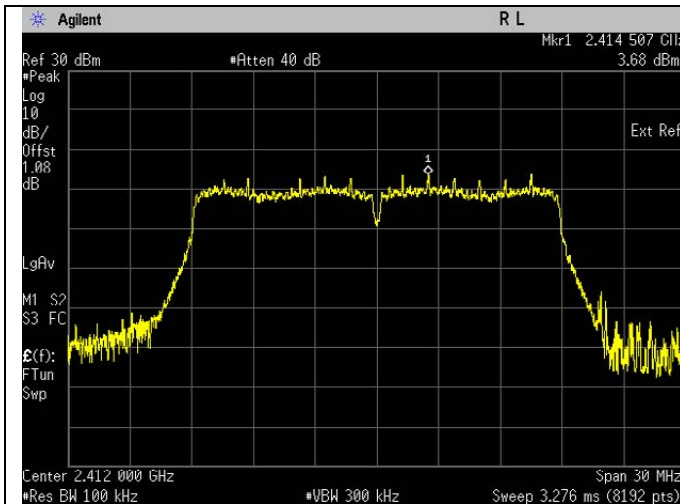
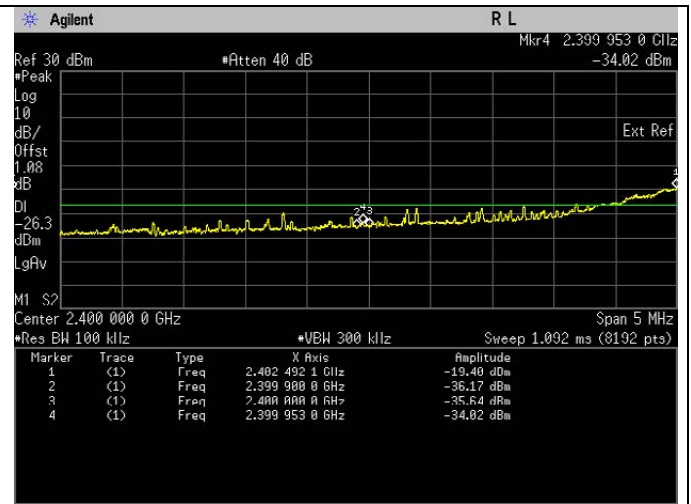


802.11n (HT20)

| Test Conditions | | | | Test Frequency | Results | | |
|-----------------|-----------------|-----------------------|------------------|----------------|-------------------|-------------|--------|
| Standard | Modulation Type | Modulation Technology | Data Rate (mbps) | Tx (MHz) | Frequencies (MHz) | Power (dBm) | Status |
| 802.11n | OFDM | BPSK | 6.5 | 2412 | 2399.95 | -34.02 | Pass |
| 802.11n | OFDM | BPSK | 6.5 | 2462 | 2483.60 | -44.05 | Pass |



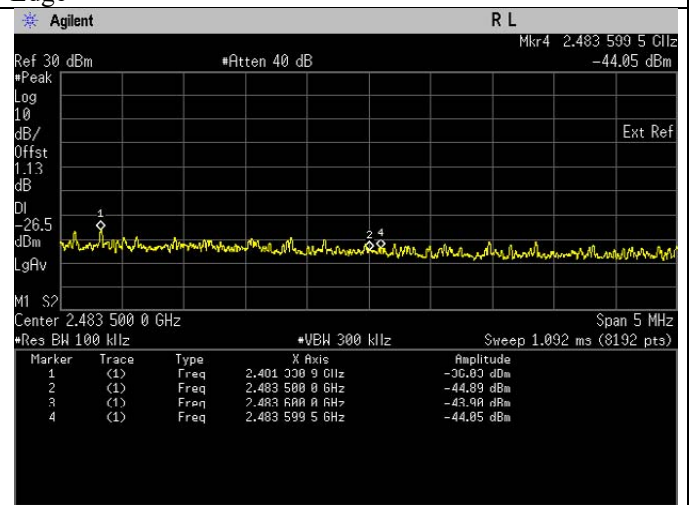
Band Edge(Average). 802.11n Frequency 2412 MHz Reference Level



Band Edge(Average). 802.11n Frequency 2412 MHz Band Edge



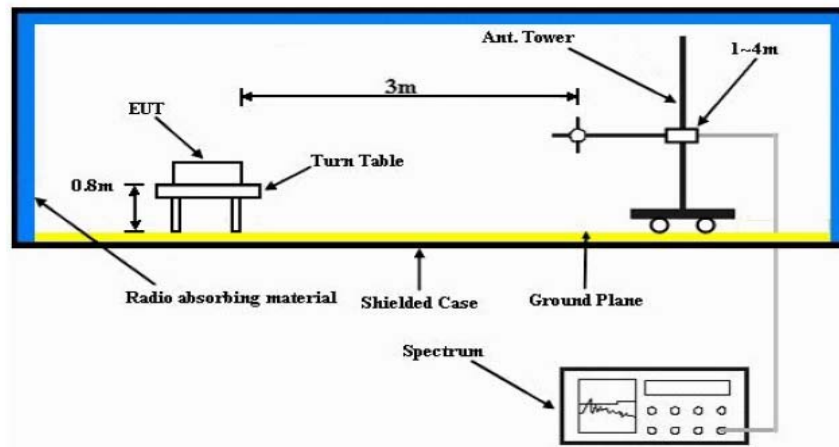
Band Edge(Average). 802.11n Frequency 2462 MHz Reference Level



Band Edge(Average). 802.11n Frequency 2462 MHz Band Edge

6.7. Radiated Emission within restricted Bands

6.7.1. Test Setup



- The EUT is placed on the top of a rotating table 0.8m above the ground (<1GHz) and 1.5m above the ground (>1GHz) at a 3m semi-anechoic chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
- The EUT is set 3m away from the interference-receiving antenna, which is mounted on the top of a variable-height antenna tower.
- The antenna is Bilog/Horn antenna depend on which frequency range uses, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT is arranged to its worst case and then the antenna is tuned to heights from 1m to 4m and the rotatable table is turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system is set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode is fall within the range of 10dB from the limit specified, the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. Otherwise, the testing could be stopped and the peak values of the EUT would be reported.

NOTE:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

6.7.2. Test Limits:

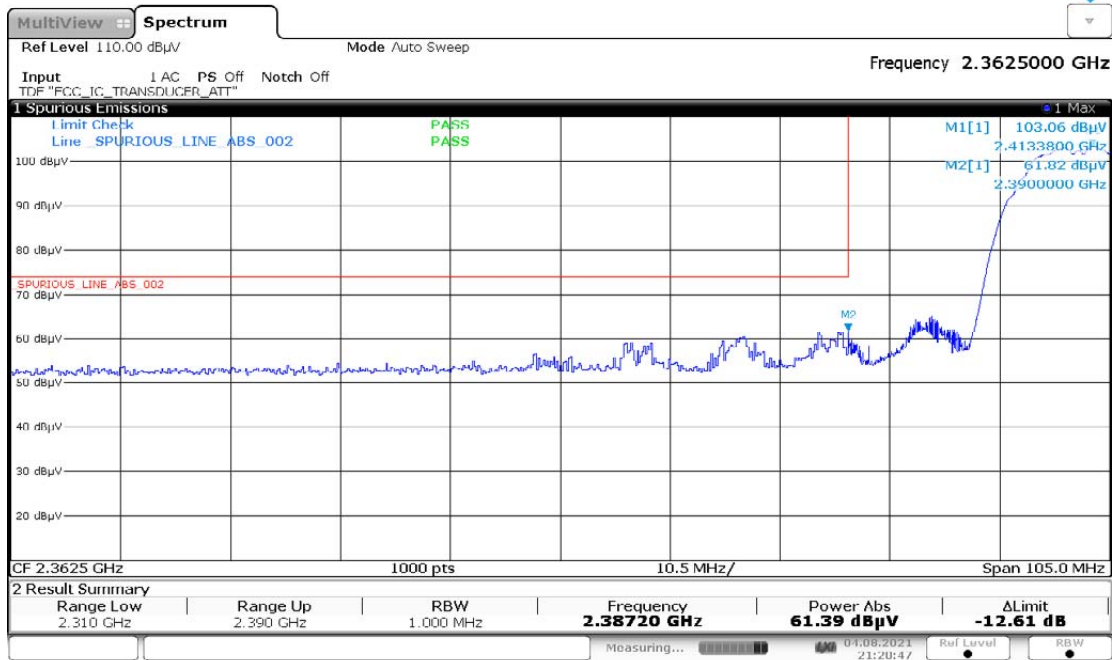
Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power.

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100** | 3 |
| 88-216 | 150** | 3 |
| 216-960 | 200** | 3 |
| Above 960 | 500 | 3 |

NOTE:

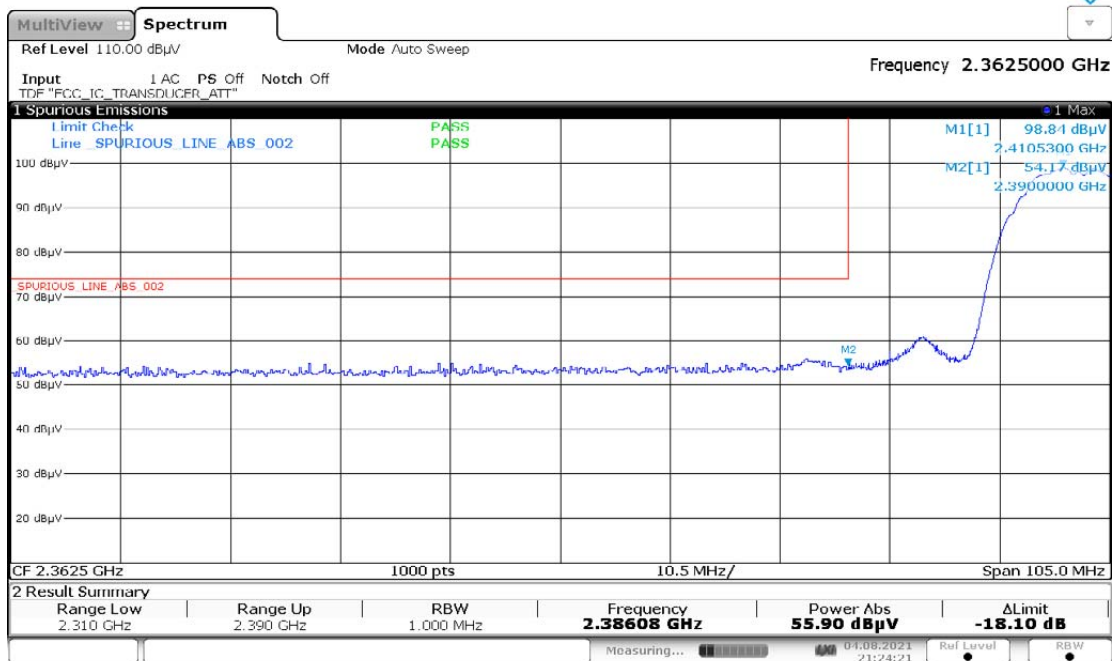
- a. The lower limit shall apply at the transition frequencies.
- b. Emission level (dBuV/m) = 20 log Emission level (uV/m).
- c. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



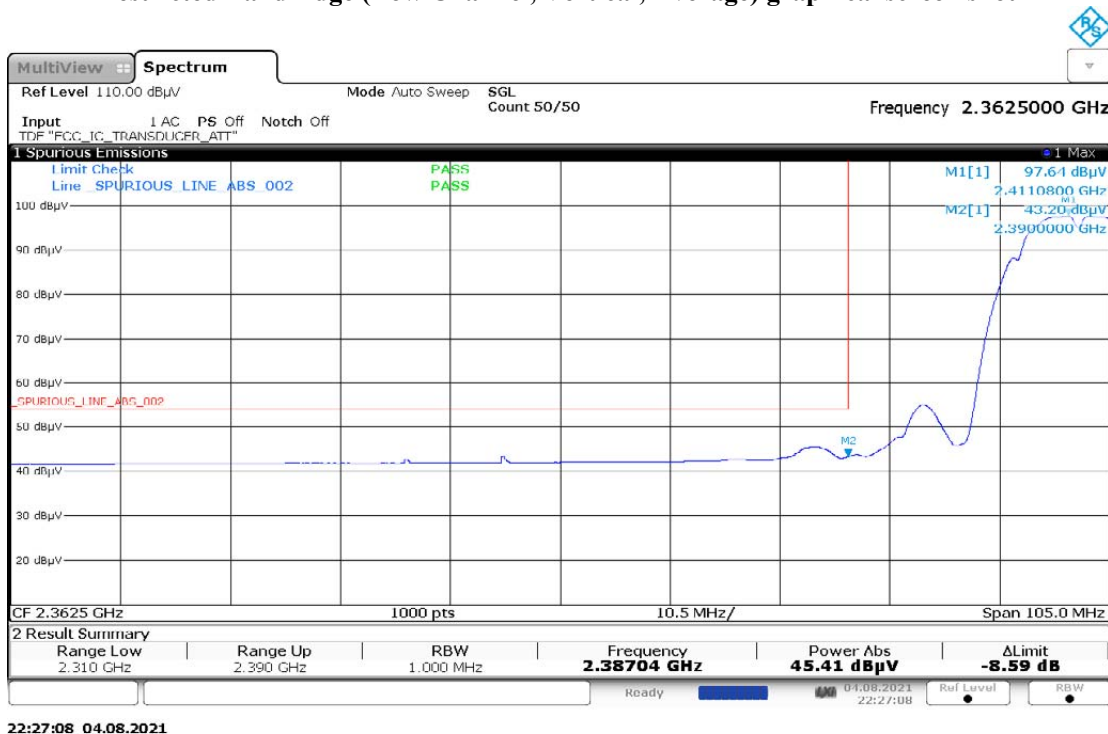
21:20:47 04.08.2021

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot

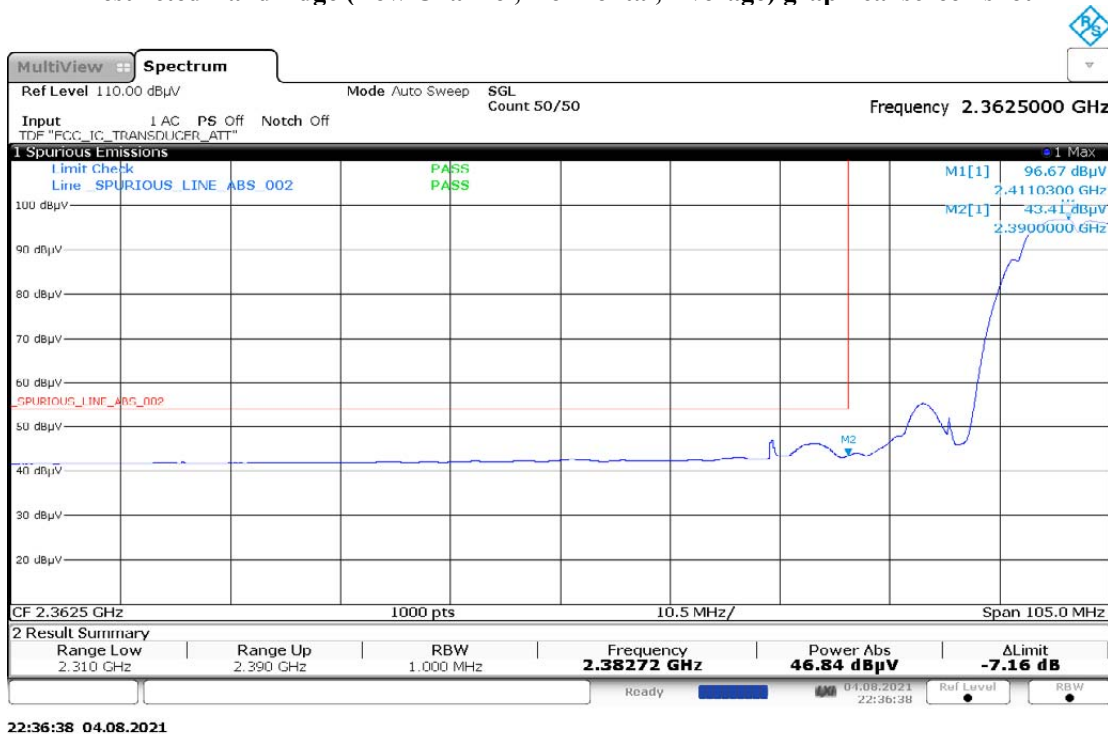


21:24:22 04.08.2021

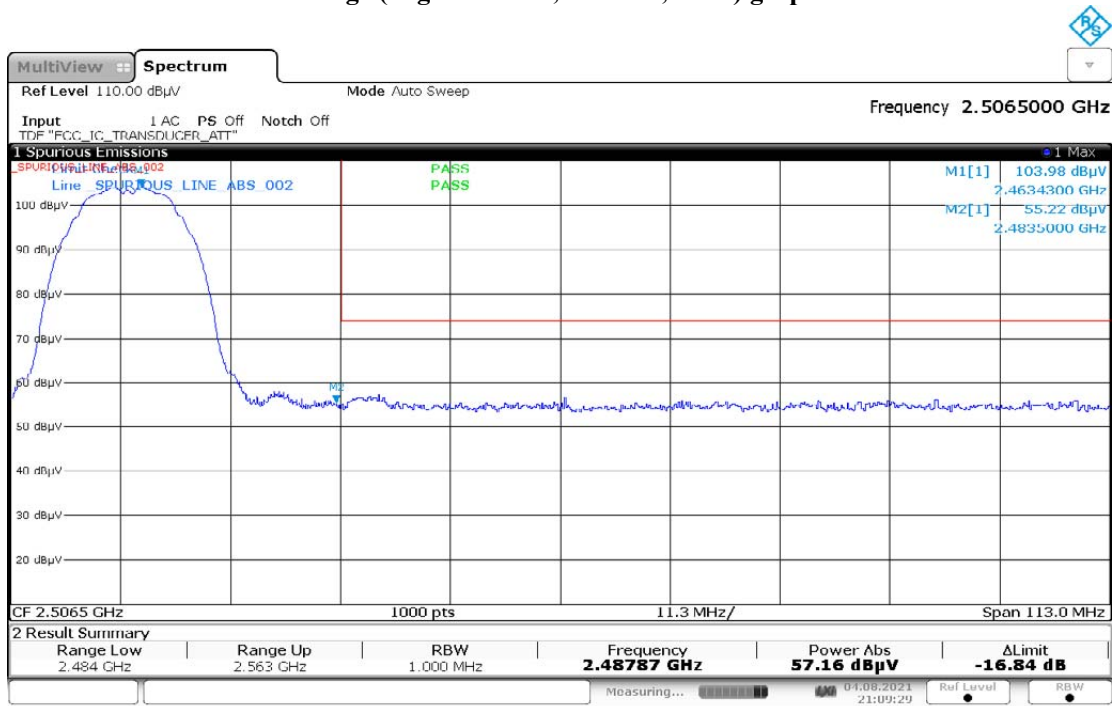
Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot

