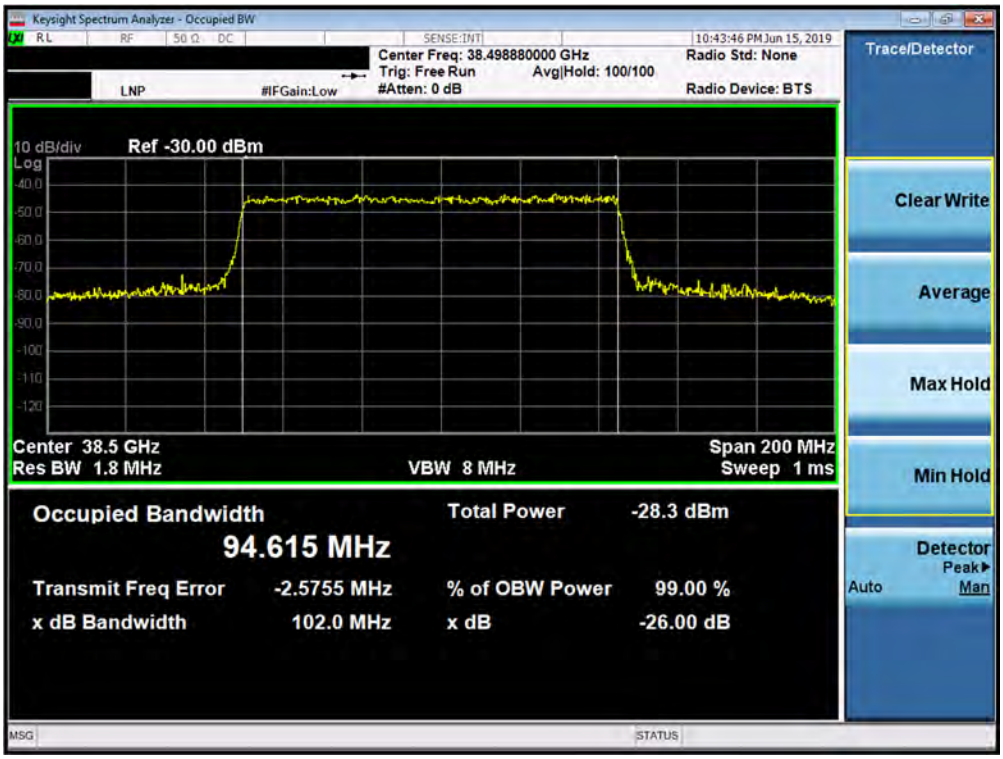



**Plot 7-49. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**

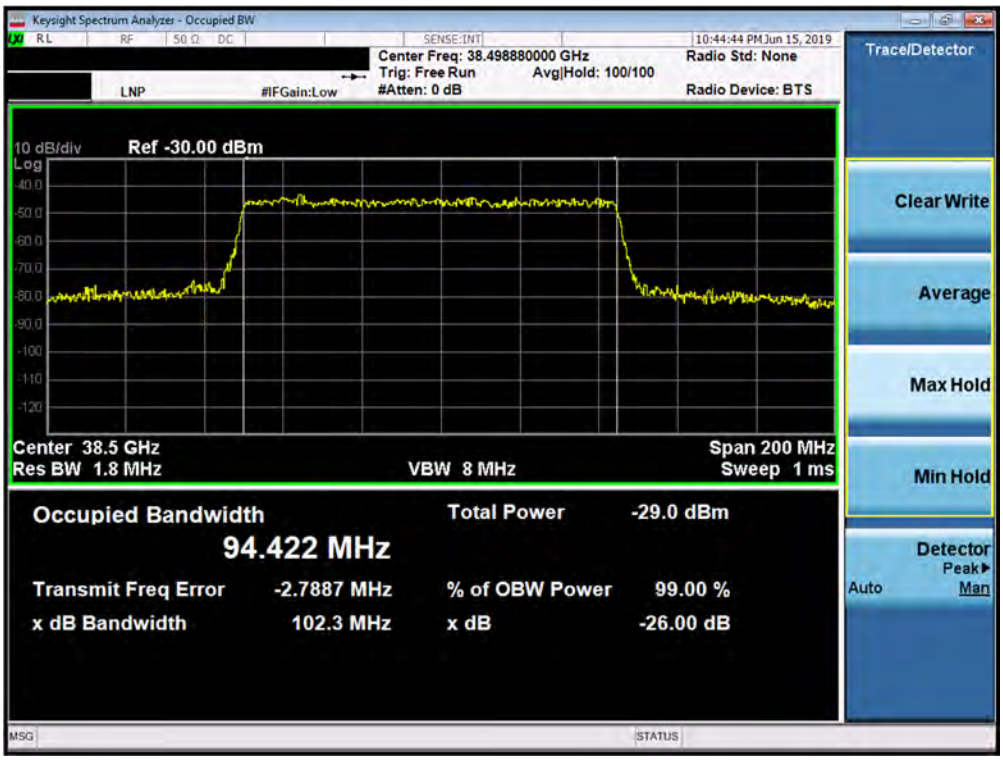



**Plot 7-50. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**

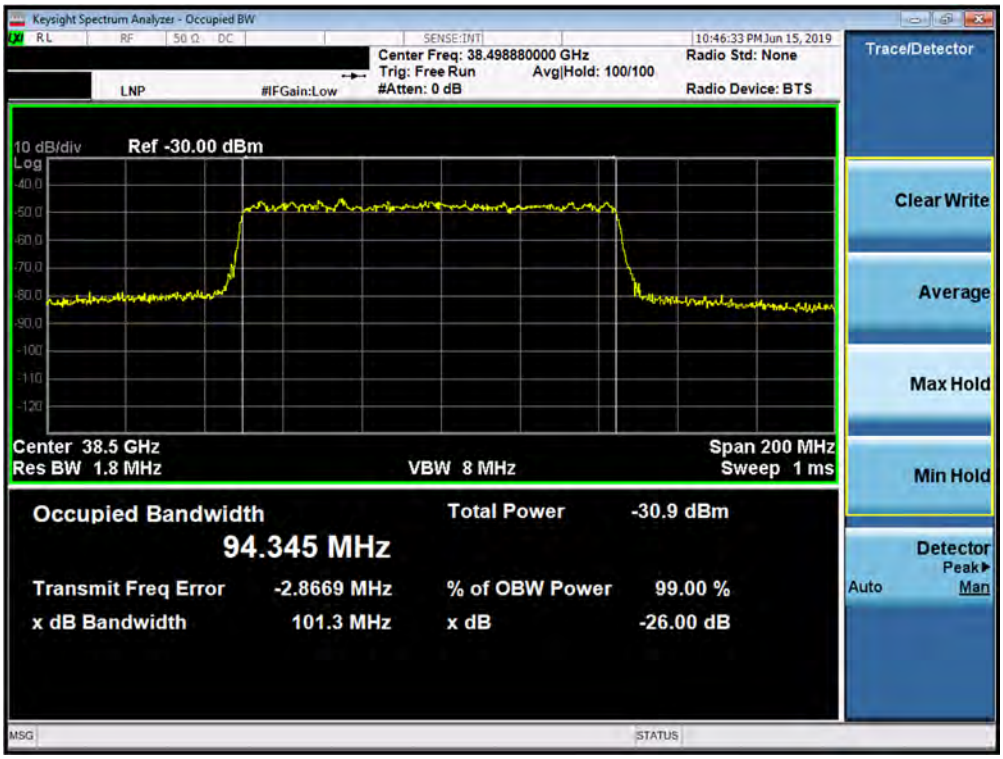

**Plot 7-51. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



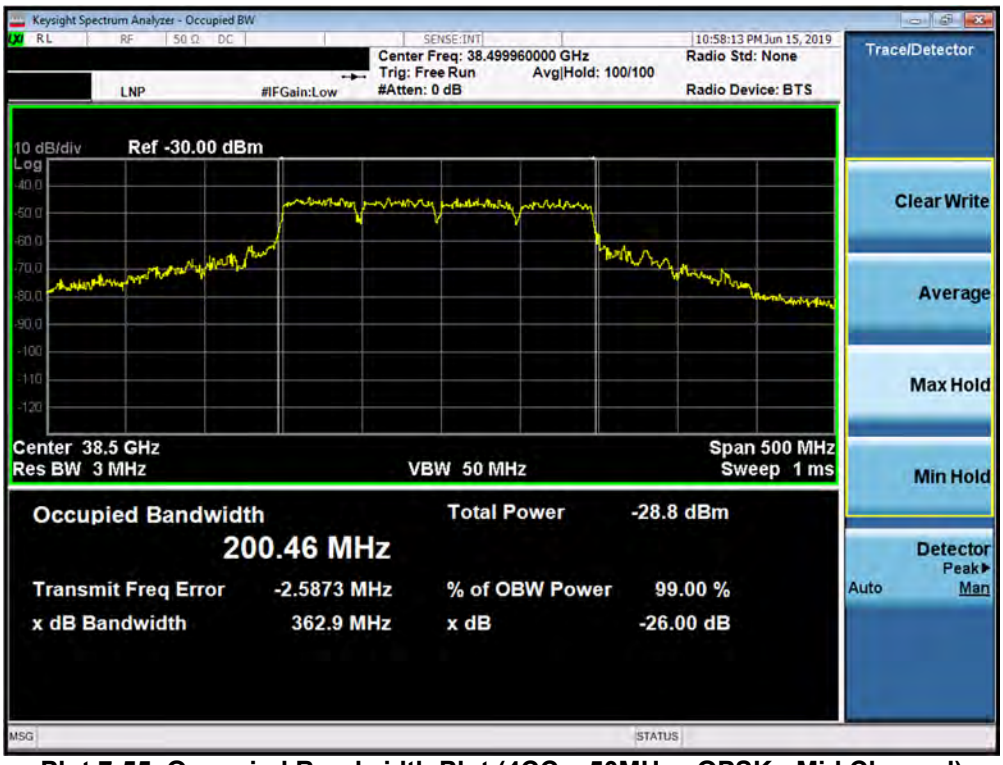

**Plot 7-52. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



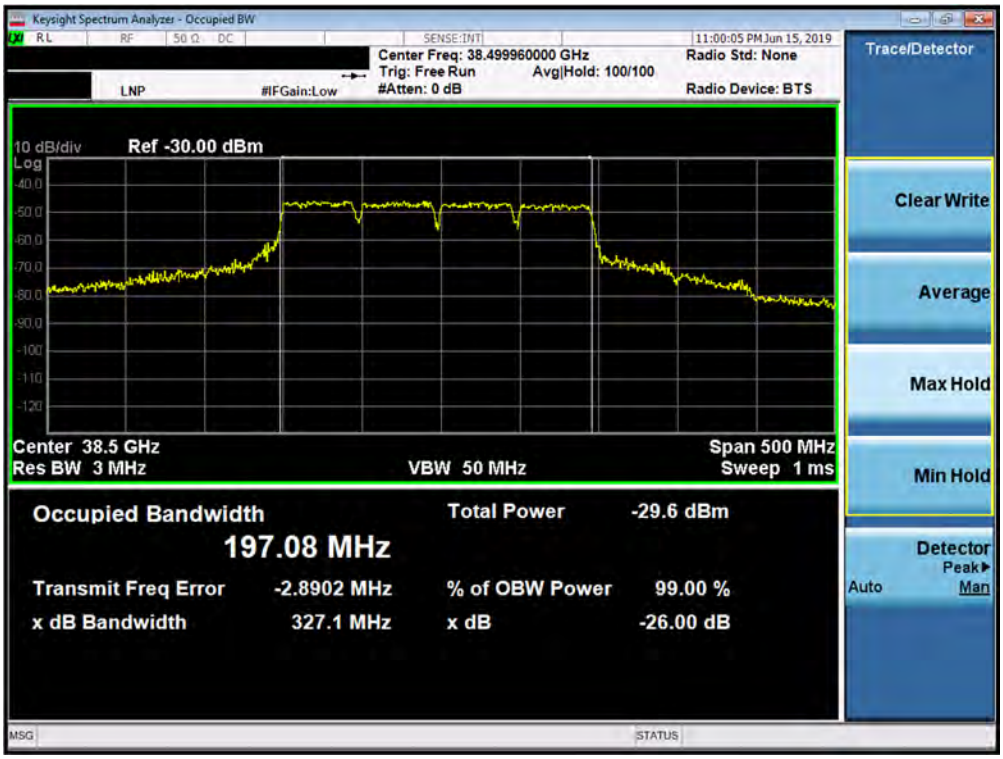

**Plot 7-53. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**



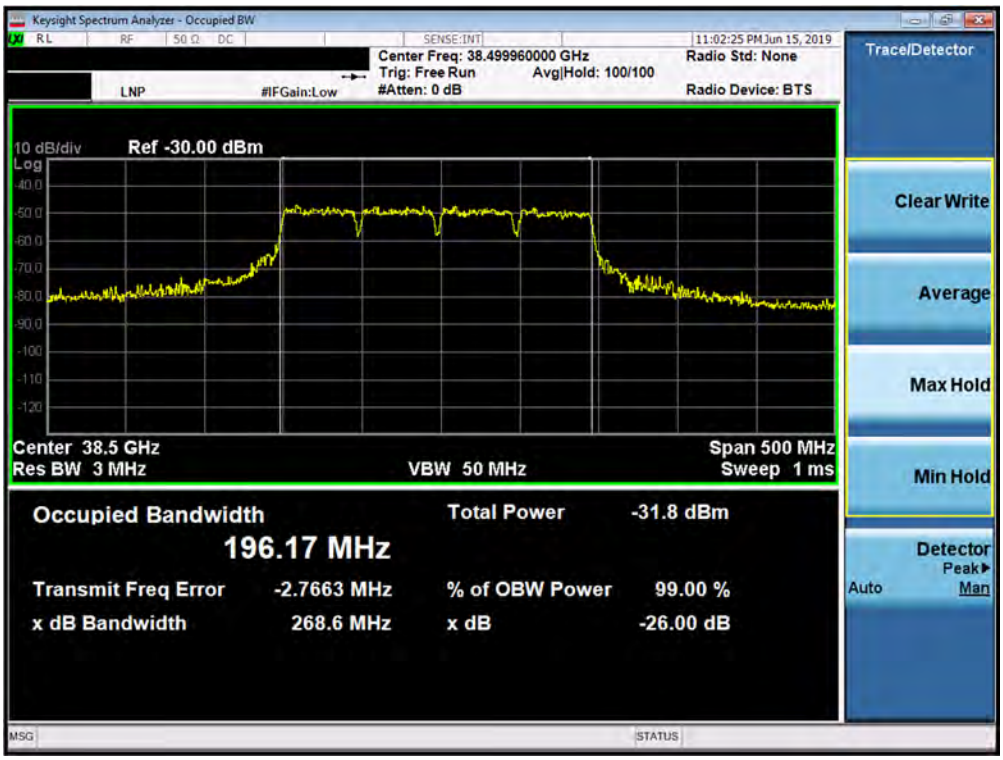

**Plot 7-54. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**




**Plot 7-55. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**



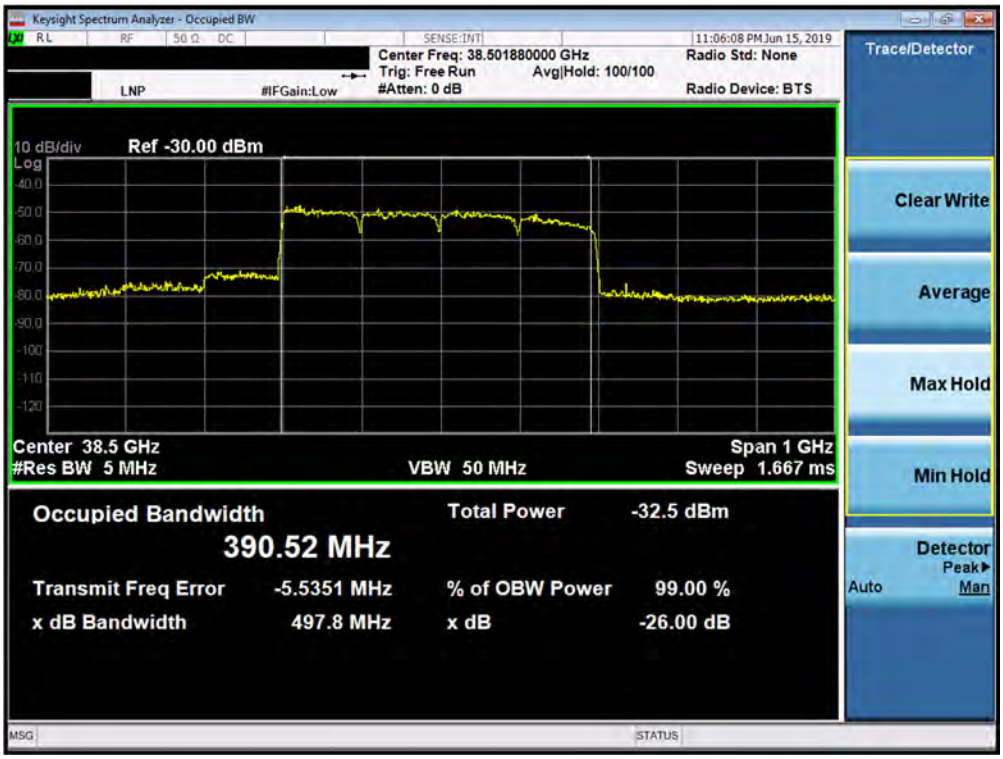

**Plot 7-56. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**




**Plot 7-57. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**


**Plot 7-58. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-59. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**



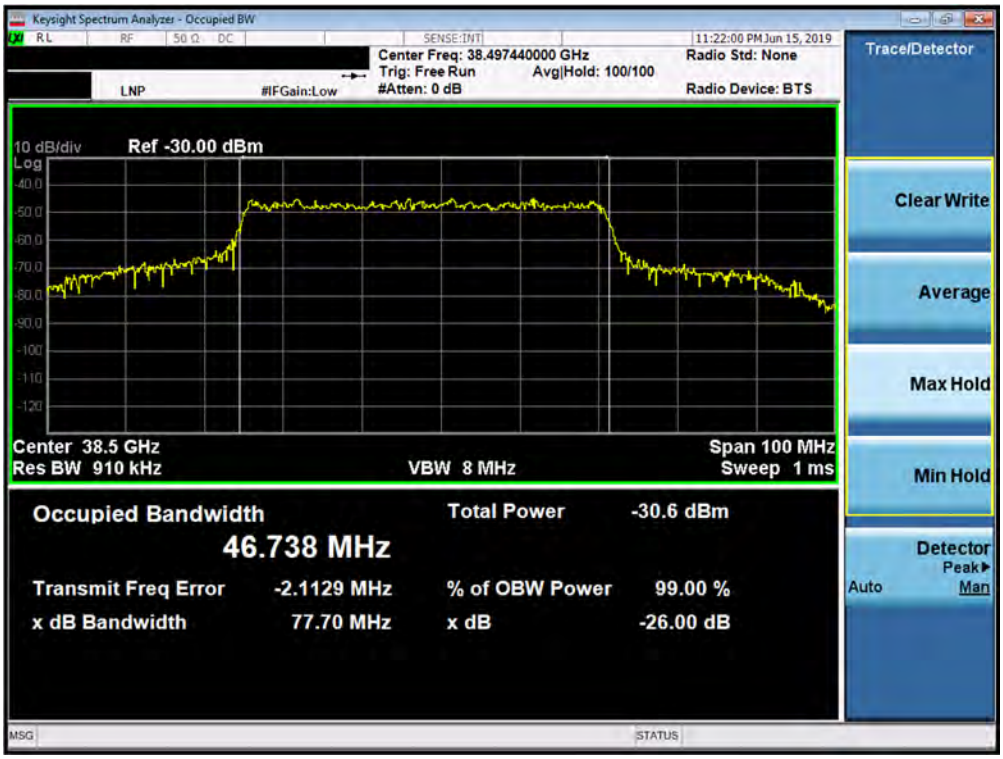

**Plot 7-60. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

## J Patch Occupied Bandwidth (n260)

| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.66 |
| Mid | 50 | 1 | 16QAM | 46.74 |
| Mid | 50 | 1 | 64QAM | 46.75 |
| Mid | 100 | 1 | QPSK | 94.81 |
| Mid | 100 | 1 | 16QAM | 94.50 |
| Mid | 100 | 1 | 64QAM | 94.20 |
| Mid | 200 | 4 | QPSK | 207.80 |
| Mid | 200 | 4 | 16QAM | 198.08 |
| Mid | 200 | 4 | 64QAM | 196.27 |
| Mid | 400 | 4 | QPSK | 396.21 |
| Mid | 400 | 4 | 16QAM | 395.61 |
| Mid | 400 | 4 | 64QAM | 393.31 |

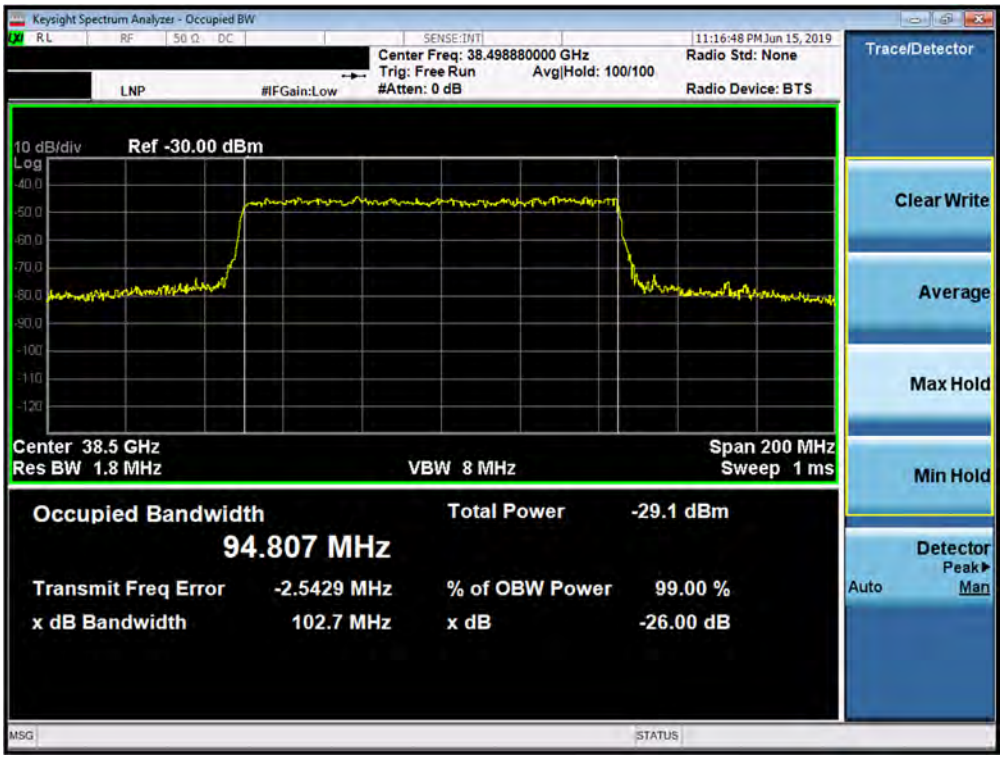
**Table 7-7. Summary of J Patch Occupied Bandwidths (n260)**


**Plot 7-61. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**

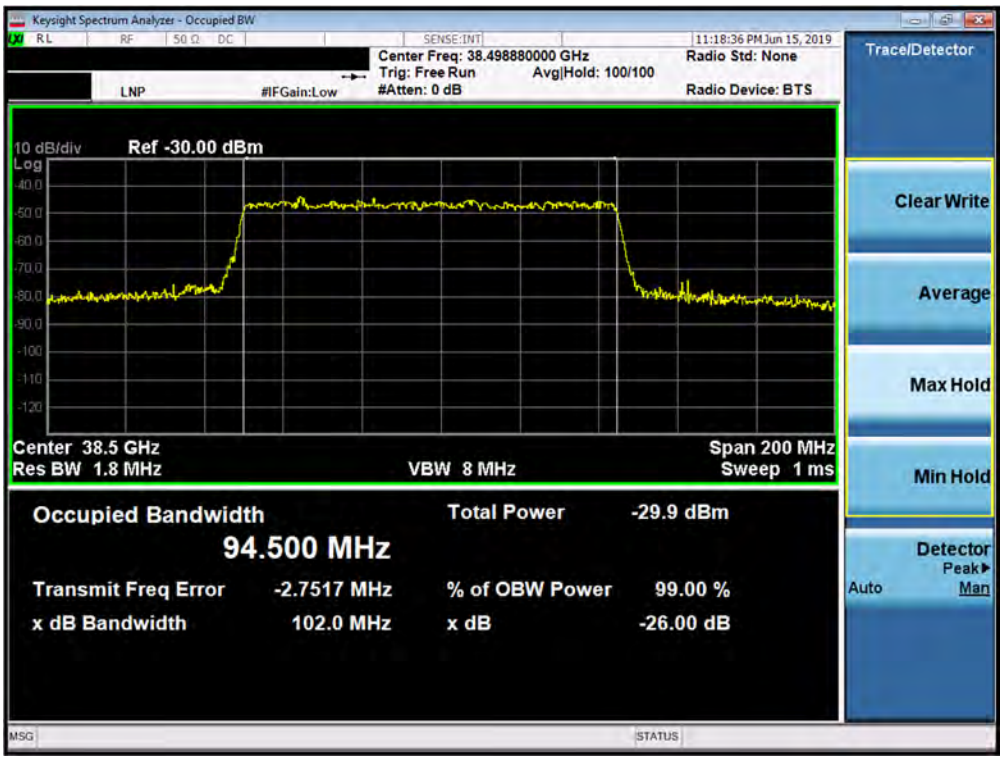



**Plot 7-62. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**

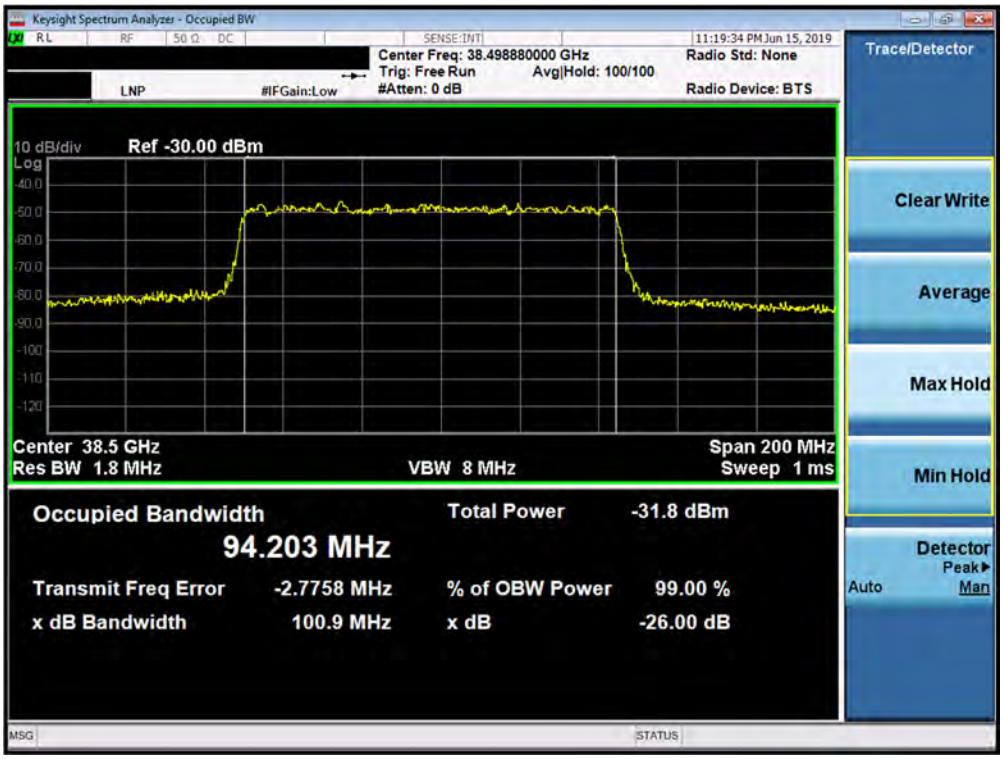

**Plot 7-63. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



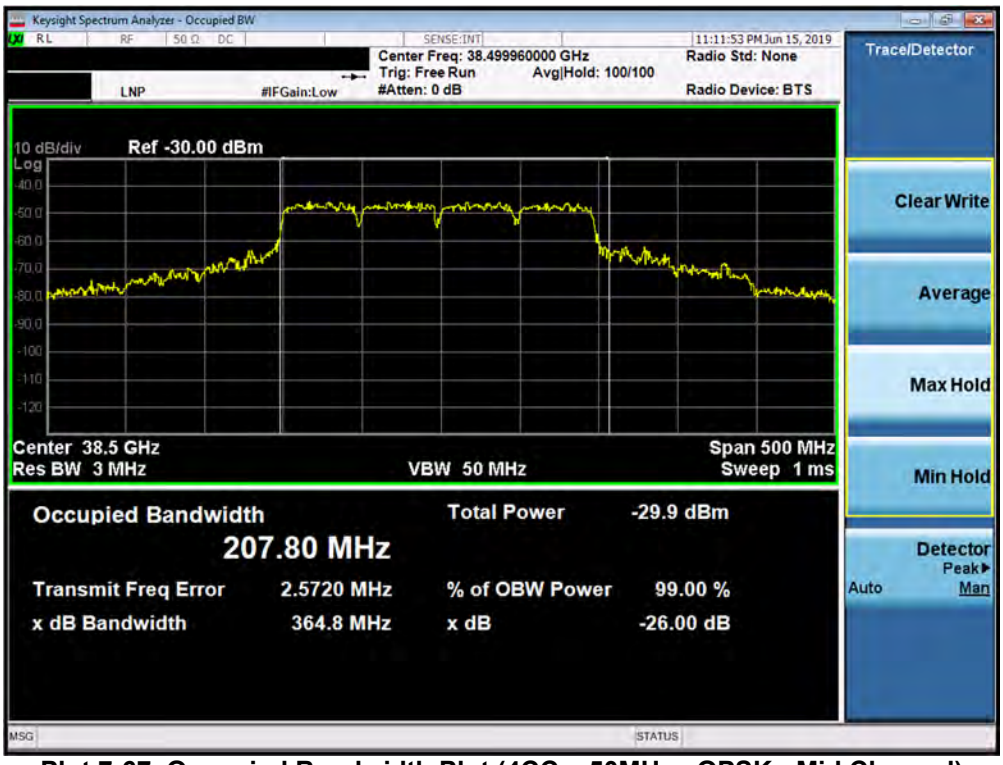

**Plot 7-64. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



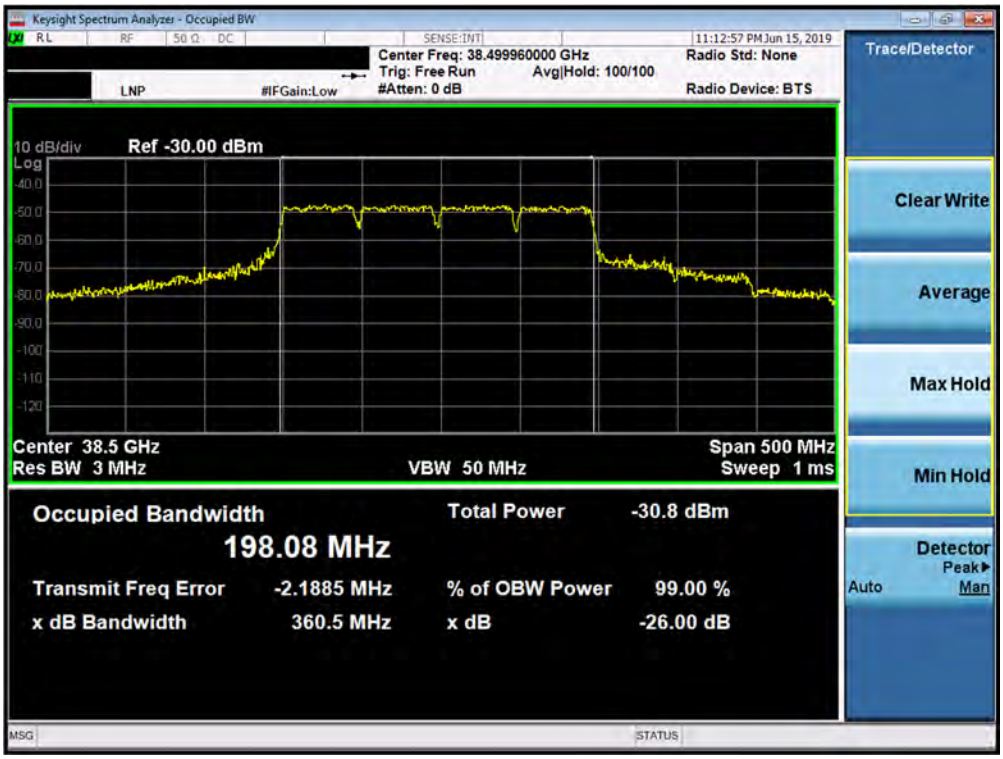

**Plot 7-65. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**



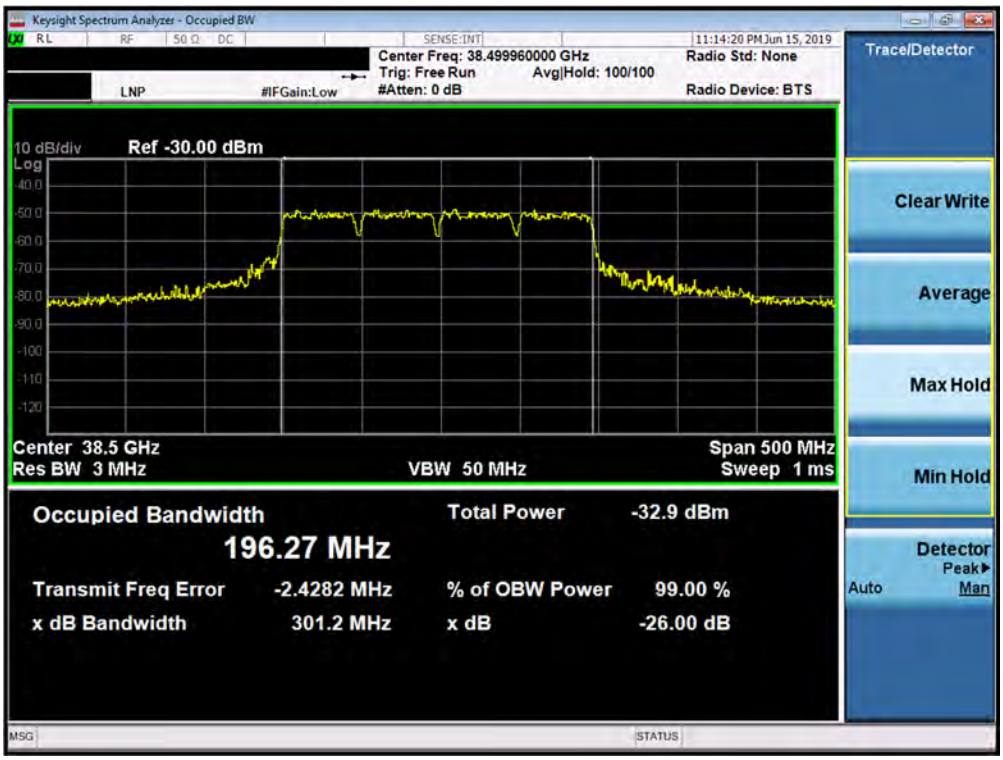

**Plot 7-66. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**



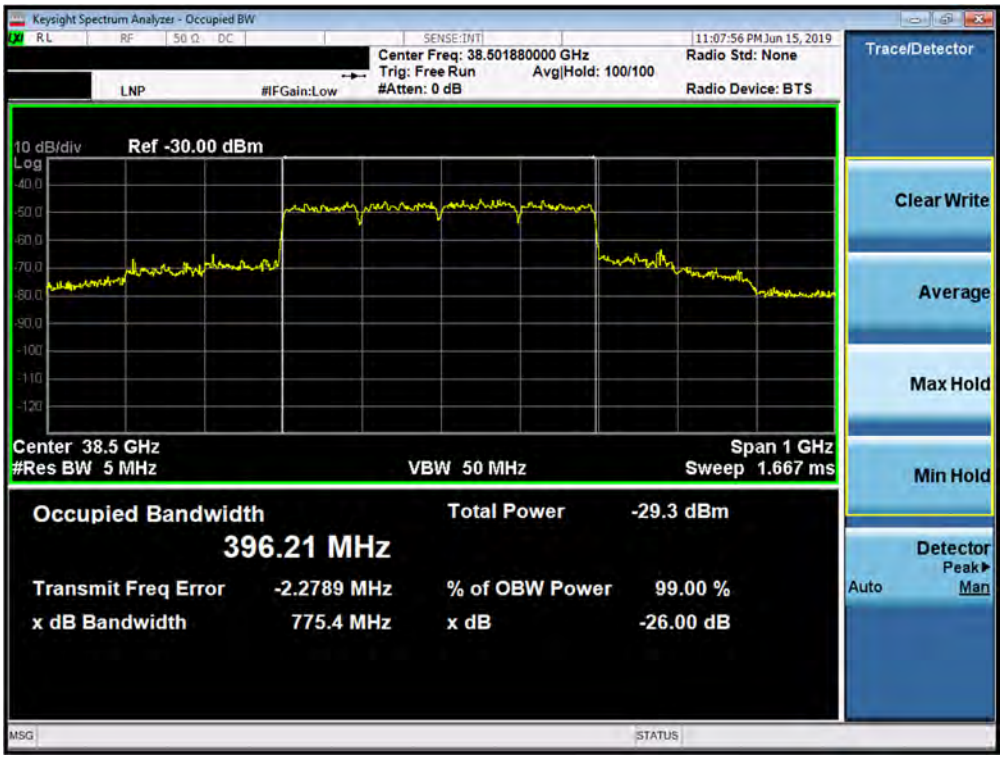

**Plot 7-67. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**




**Plot 7-68. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**

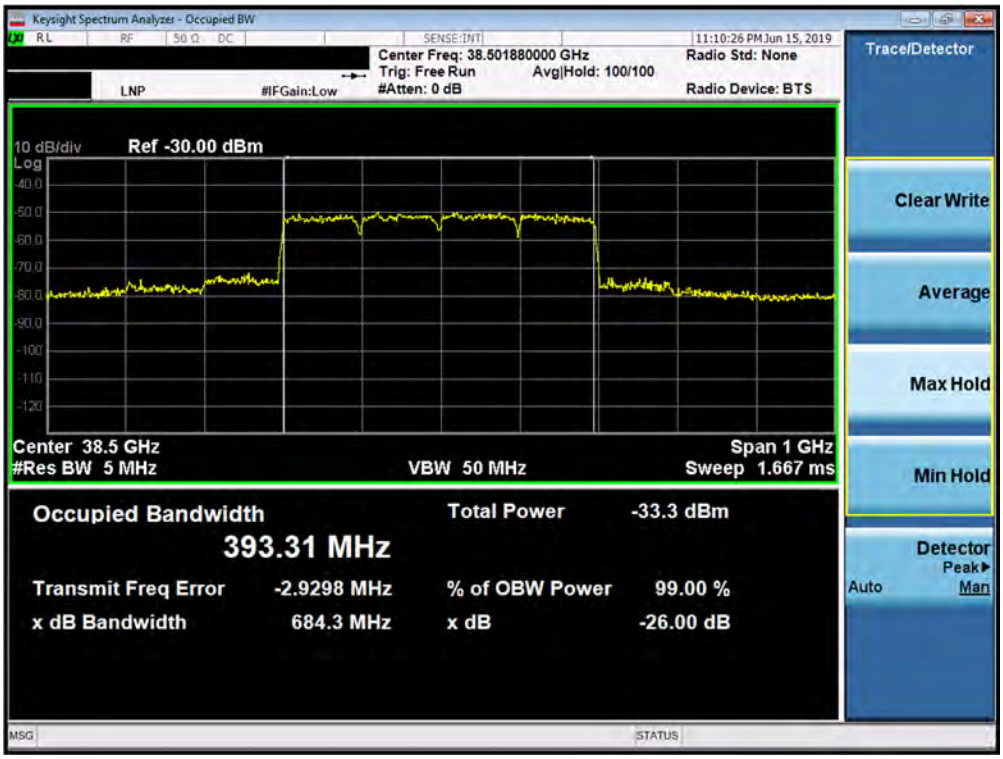



**Plot 7-69. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**




**Plot 7-70. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-71. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**

