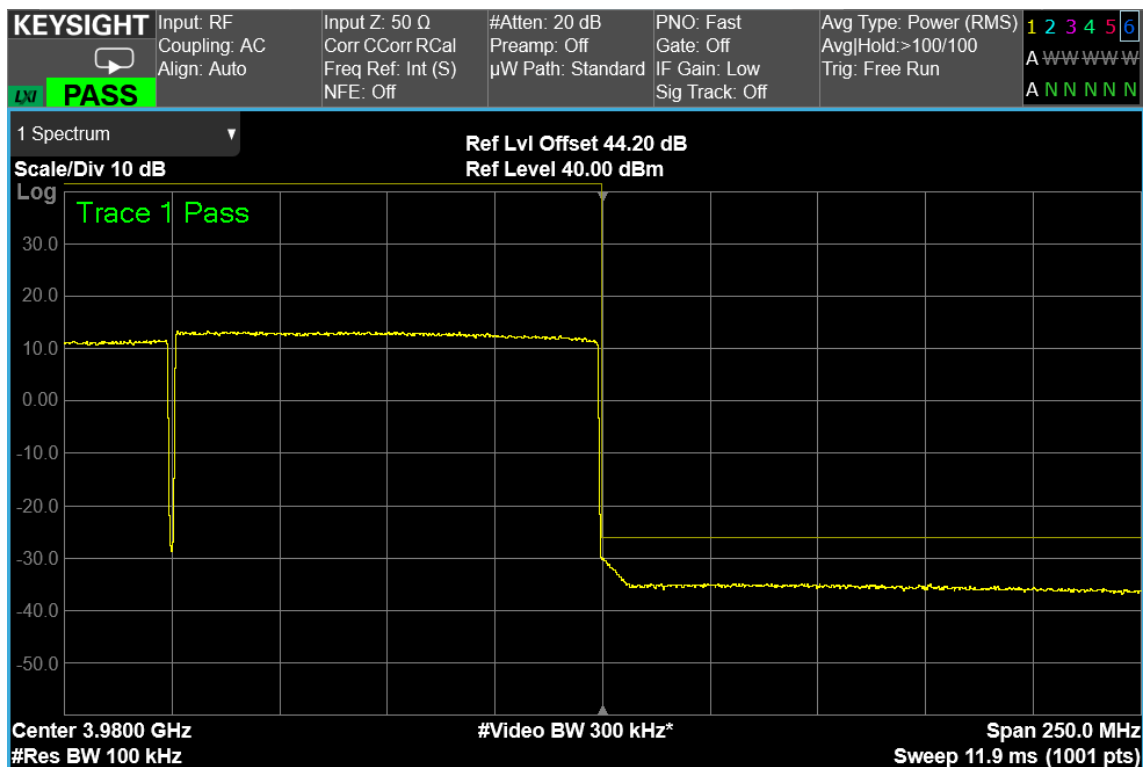
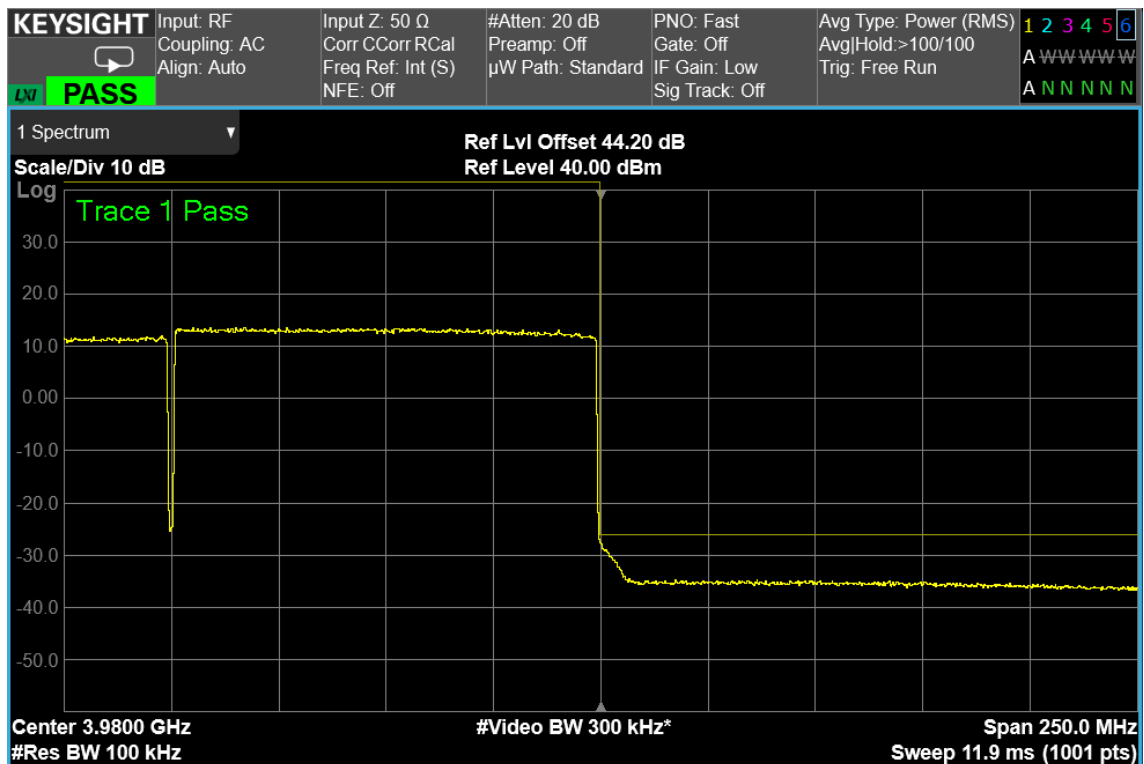




100 MHz signal, High Band Edge, 2 carrier, nominal input signal



100 MHz signal, High Band Edge, 2 carrier, nominal input signal + 3dB

## Clause 27.53(l) Radiated Spurious emissions

### (l) 3.7 GHz Service. The following emission limits apply to stations transmitting in the 3700-3980 MHz band:

(1) For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test date: 2022-11-21 to 2022-11-25

Test results: Pass

### Special notes

### Test equipment

| Equipment                     | Manufacturer    | Model No.                 | Asset/Serial No. | Next cal. |
|-------------------------------|-----------------|---------------------------|------------------|-----------|
| Antenna Trilog 25MHz - 8GHz   | Schwarzbeck     | VULB9162                  | 9162-025         | 2024-07   |
| Antenna 1-18 GHz              | Schwarzbeck     | STLP 9148                 | STPL 9148-123    | 2024-06   |
| Double Ridge Horn Antenna     | RFSpin          | DRH40                     | 061106A40        | 2023-04   |
| Broadband Amplifier           | Schwarzbeck     | BBV9718C                  | 00121            | 2023-01   |
| Broadband Bench Top Amplifier | Sage            | STB-1834034030-KFKF-L1    | 18490-01         | 2023-04   |
| EMI Receiver                  | Rohde & Schwarz | ESW44                     | 101620           | 2023-08   |
| Spectrum analyzer             | R&S             | FSW43                     | 101767           | 2023-01   |
| Controller                    | Maturo          | FCU3.0                    | 10041            | NCR       |
| Tilt antenna mast             | Maturo          | TAM4.0-E                  | 10042            | NCR       |
| Turntable                     | Maturo          | TT4.0-5T                  | 2.527            | NCR       |
| Semi-anechoic chamber         | Nemko           | 10m semi-anechoic chamber | 530              | NCR       |
| Shielded room                 | Siemens         | 10m control room          | 1947             | NCR       |

Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use  
 (\*) Equipment supplied by manufacturer's

