

Appendix B.2

WCDMA Band II & IV & V

1. Main Test Instruments

| RE in Chamber | | | | | |
|--|--|-------------------|---------------|--------------|--------------|
| Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. date | Cal.Due date |
| | | | | (yyyy-mm-dd) | (yyyy-mm-dd) |
| 3m Semi-Anechoic Chamber | AUDIX | N/A | SEM001-02 | 2018/3/13 | 2021/3/12 |
| Spectrum Analyzer (20Hz-43GHz) | Rohde & Schwarz | FSU43 | SEM004-08 | 2019/3/2 | 2020/3/1 |
| BiConiLog Antenna (26-3000MHz) | ETS-Lindgren | 3142C | SEM003-01 | 2017/6/27 | 2020/6/26 |
| Horn Antenna (800MHz-18GHz) | Rohde & Schwarz | HF907 | SEM003-07 | 2018/4/13 | 2021/4/12 |
| Horn Antenna (15-40GHz) | Schwarzbeck | BBHA 9170 | SEM003-15 | 2017/10/17 | 2020/10/16 |
| Amplifier (0.1-1300MHz) | HP | 8447D | SEM005-02 | 2018/9/2 | 2019/9/2 |
| Low Noise Amplifier (100MHz-18GHz) | Black Diamond Series | BDLNA-0118-352810 | SEM005-05 | 2018/9/2 | 2019/9/2 |
| Pre-Amplifier (0.1-26.5GHz) | Compliance Directions Systems Inc. | PAP-0126 | EMC2063 | 2018/10/20 | 2019/10/19 |
| Pre-amplifier (26-40GHz) | Compliance Directions Systems Inc. | PAP-2640-50 | SEM005-08 | 2019/3/2 | 2020/3/1 |
| Band filter | N/A | N/A | N/A | N/A | N/A |
| Measurement Software | AUDIX | e3 V8.2014-6-27 | N/A | N/A | N/A |
| Coaxial Cable | SGS | N/A | SEM026-01 | 2019/6/12 | 2020/6/11 |
| Wideband Radio Communication Tester | Anristu | MT8821C | 6201462742 | 2019/4/3 | 2020/4/3 |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | W005-02 | 2019/1/13 | 2020/1/12 |
| RF conducted test | | | | | |
| Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. date | Cal.Due date |
| | | | | (yyyy-mm-dd) | (yyyy-mm-dd) |
| Dual Output Mobile Communication DC Source | Agilent Technologies Inc | 66311B | W009-09 | 2018/11/2 | 2019/11/1 |
| Signal Analyzer | Rohde & Schwarz | FSV | W005-02 | 2019/3/2 | 2020/3/1 |
| Coaxial Cable | SGS | N/A | SEM031-01 | 2019/6/12 | 2020/6/11 |
| Attenuator | Weinschel Associates | WA41 | SEM021-09 | N/A | N/A |
| Signal Generator | KEYSIGHT | N5173B | SEM006-05 | 2018/11/2 | 2019/11/1 |
| Humidity/ Temperature Indicator | Shanghai Meteorological Industry Factory | HTC-1 | W006-17 | 2018/11/2 | 2019/11/1 |
| Temperature Chamber | GIANT FORCE | ICT-150-40-CP-AR | W027-03 | 2018/11/2 | 2019/11/1 |
| Wideband Radio Communication Tester | Anristu | MT8821C | 6201462742 | 2019/3/2 | 2020/3/1 |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | W005-02 | 2018/11/2 | 2019/11/1 |

2. Measurement Uncertainty

For a 95% confidence level ($k = 2$), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

| Test Item | Extended Uncertainty | Data |
|-------------------------------|--------------------------|--------------------|
| Transmit Output Power Data | Power [dBm] | $U = \pm 0.37$ dB |
| Bandwidth | Magnitude [%] | $U = \pm 0.2\%$ |
| Band Edge Compliance | Disturbance Power [dBm] | $U = \pm 2.0$ dB |
| Spurious Emissions, Conducted | Disturbance Power [dBm] | $U = \pm 2.0$ dB |
| Frequency Stability | Frequency Accuracy [ppm] | $U = \pm 0.24$ ppm |

3. Effective (Isotropic) Radiated Power

3.1. Test Result

| BAND | Modulation | Channel | Conducted Power (dBm) | EIRP (dBm) | Limit(dBm) | Verdict |
|---------|------------|---------|-----------------------|------------|------------|---------|
| Band II | QPSK | 9262 | 23.30 | 22.60 | 33.00 | PASS |
| Band II | QPSK | 9400 | 23.28 | 22.58 | 33.00 | PASS |
| Band II | QPSK | 9538 | 23.27 | 22.57 | 33.00 | PASS |
| Band II | 16QAM | 9262 | 20.22 | 19.52 | 33.00 | PASS |
| Band II | 16QAM | 9400 | 20.14 | 19.44 | 33.00 | PASS |
| Band II | 16QAM | 9538 | 20.33 | 19.63 | 33.00 | PASS |
| Band IV | QPSK | 1312 | 23.31 | 22.31 | 30.00 | PASS |
| Band IV | QPSK | 1413 | 23.35 | 22.35 | 30.00 | PASS |
| Band IV | QPSK | 1513 | 23.38 | 22.38 | 30.00 | PASS |
| Band IV | 16QAM | 1312 | 19.27 | 18.27 | 30.00 | PASS |
| Band IV | 16QAM | 1413 | 19.29 | 18.29 | 30.00 | PASS |
| Band IV | 16QAM | 1513 | 19.31 | 18.31 | 30.00 | PASS |

| BAND | Modulation | Channel | Conducted Power (dBm) | ERP (dBm) | Limit(dBm) | Verdict |
|--------|------------|---------|-----------------------|-----------|------------|---------|
| Band V | QPSK | 4132 | 23.86 | 21.11 | 38.45 | PASS |
| Band V | QPSK | 4182 | 23.92 | 21.17 | 38.45 | PASS |
| Band V | QPSK | 4233 | 23.92 | 21.17 | 38.45 | PASS |
| Band V | 16QAM | 4132 | 20.82 | 18.07 | 38.45 | PASS |
| Band V | 16QAM | 4182 | 20.85 | 18.10 | 38.45 | PASS |
| Band V | 16QAM | 4233 | 20.87 | 18.12 | 38.45 | PASS |

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power), the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{Conducted Power [dBm]} + \text{Gain [dBd]}$$

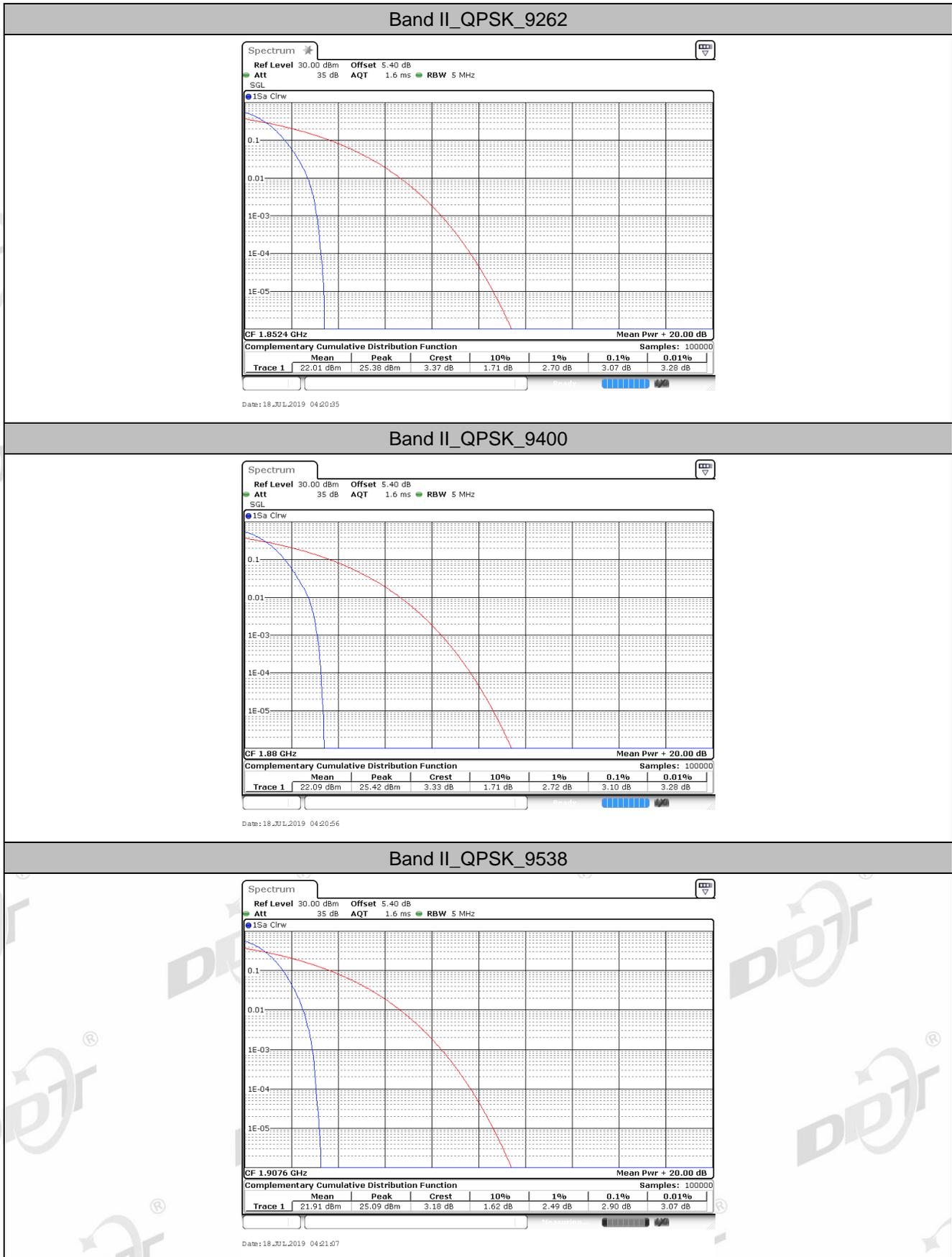
$$\text{EIRP [dBm]} = \text{Conducted Power [dBm]} + \text{Gain [dBi]}$$

4. Peak-to-Average Ratio (CCDF)

4.1. Test Result

| BAND | Modulation | Channel | Peak-to-Average Ratio(dB) | Limit(dB) | Verdict |
|---------|------------|---------|---------------------------|-----------|---------|
| Band II | QPSK | 9262 | 3.07 | 13 | PASS |
| Band II | QPSK | 9400 | 3.10 | 13 | PASS |
| Band II | QPSK | 9538 | 2.87 | 13 | PASS |
| Band II | 16QAM | 9262 | 3.16 | 13 | PASS |
| Band II | 16QAM | 9400 | 3.10 | 13 | PASS |
| Band II | 16QAM | 9538 | 2.90 | 13 | PASS |
| Band IV | QPSK | 1312 | 2.70 | 13 | PASS |
| Band IV | QPSK | 1413 | 2.70 | 13 | PASS |
| Band IV | QPSK | 1513 | 2.70 | 13 | PASS |
| Band IV | 16QAM | 1312 | 2.75 | 13 | PASS |
| Band IV | 16QAM | 1413 | 2.75 | 13 | PASS |
| Band IV | 16QAM | 1513 | 2.64 | 13 | PASS |
| Band V | QPSK | 4132 | 3.07 | 13 | PASS |
| Band V | QPSK | 4182 | 2.93 | 13 | PASS |
| Band V | QPSK | 4233 | 3.04 | 13 | PASS |
| Band V | 16QAM | 4132 | 3.13 | 13 | PASS |
| Band V | 16QAM | 4182 | 3.19 | 13 | PASS |
| Band V | 16QAM | 4233 | 3.04 | 13 | PASS |

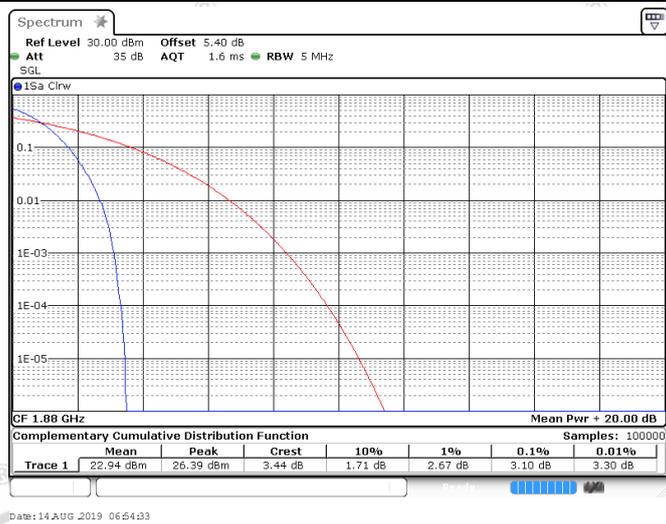
4.2. Test Plots



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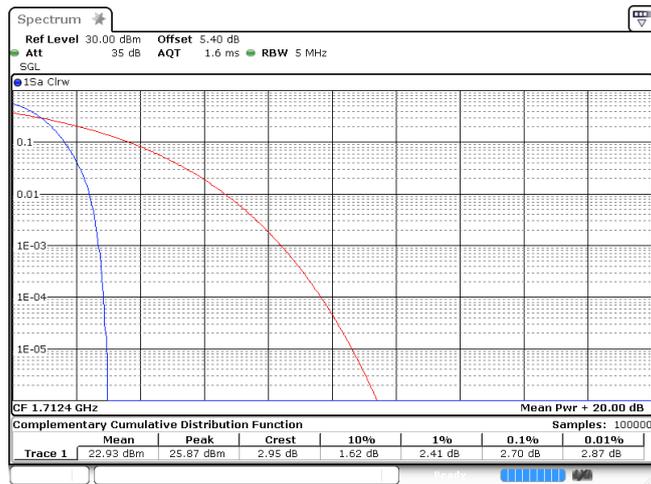
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Band II_16QAM_9538

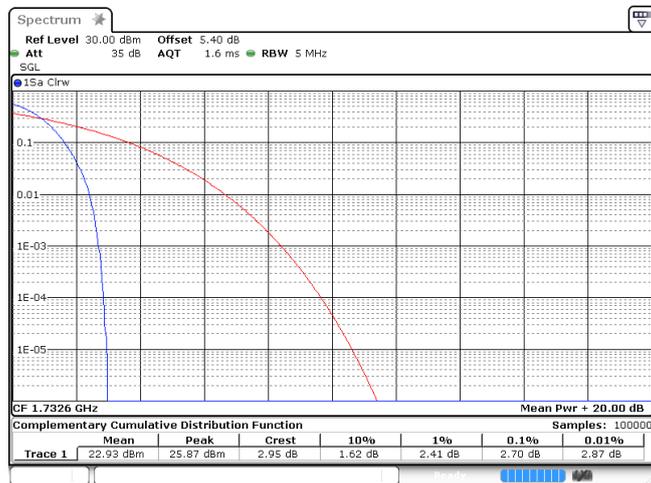


Band IV_QPSK_1312



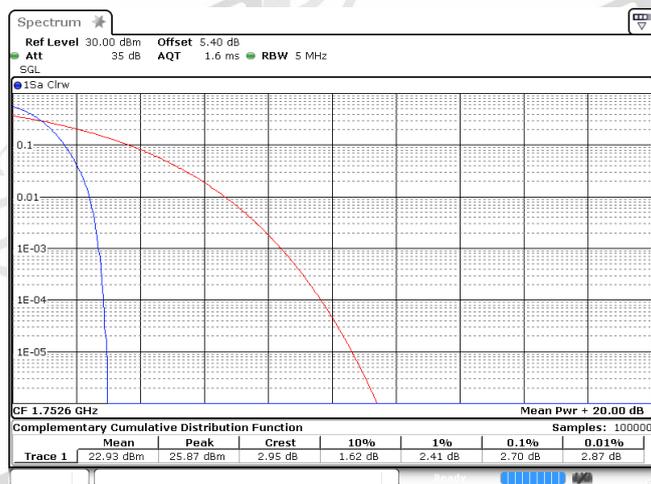
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Band IV_QPSK_1413



Date: 24 AUG 2019 21:38:03

Band IV_QPSK_1513

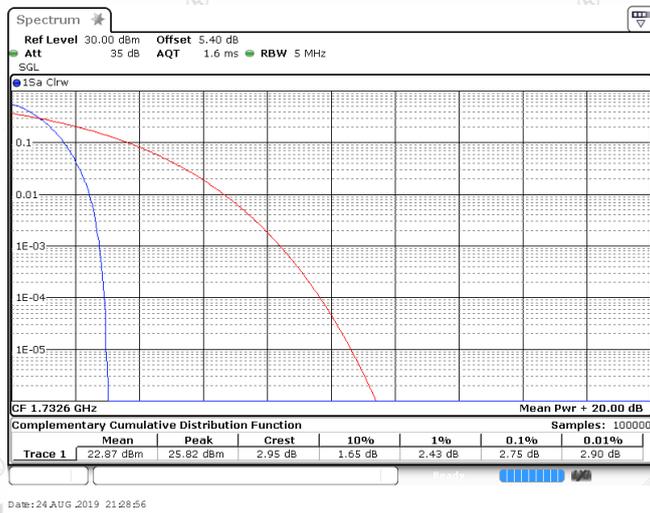


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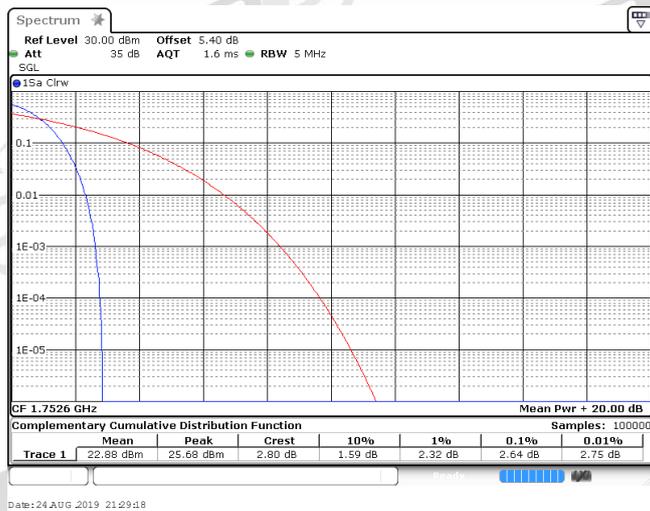
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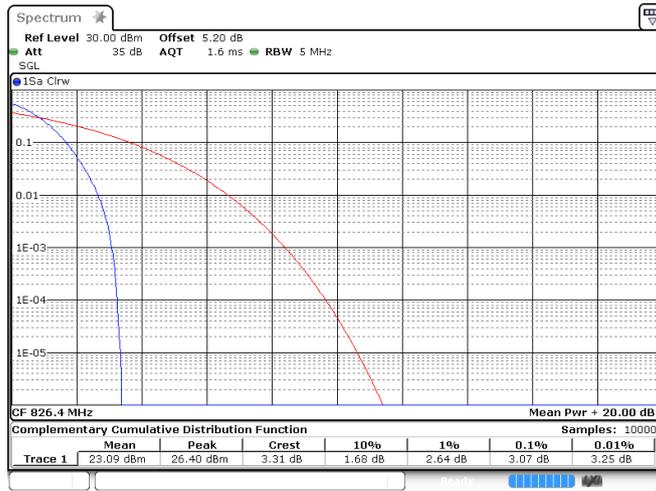
Band IV_16QAM_1413



Band IV_16QAM_1513

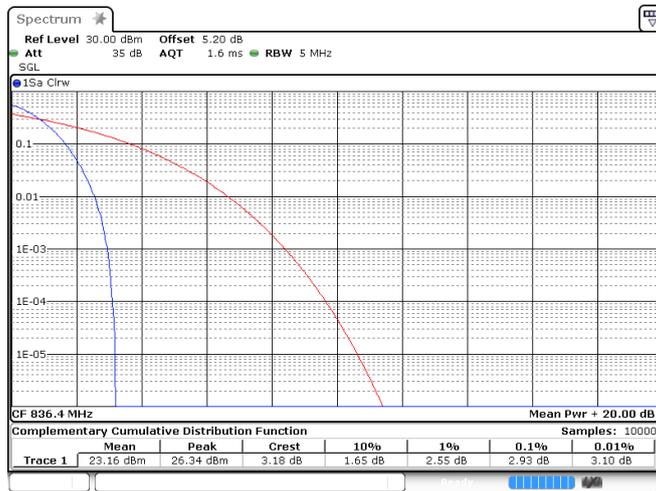


Band V_QPSK_4132



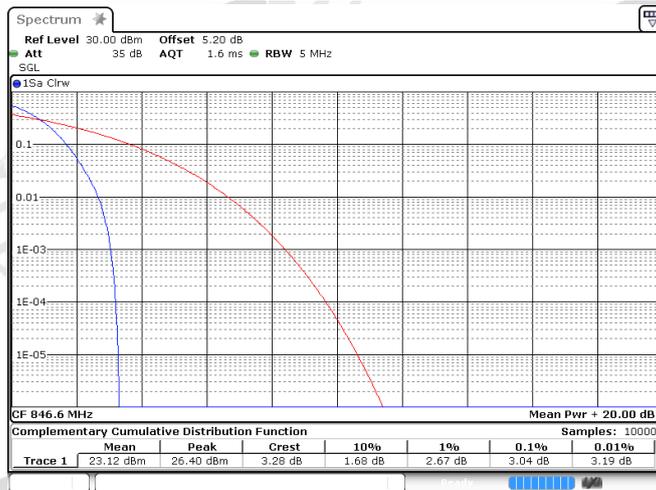
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Band V_QPSK_4182



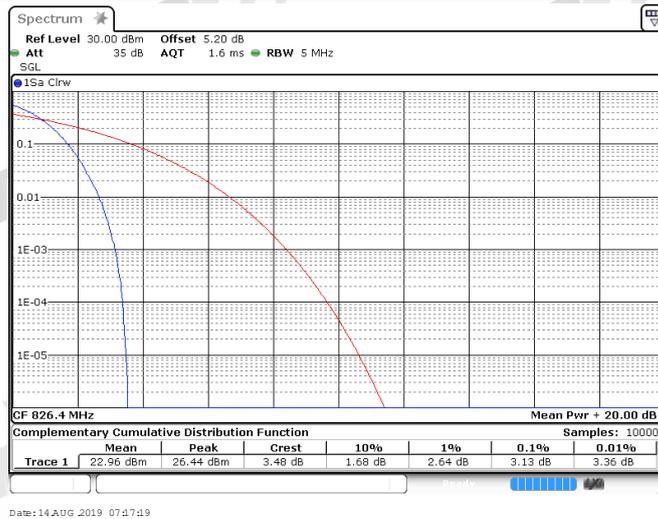
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Band V_QPSK_4233

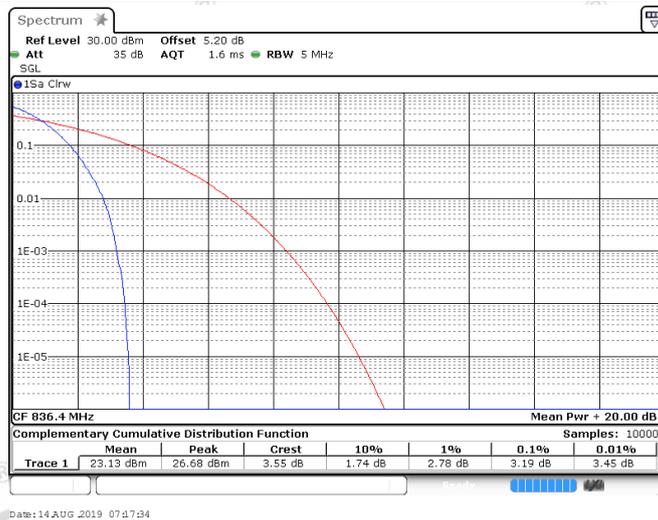


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Band V_16QAM_4132



Band V_16QAM_4182



Band V_16QAM_4233

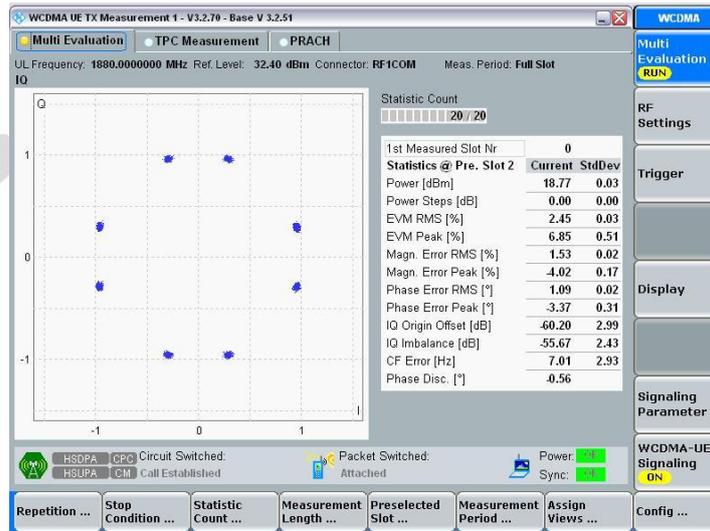


5. Modulation Characteristics

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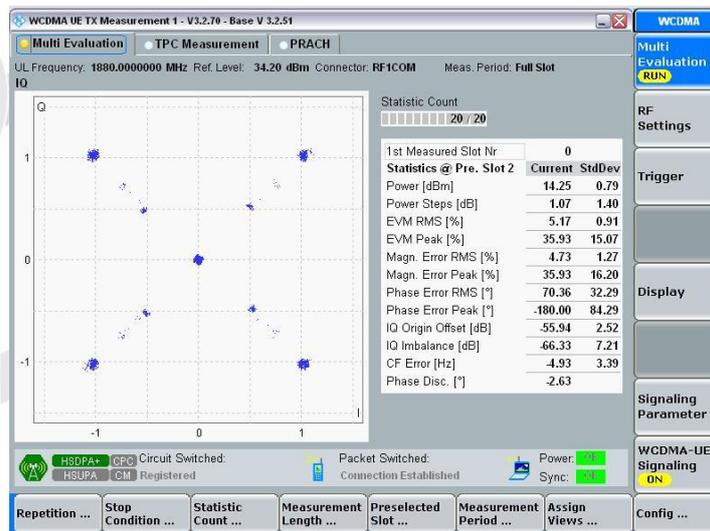
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5.1.1.1. Test Channel = MCH



5.1.2. Test Mode = UMTS/TM2

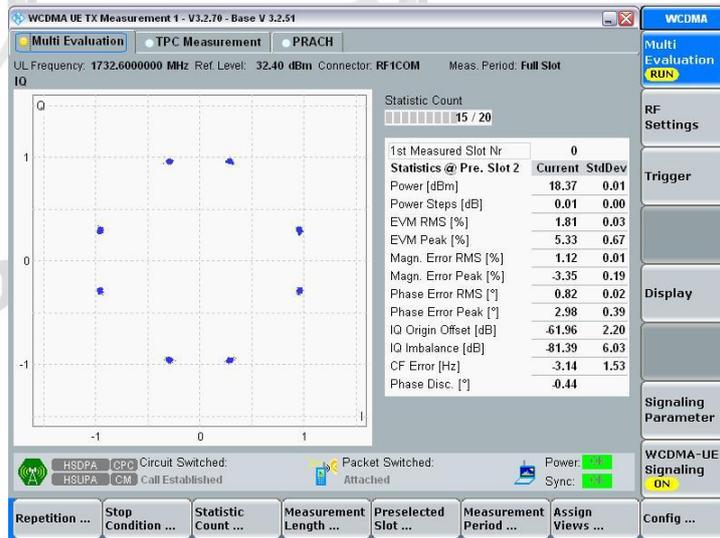
5.1.2.1. Test Channel = MCH



5.2. Test BAND = WCDMA Band IV

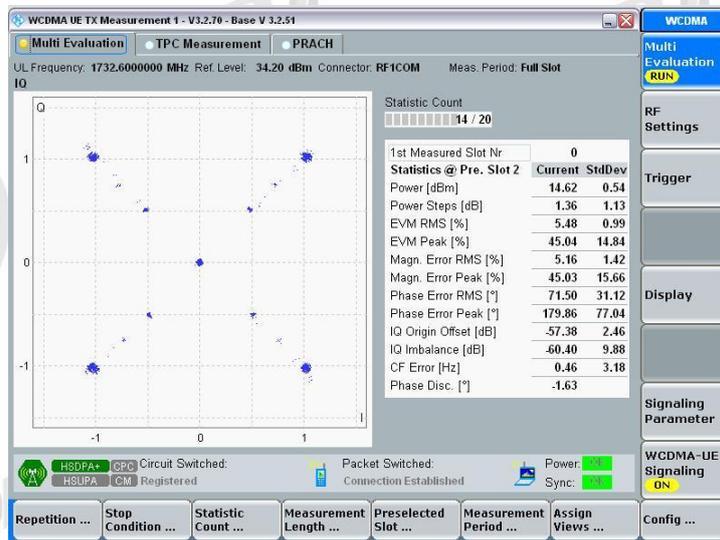
5.2.1. Test Mode = UMTS/TM1

5.2.1.1. Test Channel = MCH



5.2.2. Test Mode = UMTS/TM2

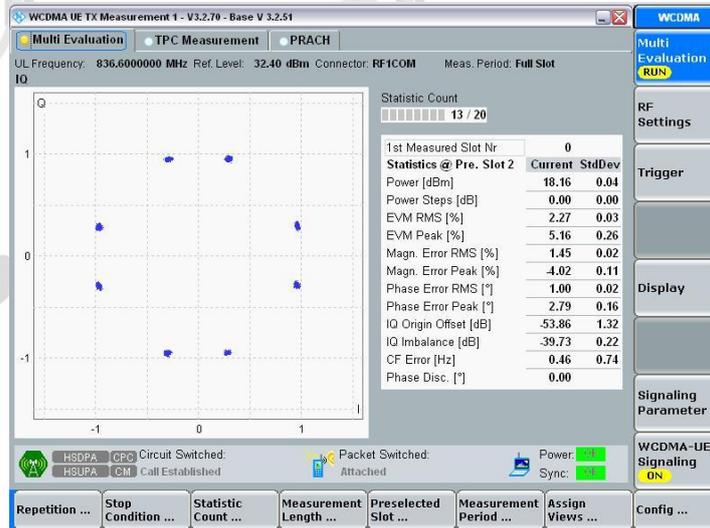
5.2.2.1. Test Channel = MCH



5.3. Test BAND = WCDMA Band V

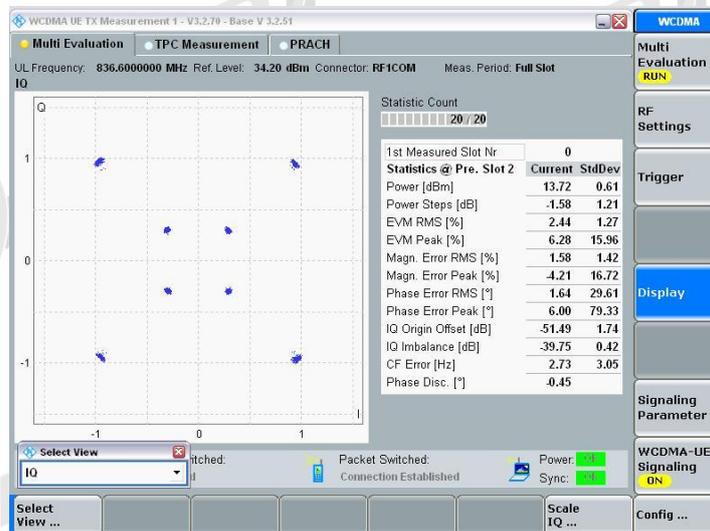
5.3.1. Test Mode = UMTS/TM1

5.3.1.1. Test Channel = MCH



5.3.2. Test Mode = UMTS/TM2

5.3.2.1. Test Channel = MCH

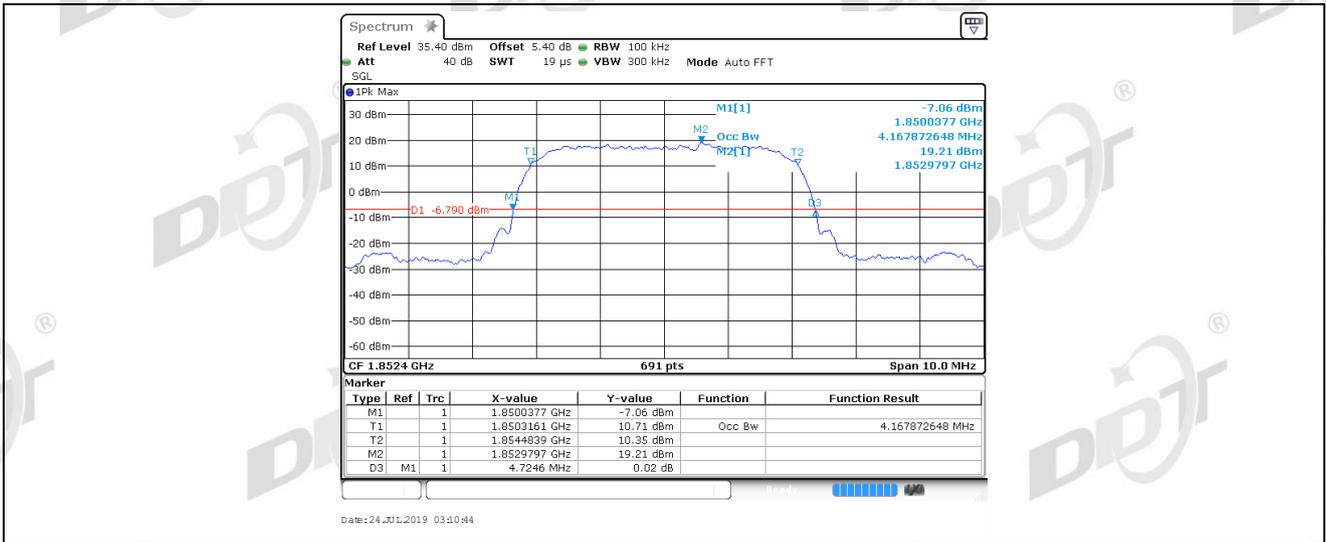


6. 26dB Bandwidth and Occupied Bandwidth

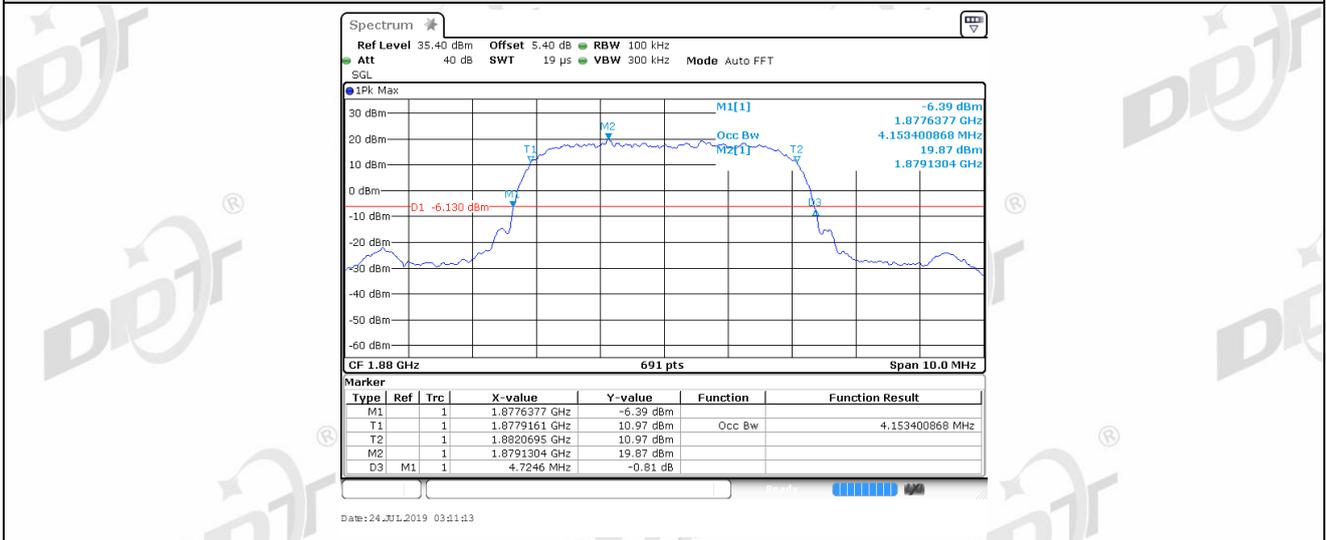
6.1. Test Result

| BAND | Modulation | Channel | Occupied Bandwidth (kHz) | 26dB Bandwidth (kHz) | Limit(kHz) | Verdict |
|---------|------------|---------|--------------------------|----------------------|------------|---------|
| Band II | QPSK | 9262 | 4167.9 | 4725 | --- | PASS |
| Band II | QPSK | 9400 | 4153.4 | 4725 | --- | PASS |
| Band II | QPSK | 9538 | 4153.4 | 4754 | --- | PASS |
| Band II | 16QAM | 9262 | 4153.4 | 4725 | --- | PASS |
| Band II | 16QAM | 9400 | 4167.9 | 4725 | --- | PASS |
| Band II | 16QAM | 9538 | 4153.4 | 4725 | --- | PASS |
| Band IV | QPSK | 1312 | 4167.9 | 4725 | --- | PASS |
| Band IV | QPSK | 1413 | 4167.9 | 4754 | --- | PASS |
| Band IV | QPSK | 1513 | 4167.9 | 4725 | --- | PASS |
| Band IV | 16QAM | 1312 | 4167.9 | 4768 | --- | PASS |
| Band IV | 16QAM | 1413 | 4167.9 | 4754 | --- | PASS |
| Band IV | 16QAM | 1513 | 4167.9 | 4725 | --- | PASS |
| Band V | QPSK | 4132 | 4153.4 | 4710 | --- | PASS |
| Band V | QPSK | 4182 | 4153.4 | 4725 | --- | PASS |
| Band V | QPSK | 4233 | 4153.4 | 4725 | --- | PASS |
| Band V | 16QAM | 4132 | 4153.4 | 4725 | --- | PASS |
| Band V | 16QAM | 4182 | 4153.4 | 4710 | --- | PASS |
| Band V | 16QAM | 4233 | 4153.4 | 4710 | --- | PASS |