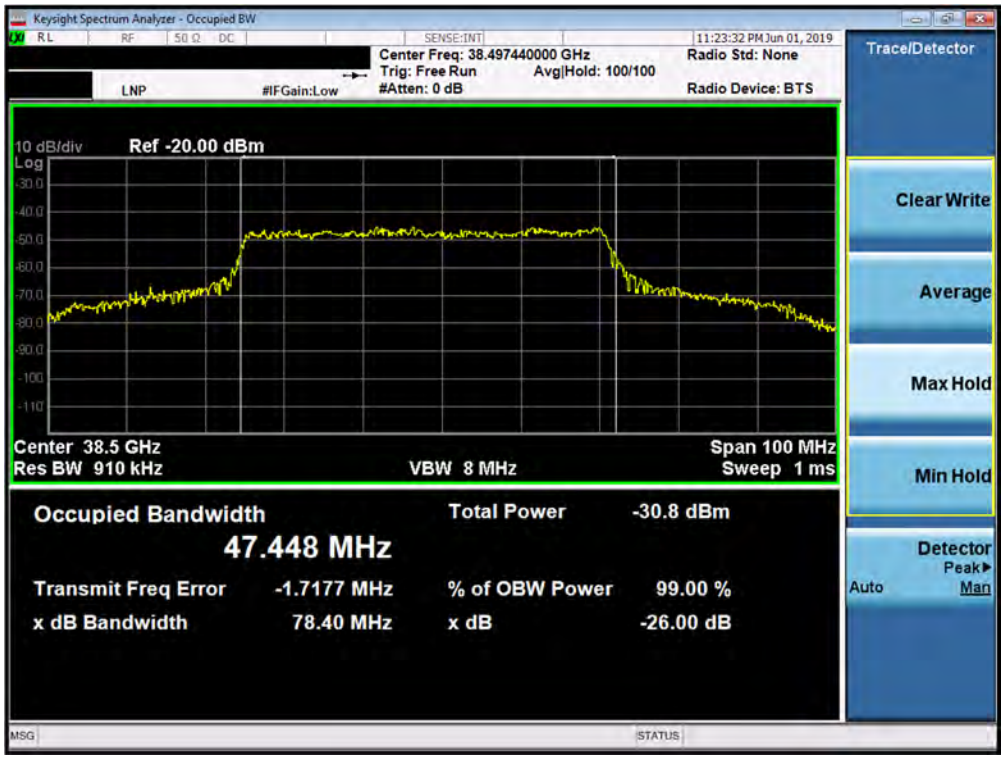



**Plot 7-72. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

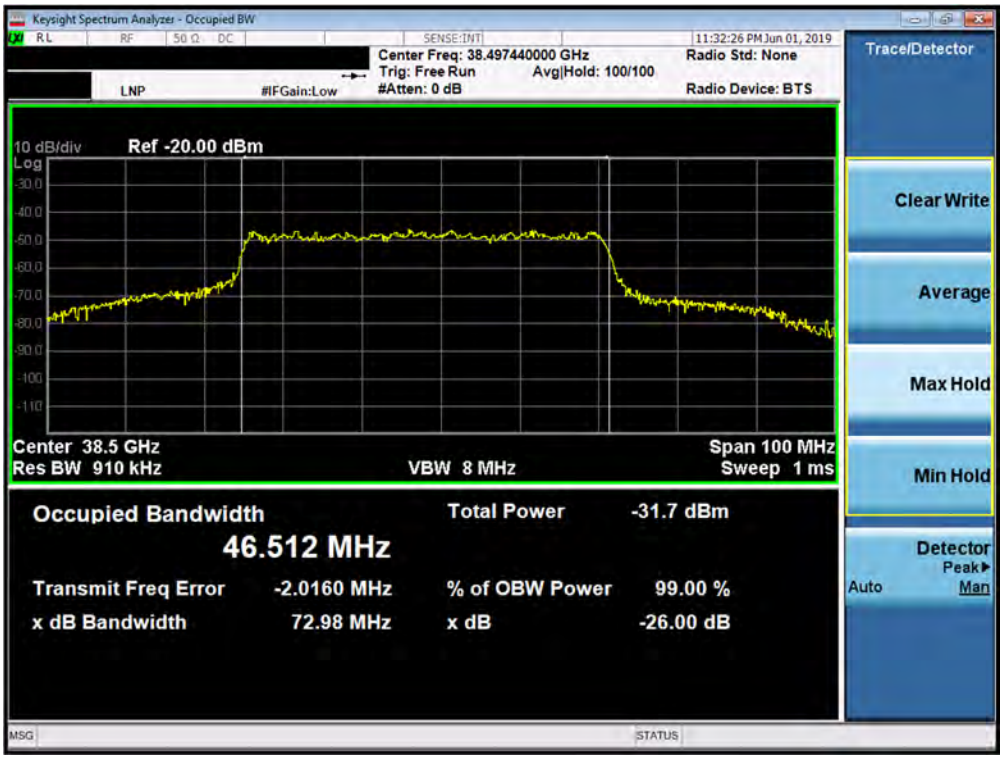
## K Patch Occupied Bandwidth (n260)

| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.45 |
| Mid | 50 | 1 | 16QAM | 46.51 |
| Mid | 50 | 1 | 64QAM | 46.83 |
| Mid | 100 | 1 | QPSK | 94.73 |
| Mid | 100 | 1 | 16QAM | 94.47 |
| Mid | 100 | 1 | 64QAM | 94.45 |
| Mid | 200 | 4 | QPSK | 210.24 |
| Mid | 200 | 4 | 16QAM | 198.33 |
| Mid | 200 | 4 | 64QAM | 196.77 |
| Mid | 400 | 4 | QPSK | 395.16 |
| Mid | 400 | 4 | 16QAM | 394.63 |
| Mid | 400 | 4 | 64QAM | 394.49 |

**Table 7-8. Summary of K Patch Occupied Bandwidths (n260)**

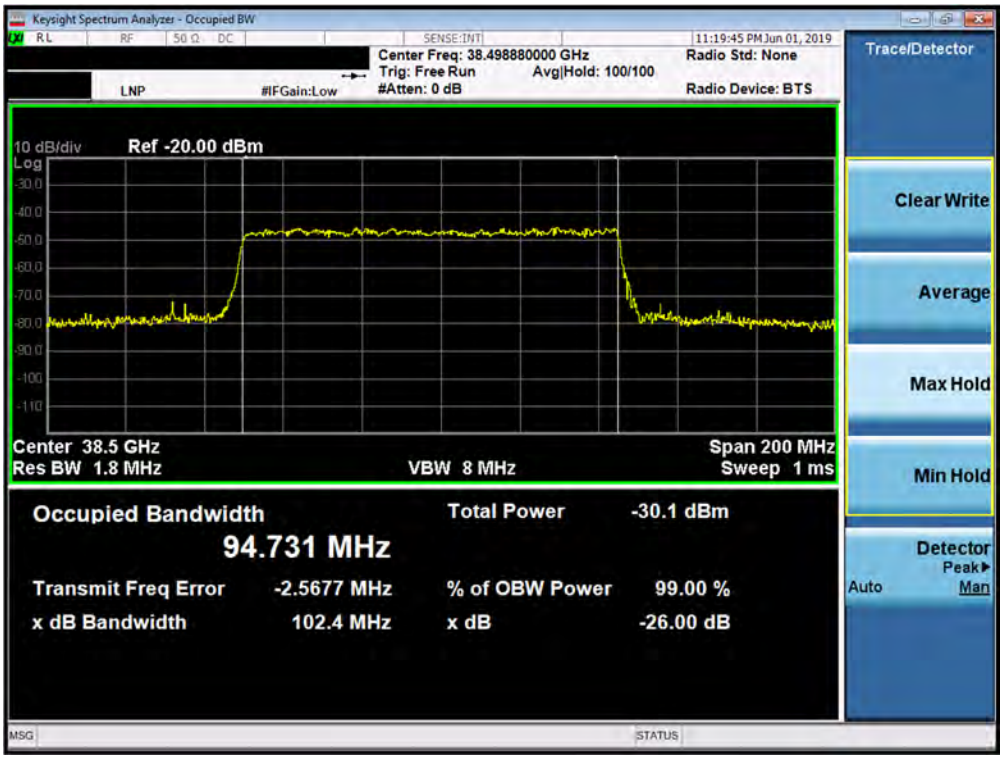



**Plot 7-73. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**

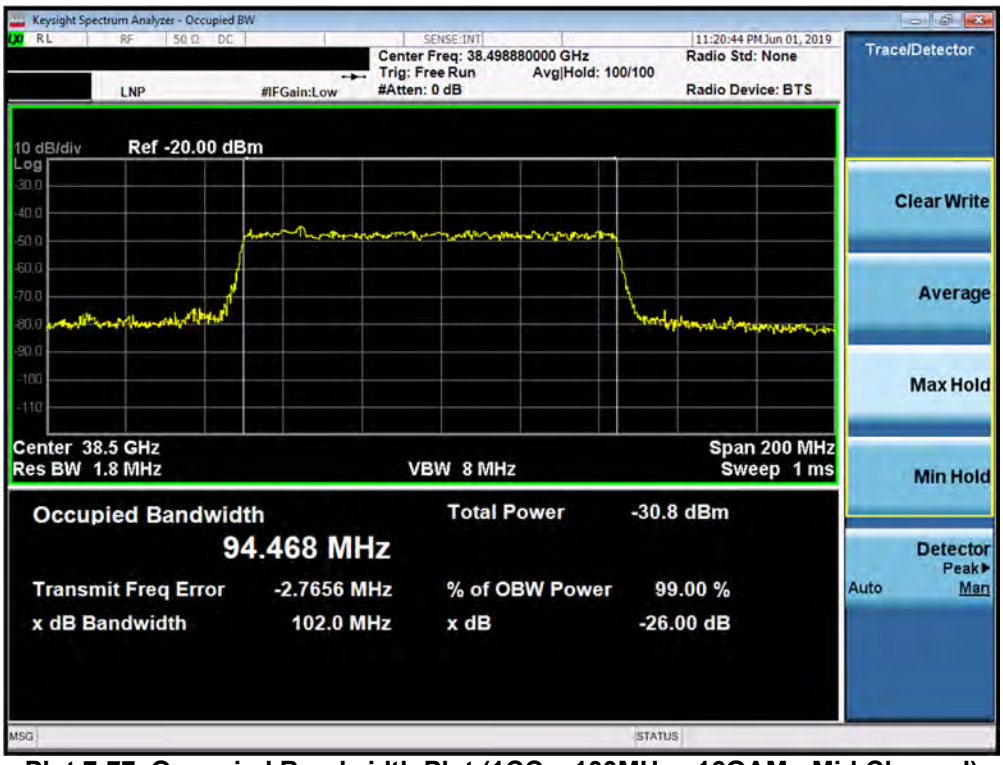



**Plot 7-74. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**

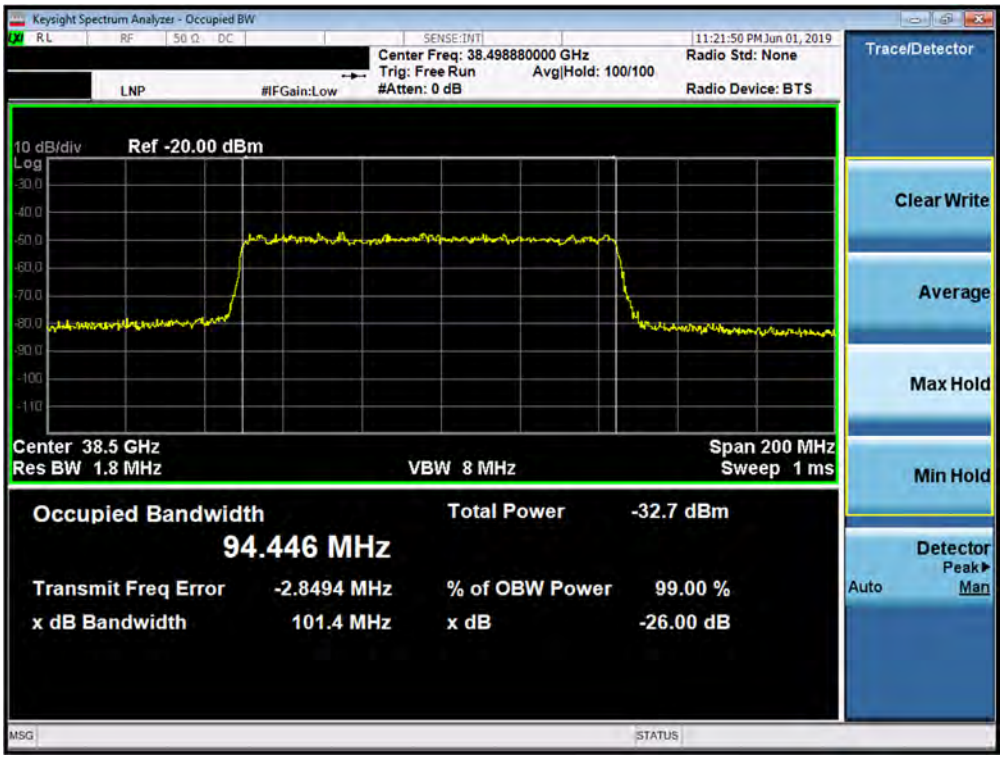

**Plot 7-75. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



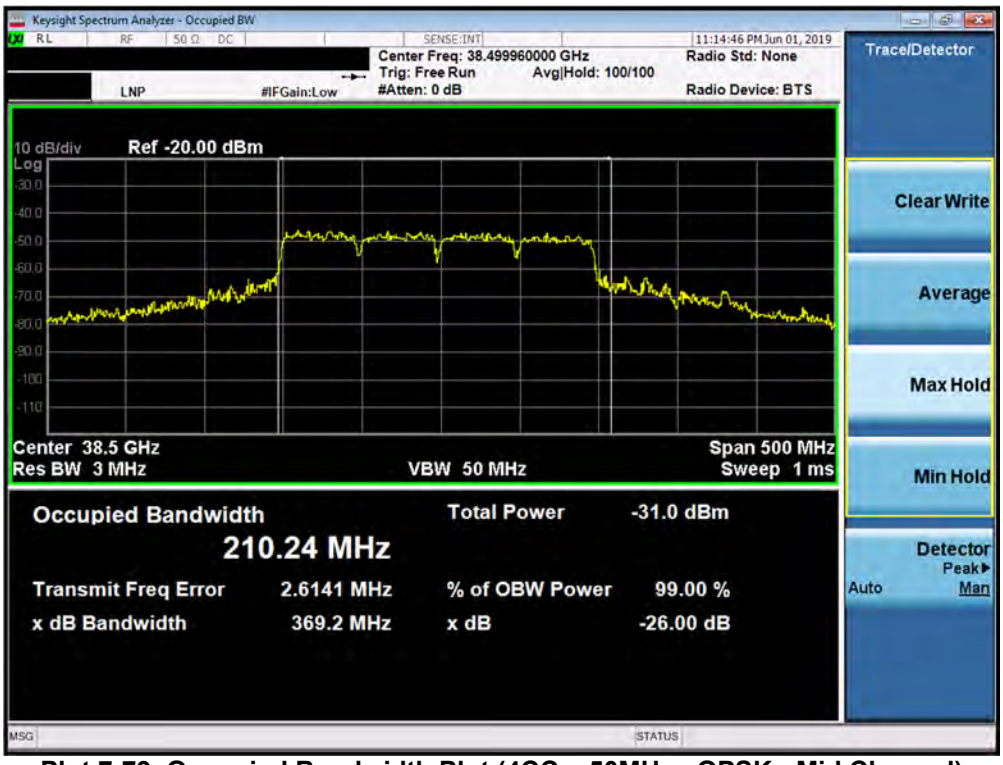

**Plot 7-76. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



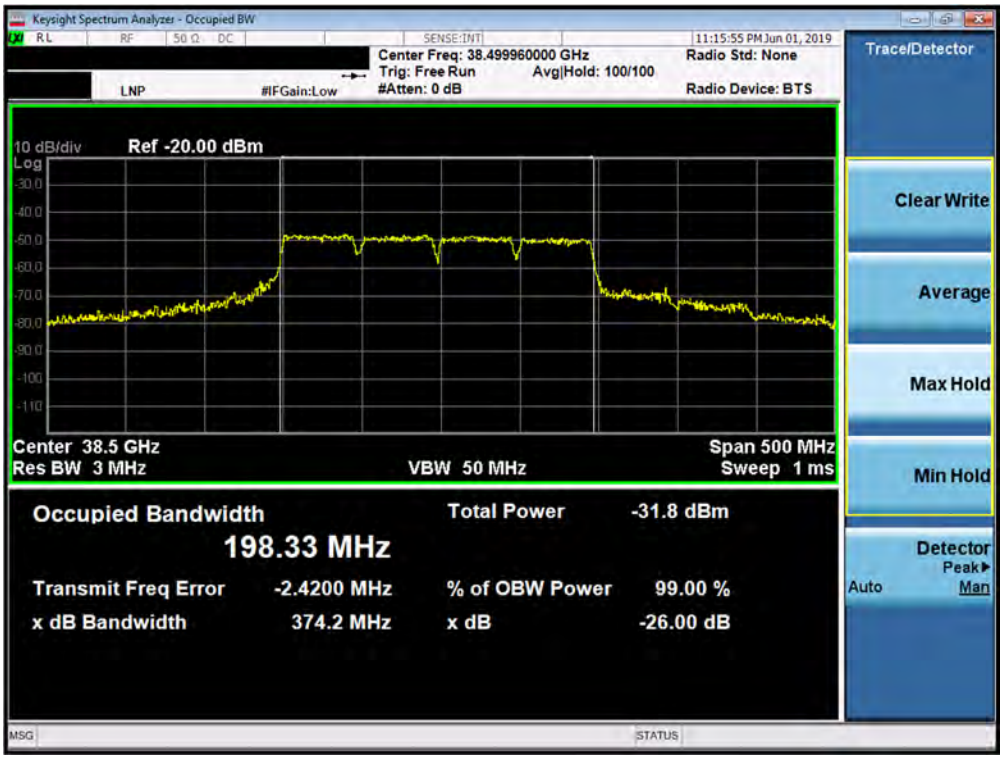

**Plot 7-77. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**



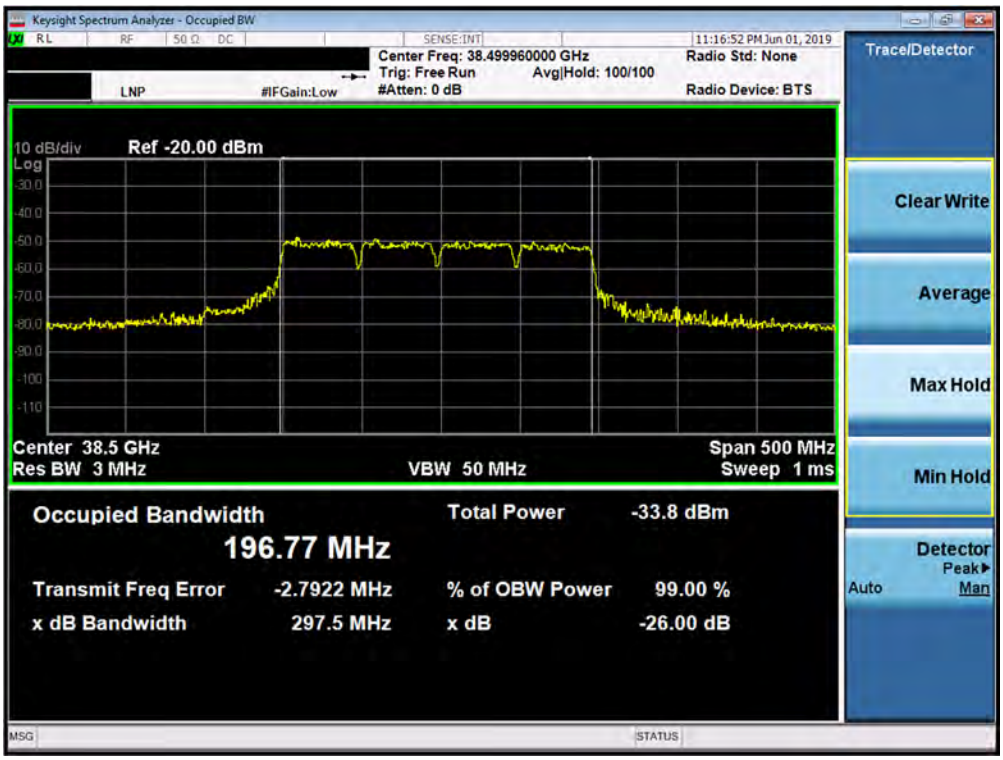

**Plot 7-78. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**




**Plot 7-79. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**

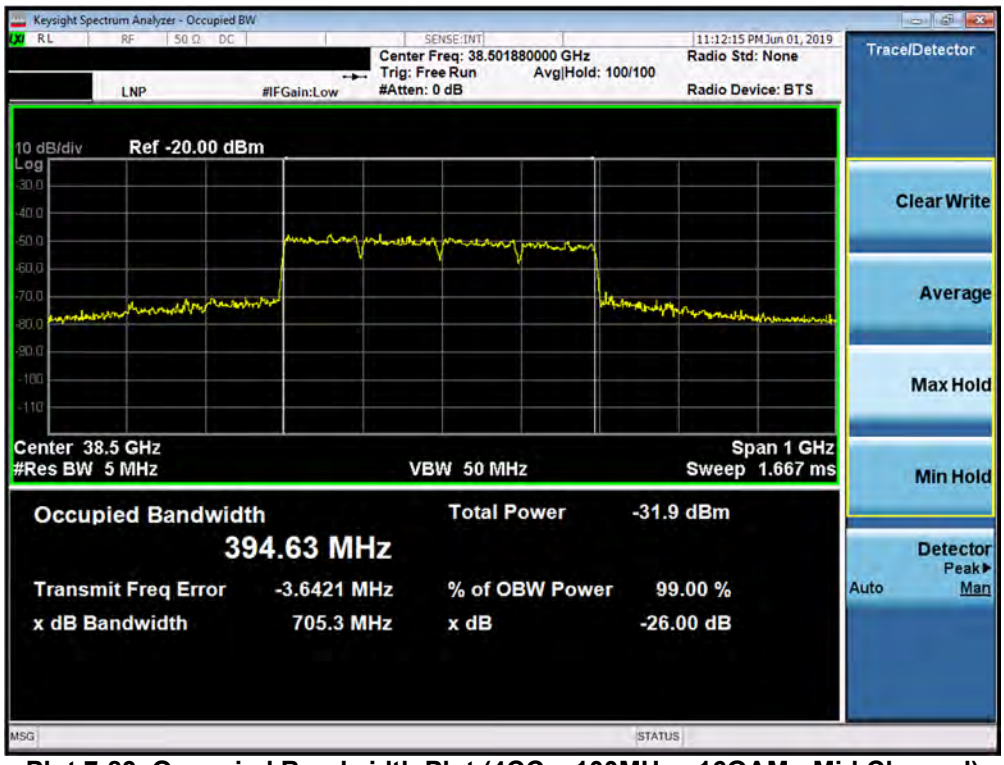



**Plot 7-80. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**




**Plot 7-81. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**


**Plot 7-82. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**




**Plot 7-83. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**

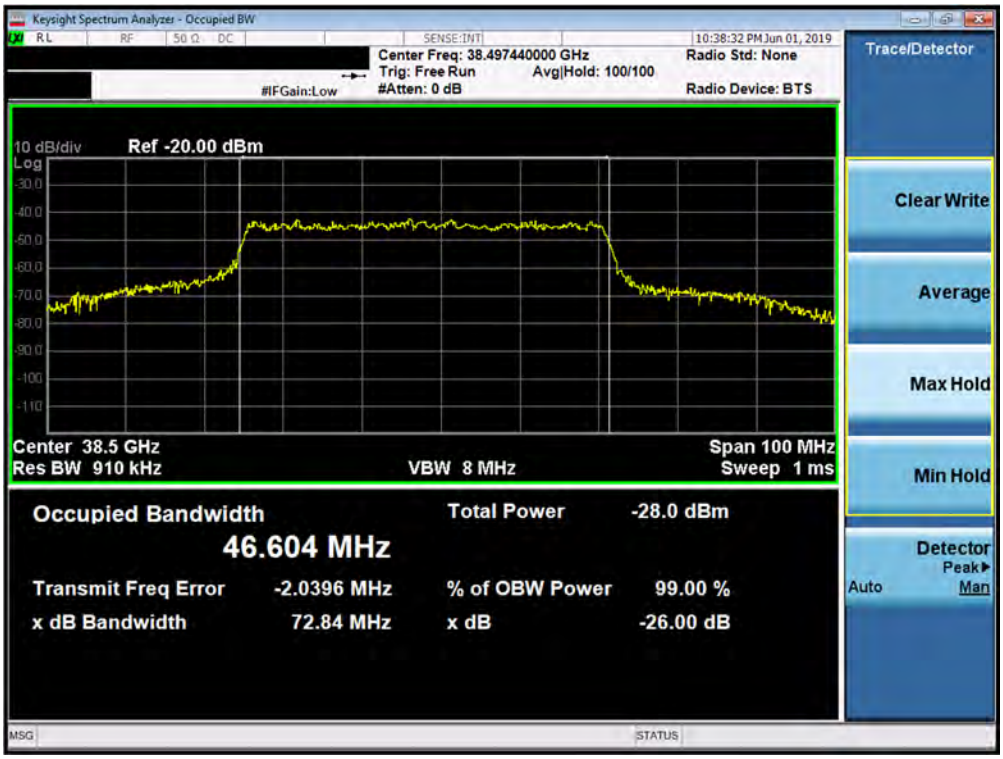

**Plot 7-84. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

## L Patch Occupied Bandwidth (n260)

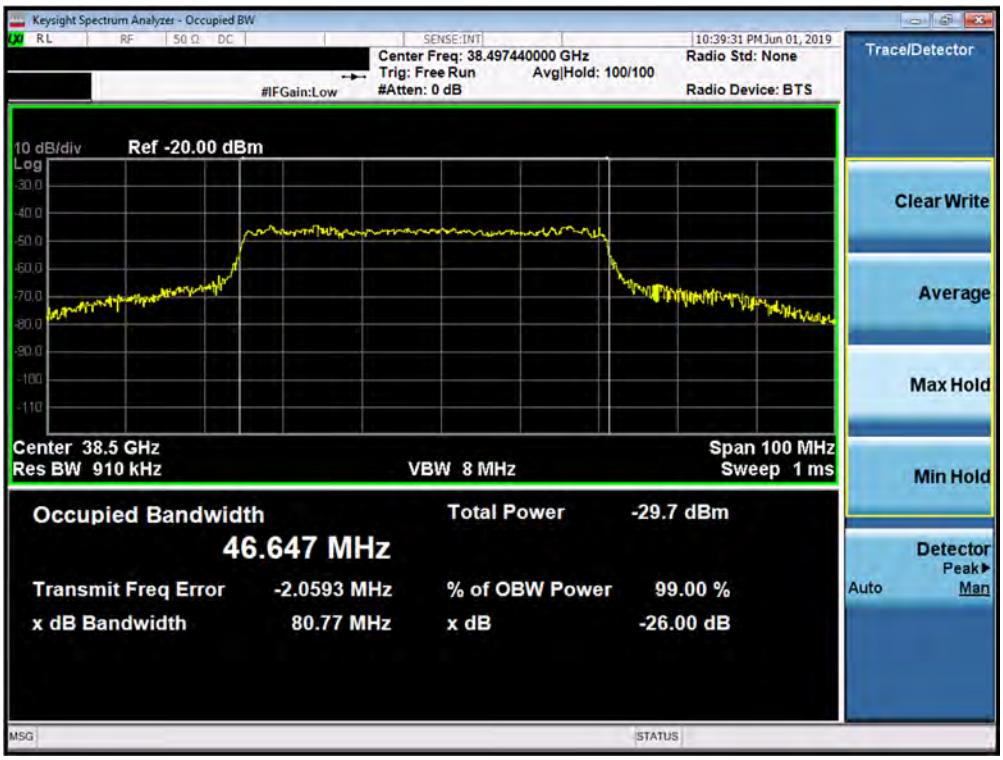
| Channel | Bandwidth | CCs Active | Modulation | OBW [MHz] |
|---|---|---|---|---|
| Mid | 50 | 1 | QPSK | 47.37 |
| Mid | 50 | 1 | 16QAM | 46.60 |
| Mid | 50 | 1 | 64QAM | 46.65 |
| Mid | 100 | 1 | QPSK | 94.53 |
| Mid | 100 | 1 | 16QAM | 94.47 |
| Mid | 100 | 1 | 64QAM | 94.36 |
| Mid | 200 | 4 | QPSK | 218.89 |
| Mid | 200 | 4 | 16QAM | 199.74 |
| Mid | 200 | 4 | 64QAM | 198.02 |
| Mid | 400 | 4 | QPSK | 432.79 |
| Mid | 400 | 4 | 16QAM | 432.16 |
| Mid | 400 | 4 | 64QAM | 488.45 |

**Table 7-9. Summary of L Patch Occupied Bandwidths (n260)**

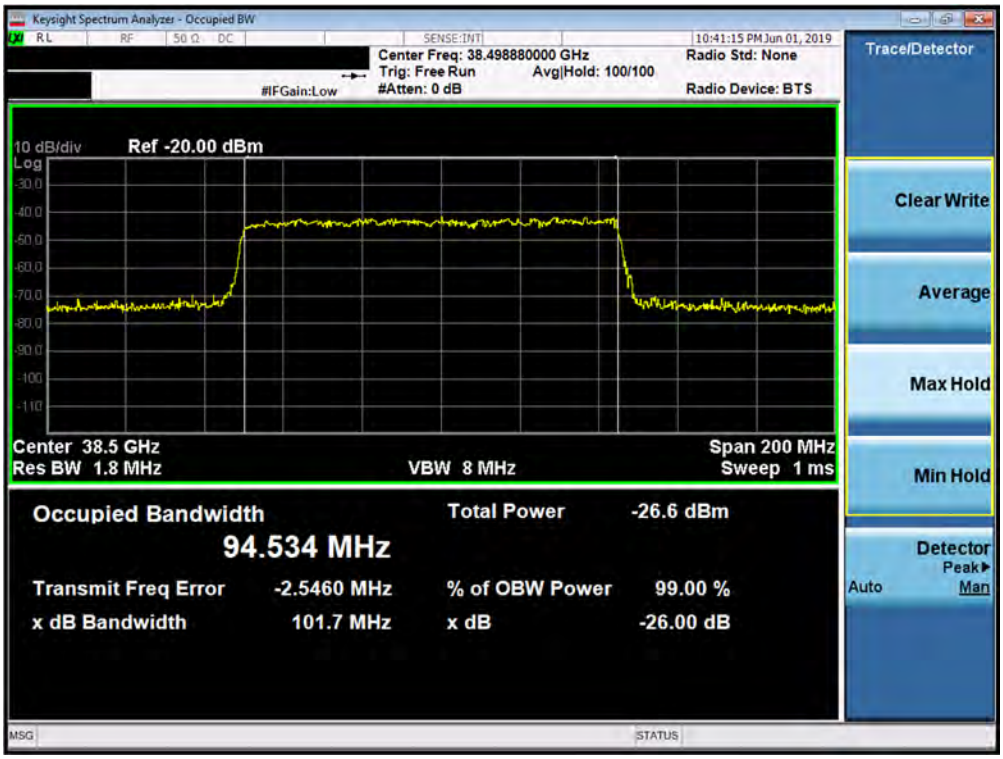

**Plot 7-85. Occupied Bandwidth Plot (1CC – 50MHz - QPSK - Mid Channel)**



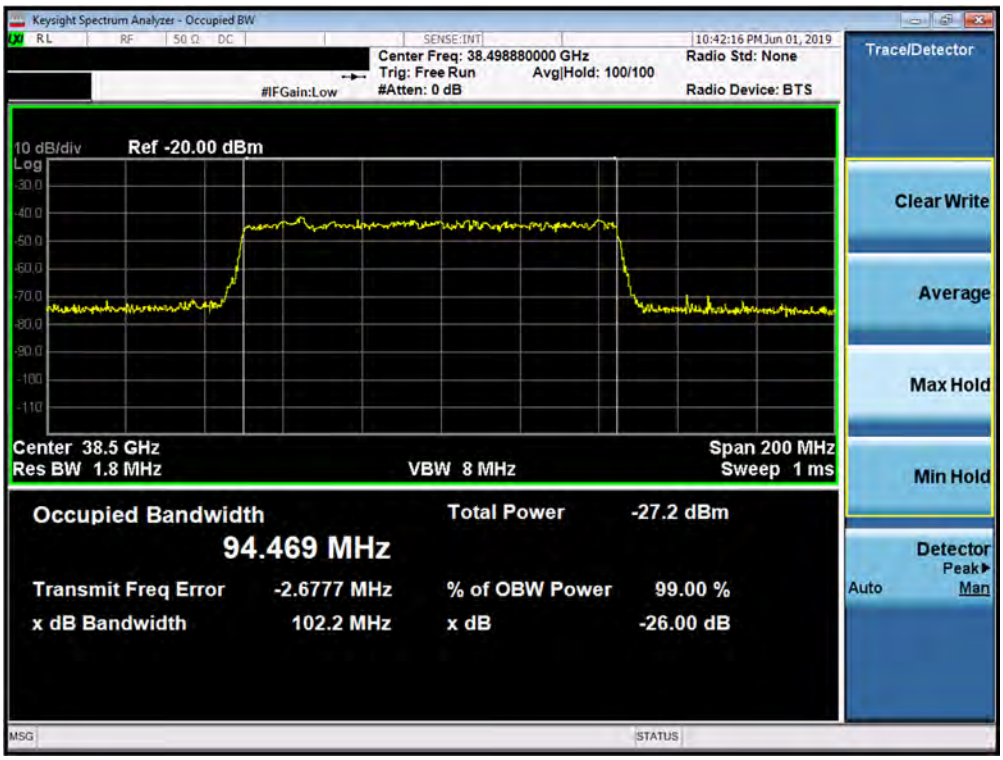

**Plot 7-86. Occupied Bandwidth Plot (1CC – 50MHz - 16QAM - Mid Channel)**



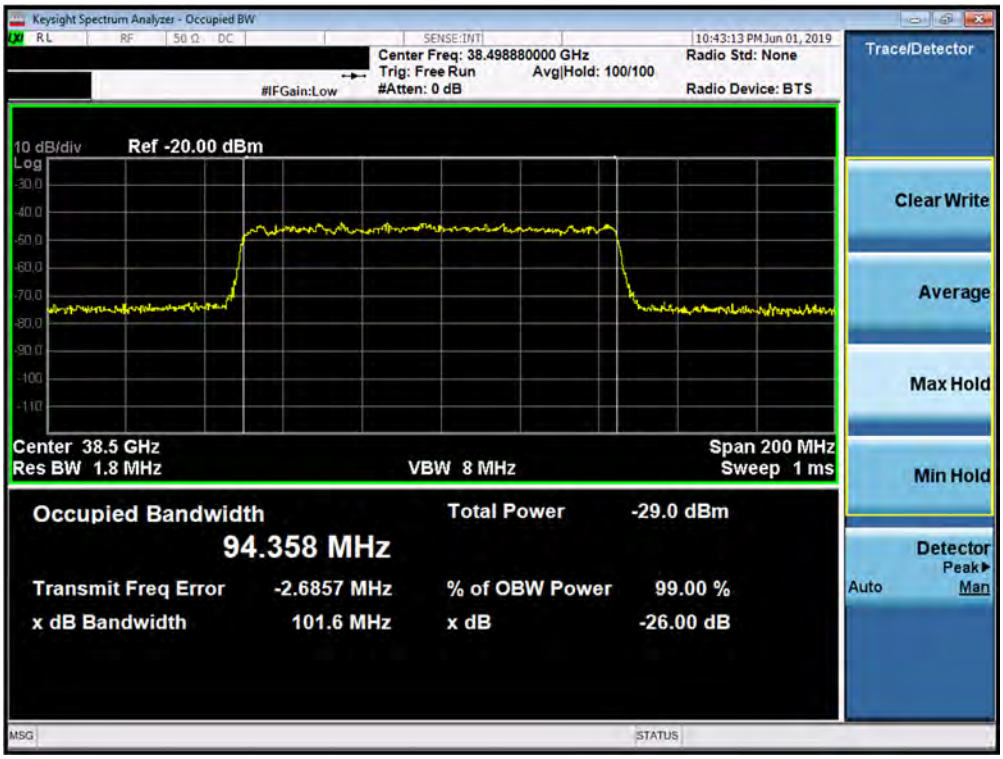

**Plot 7-87. Occupied Bandwidth Plot (1CC – 50MHz - 64QAM Mid Channel)**



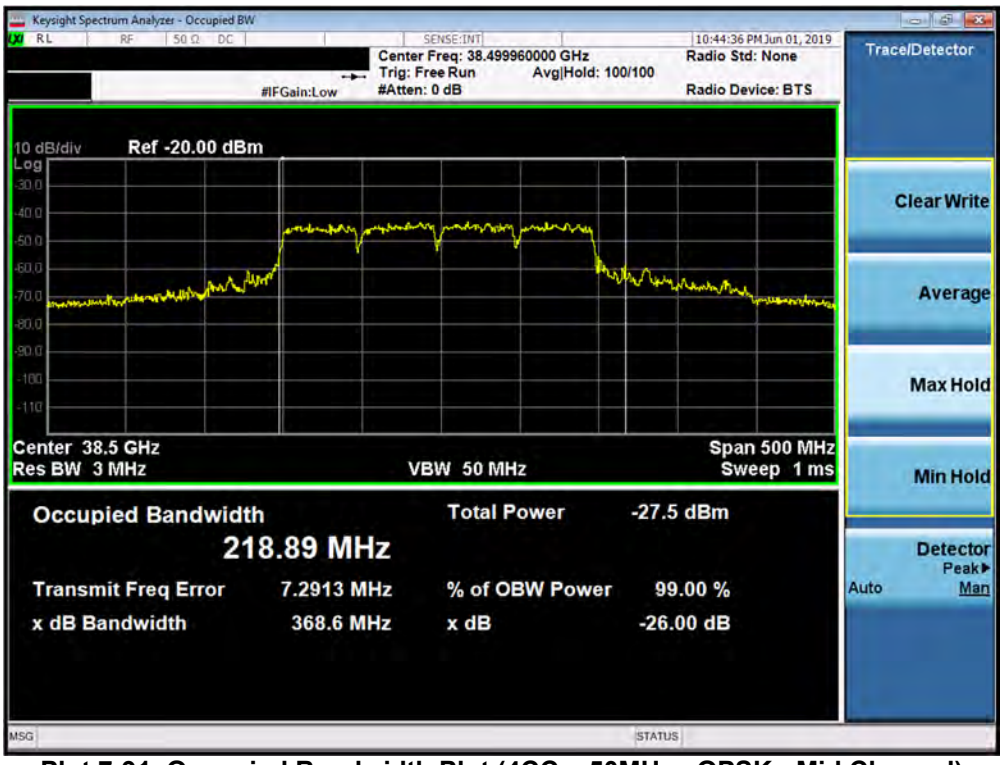

**Plot 7-88. Occupied Bandwidth Plot (1CC – 100MHz - QPSK - Mid Channel)**



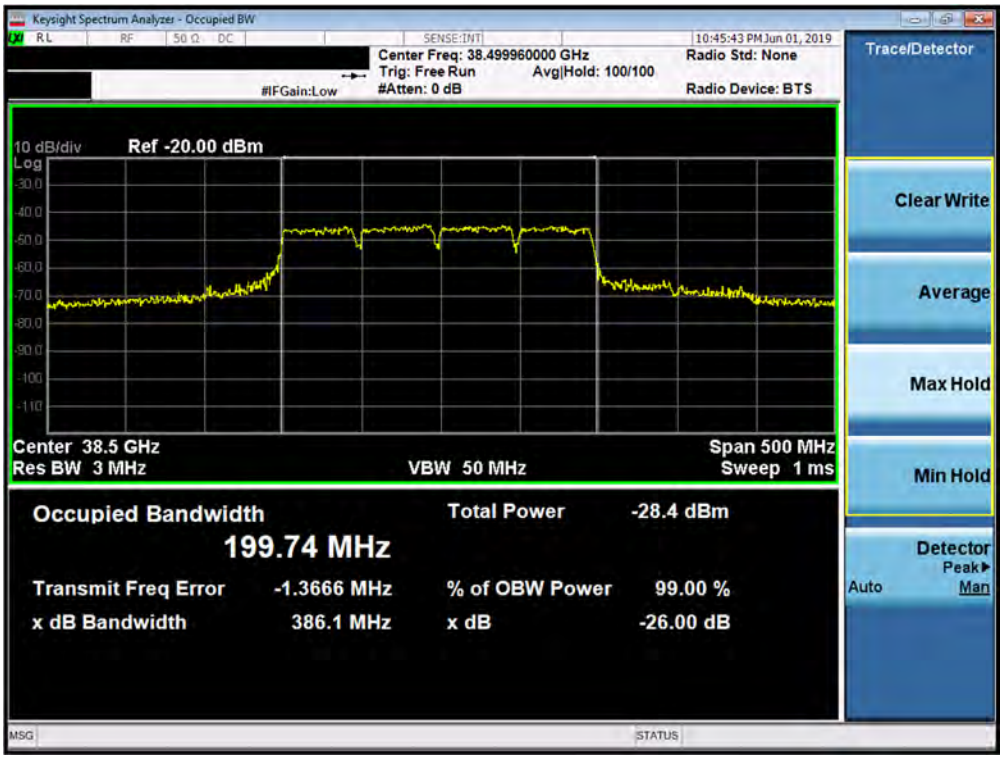

**Plot 7-89. Occupied Bandwidth Plot (1CC – 100MHz - 16QAM - Mid Channel)**



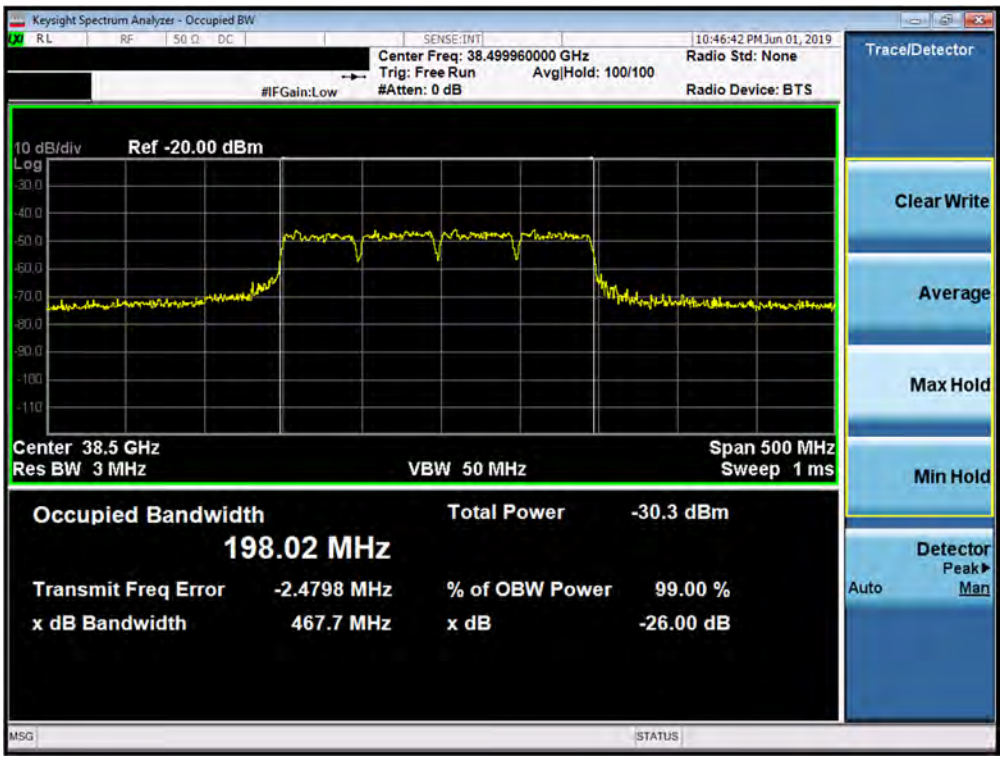

**Plot 7-90. Occupied Bandwidth Plot (1CC – 100MHz - 64QAM Mid Channel)**




**Plot 7-91. Occupied Bandwidth Plot (4CC – 50MHz - QPSK - Mid Channel)**



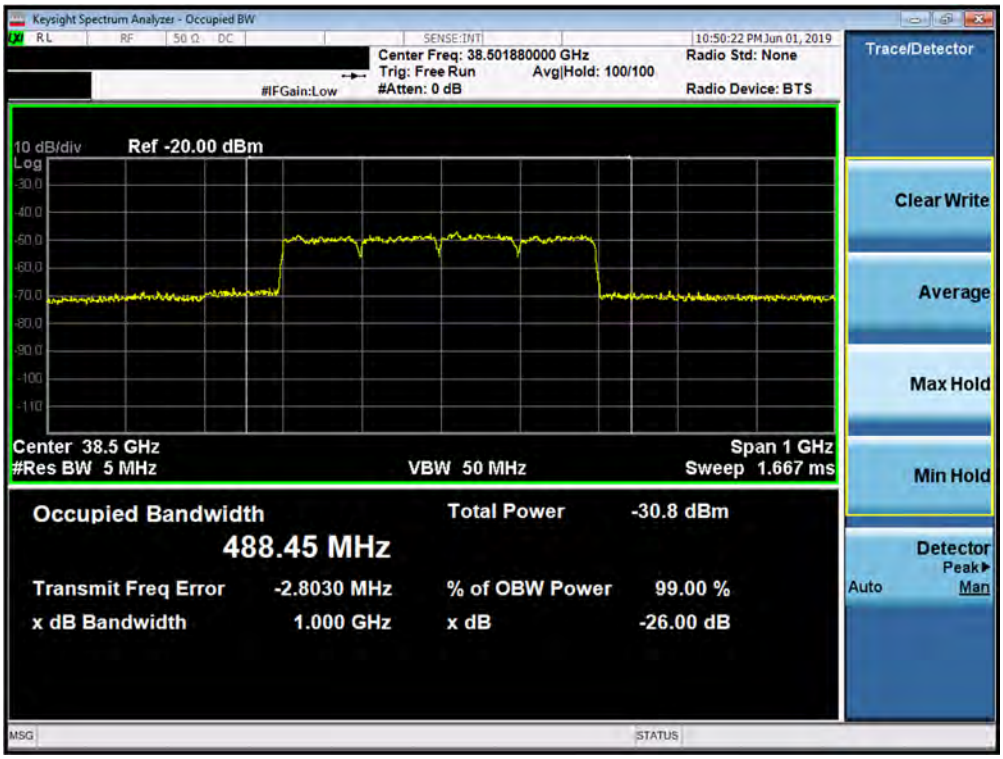

**Plot 7-92. Occupied Bandwidth Plot (4CC – 50MHz - 16QAM - Mid Channel)**




**Plot 7-93. Occupied Bandwidth Plot (4CC – 50MHz - 64QAM Mid Channel)**


**Plot 7-94. Occupied Bandwidth Plot (4CC – 100MHz - QPSK - Mid Channel)**


**Plot 7-95. Occupied Bandwidth Plot (4CC – 100MHz - 16QAM - Mid Channel)**




**Plot 7-96. Occupied Bandwidth Plot (4CC – 100MHz - 64QAM Mid Channel)**

## 7.3 Equivalent Isotropic Radiated Power

**§2.1046, §30.202**

### Test Overview

Equivalent Isotropic Radiated Power (EIRP) measurements are performed using broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

***The average power of the sum of all antenna elements is limited to a maximum EIRP of +43 dBm.***

### Test Procedures Used

ANSI C63.26-2015 Section 5.2.4.4.1
KDB 842590 D01 v01 Section 4.2

### Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 2x to 3x the OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
8. Trace mode = trace averaging (RMS) over 100 sweeps
9. The trace was allowed to stabilize

## Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

2) Elements within the same antenna array are correlated to produce beamforming array gain. Antenna arrays cannot be correlated with another antenna array. During testing, only one antenna array was active.