# Clause 27.53(m) Radiated spurious emissions, continued

## Test data

The D.U.T. was positioned according to the radiated emissions set-up

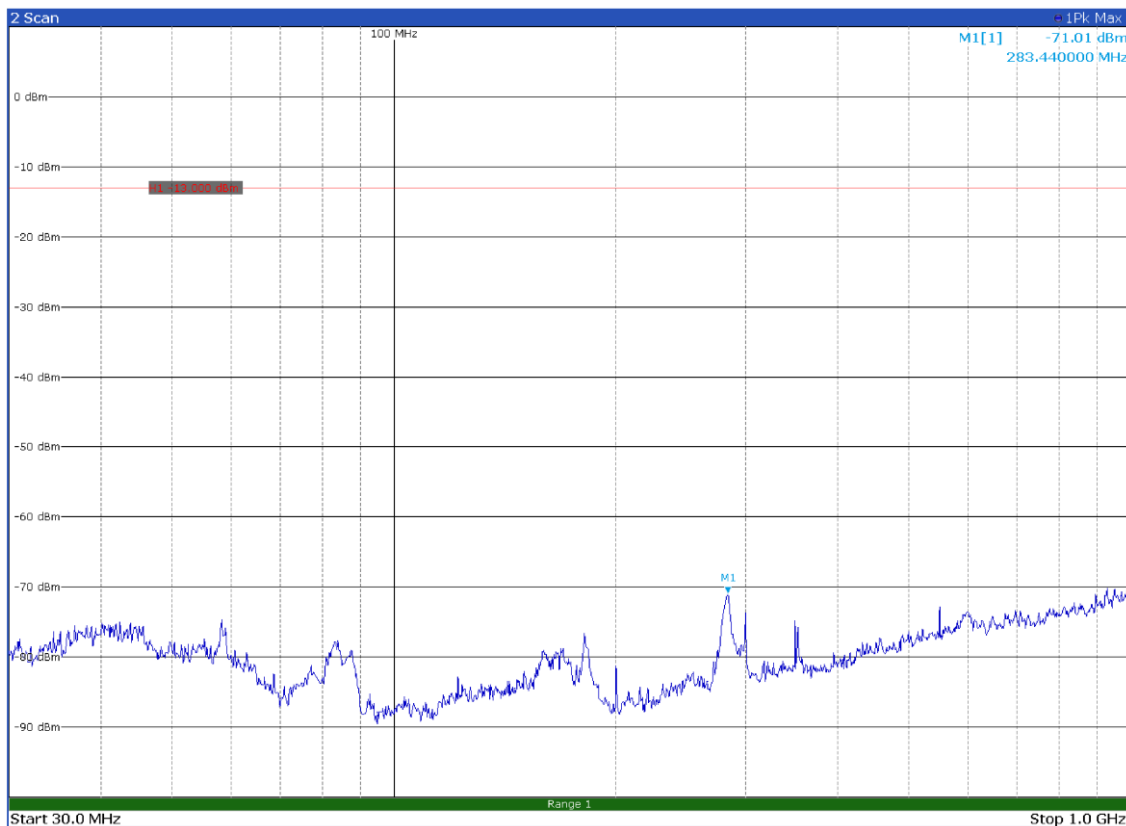
The D.U.T. antenna connector was terminated by a 50  $\Omega$  shielded dummy load.

The spectrum was searched from 30 MHz to 1 GHz (RBW 100 kHz) & 1 GHz (RBW 1 MHz) to the tenth harmonic of the carrier.

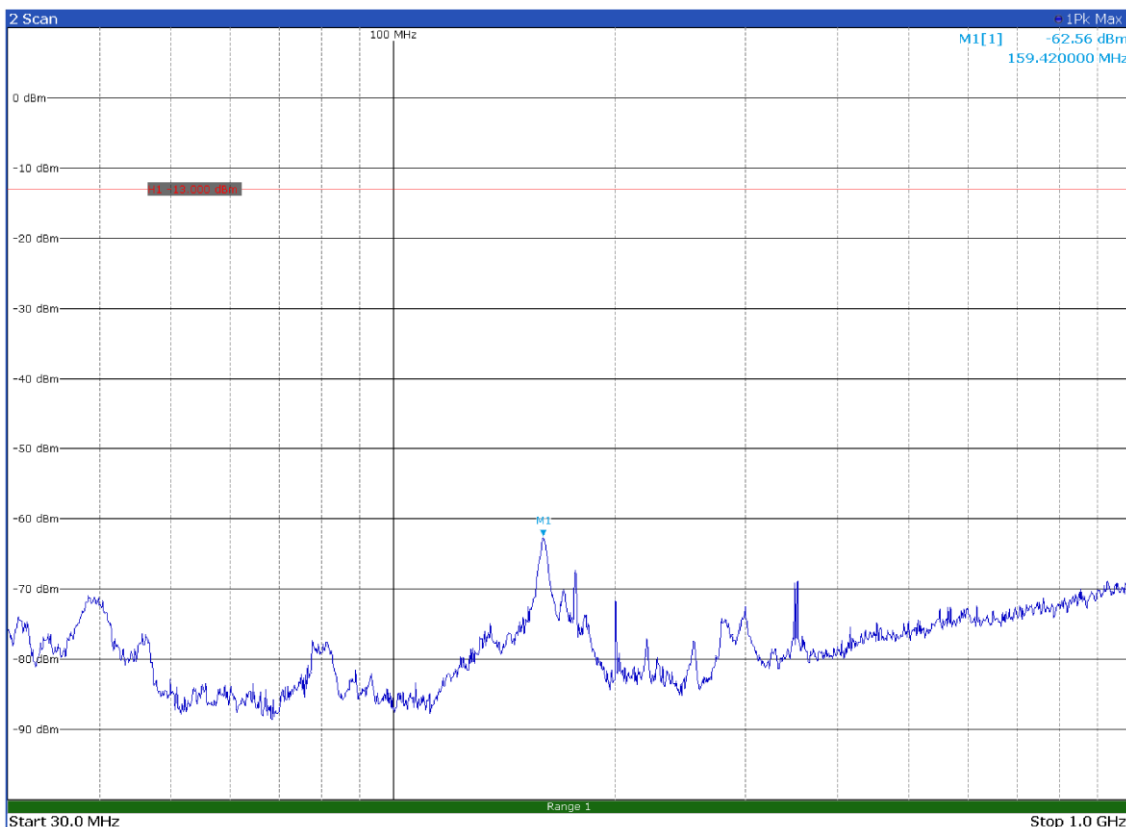
## Spurious emissions measurement results:

| Frequency (MHz) | Polarization. V/H | Field strength (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------|----------------------|-------------|-------------|
| Low channel     |                   |                      |             |             |
| 7412.500        | H                 | -20.77               | -13         | -7.77       |
| 7406.500        | V                 | -21.59               | -13         | -8.59       |
| Mid channel     |                   |                      |             |             |
| 7682.500        | H                 | -19.94               | -13         | -6.94       |
| 7682.500        | V                 | -24.20               | -13         | -11.2       |
| High channel    |                   |                      |             |             |
| 7952.500        | H                 | -18.50               | -13         | -5.5        |
| 7952.500        | V                 | -22.71               | -13         | -9.71       |

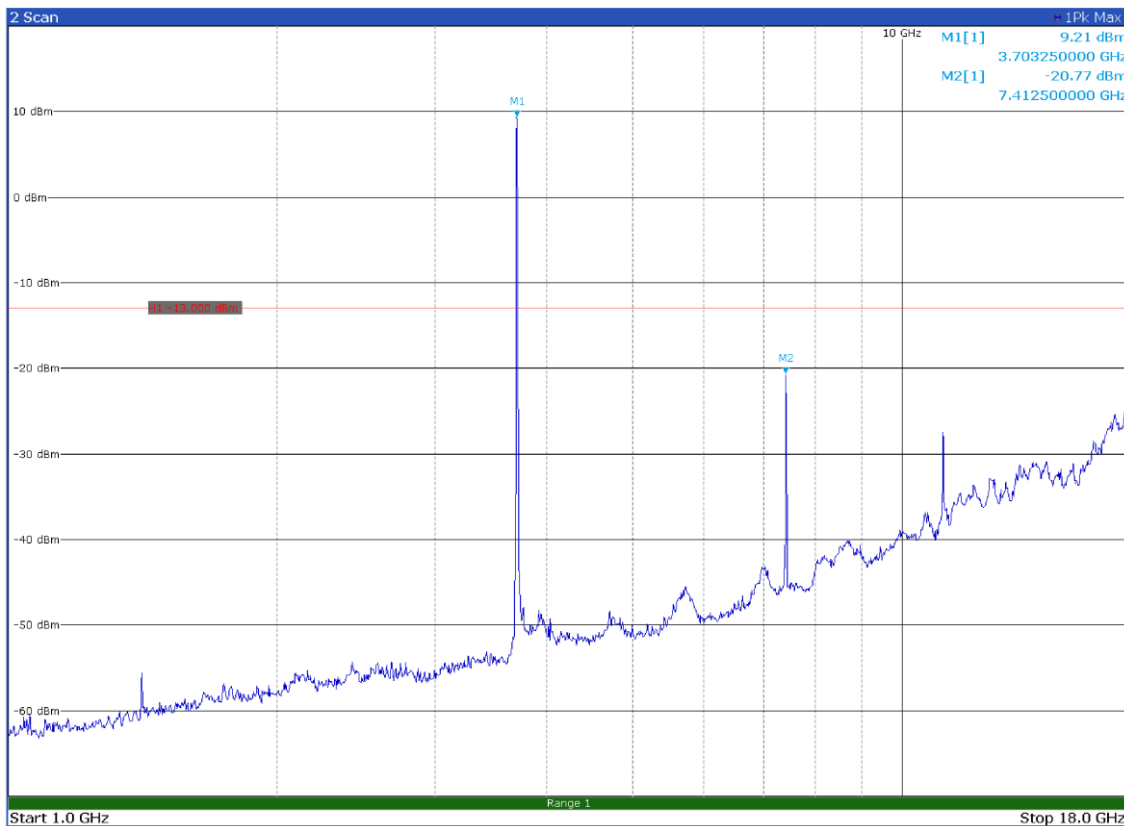
Note: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.