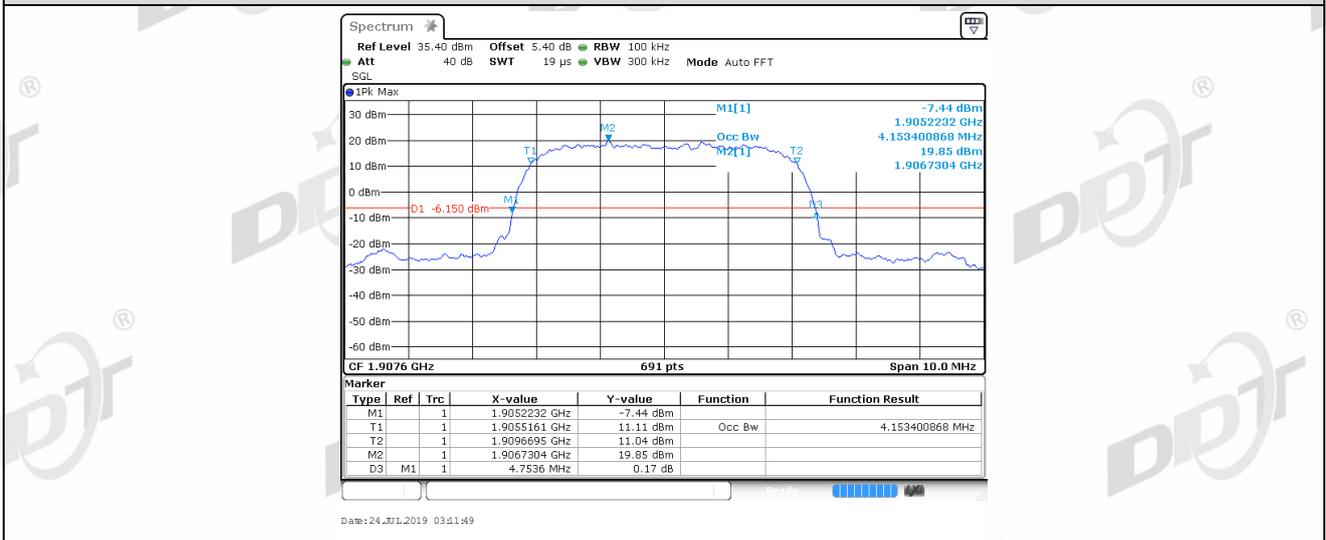
6.2. Test Plots



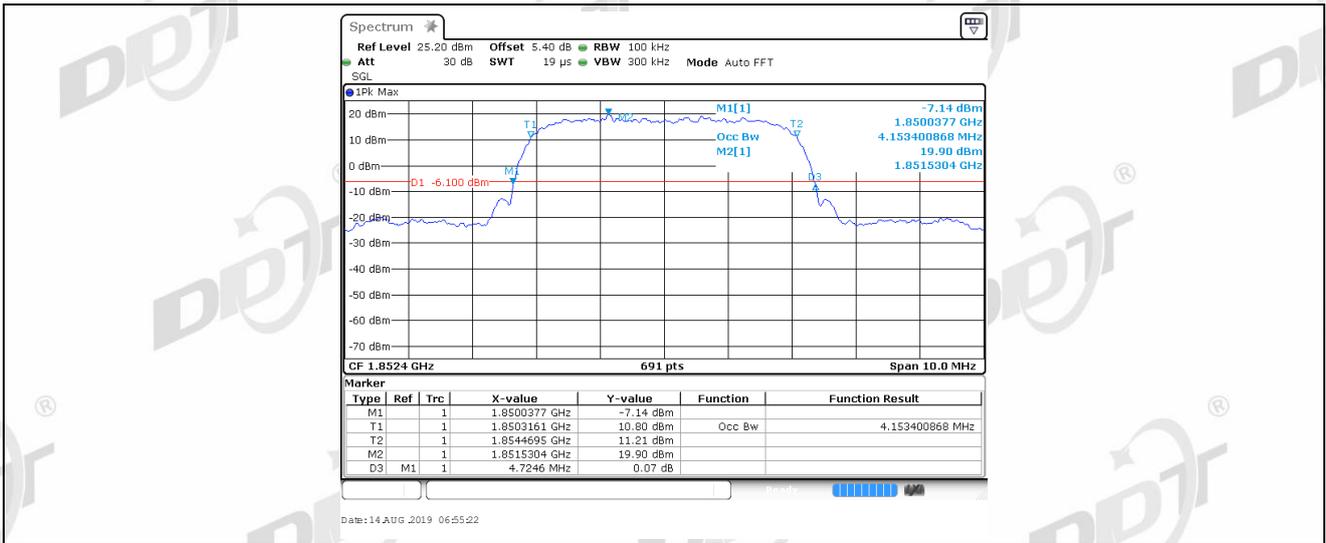
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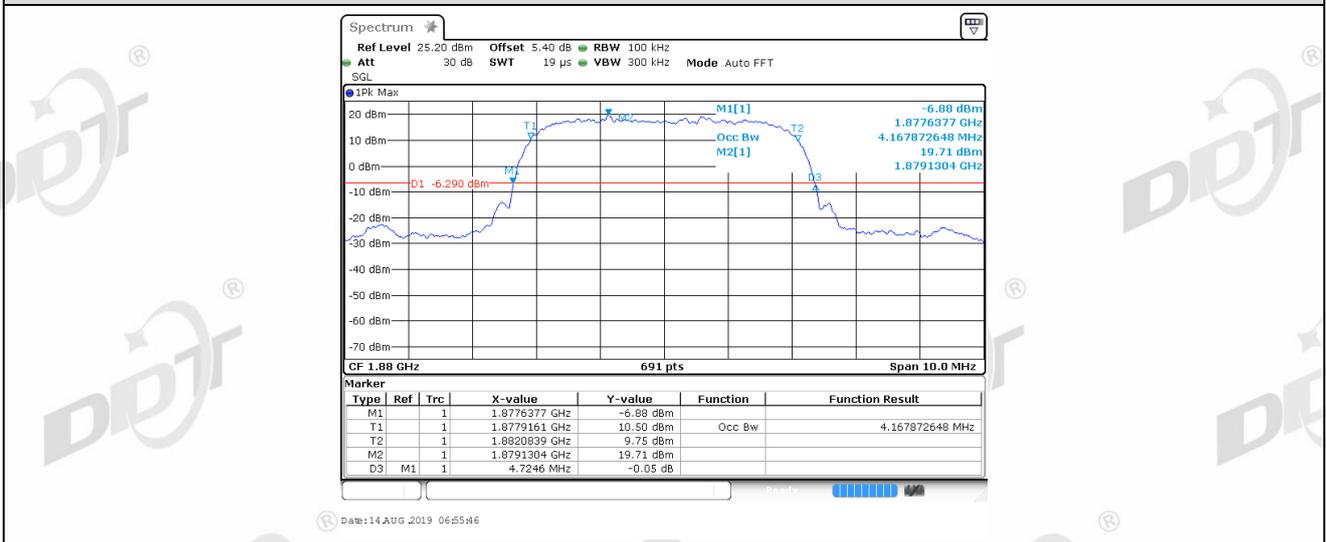
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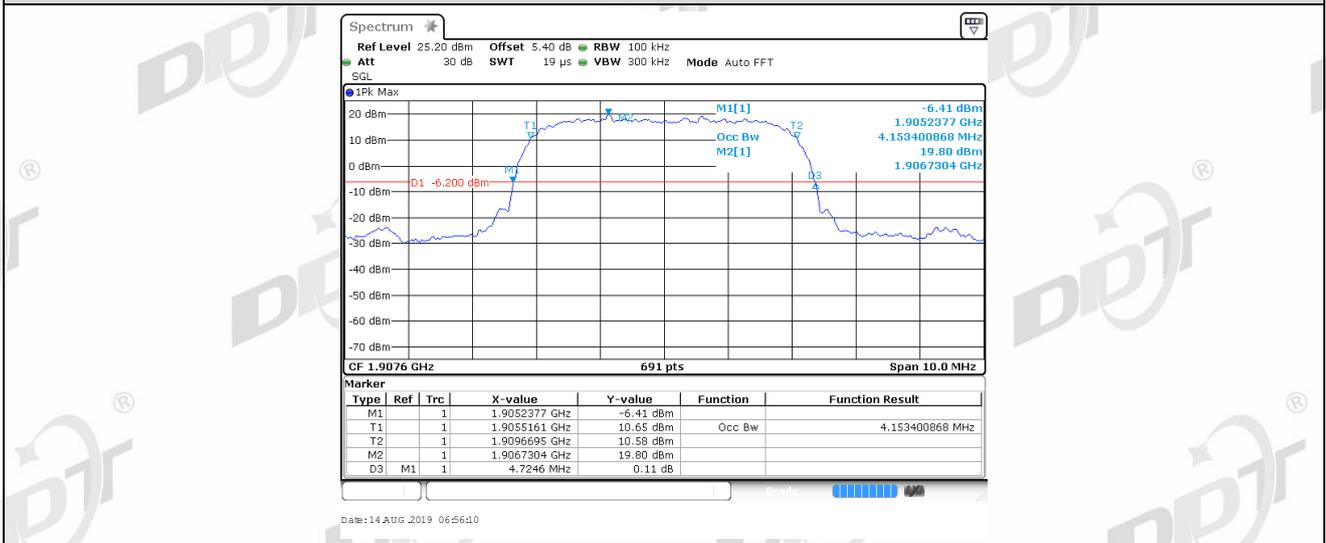
Band II_QPSK_9538



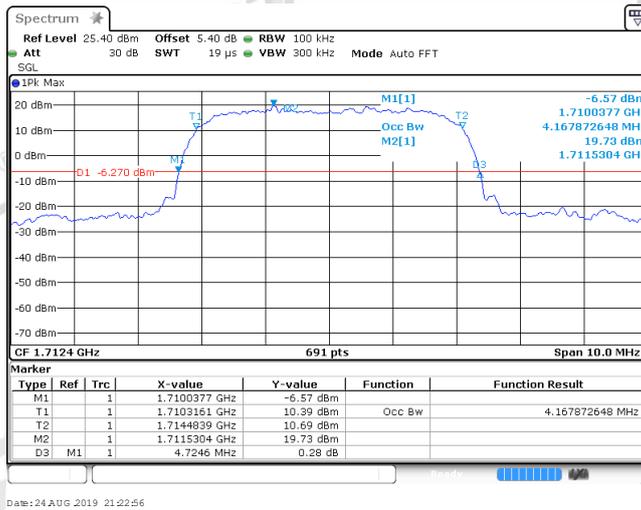
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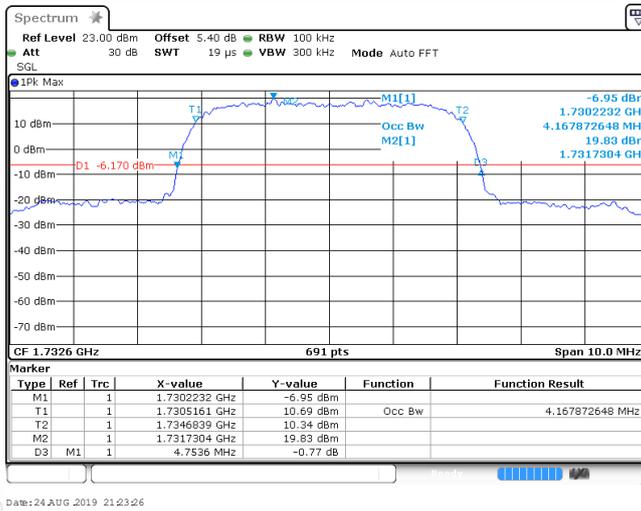
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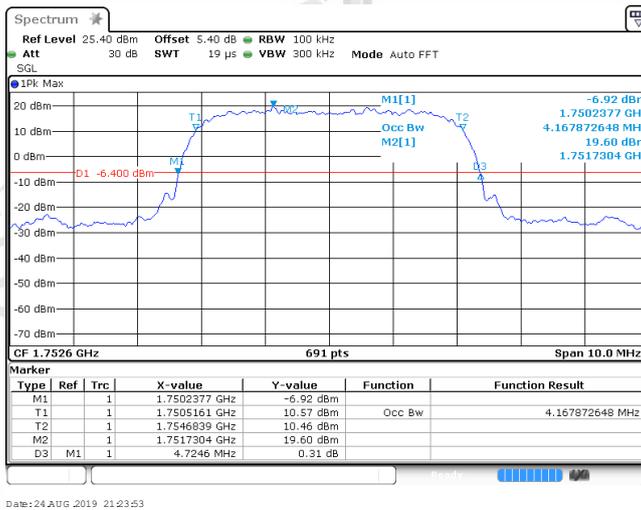
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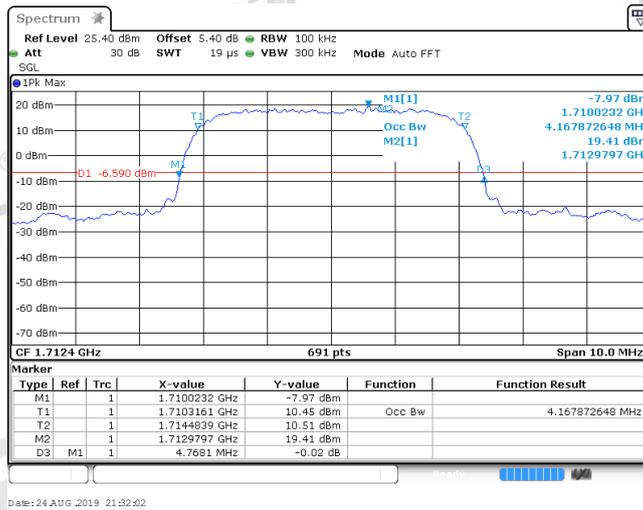
Band IV_QPSK_1312



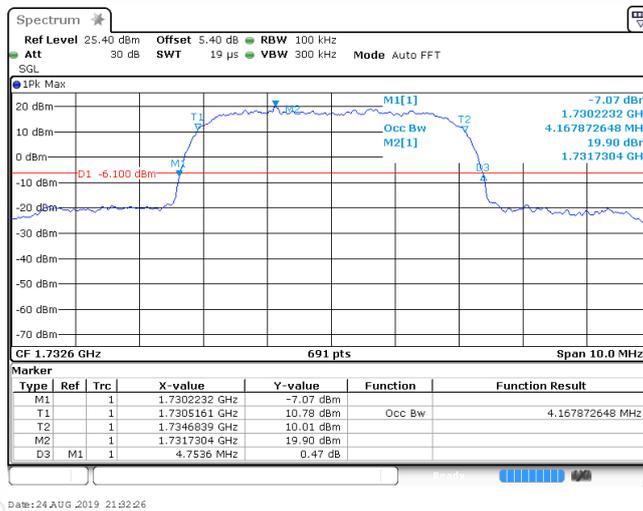
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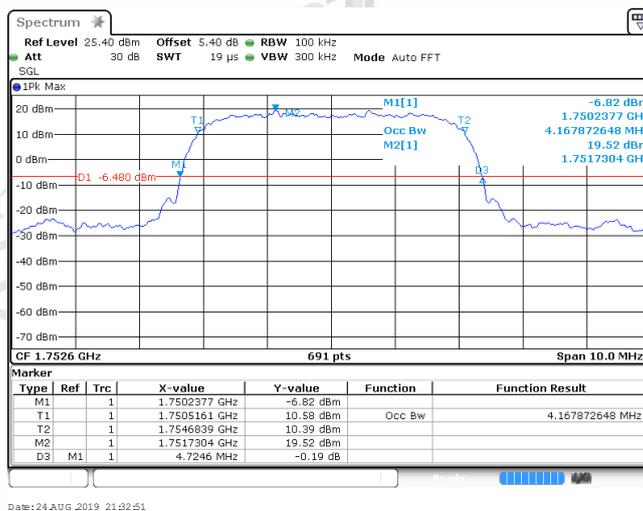
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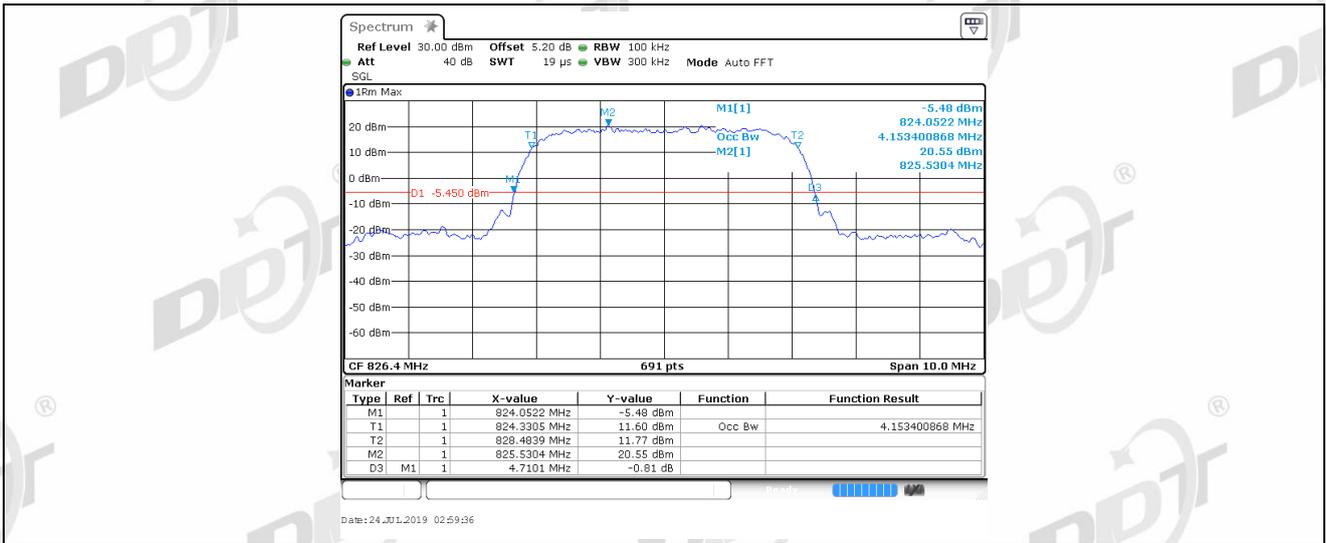
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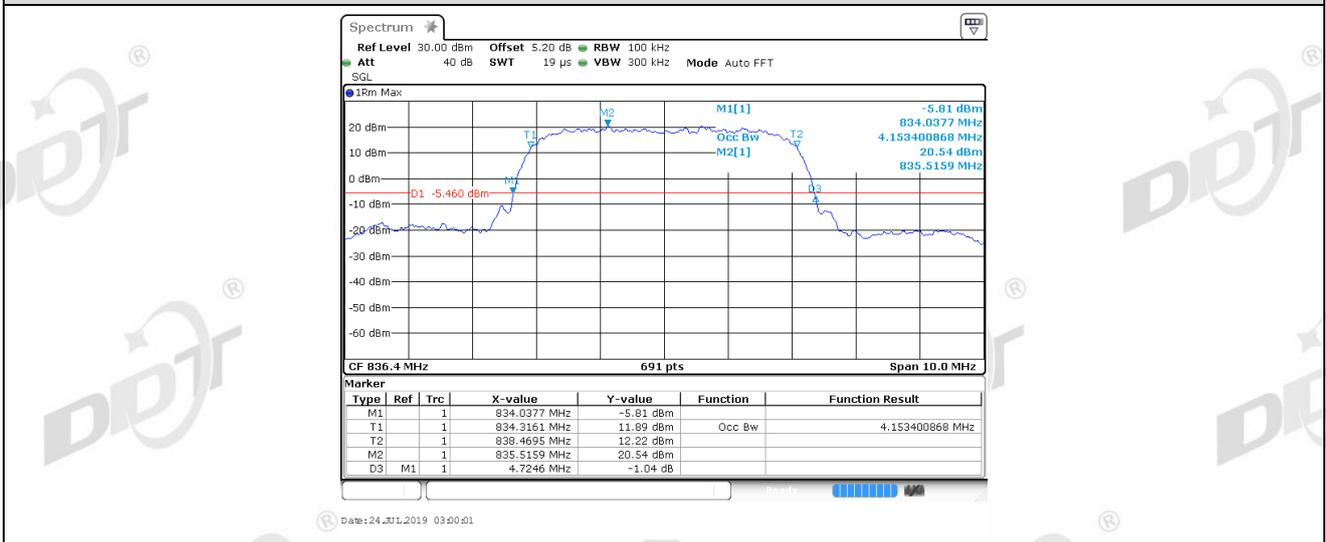
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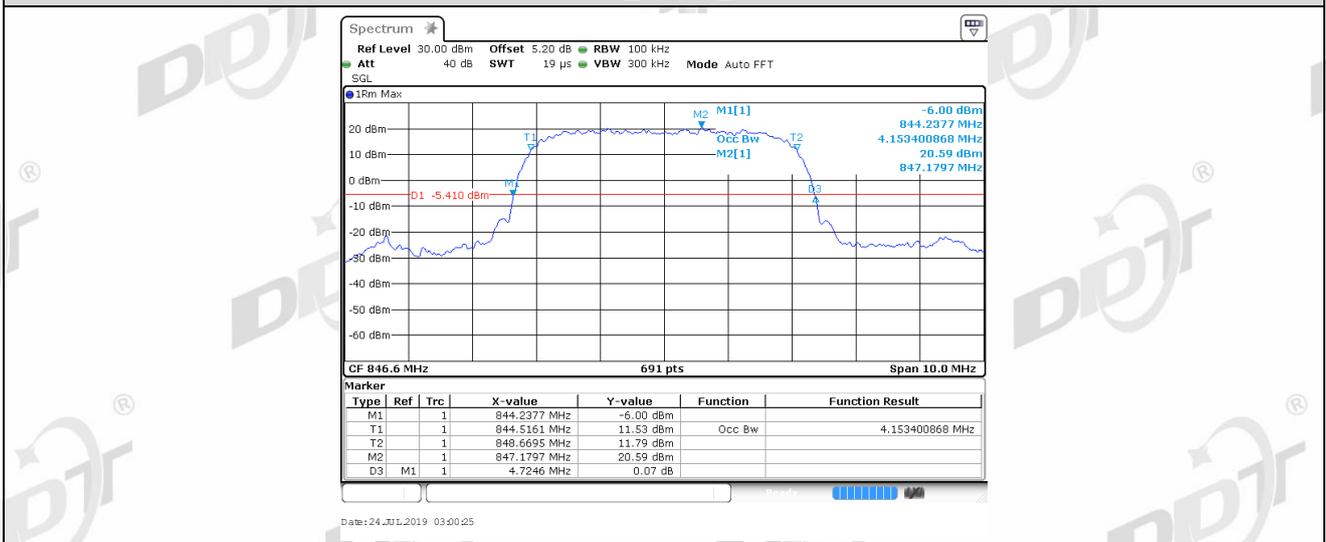
Band IV_16QAM_1513



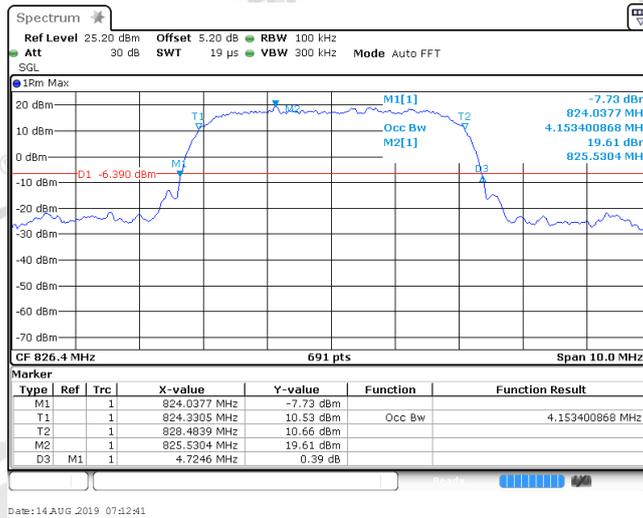
Band V_QPSK_4132



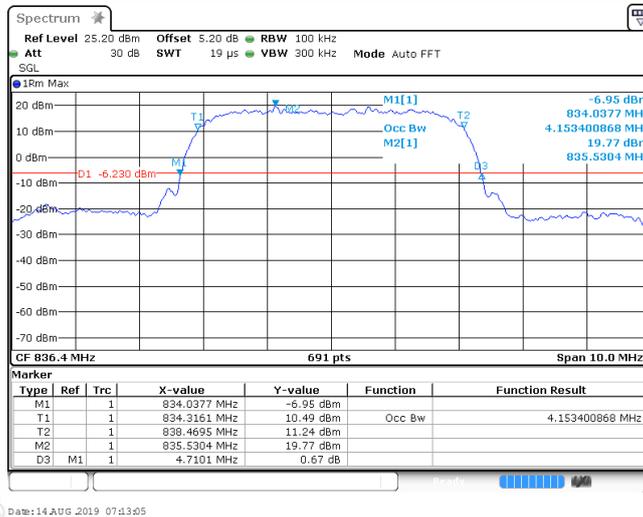
Band V_QPSK_4182



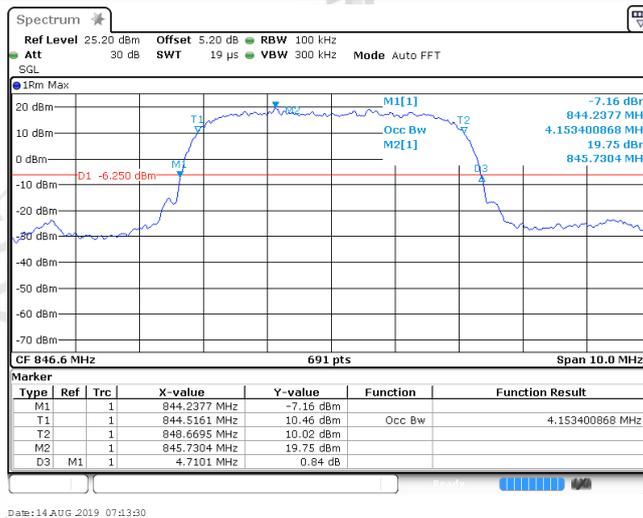
Band V_QPSK_4233



Band V_16QAM_4132



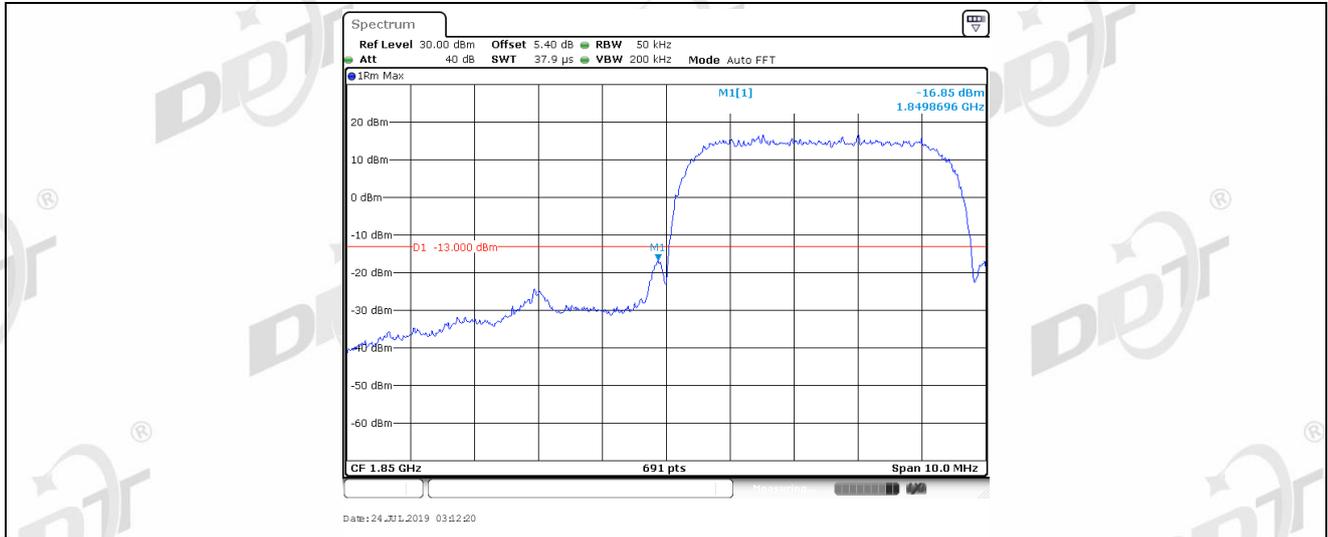
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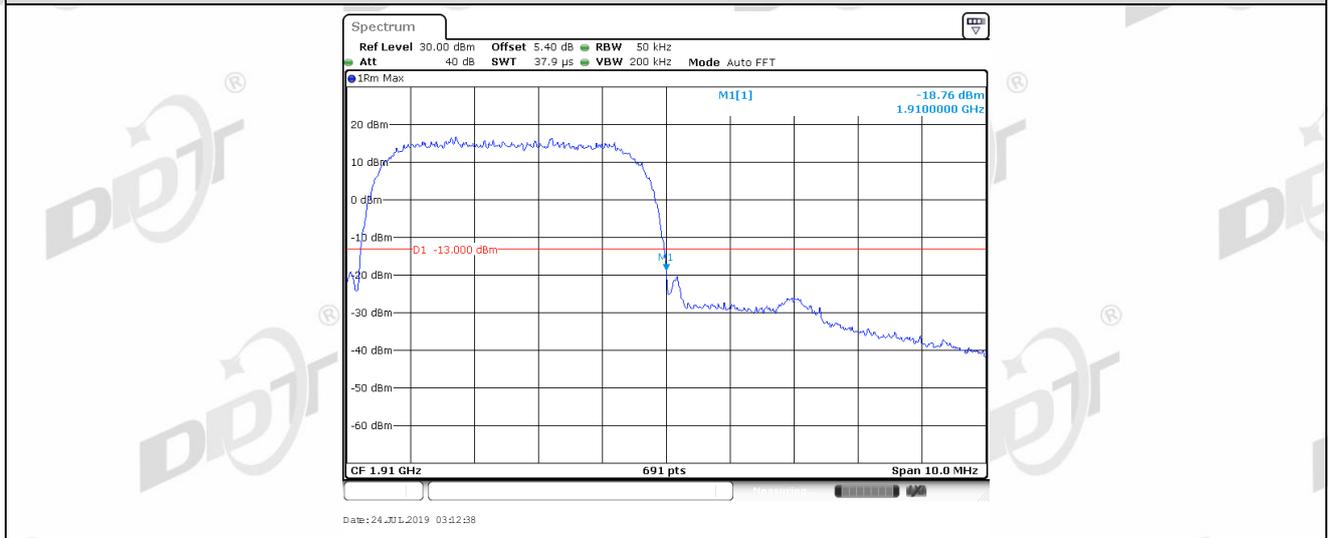
Band V_16QAM_4233

7. Band Edge Compliance

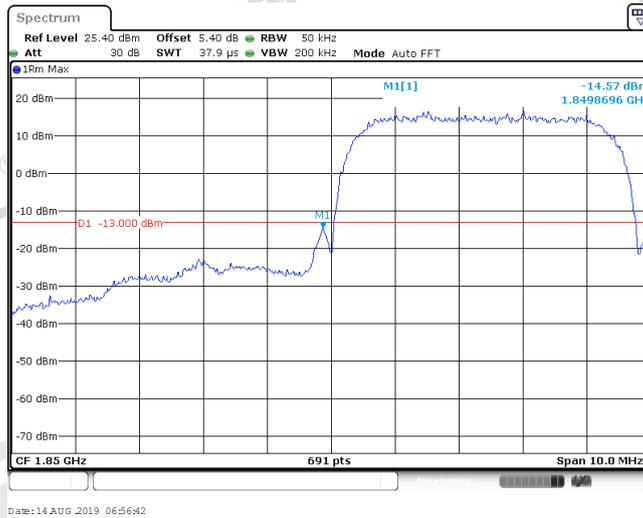
7.1. Test Plots



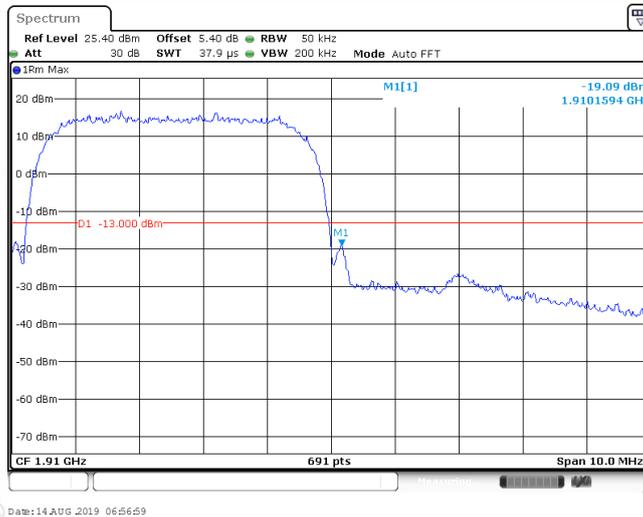
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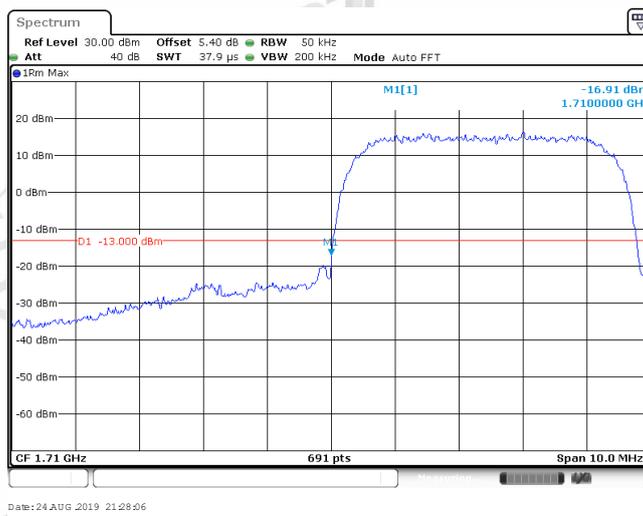
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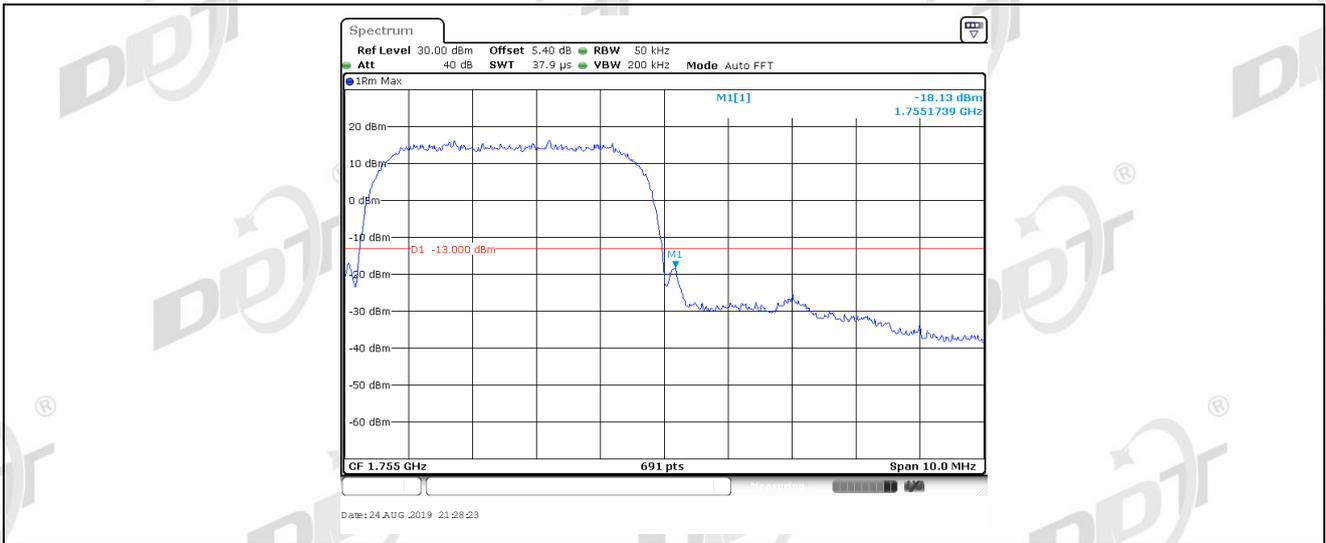
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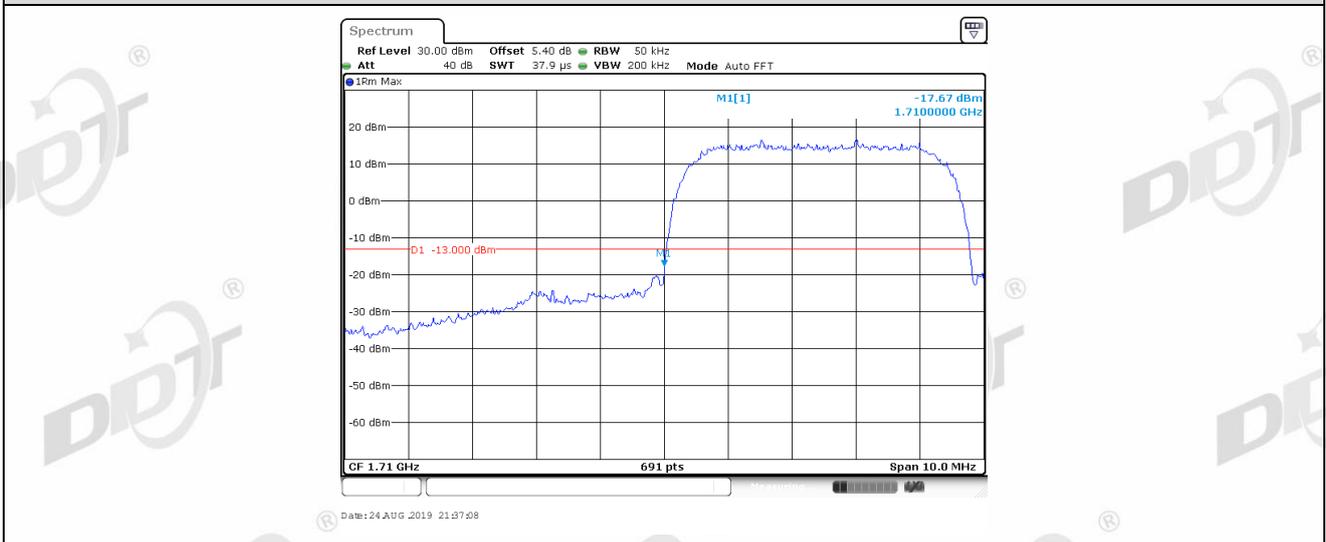
Band II_16QAM_9538