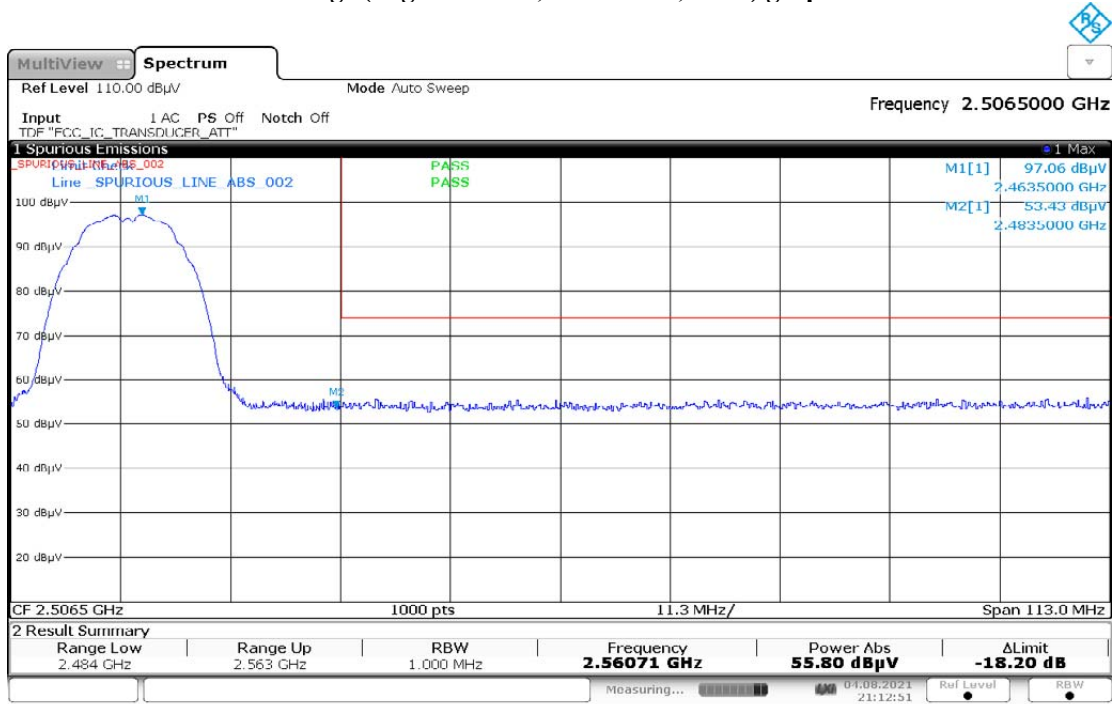


Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



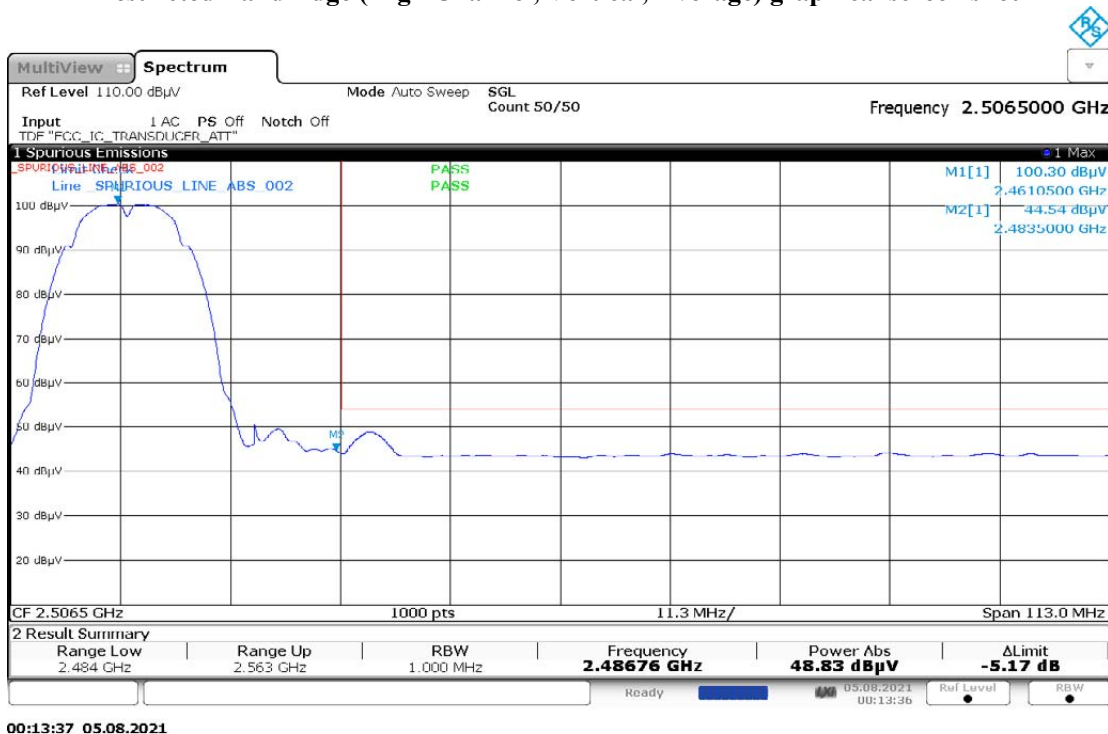
21:09:29 04.08.2021

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

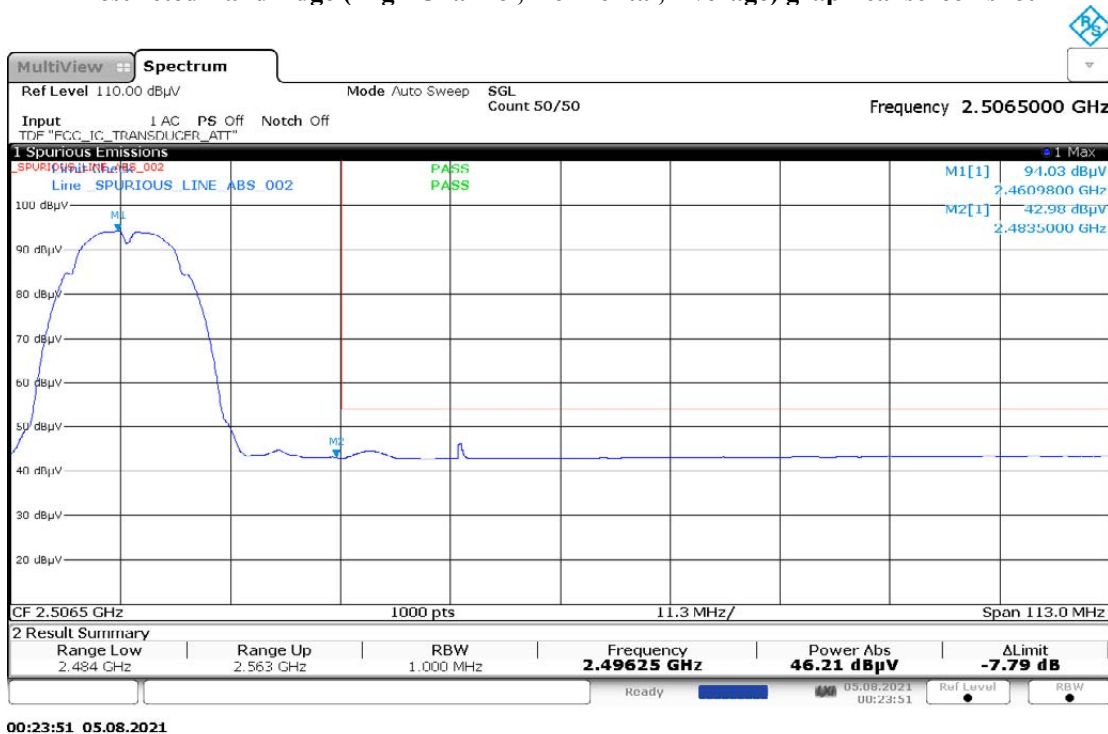


21:12:52 04.08.2021

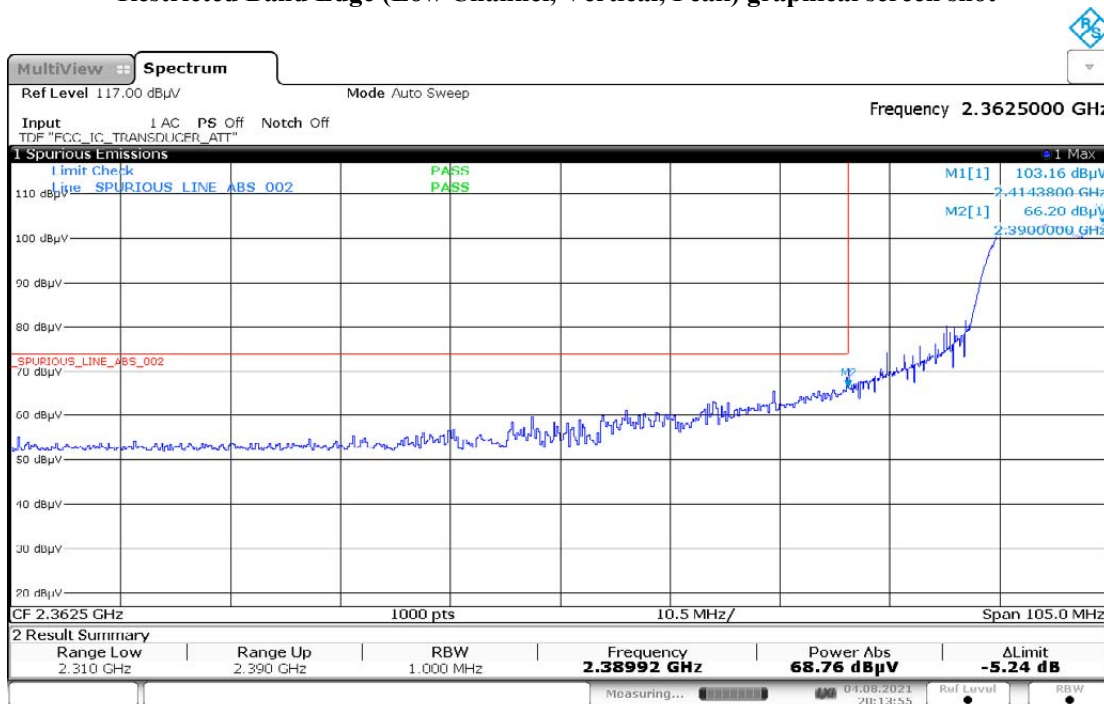
Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot

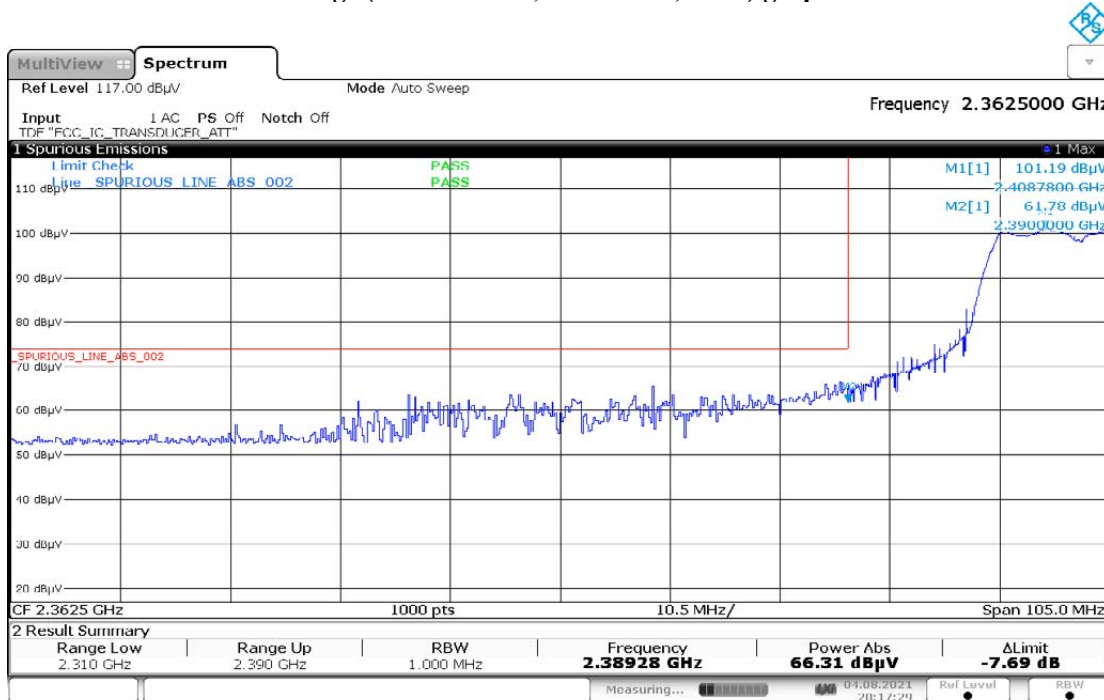


Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



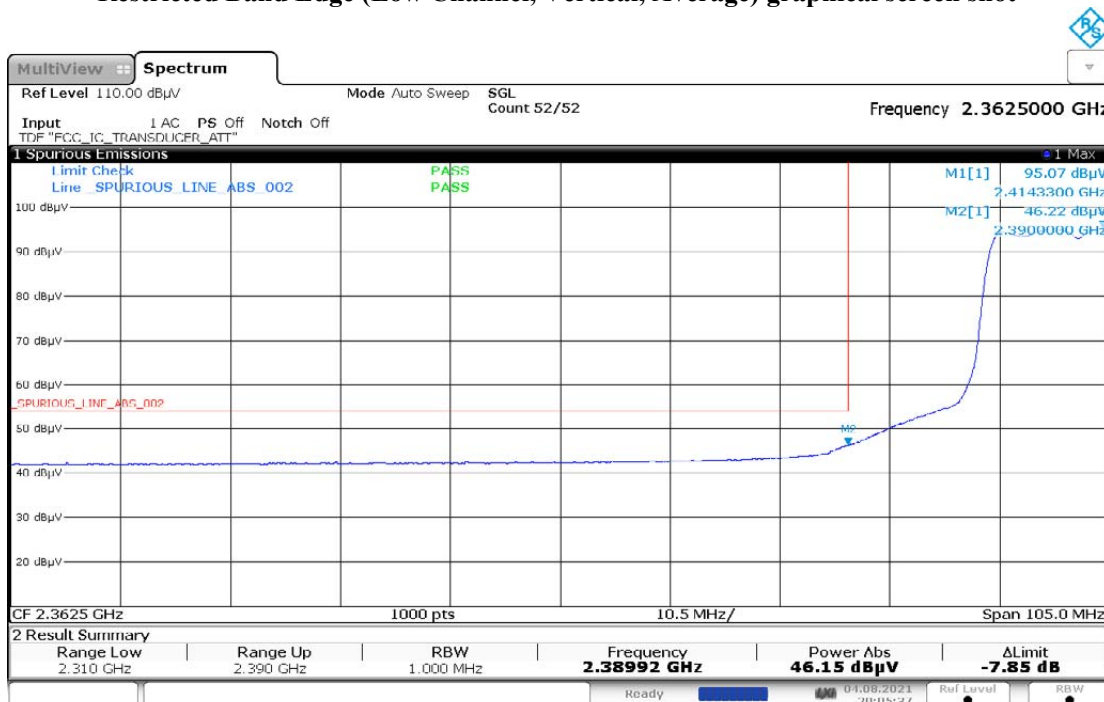
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Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



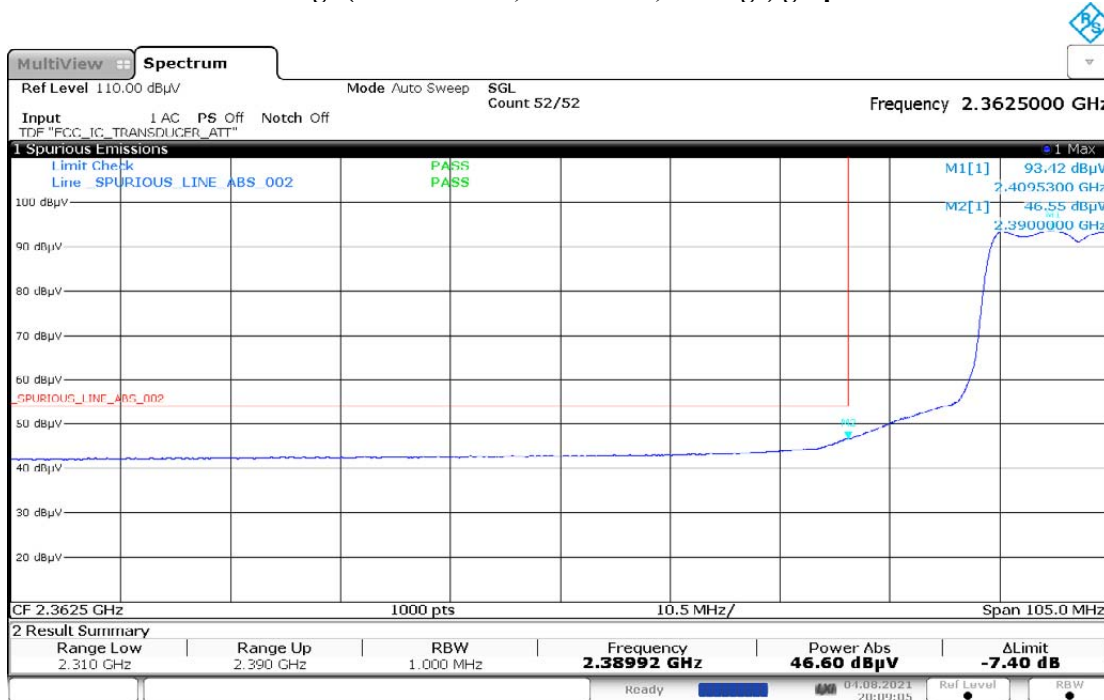
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Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



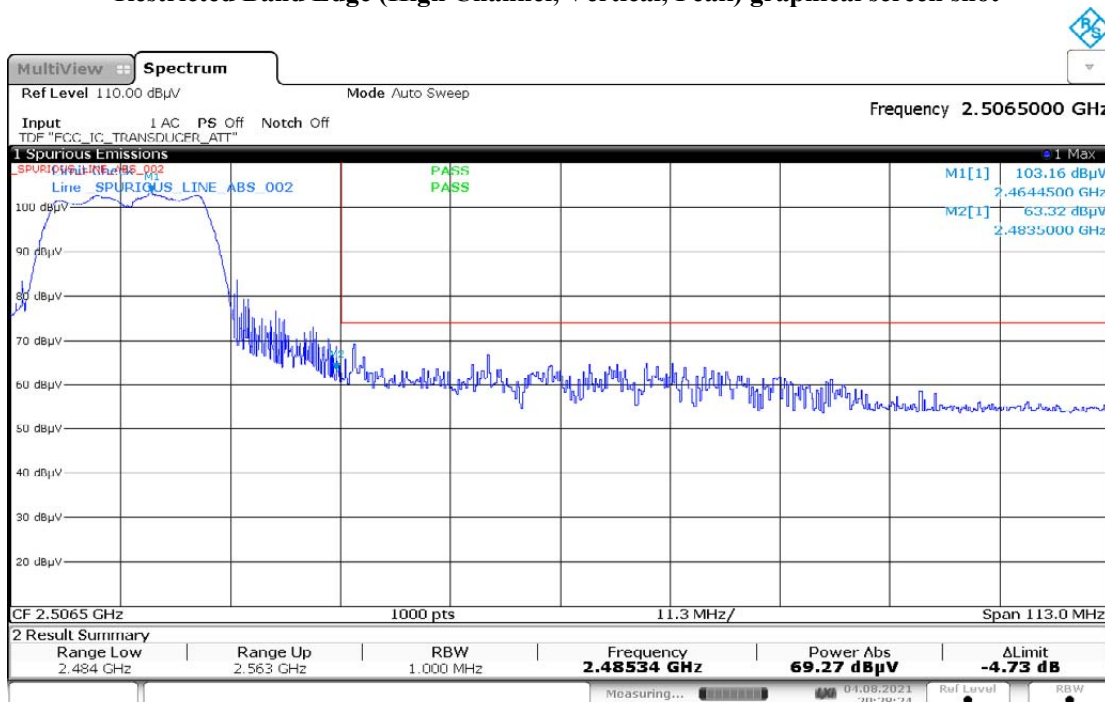
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Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



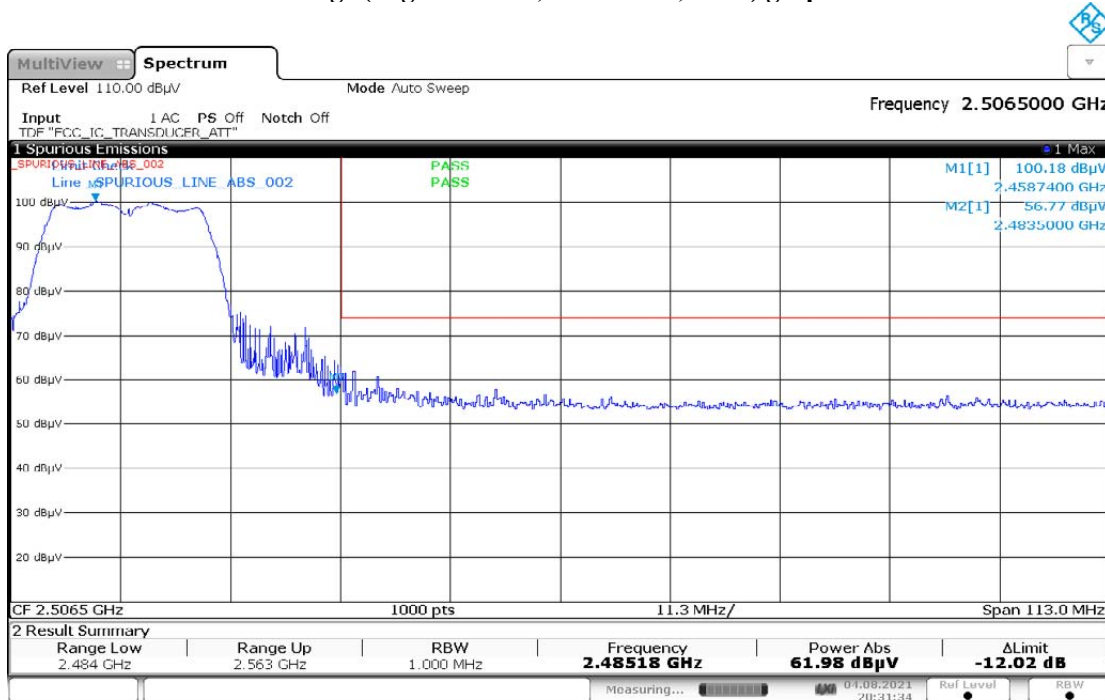
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Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



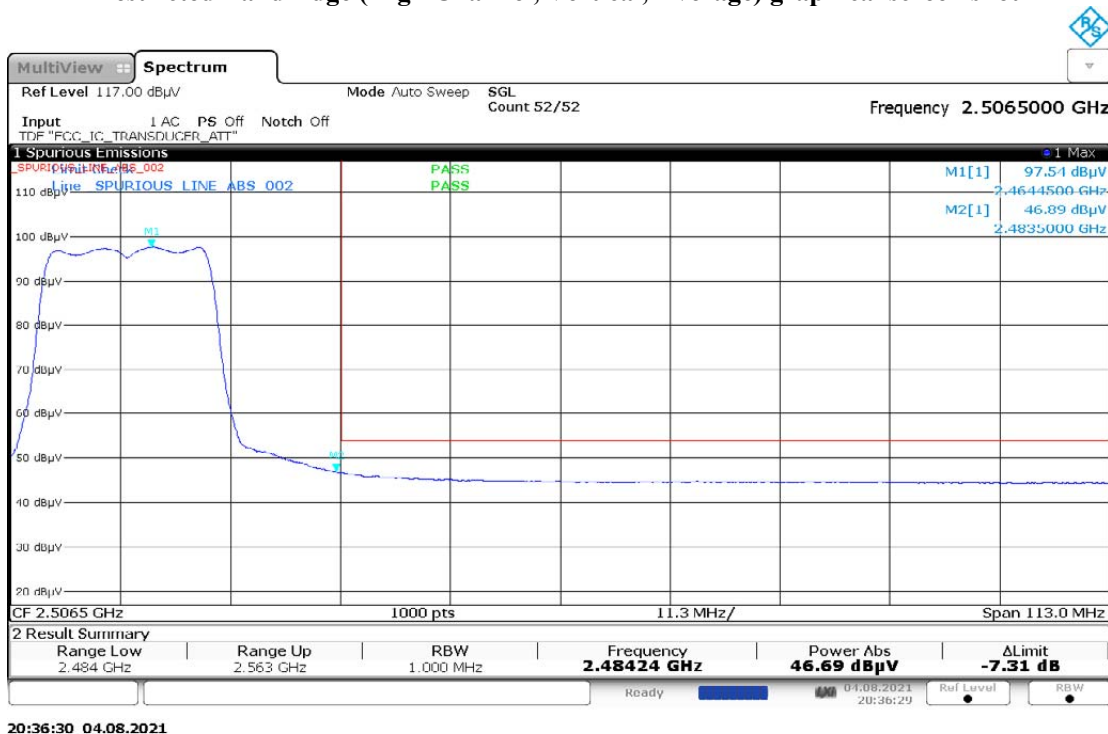
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Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

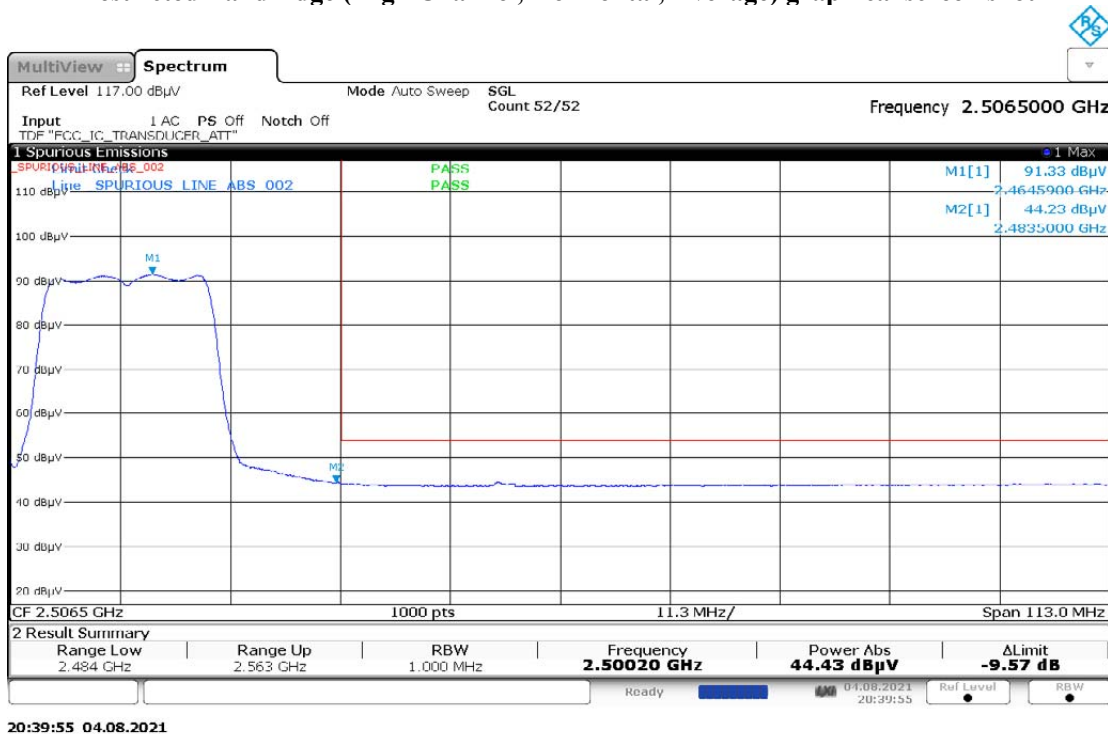


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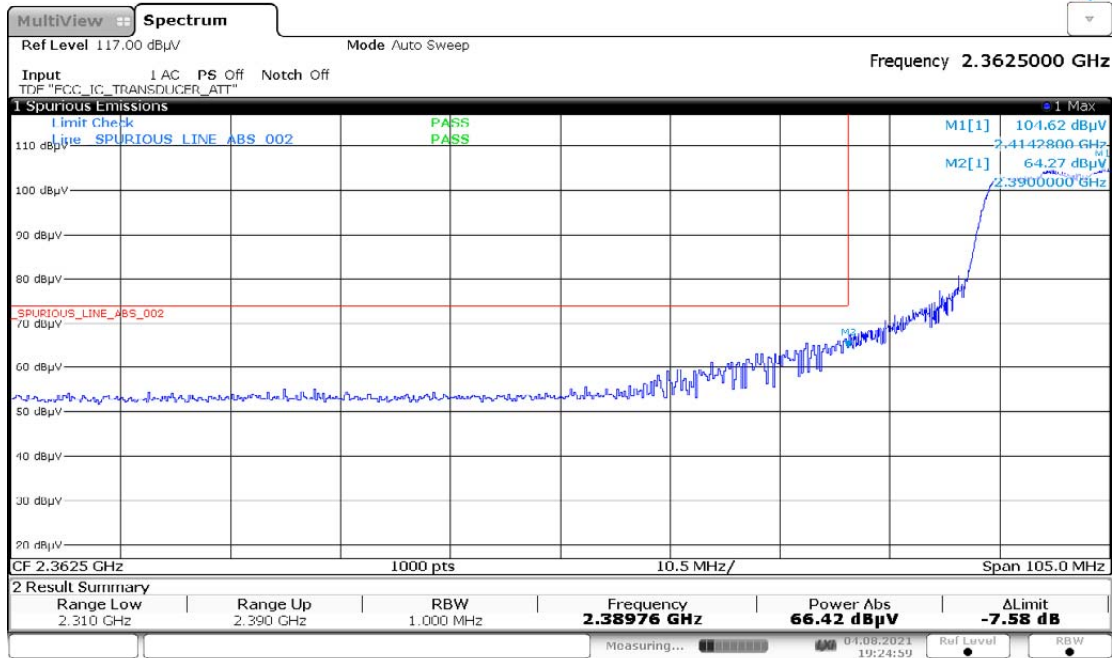
Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot