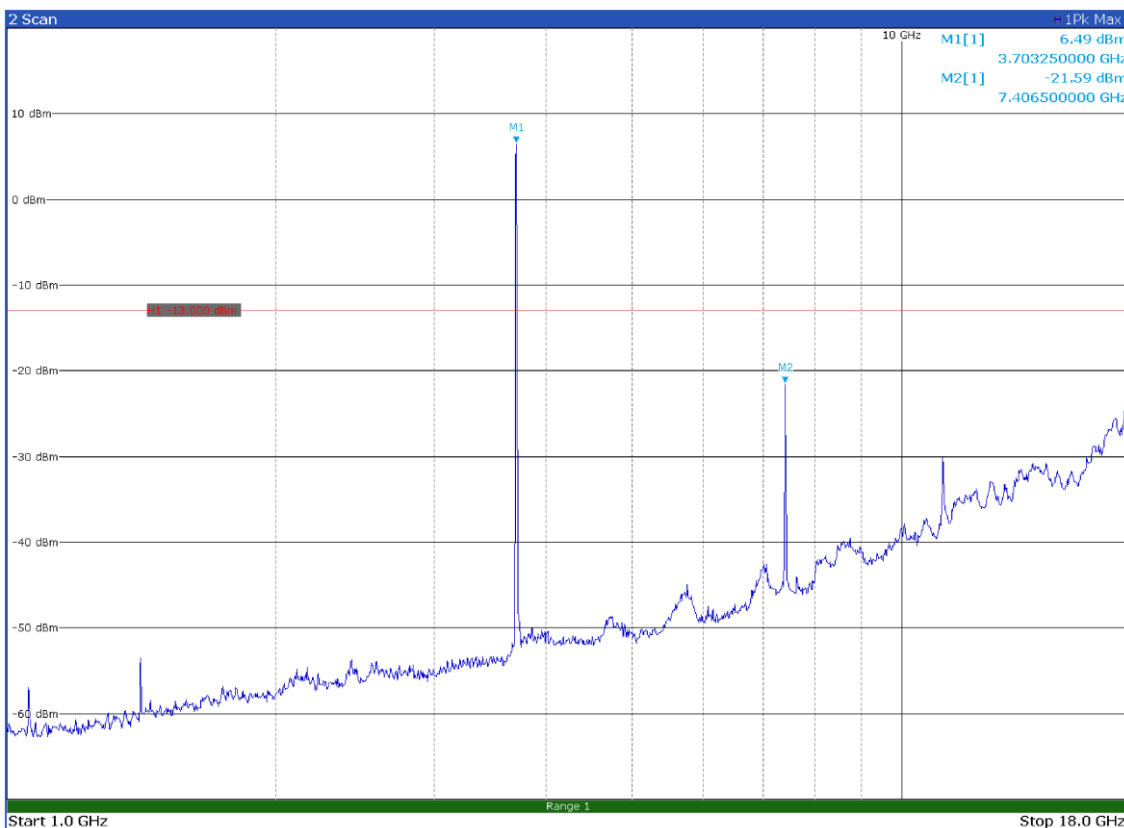
10 MHz signal, Bottom Channel, 30MHz - 1GHz, H Pol



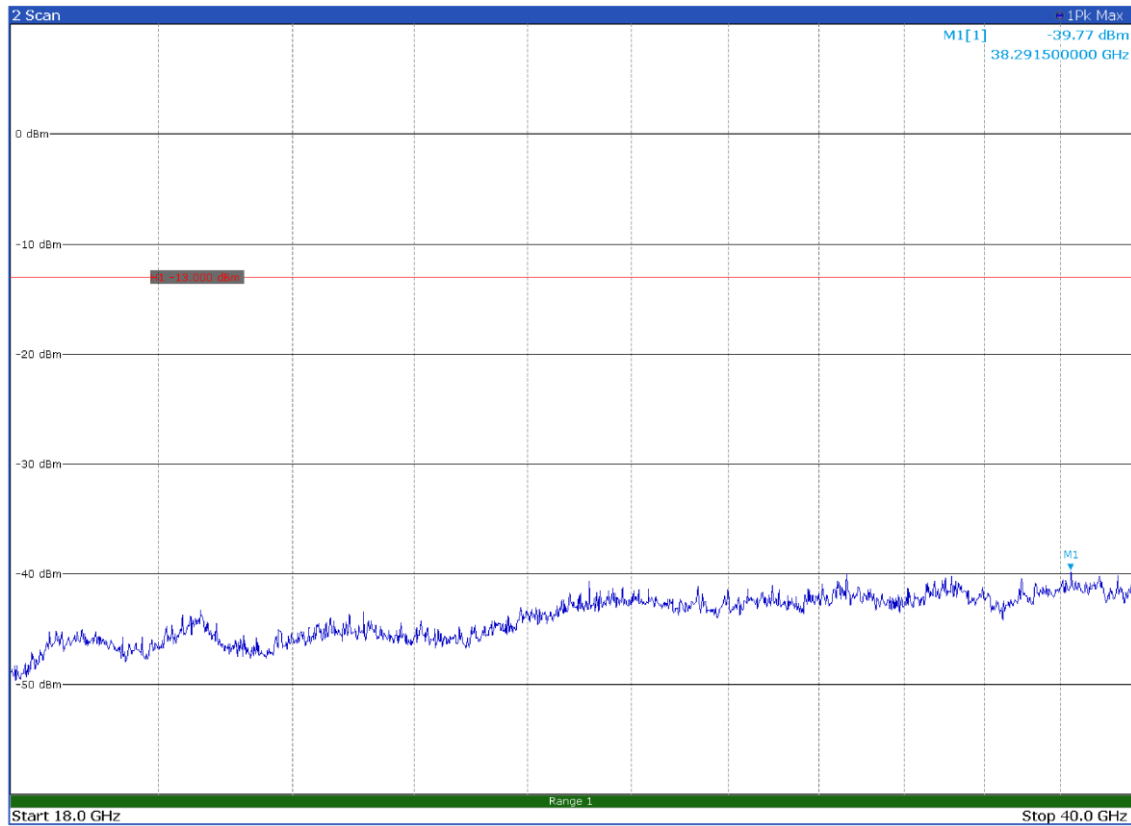
10 MHz signal, Bottom Channel, 30MHz - 1GHz, V Pol



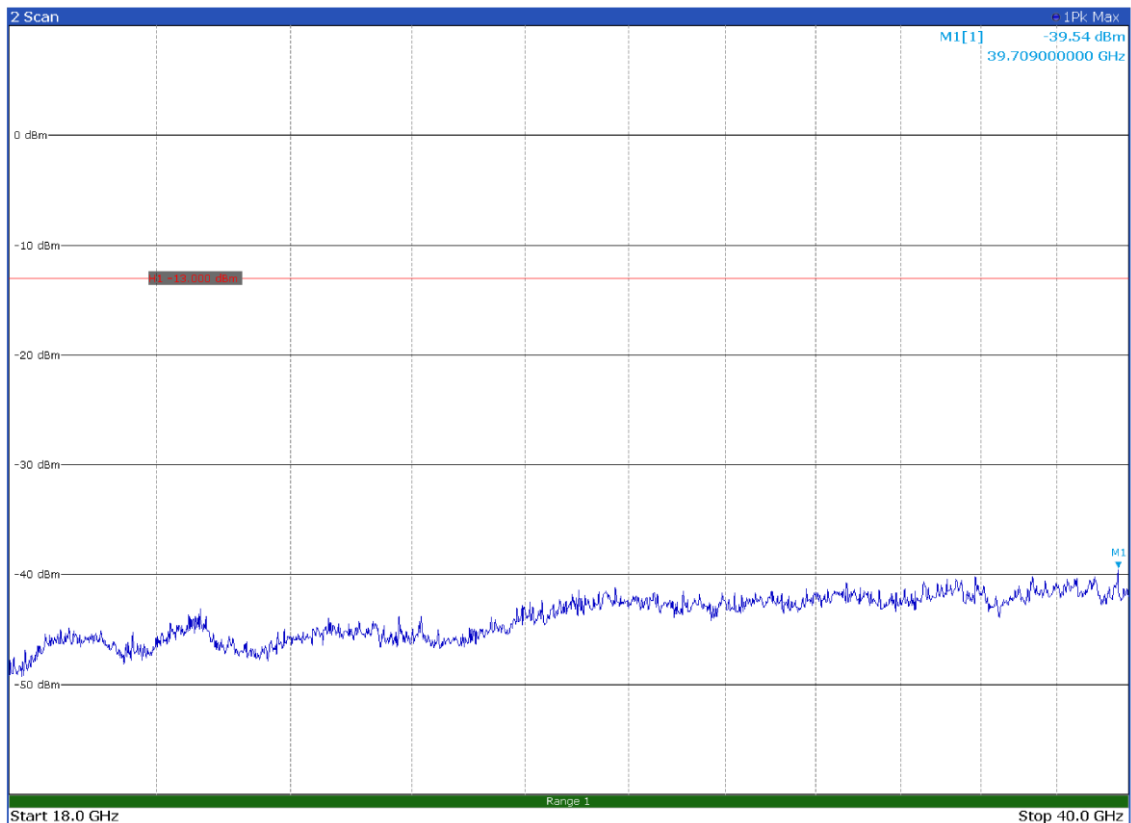
10 MHz signal, Bottom Channel, 1GHz - 18GHz, H Pol