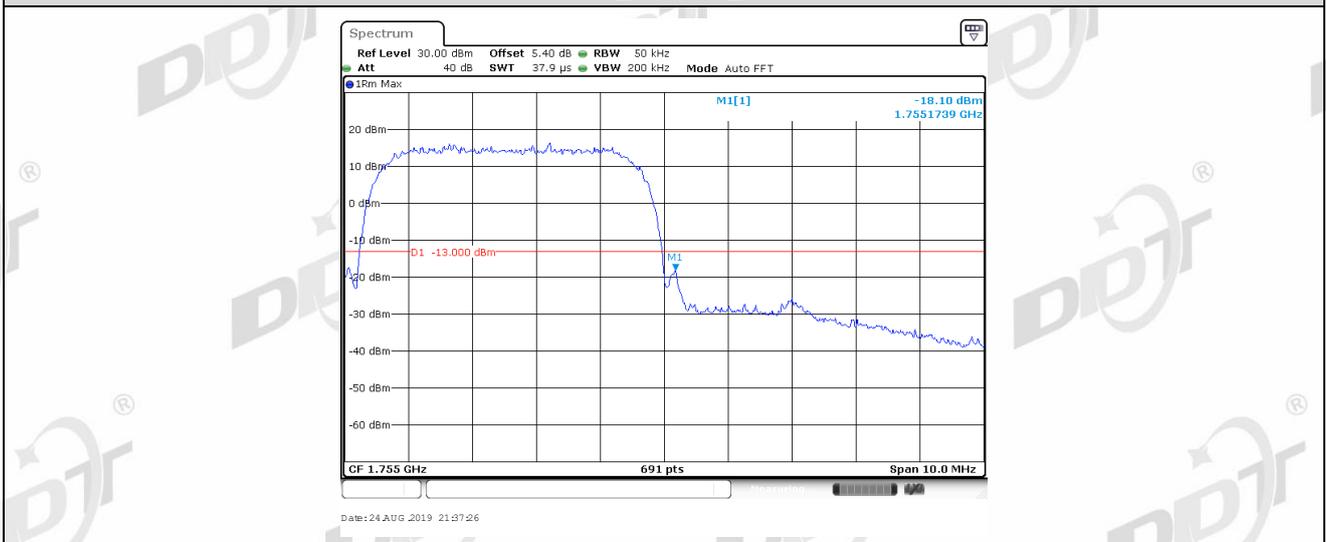
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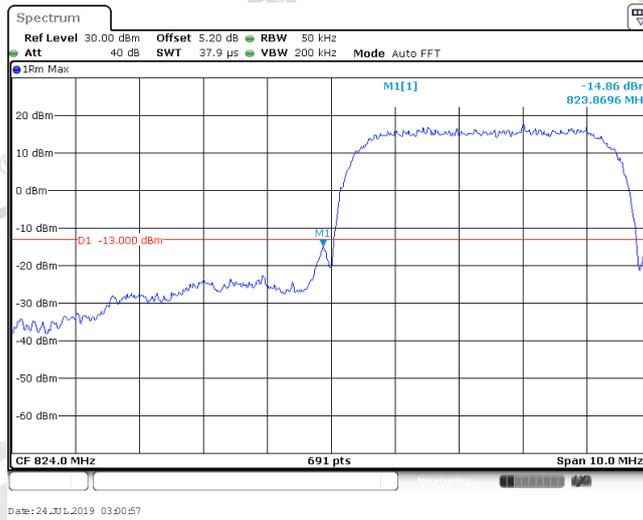
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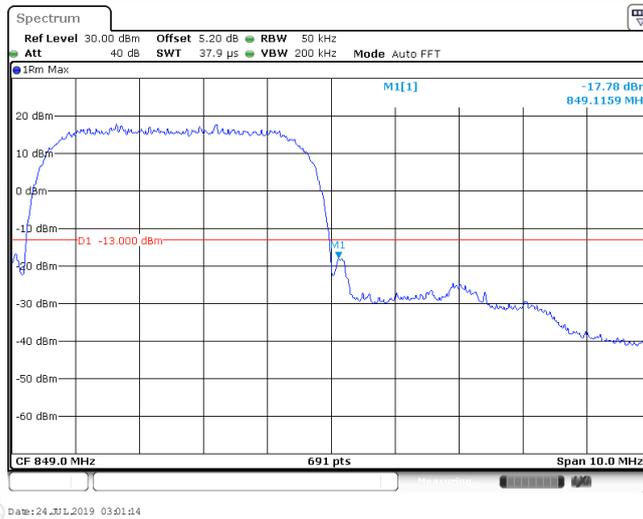
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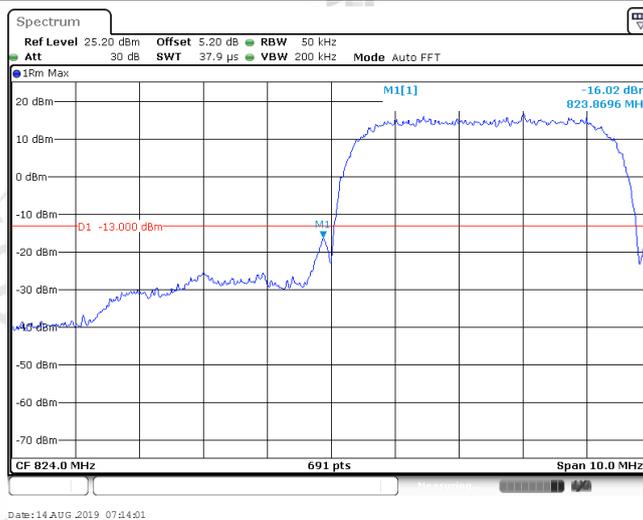
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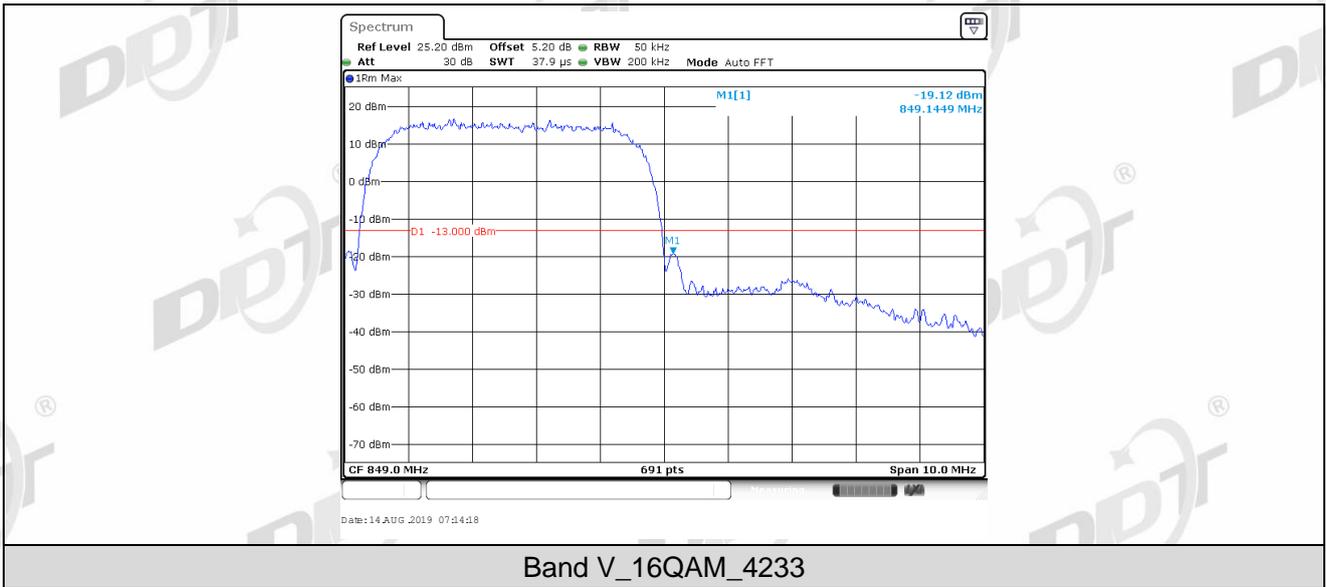
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Band V_QPSK_4233



Band V_16QAM_4132



Band V_16QAM_4233

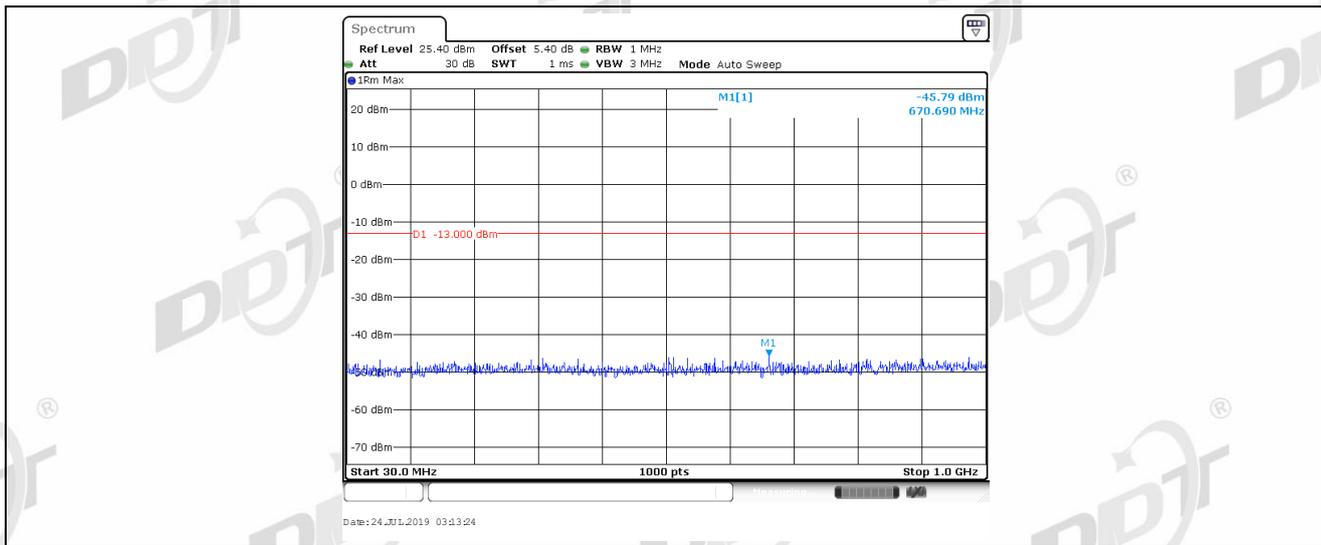
8. Spurious Emission at Antenna Terminal

Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

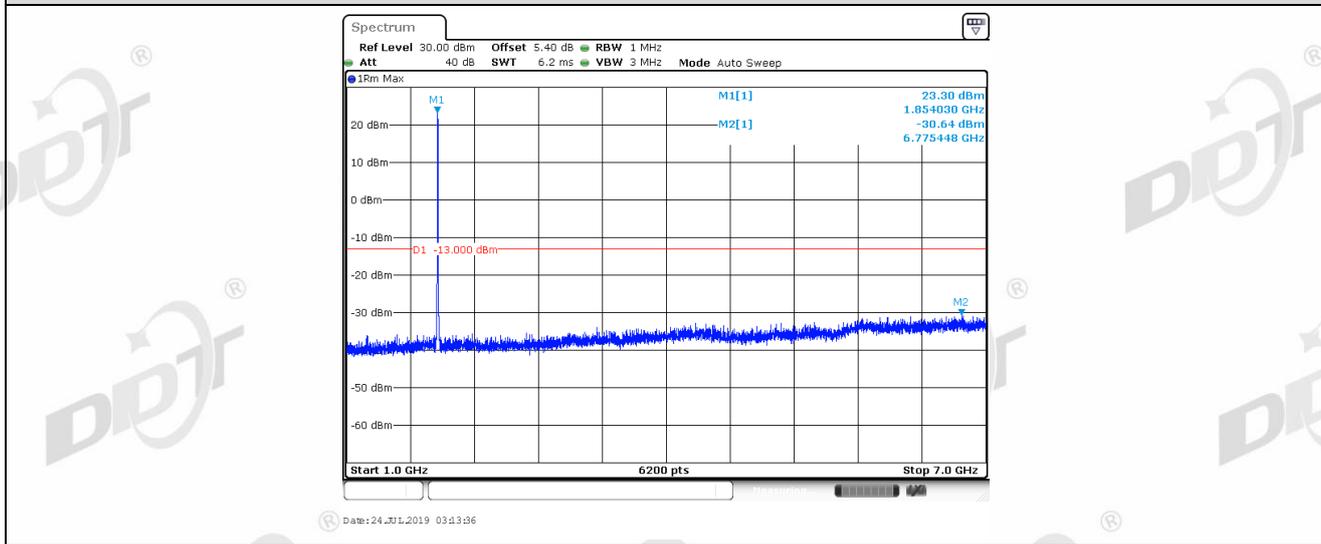
Remark2: only the worst case data displayed in this report.

8.1. Test Plots For QPSK

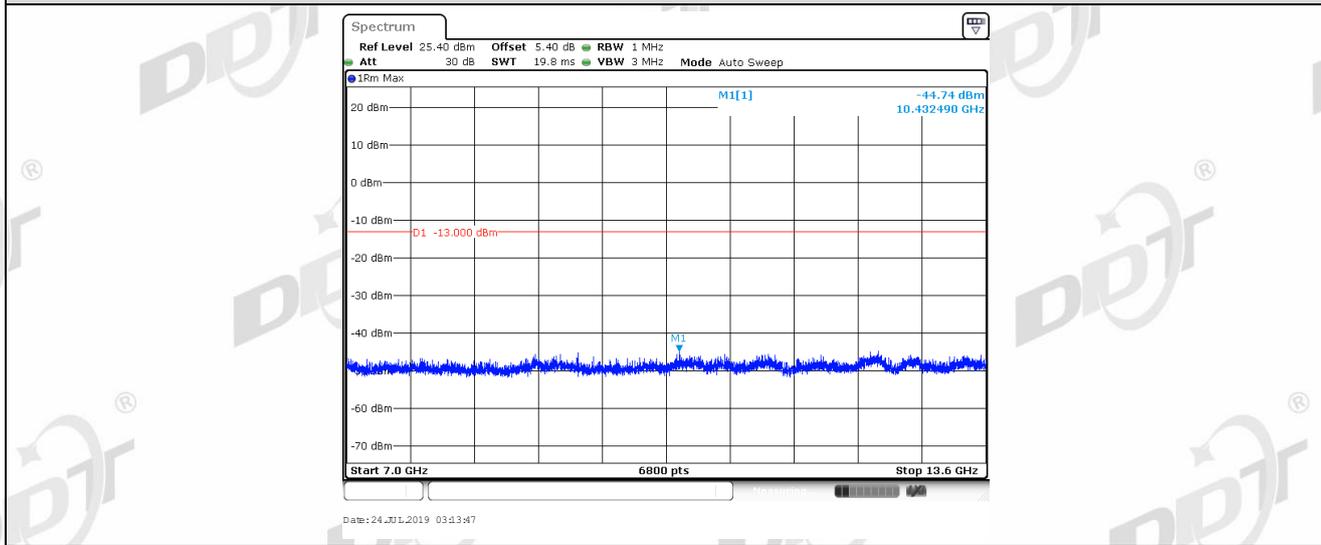




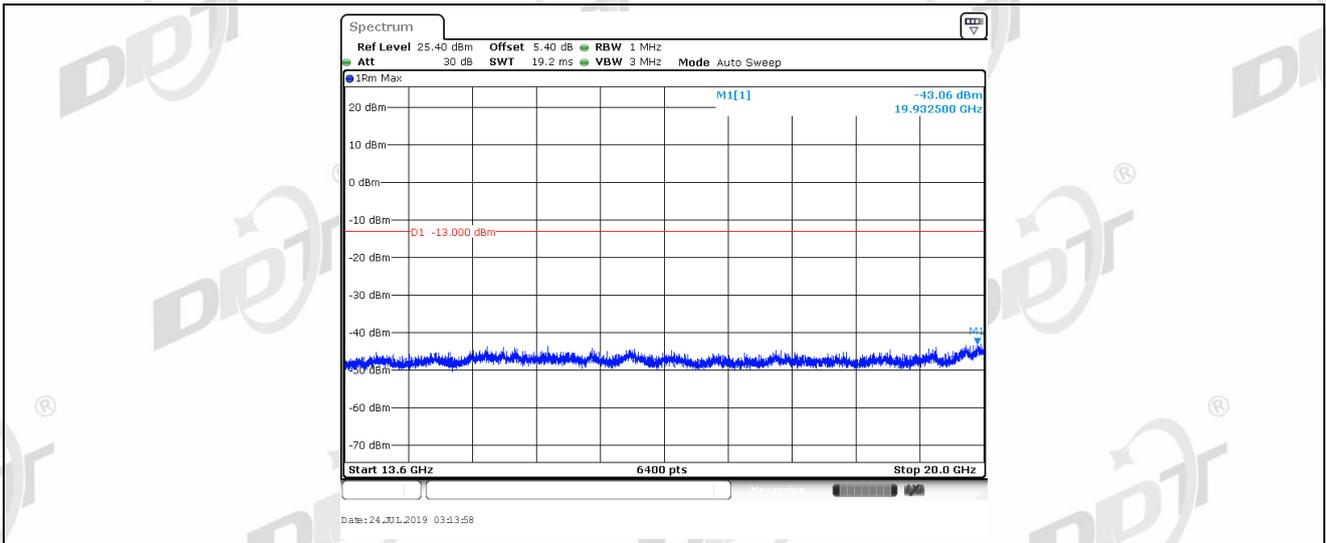
Band II_9262



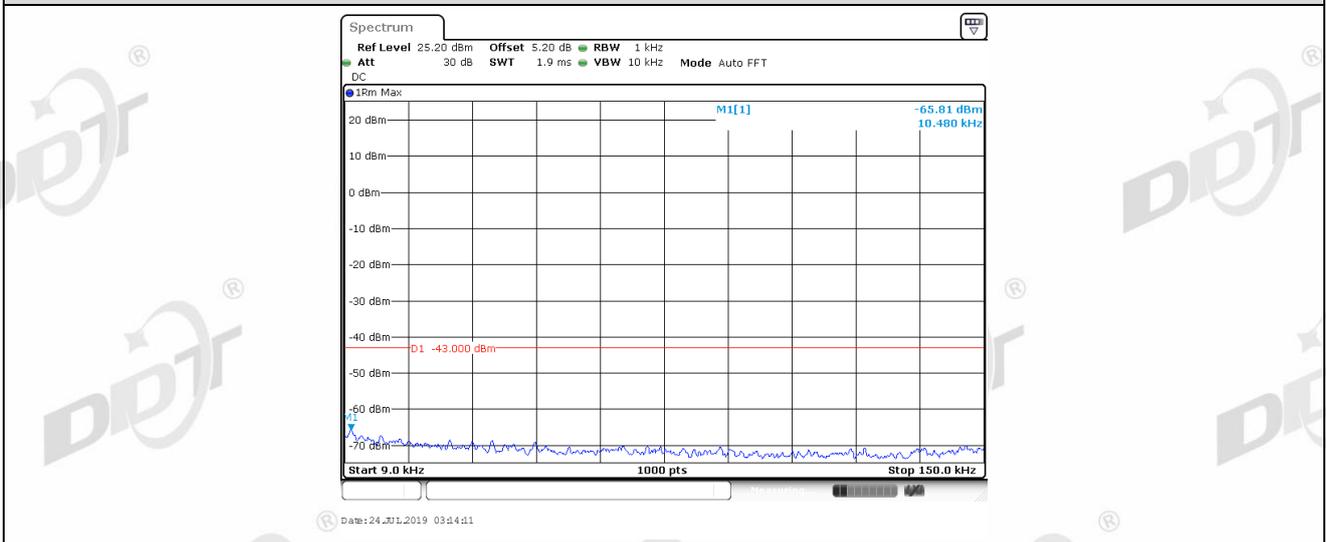
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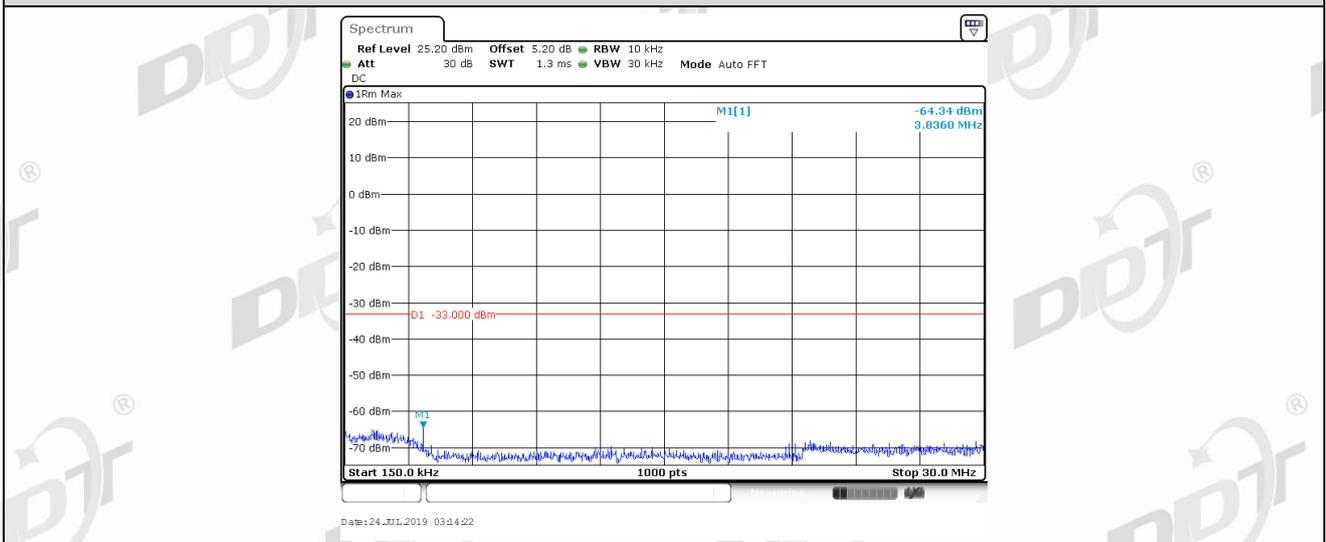
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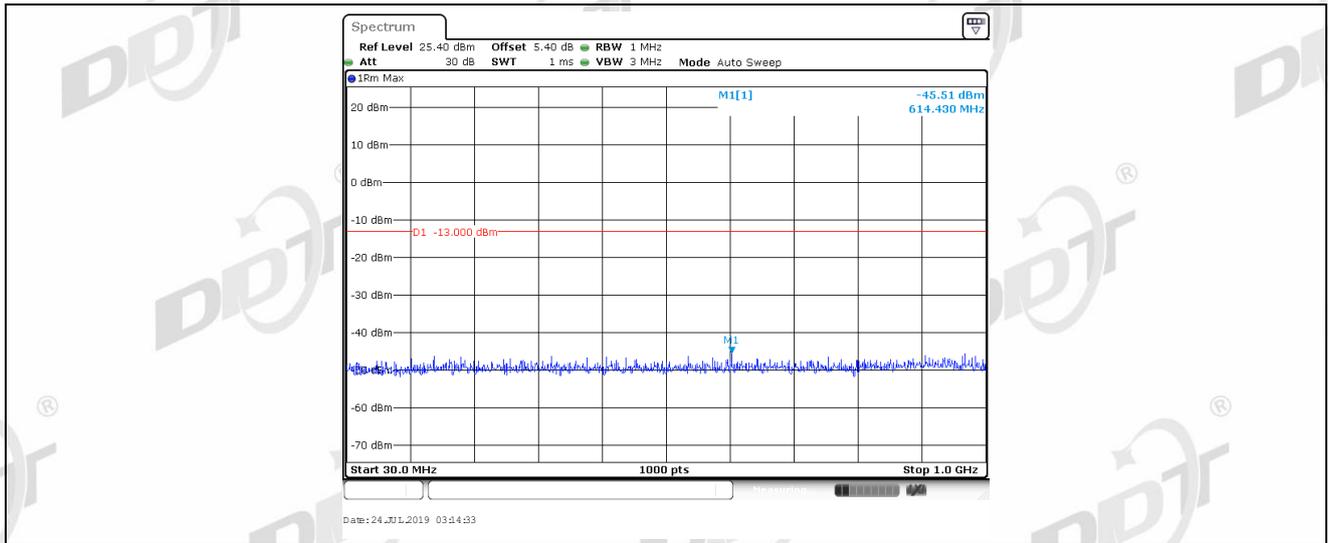
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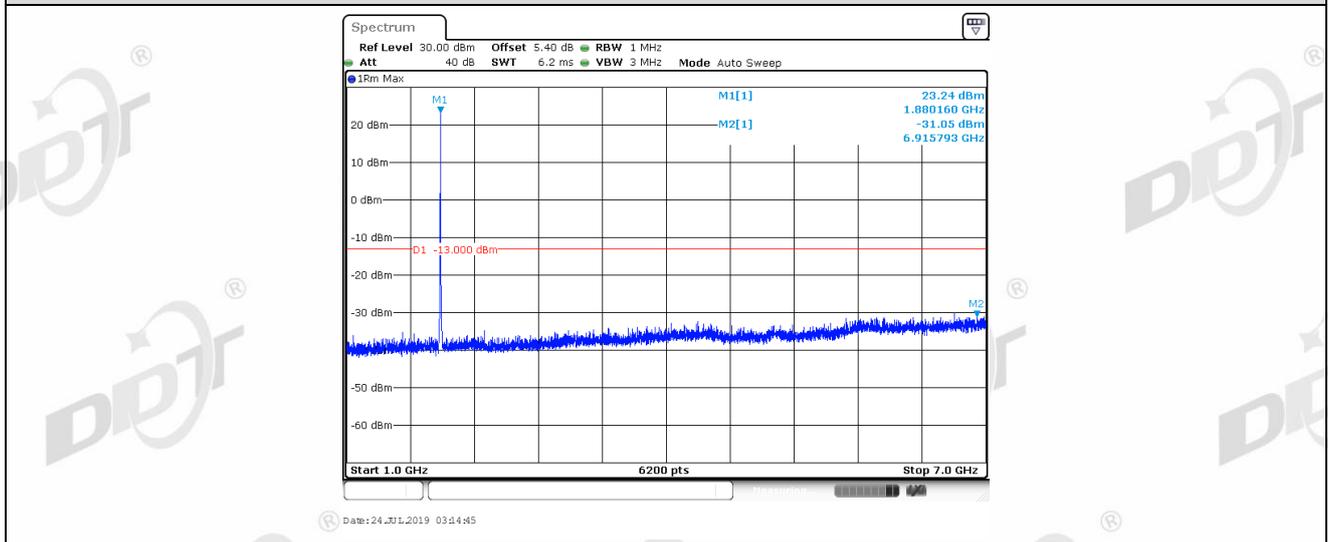
Band II_9400



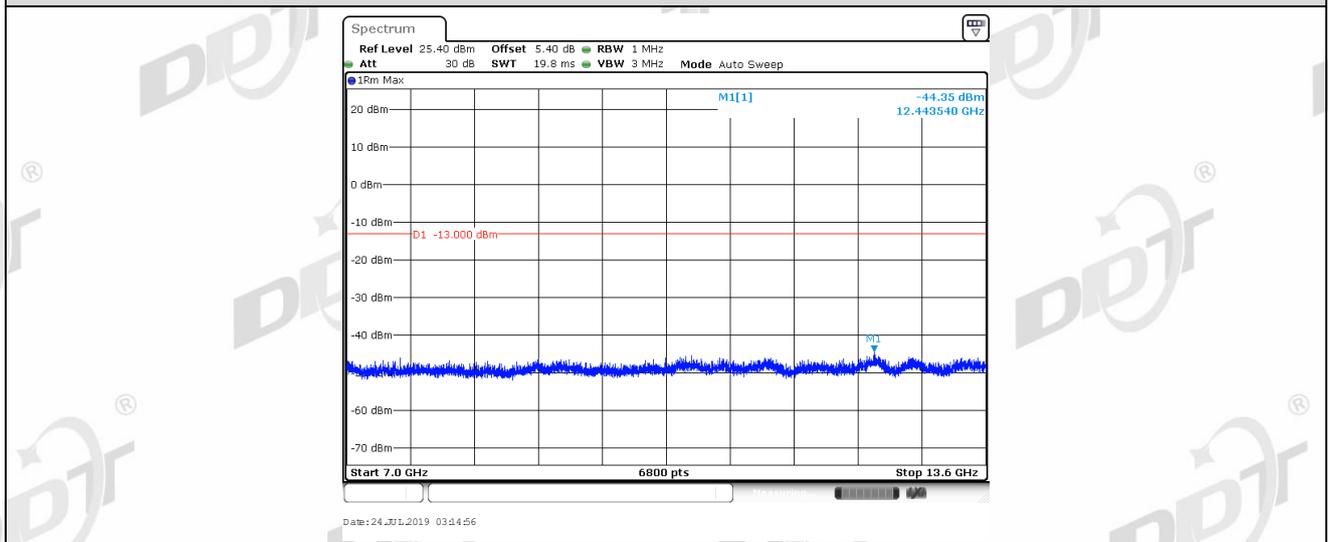
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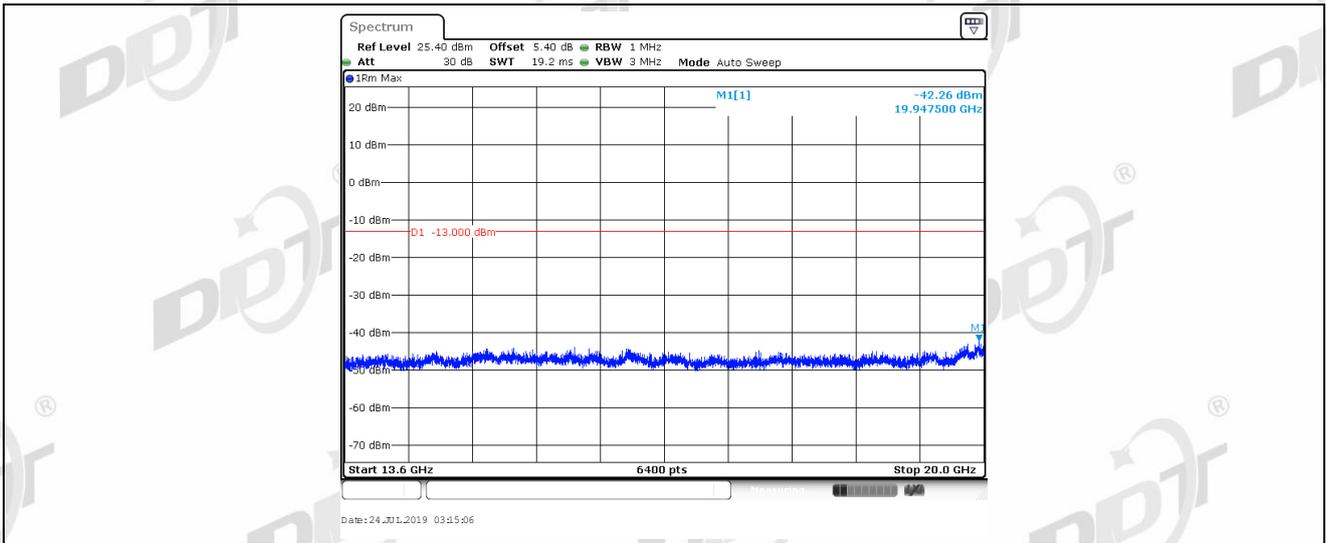
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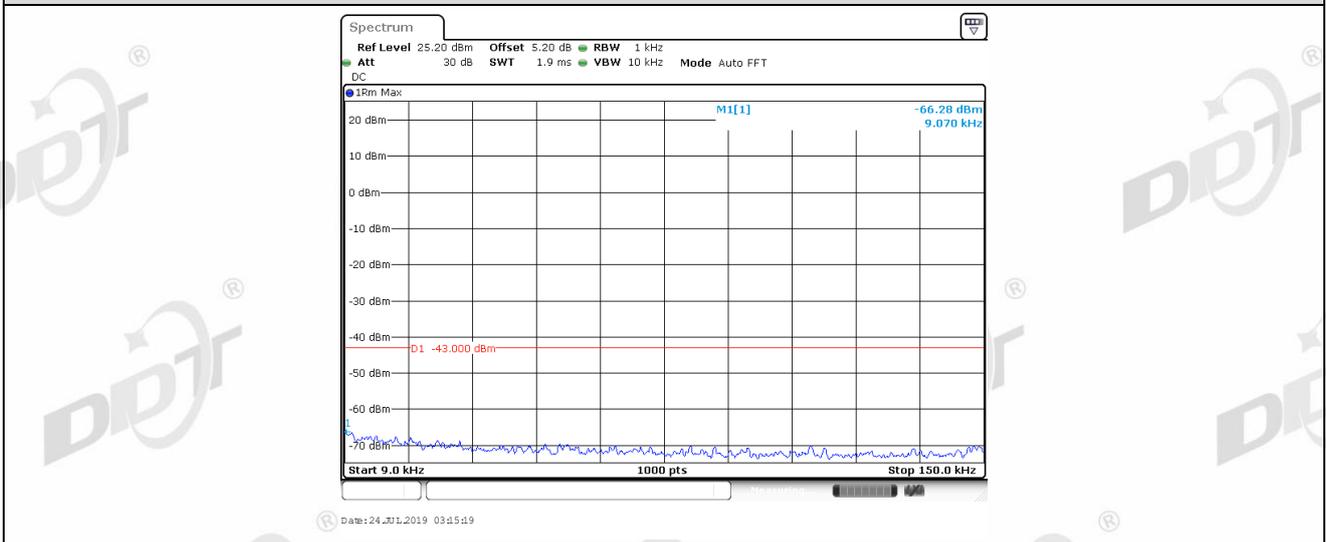
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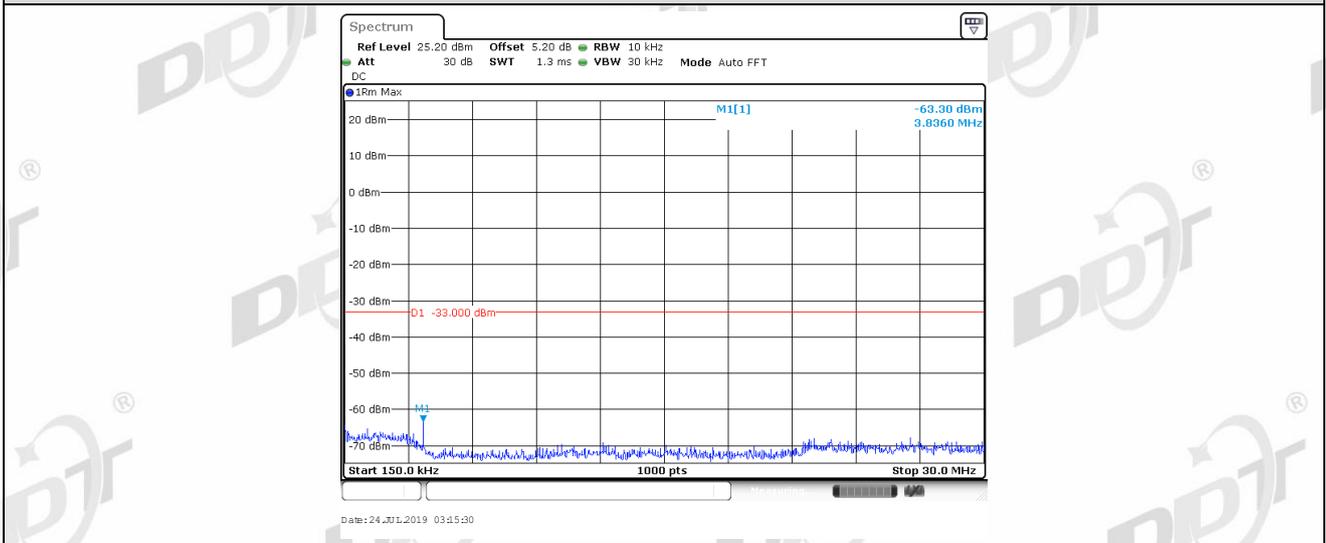
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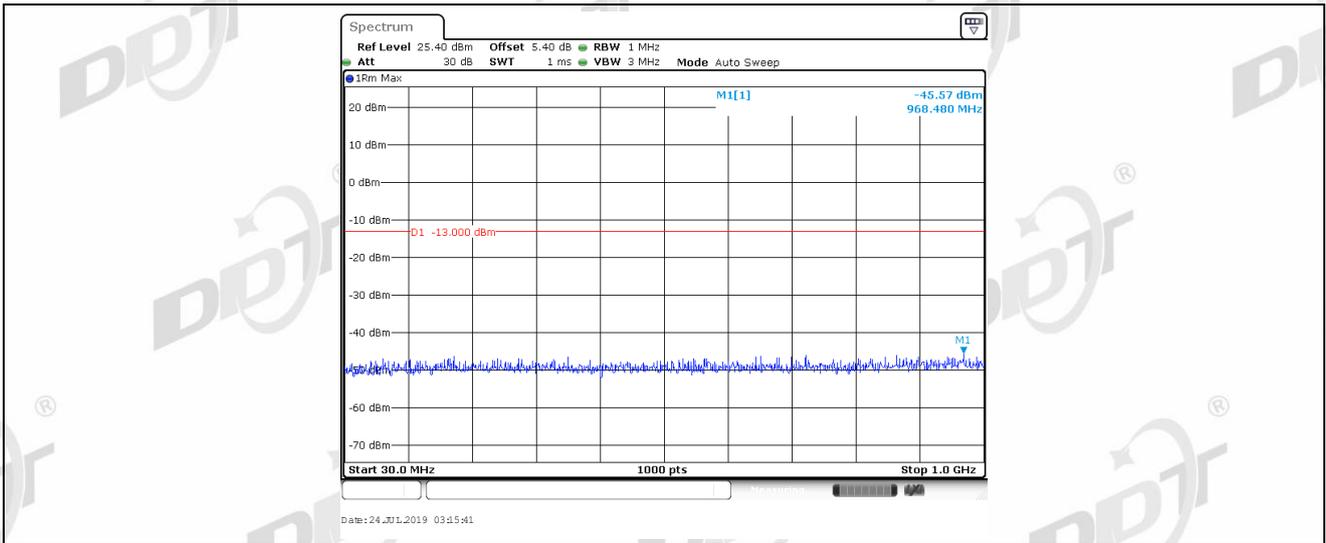
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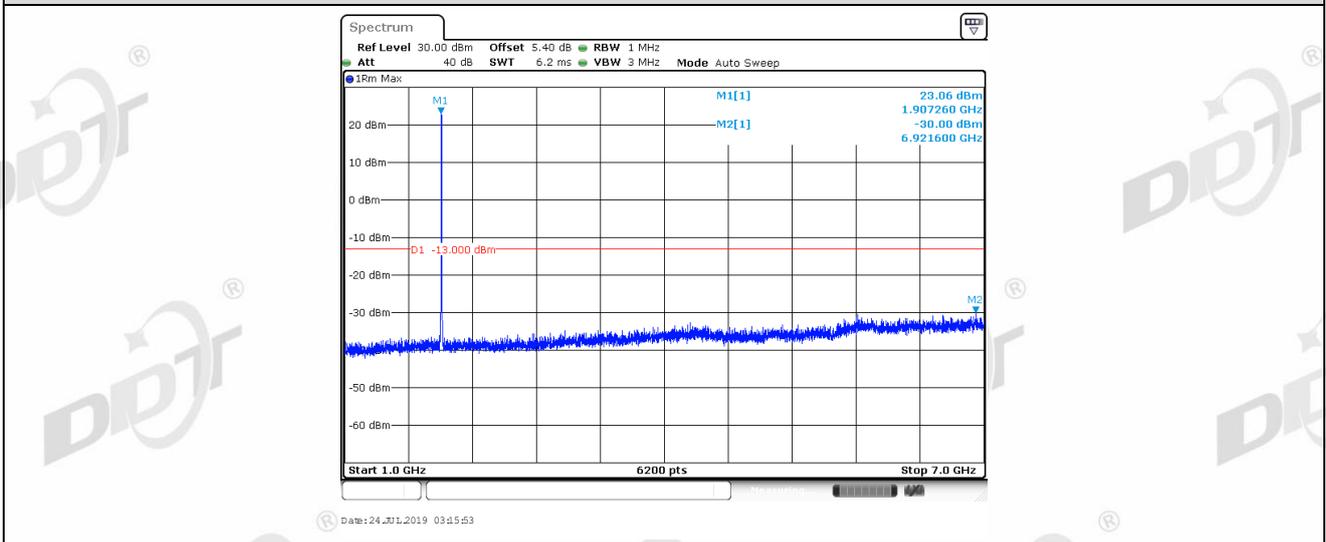
Band II_9538