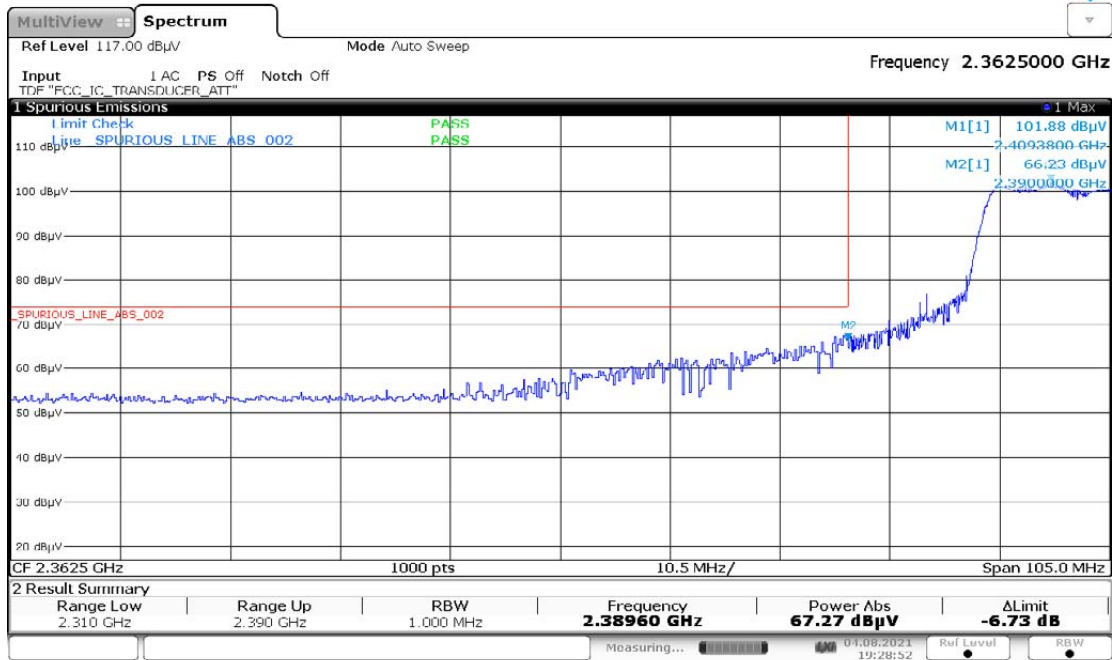


Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



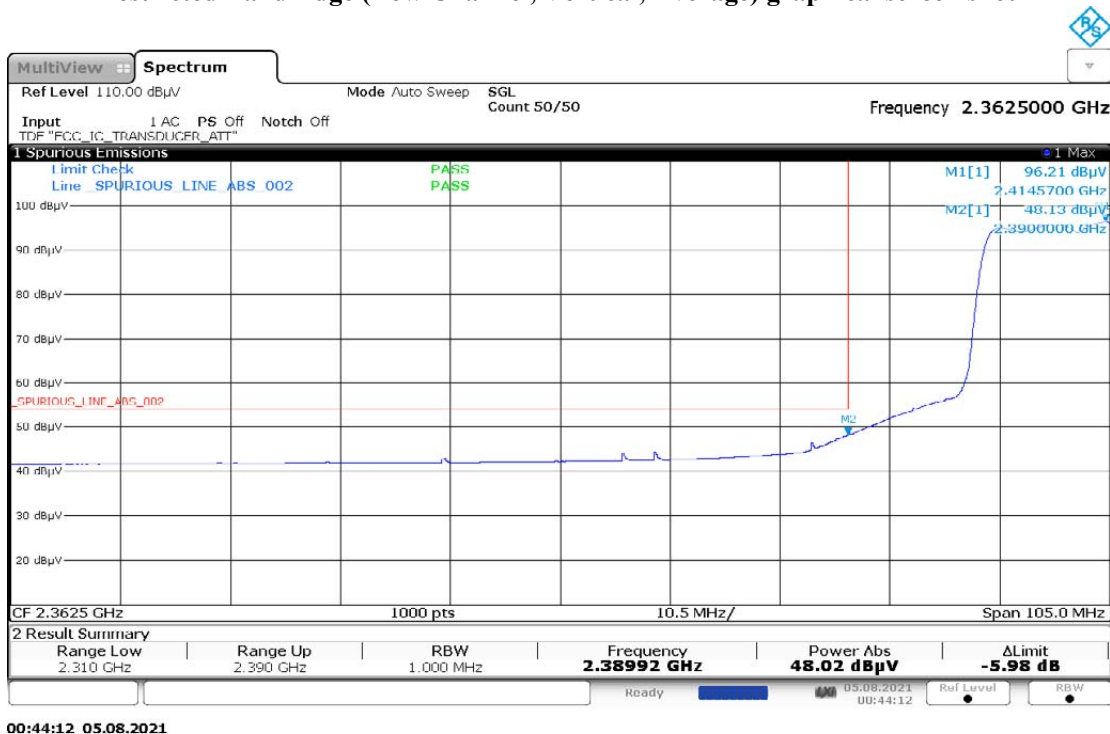
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Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot

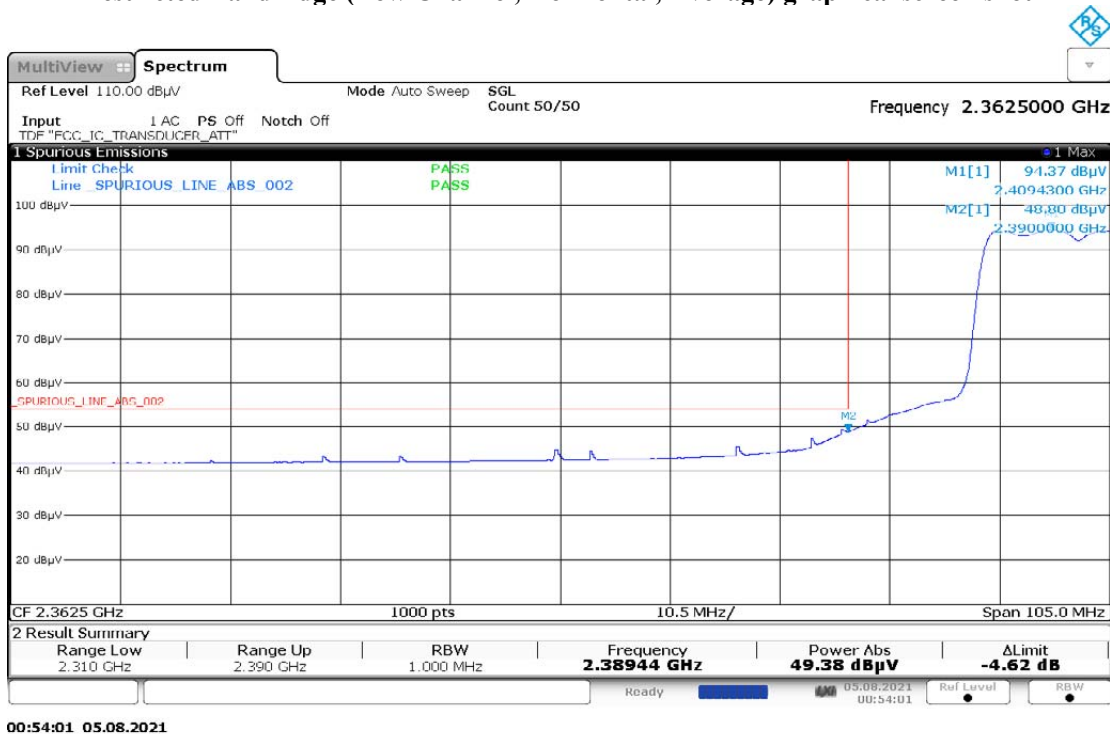


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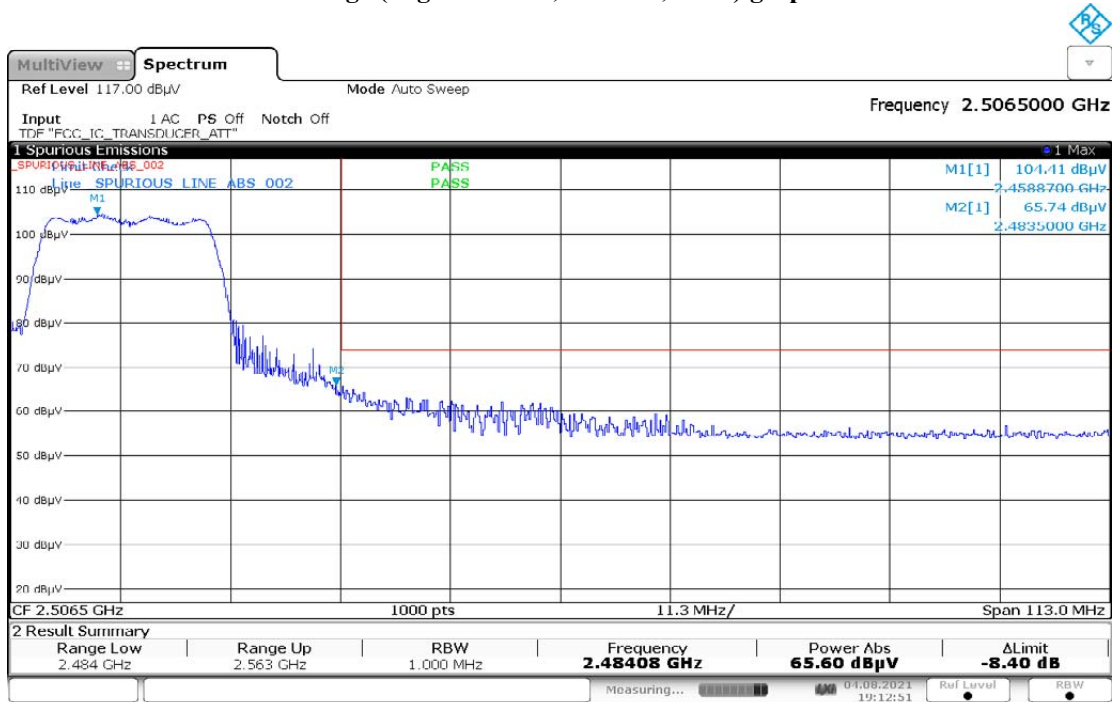
Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot

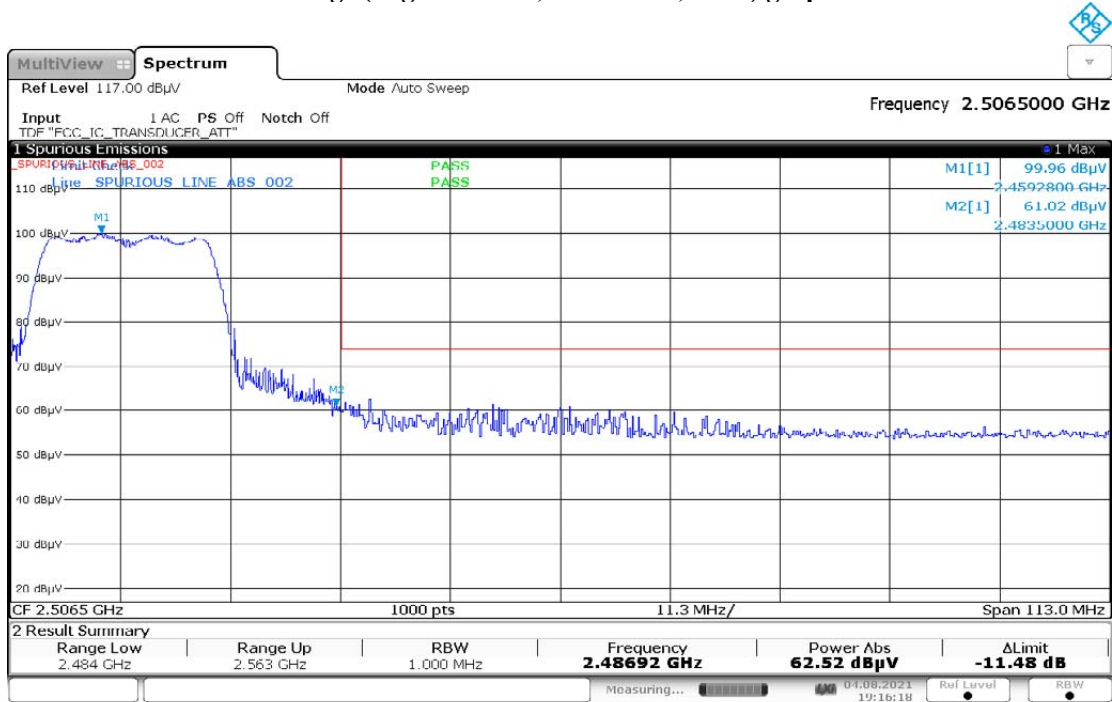


Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



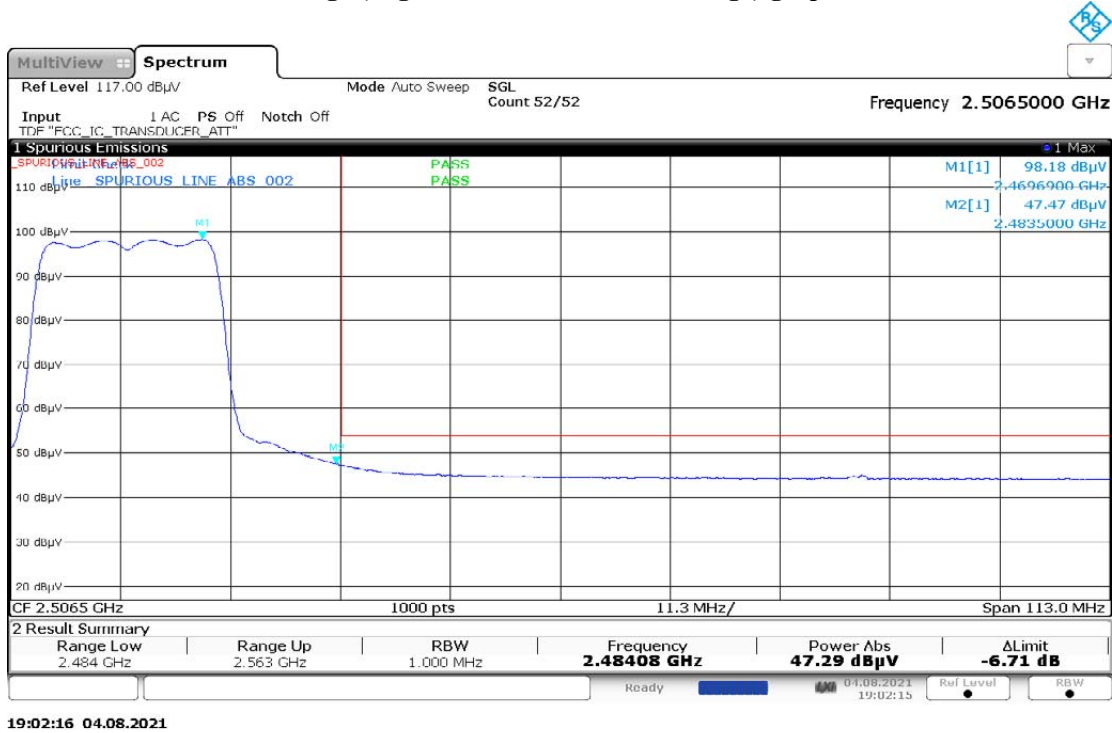
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Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

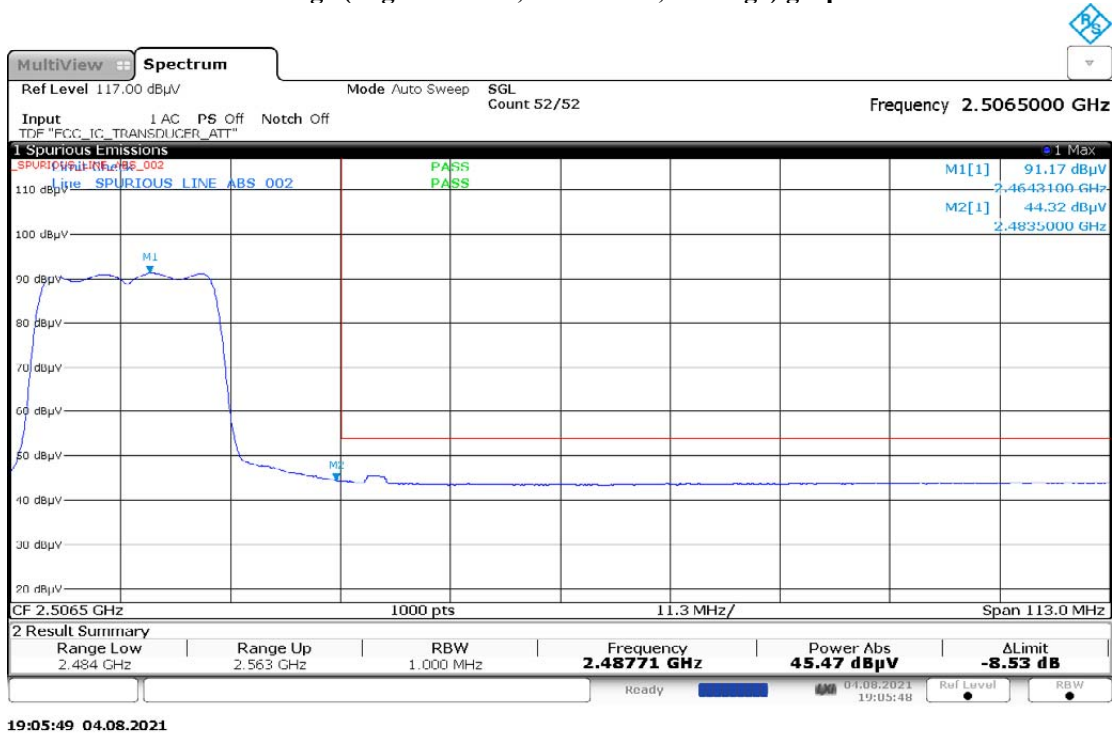


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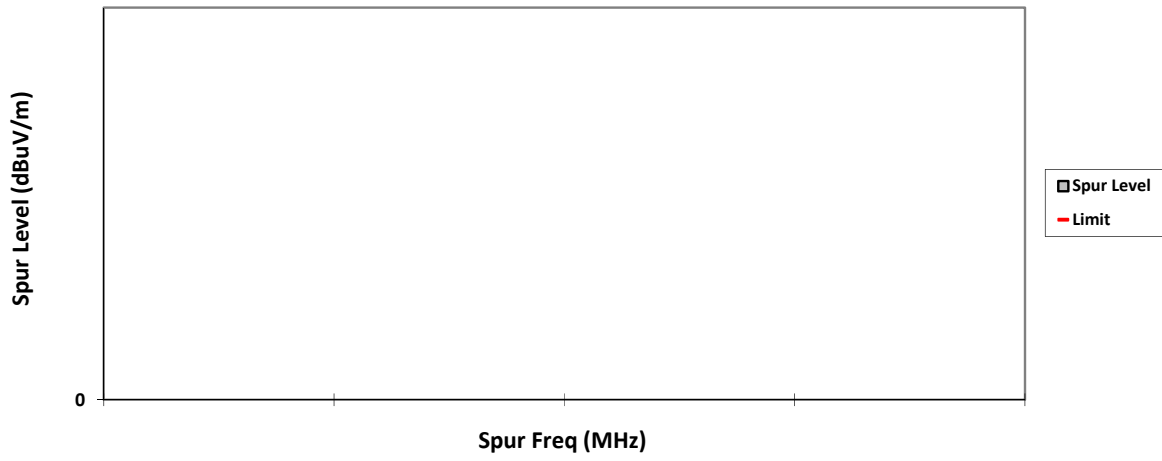
Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



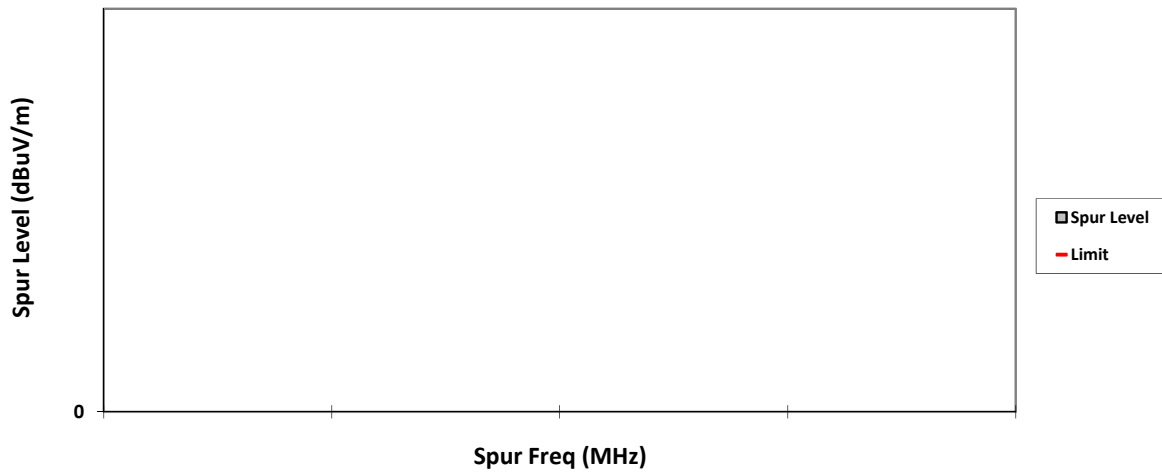
Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