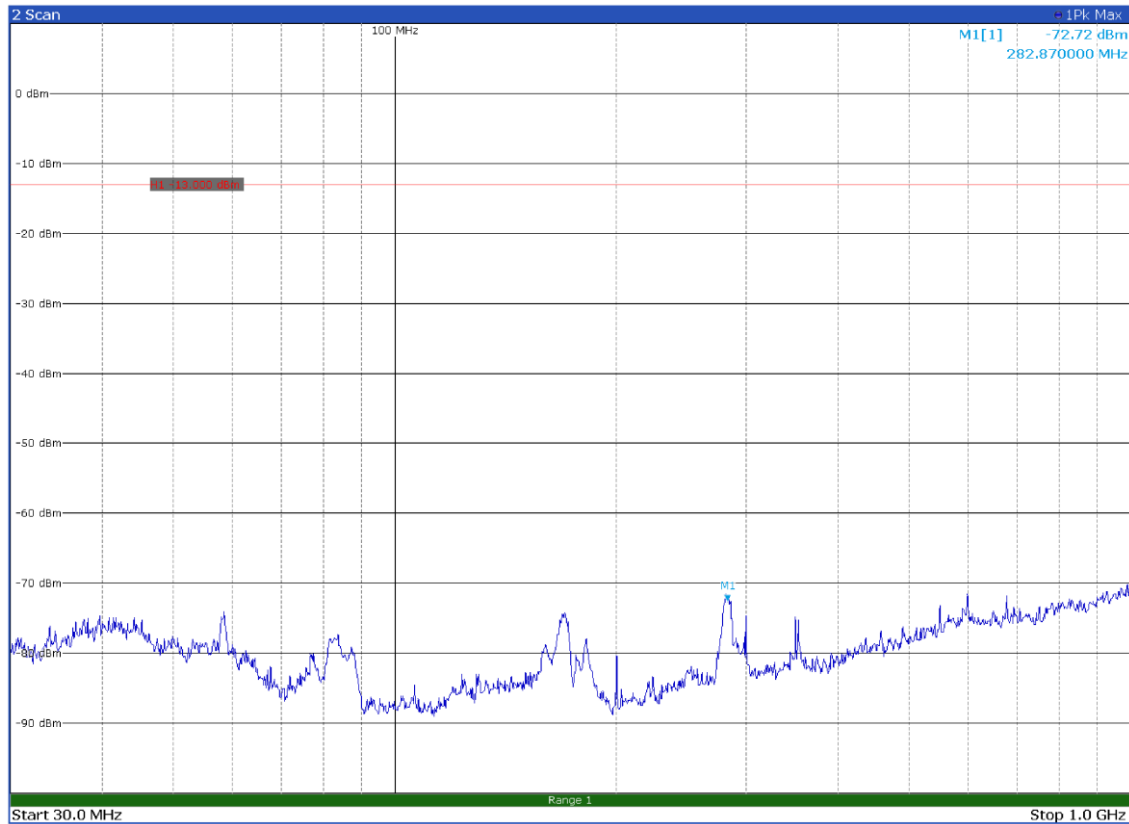
10 MHz signal, Bottom Channel, 1GHz - 18GHz, V Pol



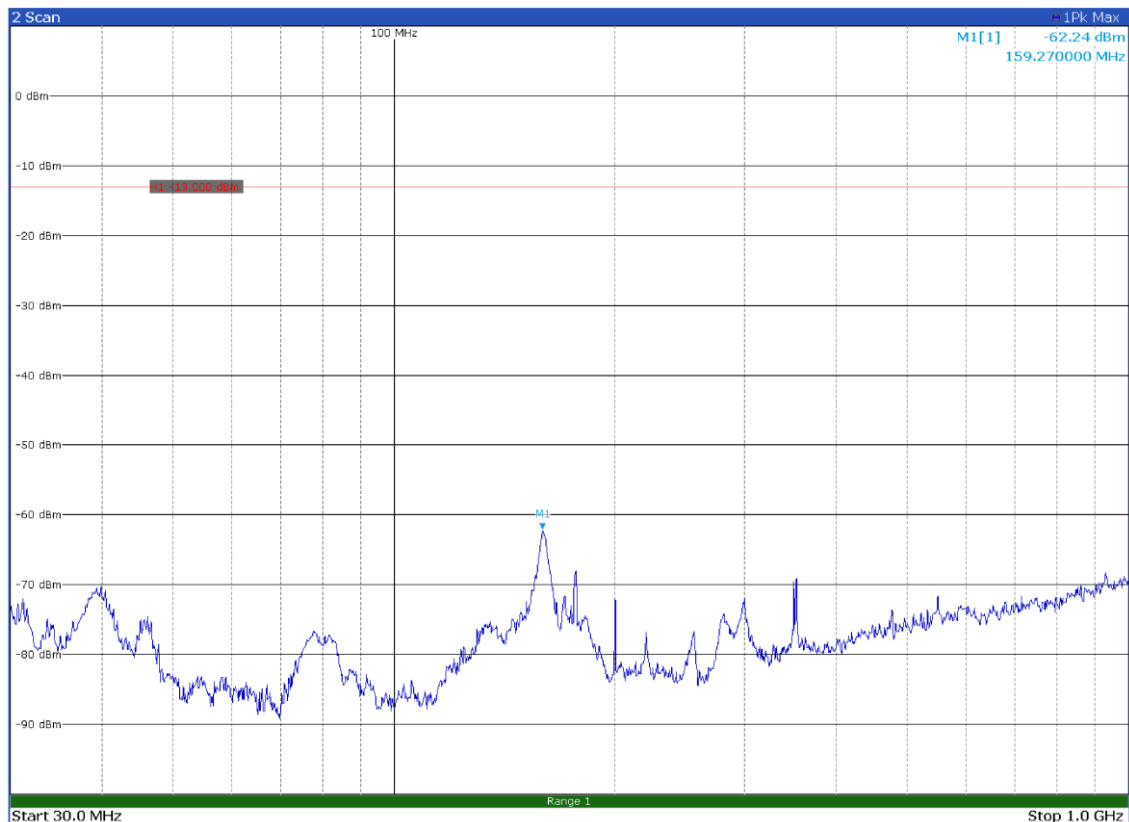
10 MHz signal, Bottom Channel, 18GHz - 40GHz, H Pol



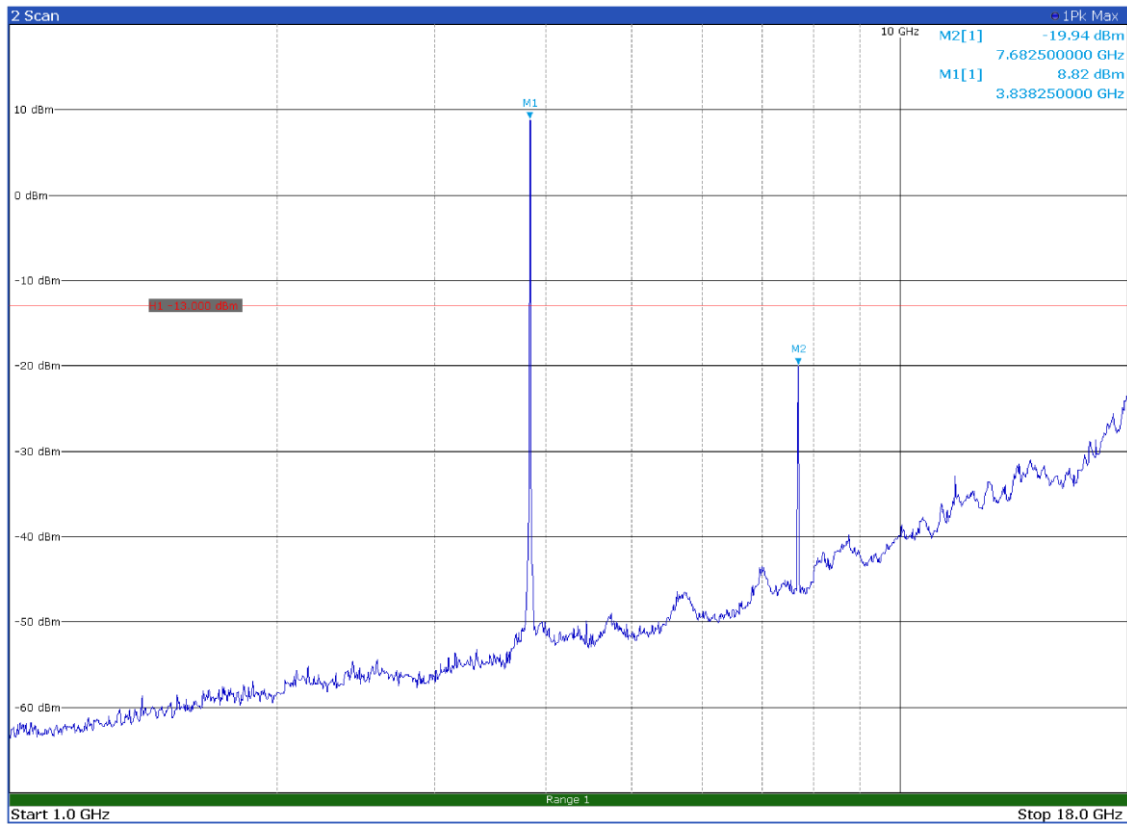
10 MHz signal, Bottom Channel, 18GHz - 40GHz, V Pol