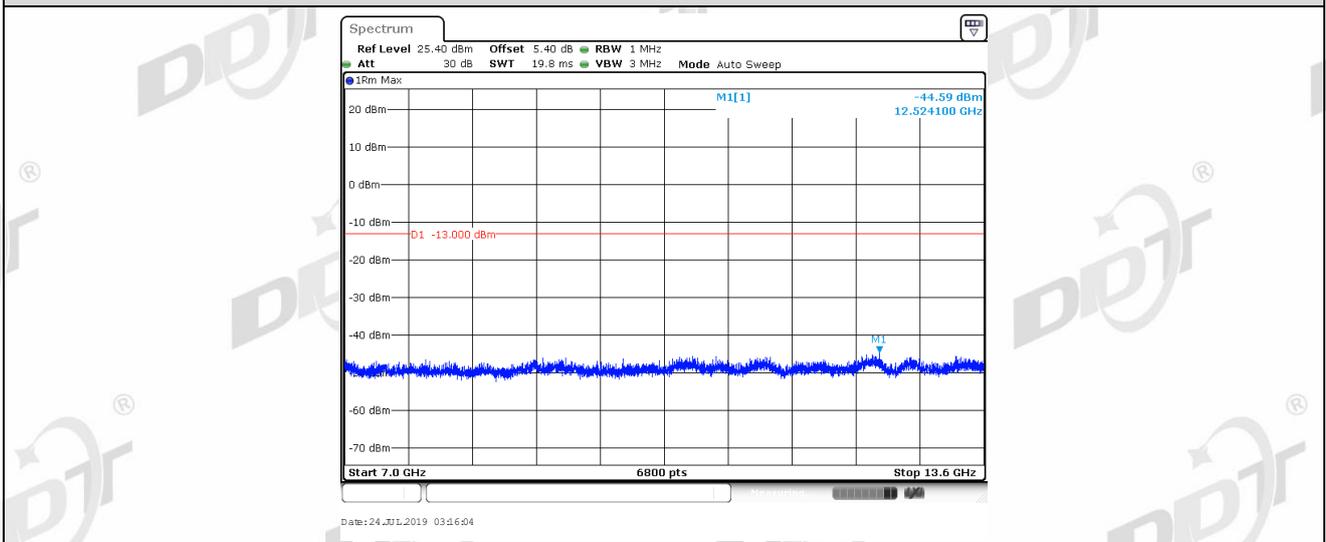
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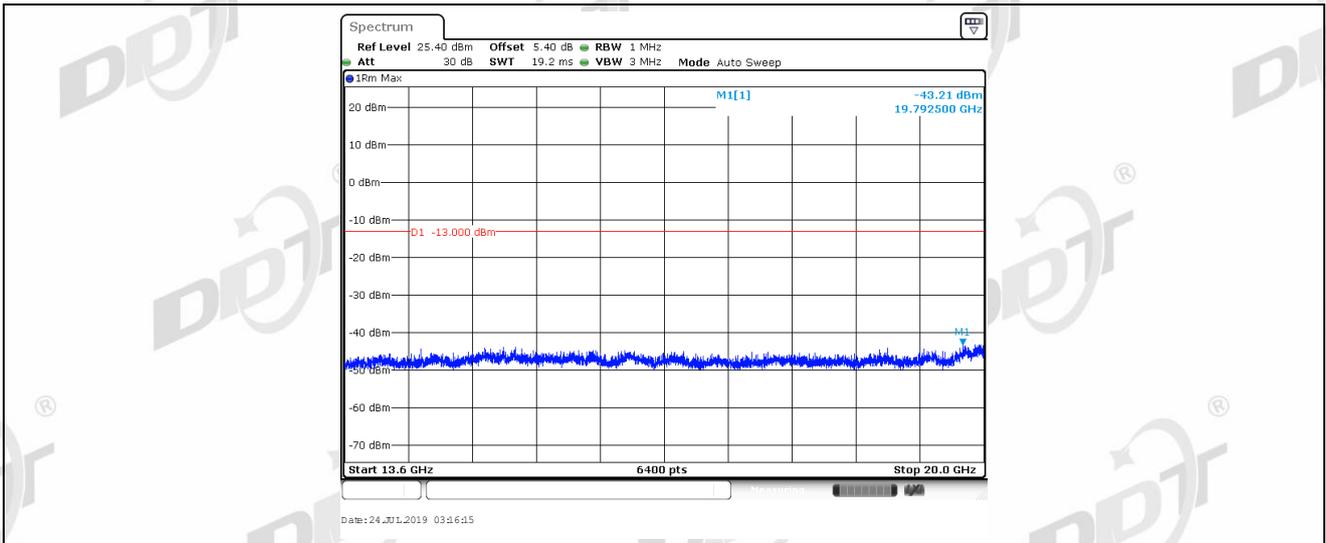
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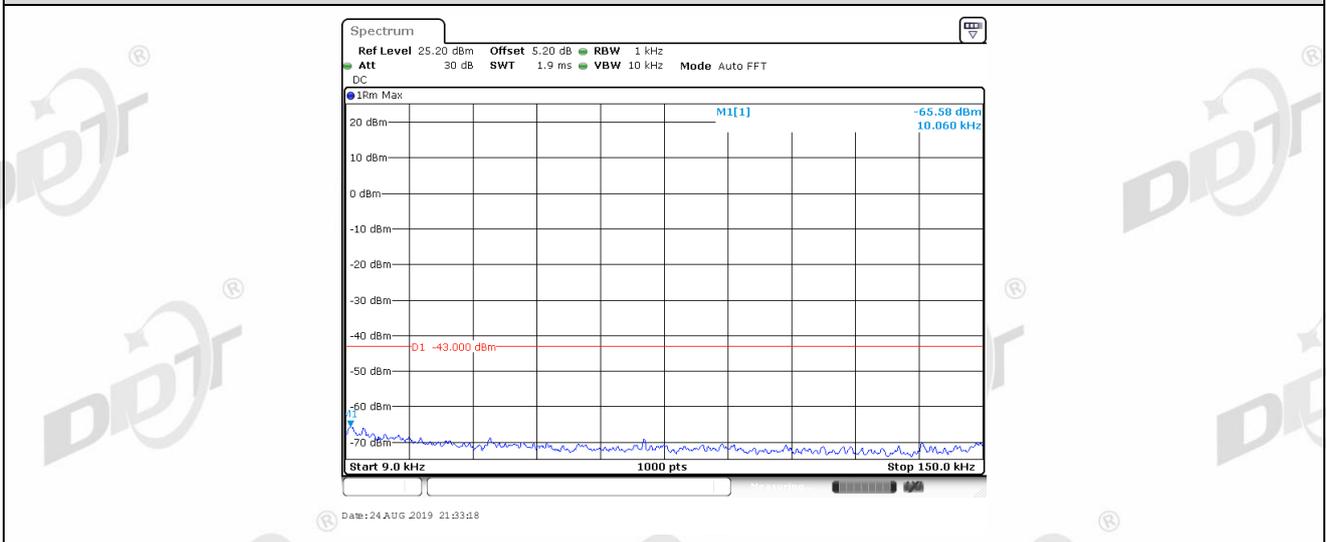
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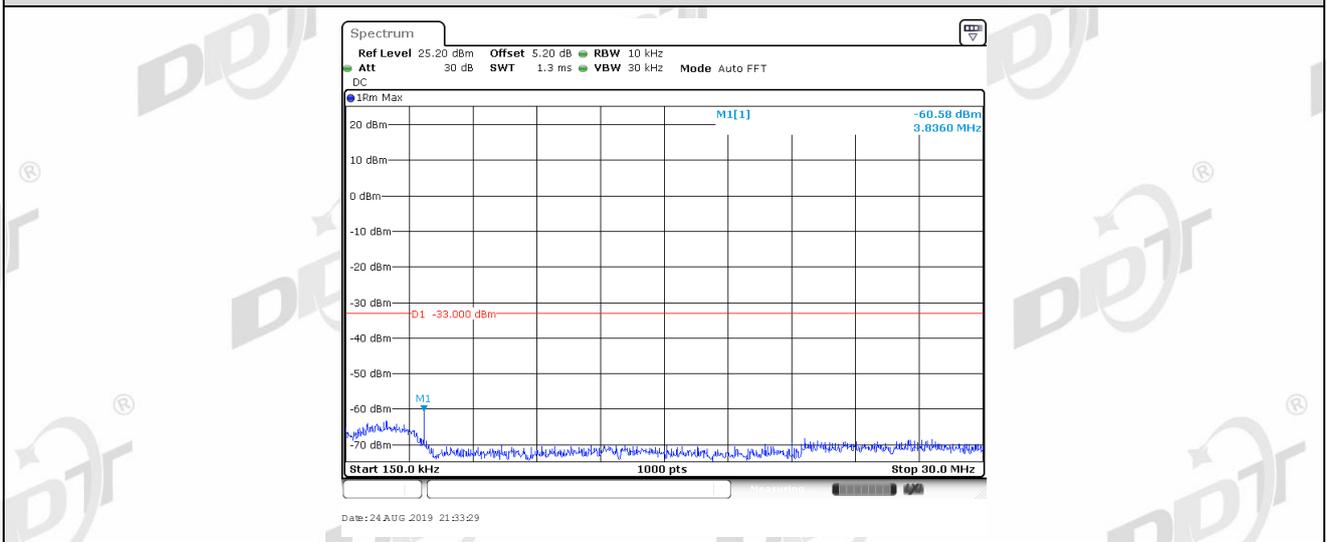
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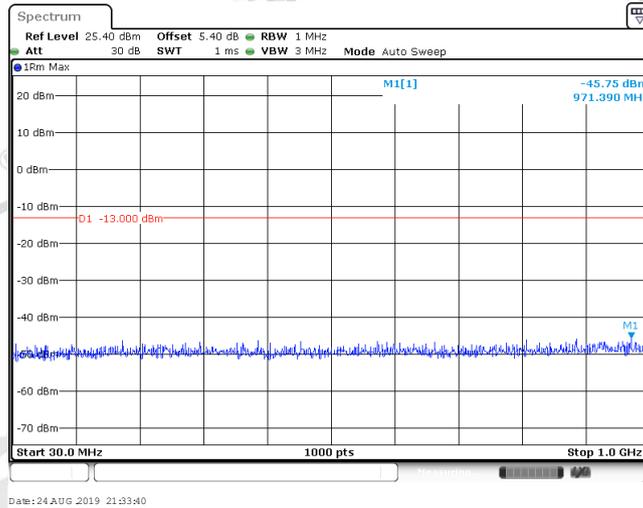
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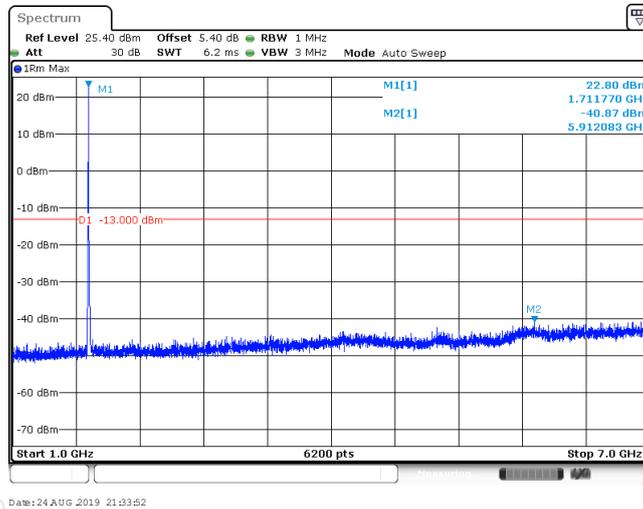
Band IV_1312