3) EIRP measurements were taken at 1m test distance.

4) The average EIRP reported below is calculated per section 5.2.7 of ANSI C63.26-2015 which states: EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m. The field strength E is calculated E (dBµV/m) = Spectrum Analyzer Channel Power Level (dBm) + Antenna Factor (dB/m) + Cable Loss (dB) + 107.

5) Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning. It was determined that H=0 degree and V=90 degree are the worst case positions when the EUT was transmitting horizontally and vertically polarized beams, respectively.

## 7.3.1 J Dipole Equivalent Isotropic Radiated Power (EIRP)

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Dipole | Low | 27534.84 | 50 | H | SISO | 5 | 1 | 32 | 0 | QPSK | 63 | 99 | -32.74 | 18.94 | 43.00 | -24.06 |
| | Mid | 27922.08 | 50 | H | SISO | 4 | 1 | 32 | 0 | QPSK | 68 | 99 | -31.44 | 20.27 | 43.00 | -22.73 |
| | High | 28319.52 | 50 | H | SISO | 16 | 1 | 1 | 0 | QPSK | 62 | 99 | -32.86 | 18.93 | 43.00 | -24.07 |
| | Low | 27534.84 | 50 | H | SISO | 5 | 1 | 1 | 31 | 16QAM | 63 | 99 | -33.06 | 18.62 | 43.00 | -24.38 |
| | Mid | 27922.08 | 50 | H | SISO | 4 | 1 | 1 | 31 | 16QAM | 68 | 99 | -32.10 | 19.61 | 43.00 | -23.39 |
| | High | 28319.52 | 50 | H | SISO | 16 | 1 | 1 | 0 | 16QAM | 62 | 99 | -33.53 | 18.26 | 43.00 | -24.74 |
| | Low | 27534.84 | 50 | H | SISO | 5 | 1 | 1 | 16 | 64QAM | 63 | 99 | -35.23 | 16.45 | 43.00 | -26.55 |
| | Mid | 27922.08 | 50 | H | SISO | 4 | 1 | 32 | 0 | 64QAM | 68 | 99 | -34.37 | 17.34 | 43.00 | -25.66 |
| | High | 28319.52 | 50 | H | SISO | 16 | 1 | 1 | 0 | 64QAM | 62 | 99 | -36.52 | 15.27 | 43.00 | -27.73 |
| | Low | 27534.84 | 50 | H | SISO | 133 | 1 | 32 | 0 | QPSK | 86 | 308 | -35.48 | 16.20 | 43.00 | -26.80 |
| | Mid | 27922.08 | 50 | H | SISO | 144 | 1 | 32 | 0 | QPSK | 85 | 308 | -35.51 | 16.20 | 43.00 | -26.80 |
| | High | 28319.52 | 50 | H | SISO | 133 | 1 | 32 | 0 | QPSK | 84 | 310 | -36.23 | 15.56 | 43.00 | -27.44 |
| | Low | 27534.84 | 50 | H | SISO | 133 | 1 | 1 | 16 | 16QAM | 86 | 308 | -35.93 | 15.75 | 43.00 | -27.25 |
| | Mid | 27922.08 | 50 | H | SISO | 144 | 1 | 1 | 31 | 16QAM | 85 | 308 | -36.75 | 14.96 | 43.00 | -28.04 |
| | High | 28319.52 | 50 | H | SISO | 133 | 1 | 1 | 0 | 16QAM | 84 | 310 | -37.14 | 14.65 | 43.00 | -28.35 |
| | Low | 27534.84 | 50 | H | SISO | 133 | 1 | 1 | 16 | 64QAM | 86 | 308 | -38.27 | 13.41 | 43.00 | -29.59 |
| | Mid | 27922.08 | 50 | H | SISO | 144 | 1 | 32 | 0 | 64QAM | 85 | 308 | -39.41 | 12.30 | 43.00 | -30.70 |
| | High | 28319.52 | 50 | H | SISO | 133 | 1 | 32 | 0 | 64QAM | 84 | 310 | -39.37 | 12.42 | 43.00 | -30.58 |
| | Low | 27559.32 | 100 | H | SISO | 5 | 1 | 1 | 0 | QPSK | 65 | 99 | -32.71 | 18.97 | 43.00 | -24.03 |
| | Mid | 27923.52 | 100 | H | SISO | 4 | 1 | 1 | 0 | QPSK | 63 | 99 | -32.39 | 19.32 | 43.00 | -23.68 |
| | High | 28292.16 | 100 | H | SISO | 16 | 1 | 1 | 0 | QPSK | 61 | 99 | -32.55 | 19.24 | 43.00 | -23.76 |
| | Low | 27559.32 | 100 | H | SISO | 5 | 1 | 1 | 0 | 16QAM | 65 | 99 | -33.41 | 18.27 | 43.00 | -24.73 |
| | Mid | 27923.52 | 100 | H | SISO | 4 | 1 | 1 | 0 | 16QAM | 63 | 99 | -33.14 | 18.57 | 43.00 | -24.43 |
| | High | 28292.16 | 100 | H | SISO | 16 | 1 | 1 | 0 | 16QAM | 61 | 99 | -33.26 | 18.53 | 43.00 | -24.47 |
| | Low | 27559.32 | 100 | H | SISO | 5 | 1 | 1 | 0 | 64QAM | 65 | 99 | -35.08 | 16.60 | 43.00 | -26.40 |
| | Mid | 27923.52 | 100 | H | SISO | 4 | 1 | 1 | 0 | 64QAM | 63 | 99 | -35.36 | 16.35 | 43.00 | -26.65 |
| | High | 28292.16 | 100 | H | SISO | 16 | 1 | 1 | 0 | 64QAM | 61 | 99 | -35.89 | 15.90 | 43.00 | -27.10 |
| | Low | 27559.32 | 100 | H | SISO | 133 | 1 | 66 | 0 | QPSK | 86 | 308 | -35.31 | 16.37 | 43.00 | -26.63 |
| | Mid | 27923.52 | 100 | H | SISO | 144 | 1 | 66 | 0 | QPSK | 84 | 305 | -35.24 | 16.47 | 43.00 | -26.53 |
| | High | 28292.16 | 100 | H | SISO | 133 | 1 | 66 | 0 | QPSK | 84 | 310 | -35.91 | 15.88 | 43.00 | -27.12 |
| | Low | 27559.32 | 100 | H | SISO | 133 | 1 | 1 | 32 | 16QAM | 86 | 308 | -35.60 | 16.08 | 43.00 | -26.92 |
| | Mid | 27923.52 | 100 | H | SISO | 144 | 1 | 1 | 0 | 16QAM | 84 | 305 | -36.52 | 15.19 | 43.00 | -27.81 |
| | High | 28292.16 | 100 | H | SISO | 133 | 1 | 1 | 65 | 16QAM | 84 | 310 | -36.78 | 15.01 | 43.00 | -27.99 |
| | Low | 27559.32 | 100 | H | SISO | 133 | 1 | 1 | 32 | 64QAM | 86 | 308 | -38.01 | 13.67 | 43.00 | -29.33 |
| | Mid | 27923.52 | 100 | H | SISO | 144 | 1 | 66 | 0 | 64QAM | 84 | 305 | -38.58 | 13.13 | 43.00 | -29.87 |
| | High | 28292.16 | 100 | H | SISO | 133 | 1 | 66 | 0 | 64QAM | 84 | 310 | -38.77 | 13.02 | 43.00 | -29.98 |
| | Mid | 27922.08 | 200 | H | SISO | 4 | 4 | 32 | 0 | QPSK | 65 | 99 | -33.46 | 18.25 | 43.00 | -24.75 |
| | Mid | 27922.08 | 200 | H | SISO | 4 | 4 | 32 | 0 | 16QAM | 65 | 99 | -34.41 | 17.30 | 43.00 | -25.70 |
| | Mid | 27922.08 | 200 | H | SISO | 4 | 4 | 32 | 0 | 64QAM | 65 | 99 | -36.39 | 15.32 | 43.00 | -27.68 |
| | Mid | 27922.08 | 200 | H | SISO | 144 | 4 | 32 | 0 | QPSK | 85 | 308 | -36.17 | 15.54 | 43.00 | -27.46 |
| | Mid | 27922.08 | 200 | H | SISO | 144 | 4 | 32 | 0 | 16QAM | 85 | 308 | -37.61 | 14.10 | 43.00 | -28.90 |
| | Mid | 27922.08 | 200 | H | SISO | 144 | 4 | 32 | 0 | 64QAM | 85 | 308 | -39.74 | 11.97 | 43.00 | -31.03 |
| | Mid | 27923.52 | 400 | H | SISO | 4 | 4 | 66 | 0 | QPSK | 67 | 97 | -34.37 | 17.34 | 43.00 | -25.66 |
| | Mid | 27923.52 | 400 | H | SISO | 4 | 4 | 66 | 0 | 16QAM | 67 | 97 | -35.10 | 16.61 | 43.00 | -26.39 |
| | Mid | 27923.52 | 400 | H | SISO | 4 | 4 | 66 | 0 | 64QAM | 67 | 97 | -37.32 | 14.39 | 43.00 | -28.61 |
| | Mid | 27923.52 | 400 | H | SISO | 144 | 4 | 66 | 0 | QPSK | 85 | 309 | -37.18 | 14.53 | 43.00 | -28.47 |
| | Mid | 27923.52 | 400 | H | SISO | 144 | 4 | 66 | 0 | 16QAM | 85 | 309 | -38.08 | 13.63 | 43.00 | -29.37 |
| | Mid | 27923.52 | 400 | H | SISO | 144 | 4 | 66 | 0 | 64QAM | 85 | 309 | -40.55 | 11.16 | 43.00 | -31.84 |

**Table 7-10. J Dipole EIRP Summary Data (n261 - SISO)**

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Dipole | Mid | 27922.08 | 50 | H | MIMO | 4 | 1 | 1 | 0 | QPSK | 68 | 99 | -31.44 | 20.27 | 21.49 | 43.00 | -21.51 |
| | Mid | 27922.08 | 50 | H | MIMO | 133 | 1 | 1 | 0 | QPSK | 280 | 312 | -36.34 | 15.37 | | | |
| | Mid | 27922.08 | 50 | H | MIMO | 4 | 1 | 1 | 0 | 16QAM | 68 | 99 | -32.10 | 19.61 | 20.87 | 43.00 | -22.13 |
| | Mid | 27922.08 | 50 | H | MIMO | 133 | 1 | 1 | 0 | 16QAM | 280 | 312 | -36.83 | 14.88 | | | |
| | Mid | 27922.08 | 50 | H | MIMO | 4 | 1 | 1 | 0 | 64QAM | 68 | 99 | -34.37 | 17.34 | 18.60 | 43.00 | -24.40 |
| | Mid | 27922.08 | 50 | H | MIMO | 133 | 1 | 1 | 0 | 64QAM | 280 | 312 | -39.10 | 12.61 | | | |
| | Mid | 27923.52 | 100 | H | MIMO | 4 | 1 | 1 | 0 | QPSK | 63 | 99 | -32.39 | 19.32 | 20.80 | 43.00 | -22.20 |
| | Mid | 27923.52 | 100 | H | MIMO | 133 | 1 | 1 | 0 | QPSK | 281 | 310 | -36.29 | 15.42 | | | |
| | Mid | 27923.52 | 100 | H | MIMO | 4 | 1 | 1 | 0 | 16QAM | 63 | 99 | -33.14 | 18.57 | 20.15 | 43.00 | -22.85 |
| | Mid | 27923.52 | 100 | H | MIMO | 133 | 1 | 1 | 0 | 16QAM | 281 | 310 | -36.73 | 14.98 | | | |
| | Mid | 27923.52 | 100 | H | MIMO | 4 | 1 | 1 | 0 | 64QAM | 63 | 99 | -35.36 | 16.35 | 17.91 | 43.00 | -25.09 |
| | Mid | 27923.52 | 100 | H | MIMO | 133 | 1 | 1 | 0 | 64QAM | 281 | 310 | -38.99 | 12.72 | | | |

**Table 7-11. J Dipole EIRP Summary Data (n261 - MIMO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Dipole | Low | 37027.32 | 50 | H | SISO | 5 | 1 | 1 | 16 | QPSK | 93 | 314 | -39.87 | 14.04 | 43.00 | -28.96 |
| | Mid | 38497.44 | 50 | H | SISO | 5 | 1 | 32 | 0 | QPSK | 105 | 314 | -37.24 | 16.97 | 43.00 | -26.03 |
| | High | 39966.24 | 50 | H | SISO | 5 | 1 | 1 | 0 | QPSK | 102 | 314 | -38.00 | 16.80 | 43.00 | -26.20 |
| | Low | 37027.32 | 50 | H | SISO | 5 | 1 | 1 | 16 | 16QAM | 93 | 314 | -40.18 | 13.73 | 43.00 | -29.27 |
| | Mid | 38497.44 | 50 | H | SISO | 5 | 1 | 1 | 31 | 16QAM | 105 | 314 | -37.42 | 16.79 | 43.00 | -26.21 |
| | High | 39966.24 | 50 | H | SISO | 5 | 1 | 1 | 0 | 16QAM | 102 | 314 | -38.78 | 16.02 | 43.00 | -26.98 |
| | Low | 37027.32 | 50 | H | SISO | 5 | 1 | 1 | 16 | 64QAM | 93 | 314 | -41.96 | 11.95 | 43.00 | -31.05 |
| | Mid | 38497.44 | 50 | H | SISO | 5 | 1 | 1 | 31 | 64QAM | 105 | 314 | -39.40 | 14.81 | 43.00 | -28.19 |
| | High | 39966.24 | 50 | H | SISO | 5 | 1 | 32 | 0 | 64QAM | 102 | 314 | -40.68 | 14.12 | 43.00 | -28.88 |
| | Low | 37027.32 | 50 | H | SISO | 145 | 1 | 1 | 16 | QPSK | 105 | 98 | -39.69 | 14.22 | 43.00 | -28.78 |
| | Mid | 38497.44 | 50 | H | SISO | 128 | 1 | 32 | 0 | QPSK | 100 | 98 | -37.20 | 17.01 | 43.00 | -25.99 |
| | High | 39966.24 | 50 | H | SISO | 145 | 1 | 32 | 0 | QPSK | 284 | 67 | -38.43 | 16.37 | 43.00 | -26.63 |
| | Low | 37027.32 | 50 | H | SISO | 145 | 1 | 1 | 16 | 16QAM | 105 | 98 | -40.18 | 13.73 | 43.00 | -29.27 |
| | Mid | 38497.44 | 50 | H | SISO | 128 | 1 | 1 | 16 | 16QAM | 100 | 98 | -38.32 | 15.89 | 43.00 | -27.11 |
| | High | 39966.24 | 50 | H | SISO | 145 | 1 | 32 | 0 | 16QAM | 284 | 67 | -39.52 | 15.28 | 43.00 | -27.72 |
| | Low | 37027.32 | 50 | H | SISO | 145 | 1 | 32 | 0 | 64QAM | 105 | 98 | -42.02 | 11.89 | 43.00 | -31.11 |
| | Mid | 38497.44 | 50 | H | SISO | 128 | 1 | 32 | 0 | 64QAM | 100 | 98 | -40.04 | 14.17 | 43.00 | -28.83 |
| | High | 39966.24 | 50 | H | SISO | 145 | 1 | 32 | 0 | 64QAM | 284 | 67 | -41.26 | 13.54 | 43.00 | -29.46 |
| | Low | 37051.80 | 100 | H | SISO | 5 | 1 | 1 | 65 | QPSK | 93 | 314 | -38.39 | 15.52 | 43.00 | -27.48 |
| | Mid | 38498.88 | 100 | H | SISO | 5 | 1 | 66 | 0 | QPSK | 105 | 314 | -37.03 | 17.18 | 43.00 | -25.82 |
| | High | 39949.92 | 100 | H | SISO | 5 | 1 | 1 | 32 | QPSK | 102 | 314 | -37.43 | 17.37 | 43.00 | -25.63 |
| | Low | 37051.80 | 100 | H | SISO | 5 | 1 | 1 | 65 | 16QAM | 93 | 314 | -39.12 | 14.79 | 43.00 | -28.21 |
| | Mid | 38498.88 | 100 | H | SISO | 5 | 1 | 1 | 0 | 16QAM | 105 | 314 | -37.27 | 16.94 | 43.00 | -26.06 |
| | High | 39949.92 | 100 | H | SISO | 5 | 1 | 1 | 32 | 16QAM | 102 | 314 | -38.21 | 16.59 | 43.00 | -26.41 |
| | Low | 37051.80 | 100 | H | SISO | 5 | 1 | 1 | 65 | 64QAM | 93 | 314 | -40.41 | 13.50 | 43.00 | -29.50 |
| | Mid | 38498.88 | 100 | H | SISO | 5 | 1 | 66 | 0 | 64QAM | 105 | 314 | -39.08 | 15.13 | 43.00 | -27.87 |
| | High | 39949.92 | 100 | H | SISO | 5 | 1 | 66 | 0 | 64QAM | 102 | 314 | -39.85 | 14.95 | 43.00 | -28.05 |
| | Low | 37051.80 | 100 | H | SISO | 145 | 1 | 1 | 32 | QPSK | 103 | 98 | -38.17 | 15.74 | 43.00 | -27.26 |
| | Mid | 38498.88 | 100 | H | SISO | 128 | 1 | 66 | 0 | QPSK | 100 | 98 | -37.34 | 16.87 | 43.00 | -26.13 |
| | High | 39949.92 | 100 | H | SISO | 145 | 1 | 66 | 0 | QPSK | 284 | 67 | -38.93 | 15.87 | 43.00 | -27.13 |
| | Low | 37051.80 | 100 | H | SISO | 145 | 1 | 1 | 32 | 16QAM | 103 | 98 | -38.43 | 15.48 | 43.00 | -27.52 |
| | Mid | 38498.88 | 100 | H | SISO | 128 | 1 | 66 | 0 | 16QAM | 100 | 98 | -38.09 | 16.12 | 43.00 | -26.88 |
| | High | 39949.92 | 100 | H | SISO | 145 | 1 | 66 | 0 | 16QAM | 284 | 67 | -39.64 | 15.16 | 43.00 | -27.84 |
| | Low | 37051.80 | 100 | H | SISO | 145 | 1 | 1 | 32 | 64QAM | 103 | 98 | -40.07 | 13.84 | 43.00 | -29.16 |
| | Mid | 38498.88 | 100 | H | SISO | 128 | 1 | 66 | 0 | 64QAM | 100 | 98 | -39.65 | 14.56 | 43.00 | -28.44 |
| | High | 39949.92 | 100 | H | SISO | 145 | 1 | 66 | 0 | 64QAM | 284 | 67 | -40.97 | 13.83 | 43.00 | -29.17 |
| | Mid | 38499.96 | 200 | H | SISO | 5 | 4 | 32 | 0 | QPSK | 105 | 314 | -37.35 | 16.86 | 43.00 | -26.14 |
| | Mid | 38499.96 | 200 | H | SISO | 5 | 4 | 32 | 0 | 16QAM | 105 | 314 | -37.92 | 16.29 | 43.00 | -26.71 |
| | Mid | 38499.96 | 200 | H | SISO | 5 | 4 | 1 | 31 | 64QAM | 105 | 314 | -39.18 | 15.03 | 43.00 | -27.97 |
| | Mid | 38499.96 | 200 | H | SISO | 128 | 4 | 32 | 0 | QPSK | 100 | 98 | -37.68 | 16.53 | 43.00 | -26.47 |
| | Mid | 38499.96 | 200 | H | SISO | 128 | 4 | 32 | 0 | 16QAM | 100 | 98 | -38.25 | 15.96 | 43.00 | -27.04 |
| | Mid | 38499.96 | 200 | H | SISO | 128 | 4 | 32 | 0 | 64QAM | 100 | 98 | -39.65 | 14.56 | 43.00 | -28.44 |
| | Mid | 38501.88 | 400 | H | SISO | 5 | 4 | 66 | 0 | QPSK | 105 | 314 | -37.19 | 17.02 | 43.00 | -25.98 |
| | Mid | 38501.88 | 400 | H | SISO | 5 | 4 | 66 | 0 | 16QAM | 105 | 314 | -37.61 | 16.60 | 43.00 | -26.40 |
| | Mid | 38501.88 | 400 | H | SISO | 5 | 4 | 1 | 65 | 64QAM | 105 | 314 | -38.47 | 15.74 | 43.00 | -27.26 |
| | Mid | 38501.88 | 400 | H | SISO | 128 | 4 | 66 | 0 | QPSK | 100 | 98 | -37.33 | 16.88 | 43.00 | -26.12 |
| | Mid | 38501.88 | 400 | H | SISO | 128 | 4 | 66 | 0 | 16QAM | 100 | 98 | -37.75 | 16.46 | 43.00 | -26.54 |
| | Mid | 38501.88 | 400 | H | SISO | 128 | 4 | 66 | 0 | 64QAM | 100 | 98 | -38.69 | 15.52 | 43.00 | -27.48 |

**Table 7-12. J Dipole EIRP Summary Data (n260 - SISO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Dipole | Mid | 38497.44 | 50 | H | MIMO | 4 | 1 | 32 | 0 | QPSK | 285 | 321 | -37.41 | 16.80 | 19.46 | 43.00 | -23.54 |
| | Mid | 38497.44 | 50 | H | MIMO | 132 | 1 | 32 | 0 | QPSK | 269 | 97 | -38.15 | 16.06 | | | |
| | Mid | 38497.44 | 50 | H | MIMO | 4 | 1 | 32 | 0 | 16QAM | 285 | 321 | -38.55 | 15.66 | 18.29 | 43.00 | -24.71 |
| | Mid | 38497.44 | 50 | H | MIMO | 132 | 1 | 32 | 0 | 16QAM | 269 | 97 | -39.34 | 14.87 | | | |
| | Mid | 38497.44 | 50 | H | MIMO | 4 | 1 | 32 | 0 | 64QAM | 285 | 321 | -40.76 | 13.45 | 16.18 | 43.00 | -26.82 |
| | Mid | 38497.44 | 50 | H | MIMO | 132 | 1 | 32 | 0 | 64QAM | 269 | 97 | -41.33 | 12.88 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 4 | 1 | 66 | 0 | QPSK | 285 | 324 | -37.12 | 17.09 | 19.66 | 43.00 | -23.34 |
| | Mid | 38498.88 | 100 | H | MIMO | 132 | 1 | 66 | 0 | QPSK | 269 | 97 | -38.05 | 16.16 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 4 | 1 | 66 | 0 | 16QAM | 285 | 324 | -38.07 | 16.14 | 18.79 | 43.00 | -24.21 |
| | Mid | 38498.88 | 100 | H | MIMO | 132 | 1 | 66 | 0 | 16QAM | 269 | 97 | -38.83 | 15.38 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 4 | 1 | 66 | 0 | 64QAM | 285 | 324 | -40.21 | 14.00 | 16.72 | 43.00 | -26.28 |
| | Mid | 38498.88 | 100 | H | MIMO | 132 | 1 | 66 | 0 | 64QAM | 269 | 97 | -40.81 | 13.40 | | | |

**Table 7-13. J Dipole EIRP Summary Data (n260 - MIMO)**

## 7.3.2 J Patch Equivalent Isotropic Radiated Power (EIRP)

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Patch | Low | 27534.84 | 50 | H | SISO | 25 | 1 | 32 | 0 | QPSK | 110 | 98 | -29.64 | 22.04 | 43.00 | -20.96 |
| | Mid | 27922.08 | 50 | H | SISO | 25 | 1 | 32 | 0 | QPSK | 112 | 98 | -30.93 | 20.78 | 43.00 | -22.22 |
| | High | 28319.52 | 50 | H | SISO | 25 | 1 | 1 | 0 | QPSK | 110 | 98 | -30.14 | 21.65 | 43.00 | -21.35 |
| | Low | 27534.84 | 50 | H | SISO | 25 | 1 | 32 | 0 | 16QAM | 110 | 98 | -30.25 | 21.43 | 43.00 | -21.57 |
| | Mid | 27922.08 | 50 | H | SISO | 25 | 1 | 32 | 0 | 16QAM | 112 | 98 | -31.64 | 20.07 | 43.00 | -22.93 |
| | High | 28319.52 | 50 | H | SISO | 25 | 1 | 32 | 0 | 16QAM | 110 | 98 | -31.20 | 20.59 | 43.00 | -22.41 |
| | Low | 27534.84 | 50 | H | SISO | 25 | 1 | 32 | 0 | 64QAM | 110 | 98 | -32.23 | 19.45 | 43.00 | -23.55 |
| | Mid | 27922.08 | 50 | H | SISO | 25 | 1 | 1 | 31 | 64QAM | 112 | 98 | -33.45 | 18.26 | 43.00 | -24.74 |
| | High | 28319.52 | 50 | H | SISO | 25 | 1 | 32 | 0 | 64QAM | 110 | 98 | -33.14 | 18.65 | 43.00 | -24.35 |
| | Low | 27534.84 | 50 | V | SISO | 154 | 1 | 32 | 0 | QPSK | 95 | 277 | -30.63 | 21.05 | 43.00 | -21.95 |
| | Mid | 27922.08 | 50 | V | SISO | 155 | 1 | 1 | 31 | QPSK | 99 | 287 | -30.35 | 21.36 | 43.00 | -21.64 |
| | High | 28319.52 | 50 | V | SISO | 168 | 1 | 1 | 16 | QPSK | 97 | 290 | -29.12 | 22.67 | 43.00 | -20.33 |
| | Low | 27534.84 | 50 | V | SISO | 154 | 1 | 1 | 0 | 16QAM | 95 | 277 | -31.41 | 20.27 | 43.00 | -22.73 |
| | Mid | 27922.08 | 50 | V | SISO | 155 | 1 | 32 | 0 | 16QAM | 99 | 287 | -31.33 | 20.38 | 43.00 | -22.62 |
| | High | 28319.52 | 50 | V | SISO | 168 | 1 | 32 | 0 | 16QAM | 97 | 290 | -31.10 | 20.69 | 43.00 | -22.31 |
| | Low | 27534.84 | 50 | V | SISO | 154 | 1 | 32 | 0 | 64QAM | 95 | 277 | -33.44 | 18.24 | 43.00 | -24.76 |
| | Mid | 27922.08 | 50 | V | SISO | 155 | 1 | 1 | 31 | 64QAM | 99 | 287 | -32.55 | 19.16 | 43.00 | -23.84 |
| | High | 28319.52 | 50 | V | SISO | 168 | 1 | 1 | 16 | 64QAM | 97 | 290 | -32.77 | 19.02 | 43.00 | -23.98 |
| | Low | 27559.32 | 100 | H | SISO | 25 | 1 | 66 | 0 | QPSK | 110 | 98 | -29.38 | 22.30 | 43.00 | -20.70 |
| | Mid | 27923.52 | 100 | H | SISO | 25 | 1 | 66 | 0 | QPSK | 104 | 95 | -30.41 | 21.30 | 43.00 | -21.70 |
| | High | 28292.16 | 100 | H | SISO | 25 | 1 | 1 | 0 | QPSK | 110 | 98 | -29.90 | 21.89 | 43.00 | -21.11 |
| | Low | 27559.32 | 100 | H | SISO | 25 | 1 | 66 | 0 | 16QAM | 110 | 98 | -30.51 | 21.17 | 43.00 | -21.83 |
| | Mid | 27923.52 | 100 | H | SISO | 25 | 1 | 66 | 0 | 16QAM | 104 | 95 | -31.99 | 19.72 | 43.00 | -23.28 |
| | High | 28292.16 | 100 | H | SISO | 25 | 1 | 66 | 0 | 16QAM | 110 | 98 | -30.98 | 20.81 | 43.00 | -22.19 |
| | Low | 27559.32 | 100 | H | SISO | 25 | 1 | 1 | 0 | 64QAM | 110 | 98 | -32.22 | 19.46 | 43.00 | -23.54 |
| | Mid | 27923.52 | 100 | H | SISO | 25 | 1 | 66 | 0 | 64QAM | 104 | 95 | -33.67 | 18.04 | 43.00 | -24.96 |
| | High | 28292.16 | 100 | H | SISO | 25 | 1 | 66 | 0 | 64QAM | 110 | 98 | -32.97 | 18.82 | 43.00 | -24.18 |
| | Low | 27559.32 | 100 | V | SISO | 154 | 1 | 66 | 0 | QPSK | 96 | 275 | -30.65 | 21.03 | 43.00 | -21.97 |
| | Mid | 27923.52 | 100 | V | SISO | 155 | 1 | 1 | 65 | QPSK | 97 | 288 | -30.28 | 21.43 | 43.00 | -21.57 |
| | High | 28292.16 | 100 | V | SISO | 168 | 1 | 1 | 0 | QPSK | 97 | 290 | -29.39 | 22.40 | 43.00 | -20.60 |
| | Low | 27559.32 | 100 | V | SISO | 154 | 1 | 66 | 0 | 16QAM | 96 | 275 | -31.62 | 20.06 | 43.00 | -22.94 |
| | Mid | 27923.52 | 100 | V | SISO | 155 | 1 | 66 | 0 | 16QAM | 97 | 288 | -31.66 | 20.05 | 43.00 | -22.95 |
| | High | 28292.16 | 100 | V | SISO | 168 | 1 | 1 | 0 | 16QAM | 97 | 290 | -31.03 | 20.76 | 43.00 | -22.24 |
| | Low | 27559.32 | 100 | V | SISO | 154 | 1 | 66 | 0 | 64QAM | 96 | 275 | -33.60 | 18.08 | 43.00 | -24.92 |
| | Mid | 27923.52 | 100 | V | SISO | 155 | 1 | 1 | 65 | 64QAM | 97 | 288 | -33.27 | 18.44 | 43.00 | -24.56 |
| | High | 28292.16 | 100 | V | SISO | 168 | 1 | 1 | 0 | 64QAM | 97 | 290 | -32.87 | 18.92 | 43.00 | -24.08 |
| | Mid | 27922.08 | 200 | H | SISO | 25 | 4 | 32 | 0 | QPSK | 111 | 98 | -30.65 | 21.06 | 43.00 | -21.94 |
| | Mid | 27922.08 | 200 | H | SISO | 25 | 4 | 32 | 0 | 16QAM | 111 | 98 | -31.61 | 20.10 | 43.00 | -22.90 |
| | Mid | 27922.08 | 200 | H | SISO | 25 | 4 | 32 | 0 | 64QAM | 111 | 98 | -33.63 | 18.08 | 43.00 | -24.92 |
| | Mid | 27922.08 | 200 | V | SISO | 155 | 4 | 32 | 0 | QPSK | 99 | 287 | -31.53 | 20.18 | 43.00 | -22.82 |
| | Mid | 27922.08 | 200 | V | SISO | 155 | 4 | 32 | 0 | 16QAM | 99 | 287 | -32.56 | 19.15 | 43.00 | -23.85 |
| | Mid | 27922.08 | 200 | V | SISO | 155 | 4 | 32 | 0 | 64QAM | 99 | 287 | -34.69 | 17.02 | 43.00 | -25.98 |
| | Mid | 27923.52 | 400 | H | SISO | 25 | 4 | 66 | 0 | QPSK | 110 | 98 | -31.28 | 20.43 | 43.00 | -22.57 |
| | Mid | 27923.52 | 400 | H | SISO | 25 | 4 | 66 | 0 | 16QAM | 110 | 98 | -32.29 | 19.42 | 43.00 | -23.58 |
| | Mid | 27923.52 | 400 | H | SISO | 25 | 4 | 66 | 0 | 64QAM | 110 | 98 | -34.37 | 17.34 | 43.00 | -25.66 |
| | Mid | 27923.52 | 400 | V | SISO | 155 | 4 | 66 | 0 | QPSK | 97 | 288 | -32.28 | 19.43 | 43.00 | -23.57 |
| | Mid | 27923.52 | 400 | V | SISO | 155 | 4 | 66 | 0 | 16QAM | 97 | 288 | -33.05 | 18.66 | 43.00 | -24.34 |
| | Mid | 27923.52 | 400 | V | SISO | 155 | 4 | 66 | 0 | 64QAM | 97 | 288 | -35.26 | 16.45 | 43.00 | -26.55 |

**Table 7-14. J Patch EIRP Summary Data (n261 - SISO)**

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Patch | High | 28319.52 | 50 | H | MIMO | 39 | 1 | 1 | 31 | QPSK | 303 | 96 | -29.05 | 22.74 | 25.25 | 43.00 | -17.75 |
| | High | 28319.52 | 50 | V | MIMO | 170 | 1 | 1 | 31 | QPSK | 241 | 282 | -30.12 | 21.67 | | | |
| | High | 28319.52 | 50 | H | MIMO | 39 | 1 | 1 | 31 | 16QAM | 303 | 96 | -30.91 | 20.88 | 23.72 | 43.00 | -19.28 |
| | High | 28319.52 | 50 | V | MIMO | 170 | 1 | 1 | 31 | 16QAM | 241 | 282 | -31.26 | 20.53 | | | |
| | High | 28319.52 | 50 | H | MIMO | 39 | 1 | 1 | 31 | 64QAM | 303 | 96 | -32.62 | 19.17 | 21.97 | 43.00 | -21.03 |
| | High | 28319.52 | 50 | V | MIMO | 170 | 1 | 1 | 31 | 64QAM | 241 | 282 | -33.04 | 18.75 | | | |
| | High | 28292.16 | 100 | H | MIMO | 39 | 1 | 1 | 0 | QPSK | 298 | 96 | -28.55 | 23.24 | 25.41 | 43.00 | -17.59 |
| | High | 28292.16 | 100 | V | MIMO | 170 | 1 | 1 | 0 | QPSK | 240 | 282 | -30.42 | 21.37 | | | |
| | High | 28292.16 | 100 | H | MIMO | 39 | 1 | 1 | 0 | 16QAM | 298 | 96 | -30.33 | 21.46 | 23.93 | 43.00 | -19.07 |
| | High | 28292.16 | 100 | V | MIMO | 170 | 1 | 1 | 0 | 16QAM | 240 | 282 | -31.48 | 20.31 | | | |
| | High | 28292.16 | 100 | H | MIMO | 39 | 1 | 1 | 0 | 64QAM | 298 | 96 | -32.10 | 19.69 | 22.03 | 43.00 | -20.97 |
| | High | 28292.16 | 100 | V | MIMO | 170 | 1 | 1 | 0 | 64QAM | 240 | 282 | -33.57 | 18.22 | | | |