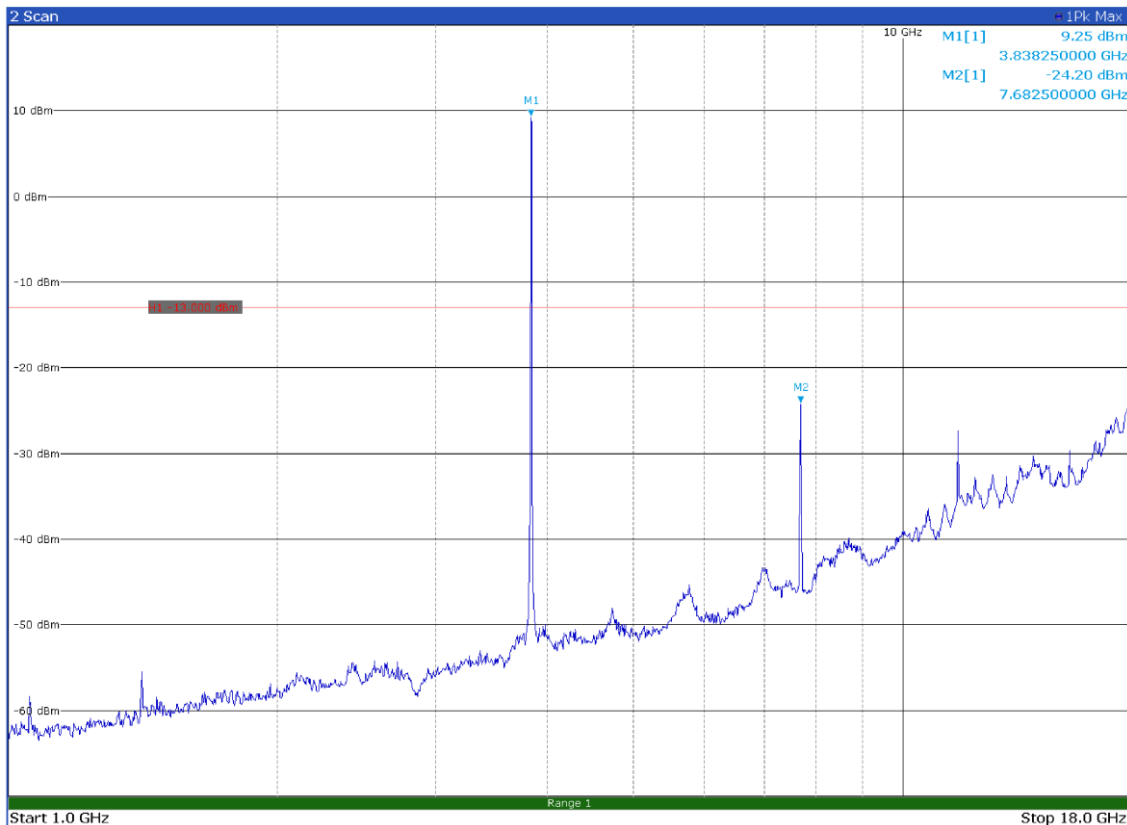
10 MHz signal, Middle Channel, 30MHz - 1GHz, H Pol