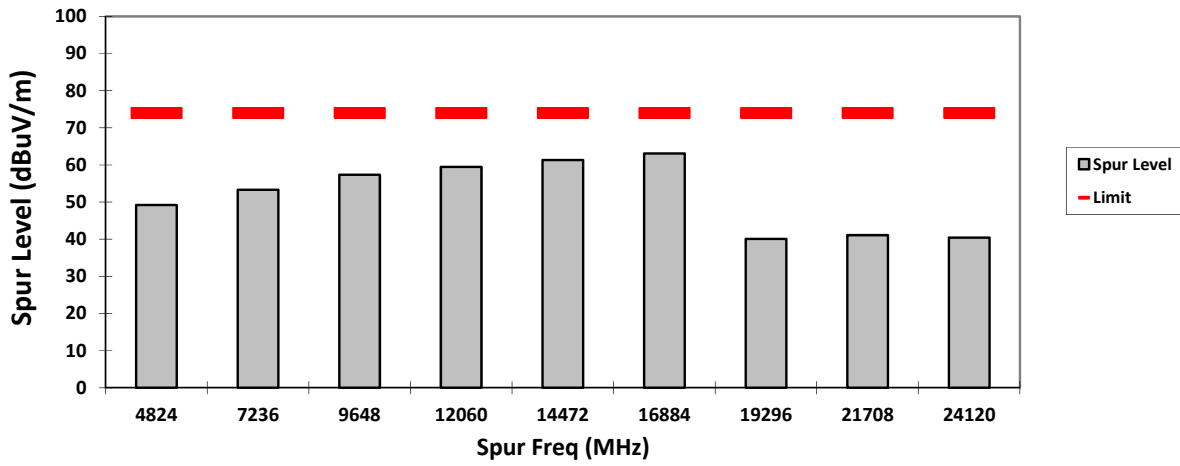
VERTICAL, QPK



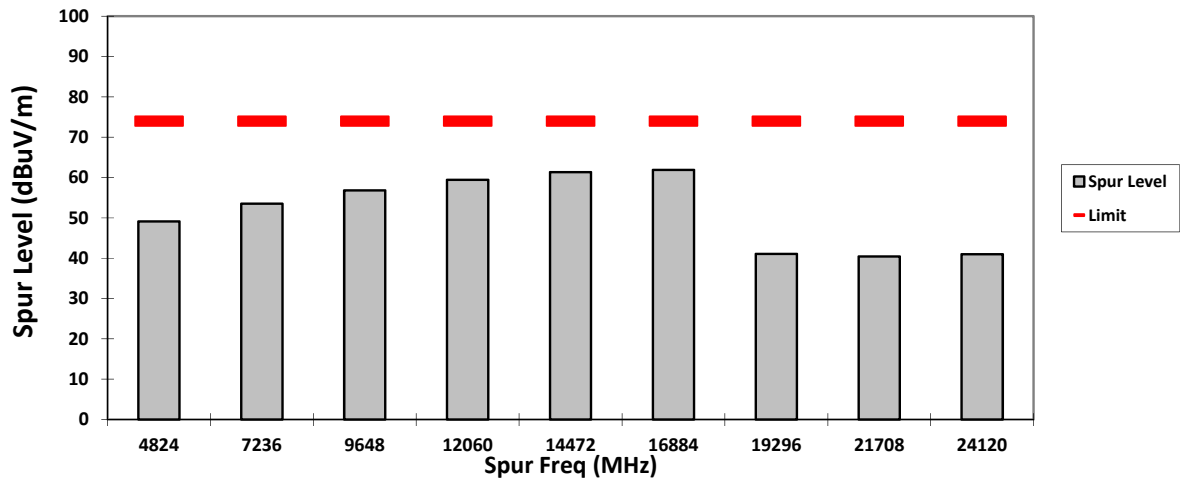
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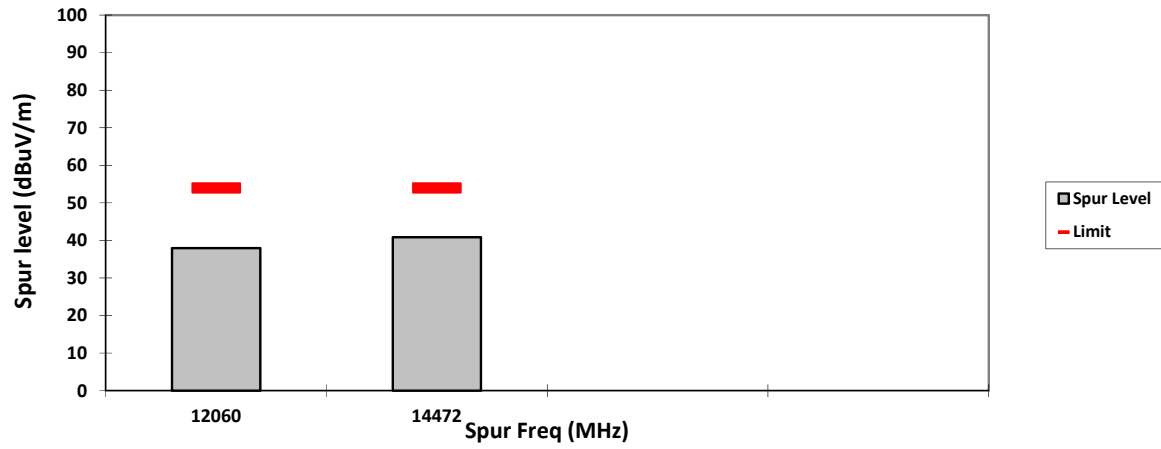
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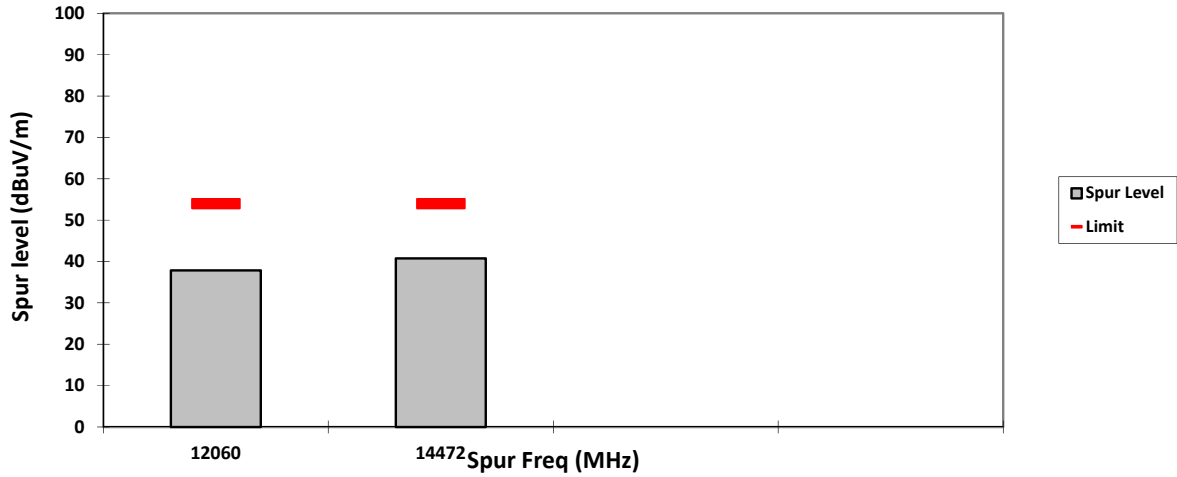
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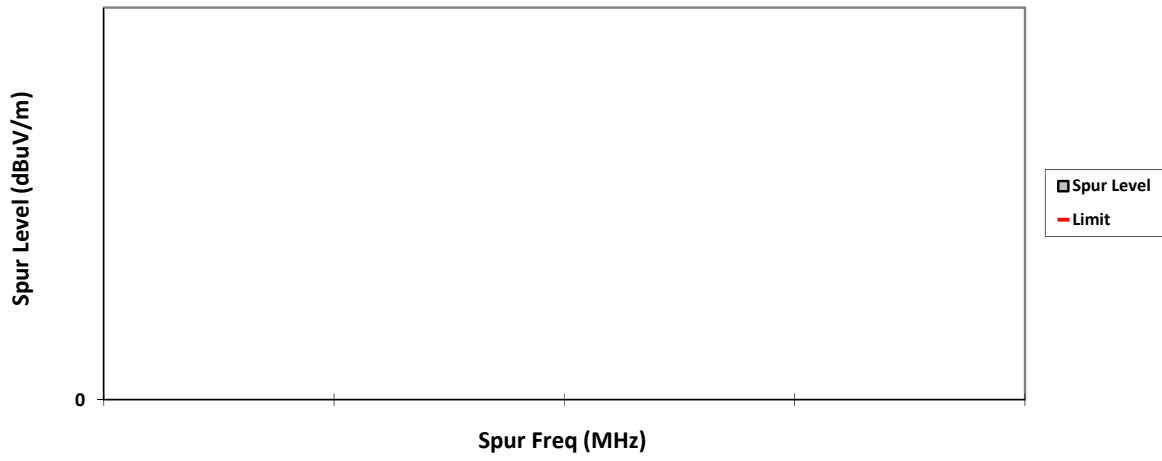
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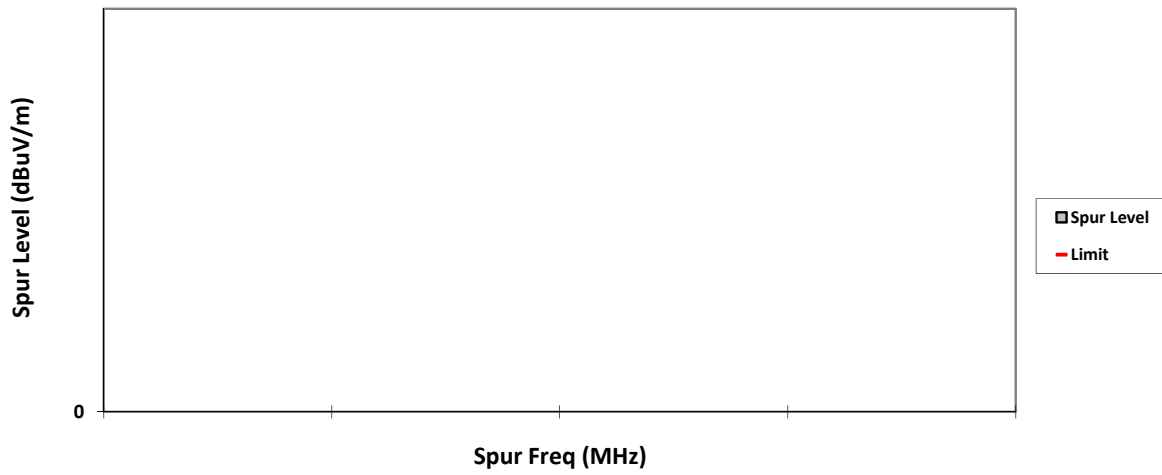
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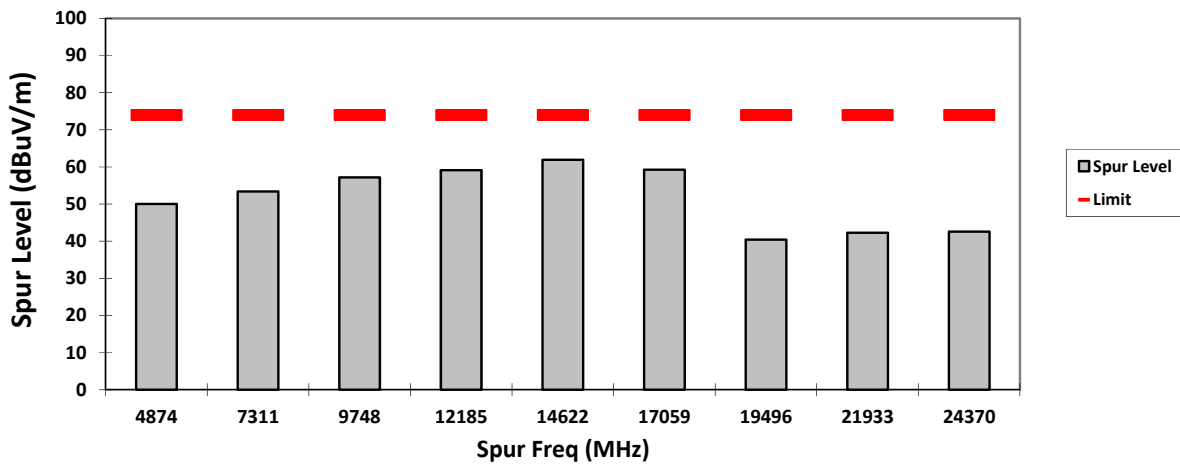
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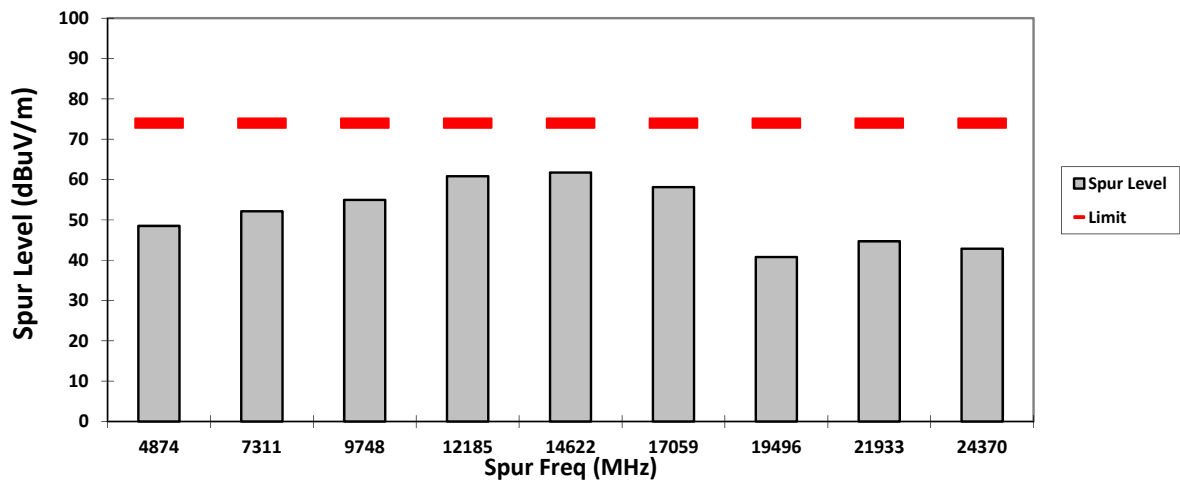
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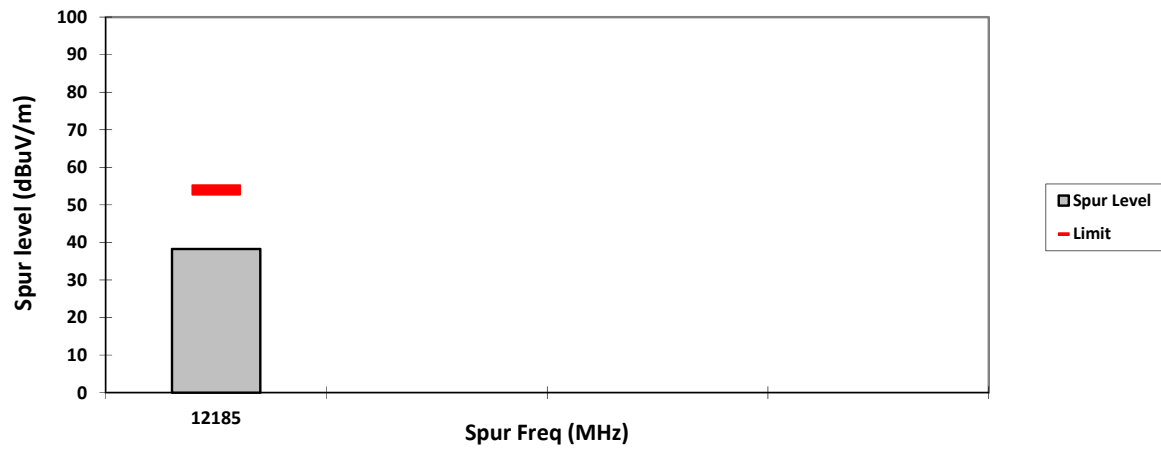
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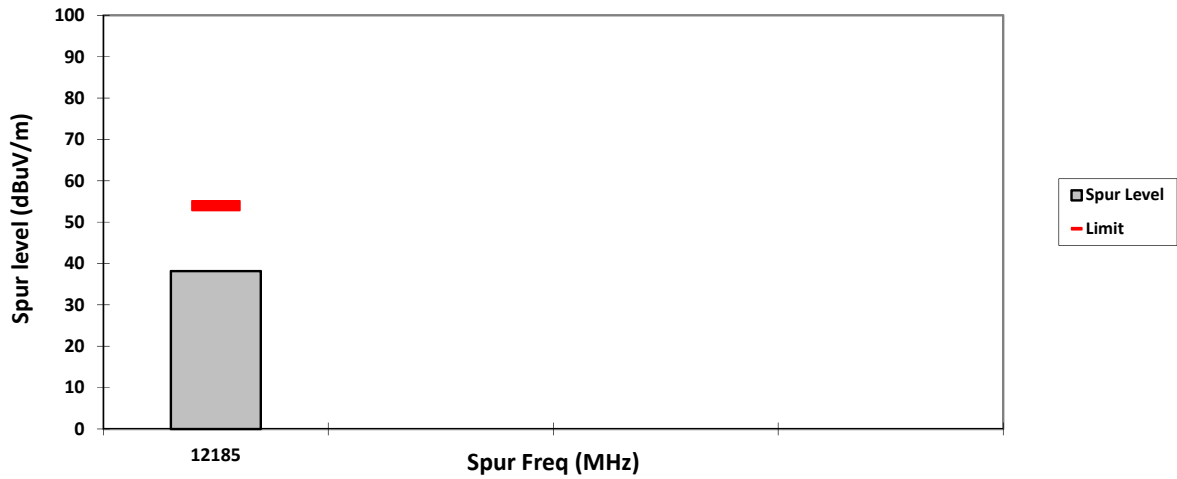
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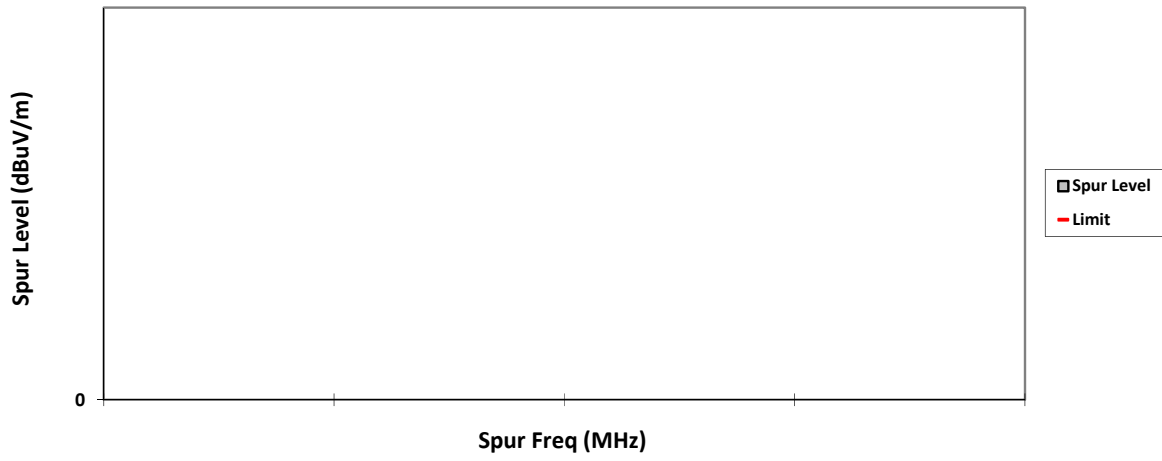
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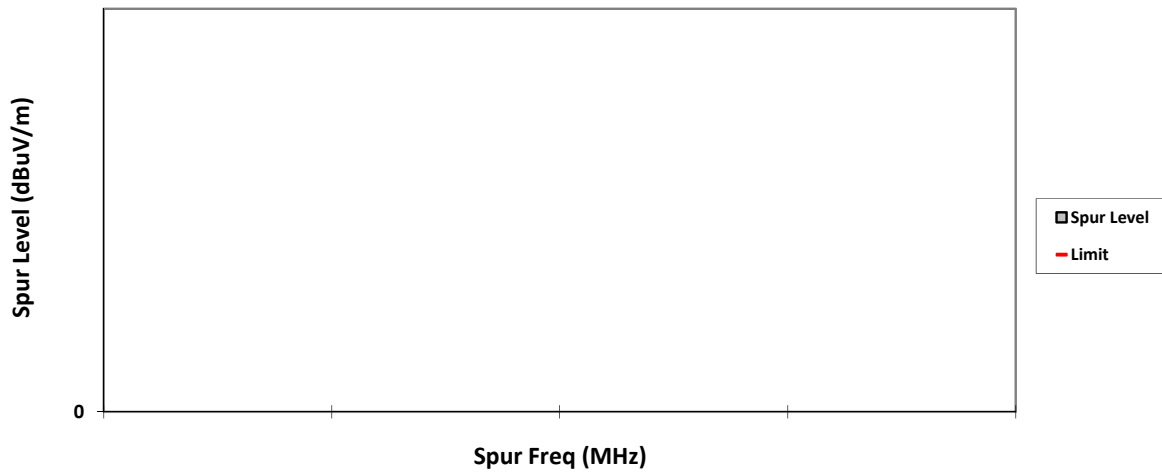
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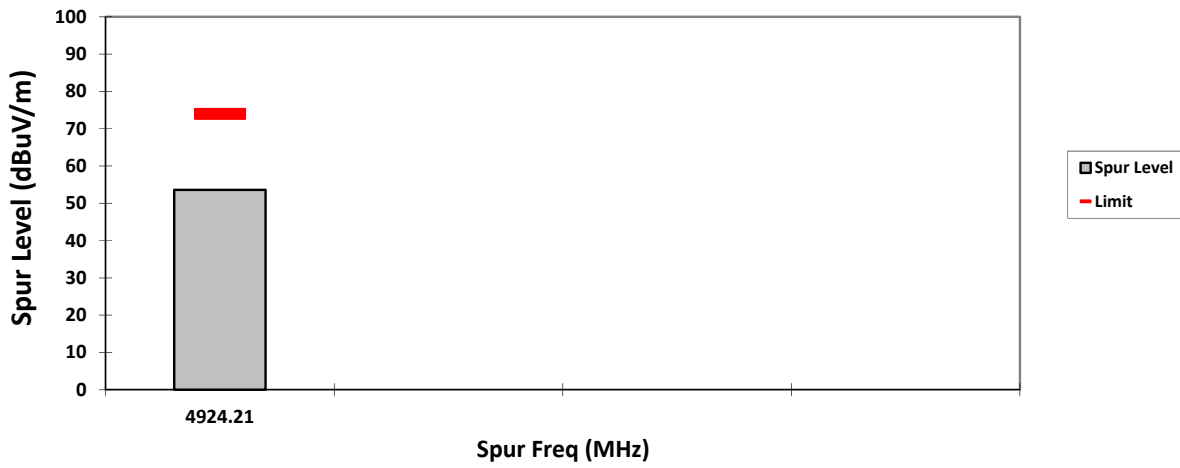
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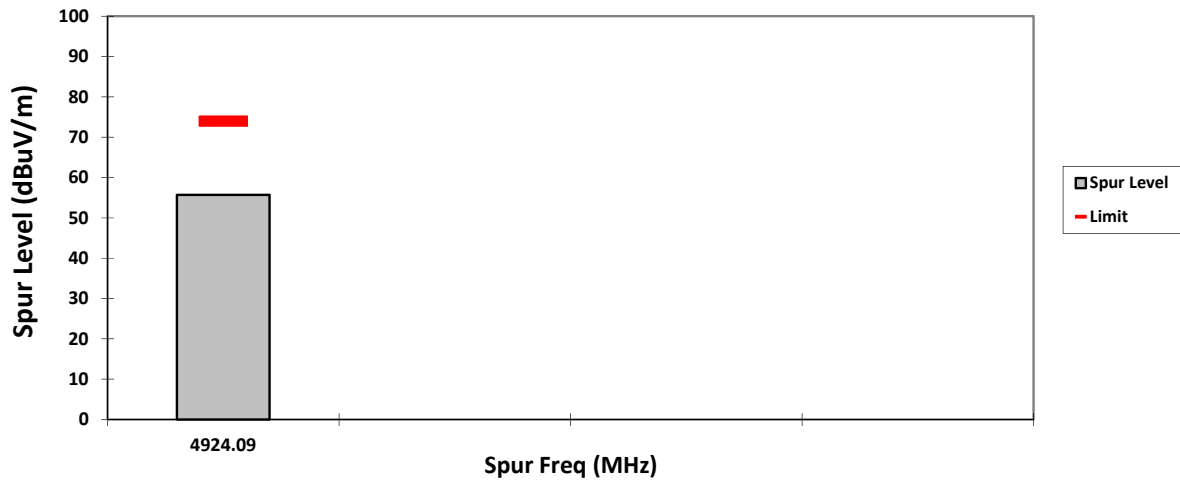
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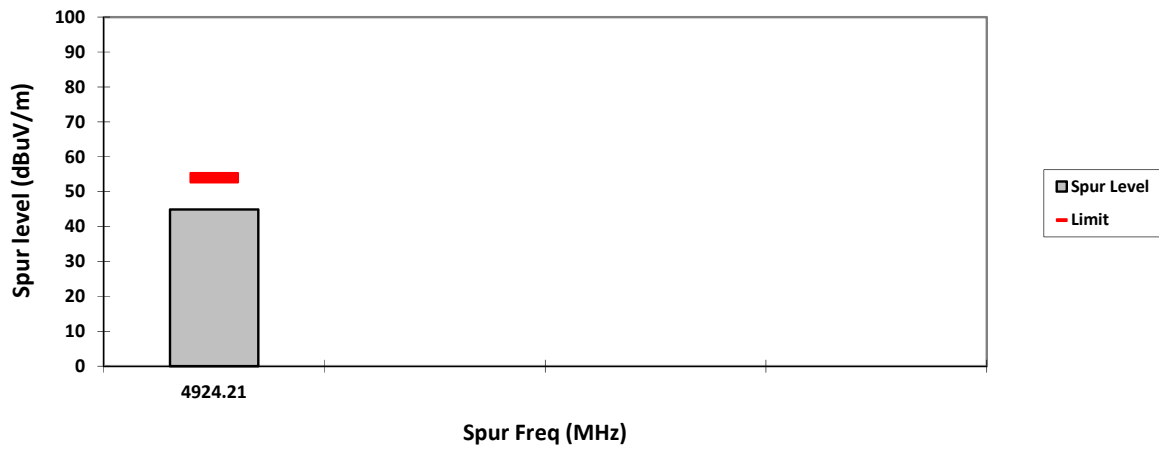
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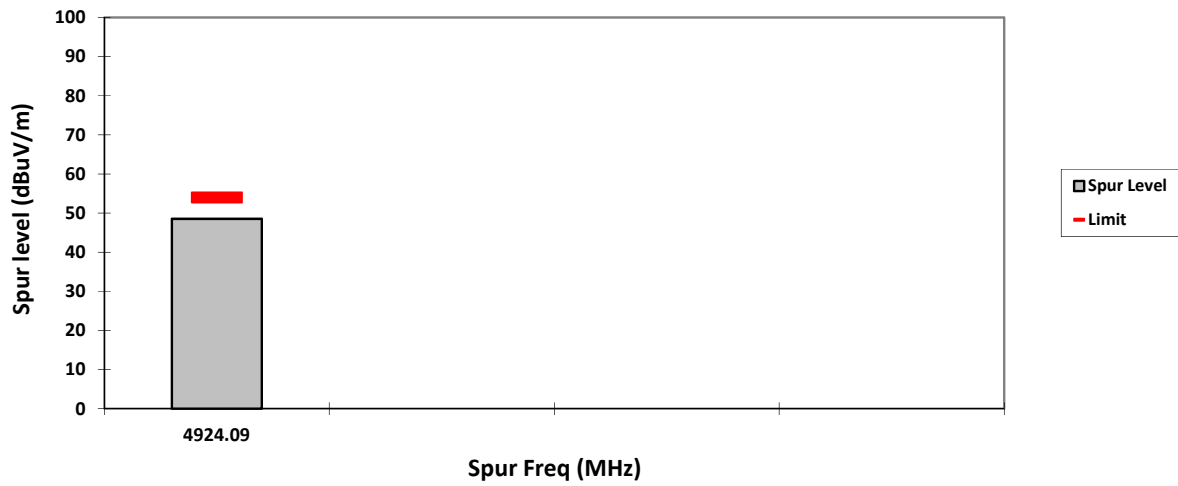
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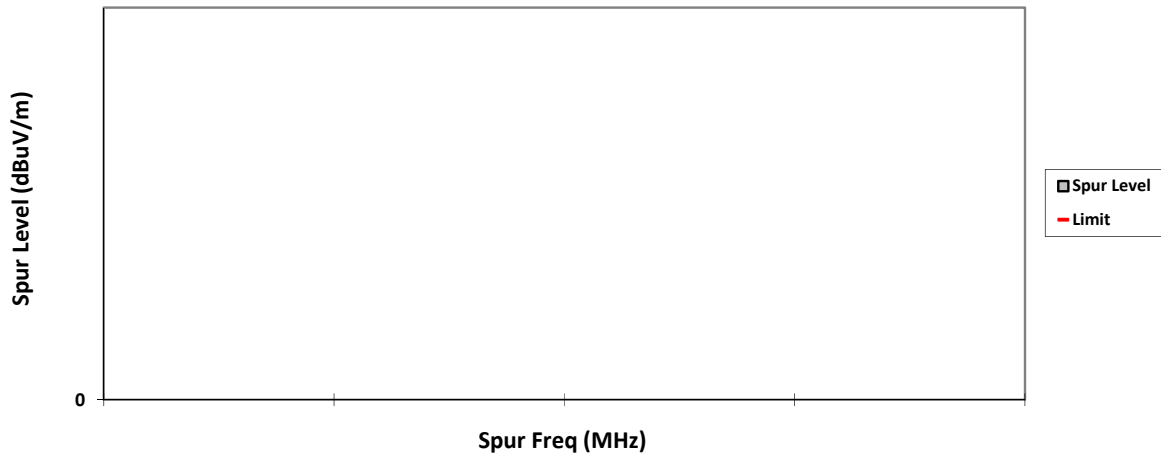
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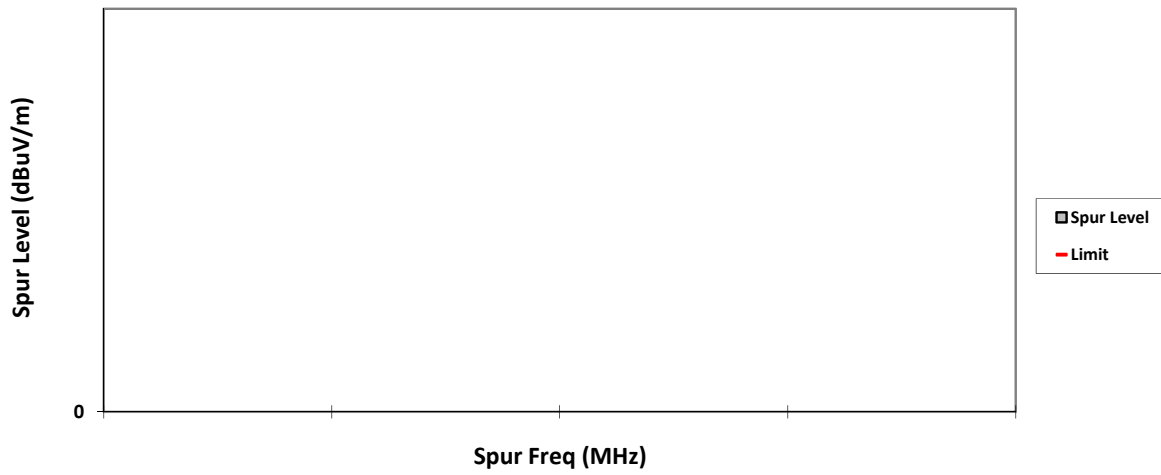
HORIZONTAL, AV