**Table 7-15. J Patch EIRP Summary Data (n261 - MIMO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Patch | Low | 37027.32 | 50 | H | SISO | 26 | 1 | 32 | 0 | QPSK | 297 | 94 | -38.96 | 14.95 | 43.00 | -28.05 |
| | Mid | 38497.44 | 50 | H | SISO | 28 | 1 | 1 | 31 | QPSK | 292 | 98 | -37.93 | 16.28 | 43.00 | -26.72 |
| | High | 39966.24 | 50 | H | SISO | 26 | 1 | 1 | 0 | QPSK | 290 | 88 | -39.62 | 15.18 | 43.00 | -27.82 |
| | Low | 37027.32 | 50 | H | SISO | 26 | 1 | 32 | 0 | 16QAM | 297 | 94 | -39.81 | 14.10 | 43.00 | -28.90 |
| | Mid | 38497.44 | 50 | H | SISO | 28 | 1 | 1 | 31 | 16QAM | 292 | 98 | -39.01 | 15.20 | 43.00 | -27.80 |
| | High | 39966.24 | 50 | H | SISO | 26 | 1 | 32 | 0 | 16QAM | 290 | 88 | -40.44 | 14.36 | 43.00 | -28.64 |
| | Low | 37027.32 | 50 | H | SISO | 26 | 1 | 32 | 0 | 64QAM | 297 | 94 | -41.34 | 12.57 | 43.00 | -30.43 |
| | Mid | 38497.44 | 50 | H | SISO | 28 | 1 | 1 | 31 | 64QAM | 292 | 98 | -40.86 | 13.35 | 43.00 | -29.65 |
| | High | 39966.24 | 50 | H | SISO | 26 | 1 | 32 | 0 | 64QAM | 290 | 88 | -41.75 | 13.05 | 43.00 | -29.95 |
| | Low | 37027.32 | 50 | V | SISO | 168 | 1 | 32 | 0 | QPSK | 278 | 274 | -34.02 | 19.89 | 43.00 | -23.11 |
| | Mid | 38497.44 | 50 | V | SISO | 168 | 1 | 1 | 0 | QPSK | 278 | 274 | -32.54 | 21.67 | 43.00 | -21.33 |
| | High | 39966.24 | 50 | V | SISO | 168 | 1 | 1 | 31 | QPSK | 268 | 274 | -34.64 | 20.16 | 43.00 | -22.84 |
| | Low | 37027.32 | 50 | V | SISO | 168 | 1 | 32 | 0 | 16QAM | 278 | 274 | -34.84 | 19.07 | 43.00 | -23.93 |
| | Mid | 38497.44 | 50 | V | SISO | 168 | 1 | 1 | 0 | 16QAM | 278 | 274 | -33.62 | 20.59 | 43.00 | -22.41 |
| | High | 39966.24 | 50 | V | SISO | 168 | 1 | 32 | 0 | 16QAM | 268 | 274 | -35.95 | 18.85 | 43.00 | -24.15 |
| | Low | 37027.32 | 50 | V | SISO | 168 | 1 | 32 | 0 | 64QAM | 278 | 274 | -36.41 | 17.50 | 43.00 | -25.50 |
| | Mid | 38497.44 | 50 | V | SISO | 168 | 1 | 1 | 0 | 64QAM | 278 | 274 | -35.50 | 18.71 | 43.00 | -24.29 |
| | High | 39966.24 | 50 | V | SISO | 168 | 1 | 32 | 0 | 64QAM | 268 | 274 | -37.70 | 17.10 | 43.00 | -25.90 |
| | Low | 37051.80 | 100 | H | SISO | 26 | 1 | 1 | 0 | QPSK | 297 | 94 | -39.09 | 14.82 | 43.00 | -28.18 |
| | Mid | 38498.88 | 100 | H | SISO | 28 | 1 | 1 | 32 | QPSK | 292 | 98 | -37.73 | 16.48 | 43.00 | -26.52 |
| | High | 39949.92 | 100 | H | SISO | 26 | 1 | 66 | 0 | QPSK | 288 | 88 | -39.11 | 15.69 | 43.00 | -27.31 |
| | Low | 37051.80 | 100 | H | SISO | 26 | 1 | 1 | 0 | 16QAM | 297 | 94 | -39.94 | 13.97 | 43.00 | -29.03 |
| | Mid | 38498.88 | 100 | H | SISO | 28 | 1 | 1 | 32 | 16QAM | 292 | 98 | -38.77 | 15.44 | 43.00 | -27.56 |
| | High | 39949.92 | 100 | H | SISO | 26 | 1 | 66 | 0 | 16QAM | 288 | 88 | -39.76 | 15.04 | 43.00 | -27.96 |
| | Low | 37051.80 | 100 | H | SISO | 26 | 1 | 66 | 0 | 64QAM | 297 | 94 | -41.42 | 12.49 | 43.00 | -30.51 |
| | Mid | 38498.88 | 100 | H | SISO | 28 | 1 | 66 | 0 | 64QAM | 292 | 98 | -40.18 | 14.03 | 43.00 | -28.97 |
| | High | 39949.92 | 100 | H | SISO | 26 | 1 | 66 | 0 | 64QAM | 288 | 88 | -40.85 | 13.95 | 43.00 | -29.05 |
| | Low | 37051.80 | 100 | V | SISO | 168 | 1 | 1 | 65 | QPSK | 278 | 274 | -33.10 | 20.81 | 43.00 | -22.19 |
| | Mid | 38498.88 | 100 | V | SISO | 168 | 1 | 1 | 32 | QPSK | 278 | 274 | -32.50 | 21.71 | 43.00 | -21.29 |
| | High | 39949.92 | 100 | V | SISO | 168 | 1 | 66 | 0 | QPSK | 268 | 274 | -34.13 | 20.67 | 43.00 | -22.33 |
| | Low | 37051.80 | 100 | V | SISO | 168 | 1 | 66 | 0 | 16QAM | 278 | 274 | -34.02 | 19.89 | 43.00 | -23.11 |
| | Mid | 38498.88 | 100 | V | SISO | 168 | 1 | 1 | 32 | 16QAM | 278 | 274 | -33.40 | 20.81 | 43.00 | -22.19 |
| | High | 39949.92 | 100 | V | SISO | 168 | 1 | 66 | 0 | 16QAM | 268 | 274 | -35.01 | 19.79 | 43.00 | -23.21 |
| | Low | 37051.80 | 100 | V | SISO | 168 | 1 | 66 | 0 | 64QAM | 278 | 274 | -35.64 | 18.27 | 43.00 | -24.73 |
| | Mid | 38498.88 | 100 | V | SISO | 168 | 1 | 66 | 0 | 64QAM | 278 | 274 | -35.07 | 19.14 | 43.00 | -23.86 |
| | High | 39949.92 | 100 | V | SISO | 168 | 1 | 66 | 0 | 64QAM | 268 | 274 | -36.68 | 18.12 | 43.00 | -24.88 |
| | Mid | 38499.96 | 200 | H | SISO | 28 | 4 | 32 | 0 | QPSK | 292 | 98 | -38.59 | 15.62 | 43.00 | -27.38 |
| | Mid | 38499.96 | 200 | H | SISO | 28 | 4 | 32 | 0 | 16QAM | 292 | 98 | -39.04 | 15.17 | 43.00 | -27.83 |
| | Mid | 38499.96 | 200 | H | SISO | 28 | 4 | 32 | 0 | 64QAM | 292 | 98 | -40.25 | 13.96 | 43.00 | -29.04 |
| | Mid | 38499.96 | 200 | V | SISO | 168 | 4 | 32 | 0 | QPSK | 278 | 274 | -33.86 | 20.35 | 43.00 | -22.65 |
| | Mid | 38499.96 | 200 | V | SISO | 168 | 4 | 32 | 0 | 16QAM | 278 | 274 | -34.52 | 19.69 | 43.00 | -23.31 |
| | Mid | 38499.96 | 200 | V | SISO | 168 | 4 | 32 | 0 | 64QAM | 278 | 274 | -35.92 | 18.29 | 43.00 | -24.71 |
| | Mid | 38501.88 | 400 | H | SISO | 28 | 4 | 66 | 0 | QPSK | 293 | 97 | -38.03 | 16.18 | 43.00 | -26.82 |
| | Mid | 38501.88 | 400 | H | SISO | 28 | 4 | 66 | 0 | 16QAM | 293 | 97 | -38.76 | 15.45 | 43.00 | -27.55 |
| | Mid | 38501.88 | 400 | H | SISO | 28 | 4 | 66 | 0 | 64QAM | 293 | 97 | -40.01 | 14.20 | 43.00 | -28.80 |
| | Mid | 38501.88 | 400 | V | SISO | 168 | 4 | 66 | 0 | QPSK | 278 | 274 | -33.95 | 20.26 | 43.00 | -22.74 |
| | Mid | 38501.88 | 400 | V | SISO | 168 | 4 | 66 | 0 | 16QAM | 278 | 274 | -34.47 | 19.74 | 43.00 | -23.26 |
| | Mid | 38501.88 | 400 | V | SISO | 168 | 4 | 66 | 0 | 64QAM | 278 | 274 | -35.93 | 18.28 | 43.00 | -24.72 |

**Table 7-16. J Patch EIRP Summary Data (n260 - SISO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J Patch | Mid | 38497.44 | 50 | H | MIMO | 41 | 1 | 1 | 0 | QPSK | 106 | 89 | -39.60 | 14.61 | 22.45 | 43.00 | -20.55 |
| | Mid | 38497.44 | 50 | V | MIMO | 168 | 1 | 1 | 0 | QPSK | 278 | 274 | -32.54 | 21.67 | | | |
| | Mid | 38497.44 | 50 | H | MIMO | 41 | 1 | 1 | 0 | 16QAM | 106 | 89 | -40.65 | 13.56 | 21.37 | 43.00 | -21.63 |
| | Mid | 38497.44 | 50 | V | MIMO | 168 | 1 | 1 | 0 | 16QAM | 278 | 274 | -33.62 | 20.59 | | | |
| | Mid | 38497.44 | 50 | H | MIMO | 41 | 1 | 1 | 0 | 64QAM | 106 | 89 | -42.84 | 11.37 | 19.44 | 43.00 | -23.56 |
| | Mid | 38497.44 | 50 | V | MIMO | 168 | 1 | 1 | 0 | 64QAM | 278 | 274 | -35.50 | 18.71 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 41 | 1 | 1 | 32 | QPSK | 105 | 87 | -39.52 | 14.69 | 22.50 | 43.00 | -20.50 |
| | Mid | 38498.88 | 100 | V | MIMO | 168 | 1 | 1 | 32 | QPSK | 278 | 274 | -32.50 | 21.71 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 41 | 1 | 1 | 32 | 16QAM | 105 | 87 | -41.36 | 12.85 | 21.45 | 43.00 | -21.55 |
| | Mid | 38498.88 | 100 | V | MIMO | 168 | 1 | 1 | 32 | 16QAM | 278 | 274 | -33.40 | 20.81 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 41 | 1 | 66 | 0 | 64QAM | 105 | 87 | -43.38 | 10.83 | 19.74 | 43.00 | -23.26 |
| | Mid | 38498.88 | 100 | V | MIMO | 168 | 1 | 66 | 0 | 64QAM | 278 | 274 | -35.07 | 19.14 | | | |

**Table 7-17. J Patch EIRP Summary Data (n260 - MIMO)**

## 7.3.3 K Patch Equivalent Isotropic Radiated Power (EIRP)

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K Patch | Low | 27534.84 | 50 | H | SISO | 44 | 1 | 1 | 31 | QPSK | 275 | 292 | -31.47 | 20.21 | 43.00 | -22.79 |
| | Mid | 27922.08 | 50 | H | SISO | 44 | 1 | 1 | 31 | QPSK | 275 | 304 | -32.12 | 19.59 | 43.00 | -23.41 |
| | High | 28319.52 | 50 | H | SISO | 30 | 1 | 1 | 16 | QPSK | 275 | 317 | -30.94 | 20.85 | 43.00 | -22.15 |
| | Low | 27534.84 | 50 | H | SISO | 44 | 1 | 32 | 0 | 16QAM | 275 | 292 | -32.24 | 19.44 | 43.00 | -23.56 |
| | Mid | 27922.08 | 50 | H | SISO | 44 | 1 | 32 | 0 | 16QAM | 275 | 304 | -33.32 | 18.39 | 43.00 | -24.61 |
| | High | 28319.52 | 50 | H | SISO | 30 | 1 | 32 | 0 | 16QAM | 275 | 317 | -32.83 | 18.96 | 43.00 | -24.04 |
| | Low | 27534.84 | 50 | H | SISO | 44 | 1 | 1 | 31 | 64QAM | 275 | 292 | -34.16 | 17.52 | 43.00 | -25.48 |
| | Mid | 27922.08 | 50 | H | SISO | 44 | 1 | 32 | 0 | 64QAM | 275 | 304 | -35.00 | 16.71 | 43.00 | -26.29 |
| | High | 28319.52 | 50 | H | SISO | 30 | 1 | 1 | 16 | 64QAM | 275 | 317 | -34.68 | 17.11 | 43.00 | -25.89 |
| | Low | 27534.84 | 50 | V | SISO | 173 | 1 | 32 | 0 | QPSK | 163 | 1 | -33.18 | 18.50 | 43.00 | -24.50 |
| | Mid | 27922.08 | 50 | V | SISO | 173 | 1 | 32 | 0 | QPSK | 163 | 1 | -32.54 | 19.17 | 43.00 | -23.83 |
| | High | 28319.52 | 50 | V | SISO | 160 | 1 | 1 | 0 | QPSK | 163 | 354 | -31.57 | 20.22 | 43.00 | -22.78 |
| | Low | 27534.84 | 50 | V | SISO | 173 | 1 | 32 | 0 | 16QAM | 163 | 1 | -34.10 | 17.58 | 43.00 | -25.42 |
| | Mid | 27922.08 | 50 | V | SISO | 173 | 1 | 32 | 0 | 16QAM | 163 | 1 | -33.63 | 18.08 | 43.00 | -24.92 |
| | High | 28319.52 | 50 | V | SISO | 160 | 1 | 1 | 0 | 16QAM | 163 | 354 | -32.08 | 19.71 | 43.00 | -23.29 |
| | Low | 27534.84 | 50 | V | SISO | 173 | 1 | 32 | 0 | 64QAM | 163 | 1 | -35.94 | 15.74 | 43.00 | -27.26 |
| | Mid | 27922.08 | 50 | V | SISO | 173 | 1 | 1 | 31 | 64QAM | 163 | 1 | -35.39 | 16.32 | 43.00 | -26.68 |
| | High | 28319.52 | 50 | V | SISO | 160 | 1 | 1 | 0 | 64QAM | 163 | 354 | -34.33 | 17.46 | 43.00 | -25.54 |
| | Low | 27559.32 | 100 | H | SISO | 44 | 1 | 66 | 0 | QPSK | 275 | 292 | -30.97 | 20.71 | 43.00 | -22.29 |
| | Mid | 27923.52 | 100 | H | SISO | 44 | 1 | 66 | 0 | QPSK | 275 | 304 | -31.41 | 20.30 | 43.00 | -22.70 |
| | High | 28292.16 | 100 | H | SISO | 30 | 1 | 1 | 32 | QPSK | 275 | 317 | -31.20 | 20.59 | 43.00 | -22.41 |
| | Low | 27559.32 | 100 | H | SISO | 44 | 1 | 66 | 0 | 16QAM | 275 | 292 | -31.91 | 19.77 | 43.00 | -23.23 |
| | Mid | 27923.52 | 100 | H | SISO | 44 | 1 | 66 | 0 | 16QAM | 275 | 304 | -32.41 | 19.30 | 43.00 | -23.70 |
| | High | 28292.16 | 100 | H | SISO | 30 | 1 | 66 | 0 | 16QAM | 275 | 317 | -32.27 | 19.52 | 43.00 | -23.48 |
| | Low | 27559.32 | 100 | H | SISO | 44 | 1 | 66 | 0 | 64QAM | 275 | 292 | -33.89 | 17.79 | 43.00 | -25.21 |
| | Mid | 27923.52 | 100 | H | SISO | 44 | 1 | 66 | 0 | 64QAM | 275 | 304 | -34.47 | 17.24 | 43.00 | -25.76 |
| | High | 28292.16 | 100 | H | SISO | 30 | 1 | 1 | 32 | 64QAM | 275 | 317 | -34.07 | 17.72 | 43.00 | -25.28 |
| | Low | 27559.32 | 100 | V | SISO | 173 | 1 | 66 | 0 | QPSK | 163 | 1 | -33.08 | 18.60 | 43.00 | -24.40 |
| | Mid | 27923.52 | 100 | V | SISO | 173 | 1 | 1 | 65 | QPSK | 163 | 1 | -31.89 | 19.82 | 43.00 | -23.18 |
| | High | 28292.16 | 100 | V | SISO | 160 | 1 | 66 | 0 | QPSK | 163 | 354 | -31.45 | 20.34 | 43.00 | -22.66 |
| | Low | 27559.32 | 100 | V | SISO | 173 | 1 | 66 | 0 | 16QAM | 163 | 1 | -34.14 | 17.54 | 43.00 | -25.46 |
| | Mid | 27923.52 | 100 | V | SISO | 173 | 1 | 1 | 65 | 16QAM | 163 | 1 | -32.57 | 19.14 | 43.00 | -23.86 |
| | High | 28292.16 | 100 | V | SISO | 160 | 1 | 1 | 32 | 16QAM | 163 | 354 | -32.43 | 19.36 | 43.00 | -23.64 |
| | Low | 27559.32 | 100 | V | SISO | 173 | 1 | 66 | 0 | 64QAM | 163 | 1 | -36.15 | 15.53 | 43.00 | -27.47 |
| | Mid | 27923.52 | 100 | V | SISO | 173 | 1 | 1 | 65 | 64QAM | 163 | 1 | -34.04 | 17.67 | 43.00 | -25.33 |
| | High | 28292.16 | 100 | V | SISO | 160 | 1 | 1 | 32 | 64QAM | 163 | 354 | -33.89 | 17.90 | 43.00 | -25.10 |
| | Mid | 27922.08 | 200 | H | SISO | 44 | 4 | 32 | 0 | QPSK | 275 | 304 | -33.87 | 17.84 | 43.00 | -25.16 |
| | Mid | 27922.08 | 200 | H | SISO | 44 | 4 | 32 | 0 | 16QAM | 275 | 304 | -34.84 | 16.87 | 43.00 | -26.13 |
| | Mid | 27922.08 | 200 | H | SISO | 44 | 4 | 32 | 0 | 64QAM | 275 | 304 | -37.02 | 14.69 | 43.00 | -28.31 |
| | Mid | 27922.08 | 200 | V | SISO | 173 | 4 | 32 | 0 | QPSK | 163 | 1 | -33.09 | 18.62 | 43.00 | -24.38 |
| | Mid | 27922.08 | 200 | V | SISO | 173 | 4 | 32 | 0 | 16QAM | 163 | 1 | -33.95 | 17.76 | 43.00 | -25.24 |
| | Mid | 27922.08 | 200 | V | SISO | 173 | 4 | 32 | 0 | 64QAM | 163 | 1 | -36.14 | 15.57 | 43.00 | -27.43 |
| | Mid | 27923.52 | 400 | H | SISO | 44 | 4 | 66 | 0 | QPSK | 275 | 304 | -32.66 | 19.05 | 43.00 | -23.95 |
| | Mid | 27923.52 | 400 | H | SISO | 44 | 4 | 66 | 0 | 16QAM | 275 | 304 | -33.50 | 18.21 | 43.00 | -24.79 |
| | Mid | 27923.52 | 400 | H | SISO | 44 | 4 | 66 | 0 | 64QAM | 275 | 304 | -35.88 | 15.83 | 43.00 | -27.17 |
| | Mid | 27923.52 | 400 | V | SISO | 173 | 4 | 66 | 0 | QPSK | 163 | 5 | -33.88 | 17.83 | 43.00 | -25.17 |
| | Mid | 27923.52 | 400 | V | SISO | 173 | 4 | 66 | 0 | 16QAM | 163 | 5 | -34.68 | 17.03 | 43.00 | -25.97 |
| | Mid | 27923.52 | 400 | V | SISO | 173 | 4 | 66 | 0 | 64QAM | 163 | 5 | -37.16 | 14.55 | 43.00 | -28.45 |

**Table 7-18. K Patch EIRP Summary Data (n261 - SISO)**

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K Patch | High | 28319.52 | 50 | H | MIMO | 44 | 1 | 1 | 16 | QPSK | 275 | 300 | -31.52 | 20.27 | 22.94 | 43.00 | -20.06 |
| | High | 28319.52 | 50 | V | MIMO | 171 | 1 | 1 | 16 | QPSK | 8 | 8 | -32.22 | 19.57 | | | |
| | High | 28319.52 | 50 | H | MIMO | 44 | 1 | 1 | 16 | 16QAM | 275 | 300 | -32.99 | 18.80 | 21.71 | 43.00 | -21.29 |
| | High | 28319.52 | 50 | V | MIMO | 171 | 1 | 1 | 16 | 16QAM | 8 | 8 | -33.19 | 18.60 | | | |
| | High | 28319.52 | 50 | H | MIMO | 44 | 1 | 1 | 16 | 64QAM | 275 | 300 | -34.81 | 16.98 | 20.16 | 43.00 | -22.84 |
| | High | 28319.52 | 50 | V | MIMO | 171 | 1 | 1 | 16 | 64QAM | 8 | 8 | -34.47 | 17.32 | | | |
| | High | 28292.16 | 100 | H | MIMO | 44 | 1 | 1 | 32 | QPSK | 273 | 296 | -31.70 | 20.09 | 22.68 | 43.00 | -20.32 |
| | High | 28292.16 | 100 | V | MIMO | 171 | 1 | 1 | 32 | QPSK | 9 | 6 | -32.58 | 19.21 | | | |
| | High | 28292.16 | 100 | H | MIMO | 44 | 1 | 1 | 32 | 16QAM | 273 | 296 | -32.86 | 18.93 | 21.59 | 43.00 | -21.41 |
| | High | 28292.16 | 100 | V | MIMO | 171 | 1 | 1 | 32 | 16QAM | 9 | 6 | -33.59 | 18.20 | | | |
| | High | 28292.16 | 100 | H | MIMO | 44 | 1 | 1 | 32 | 64QAM | 273 | 296 | -34.37 | 17.42 | 20.12 | 43.00 | -22.88 |
| | High | 28292.16 | 100 | V | MIMO | 171 | 1 | 1 | 32 | 64QAM | 9 | 6 | -35.02 | 16.77 | | | |

**Table 7-19. K Patch EIRP Summary Data (n261 - MIMO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K Patch | Low | 37027.32 | 50 | H | SISO | 30 | 1 | 32 | 0 | QPSK | 298 | 329 | -36.83 | 17.08 | 43.00 | -25.92 |
| | Mid | 38497.44 | 50 | H | SISO | 44 | 1 | 1 | 31 | QPSK | 298 | 326 | -36.38 | 17.83 | 43.00 | -25.17 |
| | High | 39966.24 | 50 | H | SISO | 31 | 1 | 32 | 0 | QPSK | 292 | 325 | -38.50 | 16.30 | 43.00 | -26.70 |
| | Low | 37027.32 | 50 | H | SISO | 30 | 1 | 32 | 0 | 16QAM | 298 | 329 | -37.80 | 16.11 | 43.00 | -26.89 |
| | Mid | 38497.44 | 50 | H | SISO | 44 | 1 | 32 | 0 | 16QAM | 298 | 326 | -37.75 | 16.46 | 43.00 | -26.54 |
| | High | 39966.24 | 50 | H | SISO | 31 | 1 | 32 | 0 | 16QAM | 292 | 325 | -39.06 | 15.74 | 43.00 | -27.26 |
| | Low | 37027.32 | 50 | H | SISO | 30 | 1 | 32 | 0 | 64QAM | 298 | 329 | -39.44 | 14.47 | 43.00 | -28.53 |
| | Mid | 38497.44 | 50 | H | SISO | 44 | 1 | 32 | 0 | 64QAM | 298 | 326 | -39.37 | 14.84 | 43.00 | -28.16 |
| | High | 39966.24 | 50 | H | SISO | 31 | 1 | 32 | 0 | 64QAM | 292 | 325 | -40.68 | 14.12 | 43.00 | -28.88 |
| | Low | 37027.32 | 50 | V | SISO | 172 | 1 | 32 | 0 | QPSK | 188 | 355 | -37.02 | 16.89 | 43.00 | -26.11 |
| | Mid | 38497.44 | 50 | V | SISO | 158 | 1 | 1 | 0 | QPSK | 187 | 3 | -34.26 | 19.95 | 43.00 | -23.05 |
| | High | 39966.24 | 50 | V | SISO | 172 | 1 | 1 | 0 | QPSK | 190 | 8 | -35.20 | 19.60 | 43.00 | -23.40 |
| | Low | 37027.32 | 50 | V | SISO | 172 | 1 | 1 | 31 | 16QAM | 188 | 355 | -37.91 | 16.00 | 43.00 | -27.00 |
| | Mid | 38497.44 | 50 | V | SISO | 158 | 1 | 1 | 0 | 16QAM | 187 | 3 | -35.30 | 18.91 | 43.00 | -24.09 |
| | High | 39966.24 | 50 | V | SISO | 172 | 1 | 32 | 0 | 16QAM | 190 | 8 | -36.60 | 18.20 | 43.00 | -24.80 |
| | Low | 37027.32 | 50 | V | SISO | 172 | 1 | 32 | 0 | 64QAM | 188 | 355 | -39.61 | 14.30 | 43.00 | -28.70 |
| | Mid | 38497.44 | 50 | V | SISO | 158 | 1 | 1 | 0 | 64QAM | 187 | 3 | -37.15 | 17.06 | 43.00 | -25.94 |
| | High | 39966.24 | 50 | V | SISO | 172 | 1 | 32 | 0 | 64QAM | 190 | 8 | -38.35 | 16.45 | 43.00 | -26.55 |
| | Low | 37051.80 | 100 | H | SISO | 30 | 1 | 1 | 0 | QPSK | 298 | 329 | -36.04 | 17.87 | 43.00 | -25.13 |
| | Mid | 38498.88 | 100 | H | SISO | 44 | 1 | 1 | 0 | QPSK | 298 | 326 | -35.98 | 18.23 | 43.00 | -24.77 |
| | High | 39949.92 | 100 | H | SISO | 31 | 1 | 66 | 0 | QPSK | 292 | 325 | -37.33 | 17.47 | 43.00 | -25.53 |
| | Low | 37051.80 | 100 | H | SISO | 30 | 1 | 1 | 0 | 16QAM | 298 | 329 | -36.82 | 17.09 | 43.00 | -25.91 |
| | Mid | 38498.88 | 100 | H | SISO | 44 | 1 | 66 | 0 | 16QAM | 298 | 326 | -36.88 | 17.33 | 43.00 | -25.67 |
| | High | 39949.92 | 100 | H | SISO | 31 | 1 | 66 | 0 | 16QAM | 292 | 325 | -38.10 | 16.70 | 43.00 | -26.30 |
| | Low | 37051.80 | 100 | H | SISO | 30 | 1 | 66 | 0 | 64QAM | 298 | 329 | -38.87 | 15.04 | 43.00 | -27.96 |
| | Mid | 38498.88 | 100 | H | SISO | 44 | 1 | 66 | 0 | 64QAM | 298 | 326 | -38.58 | 15.63 | 43.00 | -27.37 |
| | High | 39949.92 | 100 | H | SISO | 31 | 1 | 66 | 0 | 64QAM | 292 | 325 | -39.59 | 15.21 | 43.00 | -27.79 |
| | Low | 37051.80 | 100 | V | SISO | 172 | 1 | 66 | 0 | QPSK | 188 | 355 | -35.76 | 18.15 | 43.00 | -24.85 |
| | Mid | 38498.88 | 100 | V | SISO | 158 | 1 | 1 | 32 | QPSK | 187 | 3 | -33.81 | 20.40 | 43.00 | -22.60 |
| | High | 39949.92 | 100 | V | SISO | 172 | 1 | 1 | 0 | QPSK | 190 | 8 | -34.99 | 19.81 | 43.00 | -23.19 |
| | Low | 37051.80 | 100 | V | SISO | 172 | 1 | 66 | 0 | 16QAM | 188 | 355 | -36.52 | 17.39 | 43.00 | -25.61 |
| | Mid | 38498.88 | 100 | V | SISO | 158 | 1 | 66 | 0 | 16QAM | 187 | 3 | -35.05 | 19.16 | 43.00 | -23.84 |
| | High | 39949.92 | 100 | V | SISO | 172 | 1 | 66 | 0 | 16QAM | 190 | 8 | -35.92 | 18.88 | 43.00 | -24.12 |
| | Low | 37051.80 | 100 | V | SISO | 172 | 1 | 66 | 0 | 64QAM | 188 | 355 | -37.98 | 15.93 | 43.00 | -27.07 |
| | Mid | 38498.88 | 100 | V | SISO | 158 | 1 | 66 | 0 | 64QAM | 187 | 3 | -36.64 | 17.57 | 43.00 | -25.43 |
| | High | 39949.92 | 100 | V | SISO | 172 | 1 | 66 | 0 | 64QAM | 190 | 8 | -37.58 | 17.22 | 43.00 | -25.78 |
| | Mid | 38499.96 | 200 | H | SISO | 44 | 4 | 32 | 0 | QPSK | 298 | 326 | -36.98 | 17.23 | 43.00 | -25.77 |
| | Mid | 38499.96 | 200 | H | SISO | 44 | 4 | 32 | 0 | 16QAM | 298 | 326 | -37.66 | 16.55 | 43.00 | -26.45 |
| | Mid | 38499.96 | 200 | H | SISO | 44 | 4 | 32 | 0 | 64QAM | 298 | 326 | -39.16 | 15.05 | 43.00 | -27.95 |
| | Mid | 38499.96 | 200 | V | SISO | 158 | 4 | 32 | 0 | QPSK | 187 | 3 | -35.21 | 19.00 | 43.00 | -24.00 |
| | Mid | 38499.96 | 200 | V | SISO | 158 | 4 | 32 | 0 | 16QAM | 187 | 3 | -35.79 | 18.42 | 43.00 | -24.58 |
| | Mid | 38499.96 | 200 | V | SISO | 158 | 4 | 32 | 0 | 64QAM | 187 | 3 | -37.38 | 16.83 | 43.00 | -26.17 |
| | Mid | 38501.88 | 400 | H | SISO | 44 | 4 | 66 | 0 | QPSK | 298 | 326 | -36.86 | 17.35 | 43.00 | -25.65 |
| | Mid | 38501.88 | 400 | H | SISO | 44 | 4 | 66 | 0 | 16QAM | 298 | 326 | -37.36 | 16.85 | 43.00 | -26.15 |
| | Mid | 38501.88 | 400 | H | SISO | 44 | 4 | 66 | 0 | 64QAM | 298 | 326 | -38.43 | 15.78 | 43.00 | -27.22 |
| | Mid | 38501.88 | 400 | V | SISO | 158 | 4 | 66 | 0 | QPSK | 185 | 9 | -35.24 | 18.97 | 43.00 | -24.03 |
| | Mid | 38501.88 | 400 | V | SISO | 158 | 4 | 66 | 0 | 16QAM | 185 | 9 | -35.85 | 18.36 | 43.00 | -24.64 |
| | Mid | 38501.88 | 400 | V | SISO | 158 | 4 | 66 | 0 | 64QAM | 185 | 9 | -36.97 | 17.24 | 43.00 | -25.76 |

**Table 7-20. K Patch EIRP Summary Data (n260 - SISO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K Patch | Mid | 38497.44 | 50 | H | MIMO | 44 | 1 | 1 | 31 | QPSK | 298 | 326 | -36.38 | 17.83 | 21.32 | 43.00 | -21.68 |
| | Mid | 38497.44 | 50 | V | MIMO | 172 | 1 | 1 | 31 | QPSK | 2 | 359 | -35.46 | 18.75 | | | |
| | Mid | 38497.44 | 50 | H | MIMO | 44 | 1 | 32 | 0 | 16QAM | 298 | 326 | -37.75 | 16.46 | 20.28 | 43.00 | -22.72 |
| | Mid | 38497.44 | 50 | V | MIMO | 172 | 1 | 1 | 31 | 16QAM | 2 | 359 | -36.25 | 17.96 | | | |
| | Mid | 38497.44 | 50 | H | MIMO | 44 | 1 | 32 | 0 | 64QAM | 298 | 326 | -39.37 | 14.84 | 18.52 | 43.00 | -24.48 |
| | Mid | 38497.44 | 50 | V | MIMO | 172 | 1 | 1 | 31 | 64QAM | 2 | 359 | -38.12 | 16.09 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 44 | 1 | 1 | 0 | QPSK | 298 | 326 | -35.98 | 18.23 | 21.75 | 43.00 | -21.25 |
| | Mid | 38498.88 | 100 | V | MIMO | 172 | 1 | 1 | 65 | QPSK | 2 | 357 | -35.02 | 19.19 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 44 | 1 | 66 | 0 | 16QAM | 298 | 326 | -36.88 | 17.33 | 20.58 | 43.00 | -22.42 |
| | Mid | 38498.88 | 100 | V | MIMO | 172 | 1 | 1 | 65 | 16QAM | 2 | 357 | -36.42 | 17.79 | | | |
| | Mid | 38498.88 | 100 | H | MIMO | 44 | 1 | 66 | 0 | 64QAM | 298 | 326 | -38.58 | 15.63 | 18.87 | 43.00 | -24.13 |
| | Mid | 38498.88 | 100 | V | MIMO | 172 | 1 | 1 | 65 | 64QAM | 2 | 357 | -38.14 | 16.07 | | | |

**Table 7-21. K Patch EIRP Summary Data (n260 - MIMO)**

## 7.3.4 L Patch Equivalent Isotropic Radiated Power (EIRP)

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L Patch | Low | 27534.84 | 50 | H | SISO | 48 | 1 | 32 | 0 | QPSK | 89 | 317 | -32.83 | 18.85 | 43.00 | -24.15 |
| | Mid | 27922.08 | 50 | H | SISO | 48 | 1 | 1 | 31 | QPSK | 85 | 314 | -32.97 | 18.74 | 43.00 | -24.26 |
| | High | 28319.52 | 50 | H | SISO | 48 | 1 | 1 | 0 | QPSK | 89 | 317 | -32.96 | 18.83 | 43.00 | -24.17 |
| | Low | 27534.84 | 50 | H | SISO | 48 | 1 | 32 | 0 | 16QAM | 89 | 317 | -33.78 | 17.90 | 43.00 | -25.10 |
| | Mid | 27922.08 | 50 | H | SISO | 48 | 1 | 32 | 0 | 16QAM | 85 | 314 | -34.34 | 17.37 | 43.00 | -25.63 |
| | High | 28319.52 | 50 | H | SISO | 48 | 1 | 32 | 0 | 16QAM | 89 | 317 | -34.12 | 17.67 | 43.00 | -25.33 |
| | Low | 27534.84 | 50 | H | SISO | 48 | 1 | 32 | 0 | 64QAM | 89 | 317 | -35.59 | 16.09 | 43.00 | -26.91 |
| | Mid | 27922.08 | 50 | H | SISO | 48 | 1 | 1 | 31 | 64QAM | 85 | 314 | -36.04 | 15.67 | 43.00 | -27.33 |
| | High | 28319.52 | 50 | H | SISO | 48 | 1 | 1 | 0 | 64QAM | 89 | 317 | -36.13 | 15.66 | 43.00 | -27.34 |
| | Low | 27534.84 | 50 | V | SISO | 163 | 1 | 32 | 0 | QPSK | 86 | 354 | -32.83 | 18.85 | 43.00 | -24.15 |
| | Mid | 27922.08 | 50 | V | SISO | 176 | 1 | 32 | 0 | QPSK | 84 | 0 | -33.33 | 18.38 | 43.00 | -24.62 |
| | High | 28319.52 | 50 | V | SISO | 176 | 1 | 32 | 0 | QPSK | 92 | 12 | -31.60 | 20.19 | 43.00 | -22.81 |
| | Low | 27534.84 | 50 | V | SISO | 163 | 1 | 32 | 0 | 16QAM | 86 | 354 | -33.67 | 18.01 | 43.00 | -24.99 |
| | Mid | 27922.08 | 50 | V | SISO | 176 | 1 | 32 | 0 | 16QAM | 84 | 0 | -34.38 | 17.33 | 43.00 | -25.67 |
| | High | 28319.52 | 50 | V | SISO | 176 | 1 | 1 | 0 | 16QAM | 92 | 12 | -32.38 | 19.41 | 43.00 | -23.59 |
| | Low | 27534.84 | 50 | V | SISO | 163 | 1 | 32 | 0 | 64QAM | 86 | 354 | -35.65 | 16.03 | 43.00 | -26.97 |
| | Mid | 27922.08 | 50 | V | SISO | 176 | 1 | 32 | 0 | 64QAM | 84 | 0 | -36.35 | 15.36 | 43.00 | -27.64 |
| | High | 28319.52 | 50 | V | SISO | 176 | 1 | 1 | 0 | 64QAM | 92 | 12 | -34.25 | 17.54 | 43.00 | -25.46 |
| | Low | 27559.32 | 100 | H | SISO | 48 | 1 | 66 | 0 | QPSK | 89 | 317 | -32.49 | 19.19 | 43.00 | -23.81 |
| | Mid | 27923.52 | 100 | H | SISO | 48 | 1 | 66 | 0 | QPSK | 85 | 315 | -32.89 | 18.82 | 43.00 | -24.18 |
| | High | 28292.16 | 100 | H | SISO | 48 | 1 | 66 | 0 | QPSK | 89 | 317 | -32.69 | 19.10 | 43.00 | -23.90 |
| | Low | 27559.32 | 100 | H | SISO | 48 | 1 | 66 | 0 | 16QAM | 89 | 317 | -33.41 | 18.27 | 43.00 | -24.73 |
| | Mid | 27923.52 | 100 | H | SISO | 48 | 1 | 66 | 0 | 16QAM | 85 | 315 | -33.91 | 17.80 | 43.00 | -25.20 |
| | High | 28292.16 | 100 | H | SISO | 48 | 1 | 66 | 0 | 16QAM | 89 | 317 | -33.71 | 18.08 | 43.00 | -24.92 |
| | Low | 27559.32 | 100 | H | SISO | 48 | 1 | 66 | 0 | 64QAM | 89 | 317 | -35.47 | 16.21 | 43.00 | -26.79 |
| | Mid | 27923.52 | 100 | H | SISO | 48 | 1 | 1 | 65 | 64QAM | 85 | 315 | -35.57 | 16.14 | 43.00 | -26.86 |
| | High | 28292.16 | 100 | H | SISO | 48 | 1 | 1 | 32 | 64QAM | 89 | 317 | -35.52 | 16.27 | 43.00 | -26.73 |
| | Low | 27559.32 | 100 | V | SISO | 163 | 1 | 66 | 0 | QPSK | 86 | 354 | -32.56 | 19.12 | 43.00 | -23.88 |
| | Mid | 27923.52 | 100 | V | SISO | 176 | 1 | 1 | 65 | QPSK | 84 | 0 | -32.57 | 19.14 | 43.00 | -23.86 |
| | High | 28292.16 | 100 | V | SISO | 176 | 1 | 1 | 32 | QPSK | 92 | 12 | -31.33 | 20.46 | 43.00 | -22.54 |
| | Low | 27559.32 | 100 | V | SISO | 163 | 1 | 66 | 0 | 16QAM | 86 | 354 | -33.49 | 18.19 | 43.00 | -24.81 |
| | Mid | 27923.52 | 100 | V | SISO | 176 | 1 | 66 | 0 | 16QAM | 84 | 0 | -33.64 | 18.07 | 43.00 | -24.93 |
| | High | 28292.16 | 100 | V | SISO | 176 | 1 | 1 | 32 | 16QAM | 92 | 12 | -32.39 | 19.40 | 43.00 | -23.60 |
| | Low | 27559.32 | 100 | V | SISO | 163 | 1 | 66 | 0 | 64QAM | 86 | 354 | -35.32 | 16.36 | 43.00 | -26.64 |
| | Mid | 27923.52 | 100 | V | SISO | 176 | 1 | 1 | 65 | 64QAM | 84 | 0 | -35.39 | 16.32 | 43.00 | -26.68 |
| | High | 28292.16 | 100 | V | SISO | 176 | 1 | 1 | 32 | 64QAM | 92 | 12 | -34.09 | 17.70 | 43.00 | -25.30 |
| | Mid | 27922.08 | 200 | H | SISO | 48 | 4 | 32 | 0 | QPSK | 85 | 315 | -33.65 | 18.06 | 43.00 | -24.94 |
| | Mid | 27922.08 | 200 | H | SISO | 48 | 4 | 32 | 0 | 16QAM | 85 | 315 | -34.49 | 17.22 | 43.00 | -25.78 |
| | Mid | 27922.08 | 200 | H | SISO | 48 | 4 | 32 | 0 | 64QAM | 85 | 315 | -36.57 | 15.14 | 43.00 | -27.86 |
| | Mid | 27922.08 | 200 | V | SISO | 176 | 4 | 32 | 0 | QPSK | 84 | 0 | -33.26 | 18.45 | 43.00 | -24.55 |
| | Mid | 27922.08 | 200 | V | SISO | 176 | 4 | 32 | 0 | 16QAM | 84 | 0 | -34.06 | 17.65 | 43.00 | -25.35 |
| | Mid | 27922.08 | 200 | V | SISO | 176 | 4 | 32 | 0 | 64QAM | 84 | 0 | -36.28 | 15.43 | 43.00 | -27.57 |
| | Mid | 27923.52 | 400 | H | SISO | 48 | 4 | 66 | 0 | QPSK | 85 | 315 | -34.34 | 17.37 | 43.00 | -25.63 |
| | Mid | 27923.52 | 400 | H | SISO | 48 | 4 | 66 | 0 | 16QAM | 85 | 315 | -35.14 | 16.57 | 43.00 | -26.43 |
| | Mid | 27923.52 | 400 | H | SISO | 48 | 4 | 66 | 0 | 64QAM | 85 | 315 | -37.58 | 14.13 | 43.00 | -28.87 |
| | Mid | 27923.52 | 400 | V | SISO | 176 | 4 | 66 | 0 | QPSK | 85 | 3 | -33.78 | 17.93 | 43.00 | -25.07 |
| | Mid | 27923.52 | 400 | V | SISO | 176 | 4 | 66 | 0 | 16QAM | 85 | 3 | -34.82 | 16.89 | 43.00 | -26.11 |
| | Mid | 27923.52 | 400 | V | SISO | 176 | 4 | 66 | 0 | 64QAM | 85 | 3 | -37.14 | 14.57 | 43.00 | -28.43 |

**Table 7-22. L Patch EIRP Summary Data (n261 - SISO)**

| Antenna | Chan. | Channel Freq [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L Patch | High | 28319.52 | 50 | H | MIMO | 36 | 1 | 32 | 0 | QPSK | 266 | 319 | -33.01 | 18.78 | 21.85 | 43.00 | -21.15 |
| | High | 28319.52 | 50 | V | MIMO | 164 | 1 | 32 | 0 | QPSK | 254 | 358 | -32.88 | 18.91 | | | |
| | High | 28319.52 | 50 | H | MIMO | 36 | 1 | 32 | 0 | 16QAM | 266 | 319 | -34.23 | 17.56 | 20.69 | 43.00 | -22.31 |
| | High | 28319.52 | 50 | V | MIMO | 164 | 1 | 32 | 0 | 16QAM | 254 | 358 | -33.98 | 17.81 | | | |
| | High | 28319.52 | 50 | H | MIMO | 36 | 1 | 32 | 0 | 64QAM | 266 | 319 | -36.38 | 15.41 | 18.63 | 43.00 | -24.37 |
| | High | 28319.52 | 50 | V | MIMO | 164 | 1 | 32 | 0 | 64QAM | 254 | 358 | -35.97 | 15.82 | | | |
| | High | 28292.16 | 100 | H | MIMO | 36 | 1 | 1 | 0 | QPSK | 265 | 321 | -32.75 | 19.04 | 22.20 | 43.00 | -20.80 |
| | High | 28292.16 | 100 | V | MIMO | 164 | 1 | 1 | 0 | QPSK | 249 | 358 | -32.45 | 19.34 | | | |
| | High | 28292.16 | 100 | H | MIMO | 36 | 1 | 1 | 0 | 16QAM | 265 | 321 | -34.11 | 17.68 | 21.06 | 43.00 | -21.94 |
| | High | 28292.16 | 100 | V | MIMO | 164 | 1 | 1 | 0 | 16QAM | 249 | 358 | -33.39 | 18.40 | | | |
| | High | 28292.16 | 100 | H | MIMO | 36 | 1 | 1 | 0 | 64QAM | 265 | 321 | -35.11 | 16.68 | 19.83 | 43.00 | -23.17 |
| | High | 28292.16 | 100 | V | MIMO | 164 | 1 | 1 | 0 | 64QAM | 249 | 358 | -34.83 | 16.96 | | | |