10 MHz signal, Middle Channel, 30MHz - 1GHz, V Pol

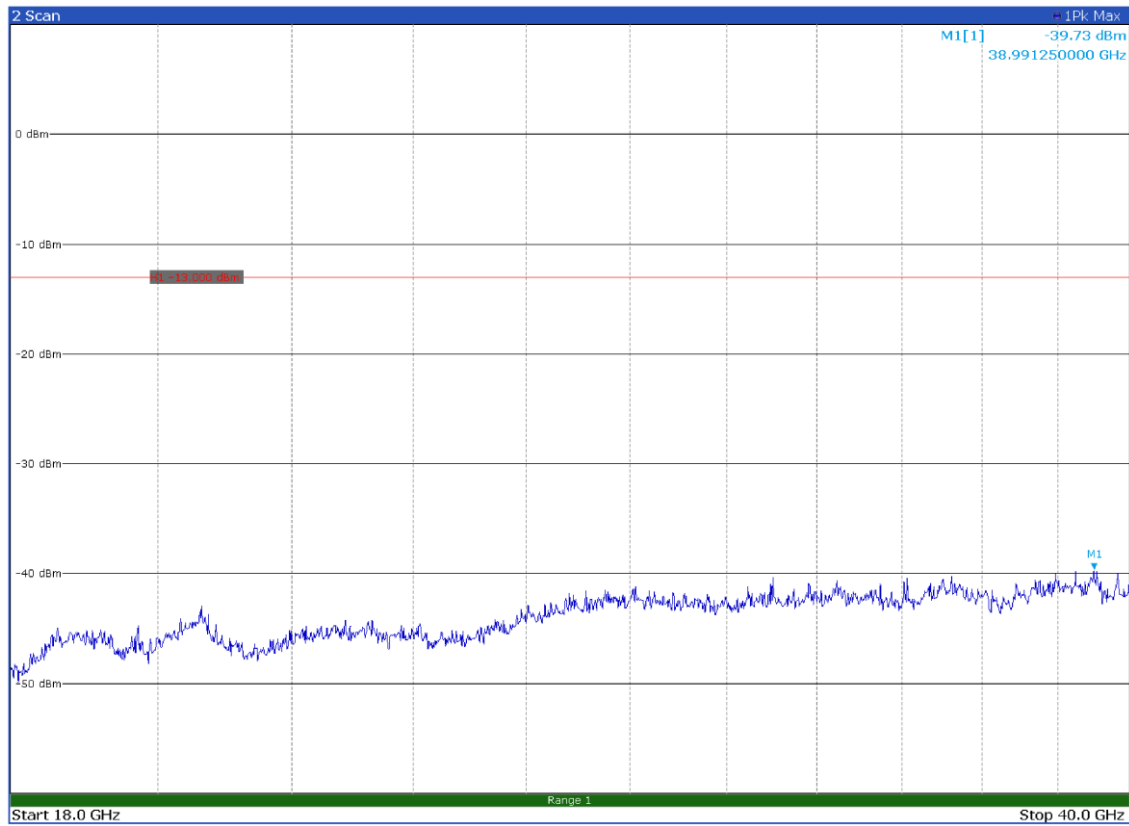


10 MHz signal, Middle Channel, 1GHz - 18GHz, H Pol

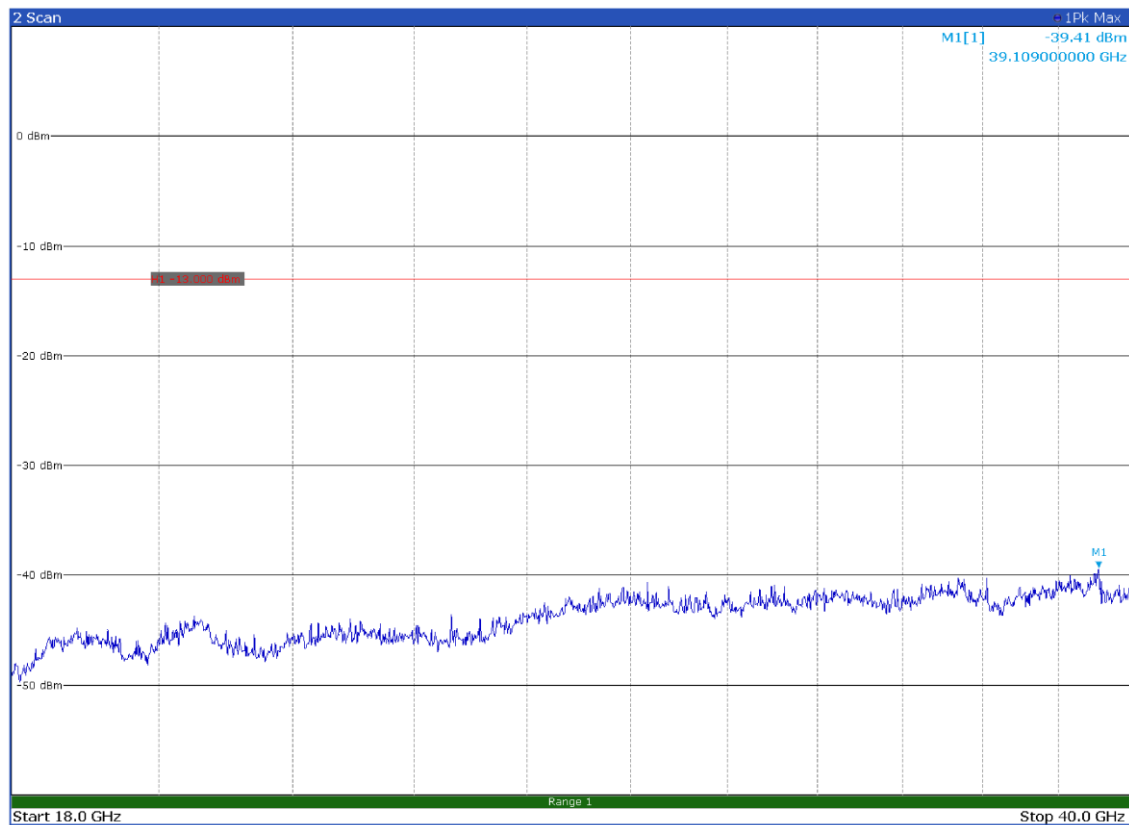


10 MHz signal, Middle Channel, 1GHz - 18GHz, V Pol

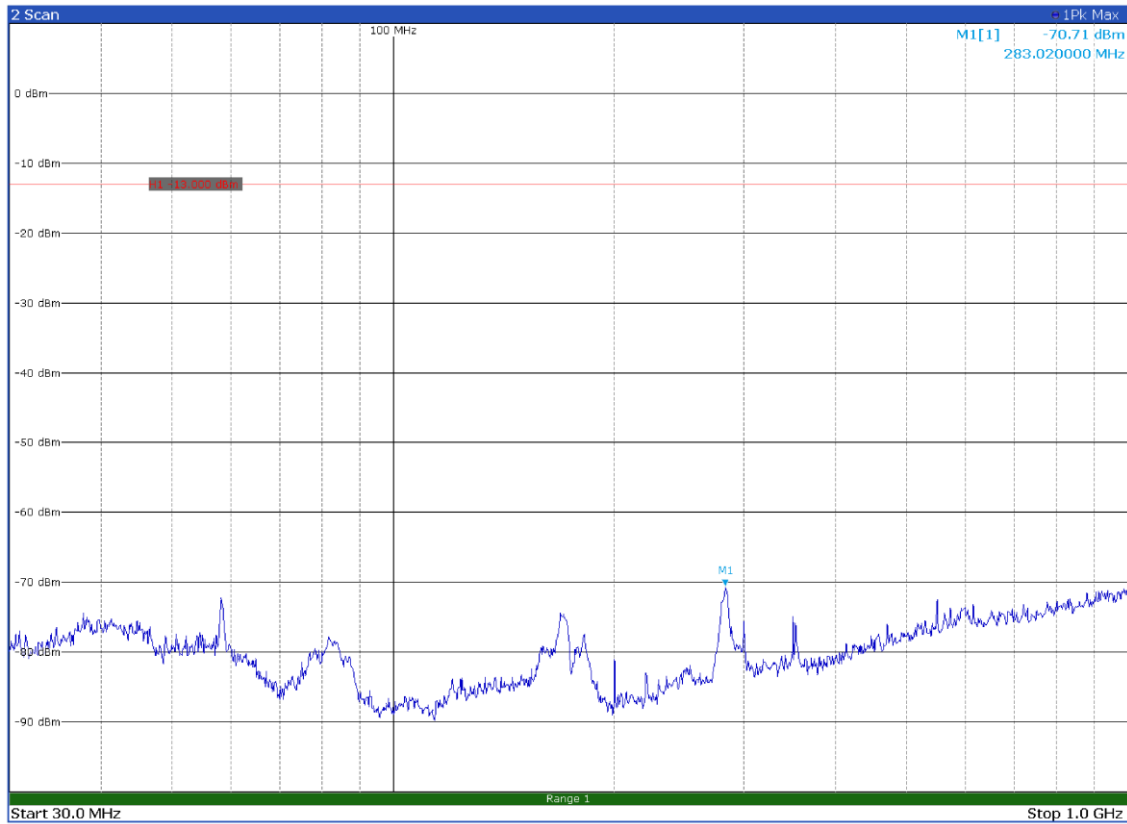




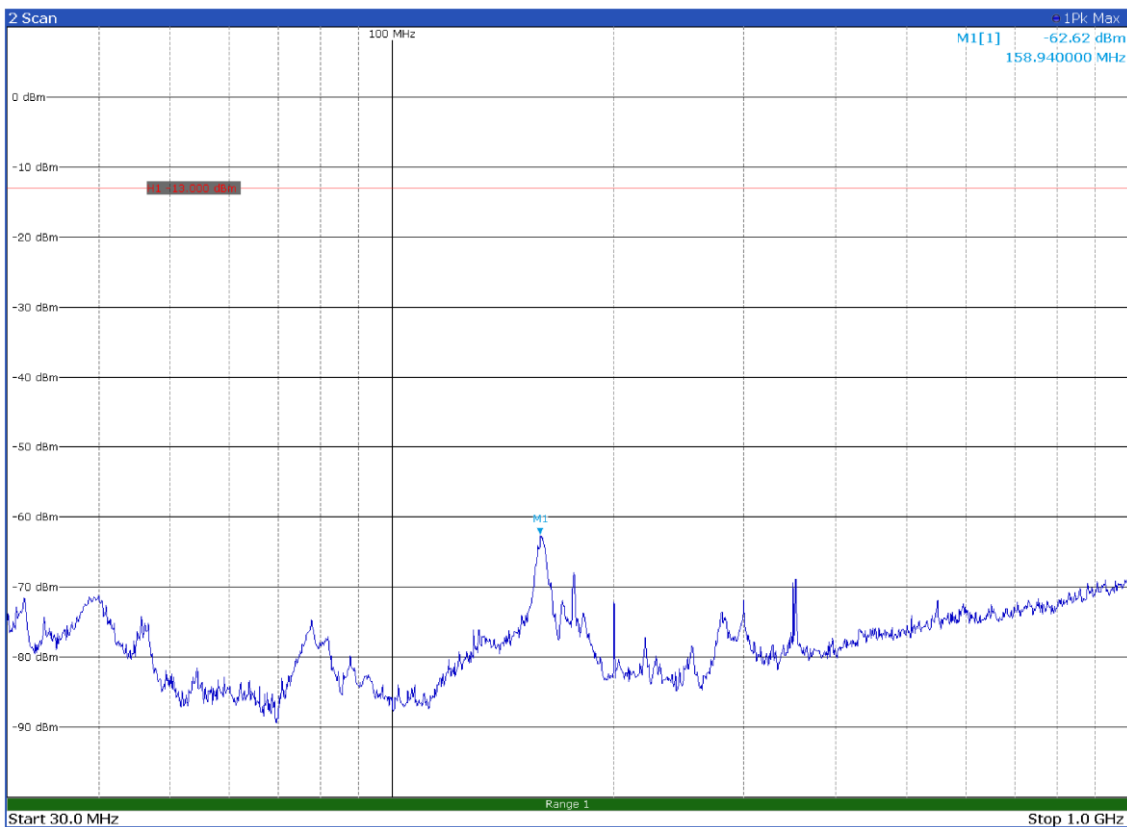
10 MHz signal, Middle Channel, 18GHz - 40GHz, H Pol



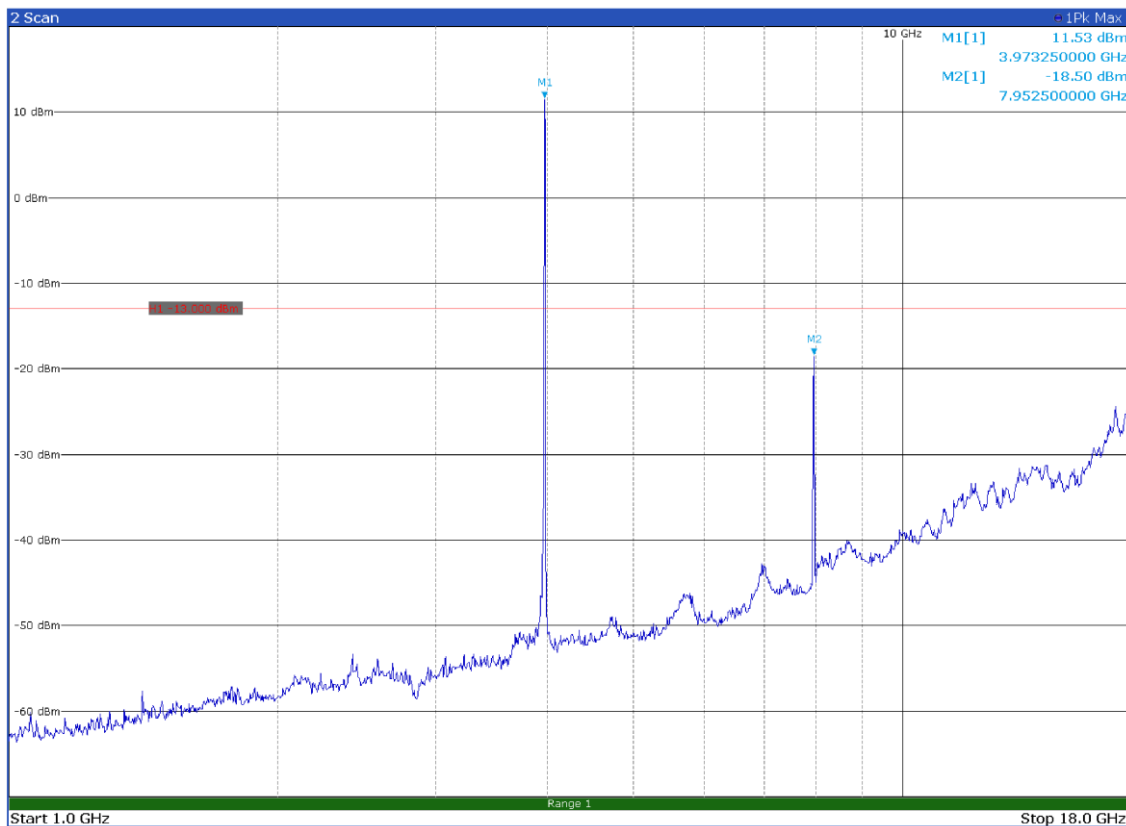
10 MHz signal, Middle Channel, 18GHz - 40GHz, V Pol