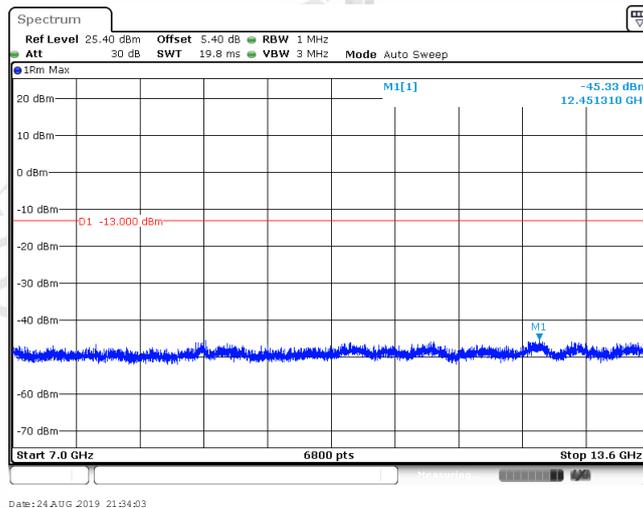
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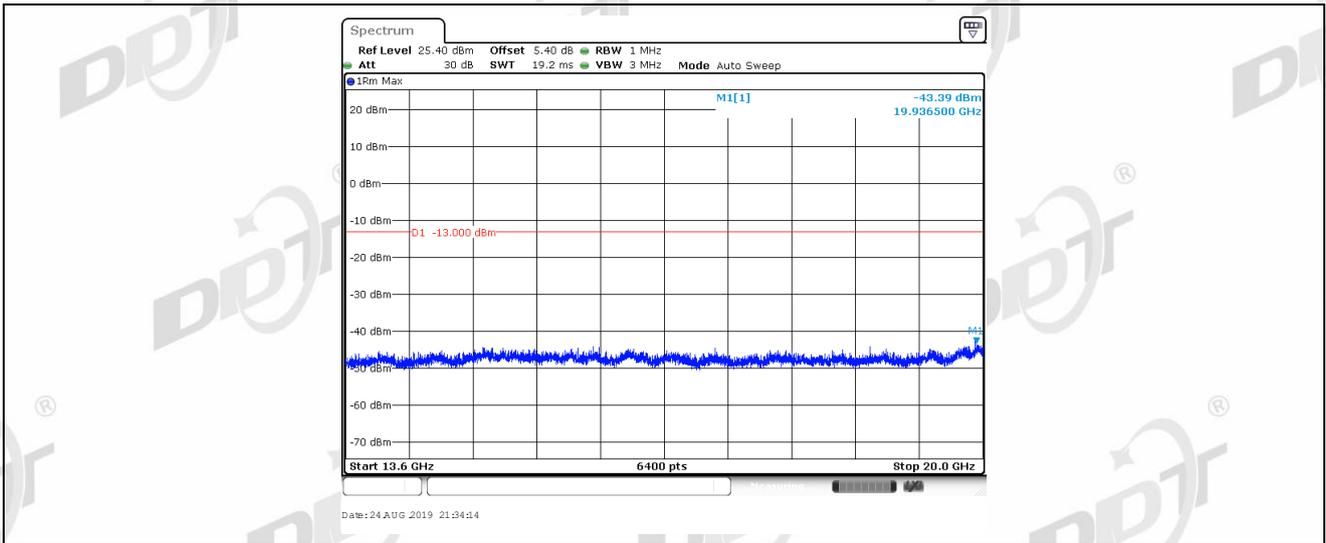
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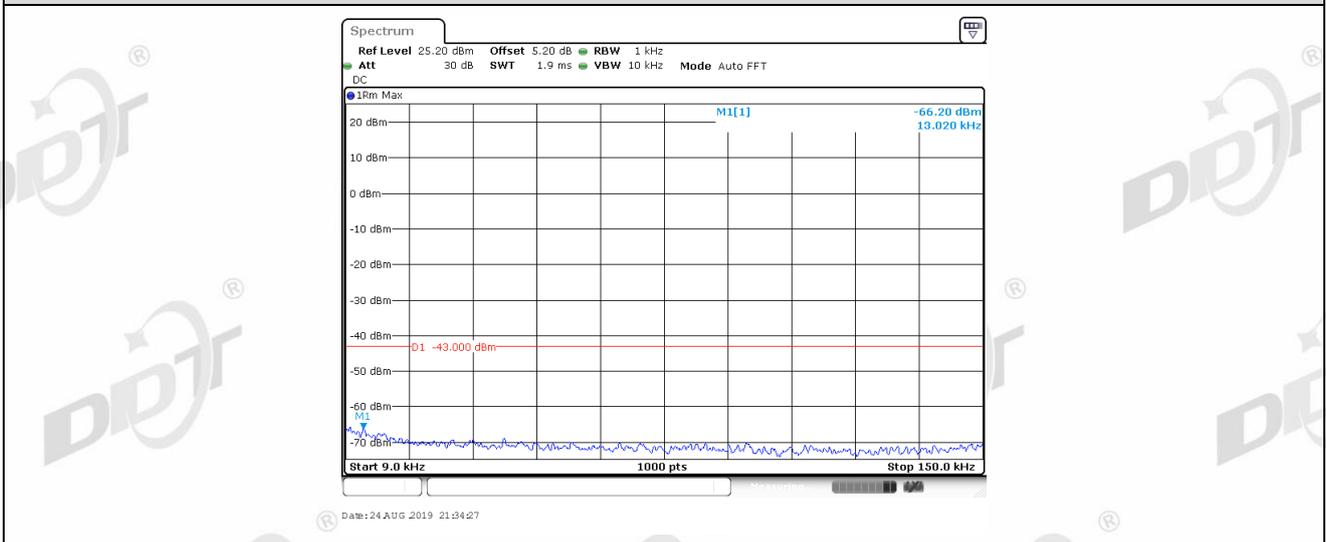
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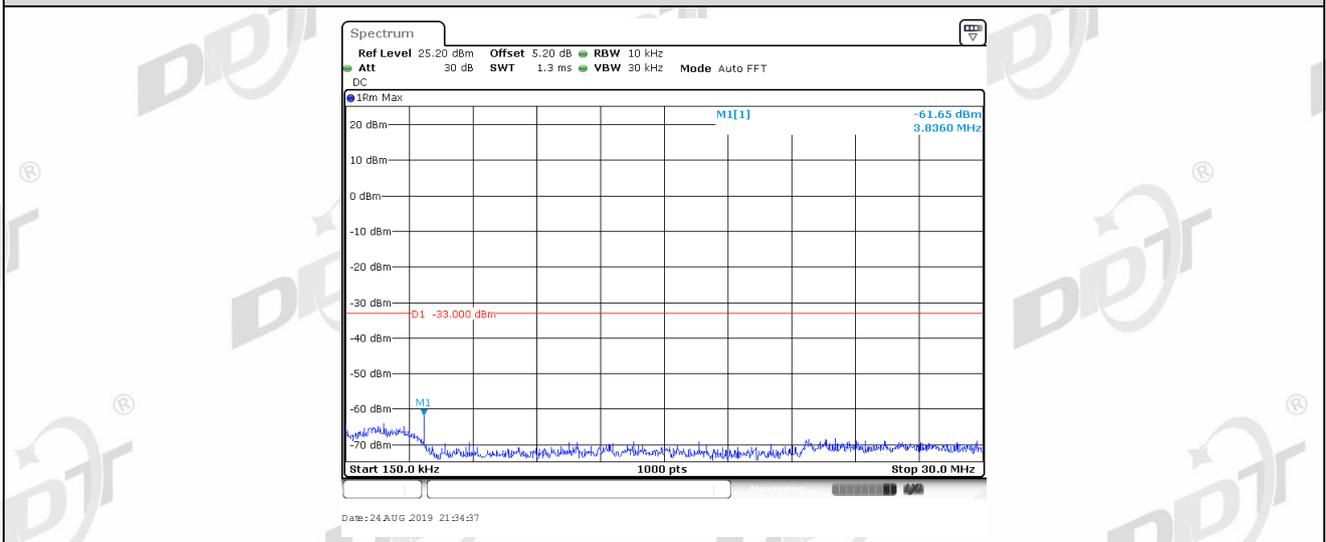
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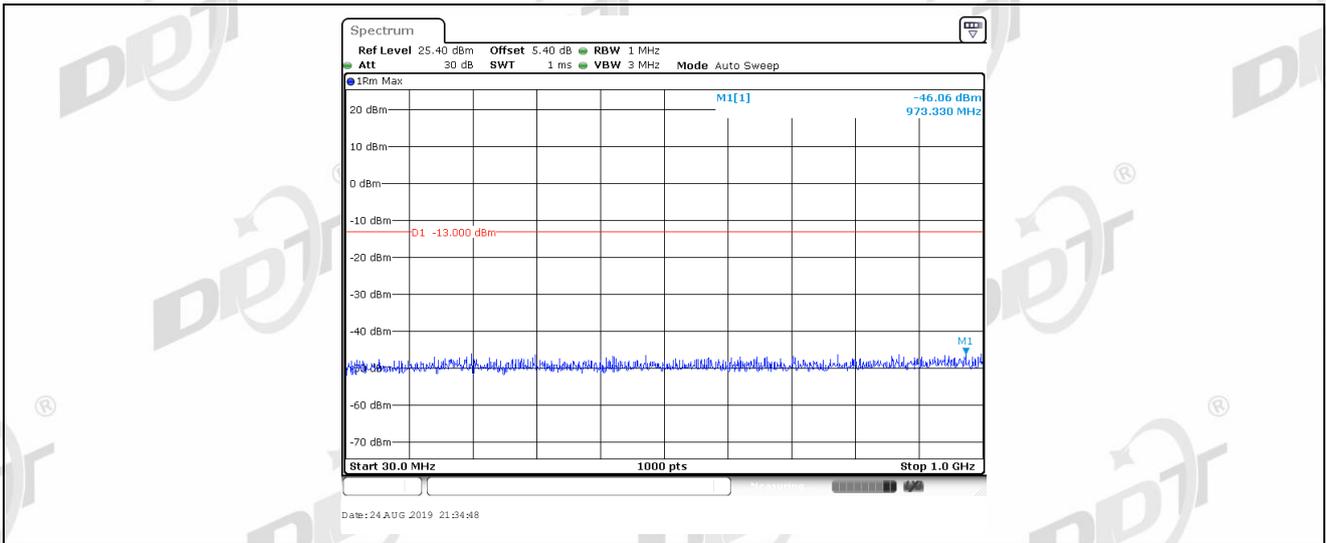
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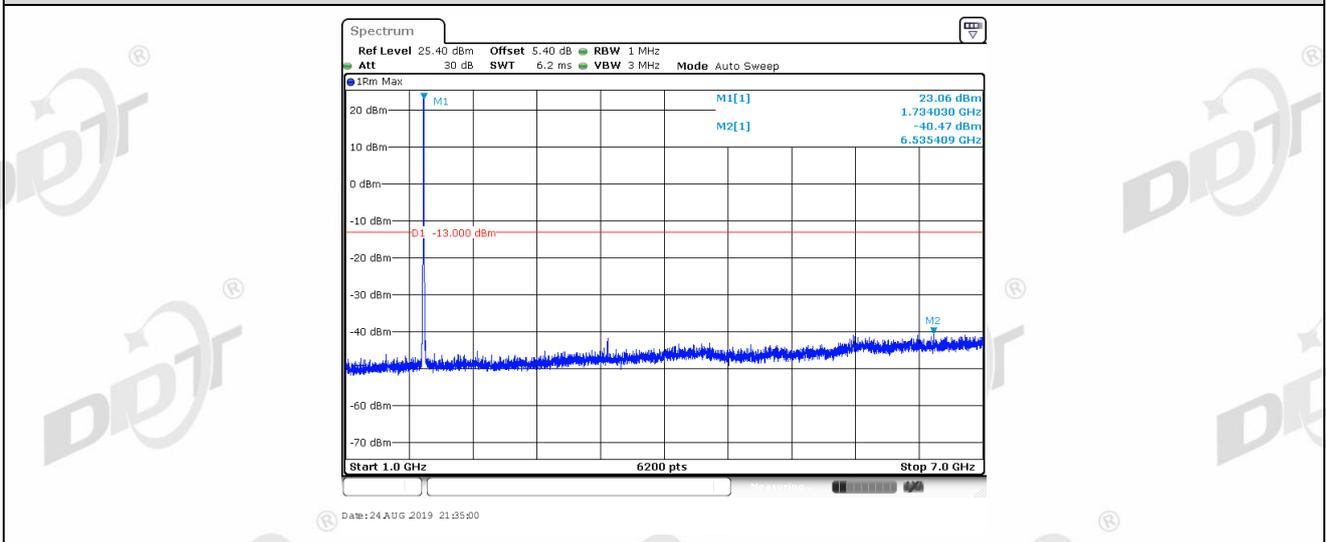
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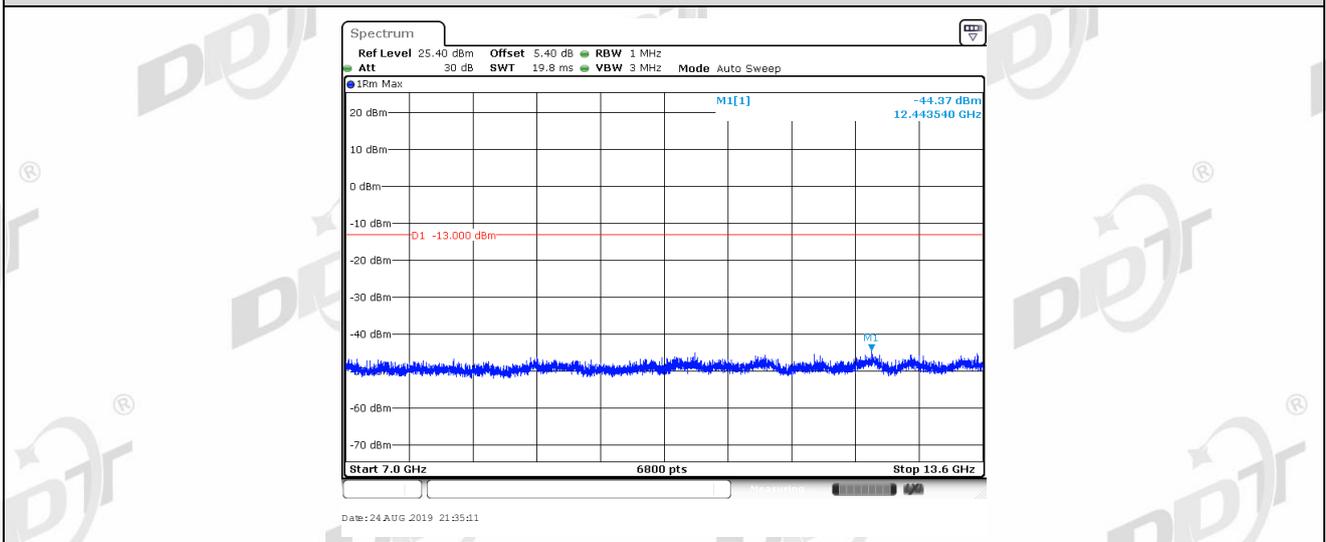
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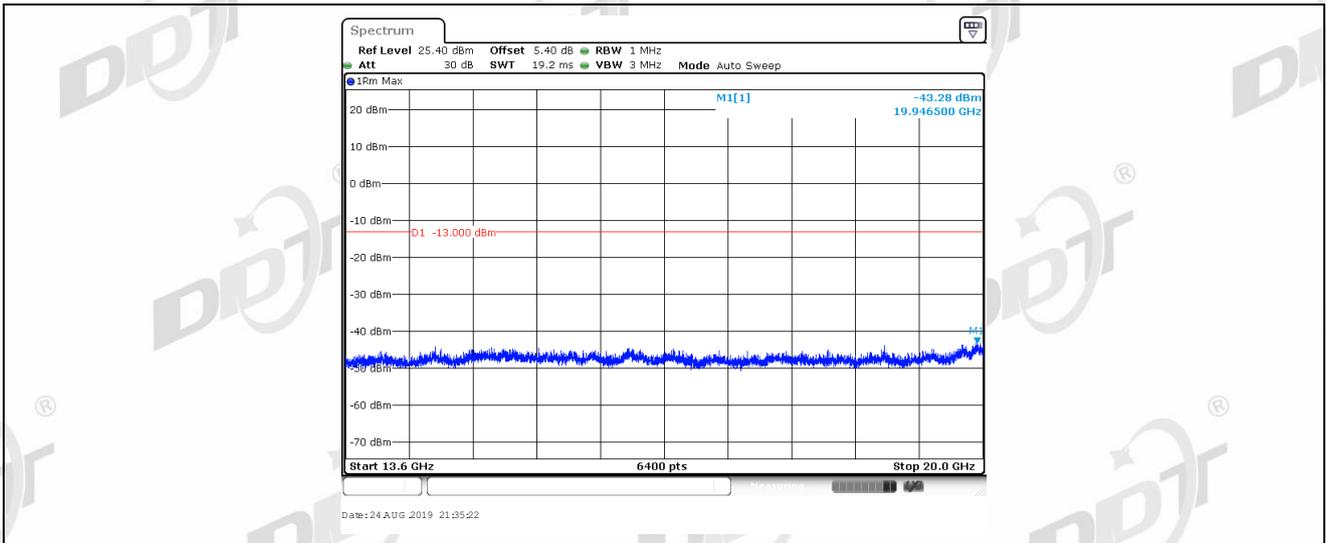
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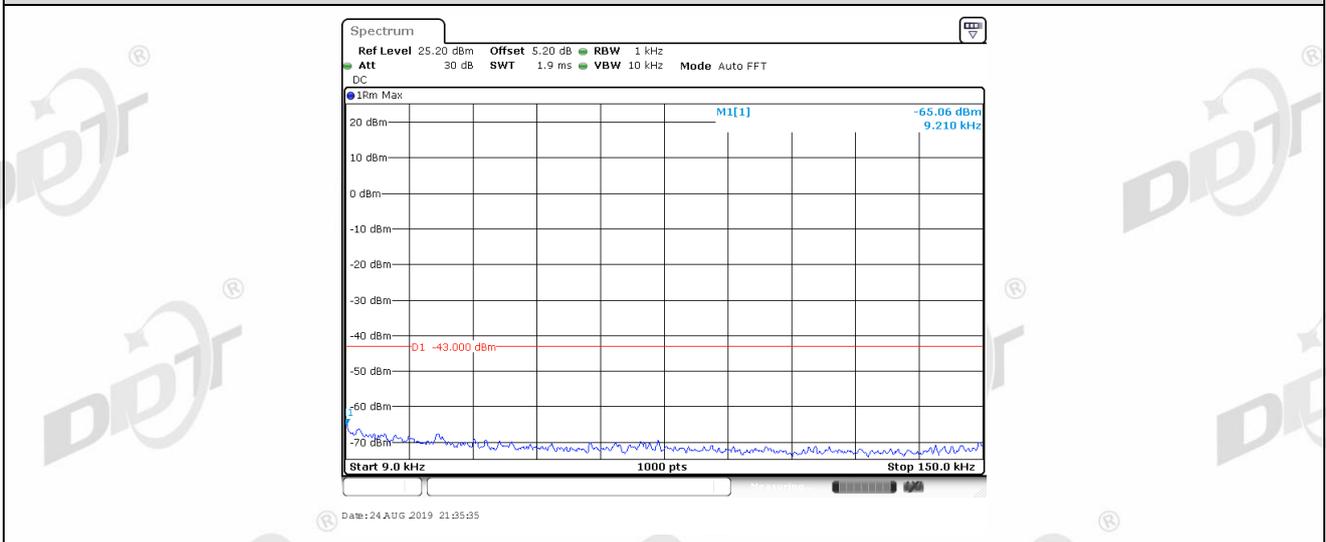
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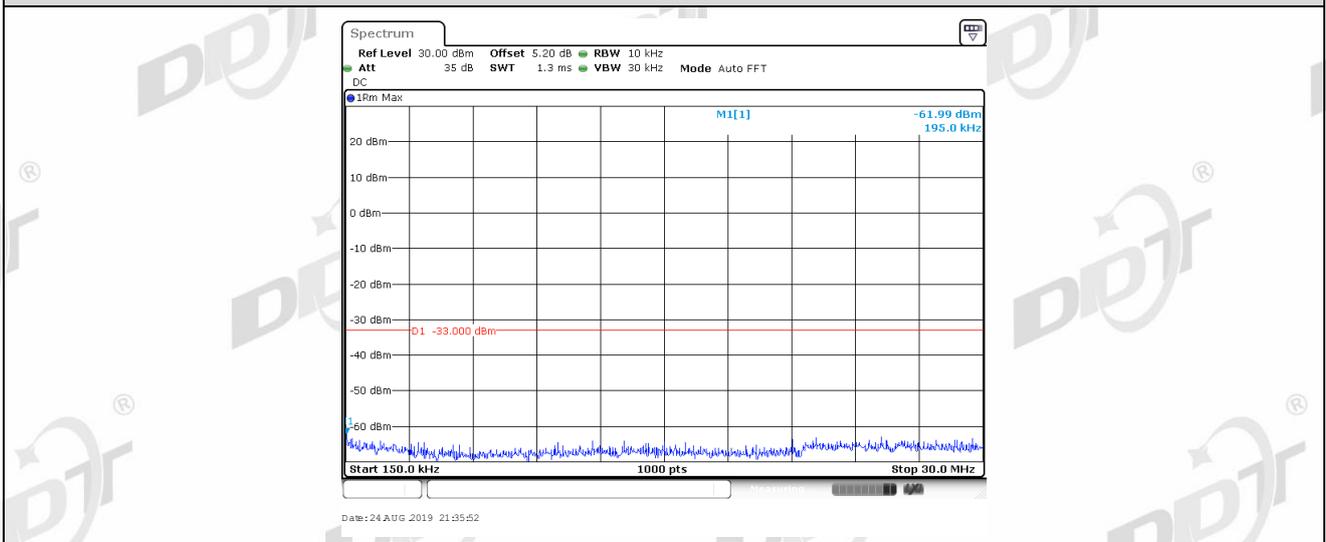
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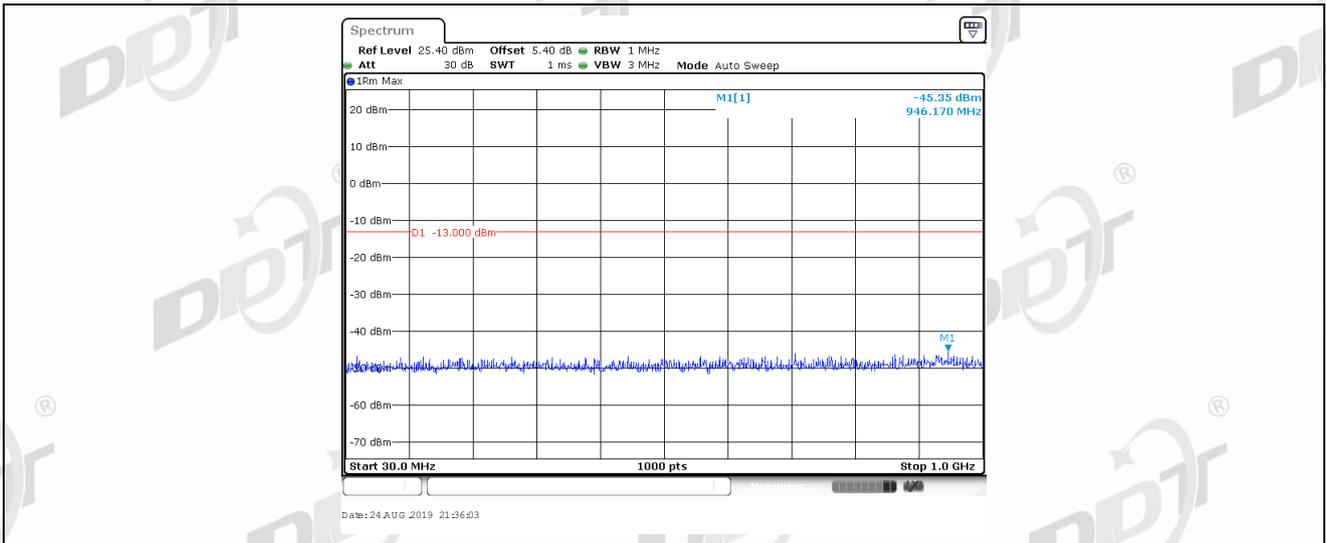
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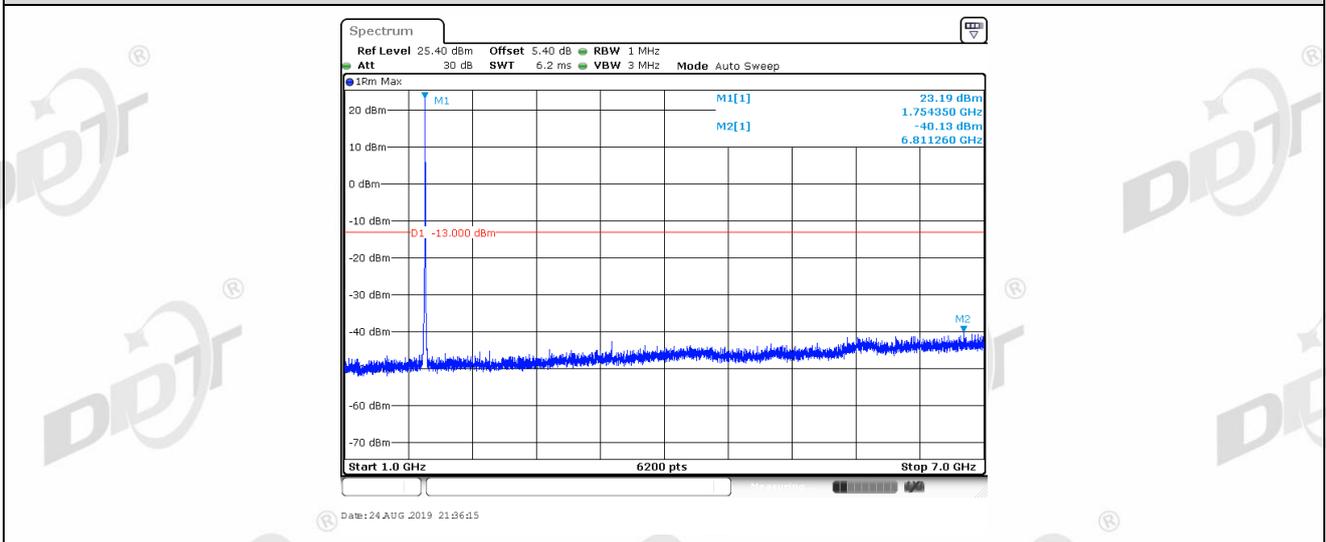
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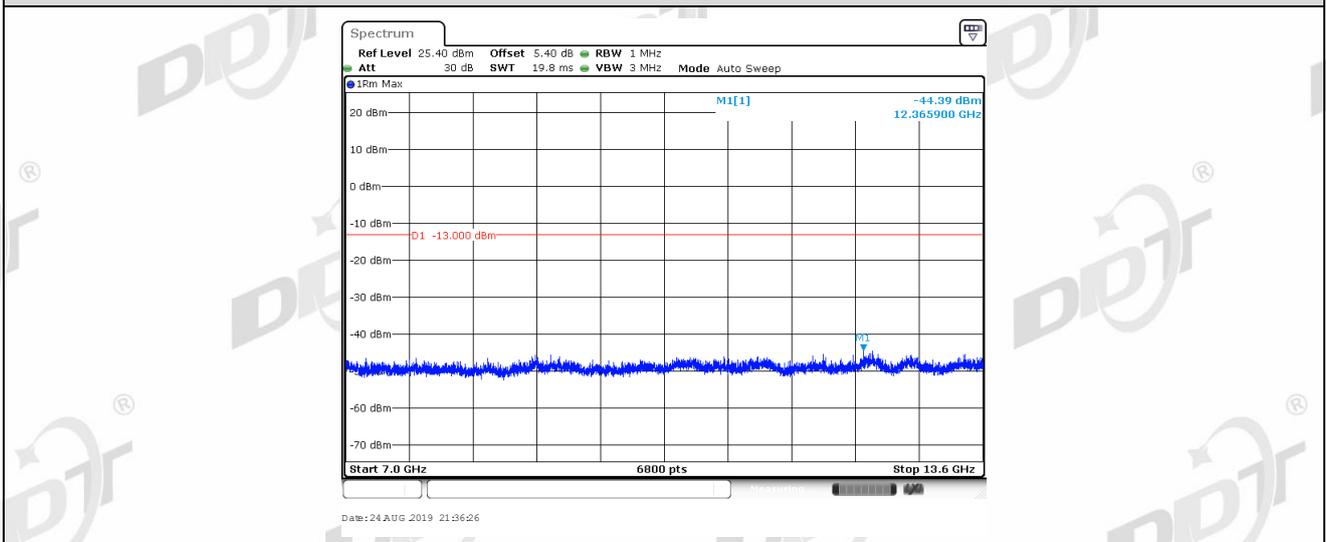
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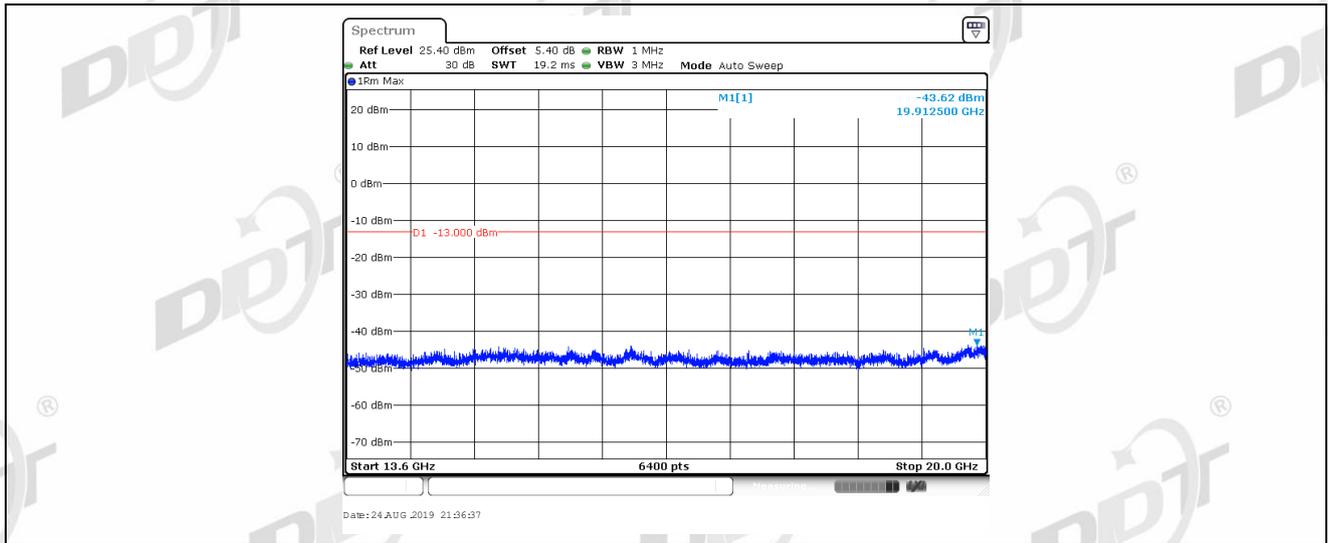
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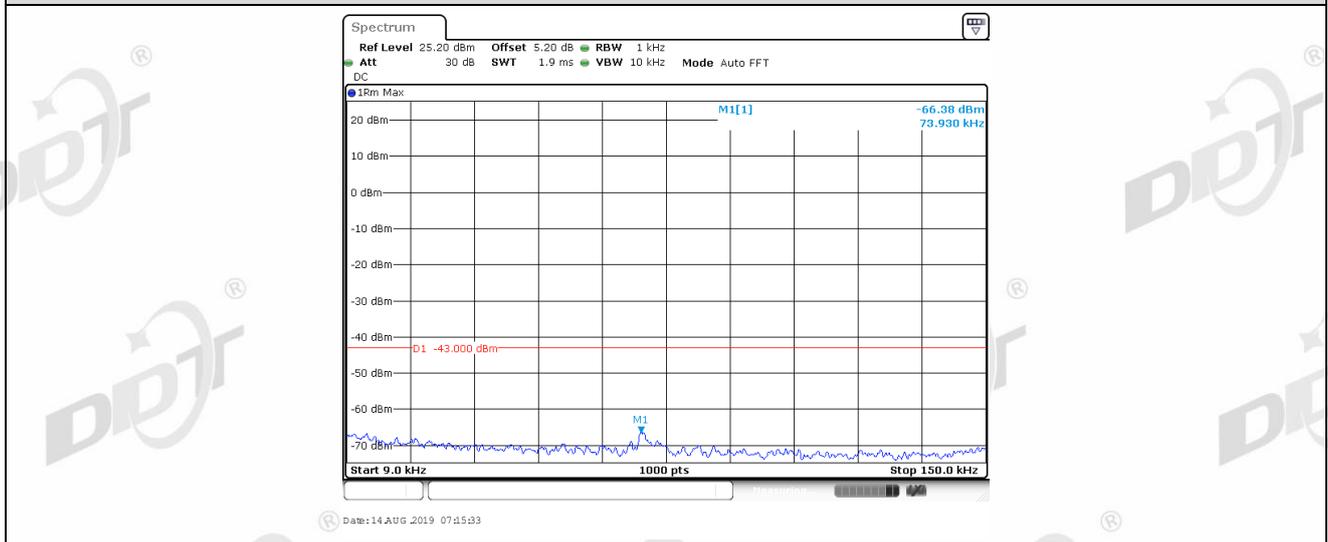
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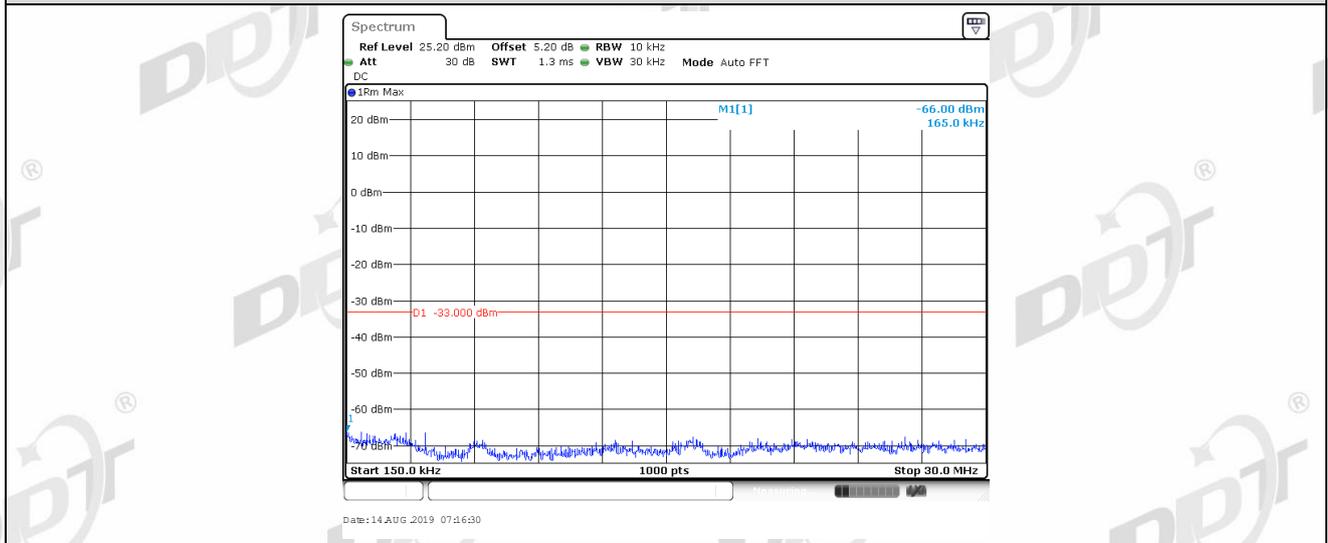
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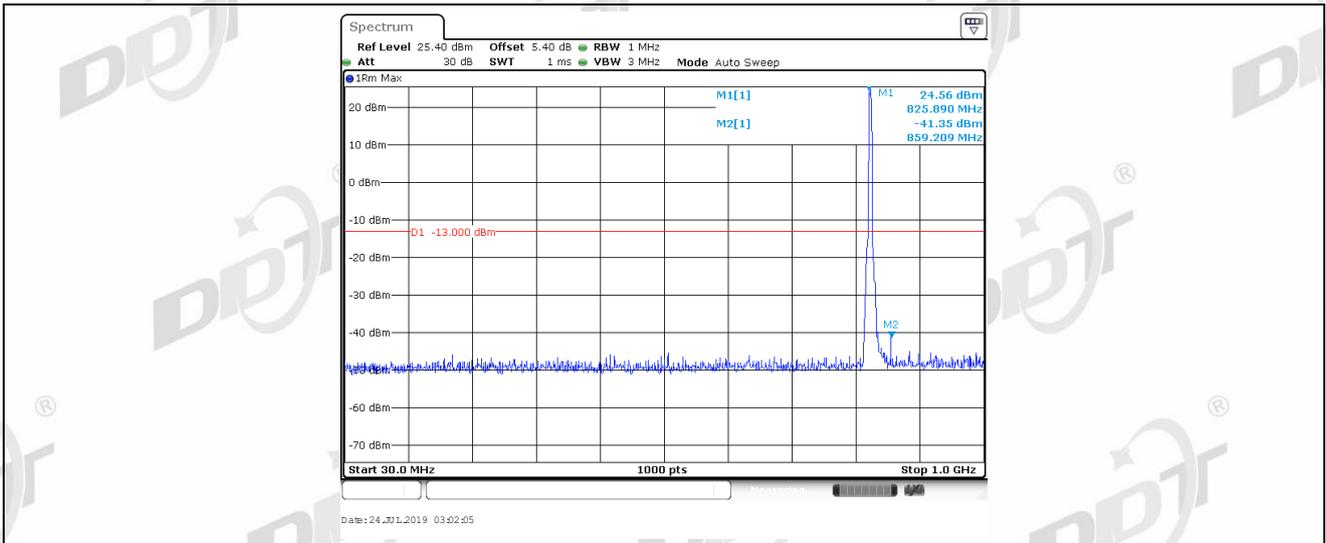
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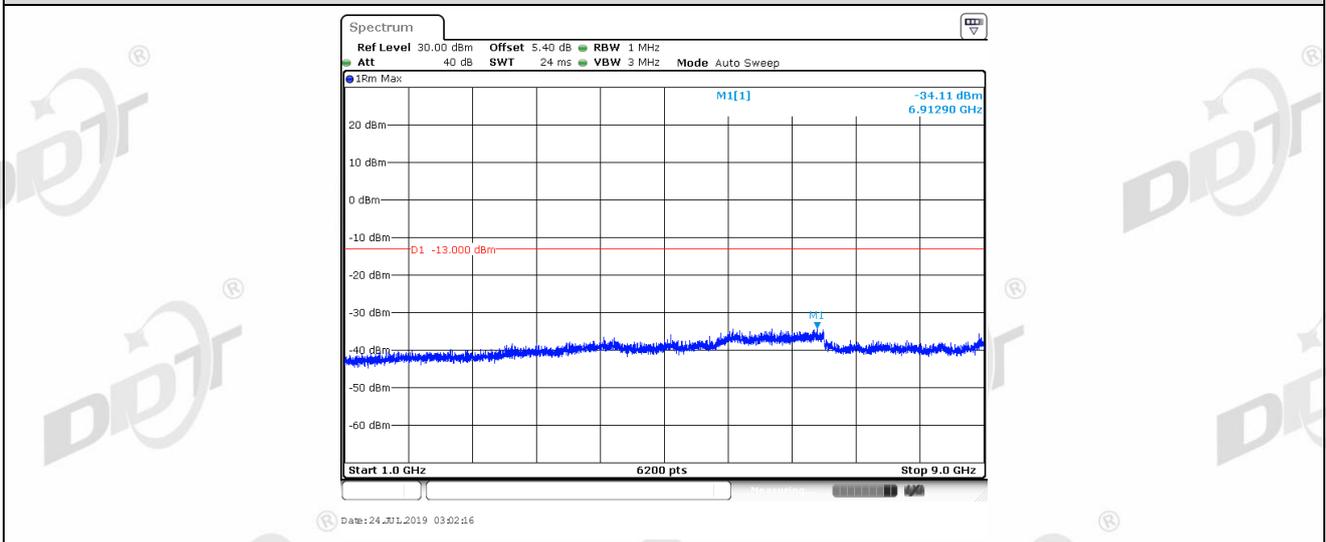
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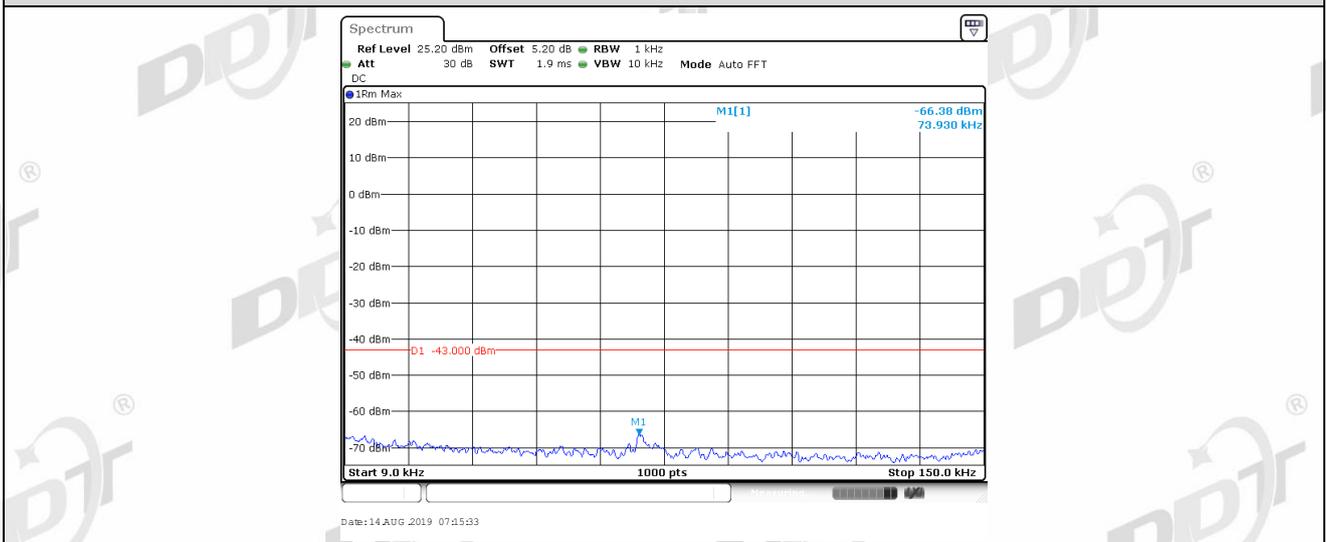
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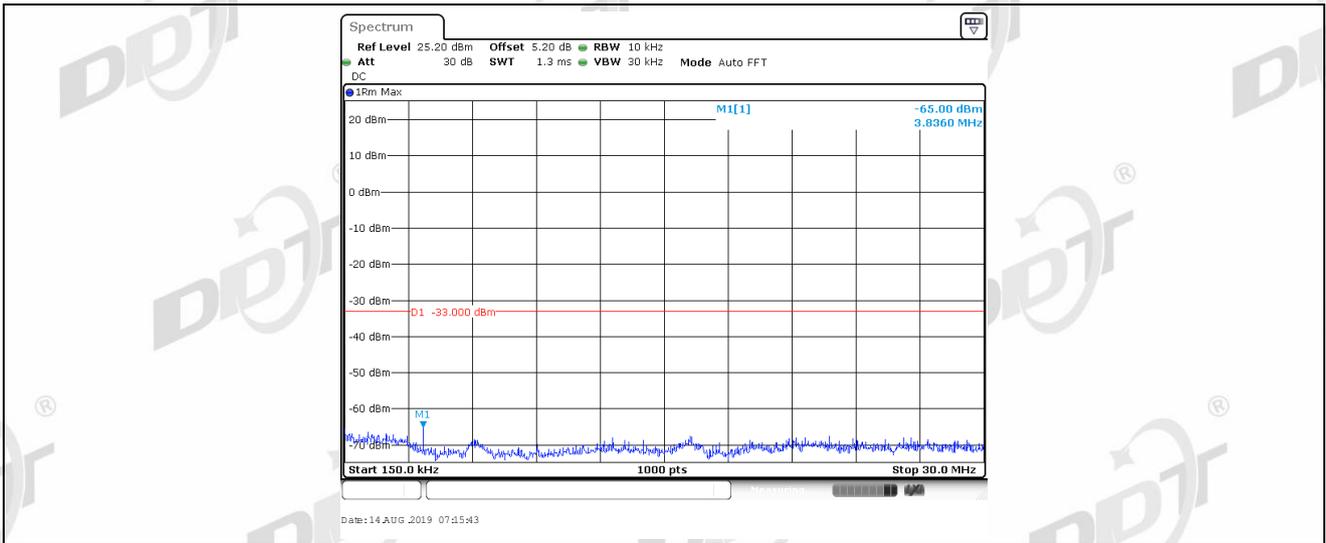
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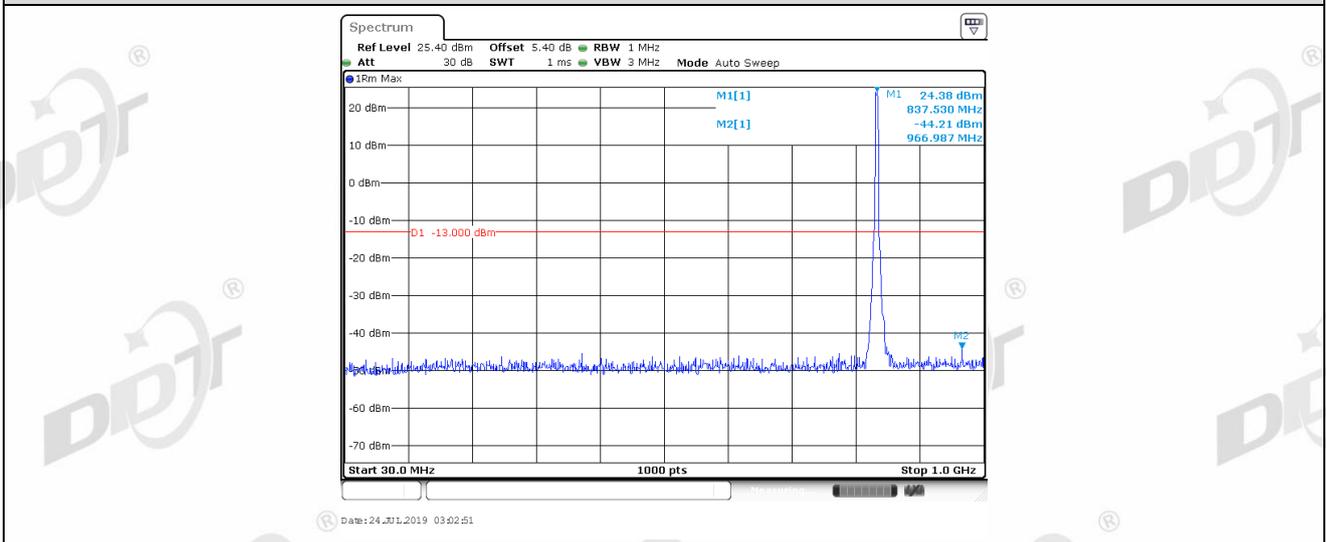
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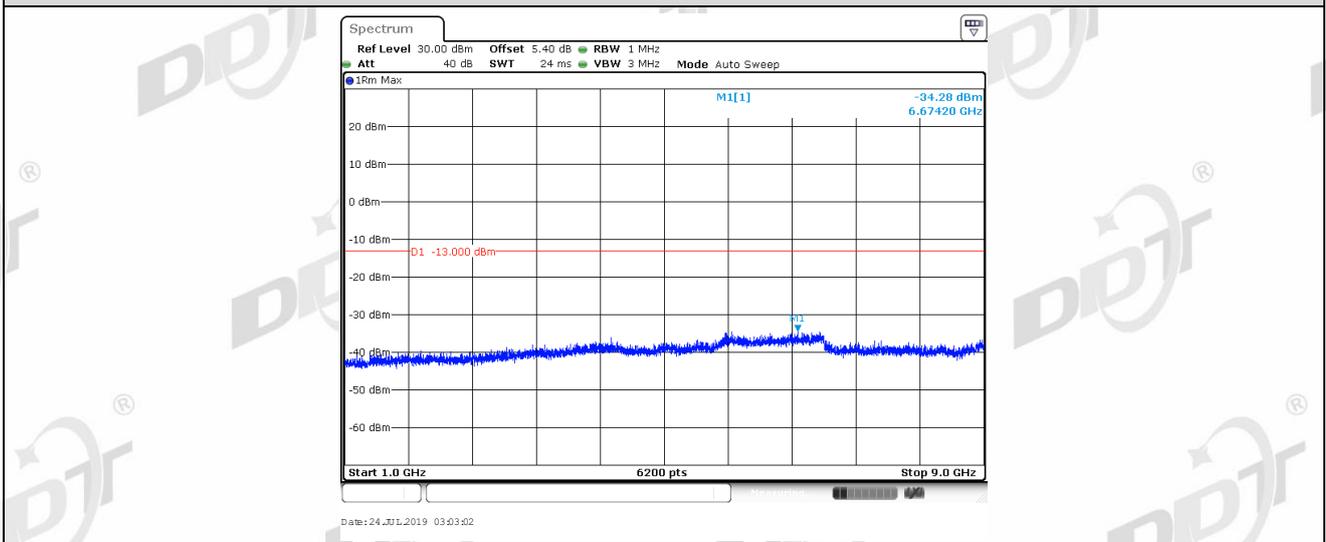
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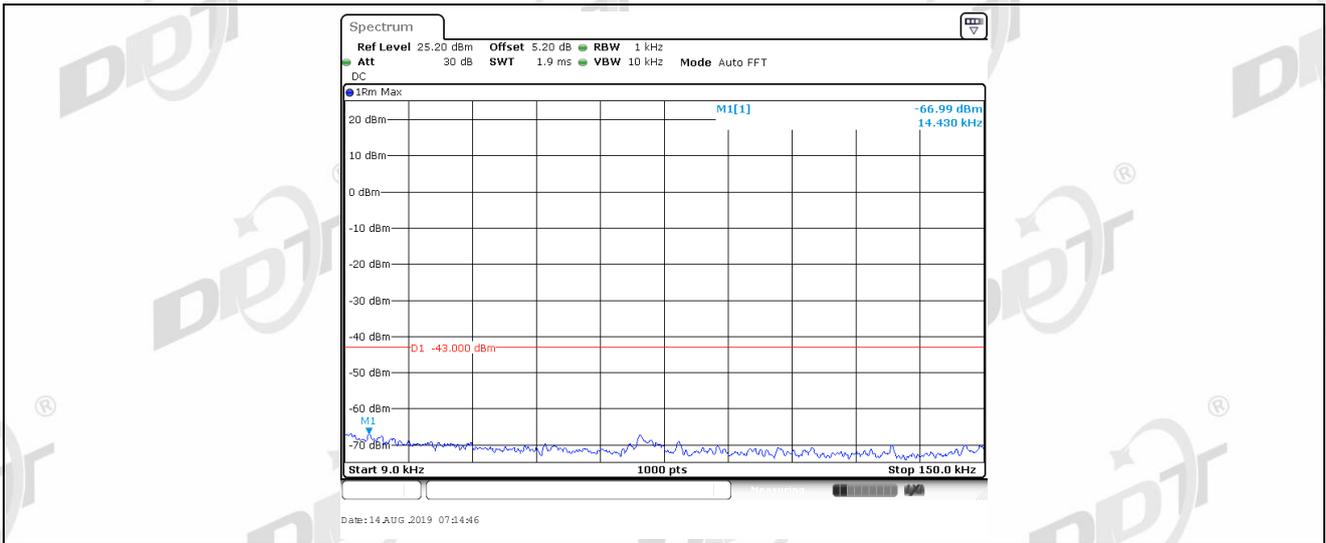
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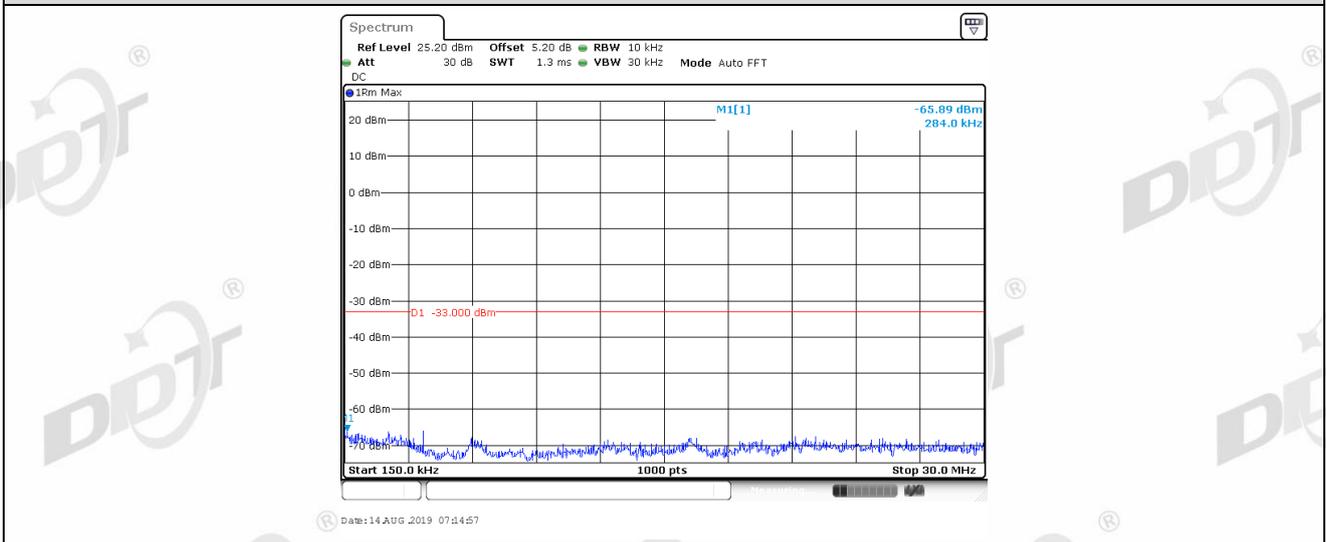
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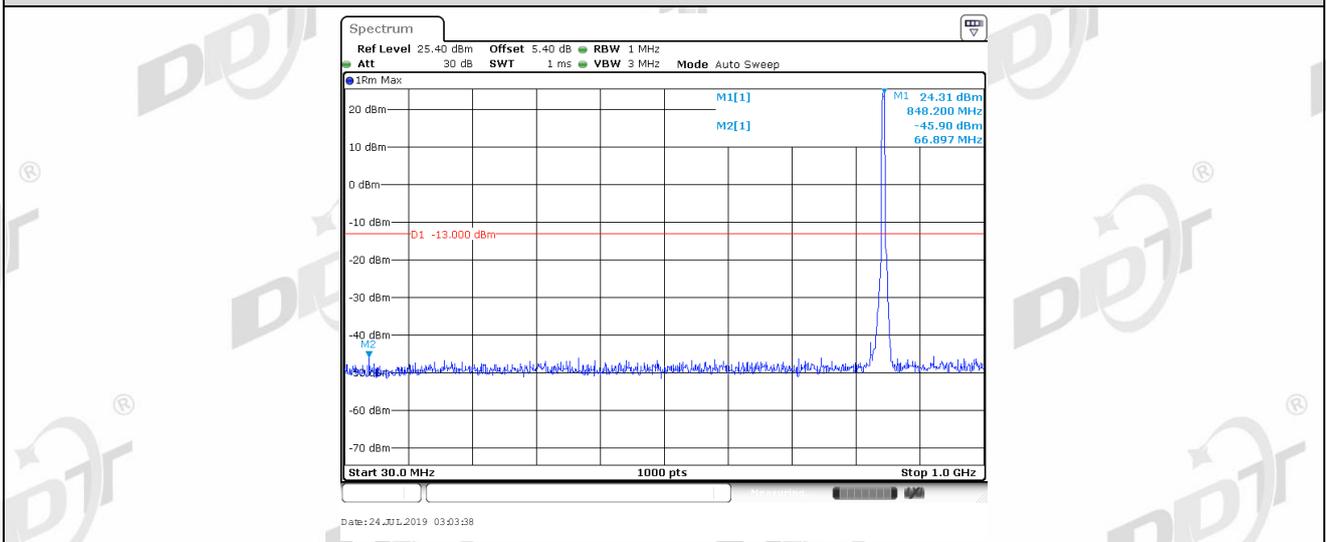
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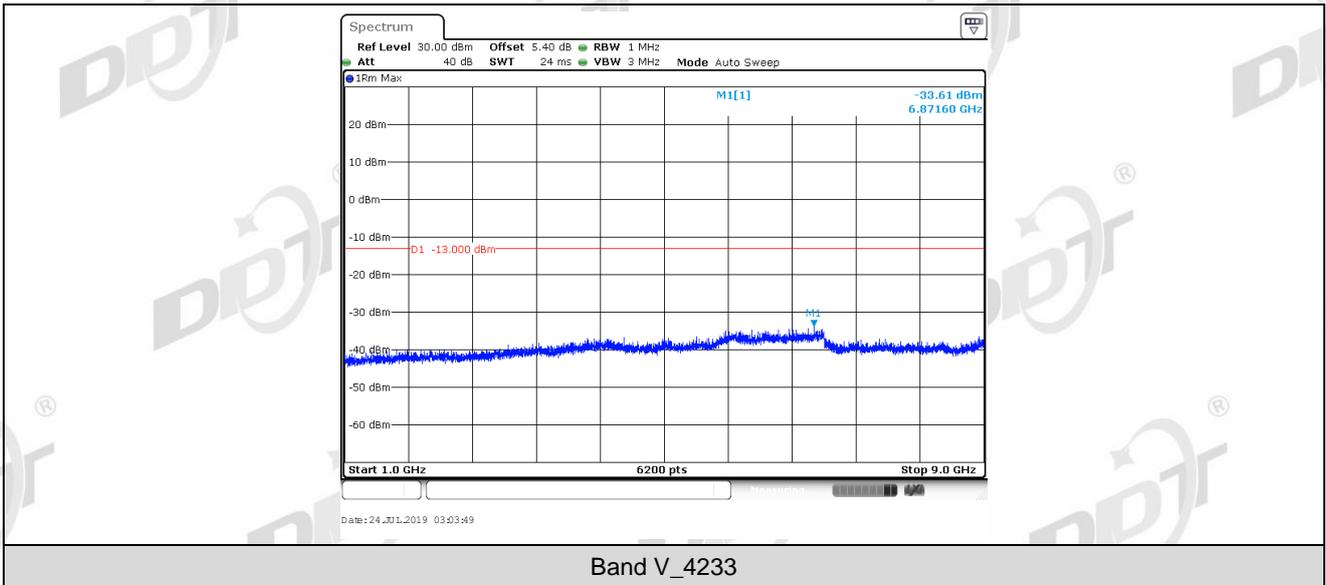
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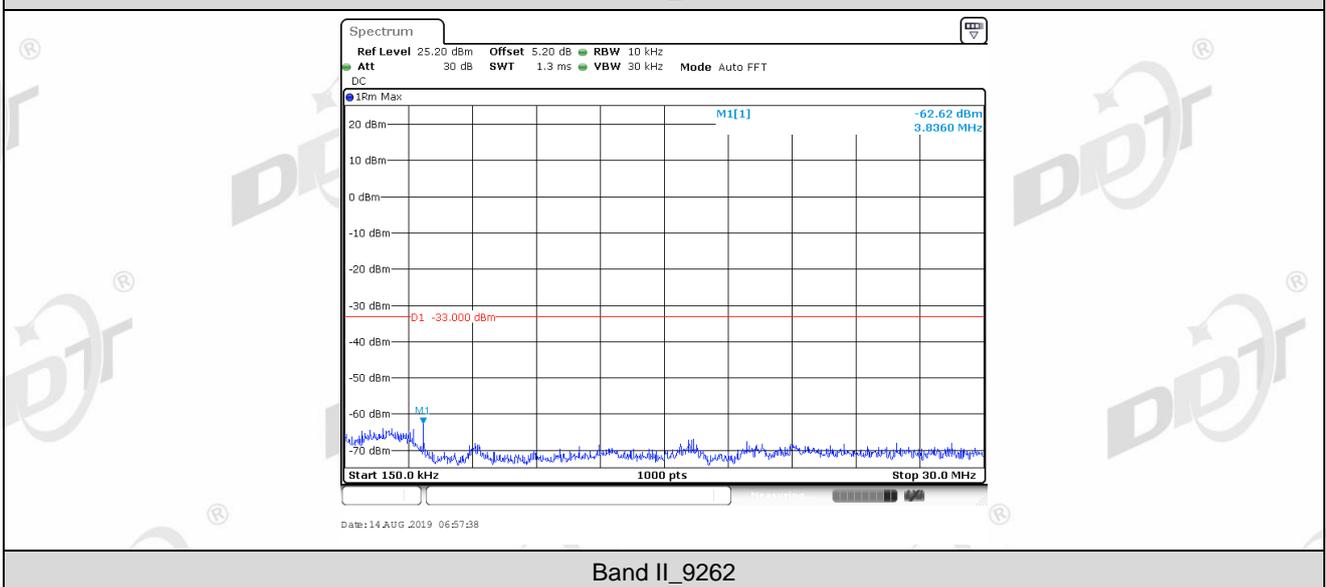
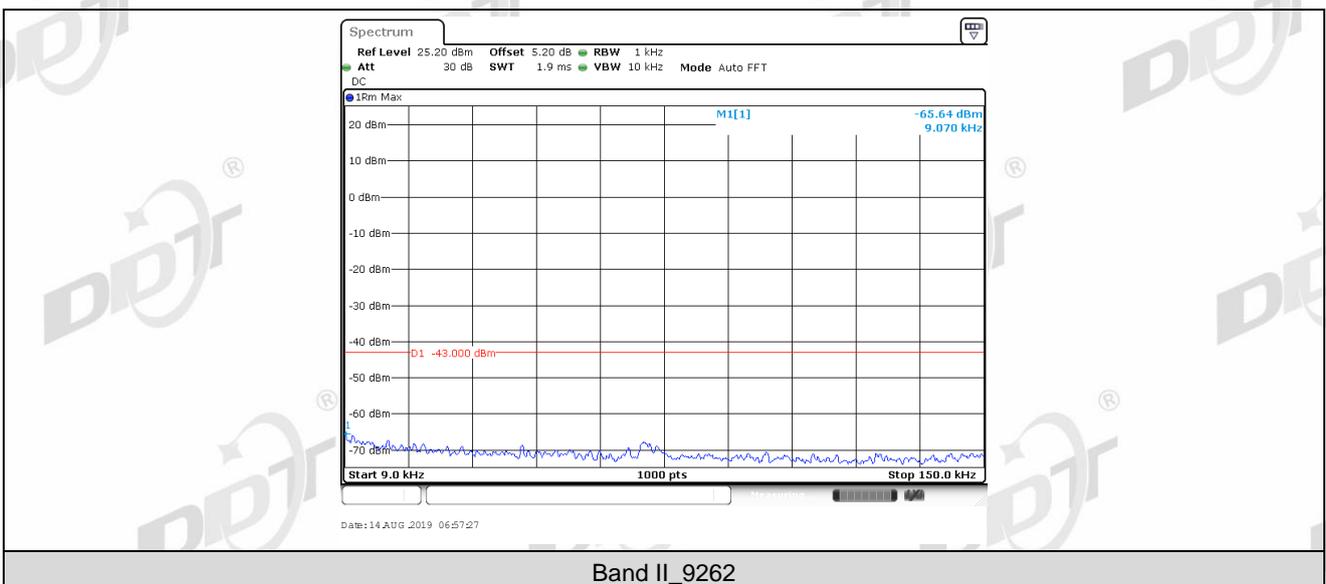
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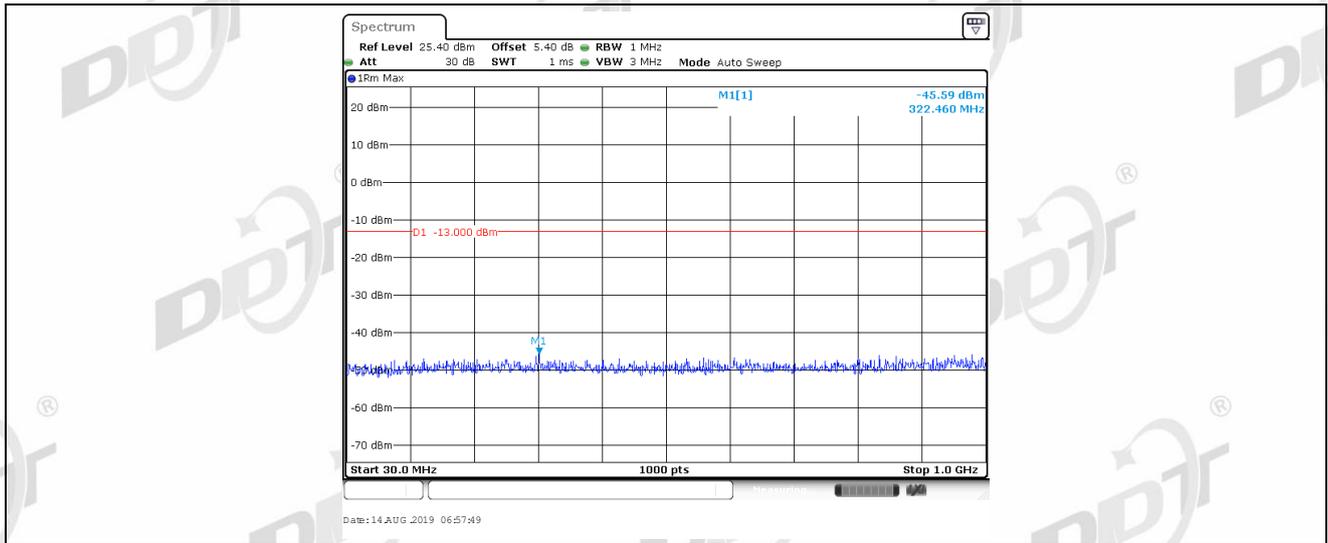