**Table 7-23. L Patch EIRP Summary Data (n261 - MIMO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L Patch | Low | 37027.32 | 50 | H | SISO | 35 | 1 | 32 | 0 | QPSK | 80 | 38 | -36.42 | 17.49 | 43.00 | -25.51 |
| | Mid | 38497.44 | 50 | H | SISO | 35 | 1 | 1 | 16 | QPSK | 80 | 22 | -36.04 | 18.17 | 43.00 | -24.83 |
| | High | 39966.24 | 50 | H | SISO | 35 | 1 | 32 | 0 | QPSK | 83 | 34 | -37.35 | 17.45 | 43.00 | -25.55 |
| | Low | 37027.32 | 50 | H | SISO | 35 | 1 | 32 | 0 | 16QAM | 80 | 38 | -37.37 | 16.54 | 43.00 | -26.46 |
| | Mid | 38497.44 | 50 | H | SISO | 35 | 1 | 1 | 16 | 16QAM | 80 | 22 | -37.39 | 16.82 | 43.00 | -26.18 |
| | High | 39966.24 | 50 | H | SISO | 35 | 1 | 32 | 0 | 16QAM | 83 | 34 | -38.09 | 16.71 | 43.00 | -26.29 |
| | Low | 37027.32 | 50 | H | SISO | 35 | 1 | 32 | 0 | 64QAM | 80 | 38 | -38.97 | 14.94 | 43.00 | -28.06 |
| | Mid | 38497.44 | 50 | H | SISO | 35 | 1 | 32 | 0 | 64QAM | 80 | 22 | -39.05 | 15.16 | 43.00 | -27.84 |
| | High | 39966.24 | 50 | H | SISO | 35 | 1 | 32 | 0 | 64QAM | 83 | 34 | -39.70 | 15.10 | 43.00 | -27.90 |
| | Low | 37027.32 | 50 | V | SISO | 176 | 1 | 32 | 0 | QPSK | 82 | 7 | -37.38 | 16.53 | 43.00 | -26.47 |
| | Mid | 38497.44 | 50 | V | SISO | 176 | 1 | 32 | 0 | QPSK | 82 | 7 | -35.25 | 18.96 | 43.00 | -24.04 |
| | High | 39966.24 | 50 | V | SISO | 176 | 1 | 1 | 0 | QPSK | 84 | 354 | -34.88 | 19.92 | 43.00 | -23.08 |
| | Low | 37027.32 | 50 | V | SISO | 176 | 1 | 32 | 0 | 16QAM | 82 | 7 | -38.37 | 15.54 | 43.00 | -27.46 |
| | Mid | 38497.44 | 50 | V | SISO | 176 | 1 | 1 | 31 | 16QAM | 82 | 7 | -35.50 | 18.71 | 43.00 | -24.29 |
| | High | 39966.24 | 50 | V | SISO | 176 | 1 | 1 | 0 | 16QAM | 84 | 354 | -35.83 | 18.97 | 43.00 | -24.03 |
| | Low | 37027.32 | 50 | V | SISO | 176 | 1 | 32 | 0 | 64QAM | 82 | 7 | -39.83 | 14.08 | 43.00 | -28.92 |
| | Mid | 38497.44 | 50 | V | SISO | 176 | 1 | 1 | 31 | 64QAM | 82 | 7 | -37.10 | 17.11 | 43.00 | -25.89 |
| | High | 39966.24 | 50 | V | SISO | 176 | 1 | 32 | 0 | 64QAM | 84 | 354 | -37.55 | 17.25 | 43.00 | -25.75 |
| | Low | 37051.80 | 100 | H | SISO | 35 | 1 | 66 | 0 | QPSK | 80 | 38 | -36.02 | 17.89 | 43.00 | -25.11 |
| | Mid | 38498.88 | 100 | H | SISO | 35 | 1 | 1 | 65 | QPSK | 82 | 25 | -35.75 | 18.46 | 43.00 | -24.54 |
| | High | 39949.92 | 100 | H | SISO | 35 | 1 | 66 | 0 | QPSK | 83 | 34 | -36.71 | 18.09 | 43.00 | -24.91 |
| | Low | 37051.80 | 100 | H | SISO | 35 | 1 | 66 | 0 | 16QAM | 80 | 38 | -36.86 | 17.05 | 43.00 | -25.95 |
| | Mid | 38498.88 | 100 | H | SISO | 35 | 1 | 66 | 0 | 16QAM | 82 | 25 | -37.02 | 17.19 | 43.00 | -25.81 |
| | High | 39949.92 | 100 | H | SISO | 35 | 1 | 66 | 0 | 16QAM | 83 | 34 | -37.49 | 17.31 | 43.00 | -25.69 |
| | Low | 37051.80 | 100 | H | SISO | 35 | 1 | 66 | 0 | 64QAM | 80 | 38 | -38.38 | 15.53 | 43.00 | -27.47 |
| | Mid | 38498.88 | 100 | H | SISO | 35 | 1 | 66 | 0 | 64QAM | 82 | 25 | -38.46 | 15.75 | 43.00 | -27.25 |
| | High | 39949.92 | 100 | H | SISO | 35 | 1 | 66 | 0 | 64QAM | 83 | 34 | -39.12 | 15.68 | 43.00 | -27.32 |
| | Low | 37051.80 | 100 | V | SISO | 176 | 1 | 1 | 65 | QPSK | 82 | 8 | -35.29 | 18.62 | 43.00 | -24.38 |
| | Mid | 38498.88 | 100 | V | SISO | 176 | 1 | 1 | 0 | QPSK | 82 | 7 | -34.53 | 19.68 | 43.00 | -23.32 |
| | High | 39949.92 | 100 | V | SISO | 176 | 1 | 66 | 0 | QPSK | 84 | 354 | -34.27 | 20.53 | 43.00 | -22.47 |
| | Low | 37051.80 | 100 | V | SISO | 176 | 1 | 66 | 0 | 16QAM | 82 | 8 | -37.14 | 16.77 | 43.00 | -26.23 |
| | Mid | 38498.88 | 100 | V | SISO | 176 | 1 | 66 | 0 | 16QAM | 82 | 7 | -35.57 | 18.64 | 43.00 | -24.36 |
| | High | 39949.92 | 100 | V | SISO | 176 | 1 | 66 | 0 | 16QAM | 84 | 354 | -35.14 | 19.66 | 43.00 | -23.34 |
| | Low | 37051.80 | 100 | V | SISO | 176 | 1 | 66 | 0 | 64QAM | 82 | 8 | -38.60 | 15.31 | 43.00 | -27.69 |
| | Mid | 38498.88 | 100 | V | SISO | 176 | 1 | 66 | 0 | 64QAM | 82 | 7 | -37.16 | 17.05 | 43.00 | -25.95 |
| | High | 39949.92 | 100 | V | SISO | 176 | 1 | 66 | 0 | 64QAM | 84 | 354 | -36.80 | 18.00 | 43.00 | -25.00 |
| | Mid | 38499.96 | 200 | H | SISO | 35 | 4 | 32 | 0 | QPSK | 80 | 22 | -36.90 | 17.31 | 43.00 | -25.69 |
| | Mid | 38499.96 | 200 | H | SISO | 35 | 4 | 32 | 0 | 16QAM | 80 | 22 | -37.49 | 16.72 | 43.00 | -26.28 |
| | Mid | 38499.96 | 200 | H | SISO | 35 | 4 | 32 | 0 | 64QAM | 80 | 22 | -38.86 | 15.35 | 43.00 | -27.65 |
| | Mid | 38499.96 | 200 | V | SISO | 176 | 4 | 32 | 0 | QPSK | 82 | 7 | -35.55 | 18.66 | 43.00 | -24.34 |
| | Mid | 38499.96 | 200 | V | SISO | 176 | 4 | 32 | 0 | 16QAM | 82 | 7 | -36.14 | 18.07 | 43.00 | -24.93 |
| | Mid | 38499.96 | 200 | V | SISO | 176 | 4 | 32 | 0 | 64QAM | 82 | 7 | -37.63 | 16.58 | 43.00 | -26.42 |
| | Mid | 38501.88 | 400 | H | SISO | 35 | 4 | 66 | 0 | QPSK | 80 | 22 | -36.77 | 17.44 | 43.00 | -25.56 |
| | Mid | 38501.88 | 400 | H | SISO | 35 | 4 | 66 | 0 | 16QAM | 80 | 22 | -37.40 | 16.81 | 43.00 | -26.19 |
| | Mid | 38501.88 | 400 | H | SISO | 35 | 4 | 66 | 0 | 64QAM | 80 | 22 | -38.82 | 15.39 | 43.00 | -27.61 |
| | Mid | 38501.88 | 400 | V | SISO | 176 | 4 | 66 | 0 | QPSK | 83 | 11 | -35.79 | 18.42 | 43.00 | -24.58 |
| | Mid | 38501.88 | 400 | V | SISO | 176 | 4 | 66 | 0 | 16QAM | 83 | 11 | -36.32 | 17.89 | 43.00 | -25.11 |
| | Mid | 38501.88 | 400 | V | SISO | 176 | 4 | 66 | 0 | 64QAM | 83 | 11 | -37.53 | 16.68 | 43.00 | -26.32 |

**Table 7-24. L Patch EIRP Summary Data (n260 - SISO)**

| Antenna | Chan. | Channel Freq. [MHz] | Bandwidth (MHz) | Ant. Pol. [H/V] | Mode | Beam ID | CCs active | RB Size | RB Offset | Modulation | Turntable Azimuth [degrees] | Positioner Azimuth [degrees] | Analyzer Level [dBm] | EIRP [dBm] | MIMO EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L Patch | High | 39966.24 | 50 | H | MIMO | 49 | 1 | 32 | 0 | QPSK | 9 | 11 | -38.34 | 16.46 | 20.82 | 43.00 | -22.18 |
| | High | 39966.24 | 50 | V | MIMO | 177 | 1 | 32 | 0 | QPSK | 5 | 354 | -35.96 | 18.84 | | | |
| | High | 39966.24 | 50 | H | MIMO | 49 | 1 | 32 | 0 | 16QAM | 9 | 11 | -39.32 | 15.48 | 19.91 | 43.00 | -23.09 |
| | High | 39966.24 | 50 | V | MIMO | 177 | 1 | 32 | 0 | 16QAM | 5 | 354 | -36.83 | 17.97 | | | |
| | High | 39966.24 | 50 | H | MIMO | 49 | 1 | 32 | 0 | 64QAM | 9 | 11 | -41.00 | 13.80 | 18.16 | 43.00 | -24.84 |
| | High | 39966.24 | 50 | V | MIMO | 177 | 1 | 32 | 0 | 64QAM | 5 | 354 | -38.62 | 16.18 | | | |
| | High | 39949.92 | 100 | H | MIMO | 49 | 1 | 66 | 0 | QPSK | 10 | 6 | -38.24 | 16.56 | 20.91 | 43.00 | -22.09 |
| | High | 39949.92 | 100 | V | MIMO | 177 | 1 | 66 | 0 | QPSK | 6 | 359 | -35.87 | 18.93 | | | |
| | High | 39949.92 | 100 | H | MIMO | 49 | 1 | 66 | 0 | 16QAM | 10 | 6 | -39.00 | 15.80 | 20.07 | 43.00 | -22.93 |
| | High | 39949.92 | 100 | V | MIMO | 177 | 1 | 66 | 0 | 16QAM | 6 | 359 | -36.76 | 18.04 | | | |
| | High | 39949.92 | 100 | H | MIMO | 49 | 1 | 66 | 0 | 64QAM | 10 | 6 | -40.80 | 14.00 | 18.23 | 43.00 | -24.77 |
| | High | 39949.92 | 100 | V | MIMO | 177 | 1 | 66 | 0 | 64QAM | 6 | 359 | -38.63 | 16.17 | | | |

**Table 7-25. L Patch EIRP Summary Data (n260 - MIMO)**

## 7.4 Radiated Spurious and Harmonic Emissions

**§2.1051, §30.203**

### Test Overview

The spectrum is scanned from 30MHz to 100GHz for n261 and from 30MHz to 200GHz for n260. All out of band emissions are measured in a radiated test setup while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All modulations were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

***The conductive power or total radiated power of any emissions outside a licensee's frequency block shall be -13dBm/1MHz.***

### Test Procedure Used

ANSI C63.26-2015 Section 5.7.4
KDB 842590 D01 v01 Section 4.4.2 and Section 4.4.3

### Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 100 GHz for n261 and 200GHz for n260. Several plots are used to show investigations in this entire span.
2. Detector = RMS
3. Trace mode = trace average
4. Sweep time = auto couple
5. Number of sweep points ≥ 2 x Span/RBW
6. The trace was allowed to stabilize
7. RBW = 1MHz, VBW = 3MHz

### Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

2) All radiated spurious emissions were measured as EIRP to compare with the §30.203 TRP limits.

3) Elements within the same antenna array are correlated to produce beamforming array gain. Antenna arrays cannot be correlated with another antenna array. During testing, only one antenna array was active.

4) The plots from 1-200GHz show corrected average EIRP levels. Plots below 1GHz are corrected field strength levels. The average EIRP reported below is calculated per section 5.2.7 of ANSI C63.26-2015 which states: EIRP (dBm) = E (dBμV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m. The field strength E is calculated E (dBμV/m) = Spectrum Analyzer Level (dBm) + Antenna Factor (dB/m) + Cable Loss (dB) + Harmonic Mixer Conversion Loss (dB) + 107. All appropriate Antenna Factor and Cable Loss have been applied in the spectrum analyzer for each measurement. For measurements > 40GHz, Harmonic Mixer Conversion Loss was also applied to the spectrum analyzer.

5) Emissions below 18GHz were measured at a 3 meter test distance, while emissions above 18GHz were measured at the appropriate far field distance. The far field of the mmWave signal is based on formula: R > 2D^2/wavelength, where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, D is the largest dimension of the measurement antenna.

| Frequency Range (GHz) | Wavelength(cm) | Far Field Distance (m) | Measurement Distance (m) |
|---|---|---|---|
| 18-40 | 0.749 | 0.54 | 1.00 |
| 40-60 | 0.500 | 1.39 | 1.50 |
| 60-90 | 0.333 | 0.91 | 1.00 |
| 90-140 | 0.214 | 0.58 | 1.00 |
| 140-200 | 0.150 | 0.39 | 1.00 |

**Table 7-26. Far-Field Distance & Measurement Distance per Frequency Range**

6) All emissions from 30MHz - 60GHz were measured using a spectrum analyzer with an internal preamplifier. Emissions >60GHz were measured using a harmonic mixer with the spectrum analyzer.

7) All RSE's were measured with 1CC. It was determined that adding more CC's causes the overall amplitude of just 1CC to decrease, therefore, 1CC is the worst case for the purposes of spurious emissions measurements.

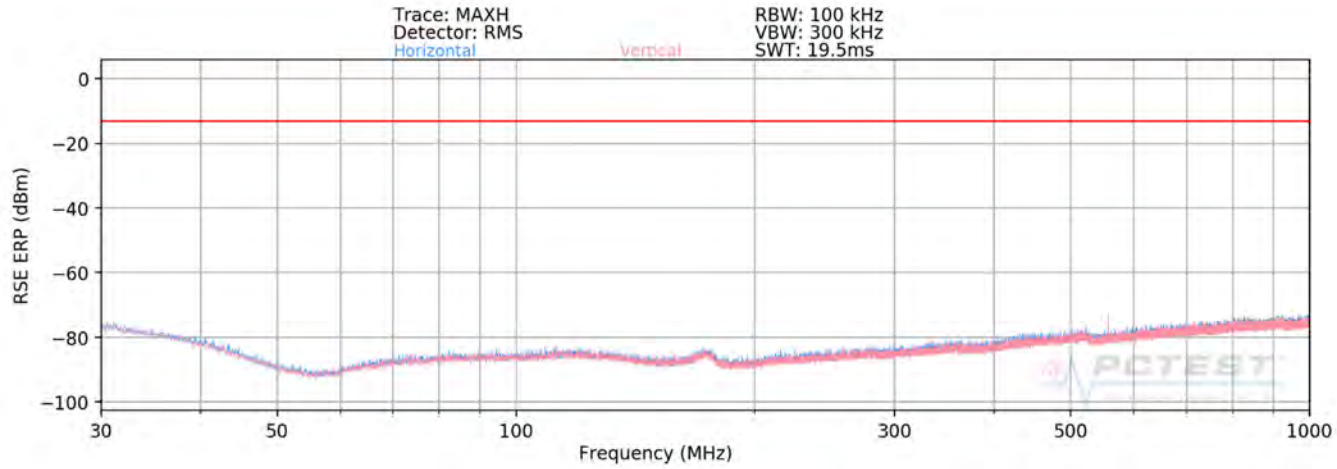
8) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

9) All RSE's were investigated in EN-DC mode and with 802.11 chipset active. It was determined that there is no new emission introduced by EN-DC mode, or the 802.11 chipset. For EN-DC mode, the anchor bands are: LTE B13, B5, B4, B66 and B2.

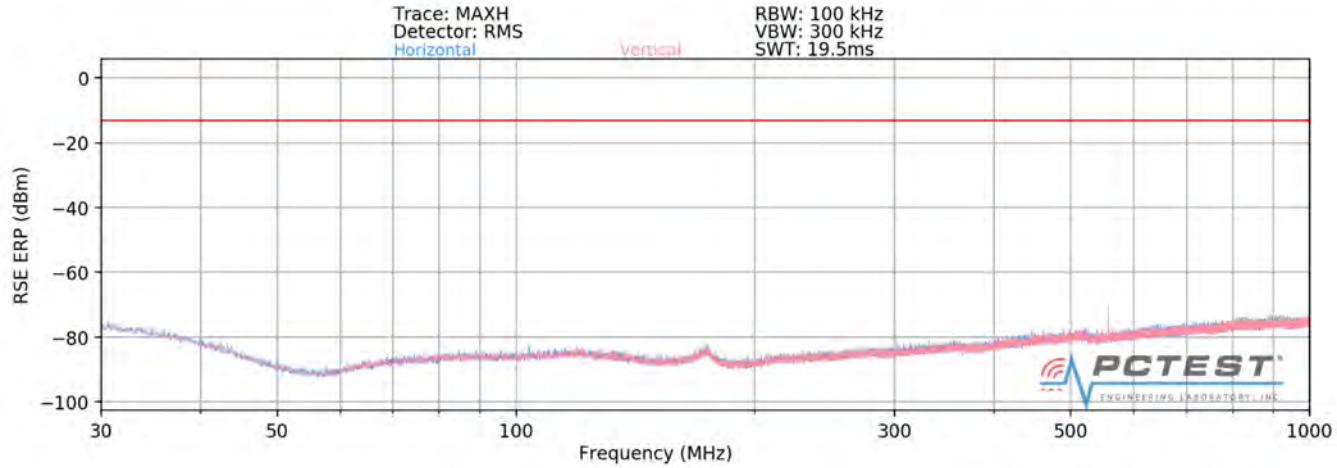
### 7.4.1 n261 Radiated Spurious Emissions

## J Dipole Radiated Spurious Emissions(n261)

## 30MHz – 1GHz(n261)

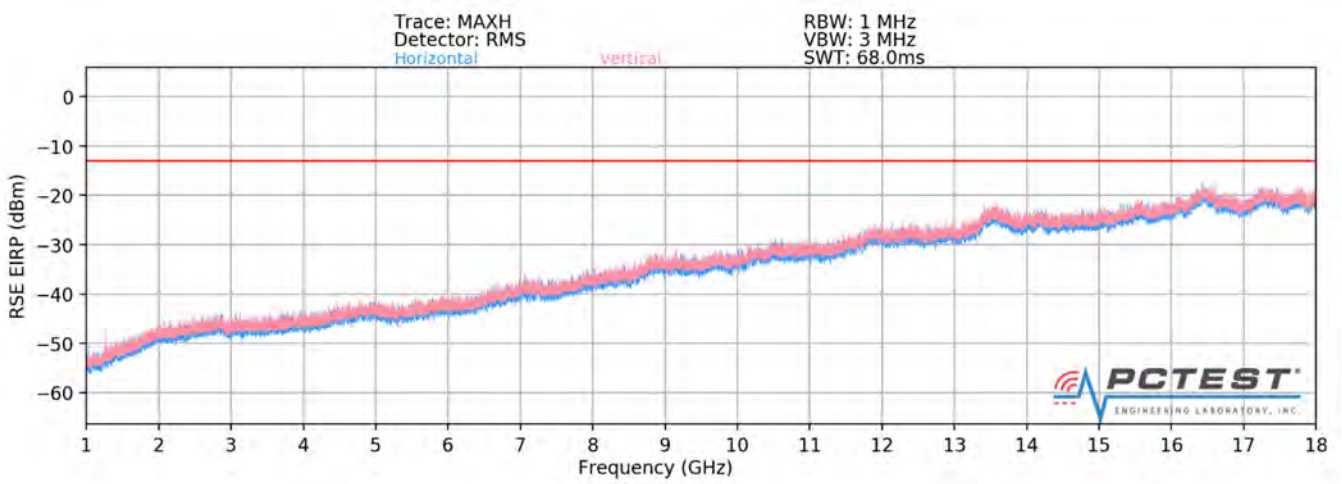



**Plot 7-97. J Dipole Radiated Spurious Plot 30 MHz - 1 GHz (1CC QPSK Mid Channel H Beam – n261)**

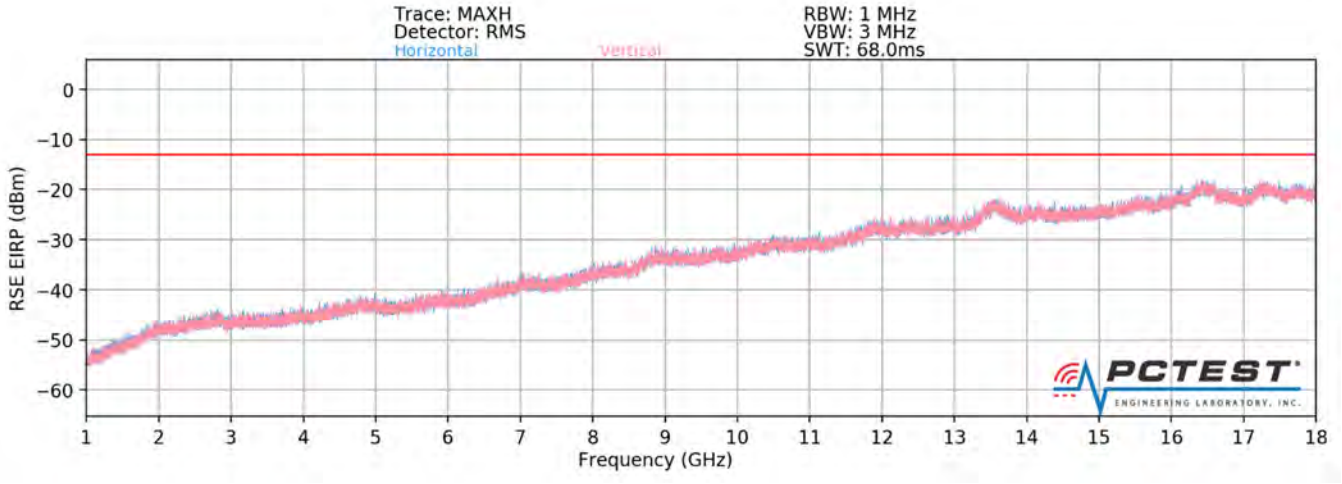



**Plot 7-98. J Dipole Radiated Spurious Plot 30 MHz - 1 GHz (1CC QPSK Mid Channel V Beam – n261)**

## 1 – 18GHz

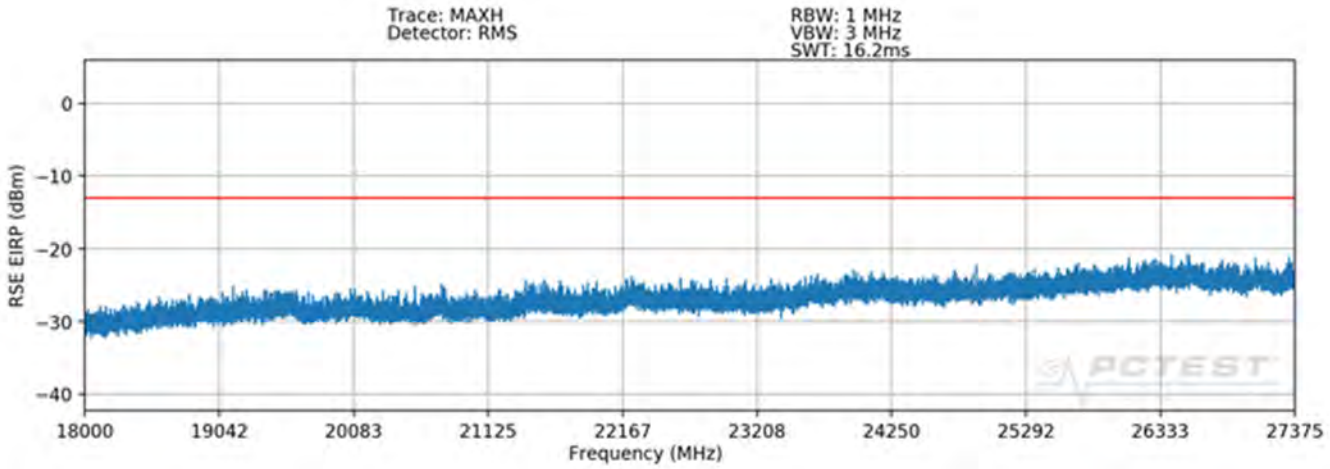



**Plot 7-99. J Dipole Radiated Spurious Plot 1-18 GHz (1CC QPSK Mid Channel H Beam – n261)**

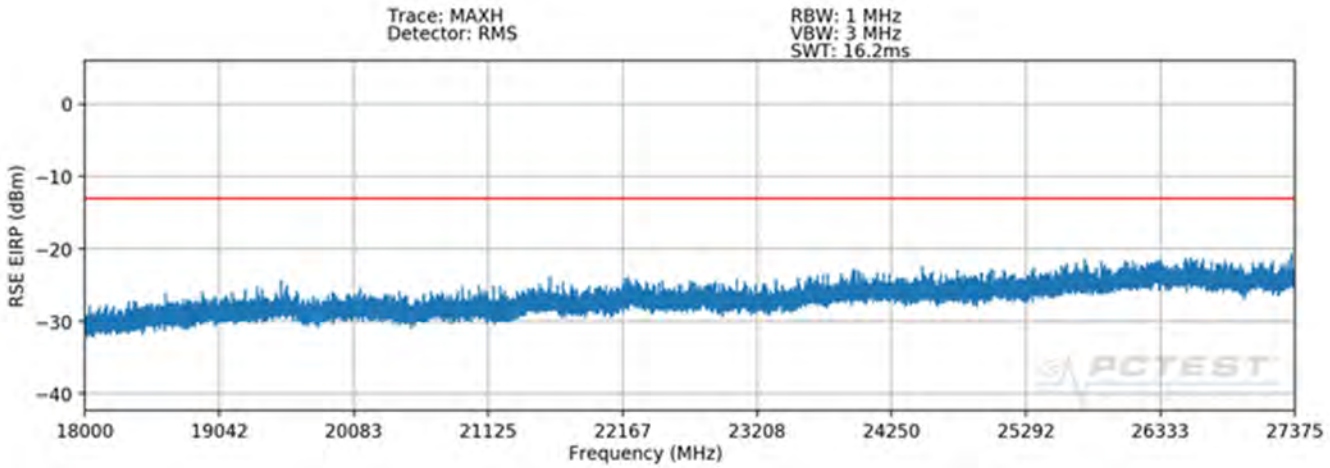



**Plot 7-100. J Dipole Radiated Spurious Plot 1-18 GHz (1CC QPSK Mid Channel V Beam – n261)**

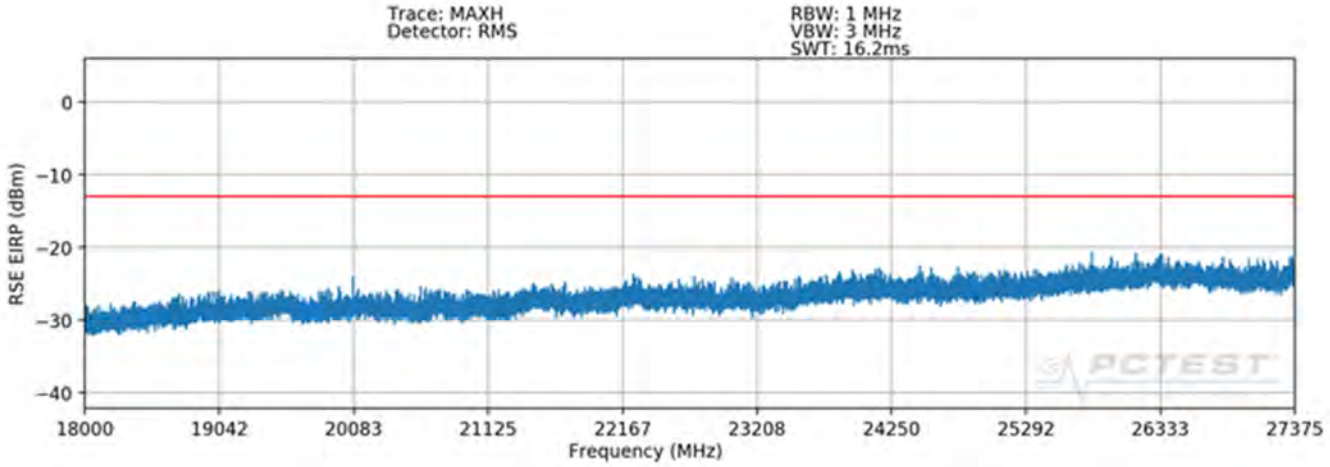
## 18 – 27.375GHz



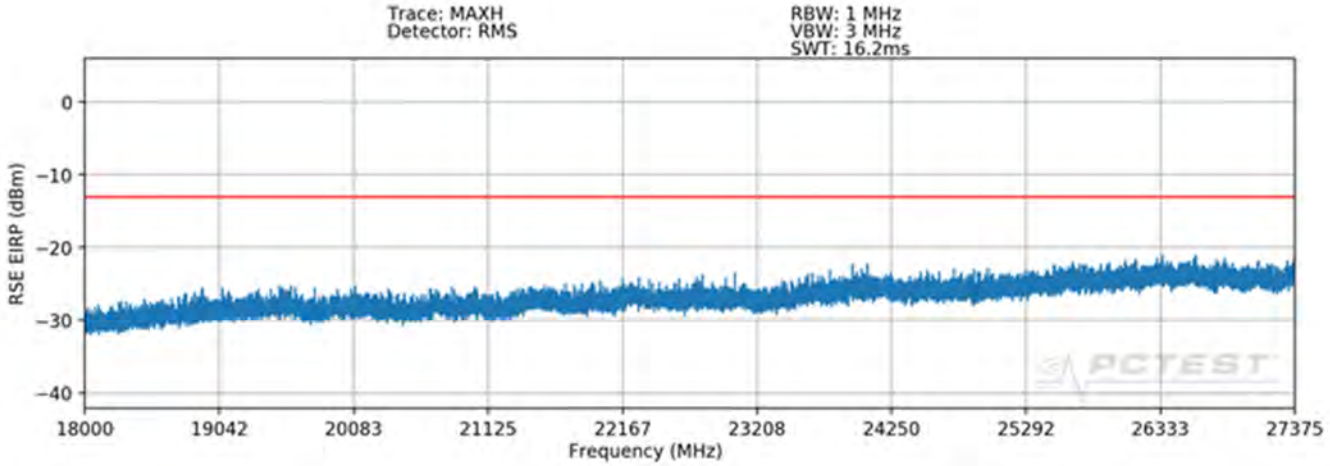

**Plot 7-101. J Dipole Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Low Channel H Beam – n261)**



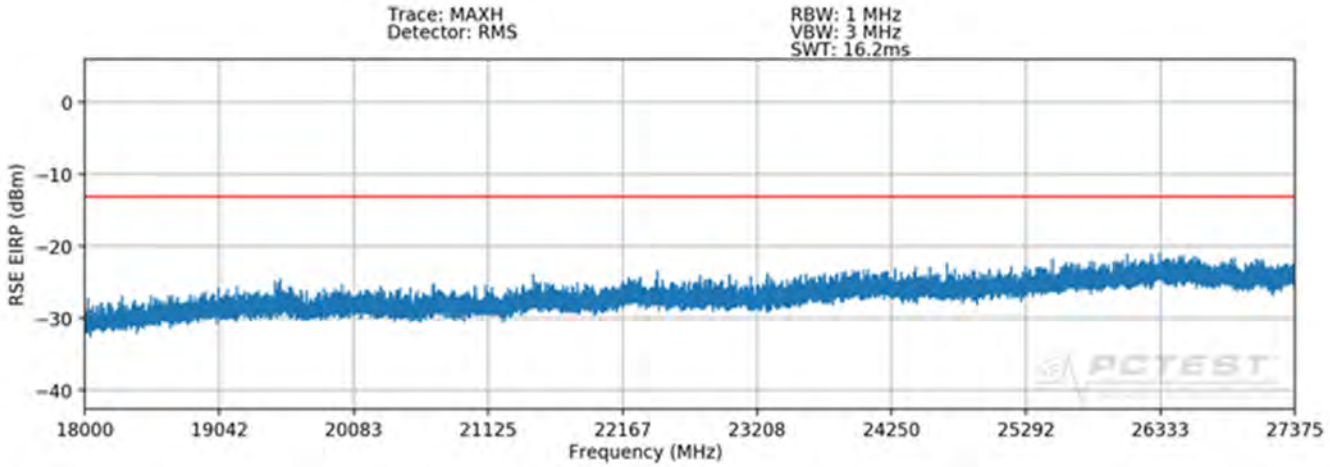

**Plot 7-102. J Dipole Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Mid Channel H Beam – n261)**



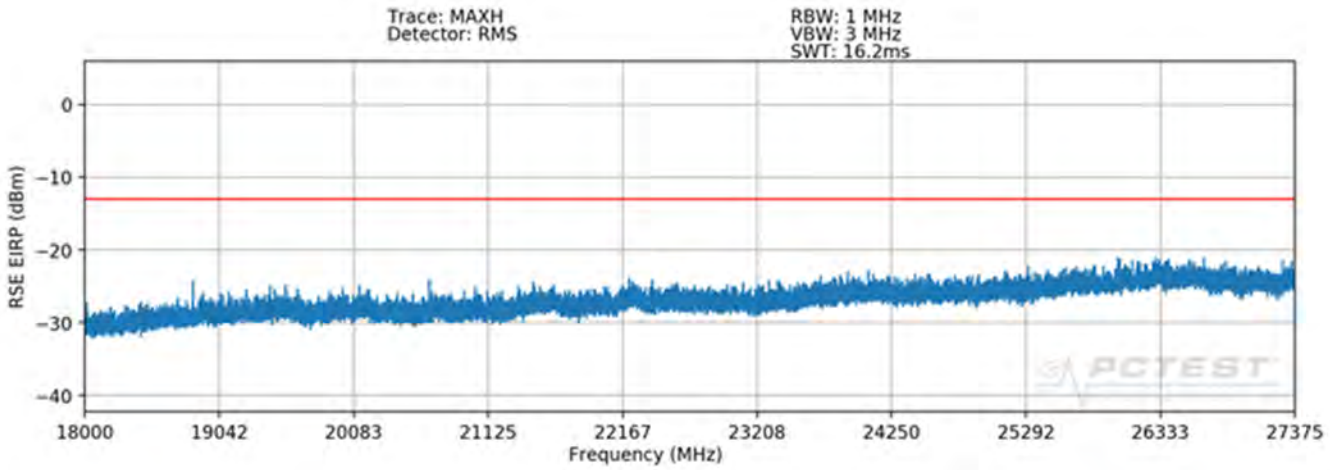

**Plot 7-103. J Dipole Radiated Spurious Plot 18-27.375 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-104. J Dipole Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-105. J Dipole Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-106. J Dipole Radiated Spurious Plot 18-27.375 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26961.60 | RMS/Avg | Low | 50 | QPSK | H | H | 301 | 104 | -34.51 | -13.00 | -21.51 |
| 27343.10 | RMS/Avg | Mid | 50 | QPSK | H | H | 305 | 104 | -31.96 | -13.00 | -18.96 |
| 25667.80 | RMS/Avg | High | 50 | QPSK | H | H | 305 | 104 | -36.44 | -13.00 | -23.44 |
| 25659.40 | RMS/Avg | Low | 50 | QPSK | V | H | 268 | 306 | -36.77 | -13.00 | -23.77 |
| 25667.30 | RMS/Avg | Mid | 50 | QPSK | V | H | 260 | 308 | -36.38 | -13.00 | -23.38 |
| 25671.60 | RMS/Avg | High | 50 | QPSK | V | H | 270 | 312 | -36.62 | -13.00 | -23.62 |

**Table 7-27. J Dipole Spurious Emissions Table (18-27.375GHz – n261)**

**Notes**

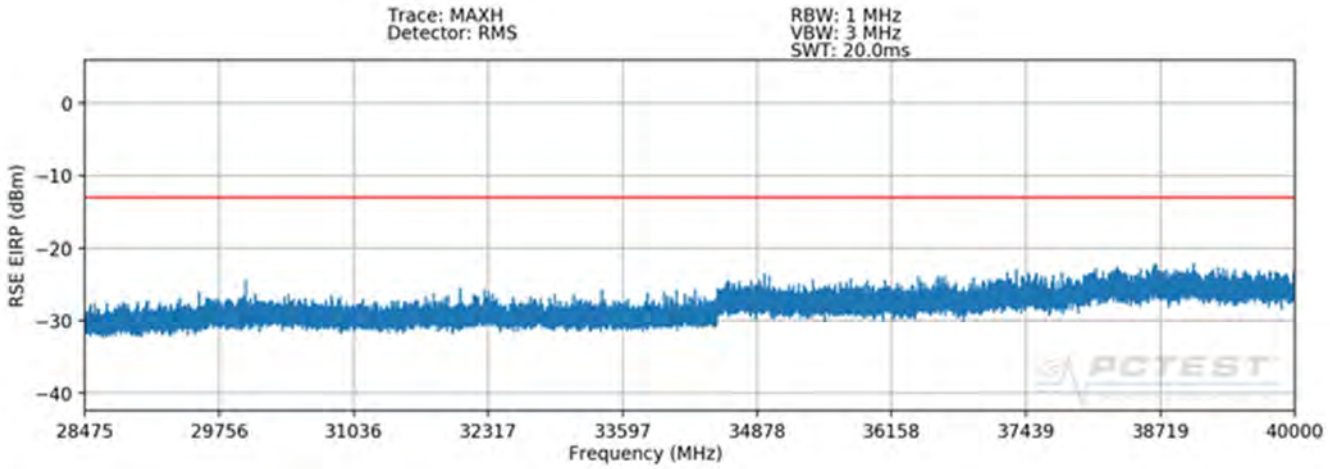
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

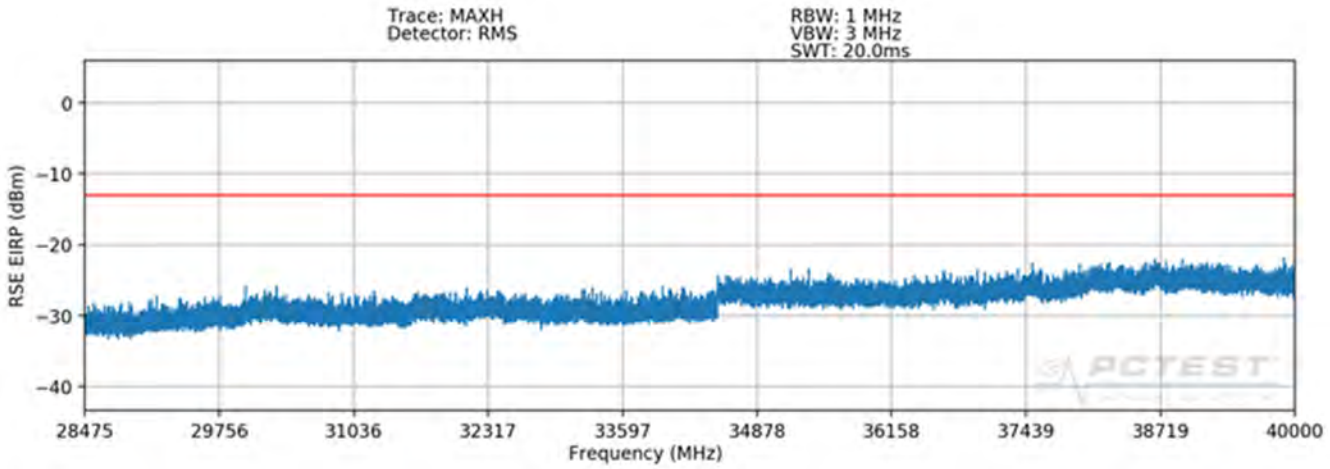
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-31.96 dBm + -36.38 dBm) = (636.80 nW + 230.14 nW) = (866.94 nW) = -30.62 dBm