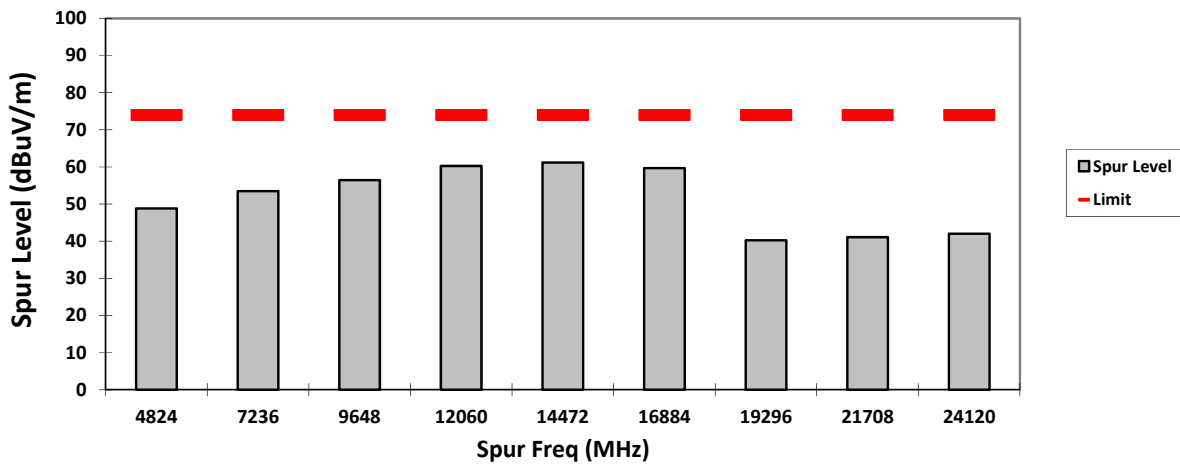
VERTICAL, QPK



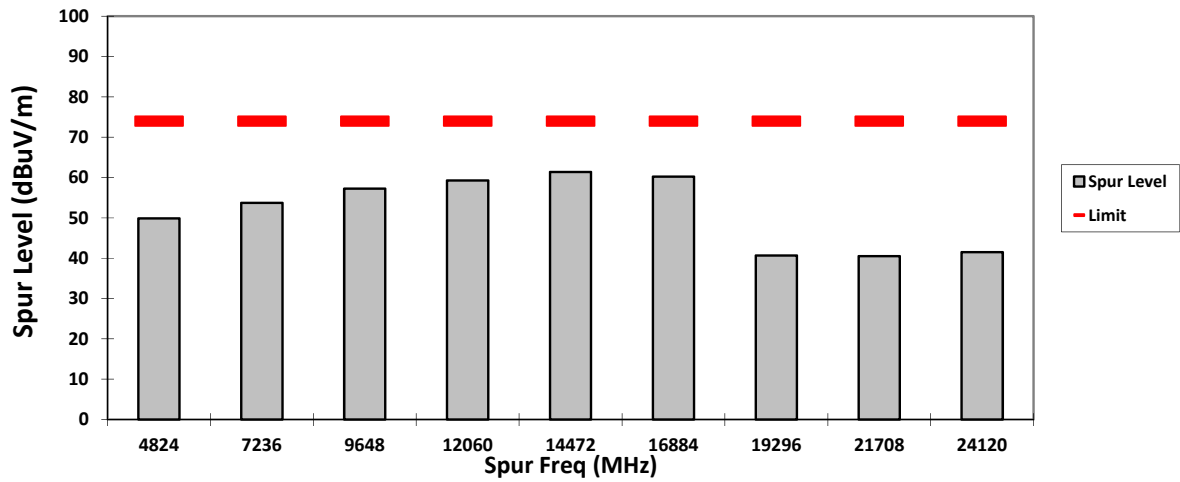
HORIZONTAL, QPK



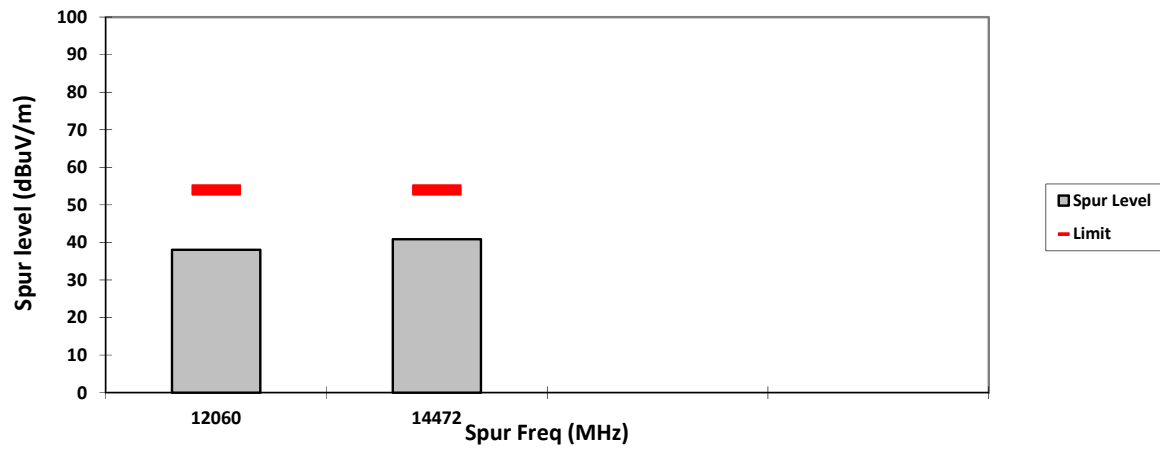
VERTICAL, PK



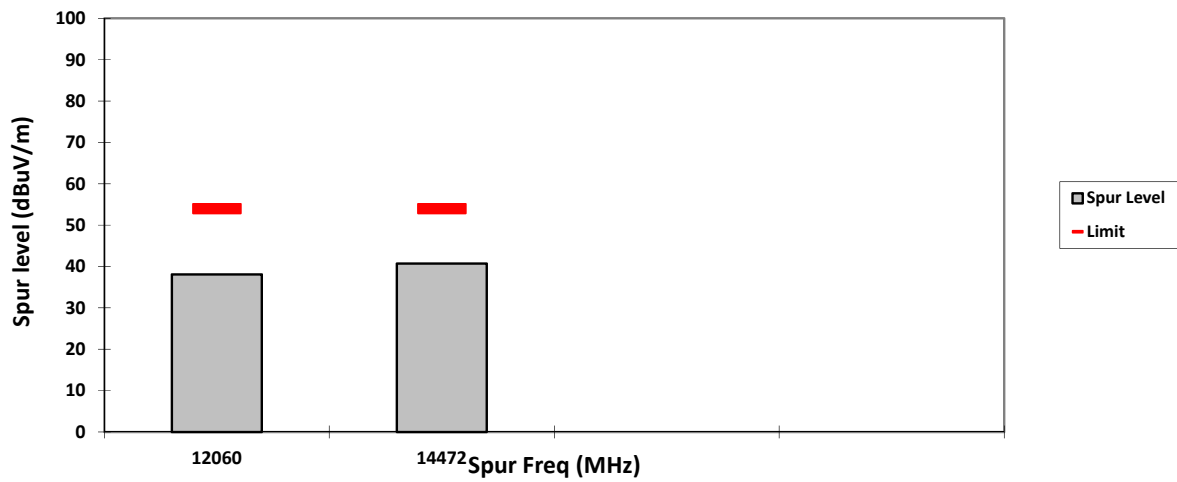
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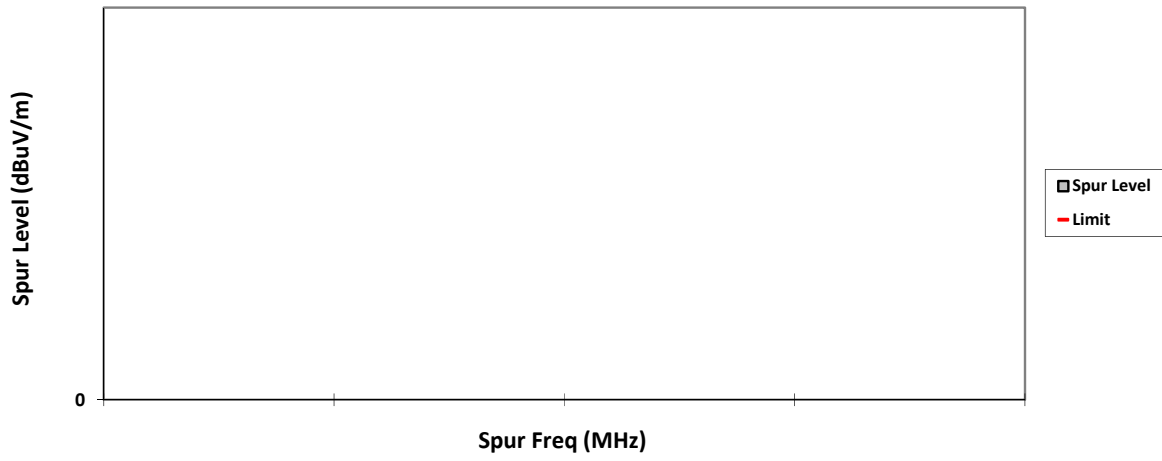
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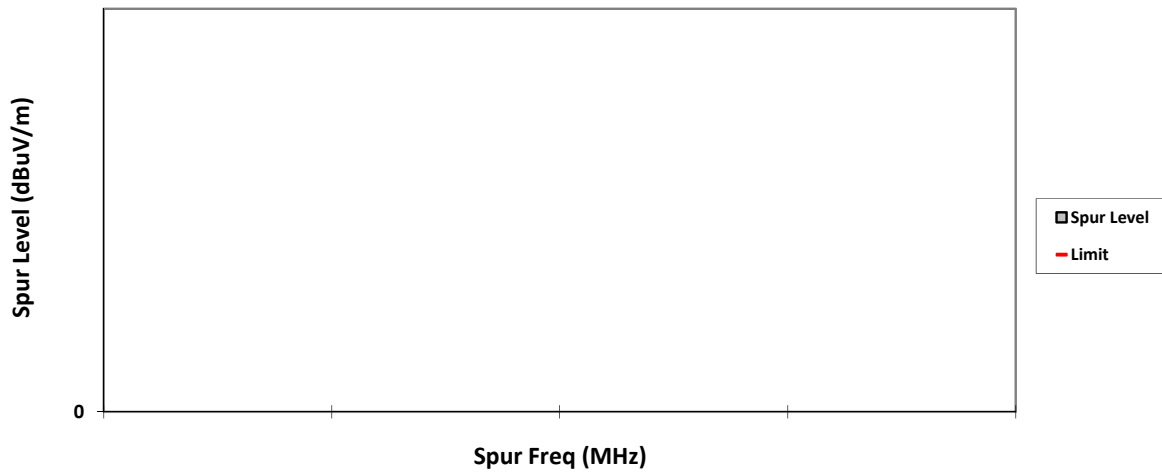
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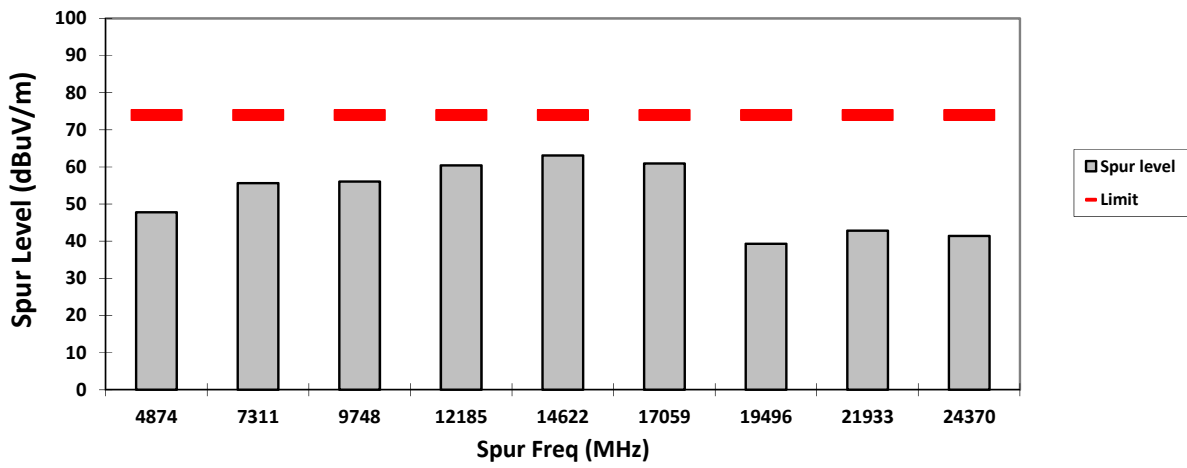
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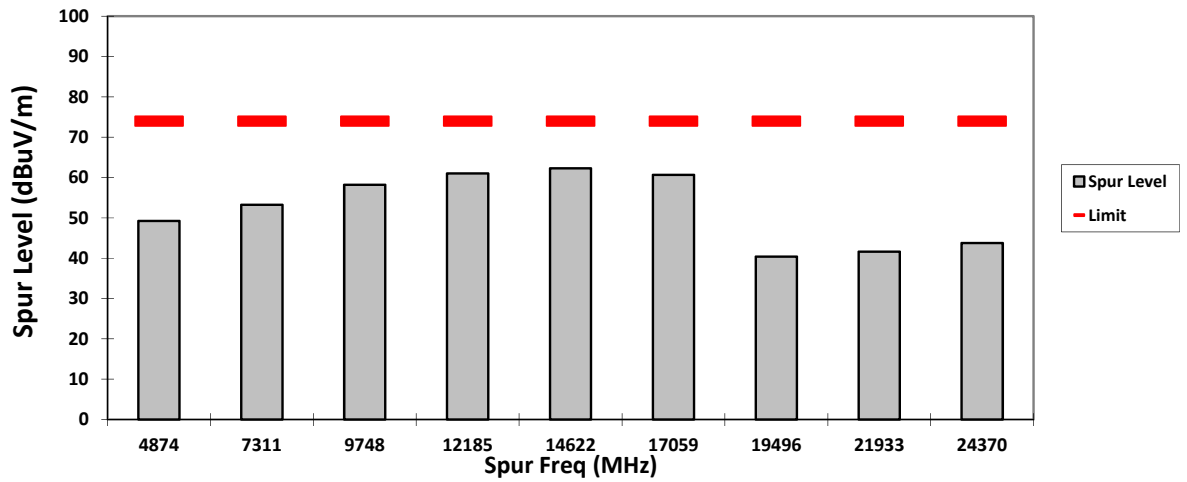
HORIZONTAL, QPK



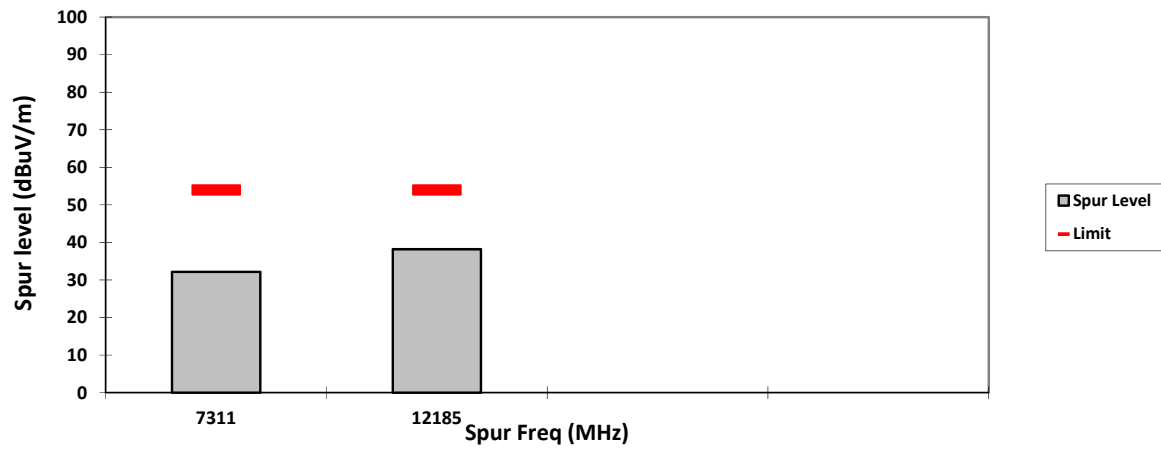
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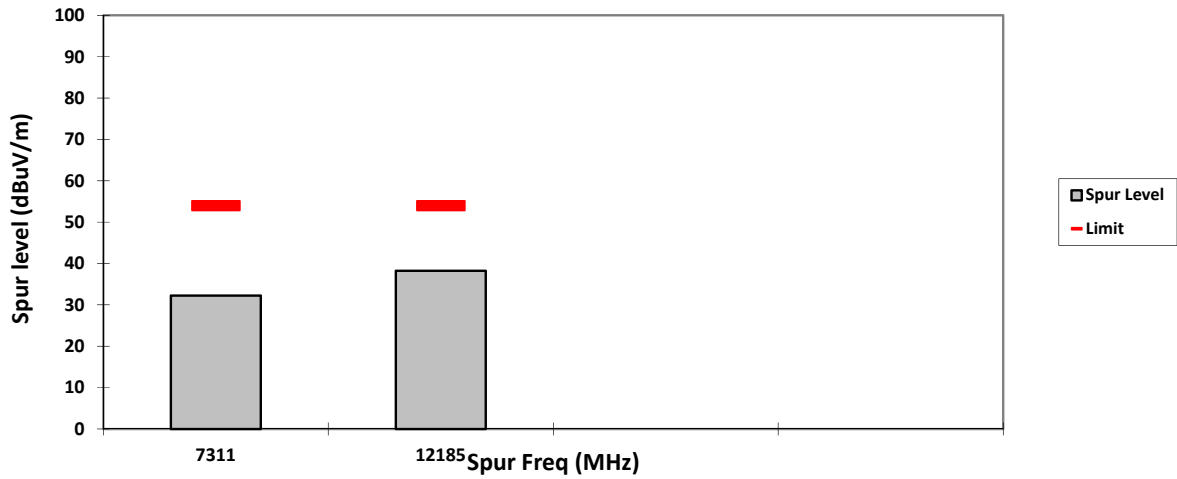
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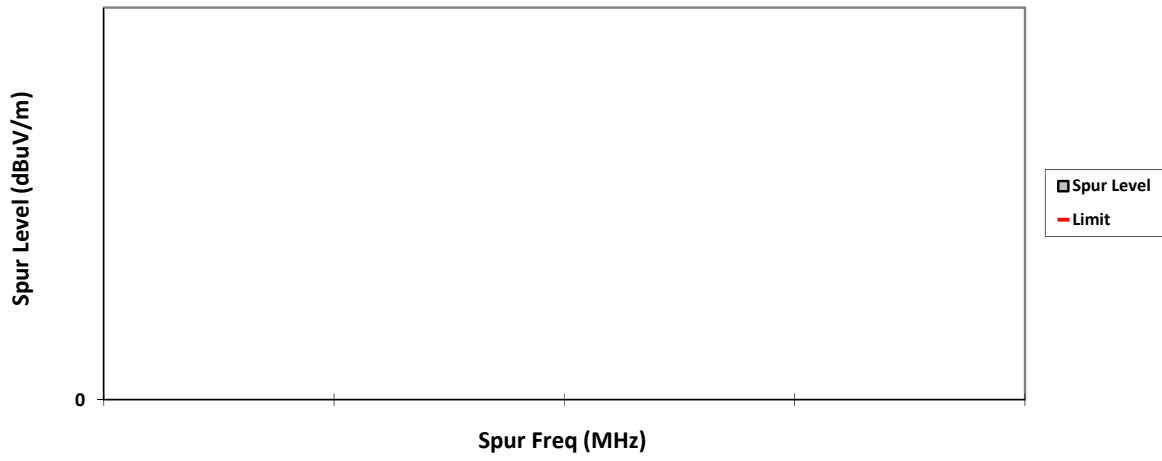
VERTICAL, AV