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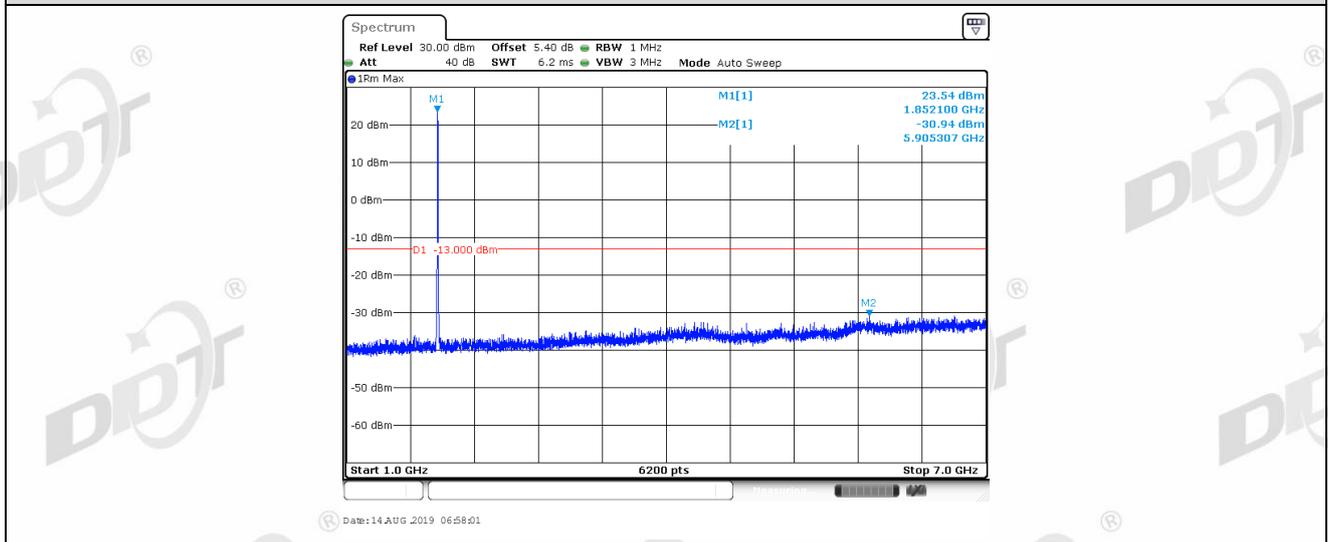


8.2. Test Plots For 16QAM

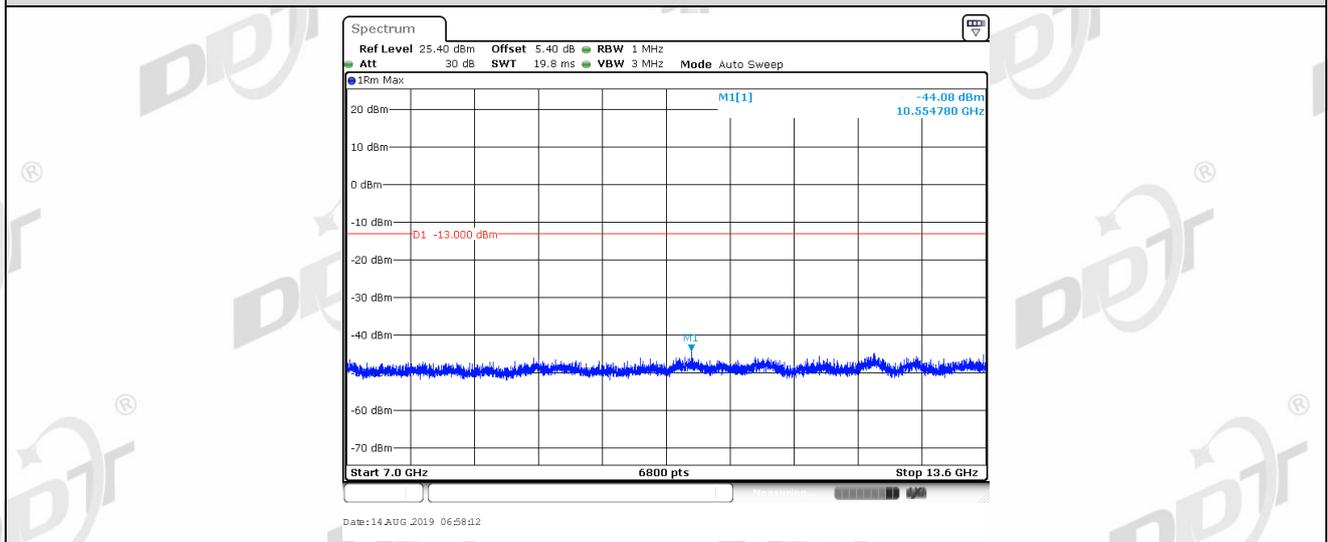




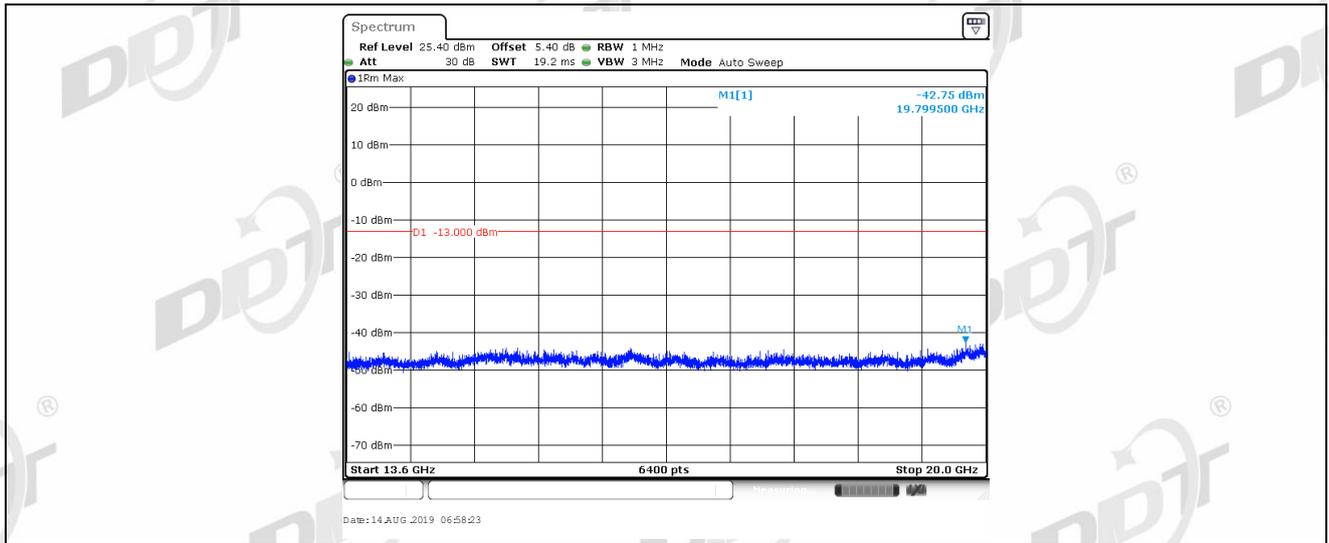
Band II_9262



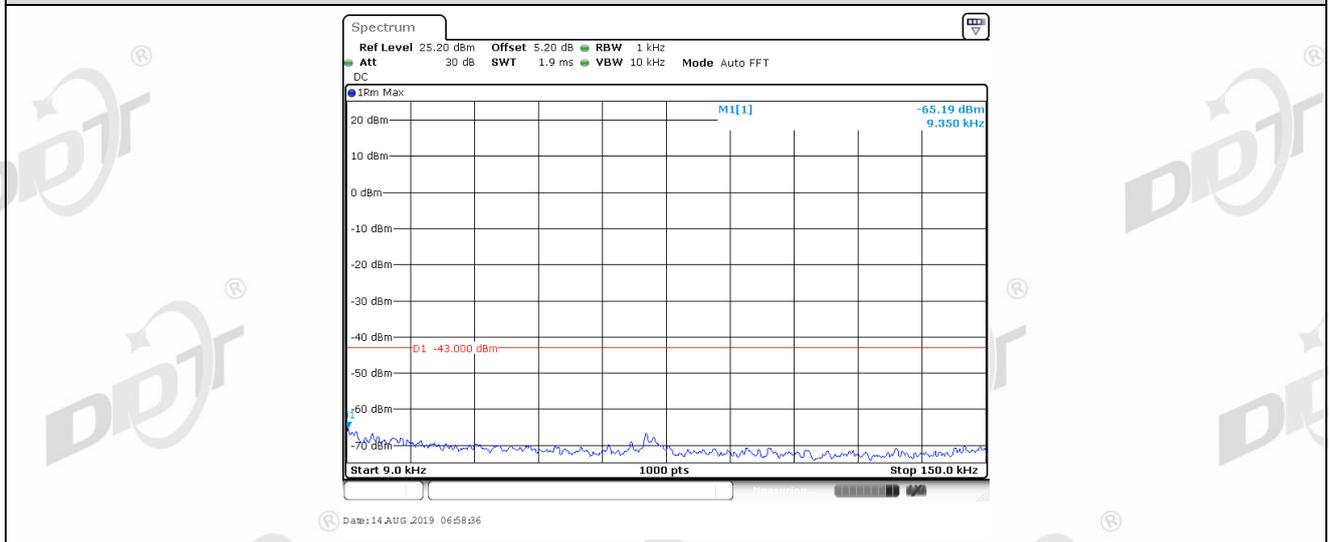
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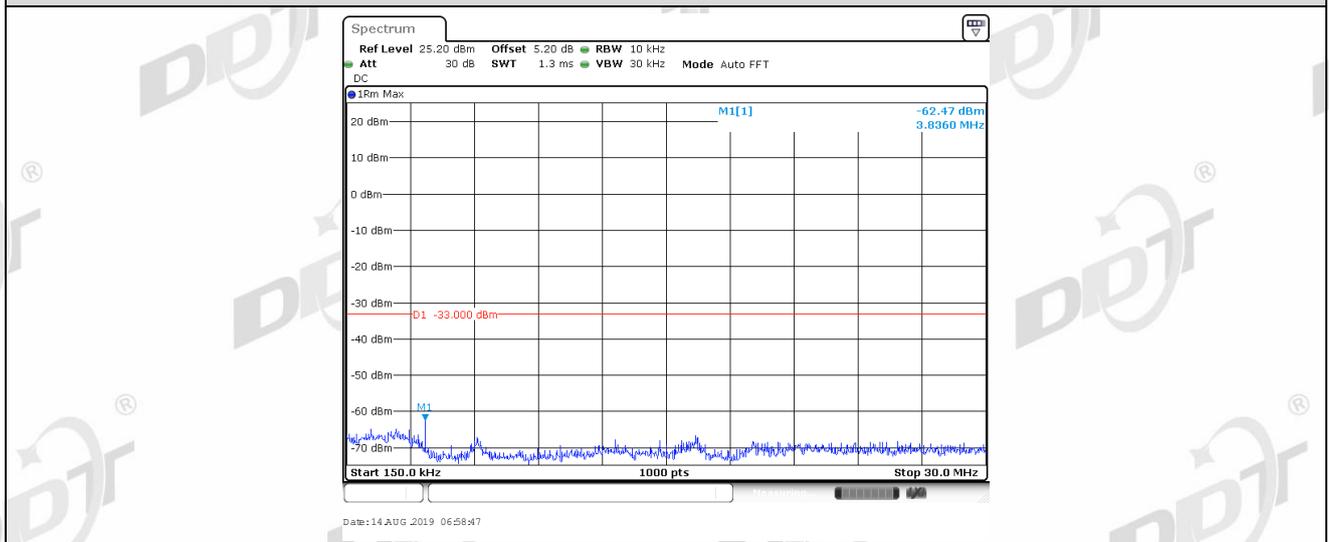
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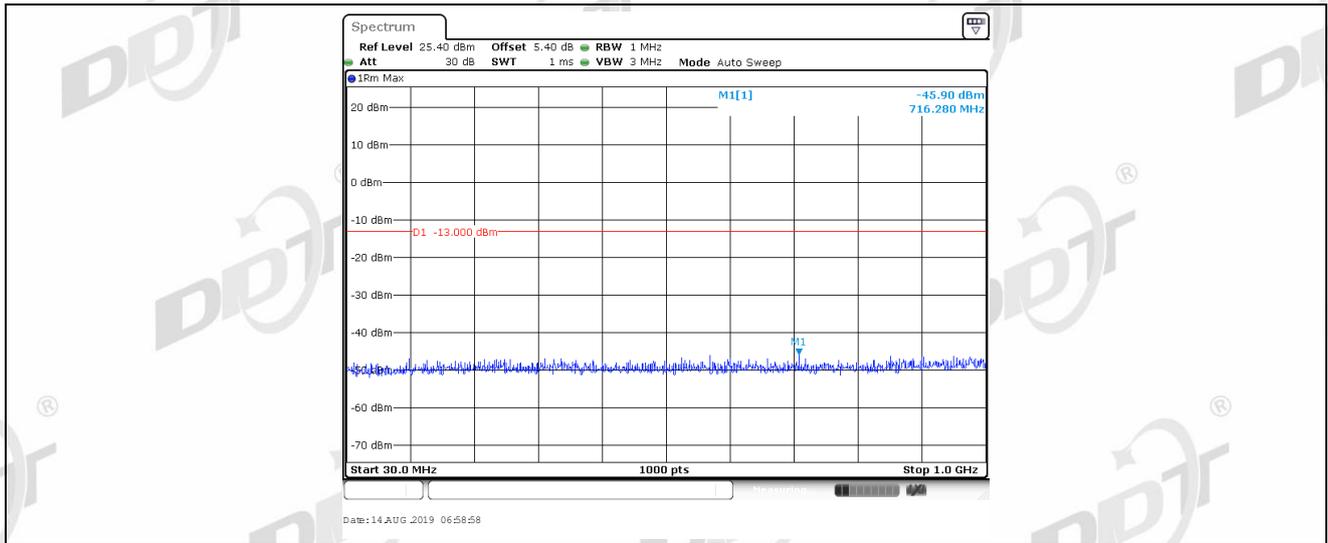
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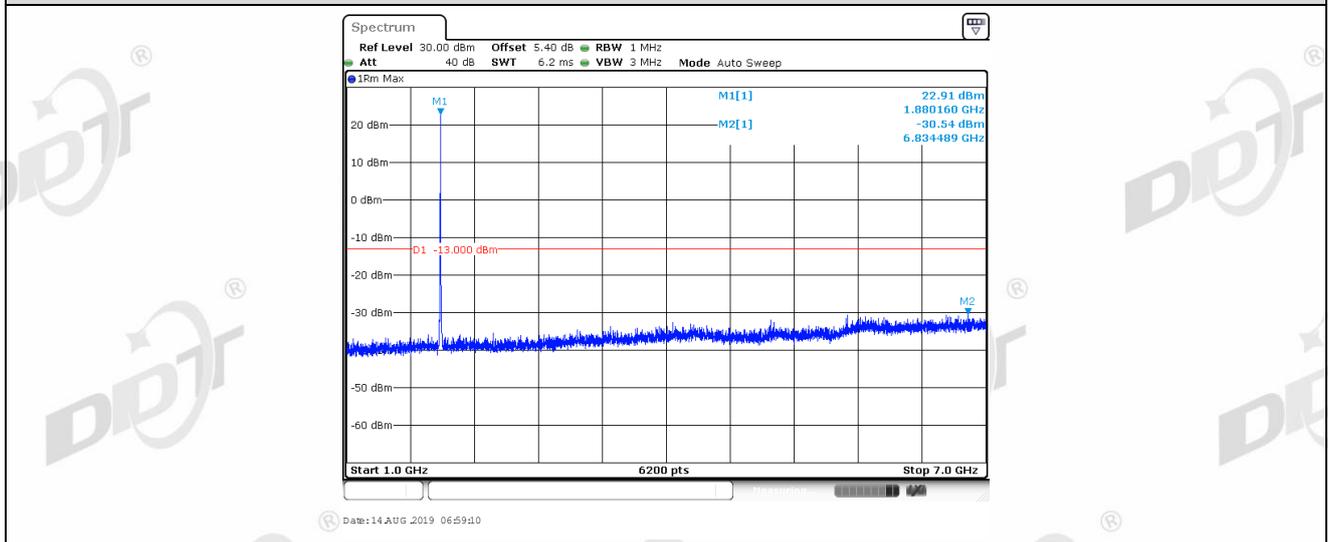
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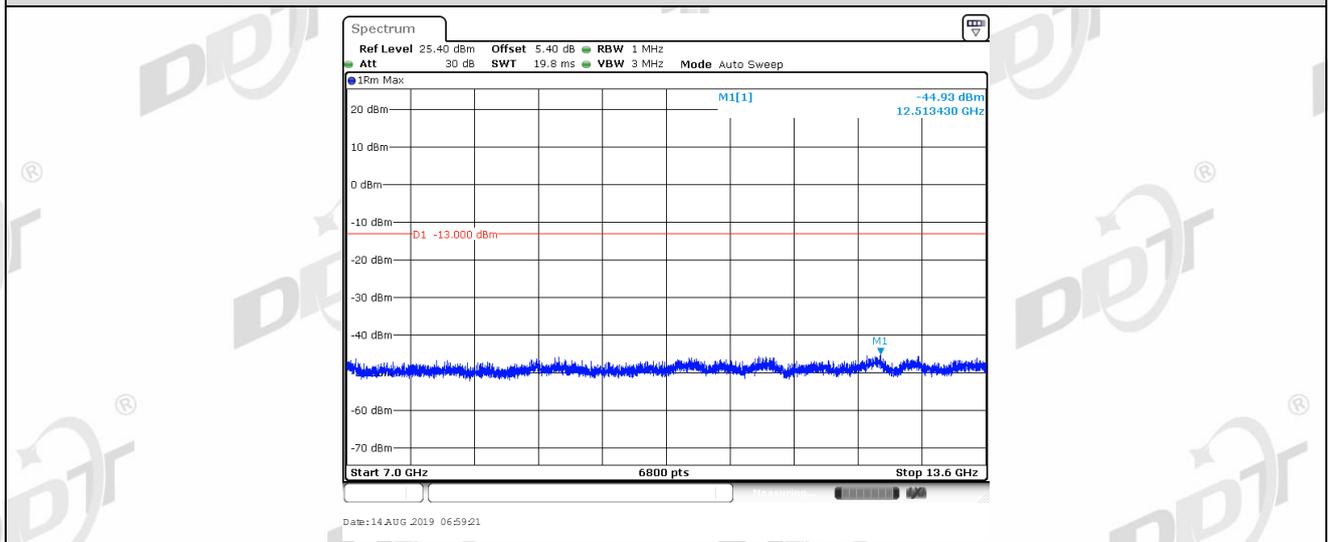
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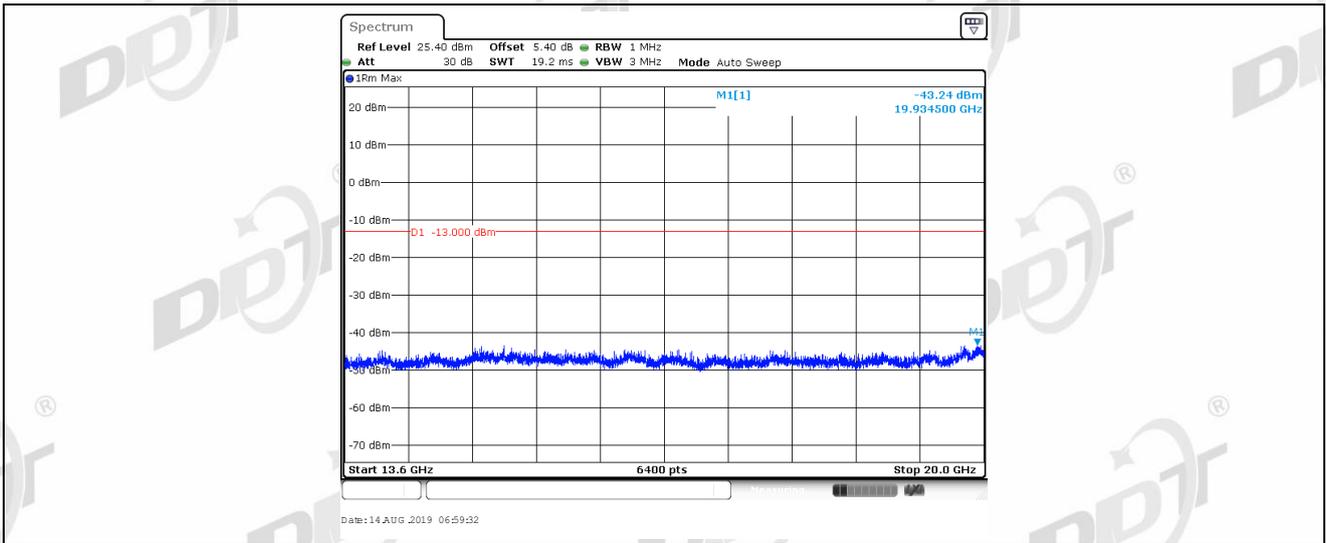
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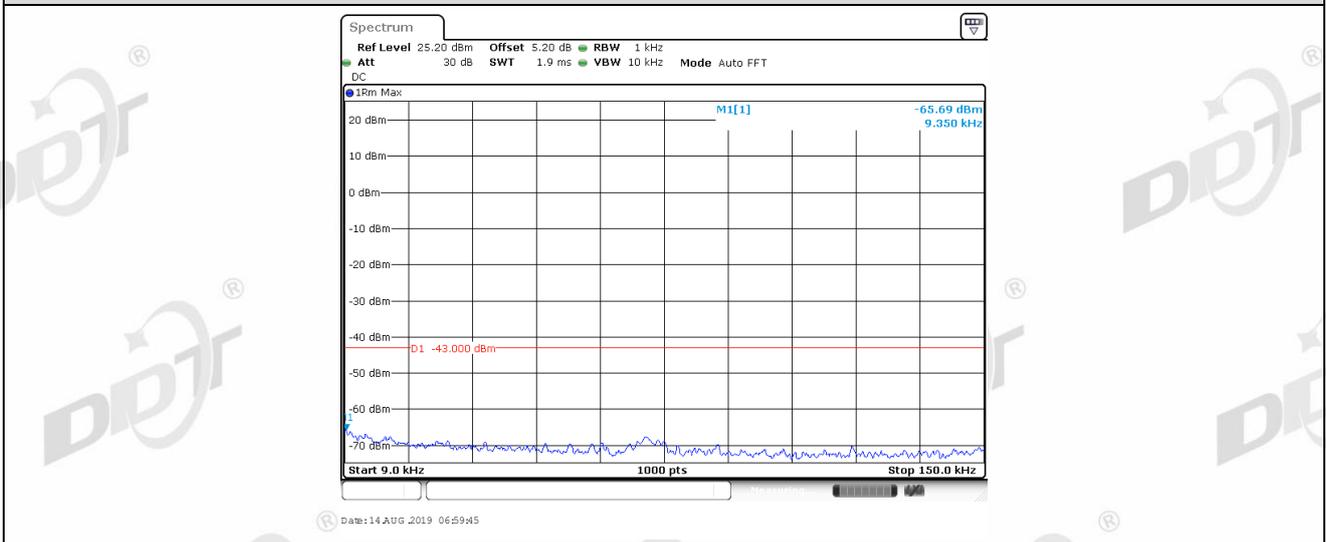
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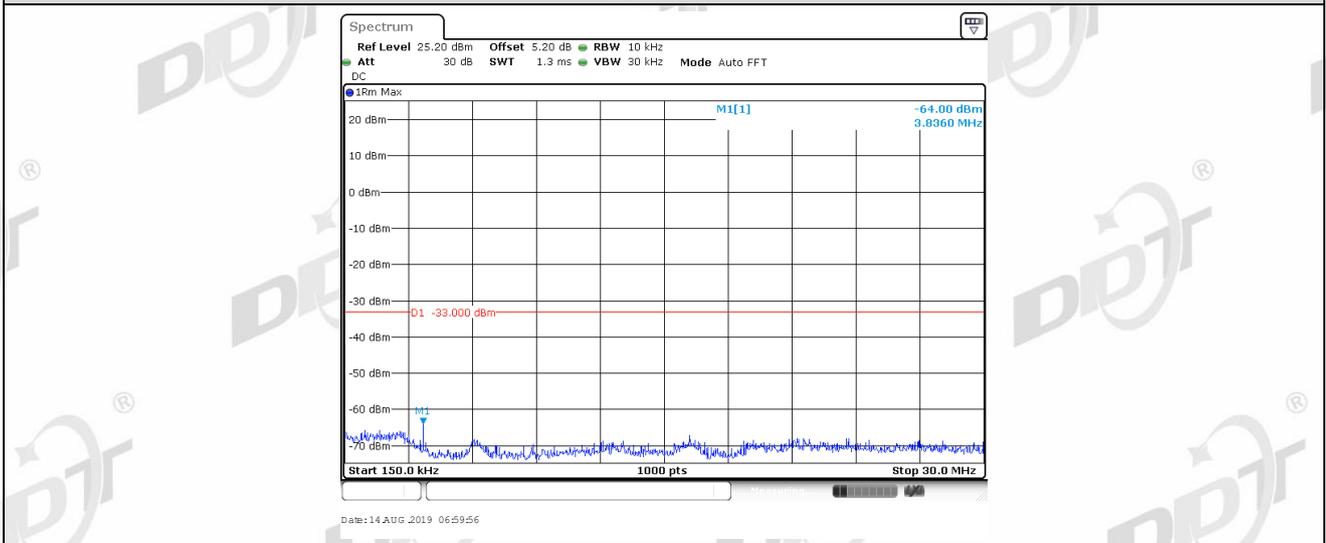
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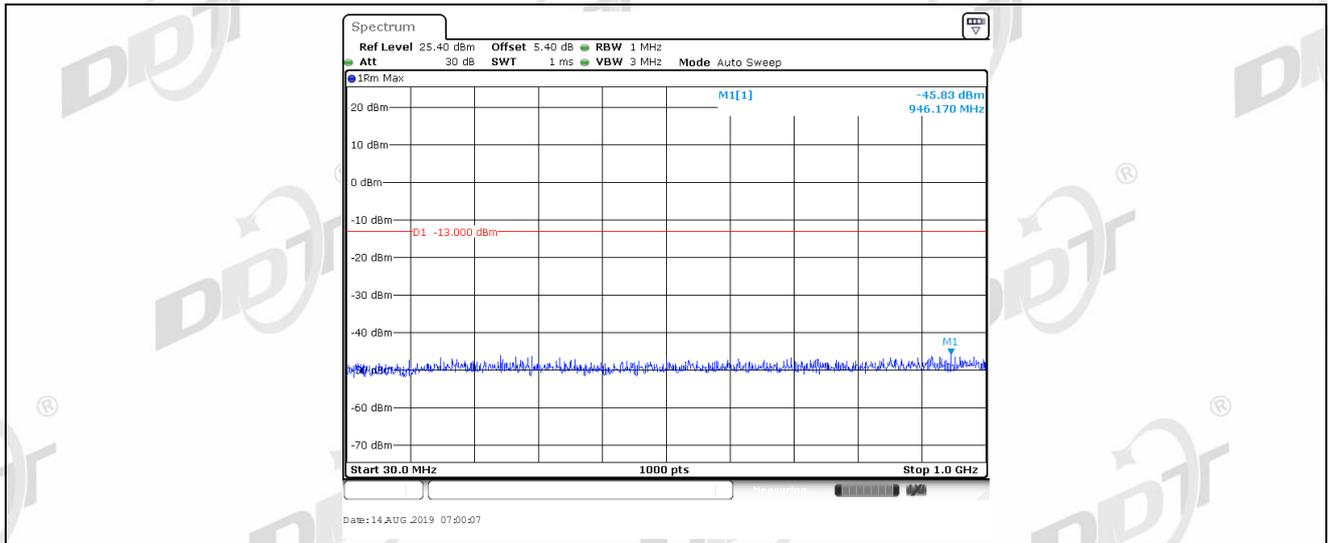
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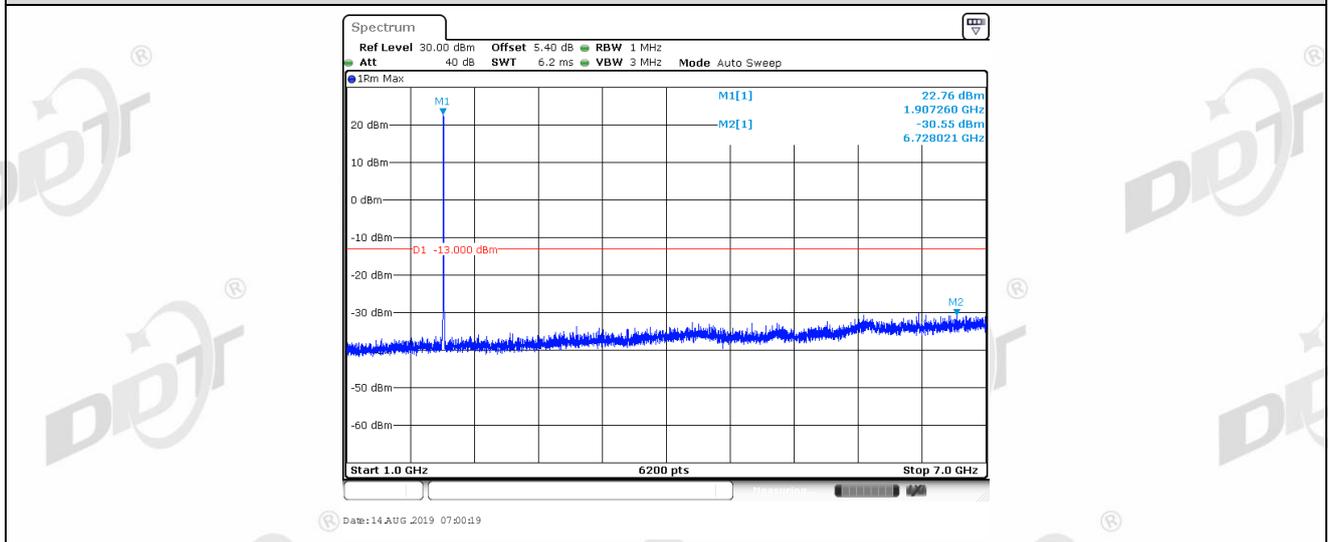
Band II_9538