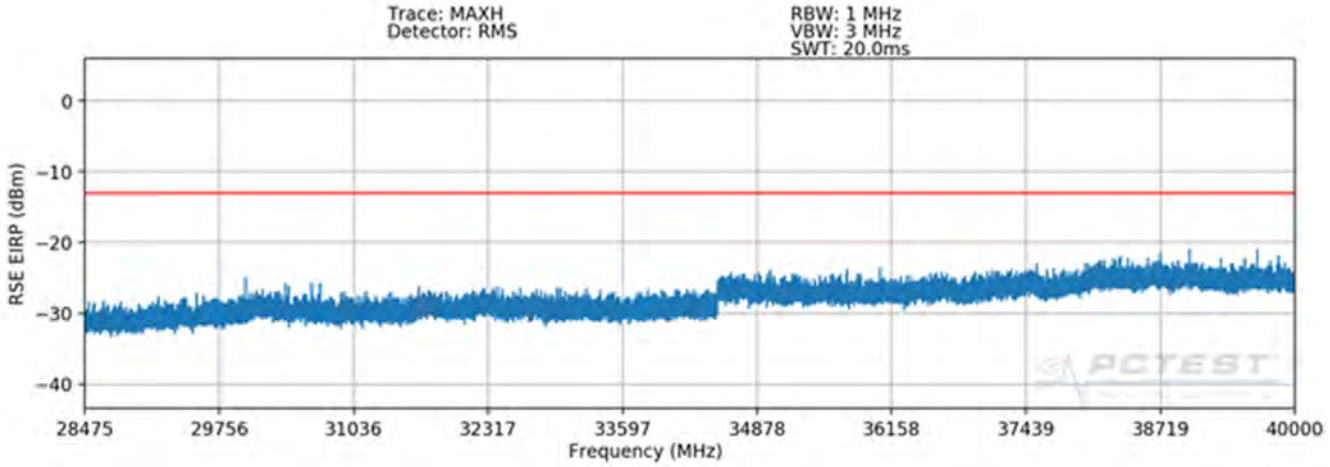
## 28.475 – 40GHz(n261)



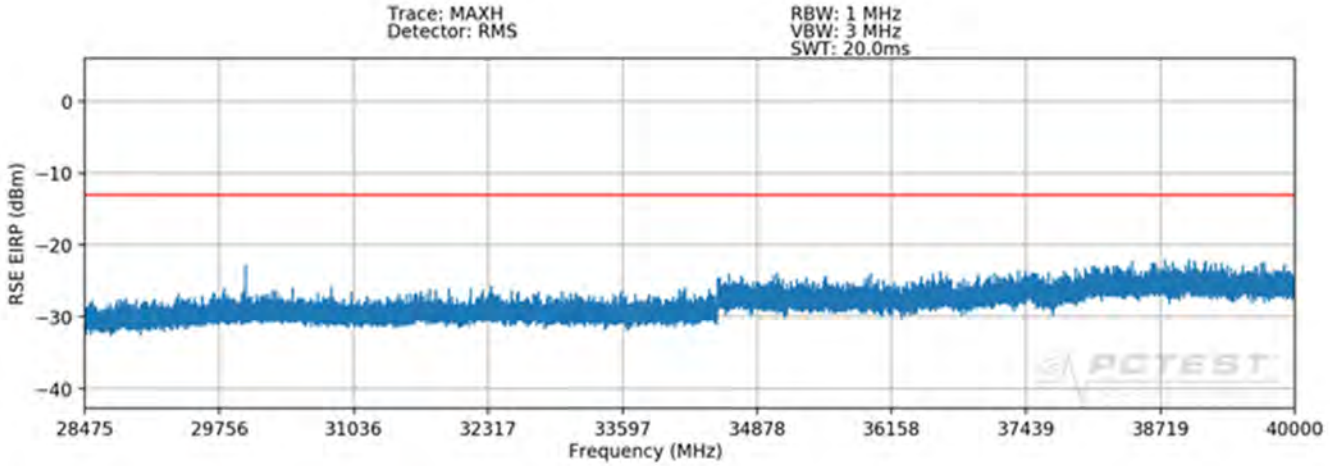

**Plot 7-107. J Dipole Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Low Channel H Beam – n261)**



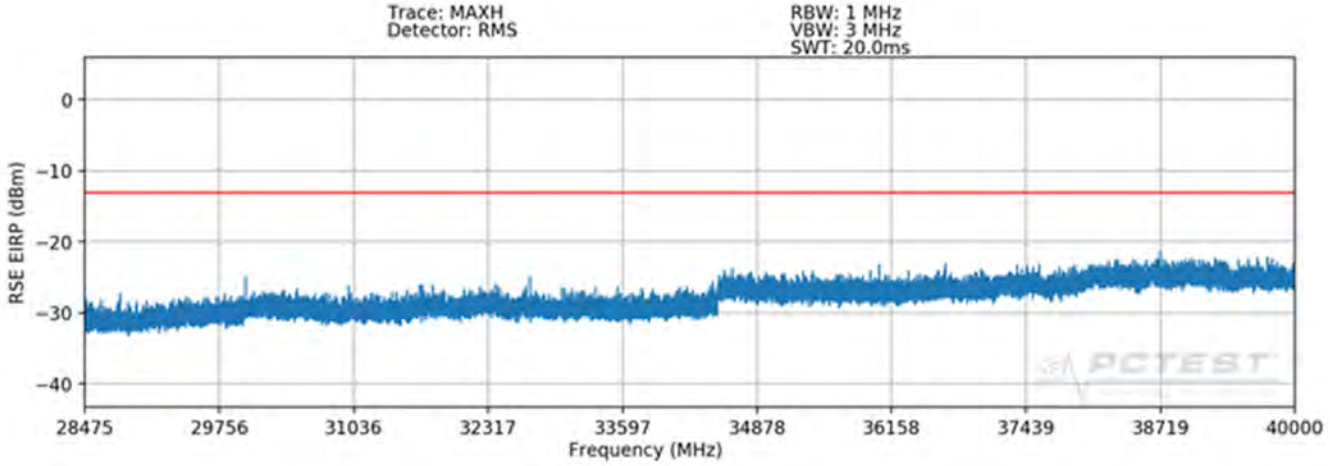

**Plot 7-108. J Dipole Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Mid Channel H Beam – n261)**



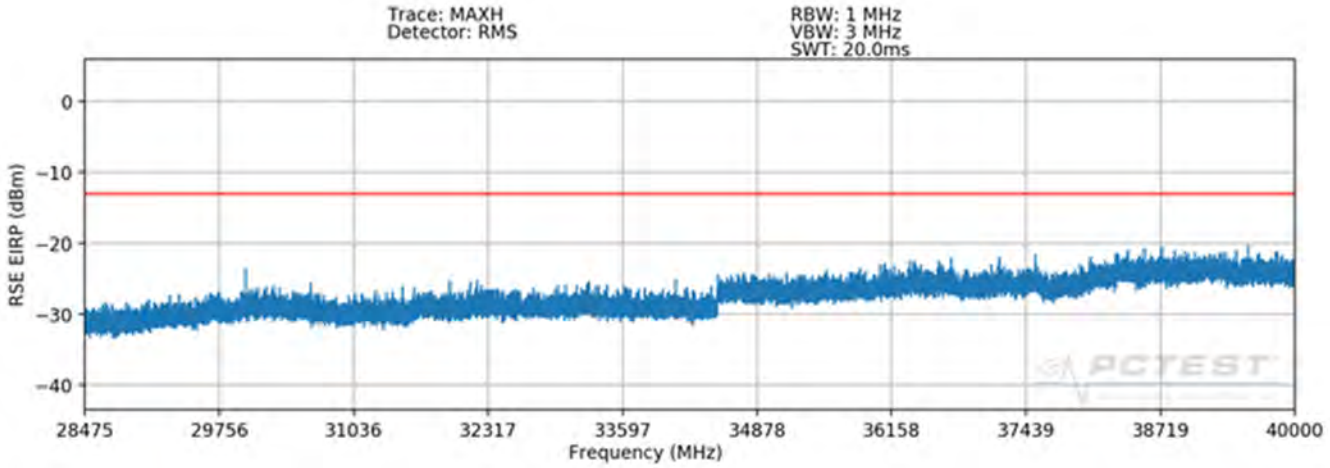

**Plot 7-109. J Dipole Radiated Spurious Plot 28.475-40 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-110. J Dipole Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-111. J Dipole Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-112. J Dipole Radiated Spurious Plot 28.475-40 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30006.40 | RMS/Avg | Low | 50 | QPSK | H | H | 305 | 102 | -28.59 | -13.00 | -15.59 |
| 38969.50 | RMS/Avg | Mid | 50 | QPSK | H | H | 305 | 107 | -29.44 | -13.00 | -16.44 |
| 38594.40 | RMS/Avg | High | 50 | QPSK | H | H | - | - | -30.68 | -13.00 | -17.68 |
| 28761.20 | RMS/Avg | Low | 50 | QPSK | V | H | 270 | 306 | -28.71 | -13.00 | -15.71 |
| 28959.50 | RMS/Avg | Mid | 50 | QPSK | V | H | 269 | 309 | -27.48 | -13.00 | -14.48 |
| 29373.00 | RMS/Avg | High | 50 | QPSK | V | H | 274 | 312 | -26.61 | -13.00 | -13.61 |

**Table 7-28. J Dipole Spurious Emissions Table (28.475-40 GHz – n261)**

**Notes**

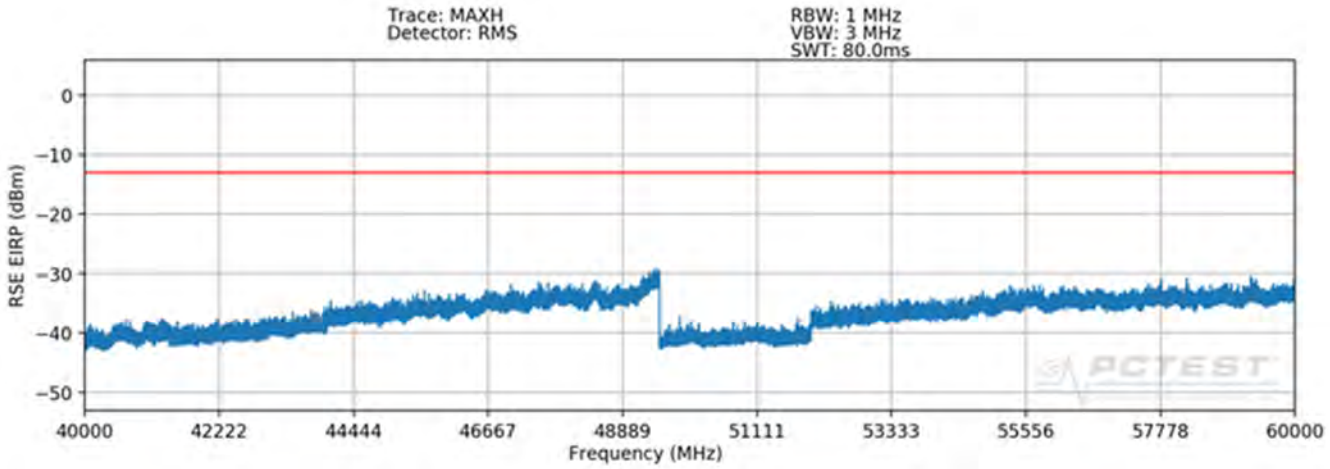
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

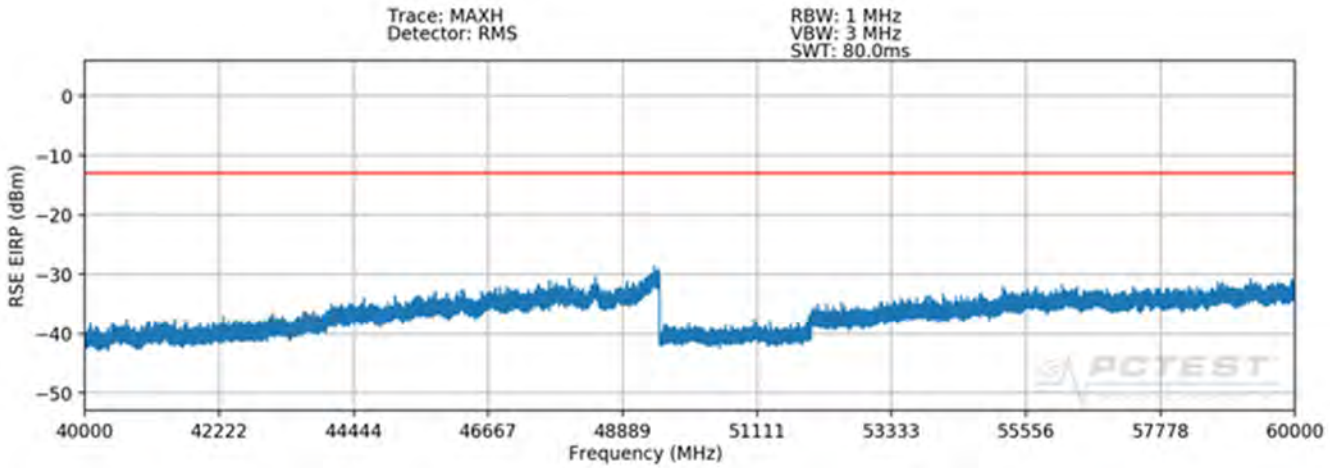
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-30.68 dBm + -26.61 dBm) = (855.07 nW + 2182.73 nW) = (3037.80 nW) = -25.17 dBm

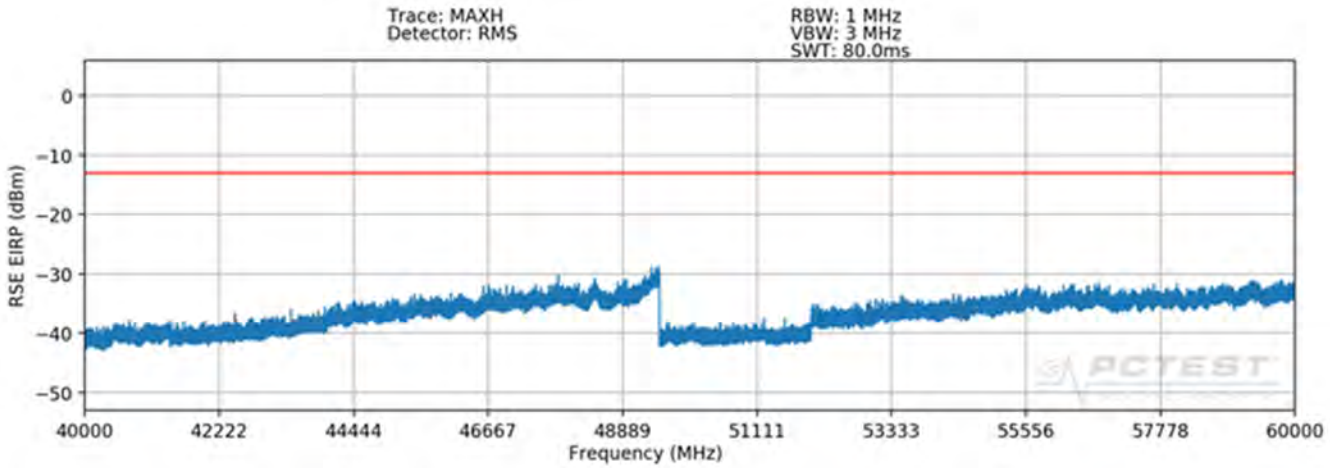
## 40 – 60GHz(n261)



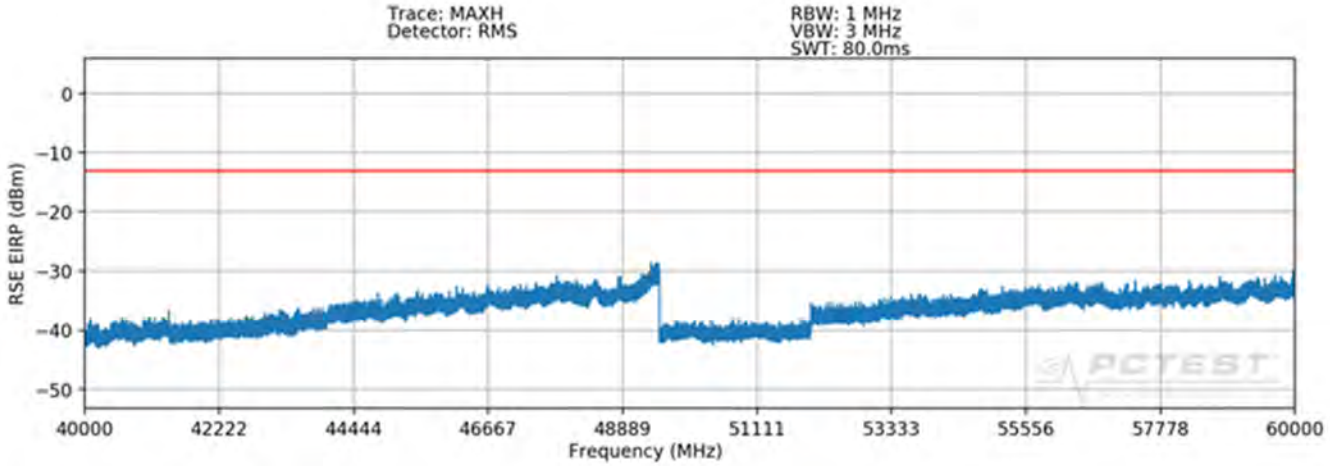

**Plot 7-113. J Dipole Radiated Spurious Plot 40-60 GHz (1CC QPSK Low Channel H Beam – n261)**



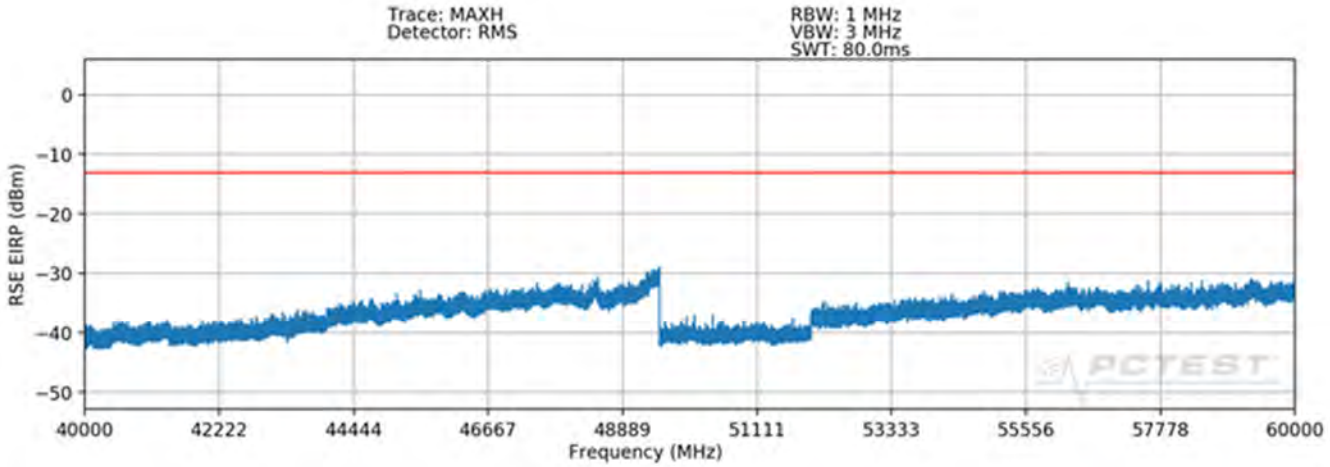

**Plot 7-114. J Dipole Radiated Spurious Plot 40-60 GHz (1CC QPSK Mid Channel H Beam – n261)**



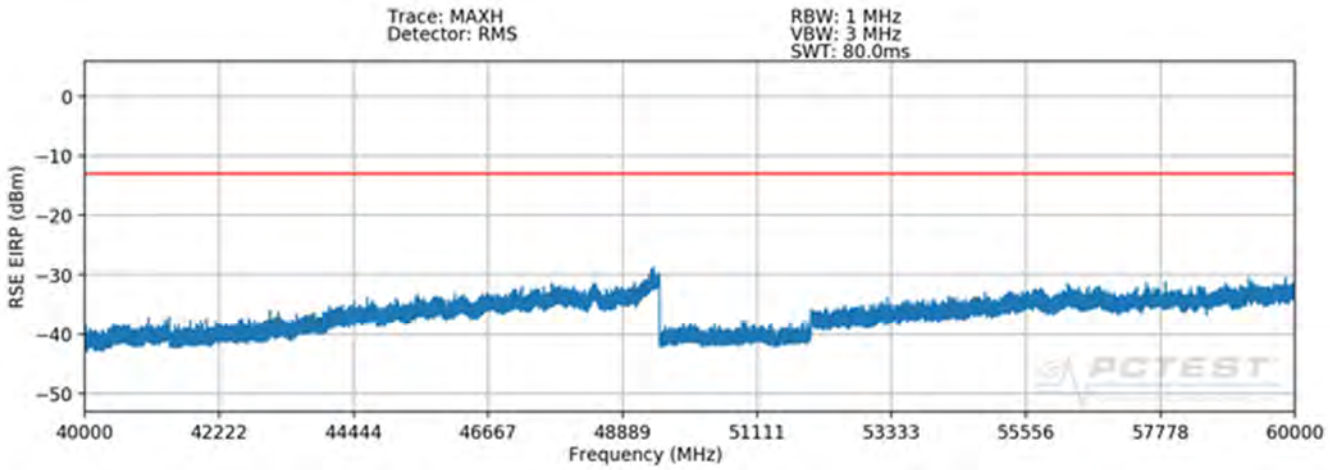

**Plot 7-115. J Dipole Radiated Spurious Plot 40-60 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-116. J Dipole Radiated Spurious Plot 40-60 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-117. J Dipole Radiated Spurious Plot 40-60 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-118. J Dipole Radiated Spurious Plot 40-60 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1.5 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49495.01 | RMS/Avg | Low | 50 | QPSK | H | H | - | - | -37.36 | -13.00 | -24.36 |
| 49499.01 | RMS/Avg | Mid | 50 | QPSK | H | H | - | - | -37.78 | -13.00 | -24.78 |
| 49498.41 | RMS/Avg | High | 50 | QPSK | H | H | - | - | -37.39 | -13.00 | -24.39 |
| 49486.41 | RMS/Avg | Low | 50 | QPSK | V | H | - | - | -37.61 | -13.00 | -24.61 |
| 49498.15 | RMS/Avg | Mid | 50 | QPSK | V | H | - | - | -37.71 | -13.00 | -24.71 |
| 49499.45 | RMS/Avg | High | 50 | QPSK | V | H | - | - | -37.59 | -13.00 | -24.59 |

**Table 7-29. J Dipole Spurious Emissions Table (40 - 60GHz – n261)**

**Notes**

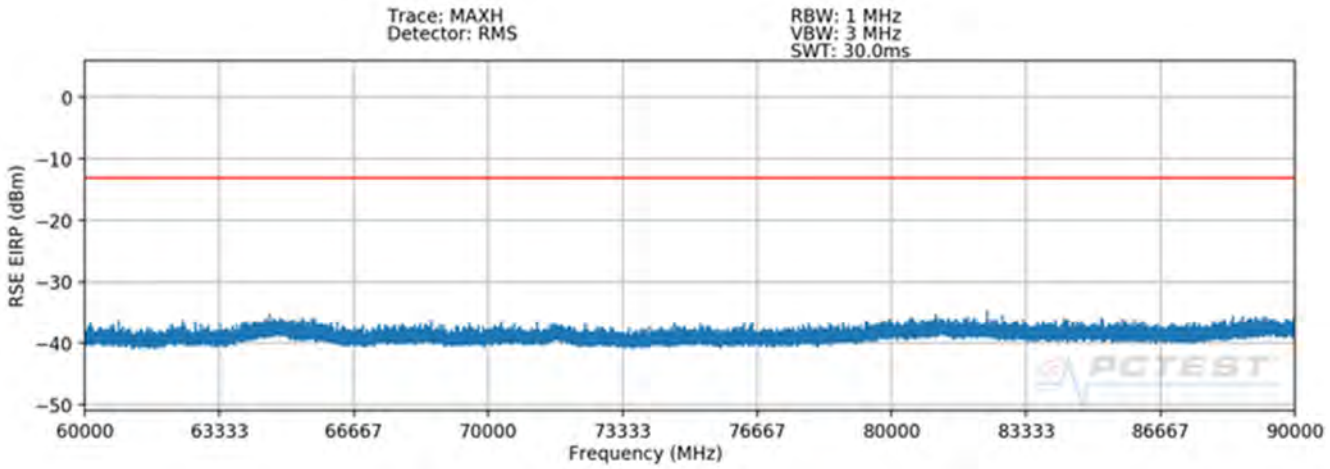
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1.5 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

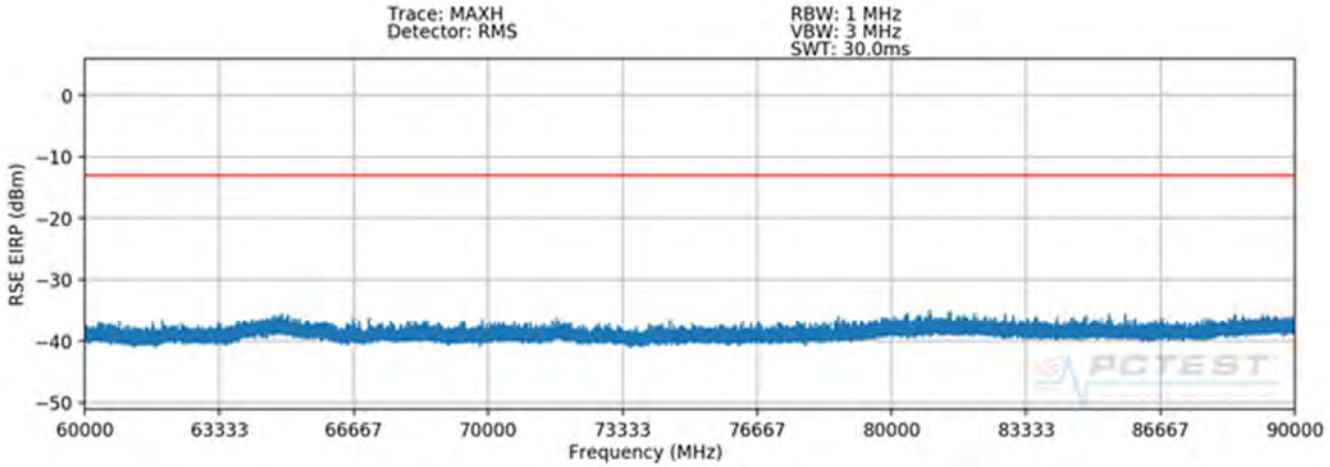
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-37.36 dBm + -37.61 dBm) = (186.65 nW + 173.38 nW) = (357.03 nW) = -34.47 dBm

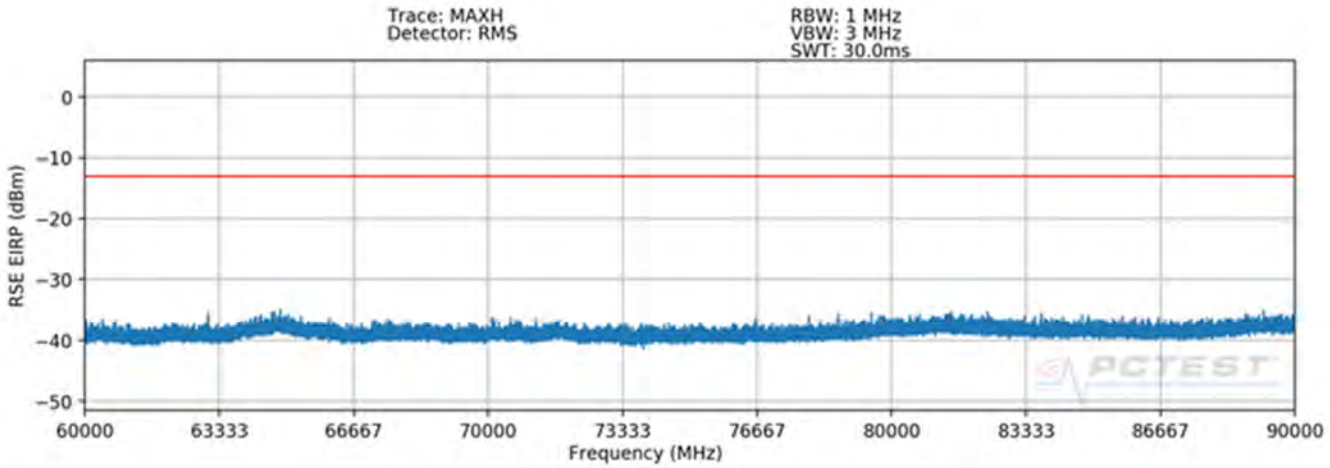
## 60 – 90GHz(n261)



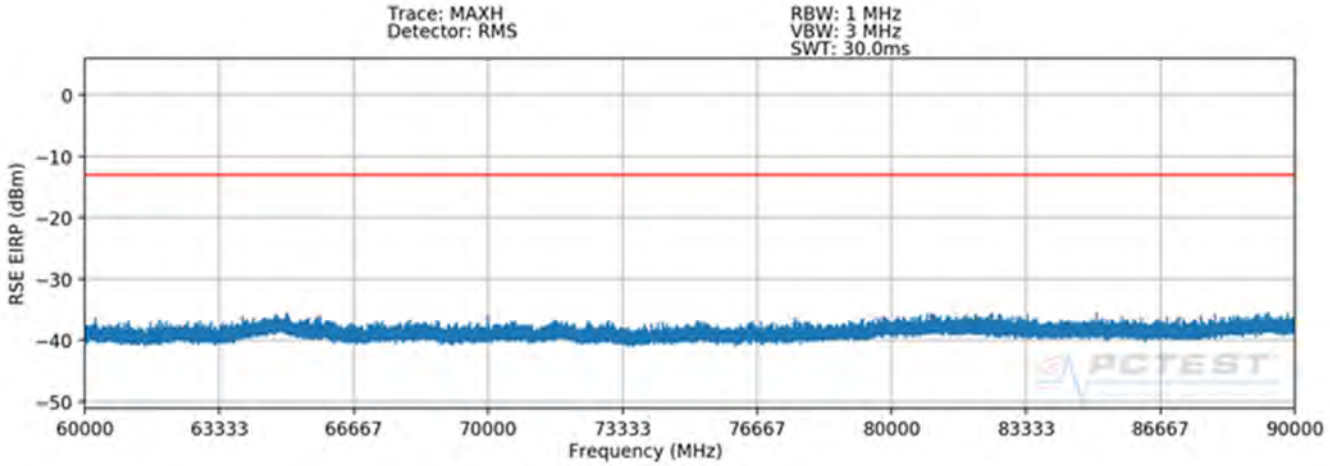

**Plot 7-119. J Dipole Radiated Spurious Plot 60-90 GHz (1CC QPSK Low Channel H Beam – n261)**



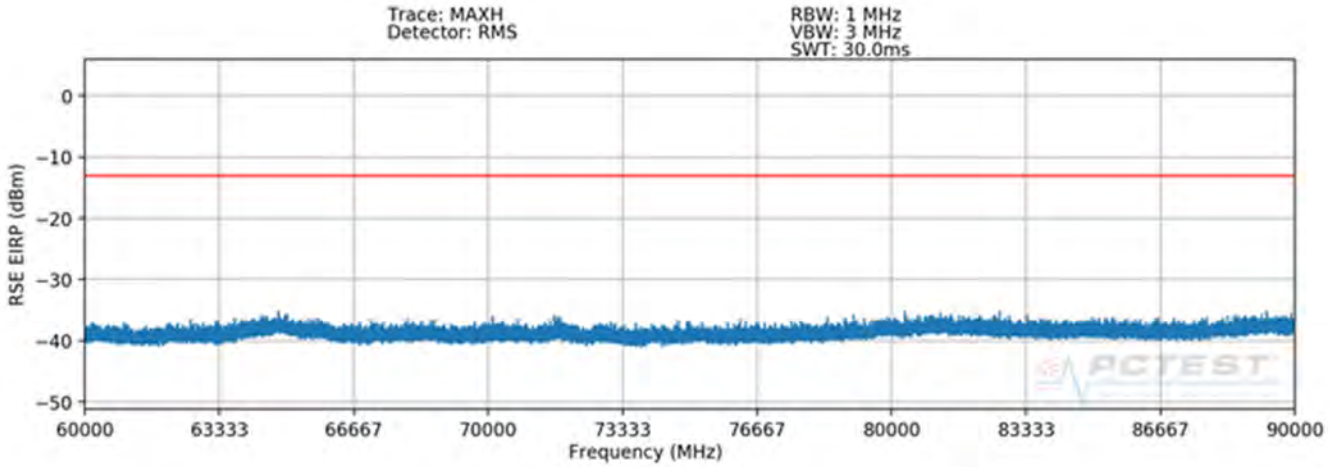

**Plot 7-120. J Dipole Radiated Spurious Plot 60-90 GHz (1CC QPSK Mid Channel H Beam – n261)**



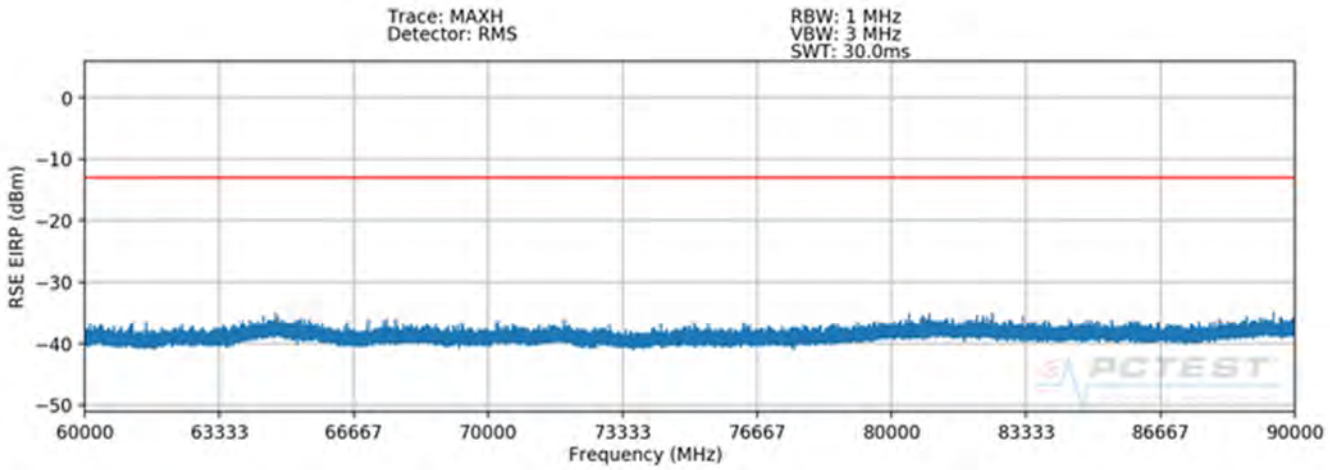

**Plot 7-121. J Dipole Radiated Spurious Plot 60-90 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-122. J Dipole Radiated Spurious Plot 60-90 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-123. J Dipole Radiated Spurious Plot 60-90 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-124. J Dipole Radiated Spurious Plot 60-90 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) + Harmonic Mixer Loss (dB) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 82539.50 | RMS/Avg | Low | 50 | QPSK | H | H | 281 | 108 | -41.60 | -13.00 | -28.60 |
| 83700.50 | RMS/Avg | Mid | 50 | QPSK | H | H | 227 | 106 | -42.21 | -13.00 | -29.21 |
| 84893.50 | RMS/Avg | High | 50 | QPSK | H | H | 232 | 108 | -39.41 | -13.00 | -26.41 |
| 83184.00 | RMS/Avg | Low | 50 | QPSK | V | H | 313 | 296 | -44.54 | -13.00 | -31.54 |
| 84346.00 | RMS/Avg | Mid | 50 | QPSK | V | H | 313 | 320 | -44.30 | -13.00 | -31.30 |
| 84893.50 | RMS/Avg | High | 50 | QPSK | V | H | 201 | 320 | -44.24 | -13.00 | -31.24 |

**Table 7-30. J Dipole Spurious Emissions Table (60-90GHz – n261)**

**Notes**

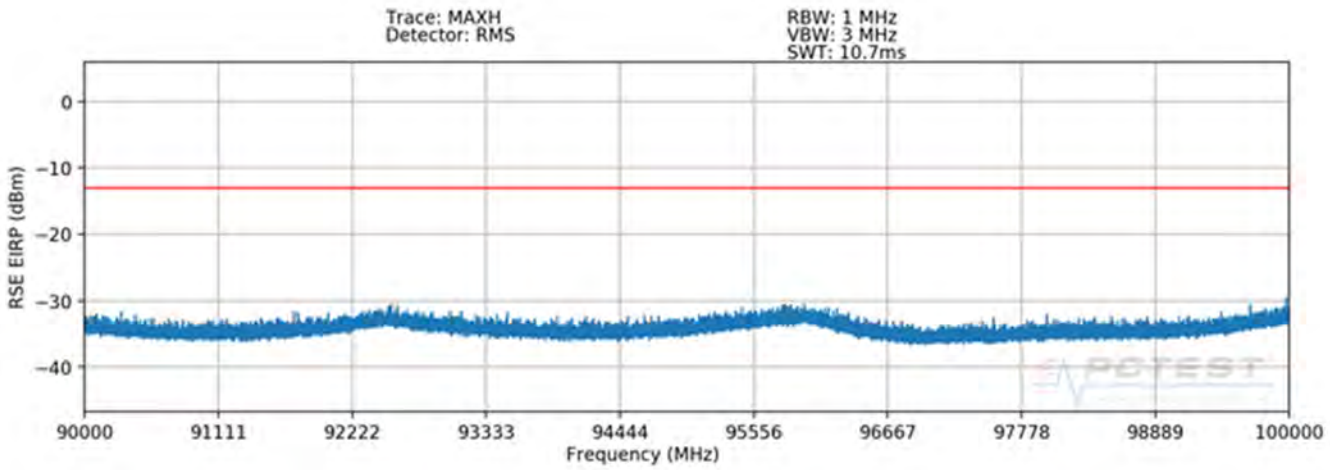
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

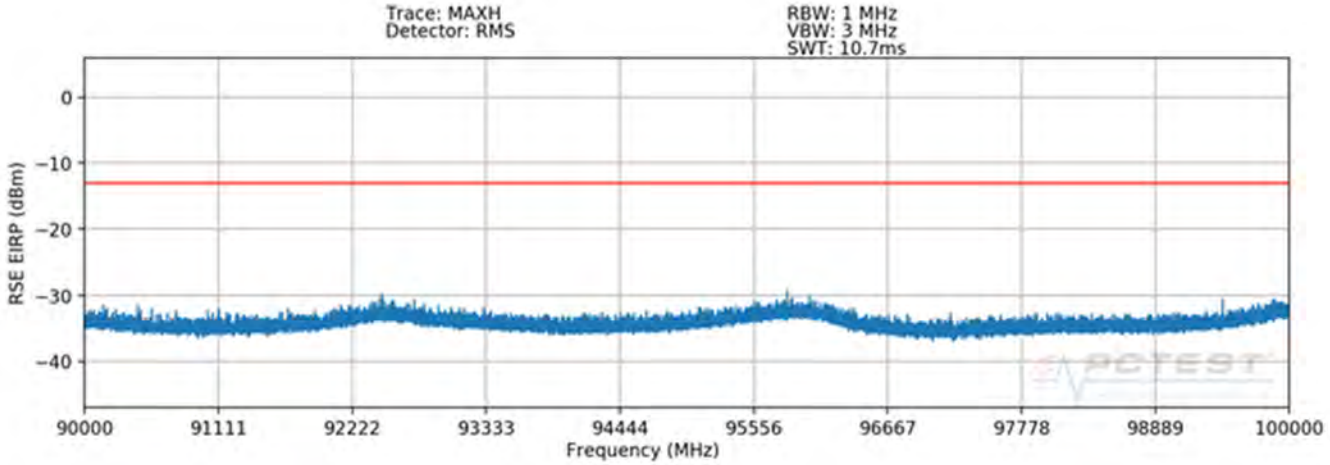
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-39.41 dBm + -44.24 dBm) = (114.66 nW + 37.69 nW) = (152.34 nW) = -38.17 dBm

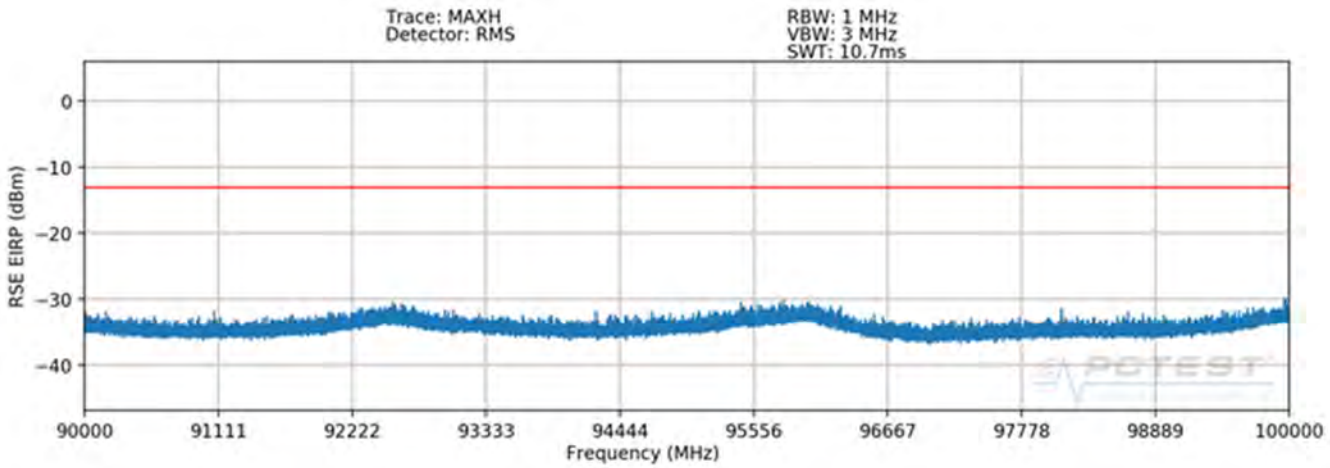
## 90 – 100GHz(n261)