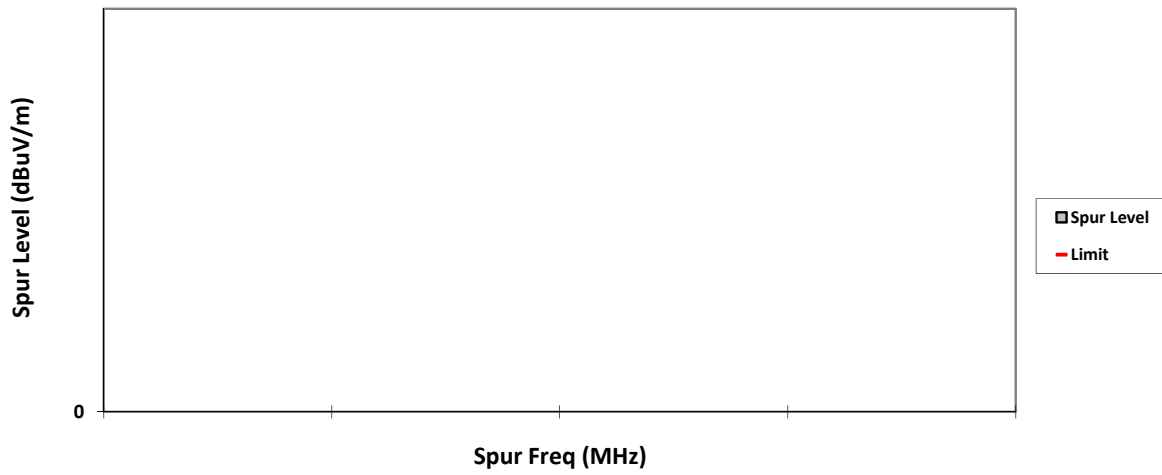
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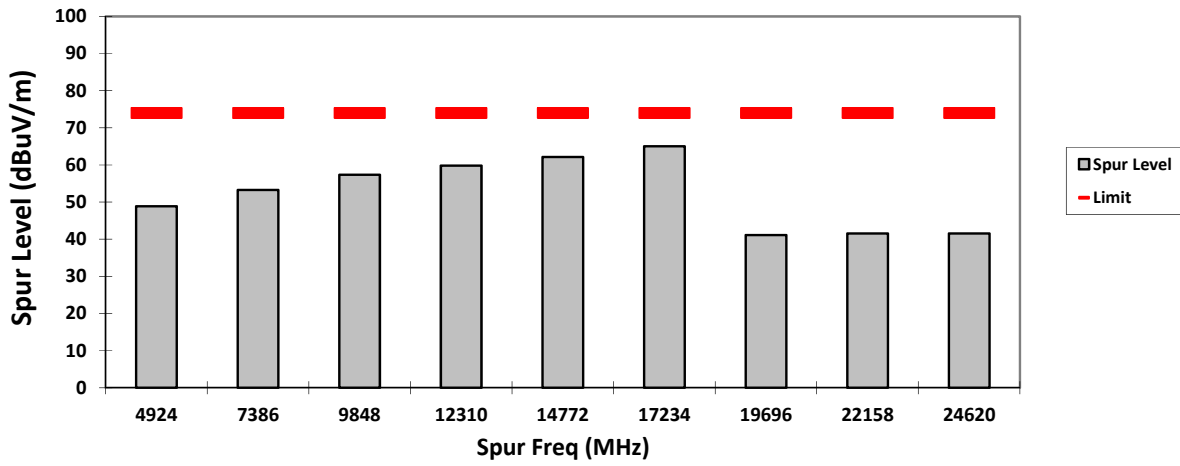
VERTICAL, QPK



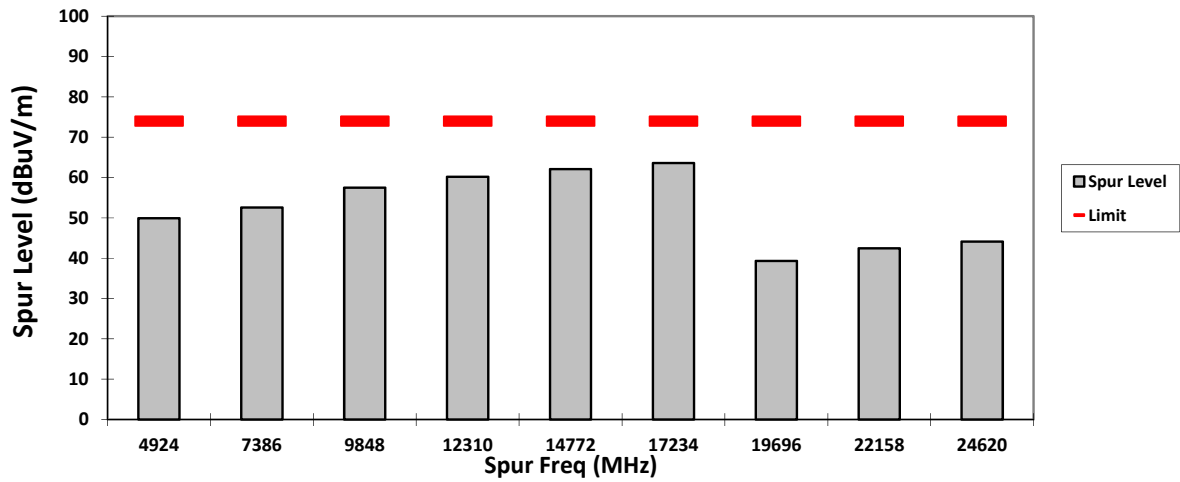
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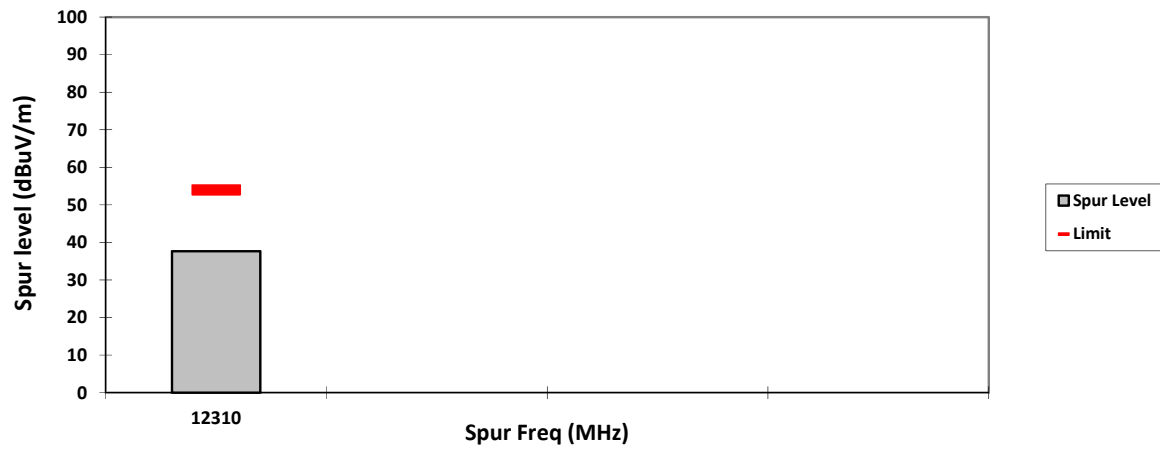
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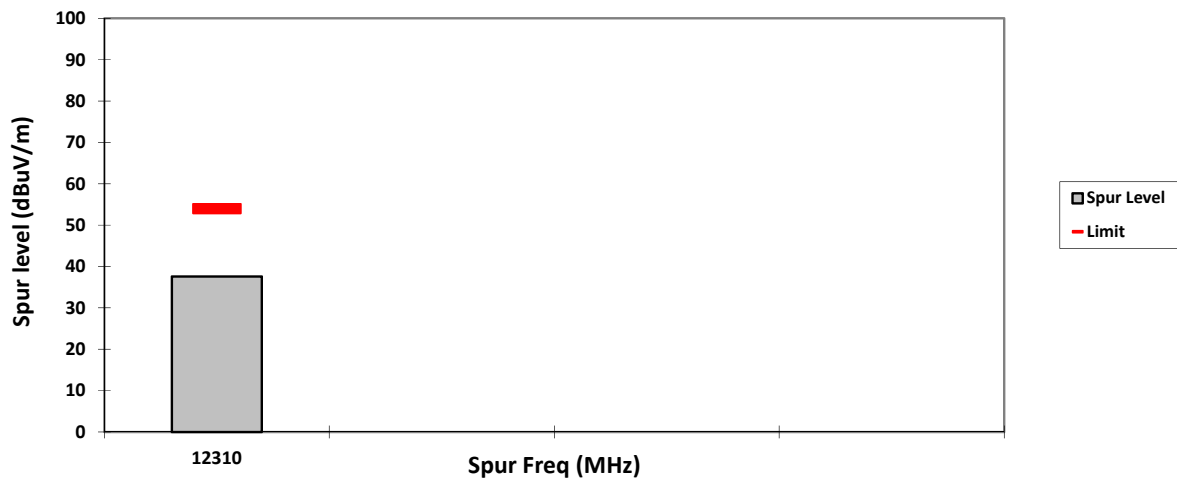
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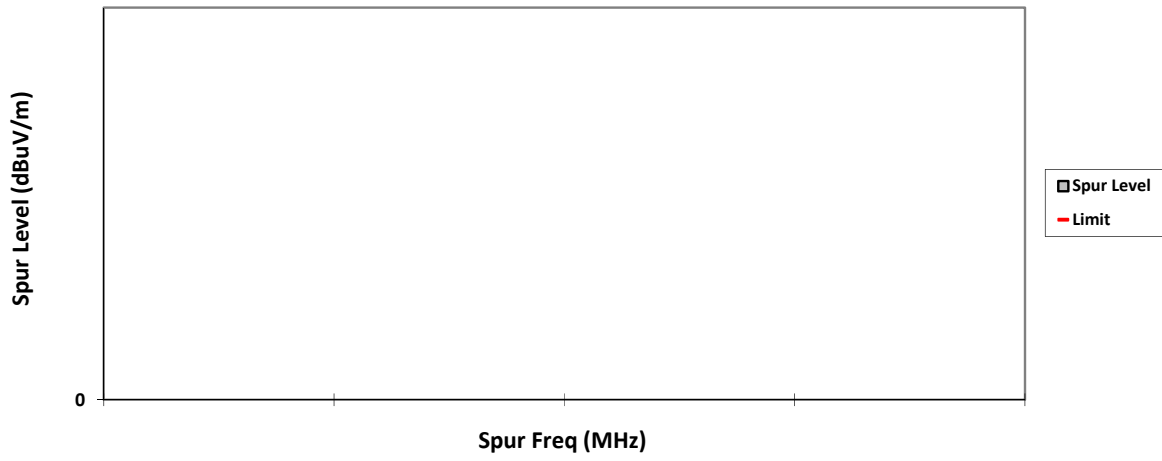
VERTICAL, AV



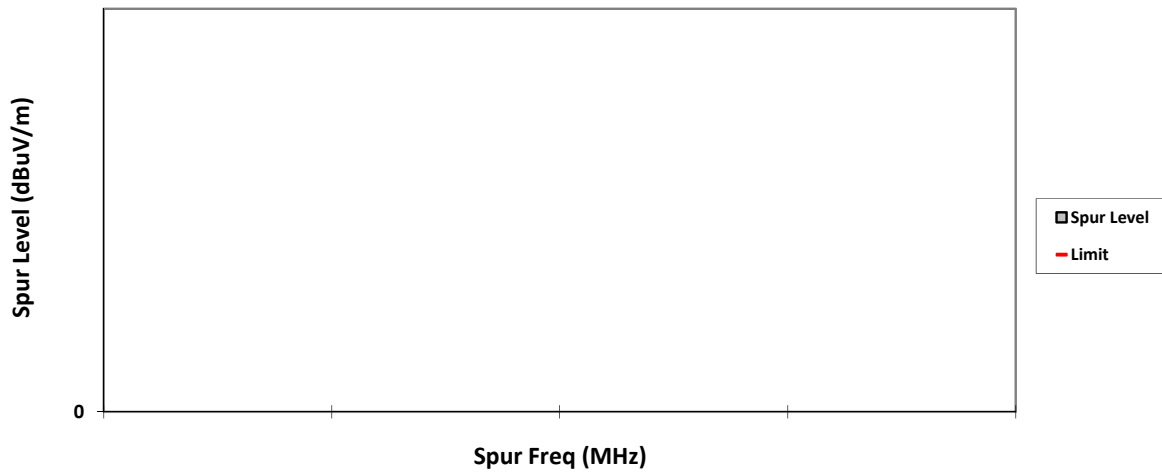
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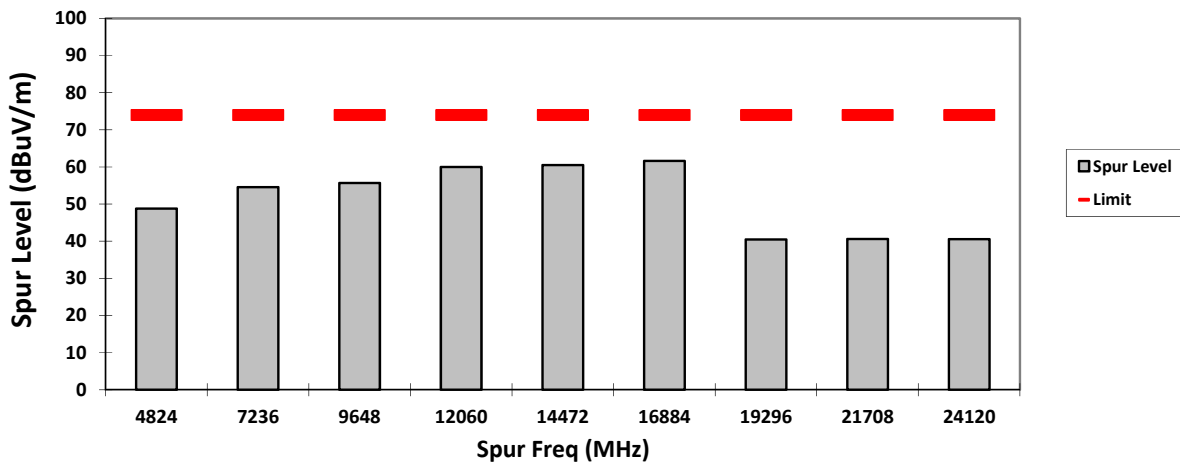
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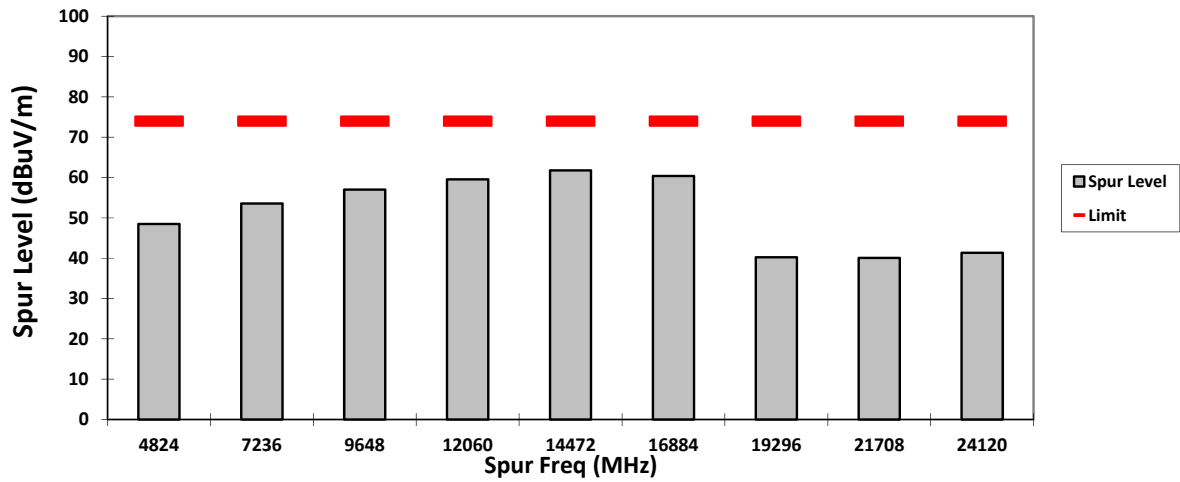
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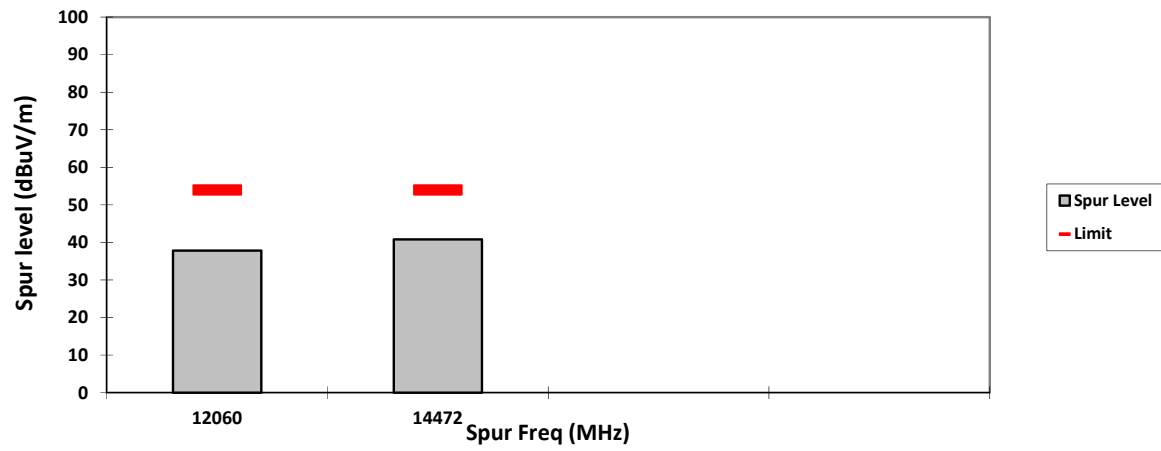
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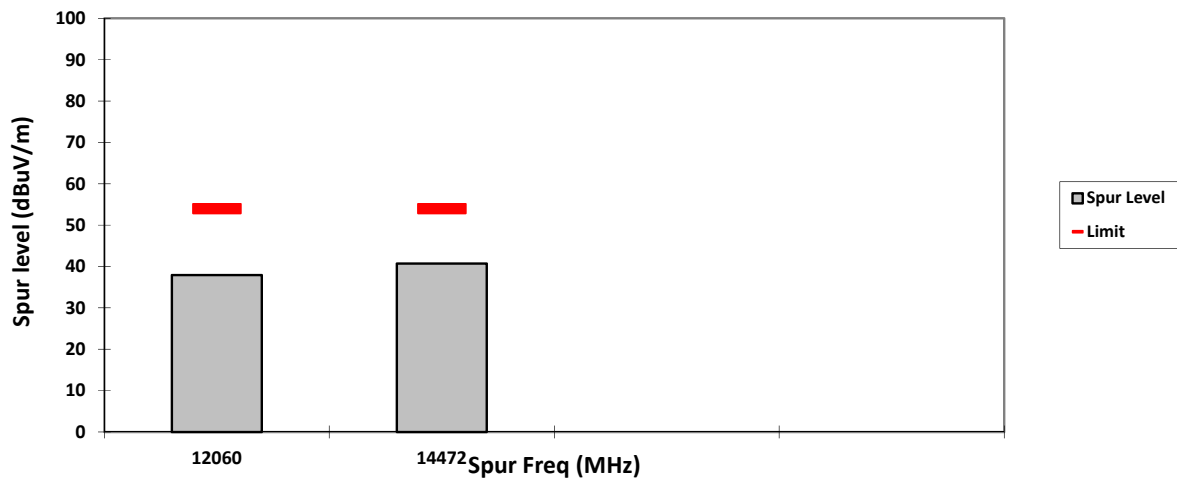
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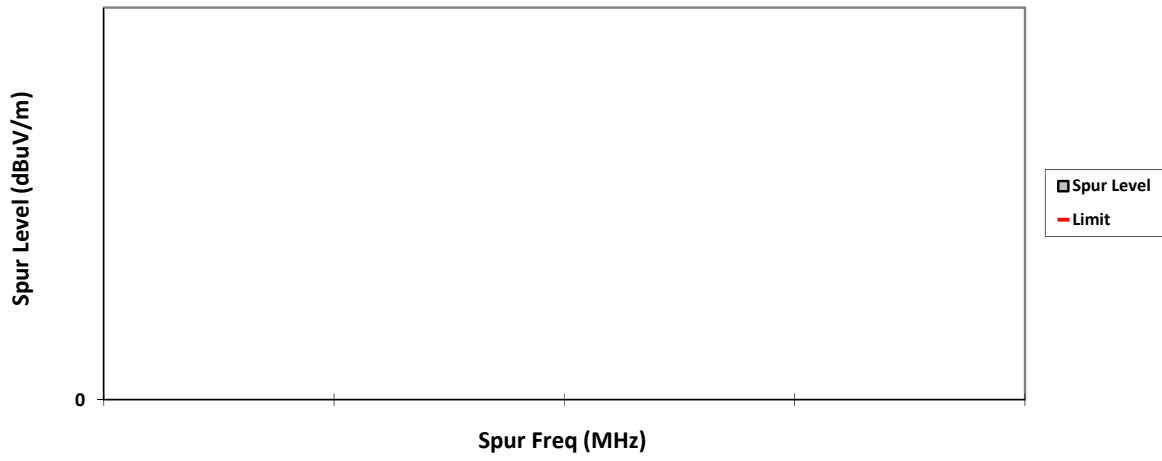
VERTICAL, AV