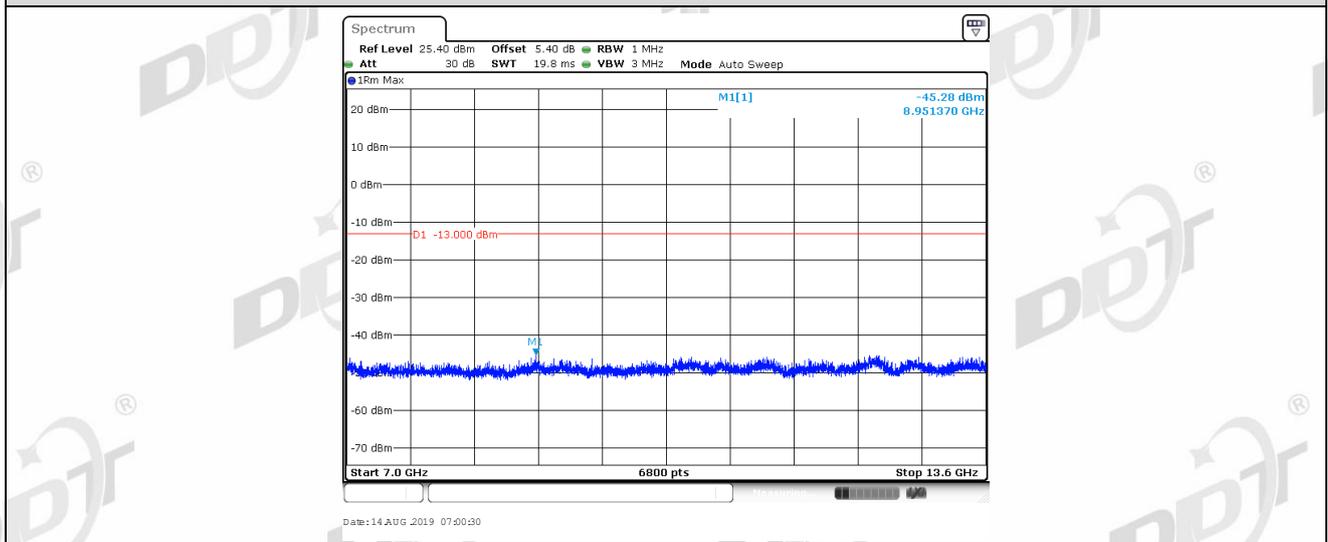
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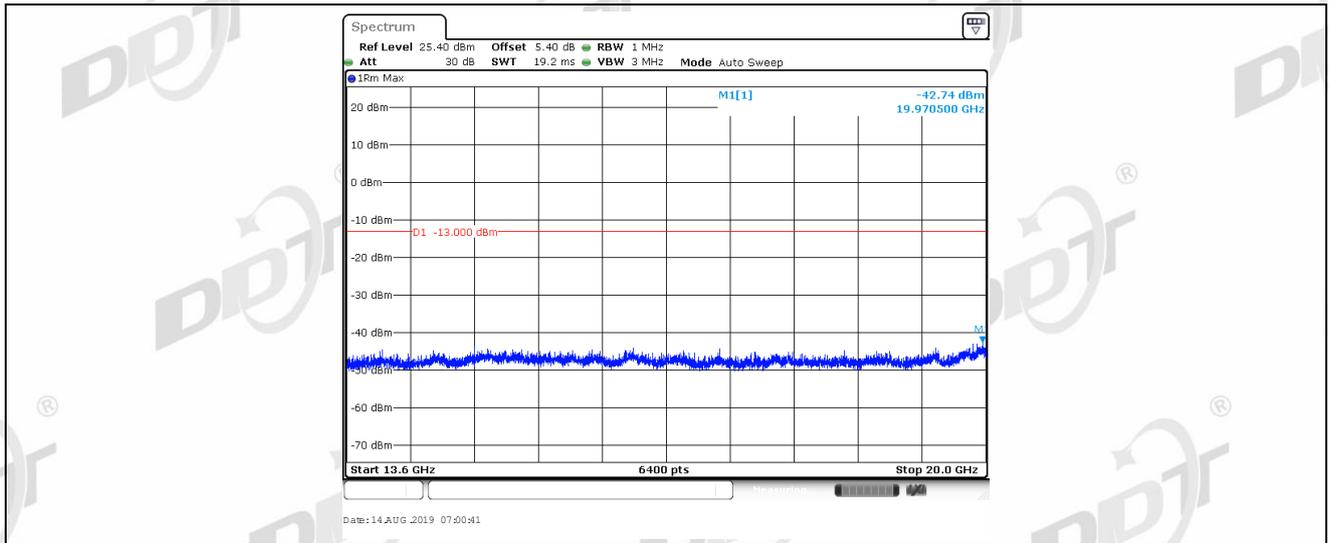
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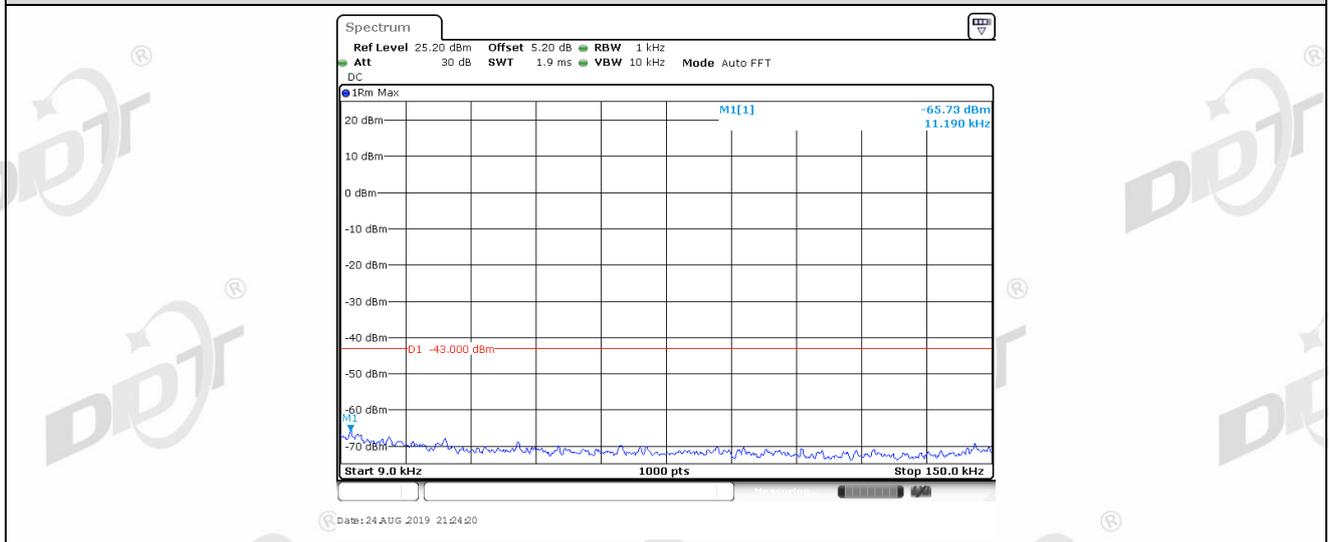
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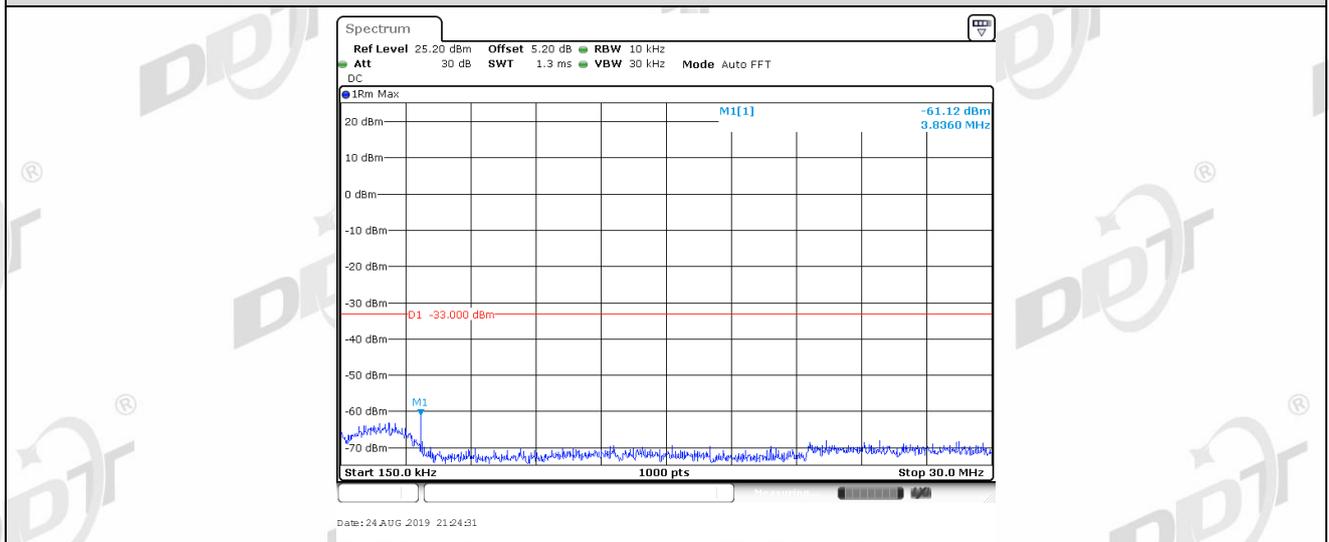
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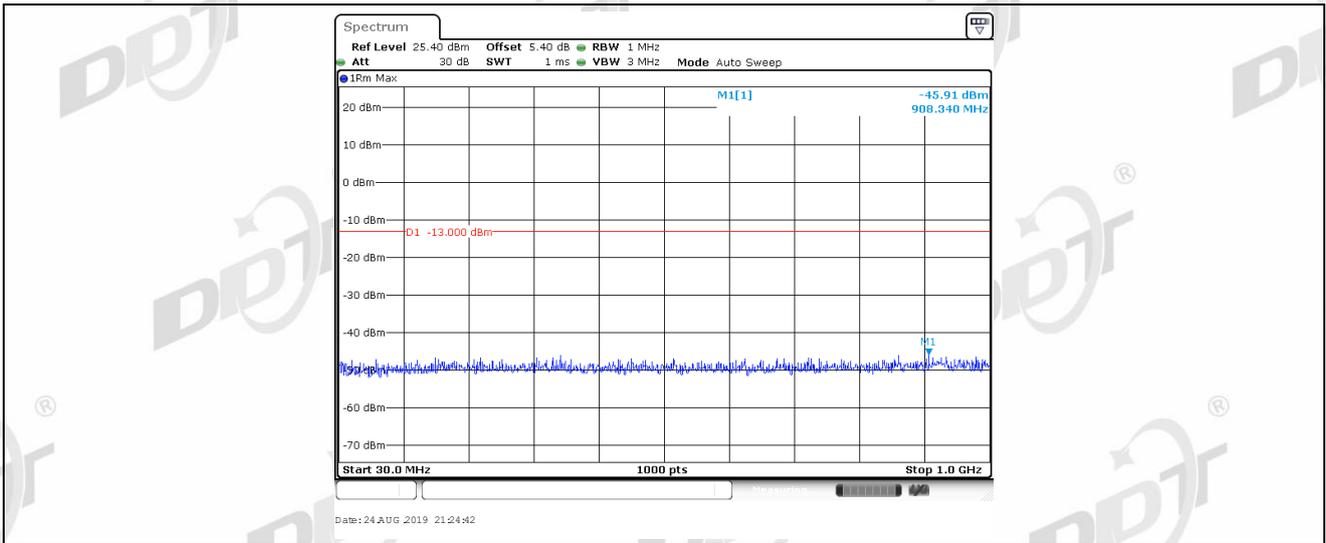
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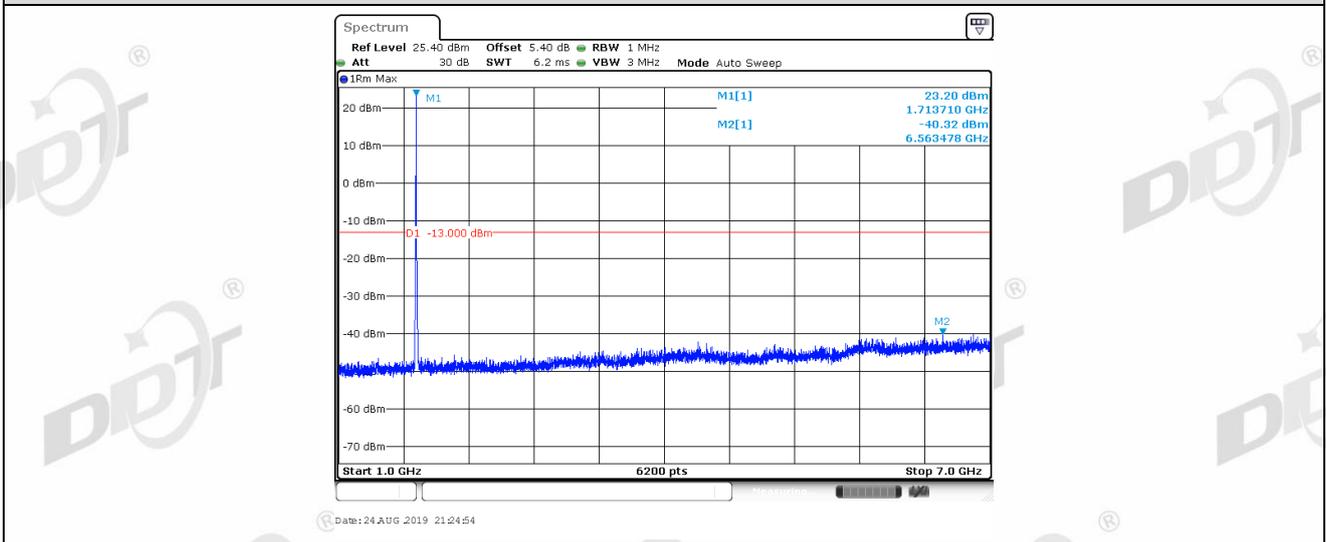
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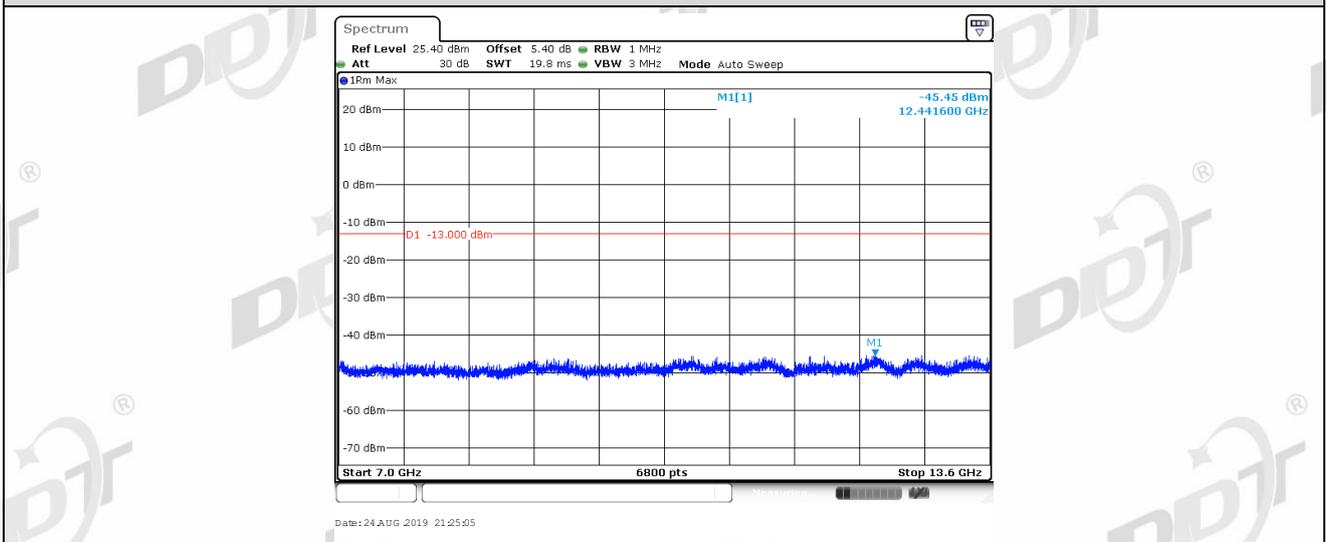
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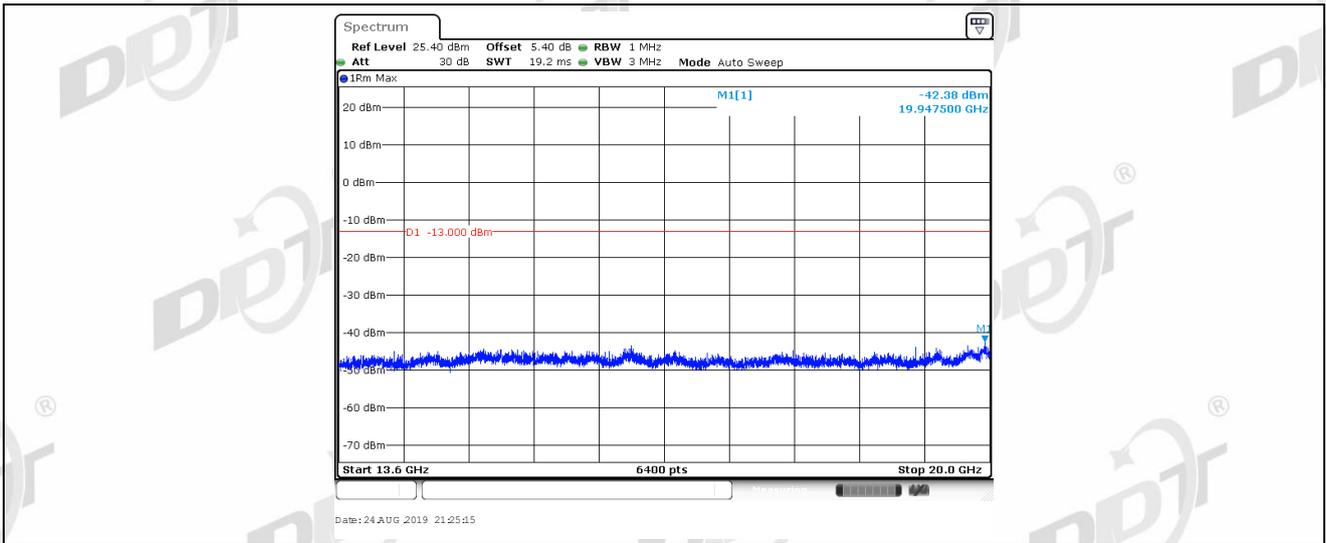
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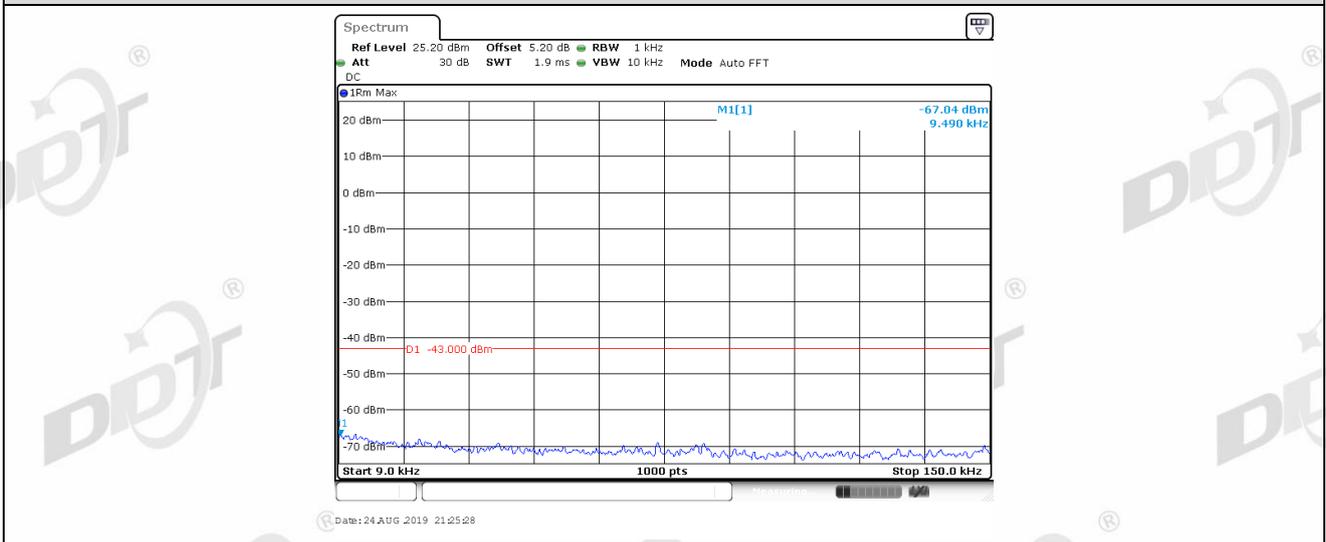
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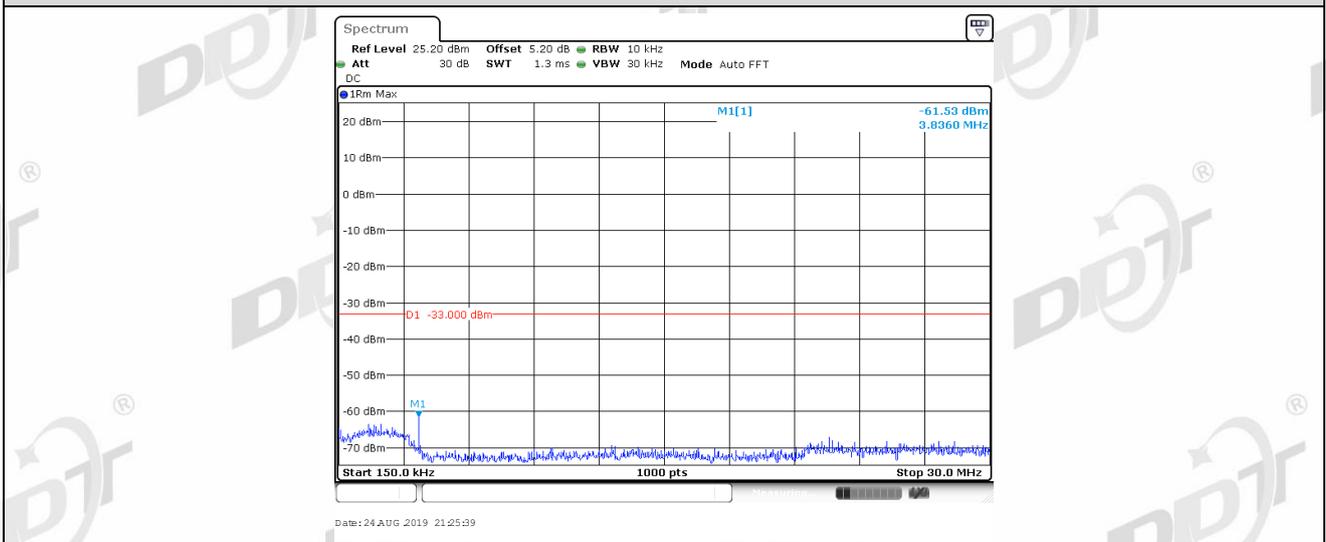
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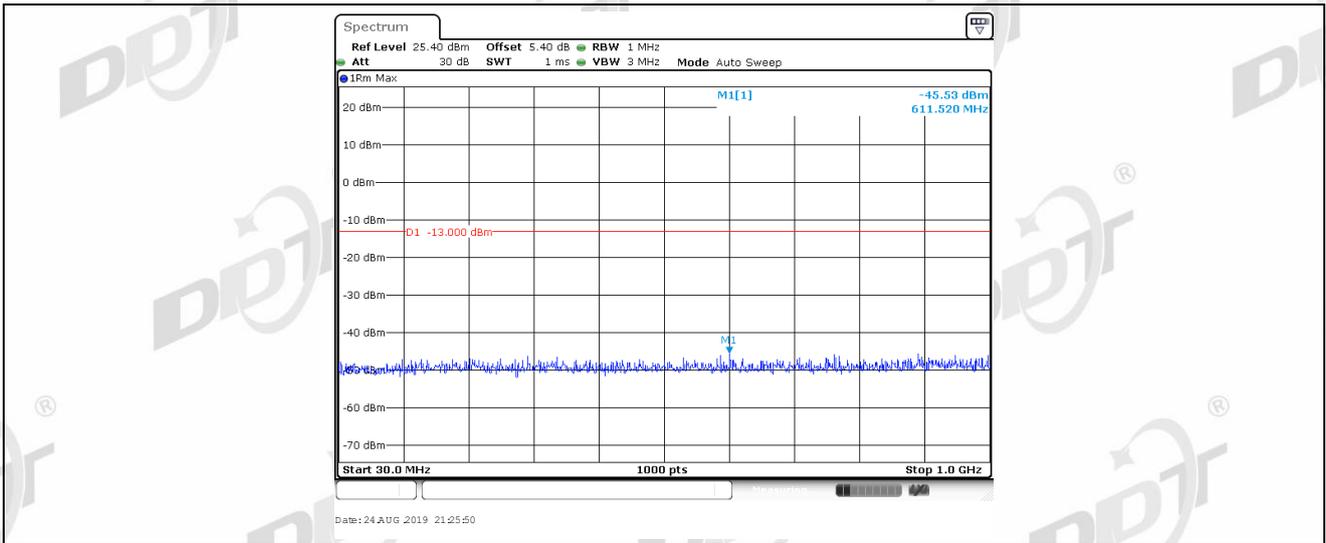
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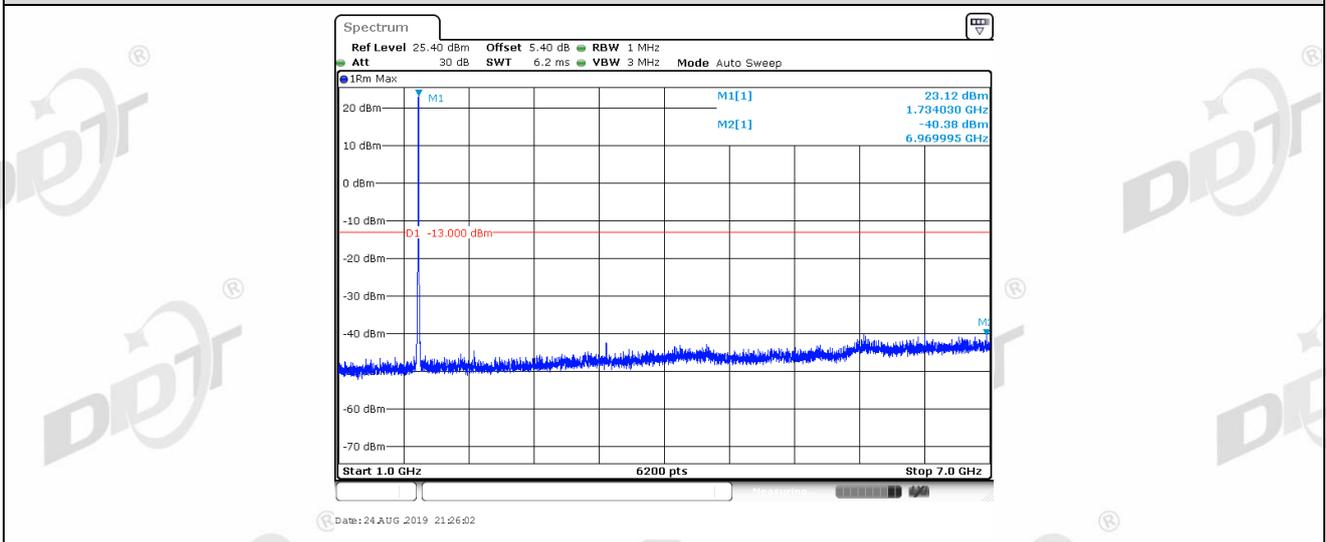
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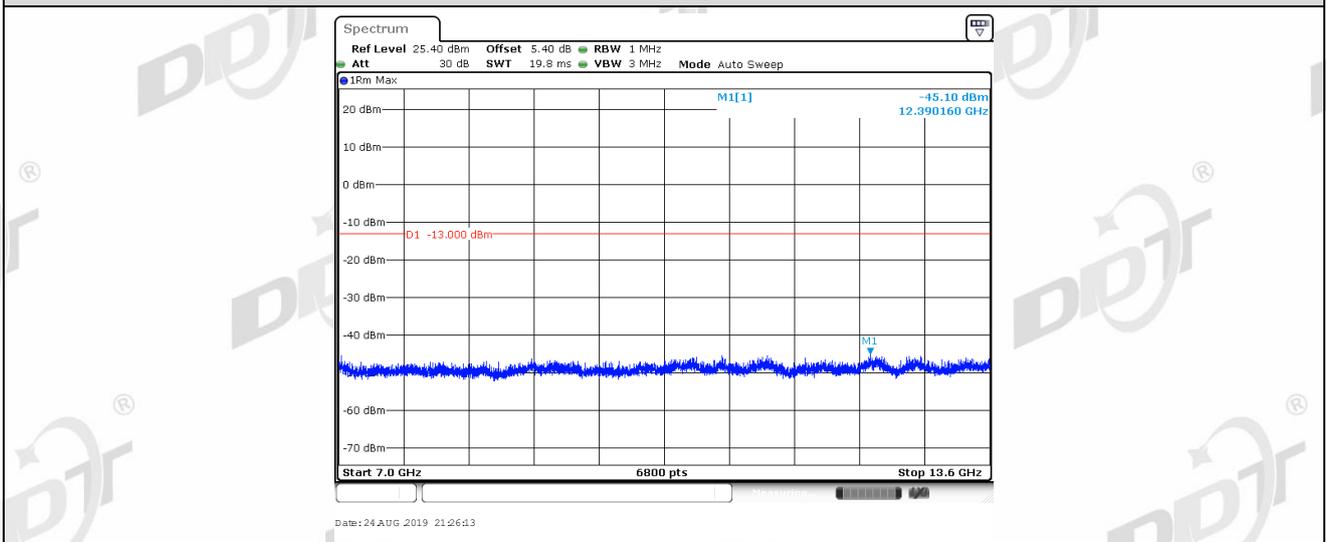
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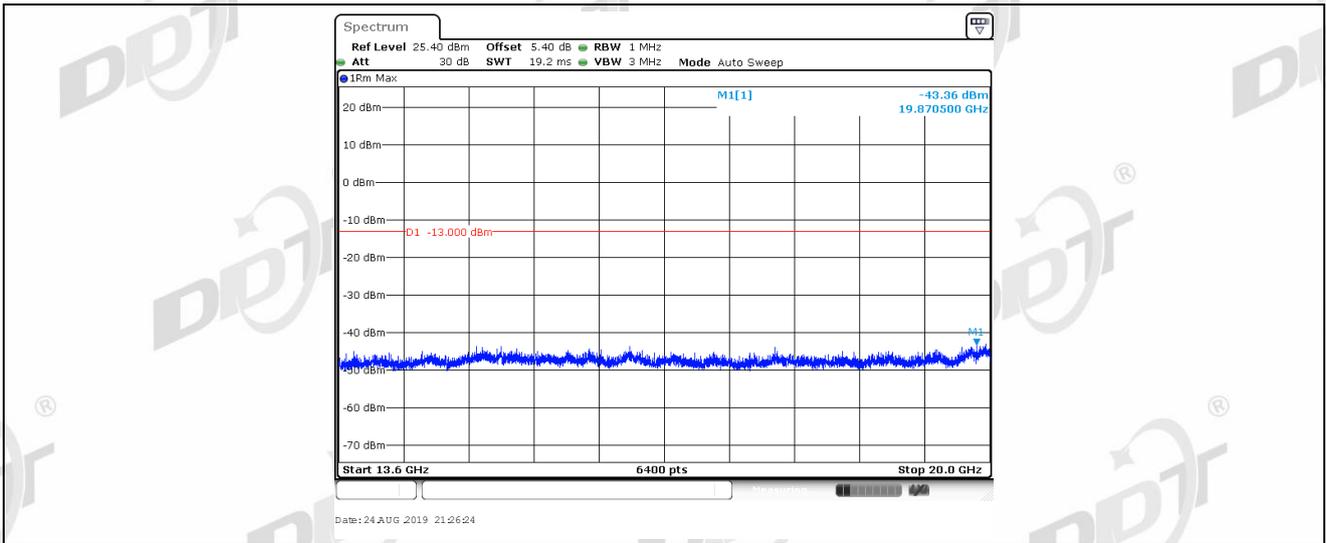
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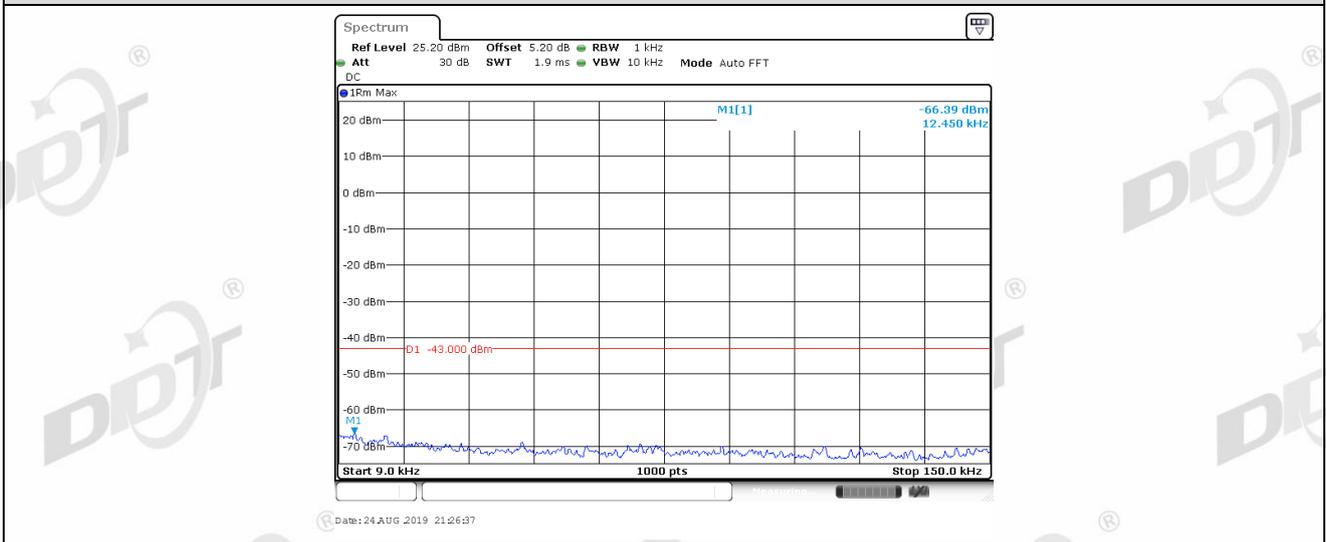
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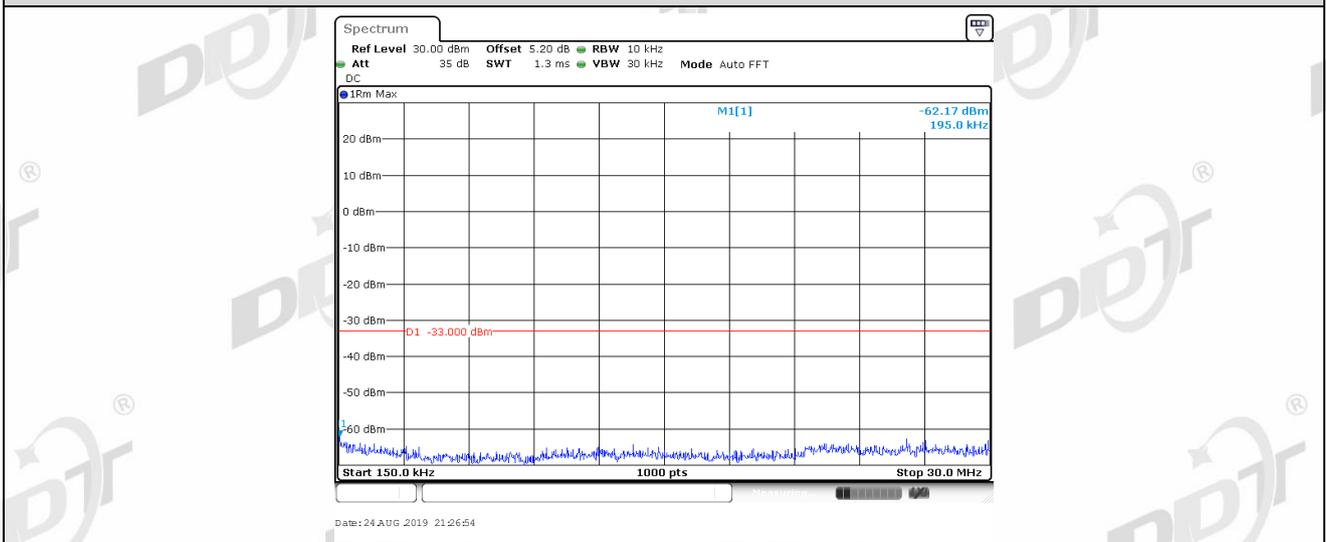
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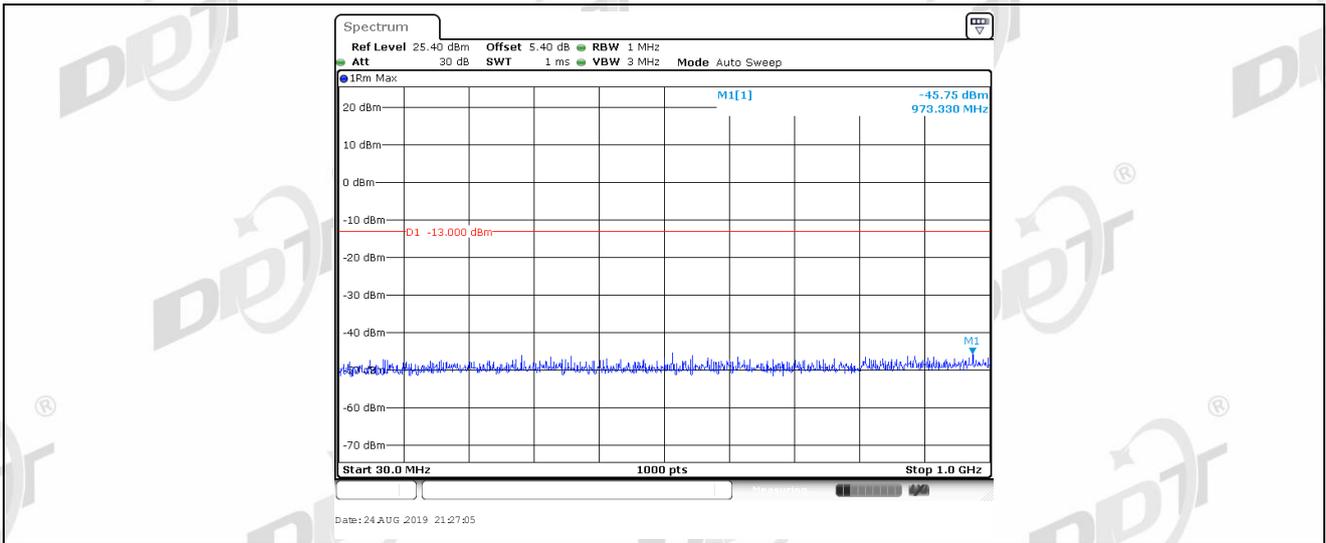
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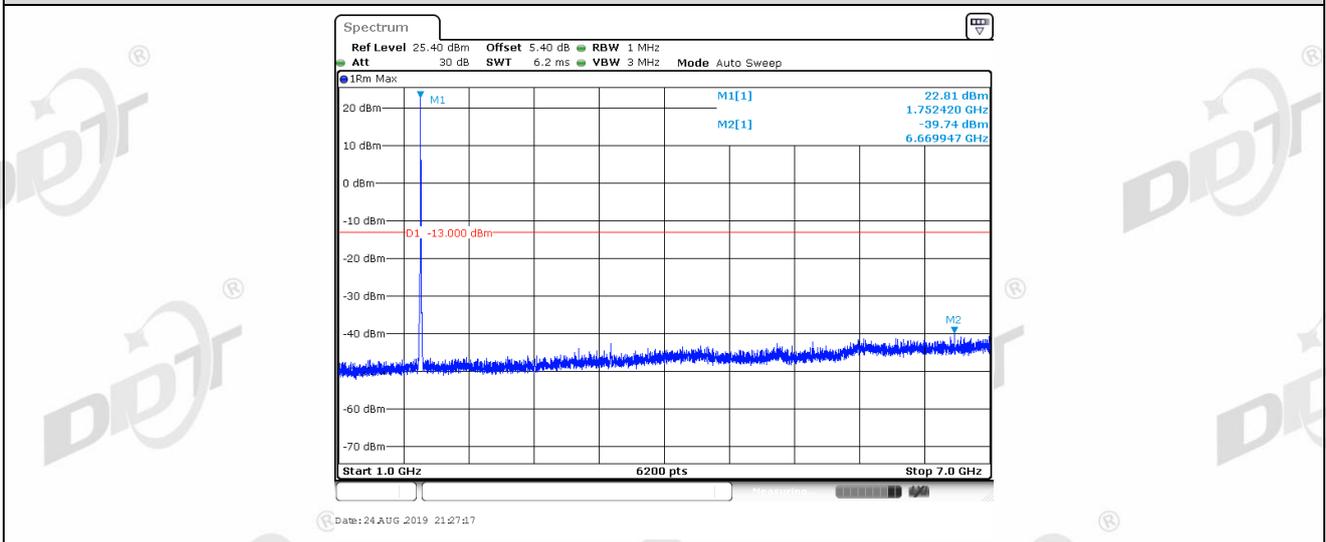
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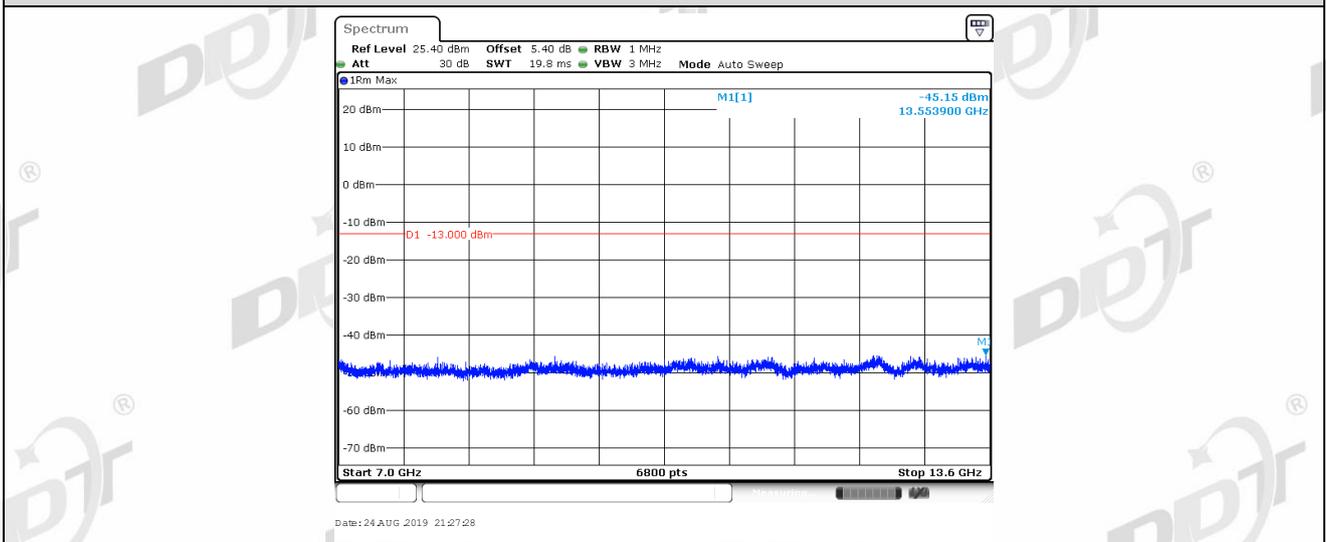
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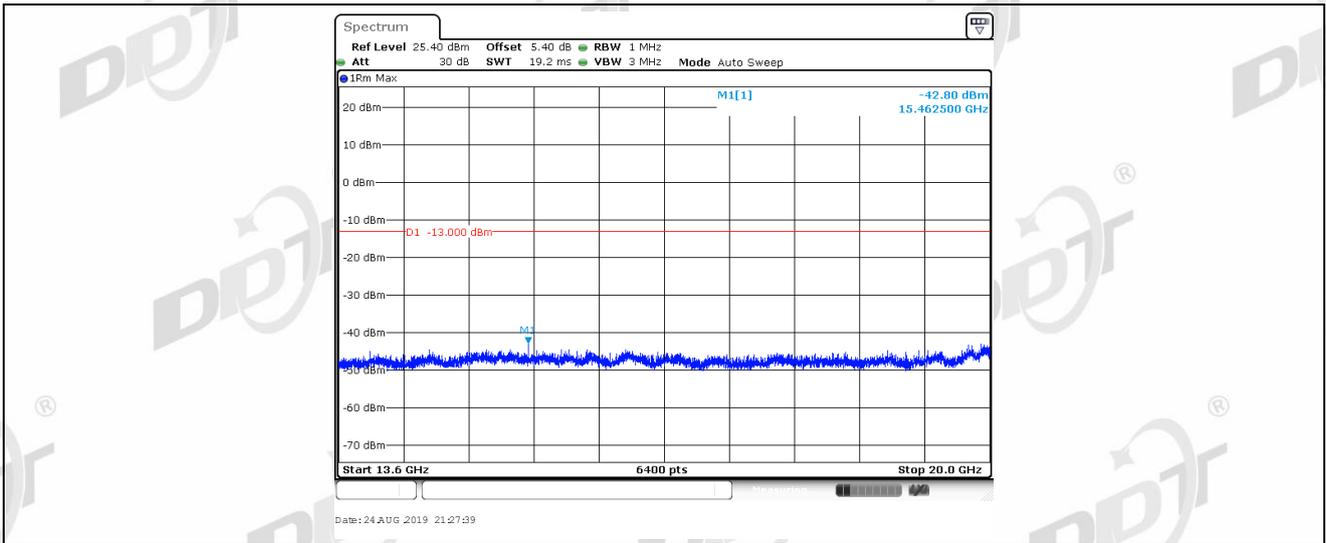
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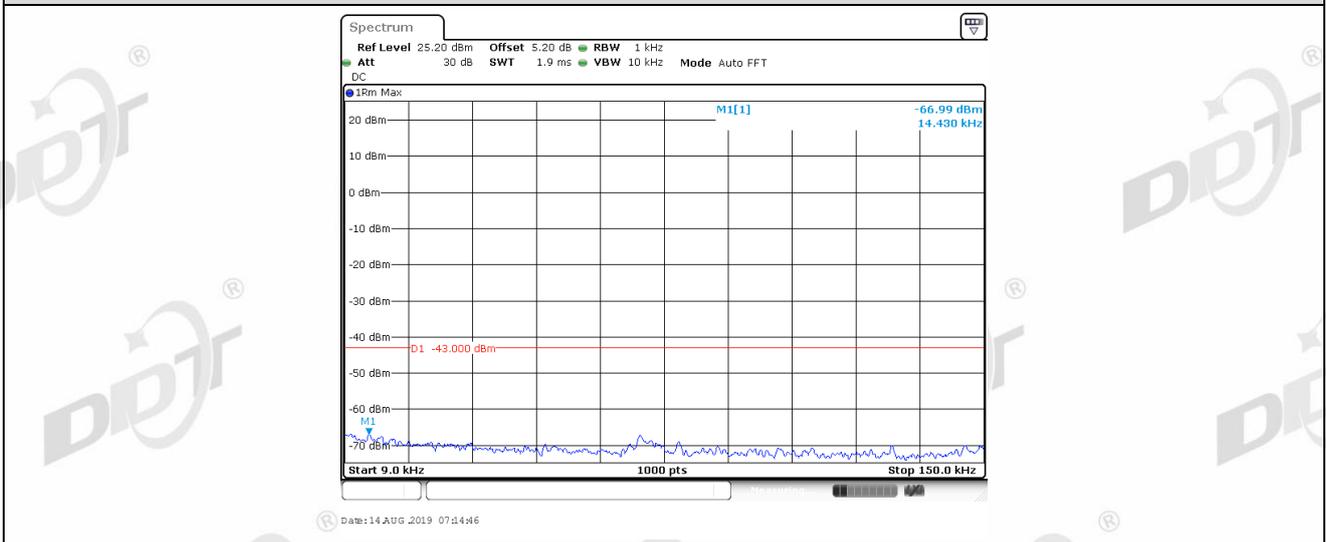
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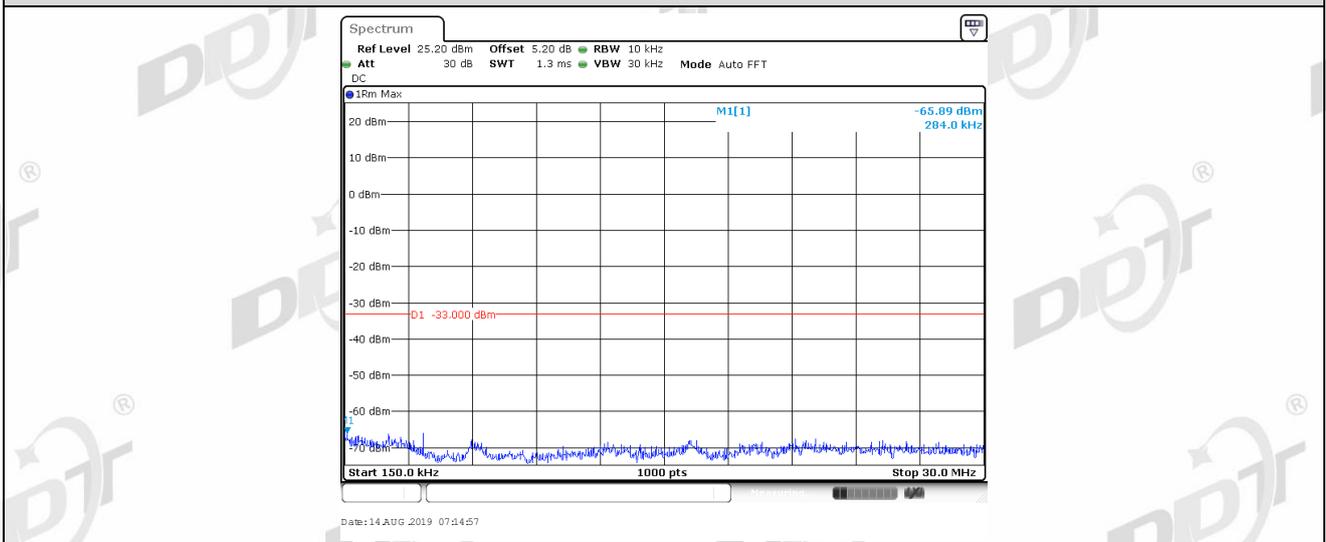
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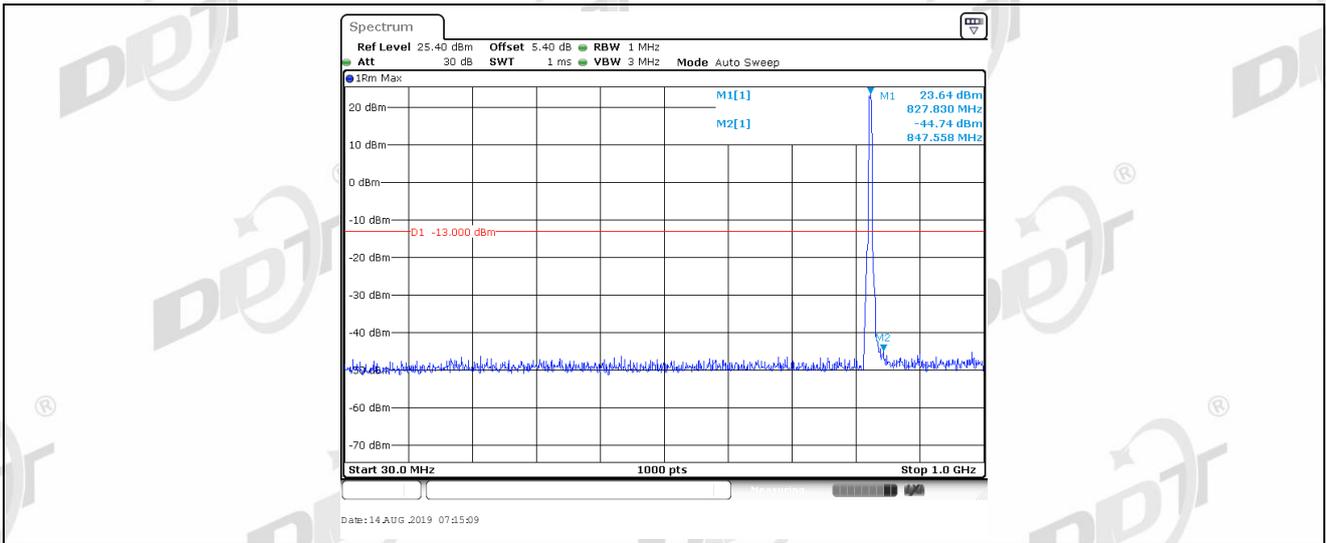
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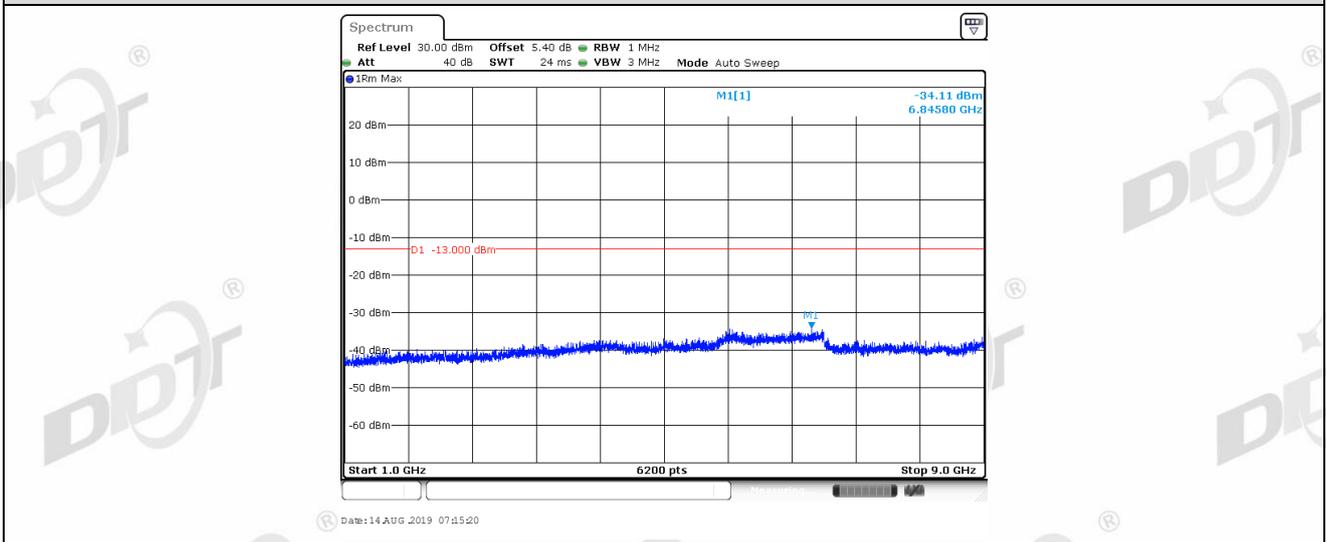
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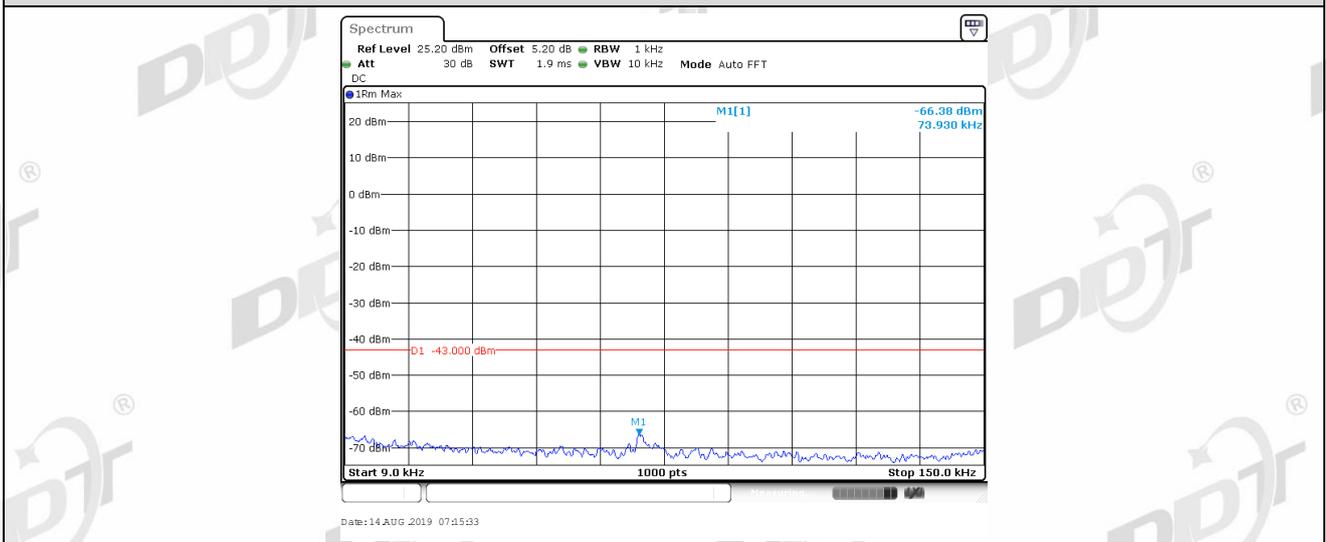
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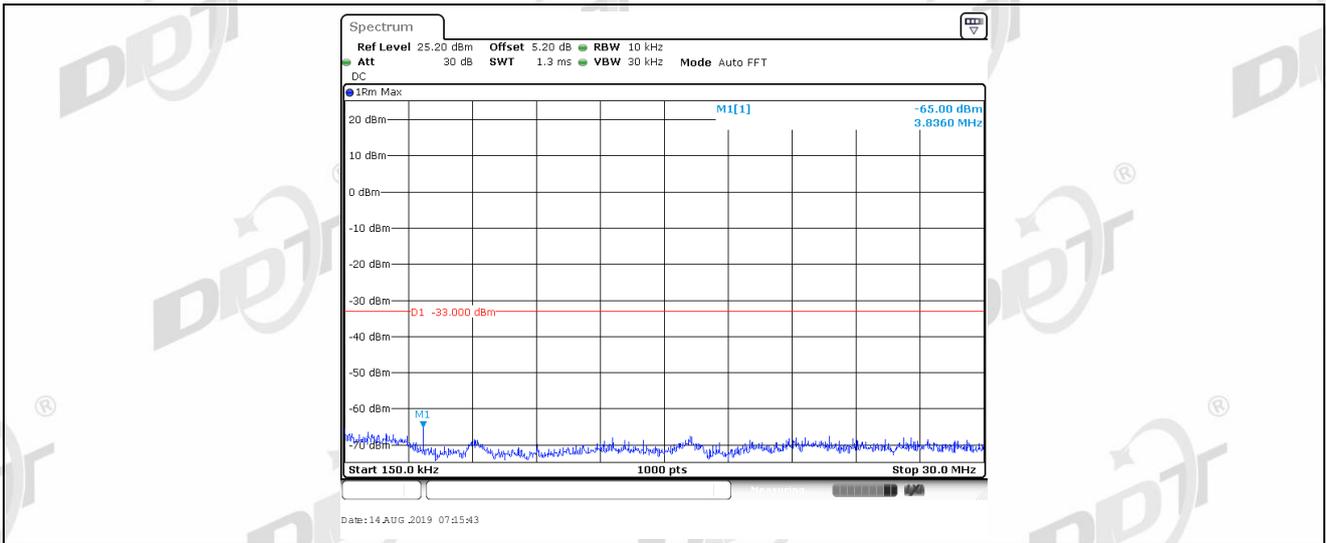
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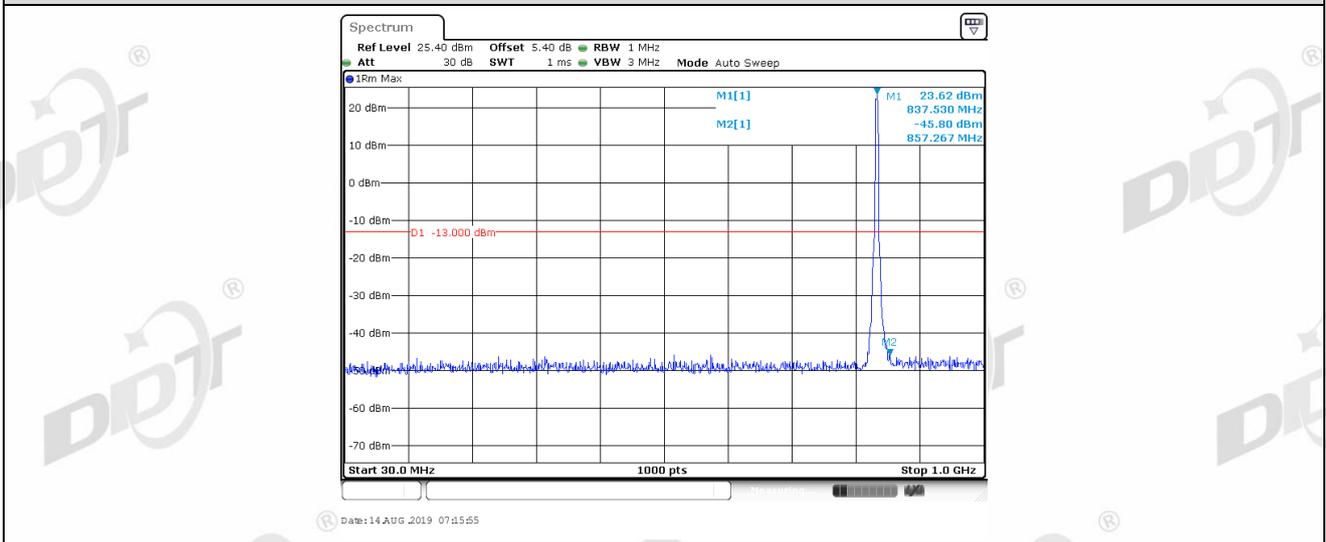
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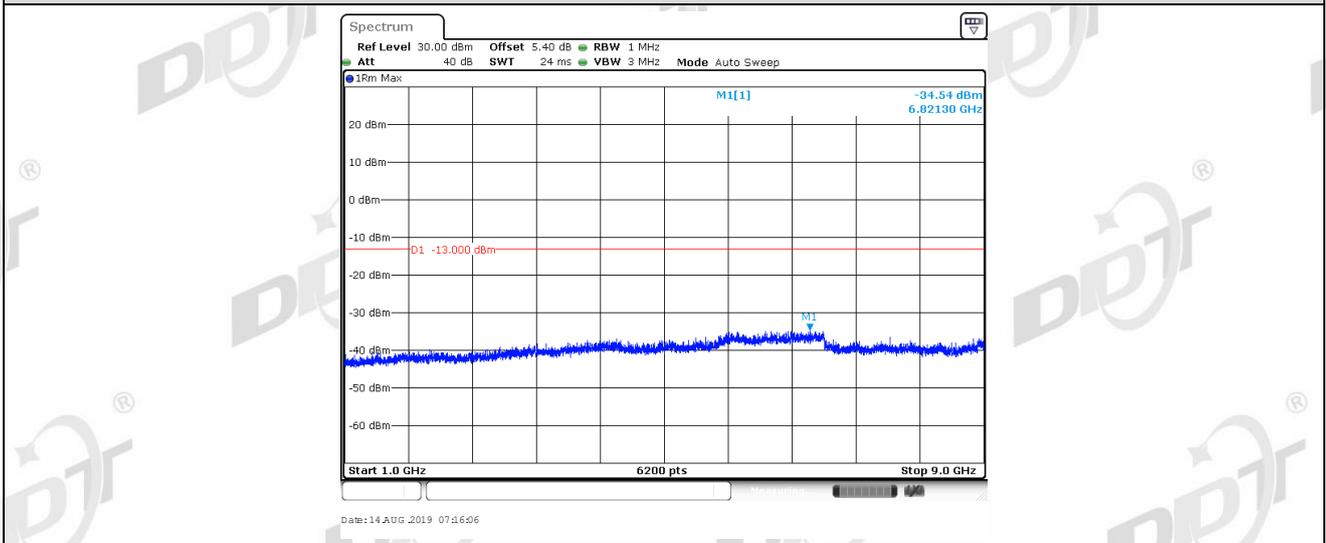
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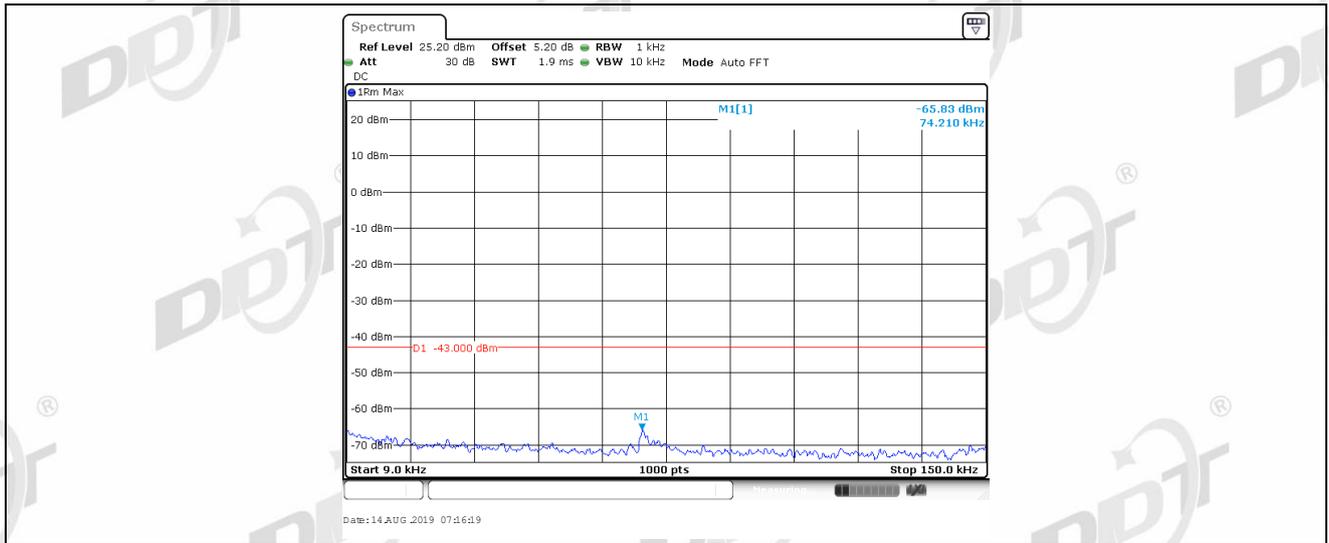
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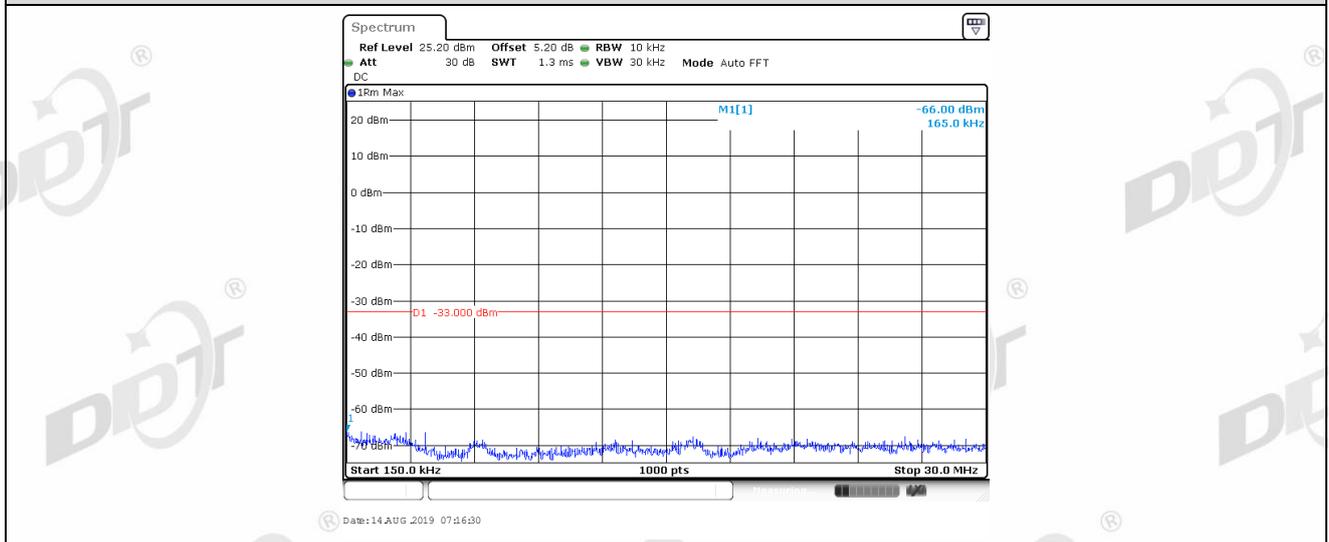
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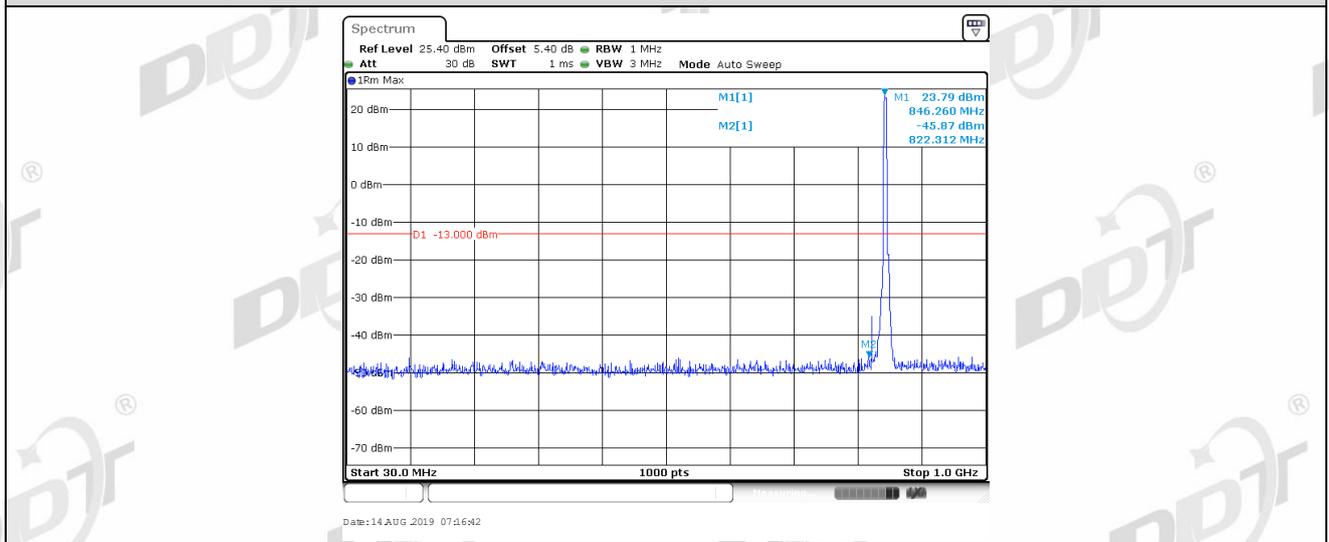
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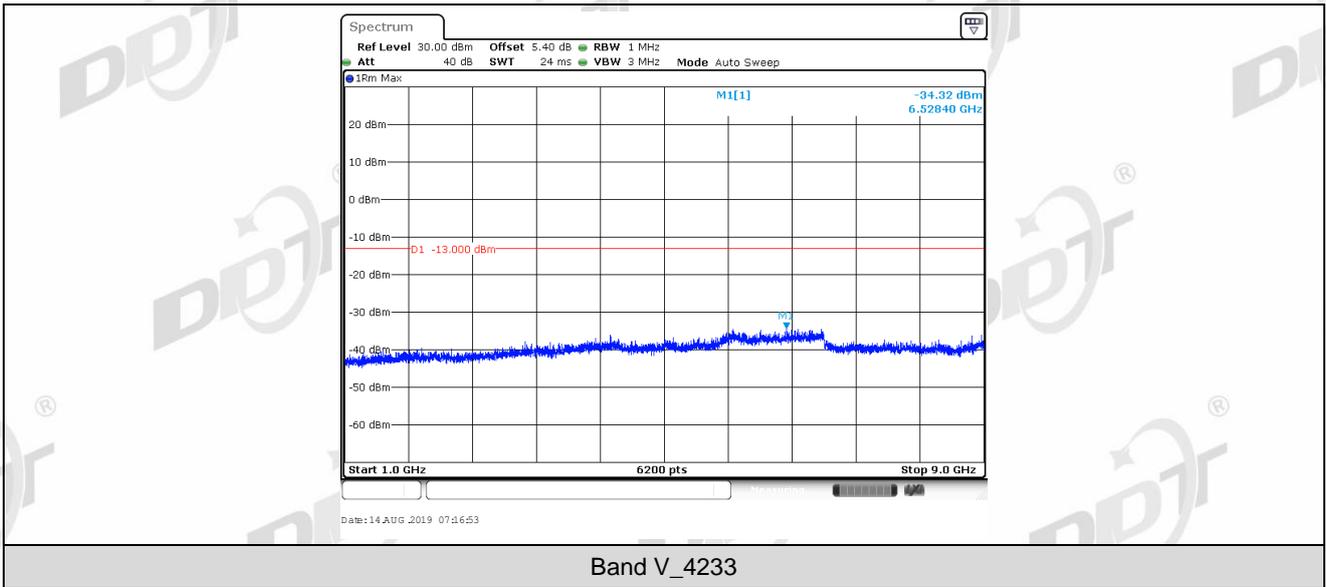
Band V_4233