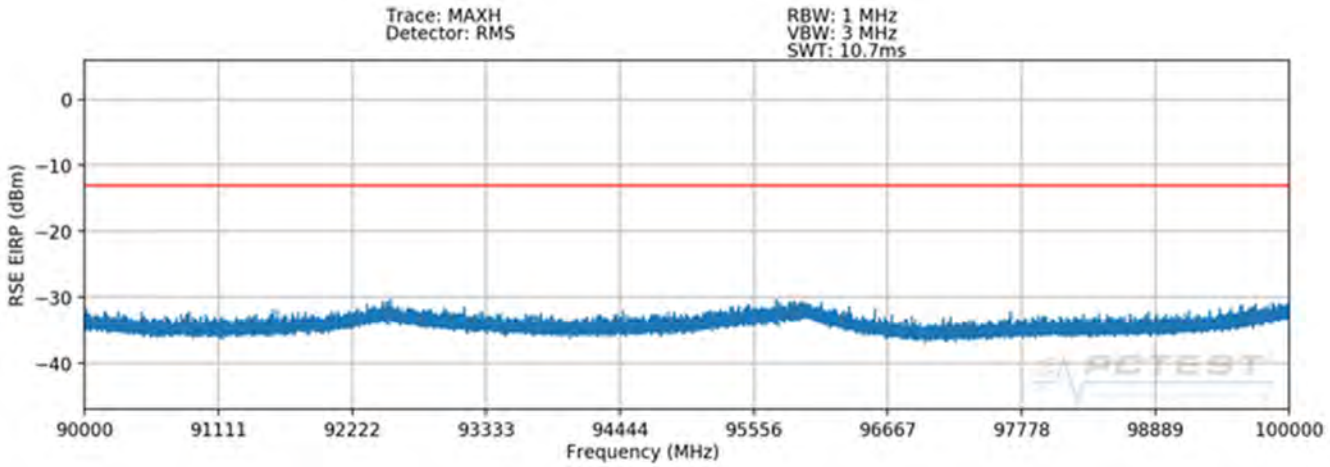

**Plot 7-125. J Dipole Radiated Spurious Plot 90-100 GHz (1CC QPSK Low Channel H Beam – n261)**



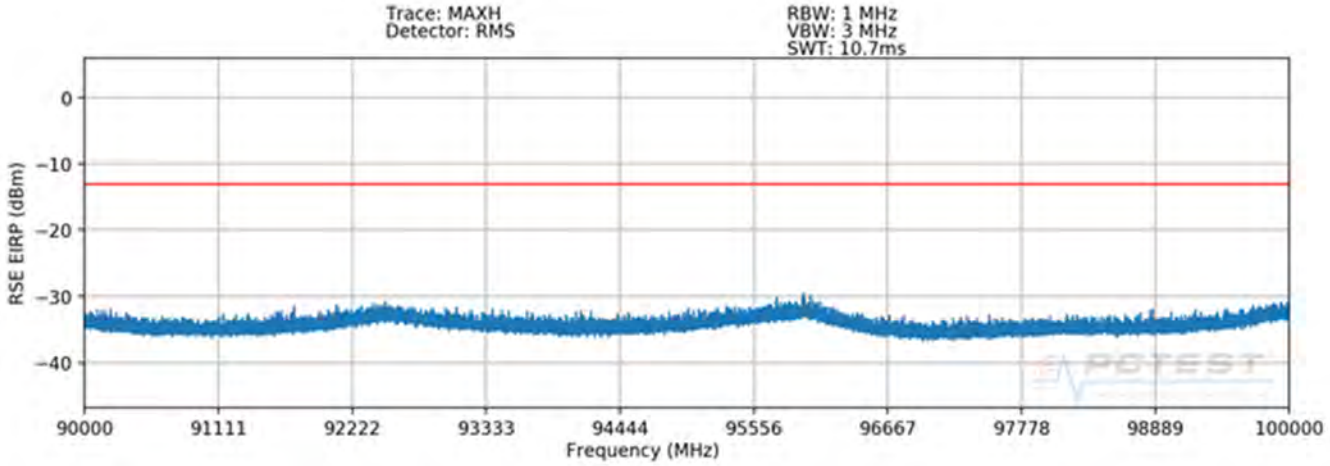

**Plot 7-126. J Dipole Radiated Spurious Plot 90-100 GHz (1CC QPSK Mid Channel H Beam – n261)**



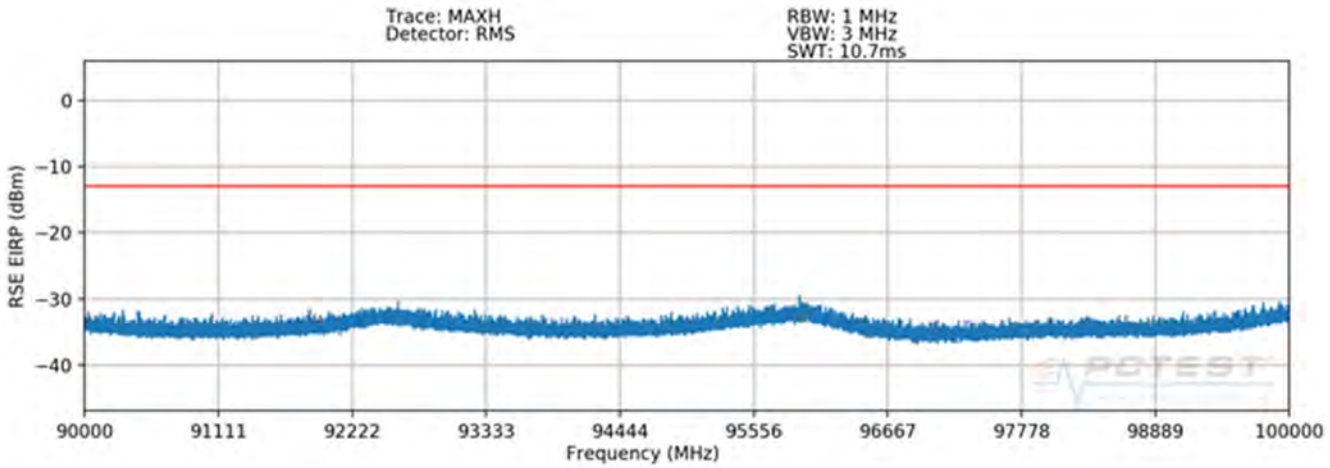

**Plot 7-127. J Dipole Radiated Spurious Plot 90-100 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-128. J Dipole Radiated Spurious Plot 90-100 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-129. J Dipole Radiated Spurious Plot 90-100 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-130. J Dipole Radiated Spurious Plot 90-100 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL[dB/m] + 20Log(Dm) + Harmonic Mixer Loss (dB) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 96001.00 | RMS/Avg | Low | 50 | QPSK | H | H | - | - | -39.68 | -13.00 | -26.68 |
| 95805.50 | RMS/Avg | Mid | 50 | QPSK | H | H | - | - | -39.76 | -13.00 | -26.76 |
| 96000.00 | RMS/Avg | High | 50 | QPSK | H | H | - | - | -40.12 | -13.00 | -27.12 |
| 95863.00 | RMS/Avg | Low | 50 | QPSK | V | H | - | - | -40.14 | -13.00 | -27.14 |
| 95983.00 | RMS/Avg | Mid | 50 | QPSK | V | H | - | - | -39.68 | -13.00 | -26.68 |
| 95858.00 | RMS/Avg | High | 50 | QPSK | V | H | - | - | -39.93 | -13.00 | -26.93 |

**Table 7-31. J Dipole Spurious Emissions Table (90-100GHz – n261)**

**Notes**

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

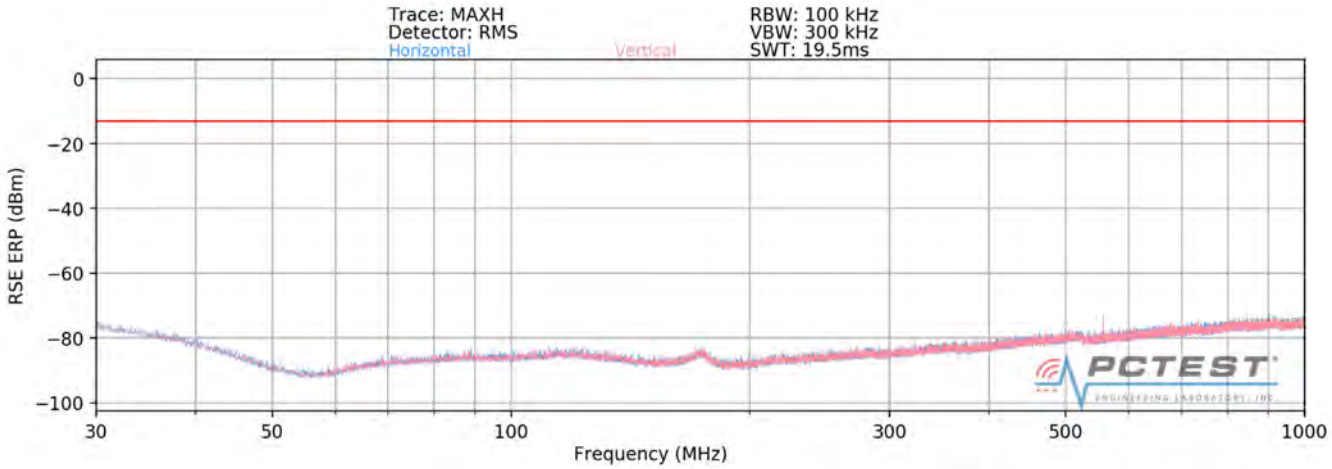
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

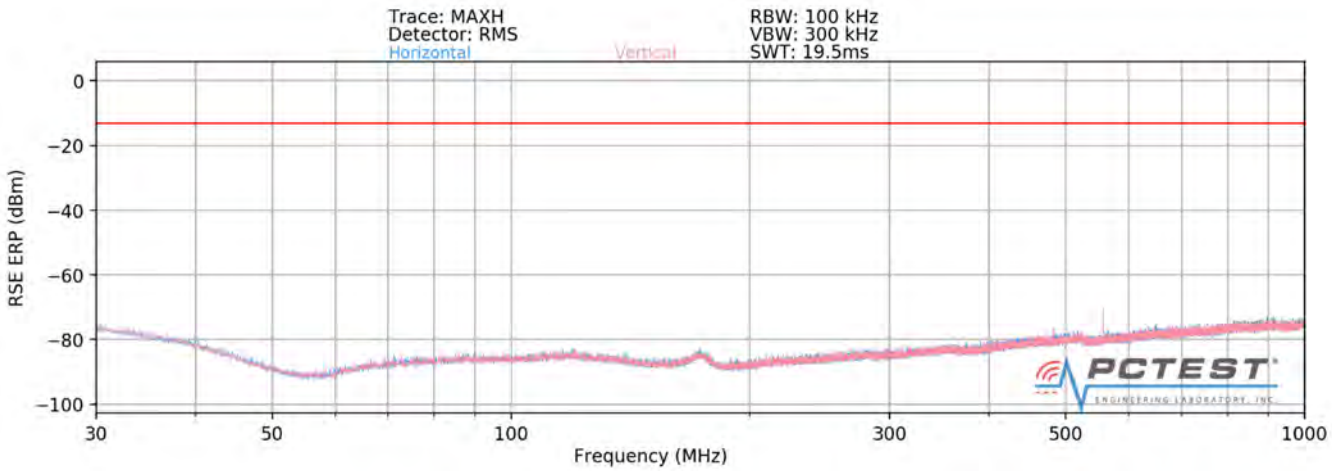
(-39.76 dBm + -39.68 dBm) = (105.61 nW + 107.55 nW) = (213.16 nW) = -36.71 dBm

## J Patch Radiated Spurious Emissions(n261)

## 30MHz – 1GHz(n261)

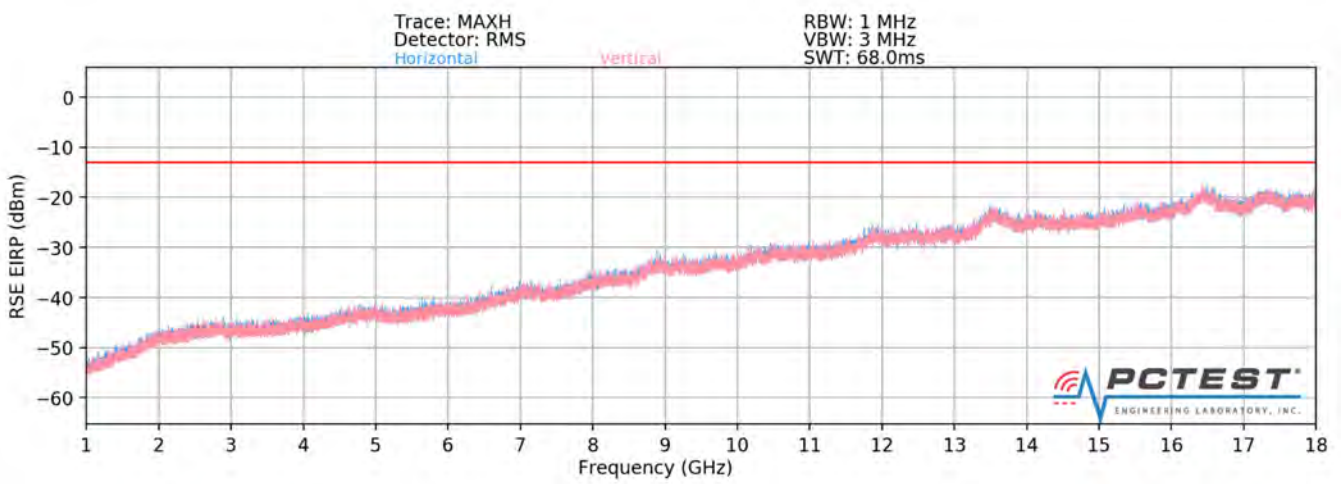



**Plot 7-131. J Patch Radiated Spurious Plot 30 MHz - 1 GHz (1CC QPSK Mid Channel H Beam – n261)**

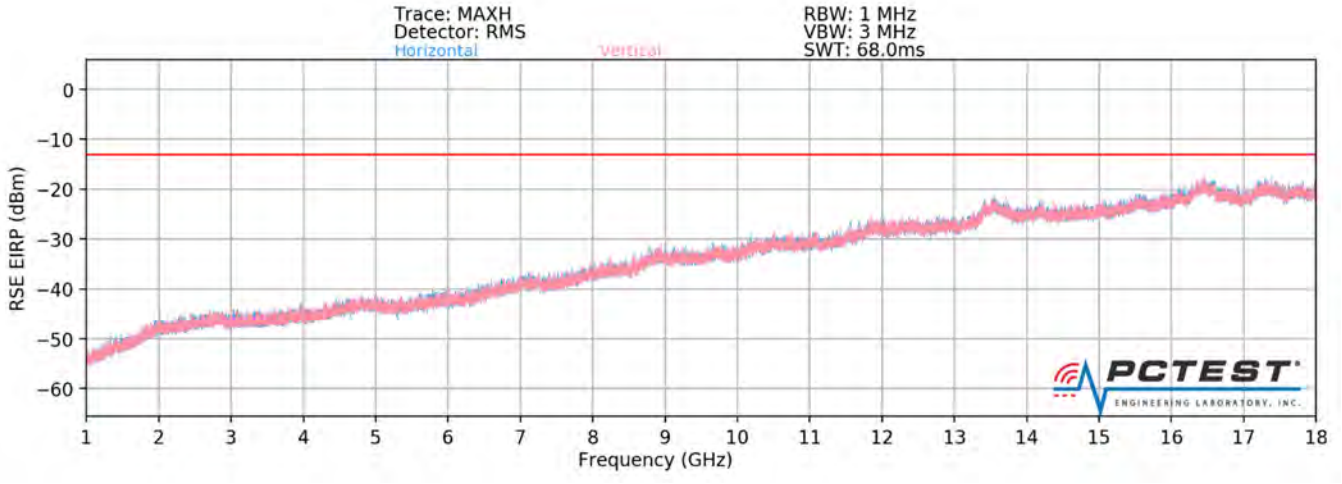



**Plot 7-132. J Patch Radiated Spurious Plot 30 MHz - 1 GHz (1CC QPSK Mid Channel V Beam – n261)**

## 1 – 18GHz

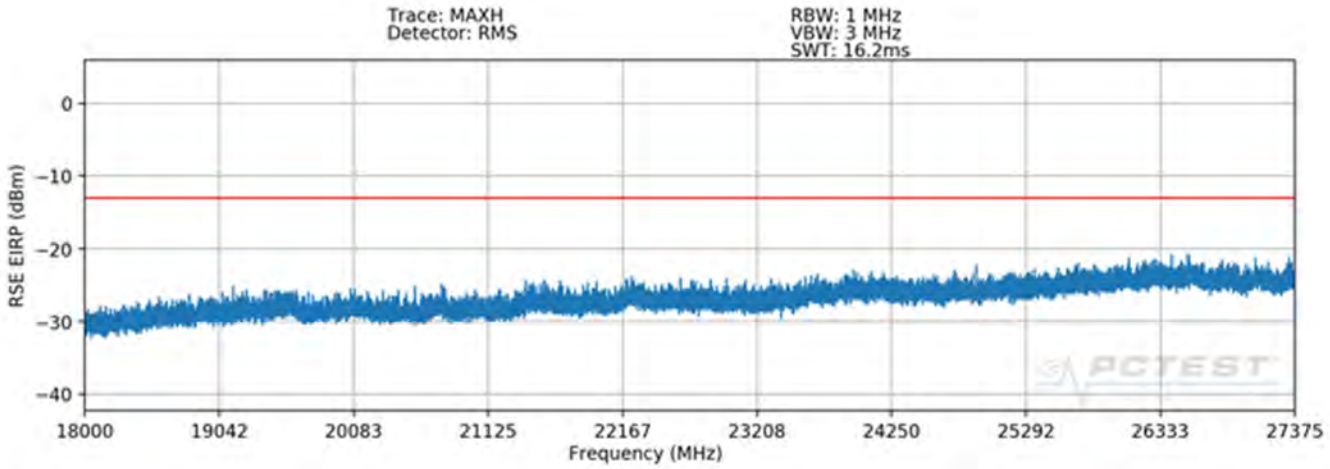



**Plot 7-133. J Patch Radiated Spurious Plot 1-18 GHz (1CC QPSK Mid Channel H Beam – n261)**

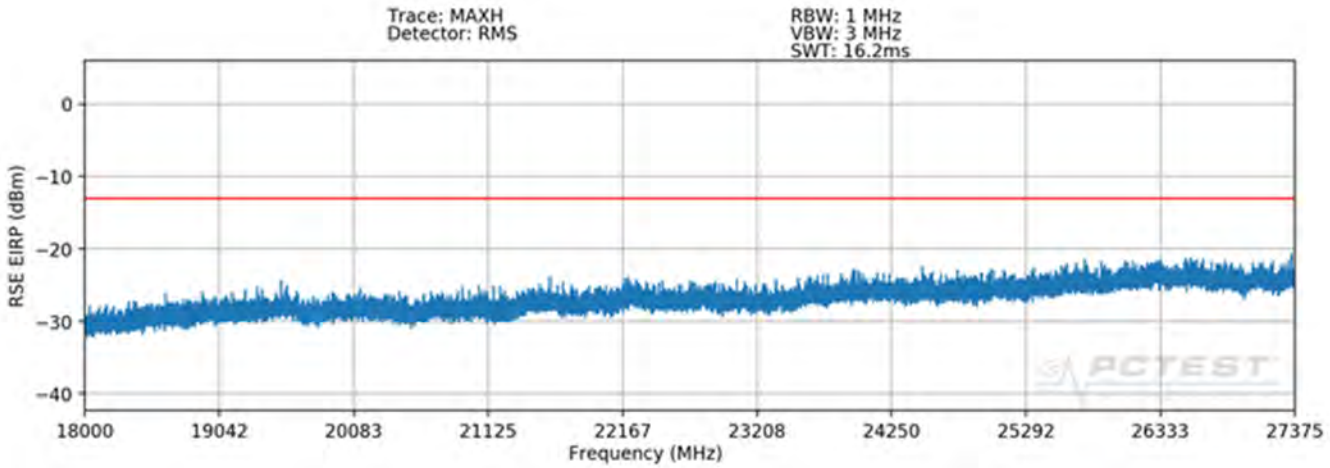



**Plot 7-134. J Patch Radiated Spurious Plot 1-18 GHz (1CC QPSK Mid Channel V Beam – n261)**

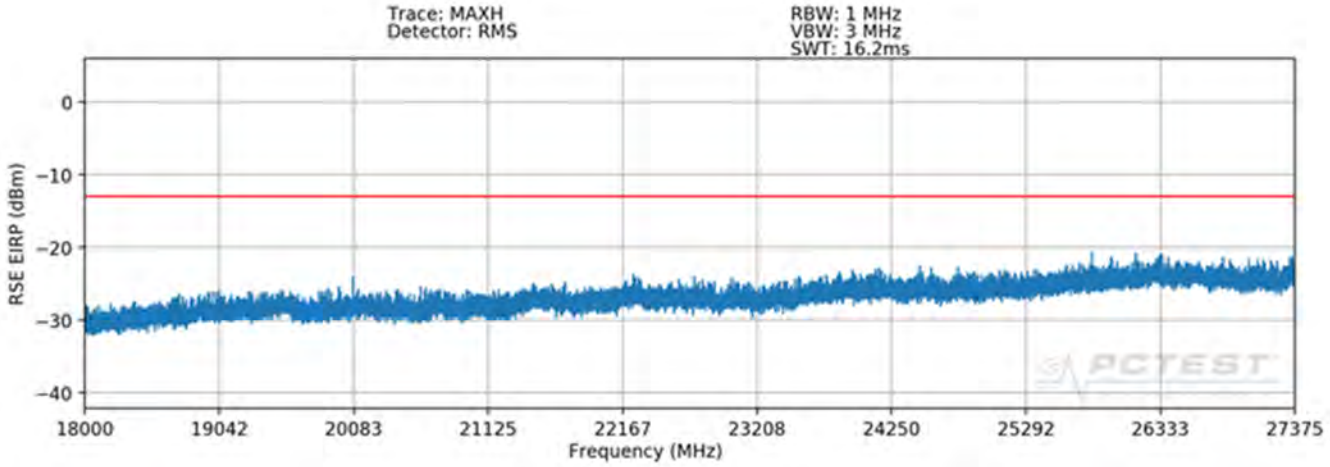
## 18 – 27.375GHz



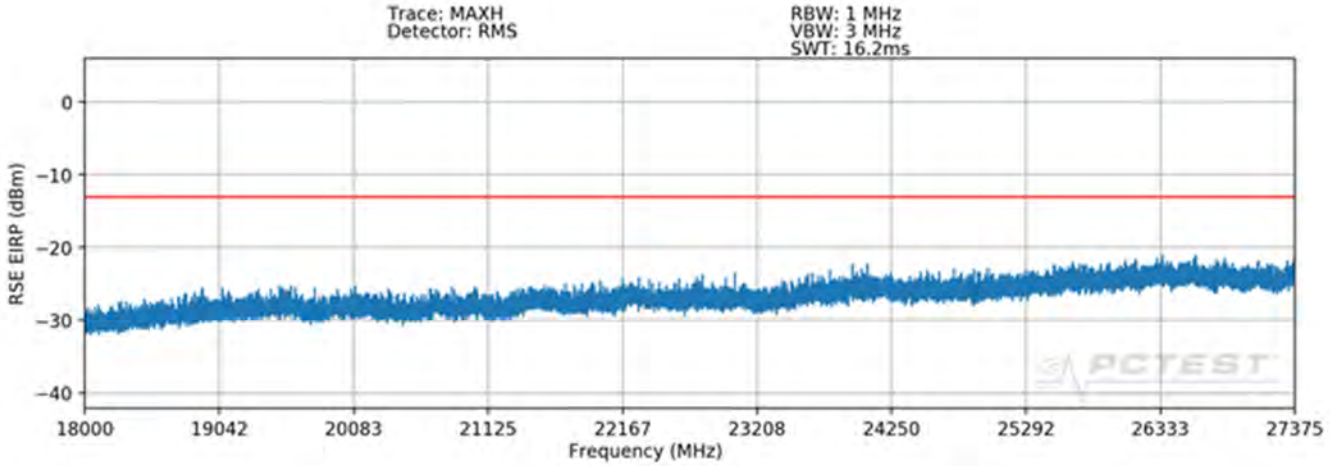

**Plot 7-135. J Patch Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Low Channel H Beam – n261)**



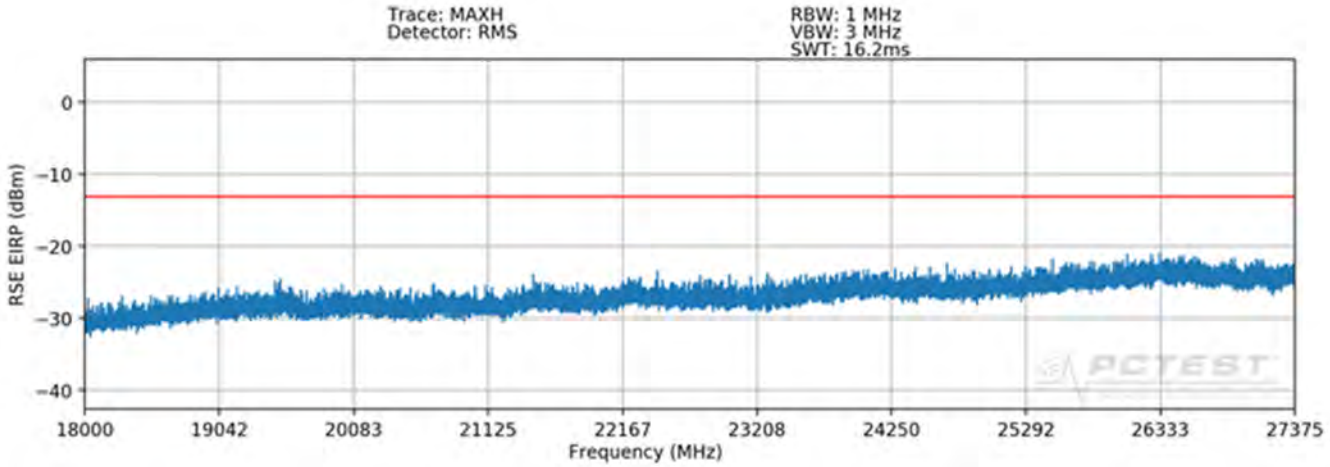

**Plot 7-136. J Patch Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Mid Channel H Beam – n261)**



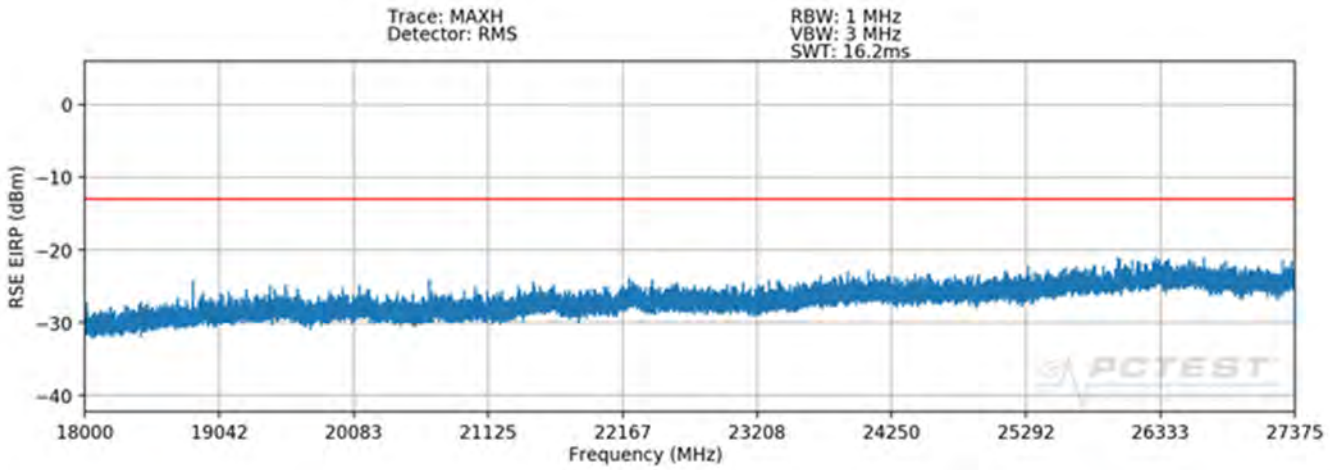

**Plot 7-137. J Patch Radiated Spurious Plot 18-27.375 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-138. J Patch Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-139. J Patch Radiated Spurious Plot 18-27.375 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-140. J Patch Radiated Spurious Plot 18-27.375 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25710.00 | RMS/Avg | Low | 50 | QPSK | H | H | 268 | 92 | -35.78 | -13.00 | -22.78 |
| 25770.00 | RMS/Avg | Mid | 50 | QPSK | H | H | 267 | 93 | -34.91 | -13.00 | -21.91 |
| 26280.50 | RMS/Avg | High | 50 | QPSK | H | H | 265 | 93 | -35.91 | -13.00 | -22.91 |
| 25673.40 | RMS/Avg | Low | 50 | QPSK | V | V | 234 | 272 | -35.28 | -13.00 | -22.28 |
| 26226.10 | RMS/Avg | Mid | 50 | QPSK | V | V | 232 | 273 | -36.13 | -13.00 | -23.13 |
| 25701.60 | RMS/Avg | High | 50 | QPSK | V | V | 231 | 277 | -35.45 | -13.00 | -22.45 |

**Table 7-32. J Patch Spurious Emissions Table (18-27.375GHz – n261)**

**Notes**

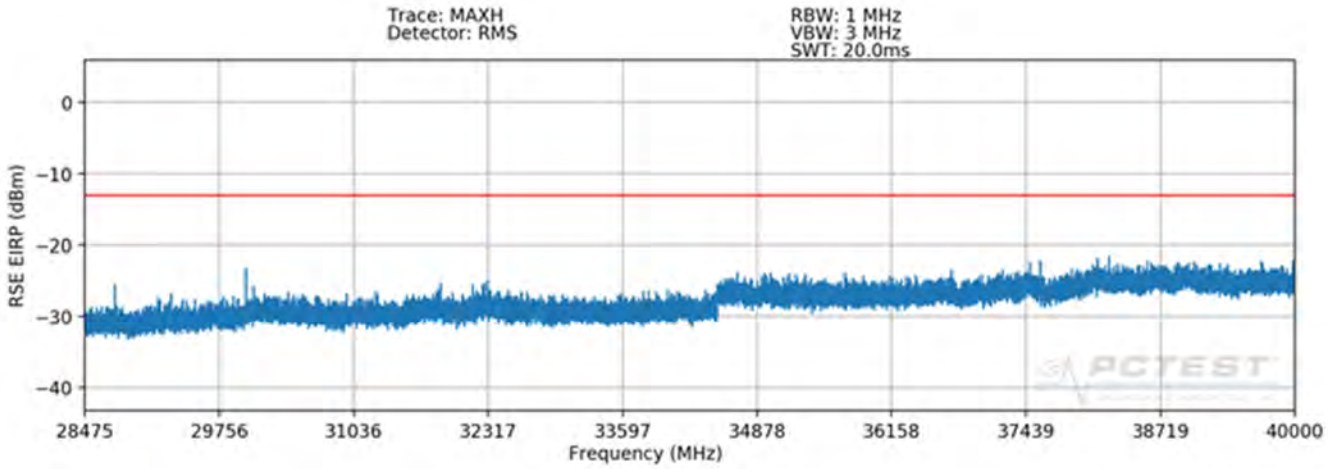
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

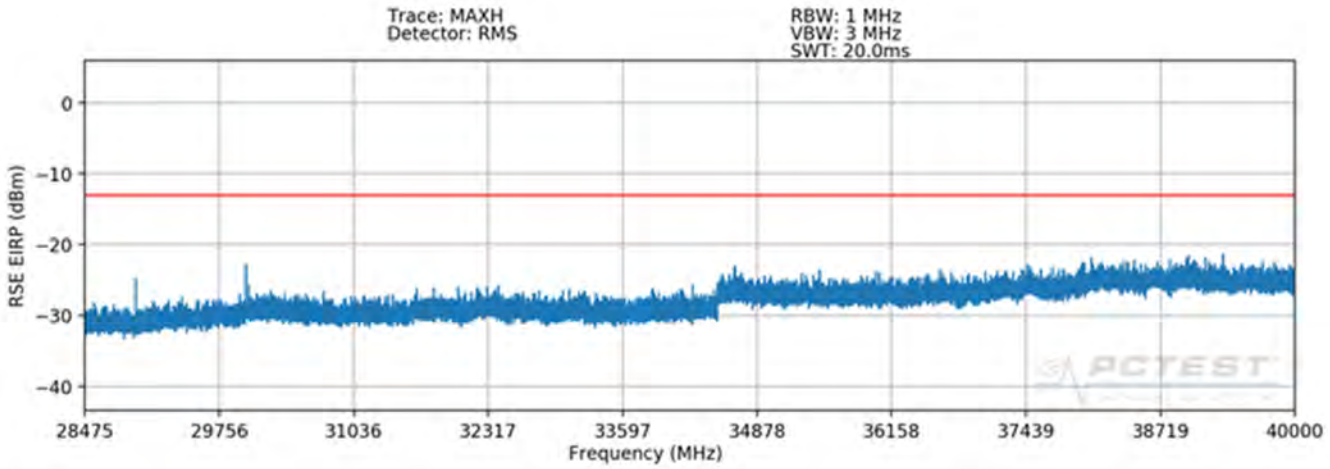
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-34.91 dBm + -36.13 dBm) = (322.92 nW + 243.73 nW) = (566.65 nW) = -32.47 dBm

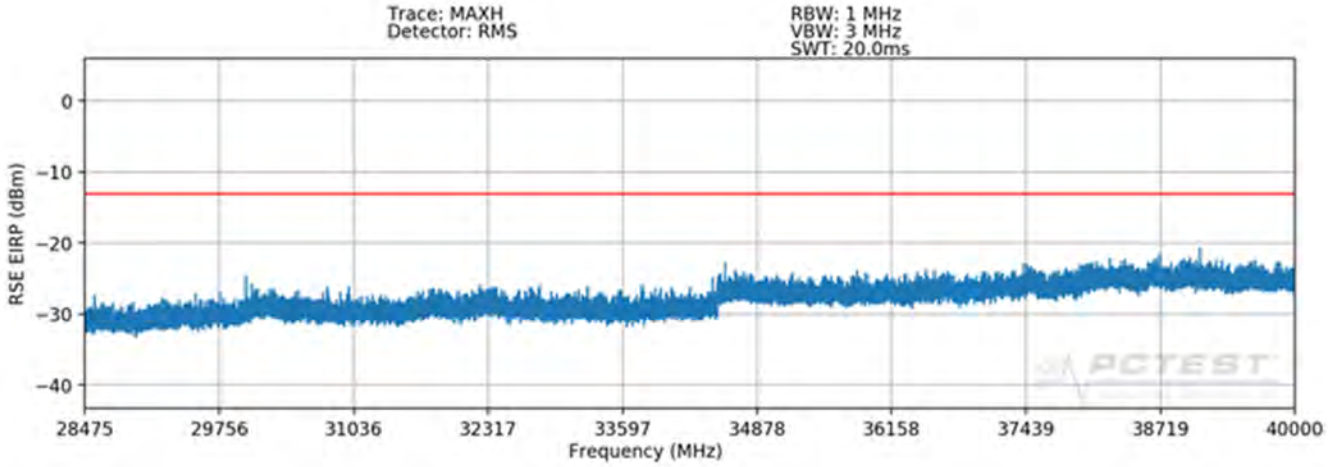
## 28.475 – 40GHz(n261)



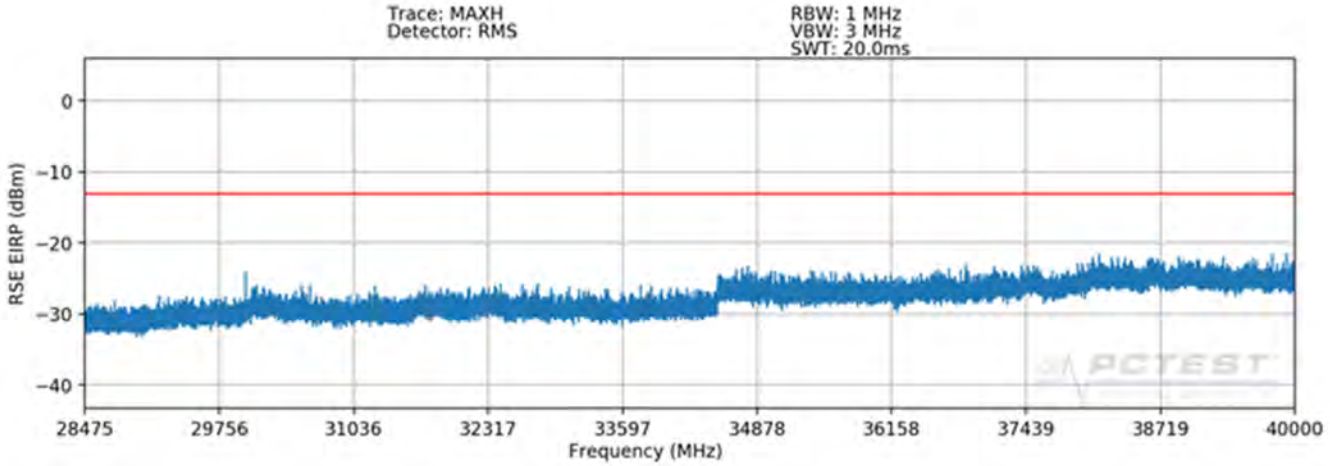

**Plot 7-141. J Patch Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Low Channel H Beam – n261)**



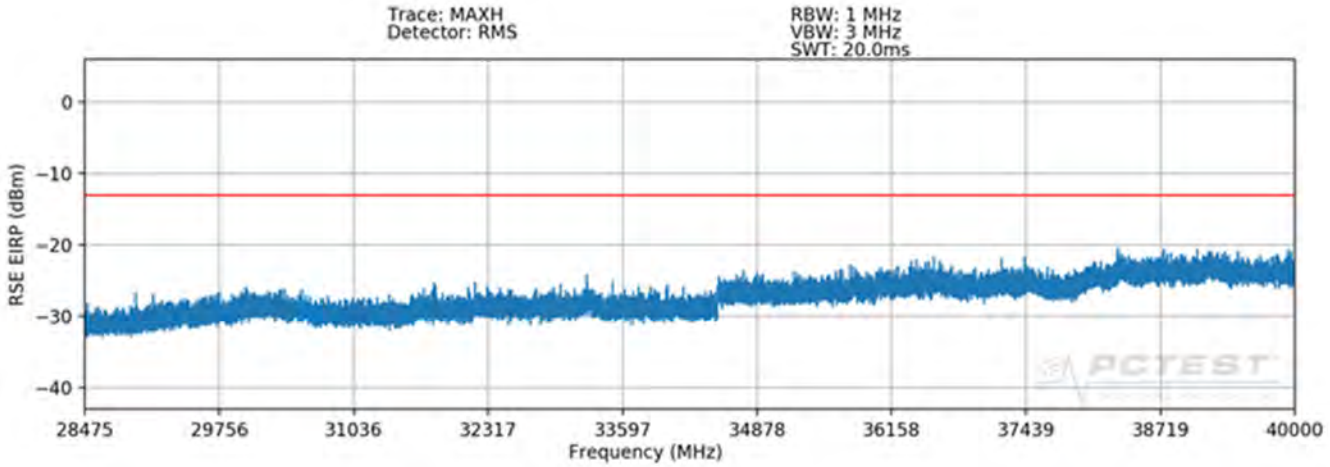

**Plot 7-142. J Patch Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Mid Channel H Beam – n261)**



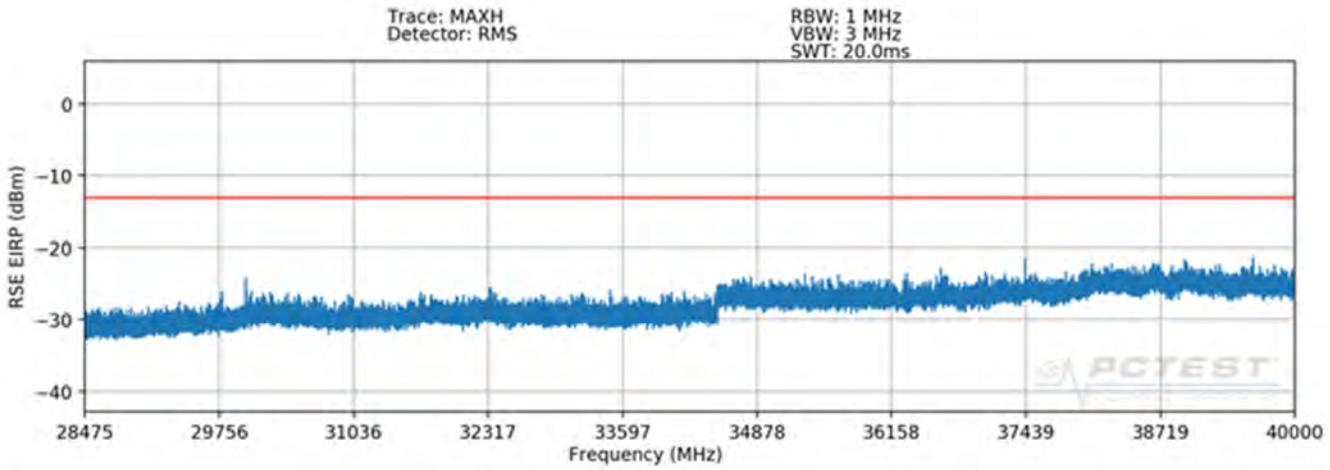

**Plot 7-143. J Patch Radiated Spurious Plot 28.475-40 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-144. J Patch Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-145. J Patch Radiated Spurious Plot 28.475-40 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-146. J Patch Radiated Spurious Plot 28.475-40 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 28761.20 | RMS/Avg | Low | 50 | QPSK | H | H | 268 | 93 | -26.09 | -13.00 | -13.09 |
| 28959.50 | RMS/Avg | Mid | 50 | QPSK | H | H | 269 | 93 | -26.91 | -13.00 | -13.91 |
| 29372.50 | RMS/Avg | High | 50 | QPSK | H | H | 268 | 93 | -29.52 | -13.00 | -16.52 |
| 28761.70 | RMS/Avg | Low | 50 | QPSK | V | V | 235 | 273 | -27.29 | -13.00 | -14.29 |
| 28959.50 | RMS/Avg | Mid | 50 | QPSK | V | V | 232 | 273 | -27.60 | -13.00 | -14.60 |
| 29373.00 | RMS/Avg | High | 50 | QPSK | V | V | 231 | 276 | -28.14 | -13.00 | -15.14 |