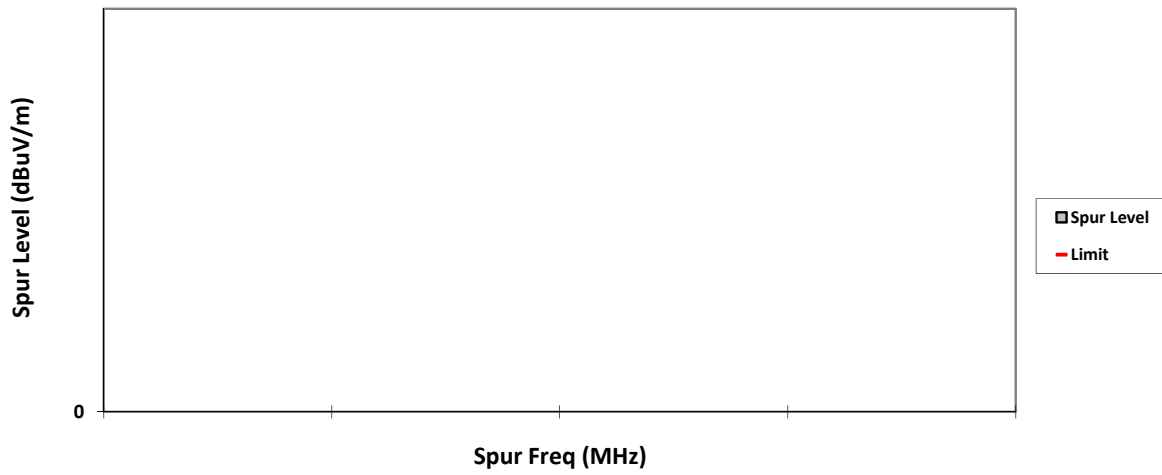
HORIZONTAL, AV



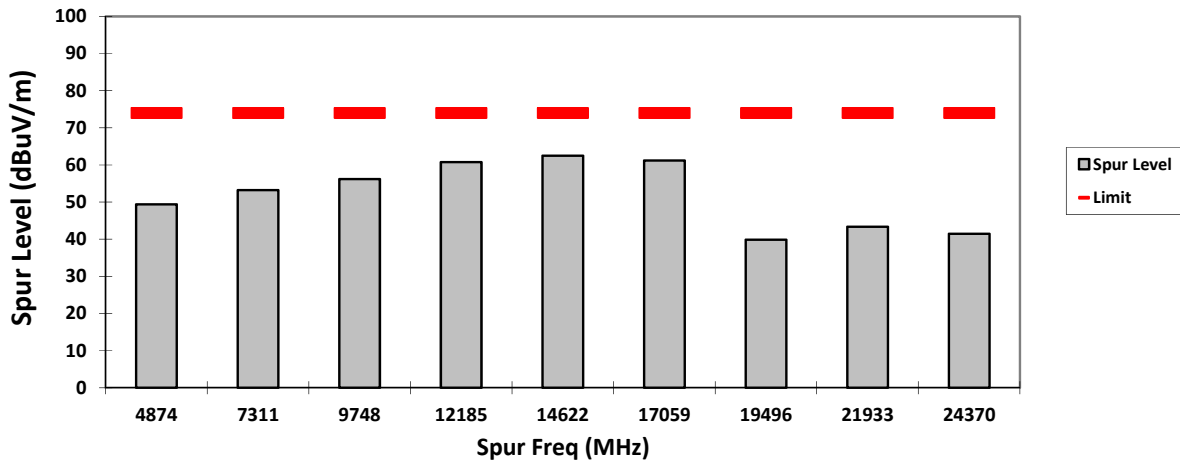
VERTICAL, QPK



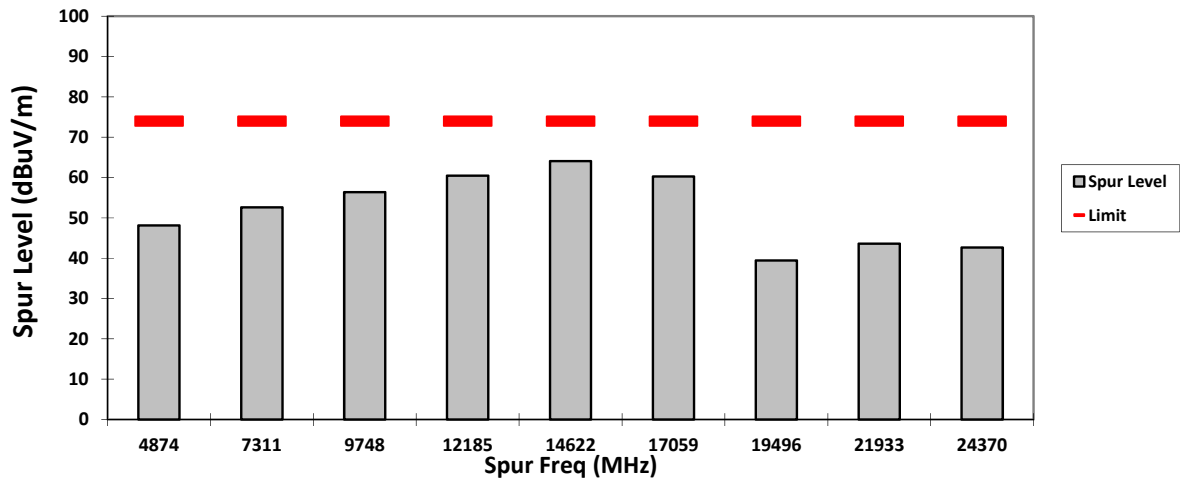
HORIZONTAL, QPK



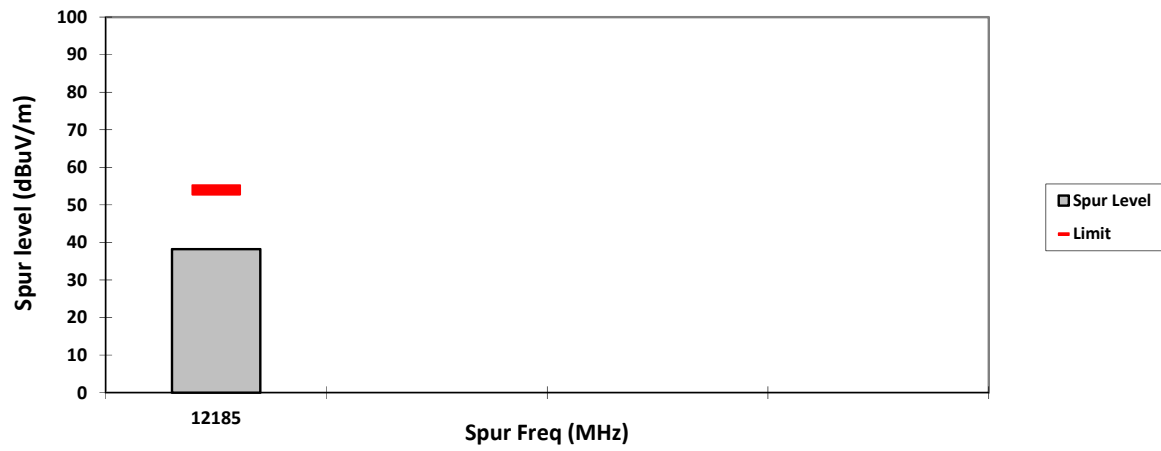
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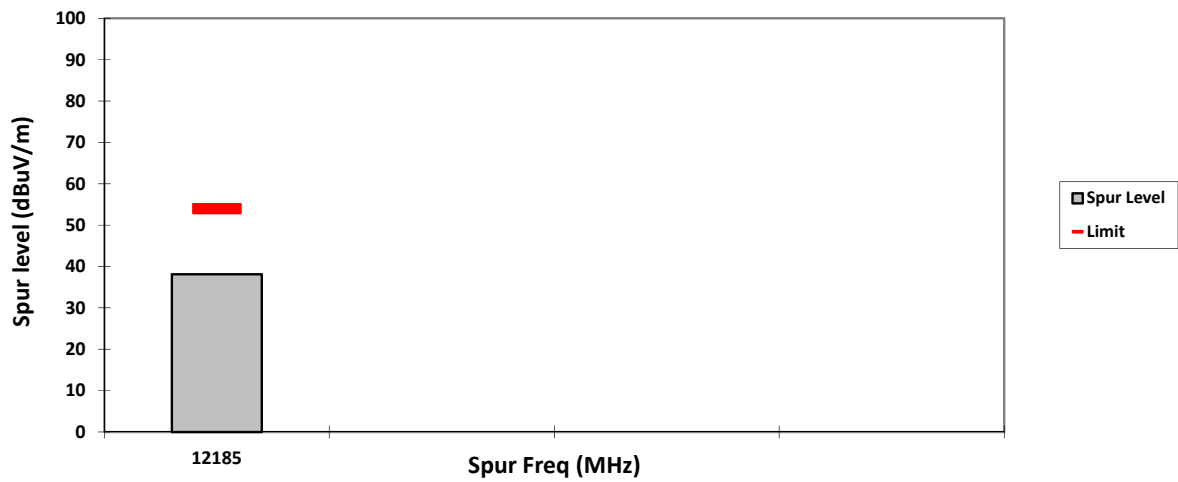
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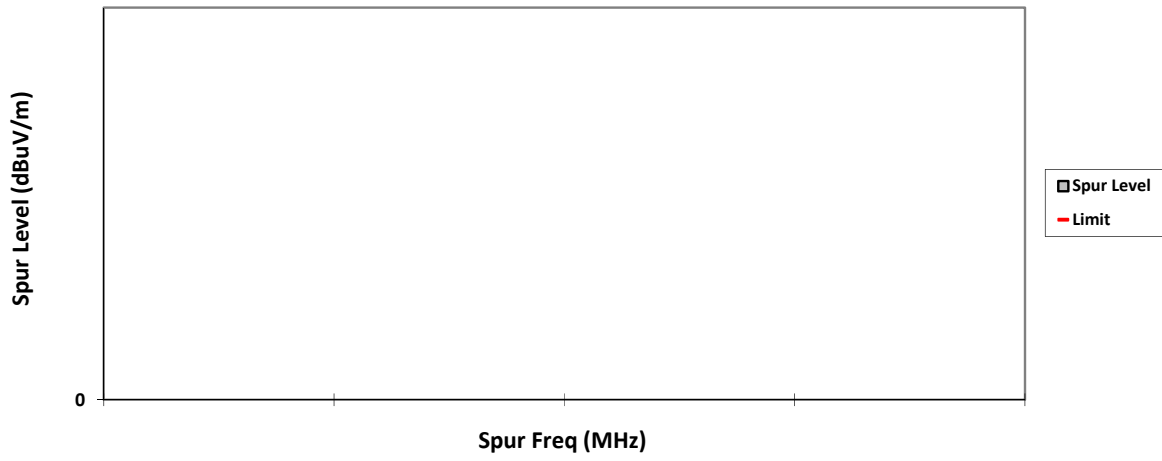
VERTICAL, AV



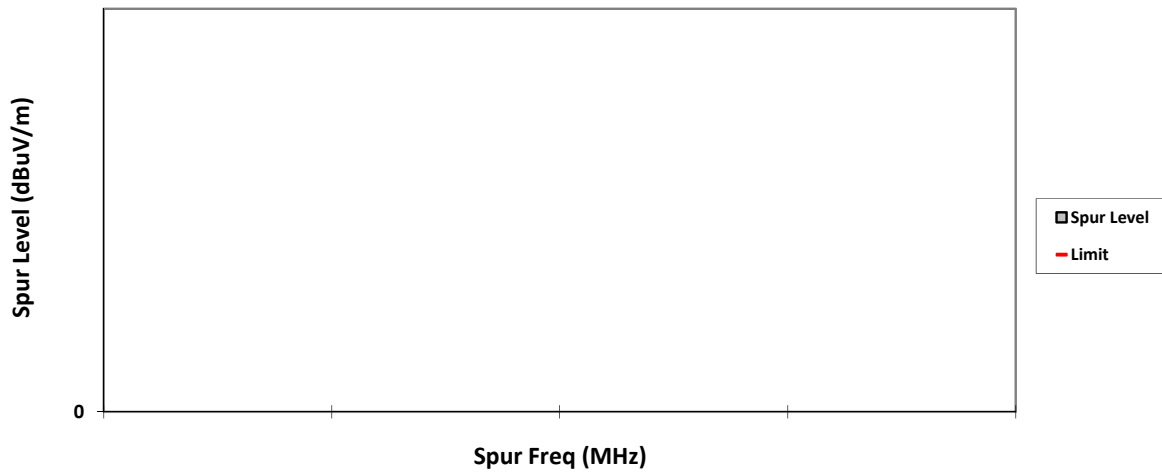
HORIZONTAL, AV



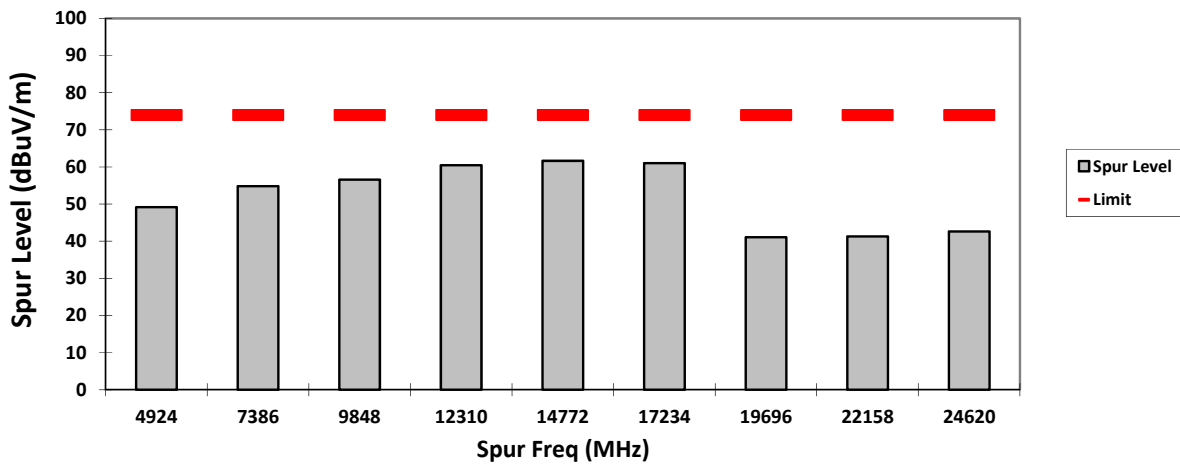
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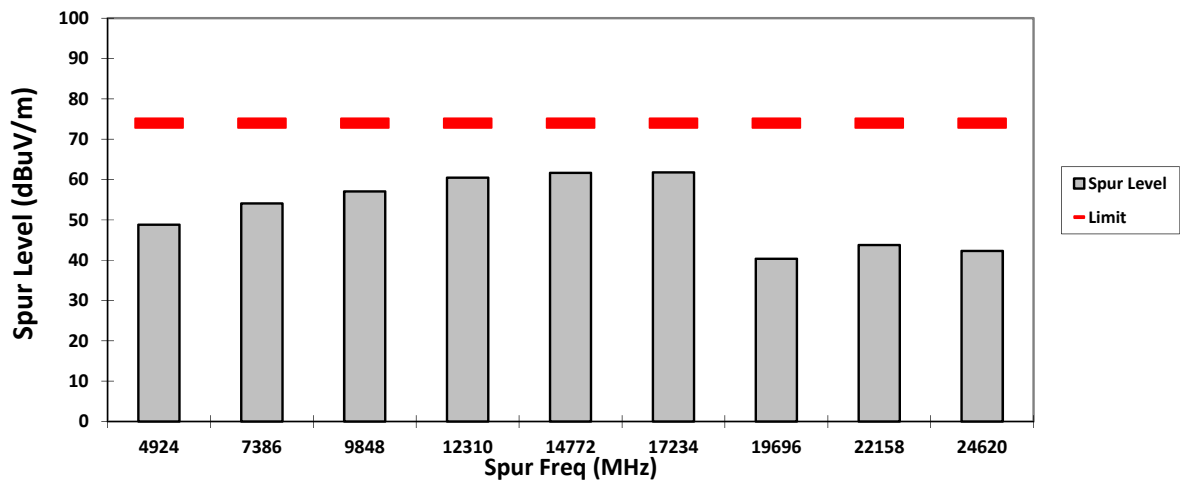
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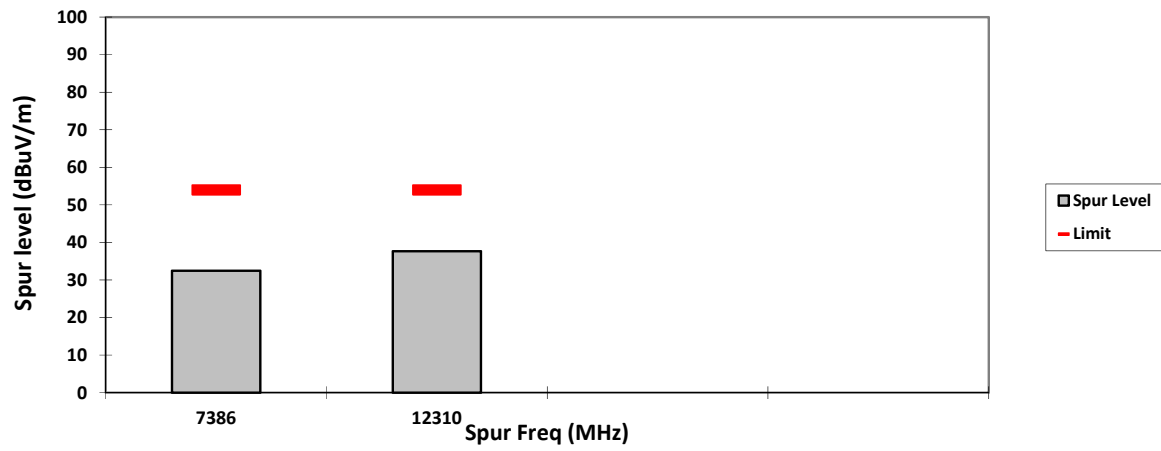
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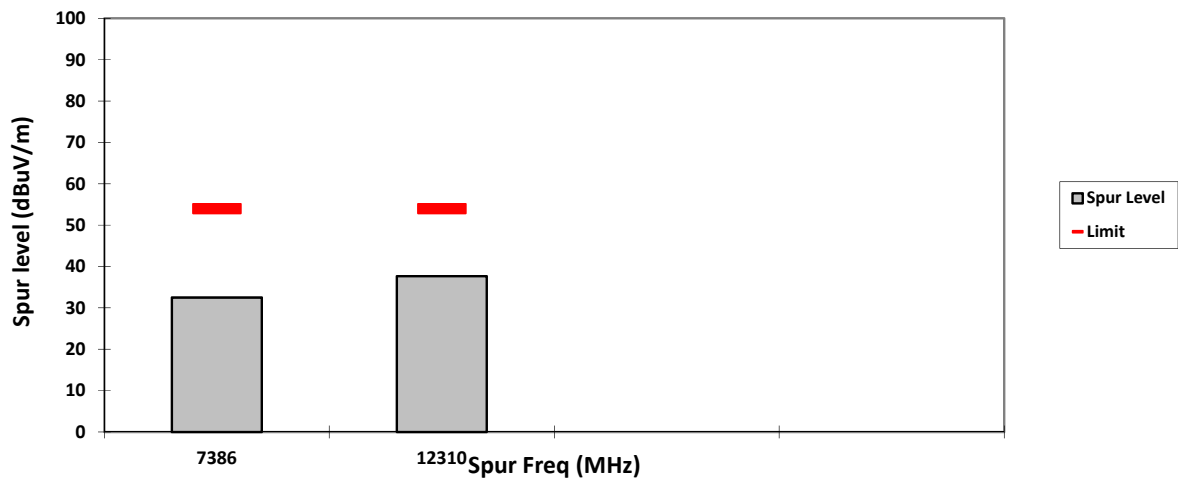
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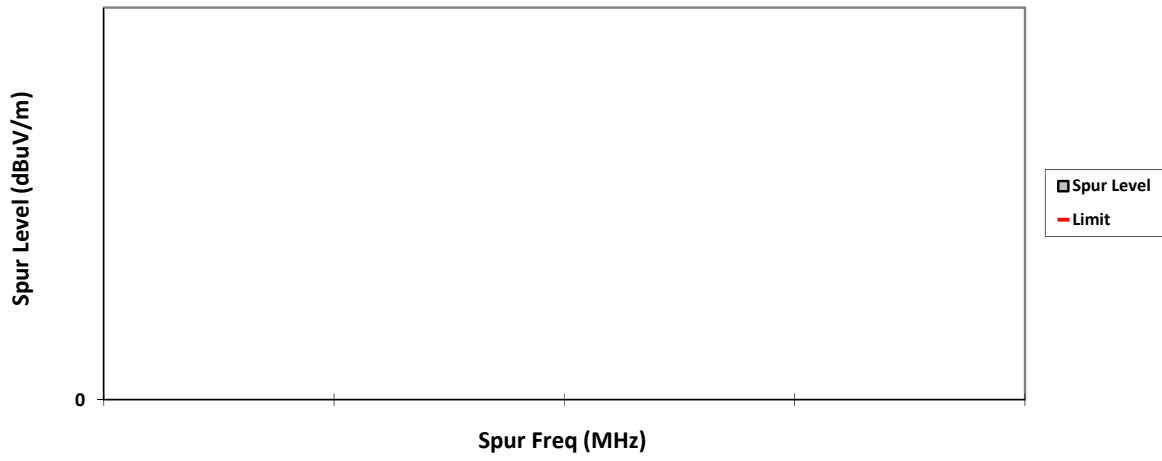
VERTICAL, AV