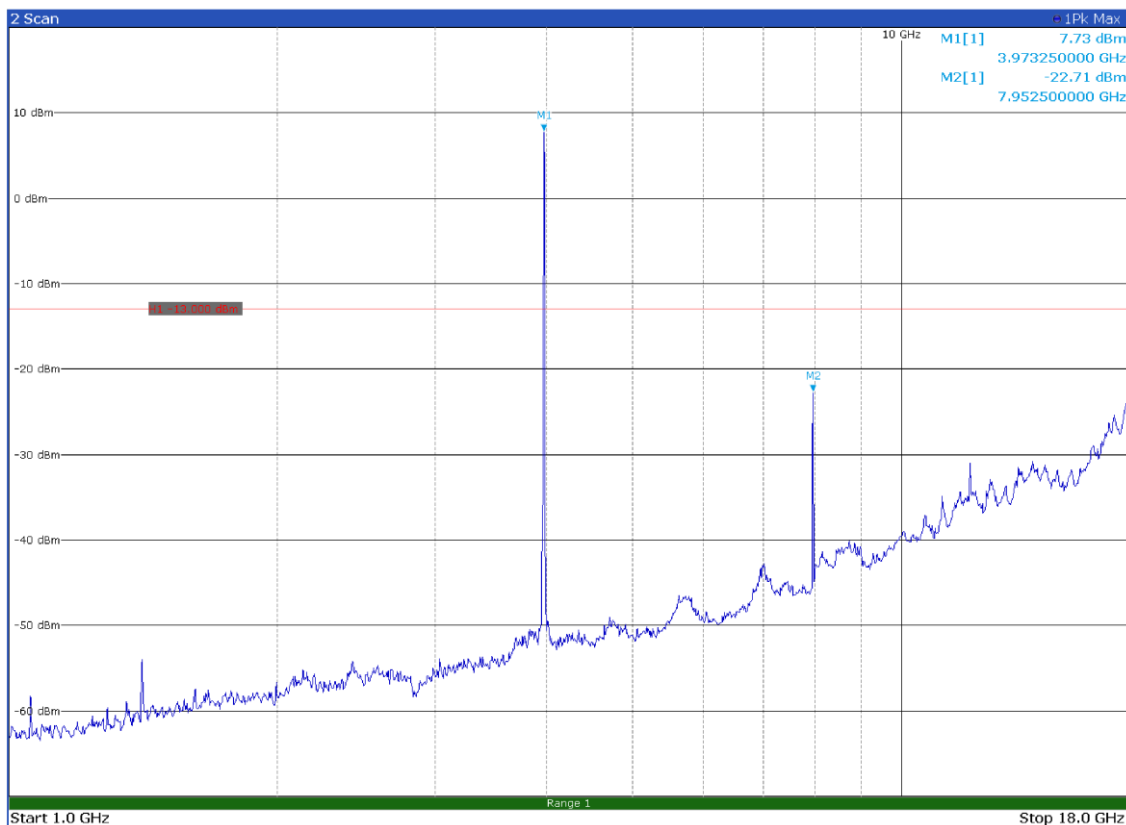
10 MHz signal, Top Channel, 30MHz - 1GHz, H Pol



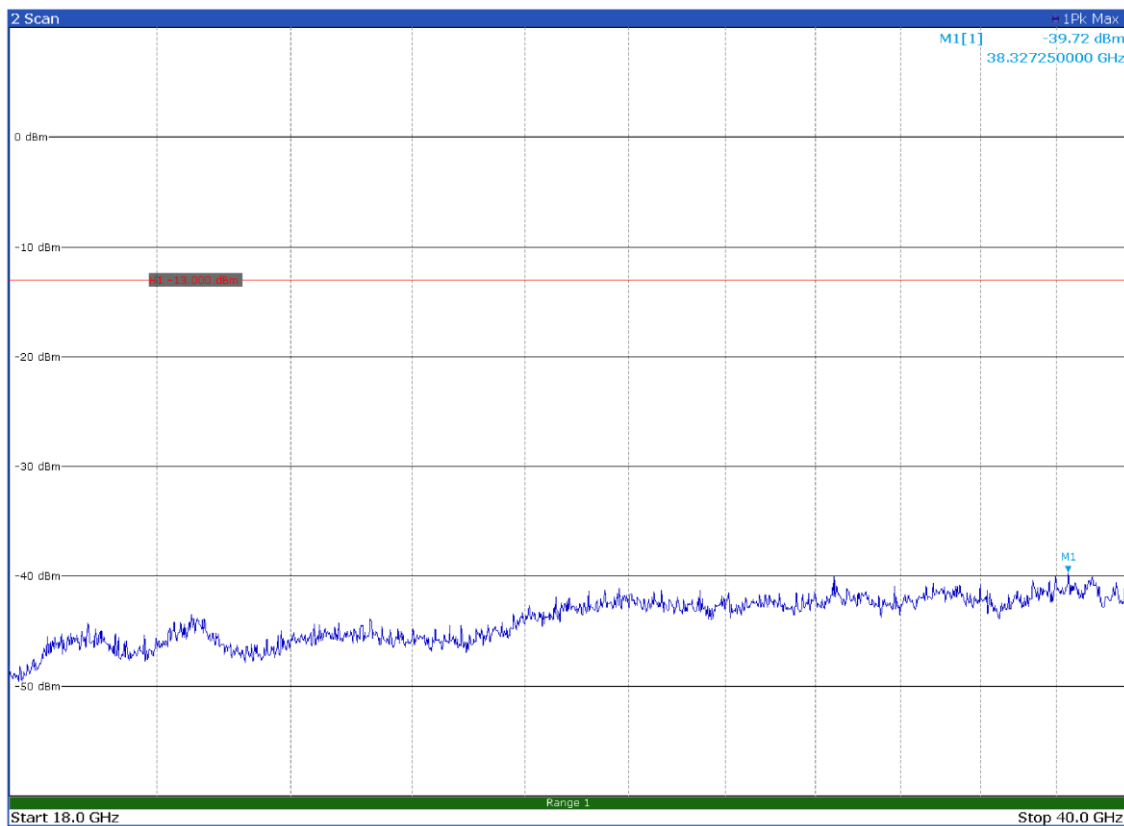
10 MHz signal, Top Channel, 30MHz - 1GHz, V Pol



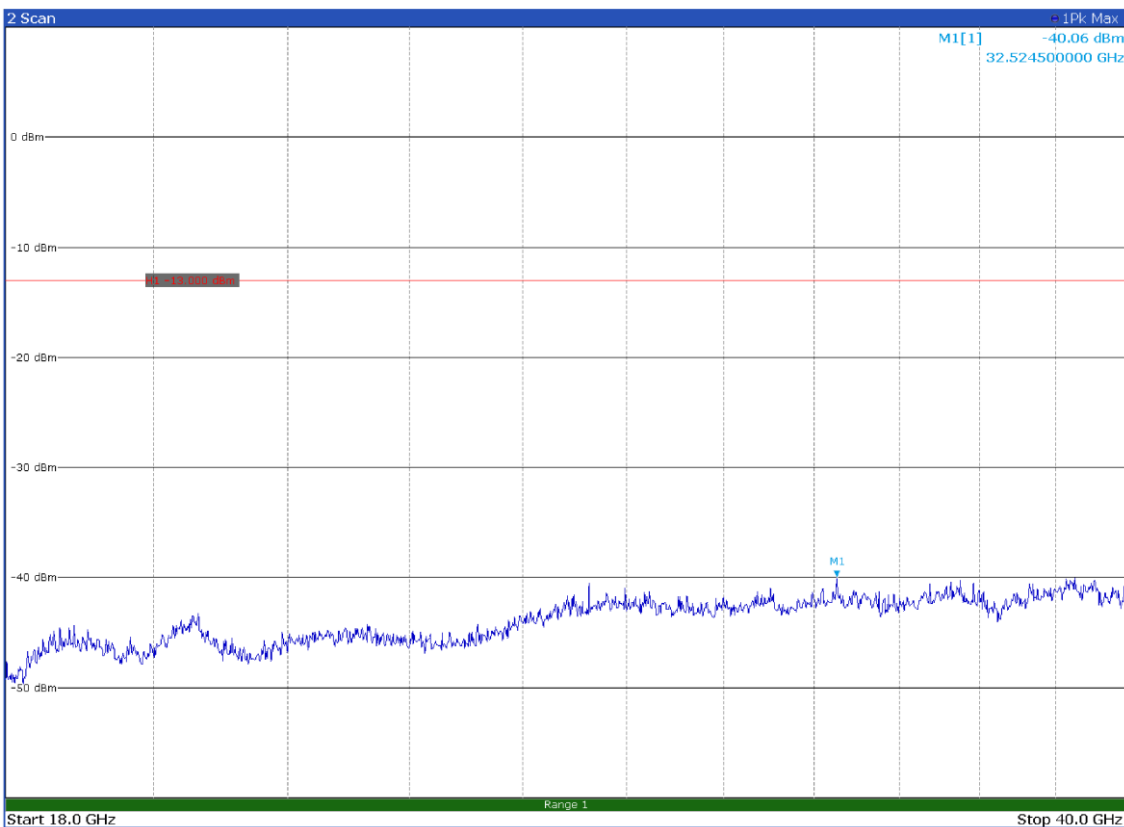
10 MHz signal, Top Channel, 1GHz - 18GHz, H Pol