**Table 7-33. J Patch Spurious Emissions Table (28.475-40 GHz – n261)**

**Notes**

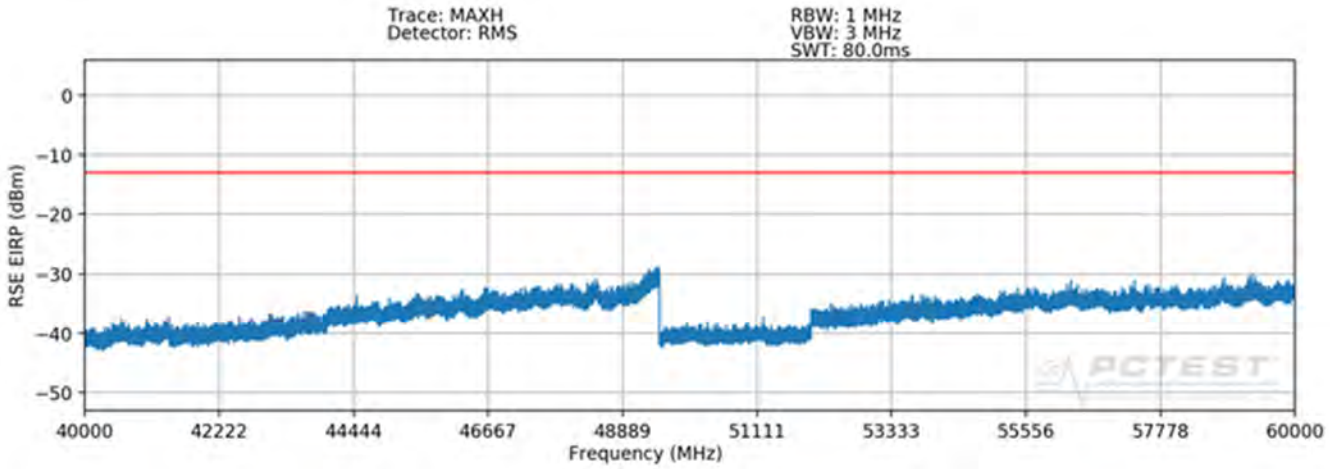
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

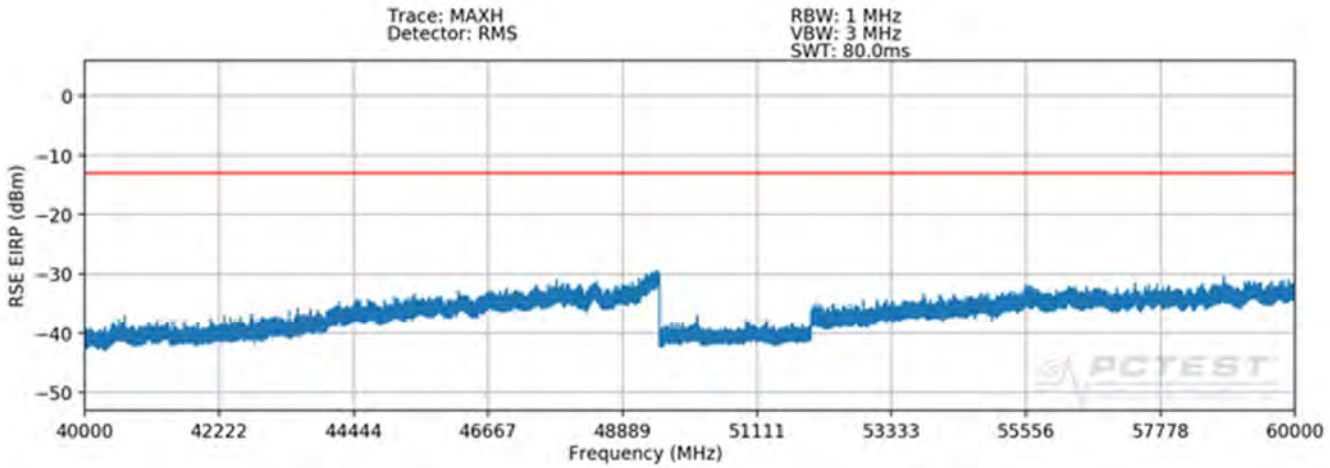
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-26.09 dBm + -27.29 dBm) = (2463.20 nW + 1867.67 nW) = (4330.87 nW) = -23.63 dBm

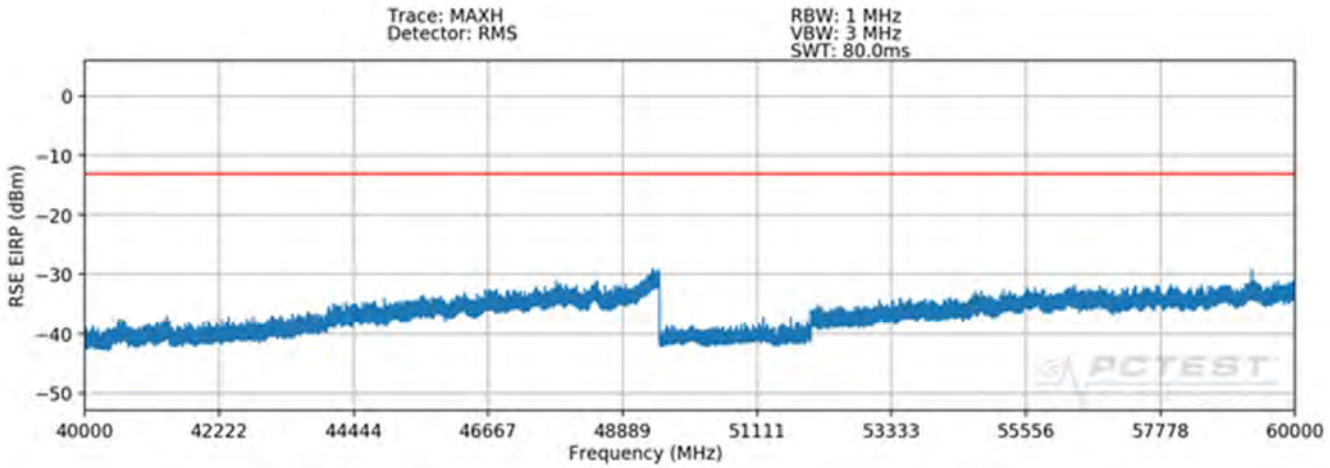
## 40 – 60GHz(n261)



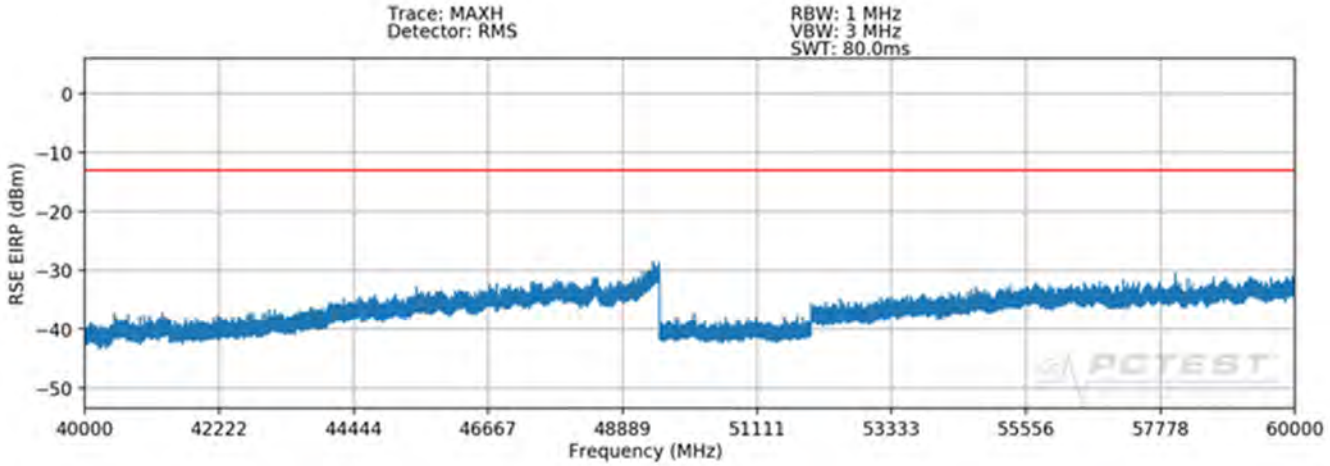

**Plot 7-147. J Patch Radiated Spurious Plot 40-60 GHz (1CC QPSK Low Channel H Beam – n261)**



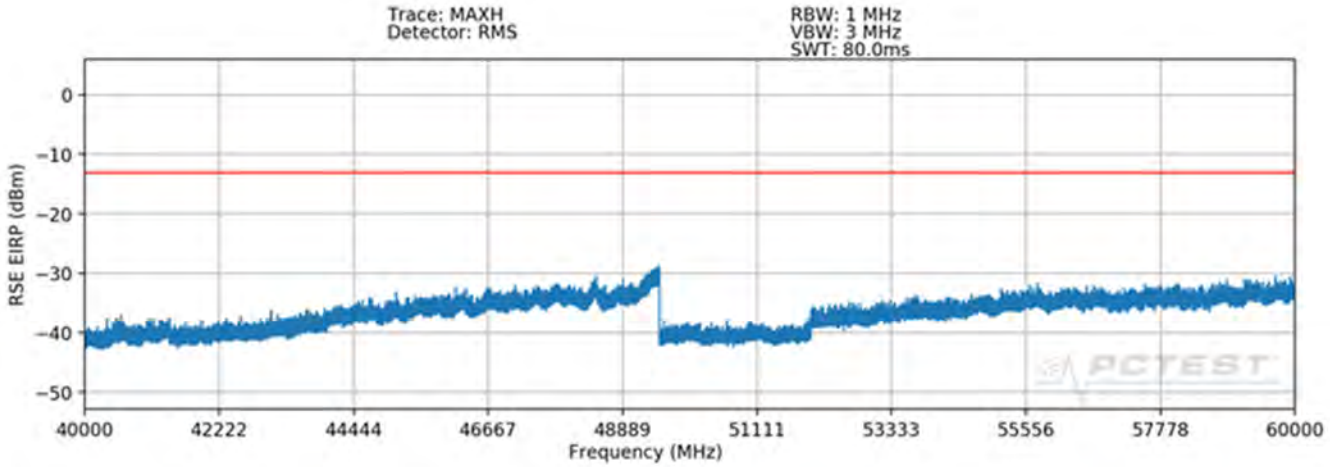

**Plot 7-148. J Patch Radiated Spurious Plot 40-60 GHz (1CC QPSK Mid Channel H Beam – n261)**



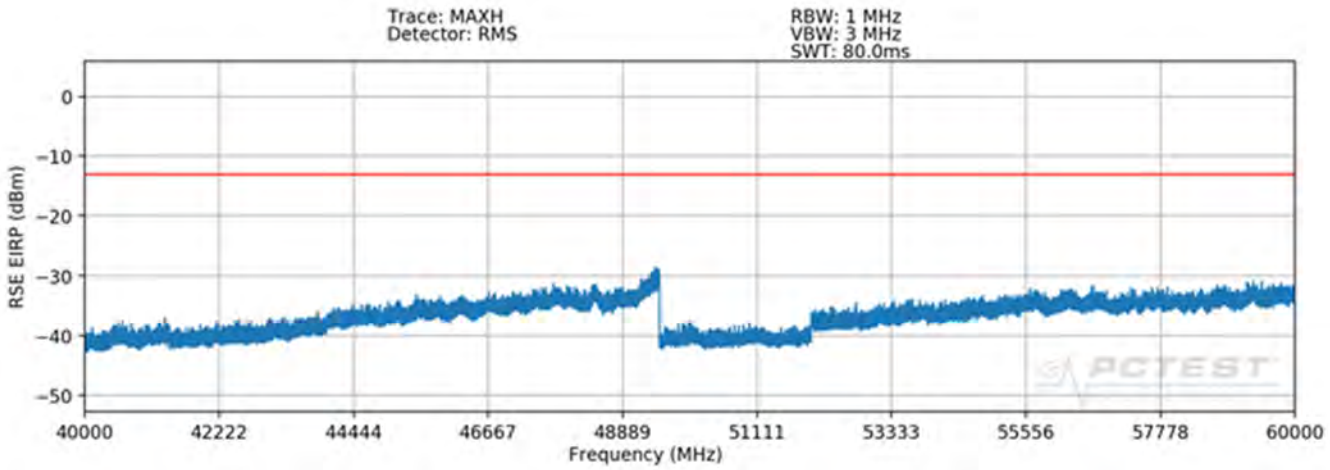

**Plot 7-149. J Patch Radiated Spurious Plot 40-60 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-150. J Patch Radiated Spurious Plot 40-60 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-151. J Patch Radiated Spurious Plot 40-60 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-152. J Patch Radiated Spurious Plot 40-60 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1.5 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49499.15 | RMS/Avg | Low | 50 | QPSK | H | H | - | - | -37.98 | -13.00 | -24.98 |
| 49497.45 | RMS/Avg | Mid | 50 | QPSK | H | H | - | - | -37.71 | -13.00 | -24.71 |
| 49493.25 | RMS/Avg | High | 50 | QPSK | H | H | - | - | -37.51 | -13.00 | -24.51 |
| 49480.25 | RMS/Avg | Low | 50 | QPSK | V | H | - | - | -37.66 | -13.00 | -24.66 |
| 49494.05 | RMS/Avg | Mid | 50 | QPSK | V | H | - | - | -37.69 | -13.00 | -24.69 |
| 49491.65 | RMS/Avg | High | 50 | QPSK | V | H | - | - | -37.92 | -13.00 | -24.92 |

**Table 7-34. J Patch Spurious Emissions Table (40 - 60GHz – n261)**

**Notes**

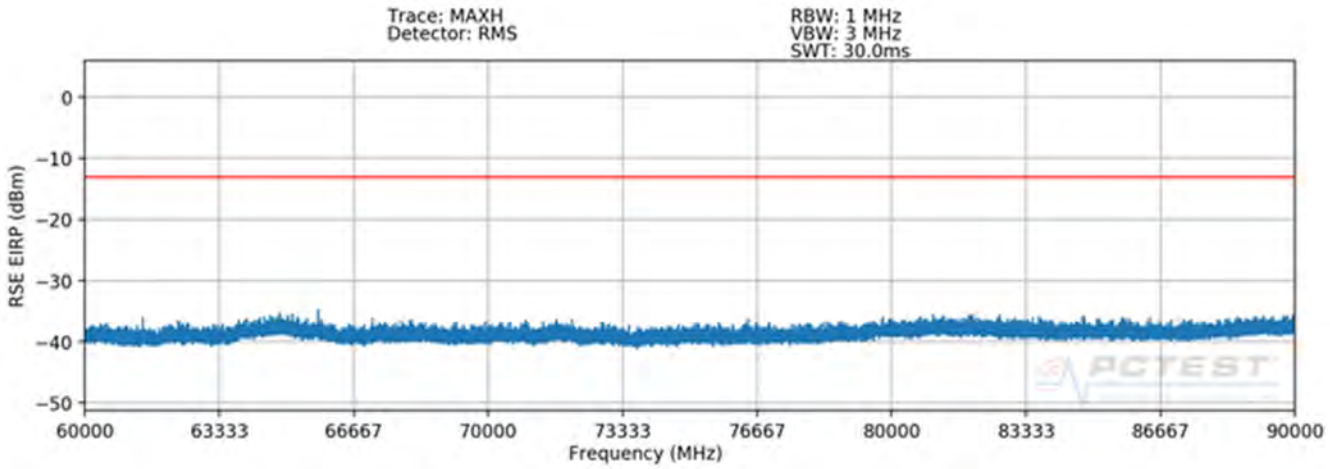
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1.5 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

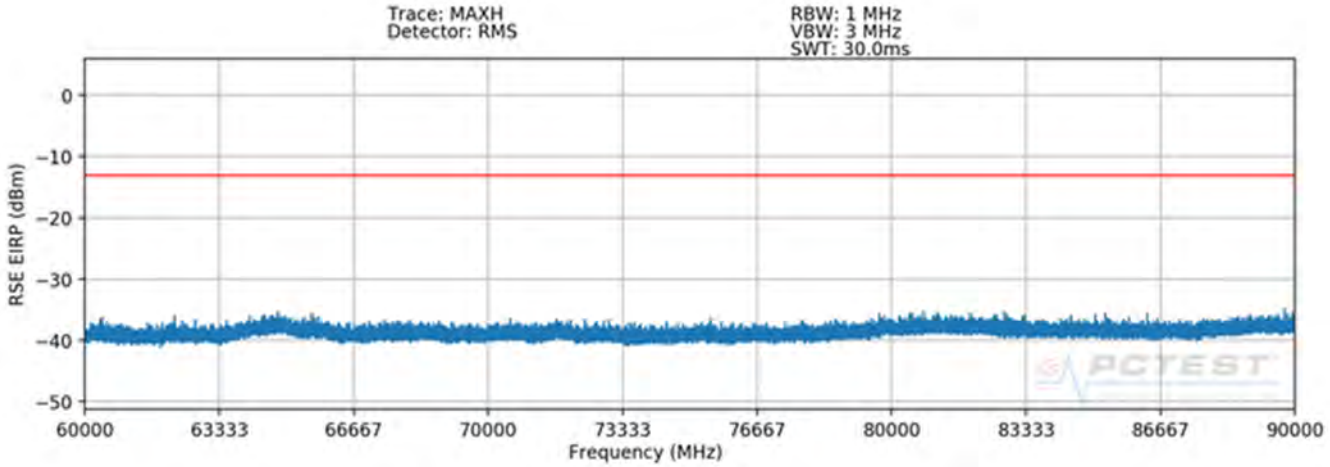
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-37.71 dBm + -37.69 dBm) = (169.43 nW + 170.21 nW) = (339.65 nW) = -34.69 dBm

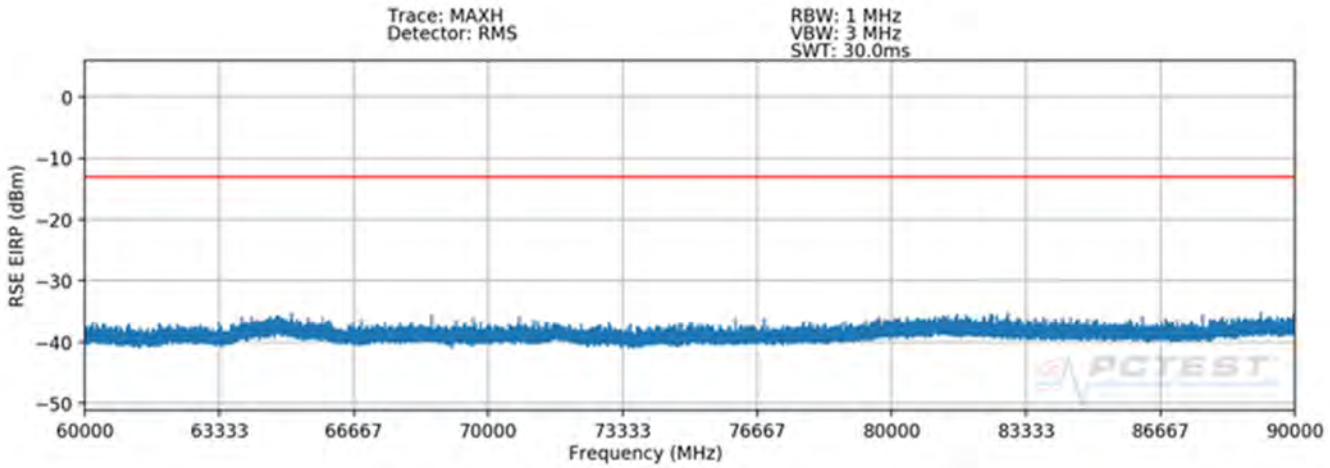
## 60 – 90GHz(n261)



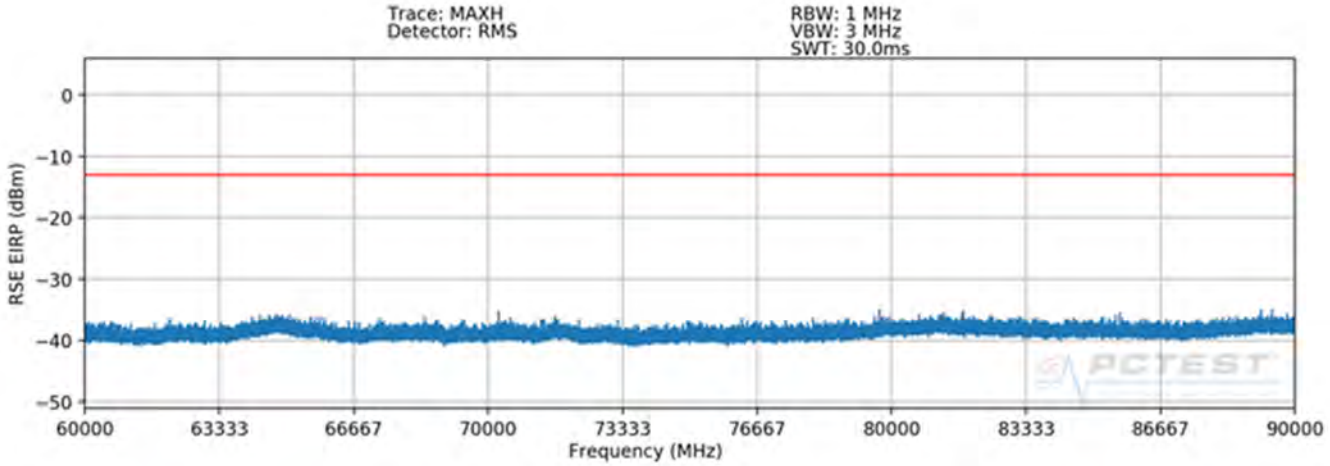

**Plot 7-153. J Patch Radiated Spurious Plot 60-90 GHz (1CC QPSK Low Channel H Beam – n261)**



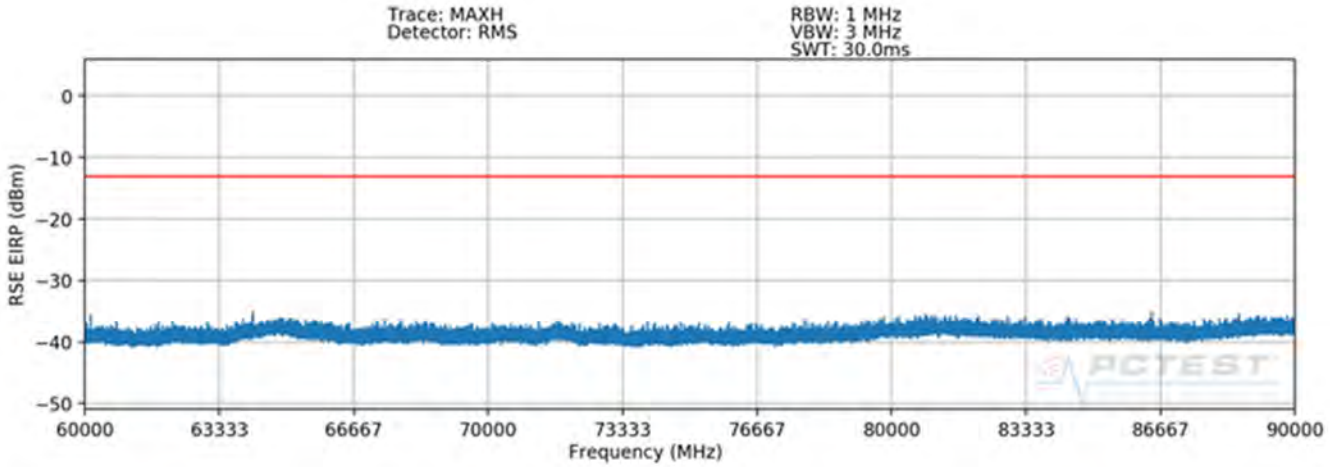

**Plot 7-154. J Patch Radiated Spurious Plot 60-90 GHz (1CC QPSK Mid Channel H Beam – n261)**



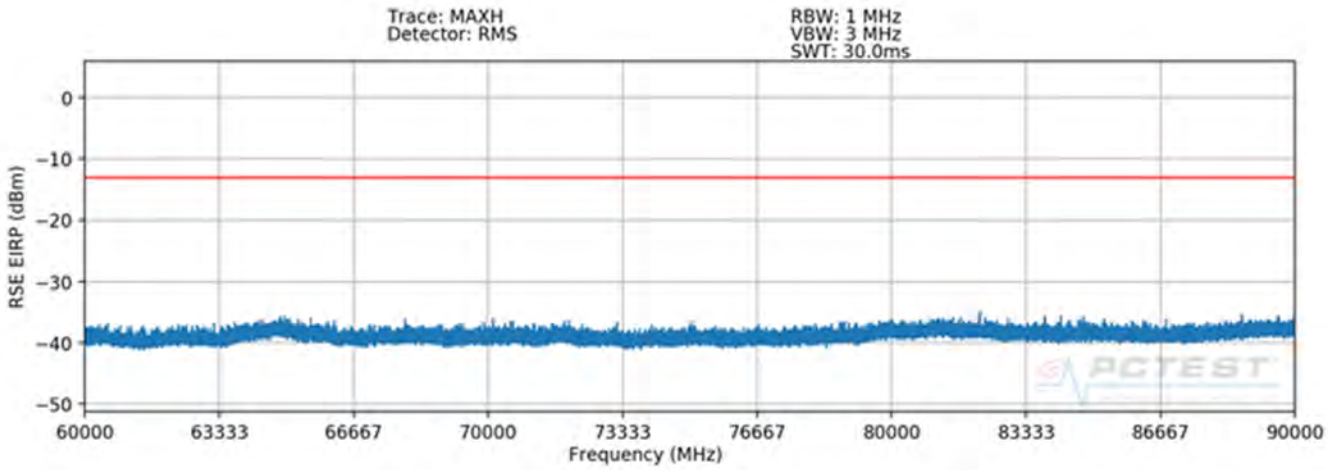

**Plot 7-155. J Patch Radiated Spurious Plot 60-90 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-156. J Patch Radiated Spurious Plot 60-90 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-157. J Patch Radiated Spurious Plot 60-90 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-158. J Patch Radiated Spurious Plot 60-90 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL [dB/m] + 20Log(Dm) + Harmonic Mixer Loss (dB) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | EUT Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 89316.50 | RMS/Avg | Low | 50 | QPSK | H | H | - | - | -44.64 | -13.00 | -31.64 |
| 89205.00 | RMS/Avg | Mid | 50 | QPSK | H | H | - | - | -44.93 | -13.00 | -31.93 |
| 89930.00 | RMS/Avg | High | 50 | QPSK | H | H | - | - | -44.76 | -13.00 | -31.76 |
| 81373.50 | RMS/Avg | Low | 50 | QPSK | V | V | - | - | -44.25 | -13.00 | -31.25 |
| 64872.00 | RMS/Avg | Mid | 50 | QPSK | V | V | - | - | -44.05 | -13.00 | -31.05 |
| 64848.50 | RMS/Avg | High | 50 | QPSK | V | V | - | - | -43.99 | -13.00 | -30.99 |

**Table 7-35. J Patch Spurious Emissions Table (60-90GHz – n261)**

**Notes**

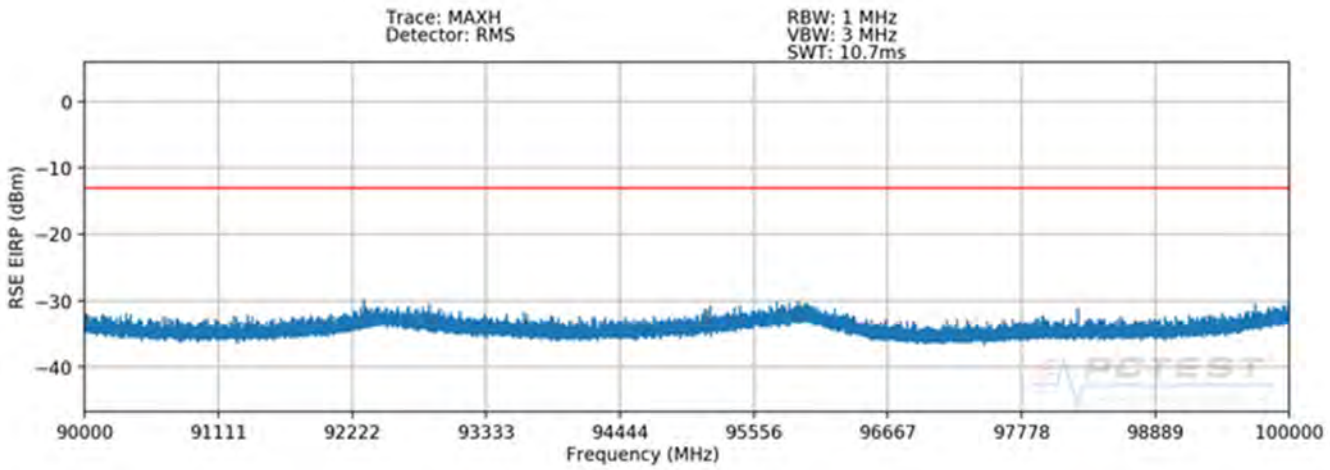
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

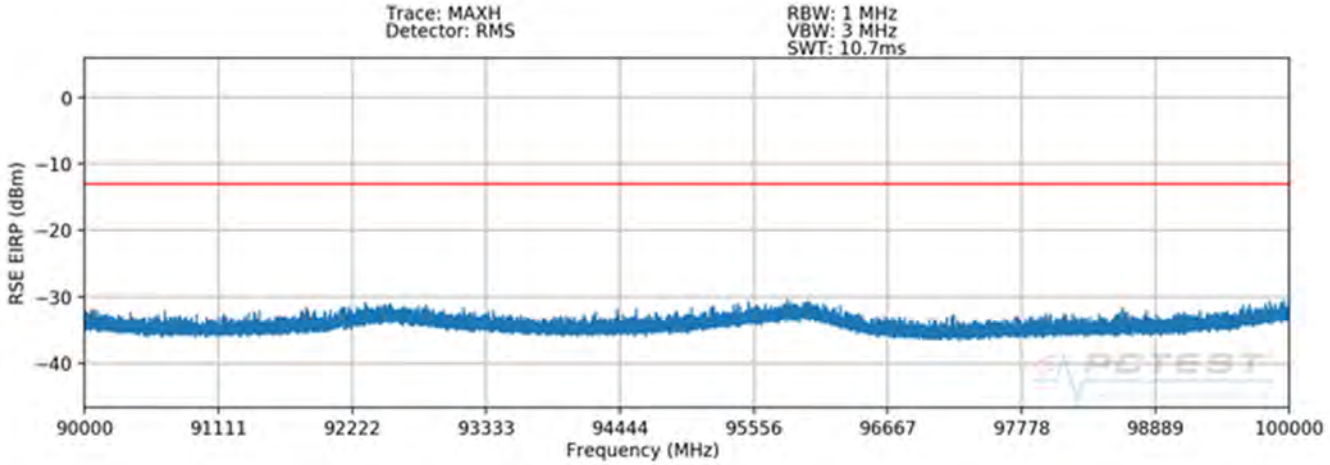
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-44.76 dBm + -43.99 dBm) = (33.45 nW + 39.94 nW) = (73.39 nW) = -41.34 dBm

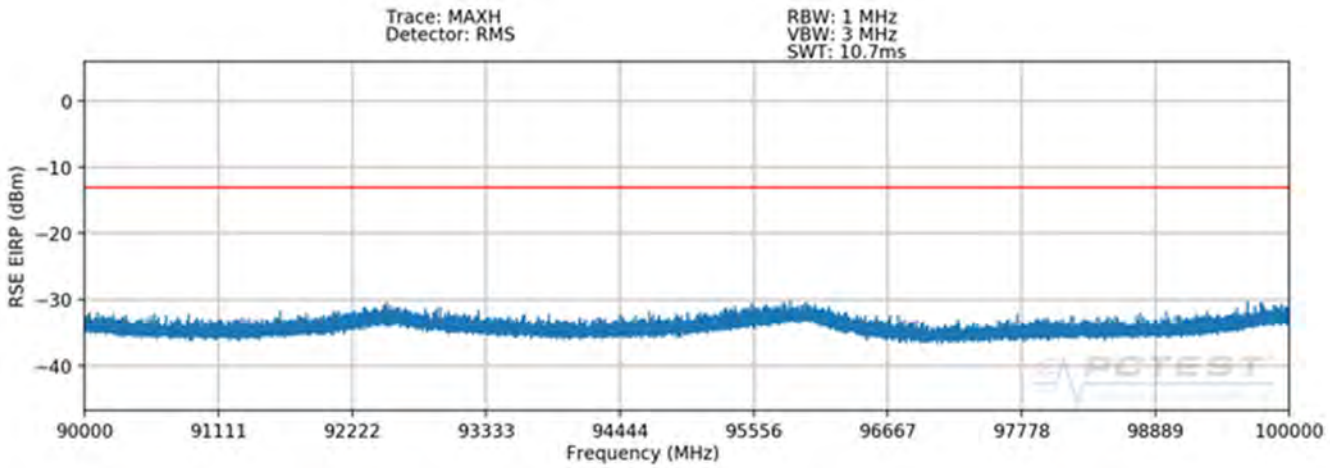
## 90 – 100GHz(n261)



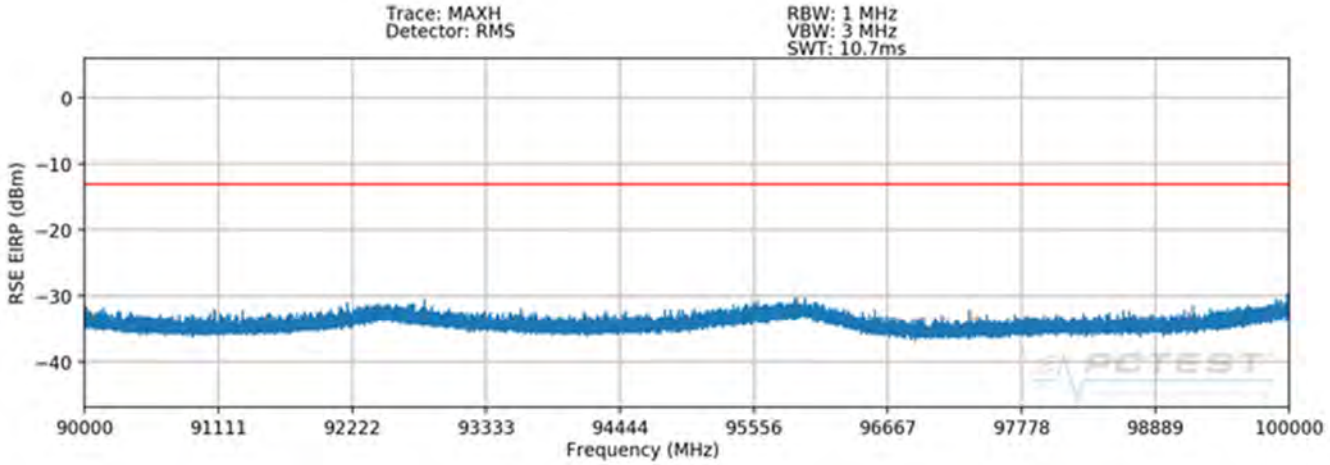

**Plot 7-159. J Patch Radiated Spurious Plot 90-100 GHz (1CC QPSK Low Channel H Beam – n261)**



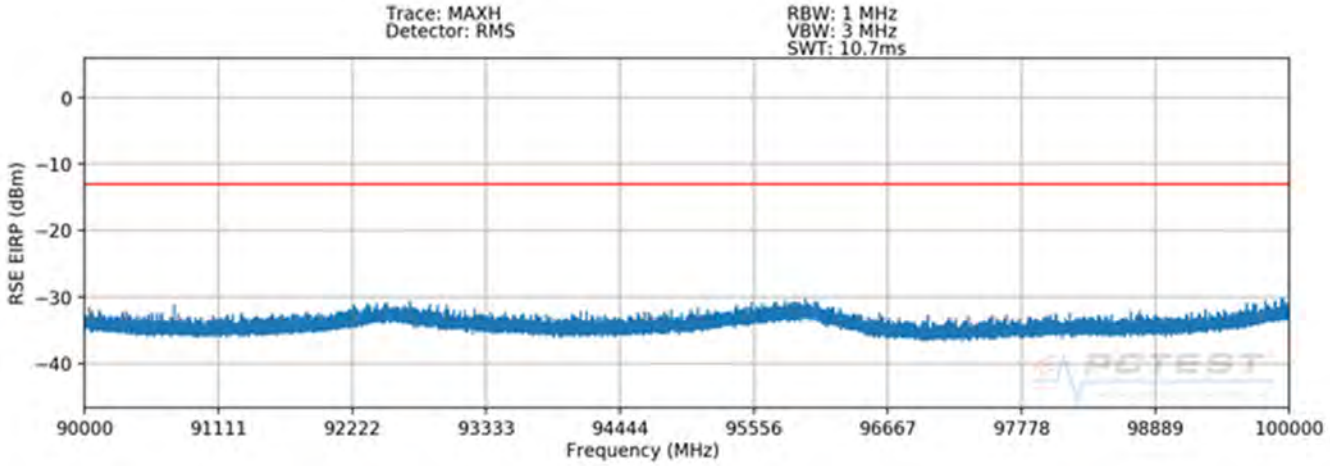

**Plot 7-160. J Patch Radiated Spurious Plot 90-100 GHz (1CC QPSK Mid Channel H Beam – n261)**



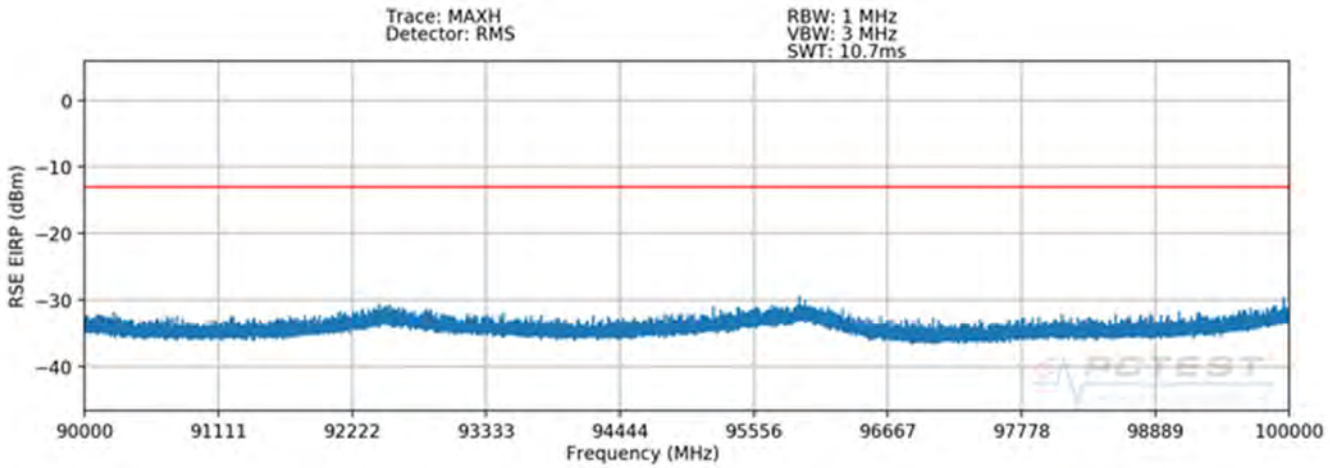

**Plot 7-161. J Patch Radiated Spurious Plot 90-100 GHz (1CC QPSK High Channel H Beam – n261)**




**Plot 7-162. J Patch Radiated Spurious Plot 90-100 GHz (1CC QPSK Low Channel V Beam – n261)**




**Plot 7-163. J Patch Radiated Spurious Plot 90-100 GHz (1CC QPSK Mid Channel V Beam – n261)**




**Plot 7-164. J Patch Radiated Spurious Plot 90-100 GHz (1CC QPSK High Channel V Beam – n261)**

## Spurious Emissions EIRP Sample Calculation(n261)

The raw radiated spurious level is converted to field strength in dBµV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

**RSE EIRP [dBm]** = Analyzer Level [dBm] + 107 + AFCL[dB/m] + 20Log(Dm) + Harmonic Mixer Loss (dB) – 104.8

| Frequency [MHz] | Detector/ Trace | Chan. | Bandwidth (MHz) | Mod. | Beam Polarization | Ant. Pos [H/V] | Turntable Azimuth [degree] | Positioner Azimuth [degree] | RSE EIRP [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95995.50 | RMS/Avg | Low | 50 | QPSK | H | H | - | - | -39.80 | -13.00 | -26.80 |
| 95849.00 | RMS/Avg | Mid | 50 | QPSK | H | H | - | - | -39.85 | -13.00 | -26.85 |
| 99992.50 | RMS/Avg | High | 50 | QPSK | H | H | - | - | -39.80 | -13.00 | -26.80 |
| 95875.50 | RMS/Avg | Low | 50 | QPSK | V | V | - | - | -39.84 | -13.00 | -26.84 |
| 96009.00 | RMS/Avg | Mid | 50 | QPSK | V | V | - | - | -39.70 | -13.00 | -26.70 |
| 95883.00 | RMS/Avg | High | 50 | QPSK | V | V | - | - | -39.84 | -13.00 | -26.84 |

**Table 7-36. J Patch Spurious Emissions Table (90-100GHz – n261)**

**Notes**

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

(-39.85 dBm + -39.70 dBm) = (103.42 nW + 107.10 nW) = (210.52 nW) = -36.77 dBm