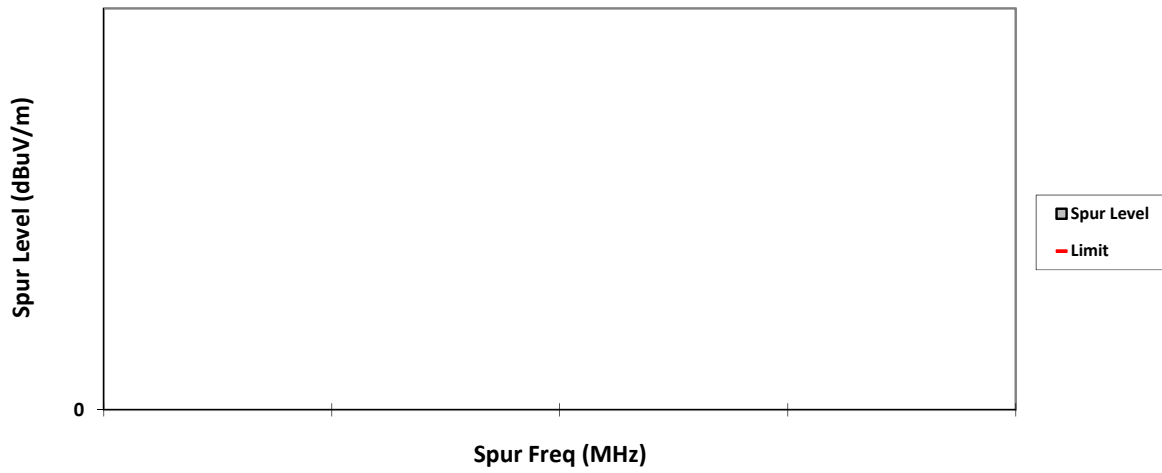
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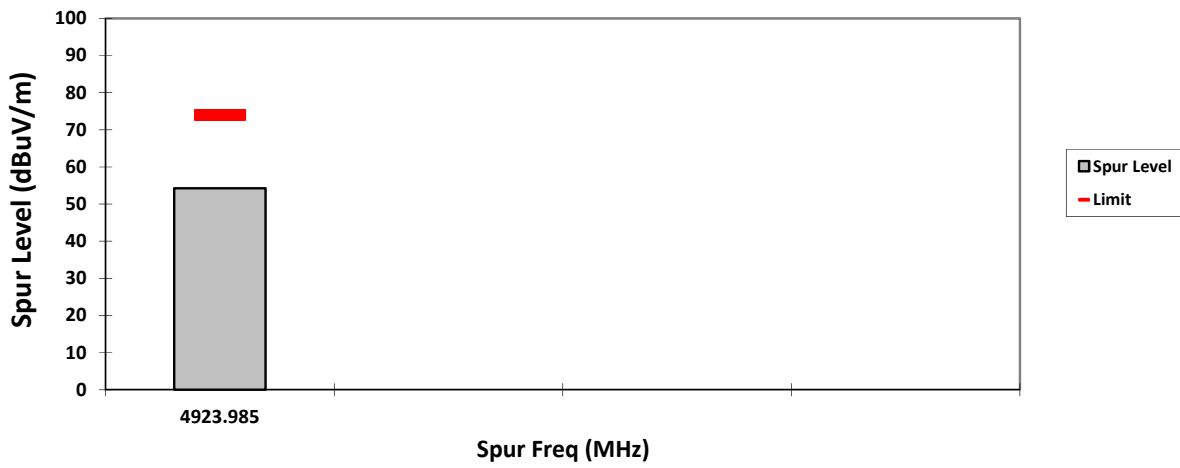
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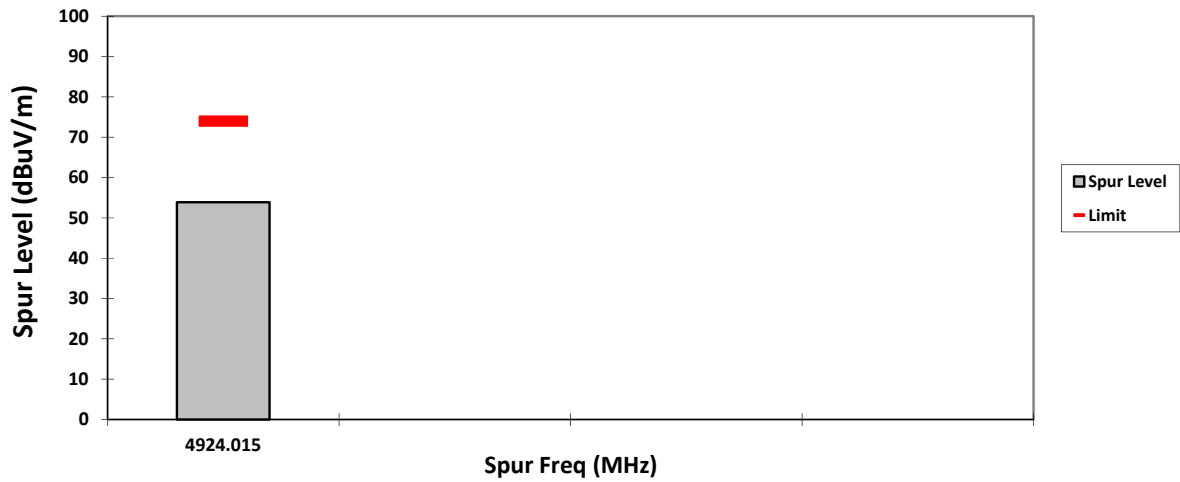
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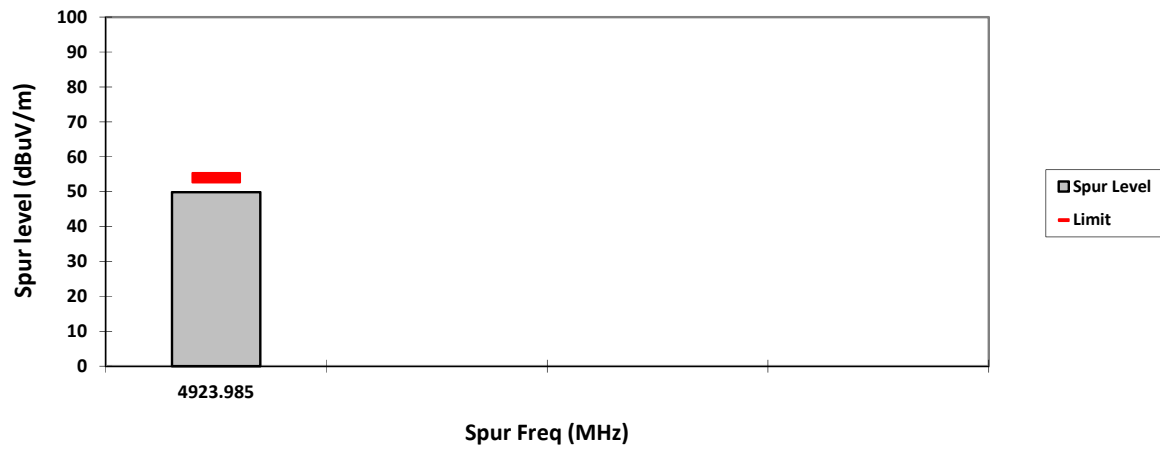
VERTICAL, PK



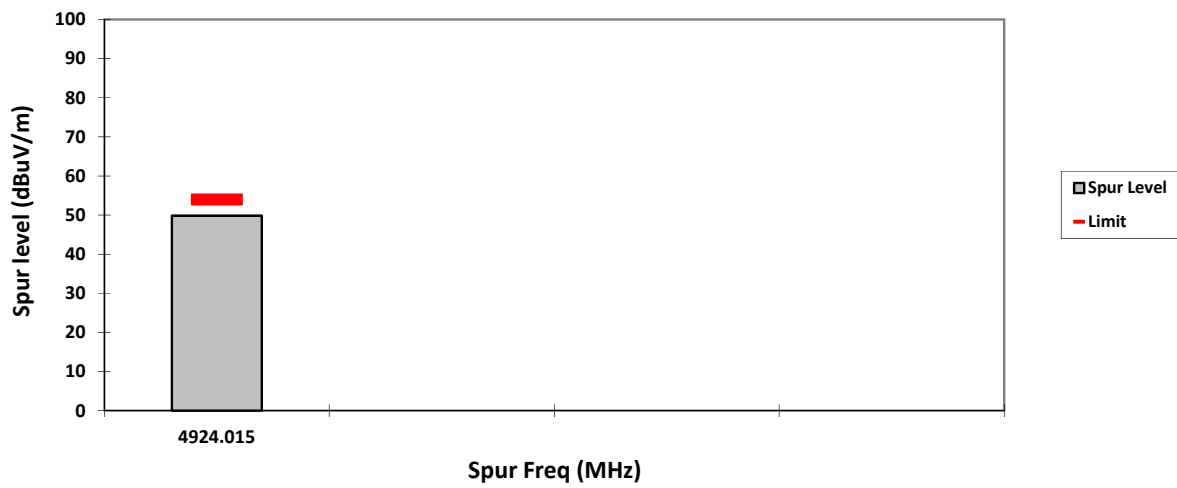
HORIZONTAL, PK



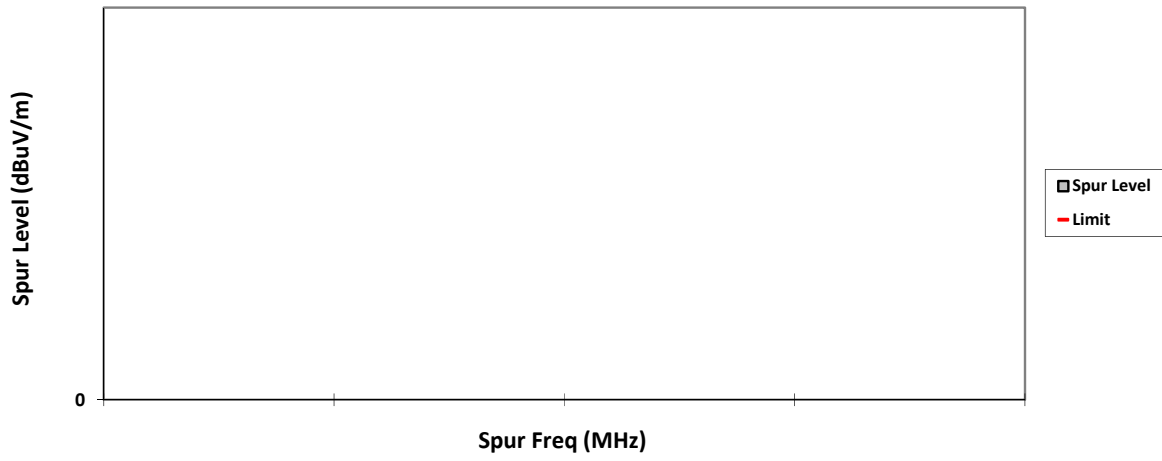
VERTICAL, AV



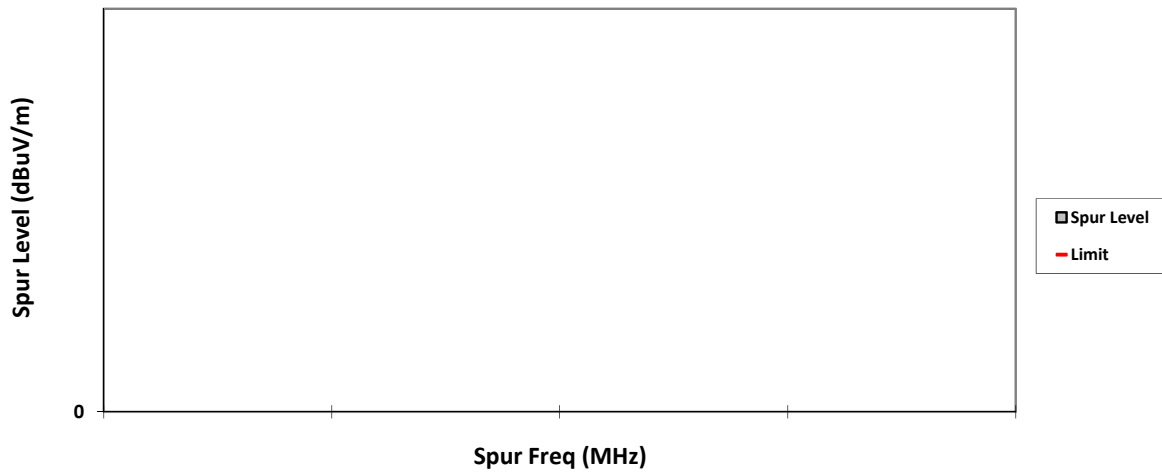
HORIZONTAL, AV



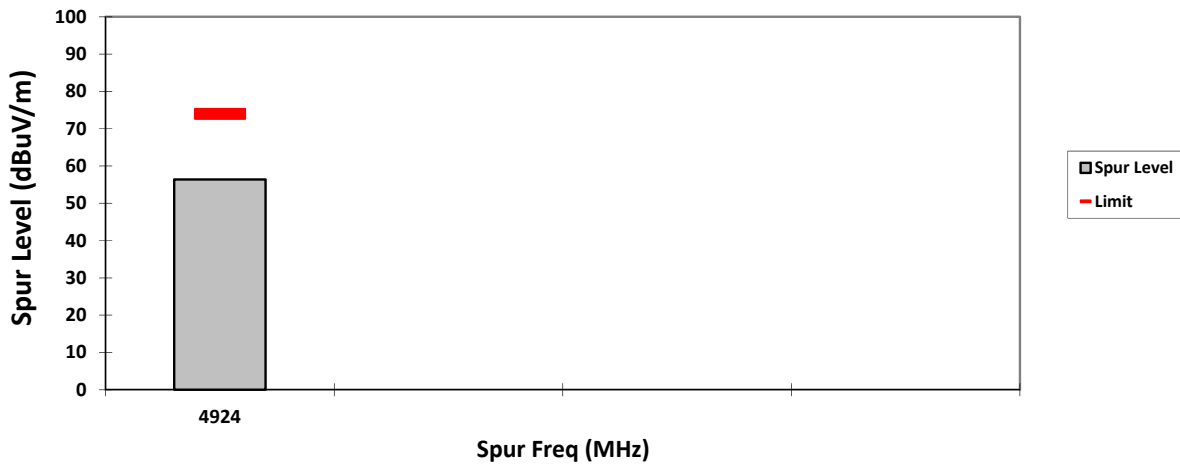
VERTICAL, QPK



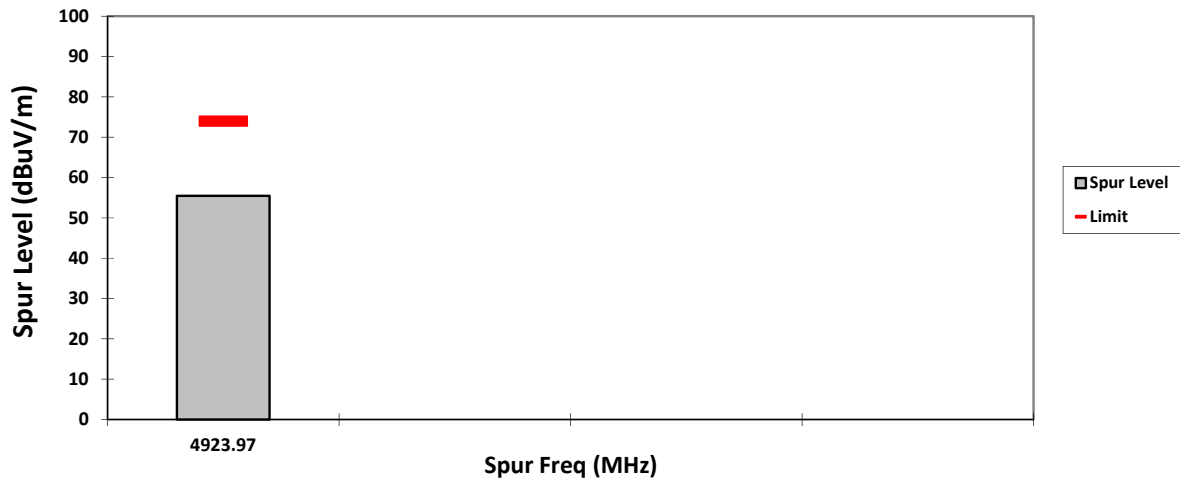
HORIZONTAL, QPK



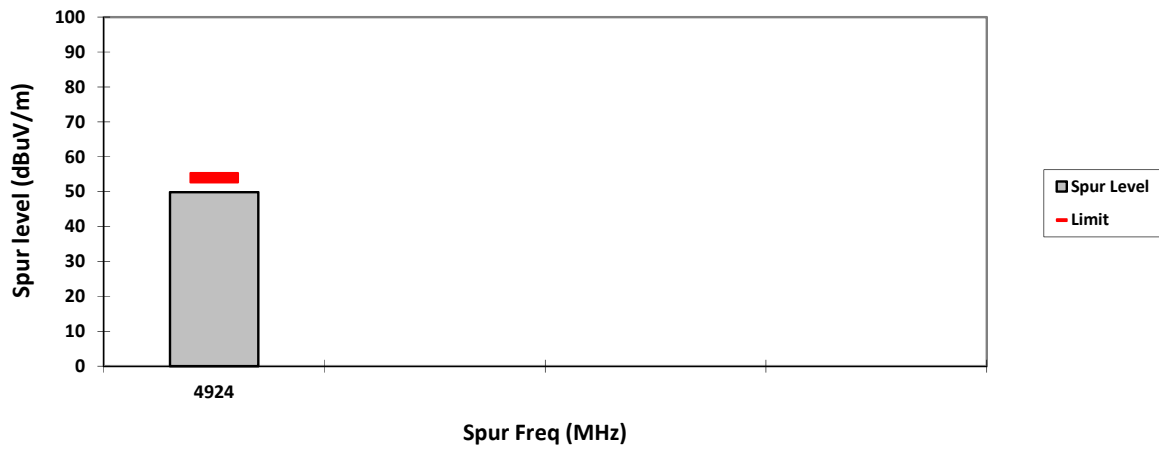
VERTICAL, PK



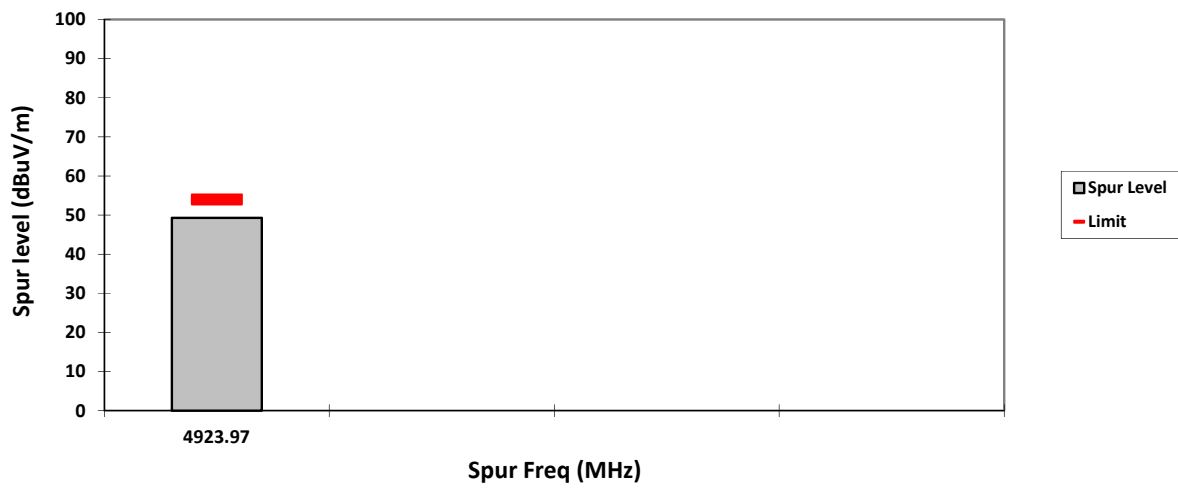
HORIZONTAL, PK



VERTICAL, AV

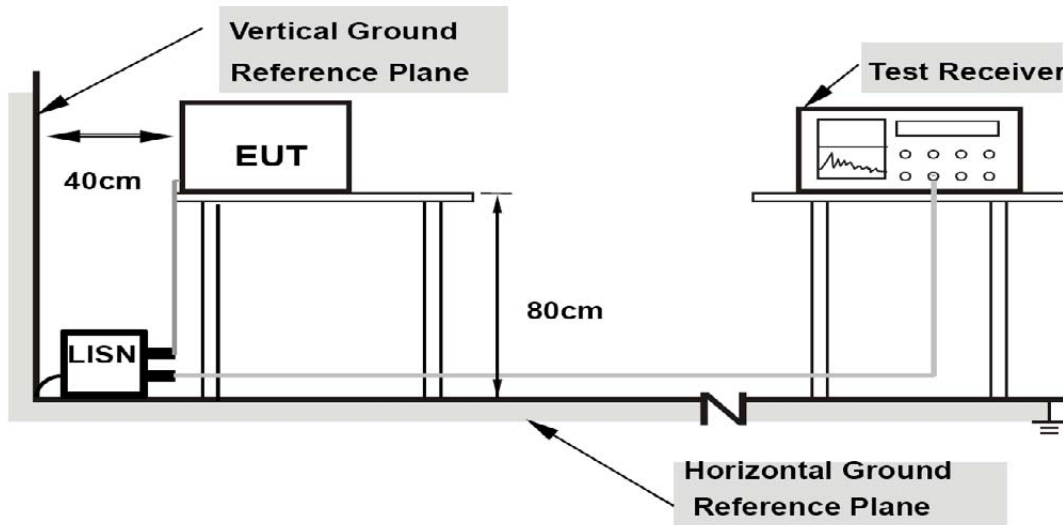


HORIZONTAL, AV



6.8. AC Powerline Conducted Emission

6.8.1. Test Setup



- 1) Tests were conducted for both Receive and Transmit Mode of the EUT.
- 2) The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50uH of coupling impedance for the measuring instrument.
- 3) Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 4) The frequency range from 150 kHz to 30MHz was measured.

6.8.2. Test Limits:

For AC Power Line Conducted Test Limit can be Class A or B depends on product classification.

Limits for conducted disturbance at the mains ports
of class A ITE

| Frequency range MHz | Limits dB(μ V) | |
|---|------------------------|---------|
| | Quasi-peak | Average |
| 0,15 to 0,50 | 79 | 66 |
| 0,50 to 30 | 73 | 60 |
| NOTE The lower limit shall apply at the transition frequency. | | |

Table 1: Limits for Conducted Disturbance at the Mains Ports of Class A ITE.

**Limits for conducted disturbance at the mains ports
of class B ITE**

| Frequency range MHz | Limits dB(μ V) | |
|------------------------|------------------------|----------|
| | Quasi-peak | Average |
| 0,15 to 0,50 | 66 to 56 | 56 to 46 |
| 0,50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

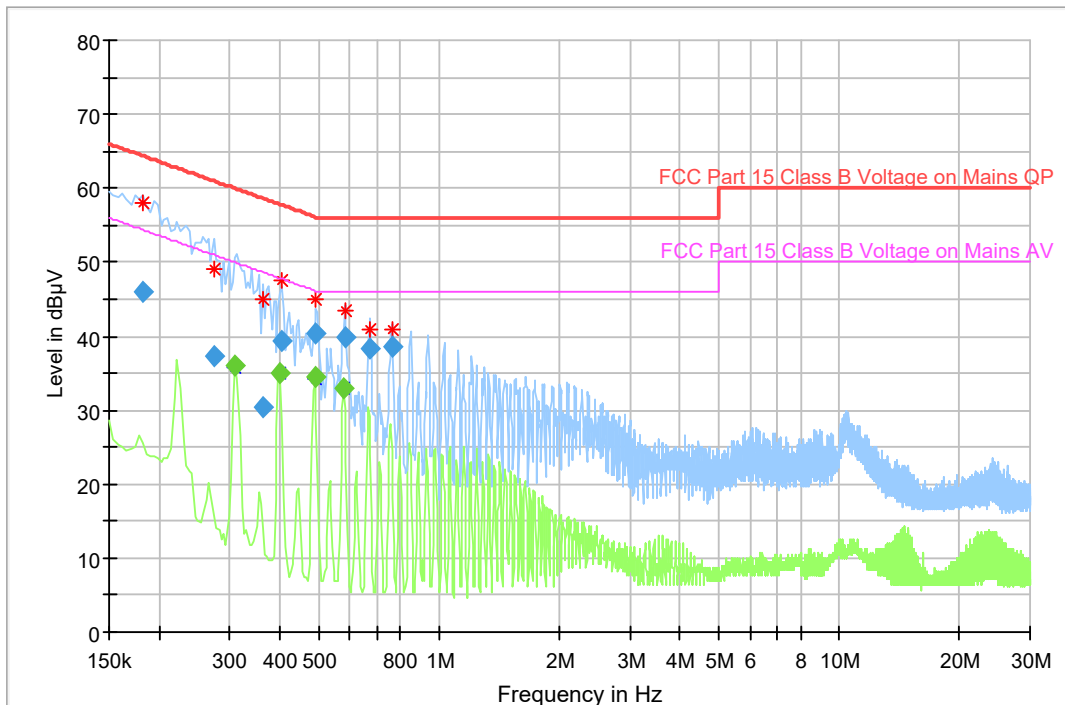
NOTE 1 The lower limit shall apply at the transition frequencies.
NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

Table 2: Limits for Conducted Disturbance at the Mains Ports of Class B ITE

6.8.3. Test Result

1) Charger + Radio in Wifi 2.4G Tx

Full Spectrum



Quasipeak and Average Measurement

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Filter | Corr. (dB) | Comment |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|--------|------------|---------|
| 0.182000 | 45.98 | --- | 64.39 | 18.41 | 1000.0 | 9.000 | N | ON | 10.2 | PASS |
| 0.274000 | 37.38 | --- | 61.00 | 23.61 | 1000.0 | 9.000 | N | ON | 10.2 | PASS |
| 0.310000 | --- | 35.95 | 49.97 | 14.02 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.362000 | 30.51 | --- | 58.68 | 28.17 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.402000 | --- | 35.06 | 47.81 | 12.76 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.406000 | 39.40 | --- | 57.73 | 18.33 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.490000 | --- | 34.41 | 46.17 | 11.76 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.494000 | 40.33 | --- | 56.10 | 15.77 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.578000 | --- | 33.08 | 46.00 | 12.92 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.582000 | 39.91 | --- | 56.00 | 16.09 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.674000 | 38.24 | --- | 56.00 | 17.76 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |
| 0.762000 | 38.47 | --- | 56.00 | 17.53 | 1000.0 | 9.000 | L1 | ON | 10.1 | PASS |

* Expanded Uncertainty (U) = +/- 3.48dB

END OF TEST REPORT