Band V_4233



Band V_4233



Band V_4233

9. Frequency Stability

9.1. Frequency Vs Voltage

| BAND | Modulation | Channel | Voltage (Vdc) | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
|---------|------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band II | QPSK | 9262 | VL | TN | -9.38 | -0.005062 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | TN | -10.09 | -0.005444 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VH | TN | -9.86 | -0.005325 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VL | TN | -13.55 | -0.007206 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | TN | -14.79 | -0.007868 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VH | TN | -5.54 | -0.002949 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VL | TN | -10.60 | -0.005557 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | TN | -12.48 | -0.006543 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VH | TN | -14.41 | -0.007552 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VL | TN | 0.42 | 0.000225 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | TN | -10.72 | -0.005784 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VH | TN | -10.85 | -0.005857 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VL | TN | -13.89 | -0.007388 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | TN | -10.57 | -0.005621 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VH | TN | 10.07 | 0.005358 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VL | TN | 11.27 | 0.005909 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | TN | 14.27 | 0.007482 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VH | TN | 14.98 | 0.007850 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VL | TN | -2.11 | -0.001232 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | TN | 4.69 | 0.002740 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VH | TN | -8.15 | -0.004758 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VL | TN | 1.82 | 0.001053 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | TN | 11.61 | 0.006701 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VH | TN | -5.76 | -0.003326 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VL | TN | 8.63 | 0.004921 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | TN | 10.28 | 0.005863 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VH | TN | 10.02 | 0.005715 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VL | TN | 11.70 | 0.006832 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | TN | 12.86 | 0.007511 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VH | TN | 6.81 | 0.003977 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VL | TN | 7.76 | 0.004478 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | TN | -11.07 | -0.006387 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VH | TN | 9.05 | 0.005224 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VL | TN | 8.87 | 0.005060 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | TN | -2.80 | -0.001600 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VH | TN | 6.59 | 0.003762 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VL | TN | -7.61 | -0.009209 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | TN | -5.36 | -0.006483 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VH | TN | -11.96 | -0.014471 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VL | TN | -5.21 | -0.006234 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | TN | -8.58 | -0.010253 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VH | TN | -8.68 | -0.010382 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VL | TN | -9.60 | -0.011338 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | TN | -6.99 | -0.008254 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VH | TN | -9.27 | -0.010949 | ±2.5 | PASS |

| | | | | | | | | |
|--------|-------|------|----|----|-------|-----------|------|------|
| Band V | 16QAM | 4132 | VL | TN | 7.47 | 0.009034 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | TN | 6.74 | 0.008151 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VH | TN | -2.15 | -0.002597 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VL | TN | -4.80 | -0.005741 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | TN | 7.65 | 0.009151 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VH | TN | -5.73 | -0.006852 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VL | TN | -4.10 | -0.004845 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | TN | -0.12 | -0.000145 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VH | TN | 13.53 | 0.015985 | ±2.5 | PASS |

9.2. Frequency Vs Temperature

| BAND | Modulation | Channel | Voltage (Vdc) | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
|---------|------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band II | QPSK | 9262 | VN | -30 | -13.58 | -0.007329 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | -20 | -9.61 | -0.005190 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | -10 | -12.58 | -0.006792 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | 0 | -16.14 | -0.008715 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | 10 | -8.48 | -0.004579 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | 20 | -9.93 | -0.005363 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | 30 | -9.03 | -0.004877 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | 40 | -11.92 | -0.006433 | ±2.5 | PASS |
| Band II | QPSK | 9262 | VN | 50 | -13.85 | -0.007479 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | -30 | -12.54 | -0.006669 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | -20 | -8.88 | -0.004721 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | -10 | -14.41 | -0.007666 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | 0 | -7.45 | -0.003964 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | 10 | -6.54 | -0.003477 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | 20 | -10.89 | -0.005794 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | 30 | -10.71 | -0.005695 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | 40 | -14.37 | -0.007643 | ±2.5 | PASS |
| Band II | QPSK | 9400 | VN | 50 | -14.68 | -0.007811 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | -30 | -14.37 | -0.007533 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | -20 | -12.32 | -0.006460 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | -10 | -10.56 | -0.005538 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | 0 | -6.95 | -0.003645 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | 10 | -8.96 | -0.004694 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | 20 | -6.91 | -0.003622 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | 30 | -8.60 | -0.004507 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | 40 | -8.95 | -0.004691 | ±2.5 | PASS |
| Band II | QPSK | 9538 | VN | 50 | -11.79 | -0.006183 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | -30 | 13.83 | 0.007466 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | -20 | -14.32 | -0.007730 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | -10 | 9.07 | 0.004897 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | 0 | -12.12 | -0.006542 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | 10 | -11.19 | -0.006039 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | 20 | -6.64 | -0.003585 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | 30 | 14.94 | 0.008067 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | 40 | -11.88 | -0.006413 | ±2.5 | PASS |
| Band II | 16QAM | 9262 | VN | 50 | -8.75 | -0.004725 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | -30 | -4.64 | -0.002466 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | -20 | 6.73 | 0.003579 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | -10 | -7.94 | -0.004224 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | 0 | -6.10 | -0.003247 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | 10 | 12.57 | 0.006686 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | 20 | 12.81 | 0.006812 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | 30 | 10.28 | 0.005467 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | 40 | 14.70 | 0.007817 | ±2.5 | PASS |
| Band II | 16QAM | 9400 | VN | 50 | 6.16 | 0.003278 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | -30 | 14.85 | 0.007786 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | -20 | -3.10 | -0.001627 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | -10 | -0.04 | -0.000020 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | 0 | -4.85 | -0.002542 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | 10 | 4.28 | 0.002245 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | 20 | 13.24 | 0.006940 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | 30 | 7.39 | 0.003873 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | 40 | 7.16 | 0.003754 | ±2.5 | PASS |
| Band II | 16QAM | 9538 | VN | 50 | -14.42 | -0.007560 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | -30 | -1.17 | -0.000685 | ±2.5 | PASS |

| | | | | | | | | |
|---------|-------|------|----|-----|--------|-----------|------|------|
| Band IV | QPSK | 1312 | VN | -20 | -8.39 | -0.004902 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | -10 | 5.38 | 0.003139 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | 0 | 3.58 | 0.002093 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | 10 | -1.57 | -0.000914 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | 20 | 3.99 | 0.002331 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | 30 | -6.99 | -0.004080 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | 40 | 0.96 | 0.000559 | ±2.5 | PASS |
| Band IV | QPSK | 1312 | VN | 50 | 1.77 | 0.001033 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | -30 | 11.98 | 0.006912 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | -20 | -4.20 | -0.002425 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | -10 | -11.17 | -0.006446 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | 0 | 11.98 | 0.006916 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | 10 | 5.79 | 0.003341 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | 20 | 11.86 | 0.006844 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | 30 | 10.27 | 0.005925 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | 40 | -13.07 | -0.007545 | ±2.5 | PASS |
| Band IV | QPSK | 1413 | VN | 50 | 4.29 | 0.002478 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | -30 | -8.37 | -0.004777 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | -20 | 11.13 | 0.006352 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | -10 | -7.52 | -0.004290 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | 0 | -12.50 | -0.007132 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | 10 | 6.39 | 0.003648 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | 20 | 14.51 | 0.008281 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | 30 | -3.15 | -0.001798 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | 40 | 12.13 | 0.006923 | ±2.5 | PASS |
| Band IV | QPSK | 1513 | VN | 50 | -10.99 | -0.006271 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | -30 | 9.45 | 0.005521 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | -20 | -8.72 | -0.005091 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | -10 | 1.54 | 0.000896 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | 0 | 7.90 | 0.004611 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | 10 | 6.72 | 0.003926 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | 20 | -13.19 | -0.007701 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | 30 | 1.87 | 0.001093 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | 40 | -12.60 | -0.007359 | ±2.5 | PASS |
| Band IV | 16QAM | 1312 | VN | 50 | 14.69 | 0.008579 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | -30 | -12.53 | -0.007233 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | -20 | 12.38 | 0.007143 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | -10 | 12.03 | 0.006942 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | 0 | -8.36 | -0.004823 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | 10 | -8.26 | -0.004770 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | 20 | 12.98 | 0.007492 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | 30 | -6.57 | -0.003793 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | 40 | 9.73 | 0.005615 | ±2.5 | PASS |
| Band IV | 16QAM | 1413 | VN | 50 | 4.64 | 0.002677 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | -30 | 12.30 | 0.007018 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | -20 | 2.13 | 0.001218 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | -10 | 10.69 | 0.006101 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | 0 | -12.80 | -0.007301 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | 10 | 14.53 | 0.008293 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | 20 | -8.25 | -0.004708 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | 30 | 4.12 | 0.002349 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | 40 | 14.37 | 0.008202 | ±2.5 | PASS |
| Band IV | 16QAM | 1513 | VN | 50 | 2.09 | 0.001194 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | -30 | -10.71 | -0.012957 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | -20 | -6.72 | -0.008127 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | -10 | -6.54 | -0.007911 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | 0 | -12.75 | -0.015423 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | 10 | -7.89 | -0.009547 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | 20 | -13.15 | -0.015917 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | 30 | -8.99 | -0.010879 | ±2.5 | PASS |

| | | | | | | | | |
|--------|-------|------|----|-----|--------|-----------|------|------|
| Band V | QPSK | 4132 | VN | 40 | -14.00 | -0.016938 | ±2.5 | PASS |
| Band V | QPSK | 4132 | VN | 50 | -10.43 | -0.012619 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | -30 | -6.19 | -0.007406 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | -20 | -6.18 | -0.007389 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | -10 | -13.23 | -0.015812 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | 0 | -10.63 | -0.012708 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | 10 | -8.36 | -0.009997 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | 20 | -7.87 | -0.009415 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | 30 | -9.32 | -0.011143 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | 40 | -5.26 | -0.006285 | ±2.5 | PASS |
| Band V | QPSK | 4182 | VN | 50 | -12.50 | -0.014940 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | -30 | -13.41 | -0.015841 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | -20 | -8.08 | -0.009547 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | -10 | -11.44 | -0.013518 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | 0 | -8.04 | -0.009496 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | 10 | -9.53 | -0.011253 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | 20 | -9.09 | -0.010738 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | 30 | -11.33 | -0.013383 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | 40 | -8.78 | -0.010375 | ±2.5 | PASS |
| Band V | QPSK | 4233 | VN | 50 | -4.76 | -0.005618 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | -30 | 10.11 | 0.012240 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | -20 | -11.07 | -0.013391 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | -10 | 12.40 | 0.015008 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | 0 | -2.95 | -0.003572 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | 10 | 6.61 | 0.007996 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | 20 | 10.81 | 0.013081 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | 30 | -13.96 | -0.016891 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | 40 | 8.37 | 0.010129 | ±2.5 | PASS |
| Band V | 16QAM | 4132 | VN | 50 | 4.45 | 0.005381 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | -30 | 9.56 | 0.011433 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | -20 | 11.93 | 0.014268 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | -10 | 11.60 | 0.013864 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | 0 | -12.97 | -0.015509 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | 10 | 9.13 | 0.010915 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | 20 | 13.64 | 0.016311 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | 30 | 5.08 | 0.006075 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | 40 | 6.18 | 0.007384 | ±2.5 | PASS |
| Band V | 16QAM | 4182 | VN | 50 | 10.97 | 0.013110 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | -30 | -12.50 | -0.014760 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | -20 | -1.08 | -0.001272 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | -10 | -6.12 | -0.007232 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | 0 | 1.87 | 0.002210 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | 10 | 12.89 | 0.015223 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | 20 | 4.64 | 0.005485 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | 30 | -0.20 | -0.000237 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | 40 | -8.15 | -0.009630 | ±2.5 | PASS |
| Band V | 16QAM | 4233 | VN | 50 | -1.49 | -0.001759 | ±2.5 | PASS |

The End