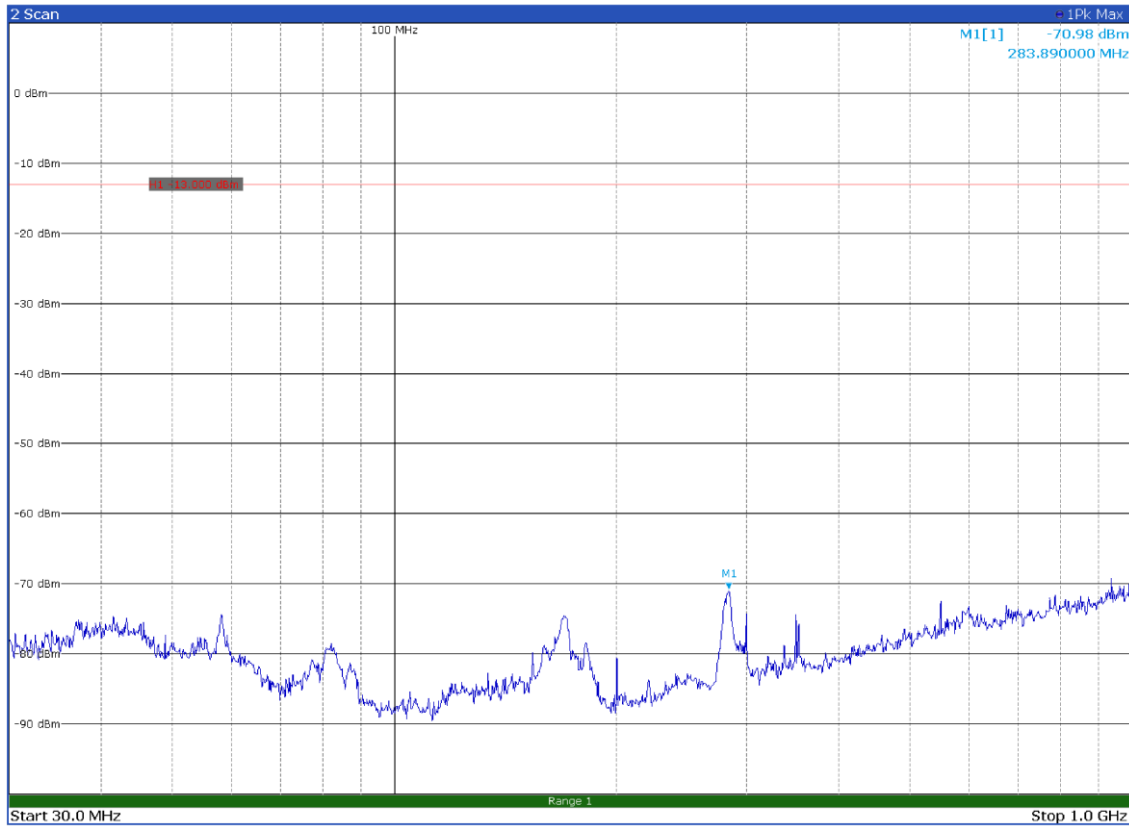
10 MHz signal, Top Channel, 1GHz - 18GHz, V Pol



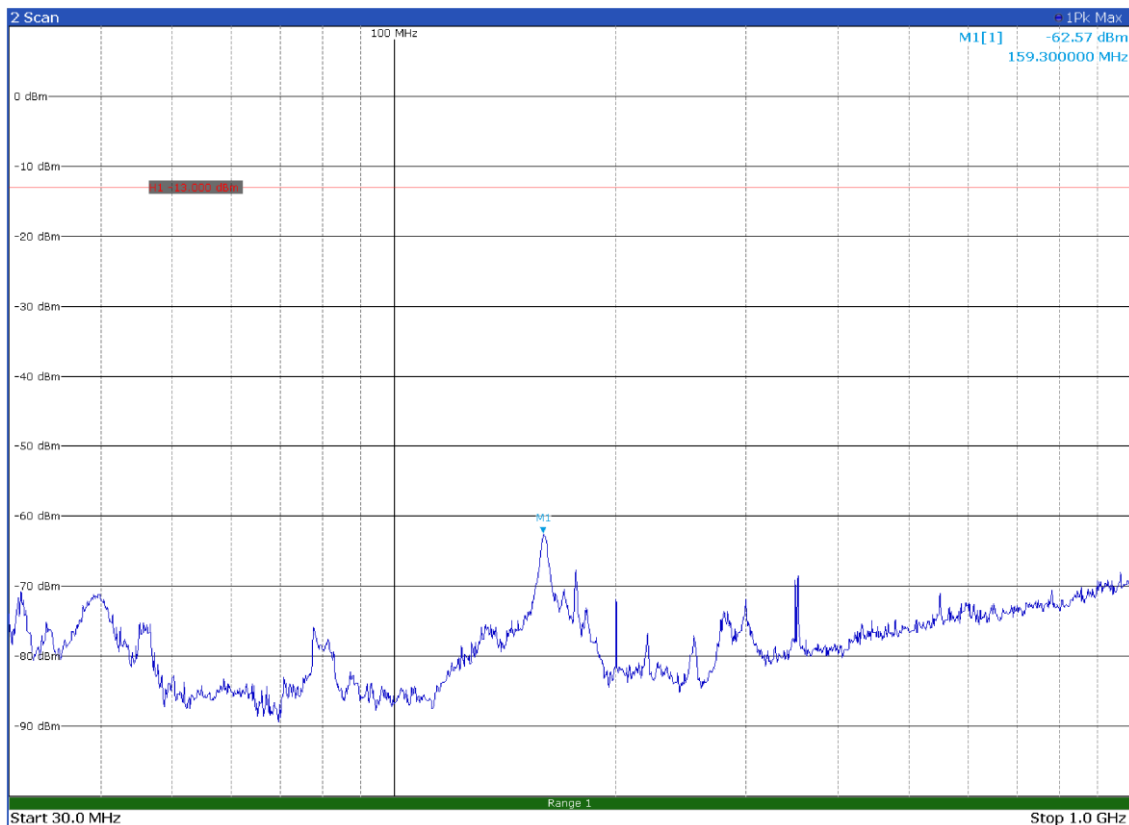
10 MHz signal, Top Channel, 18GHz - 40GHz, H Pol



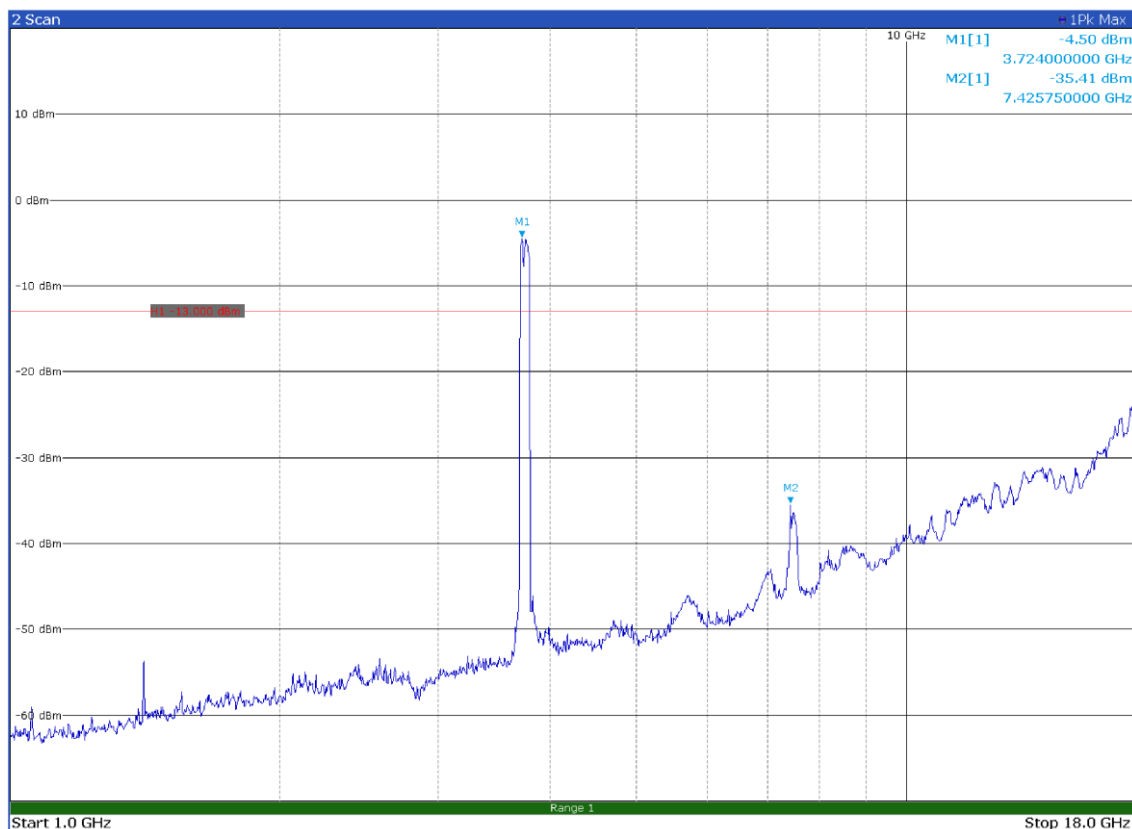
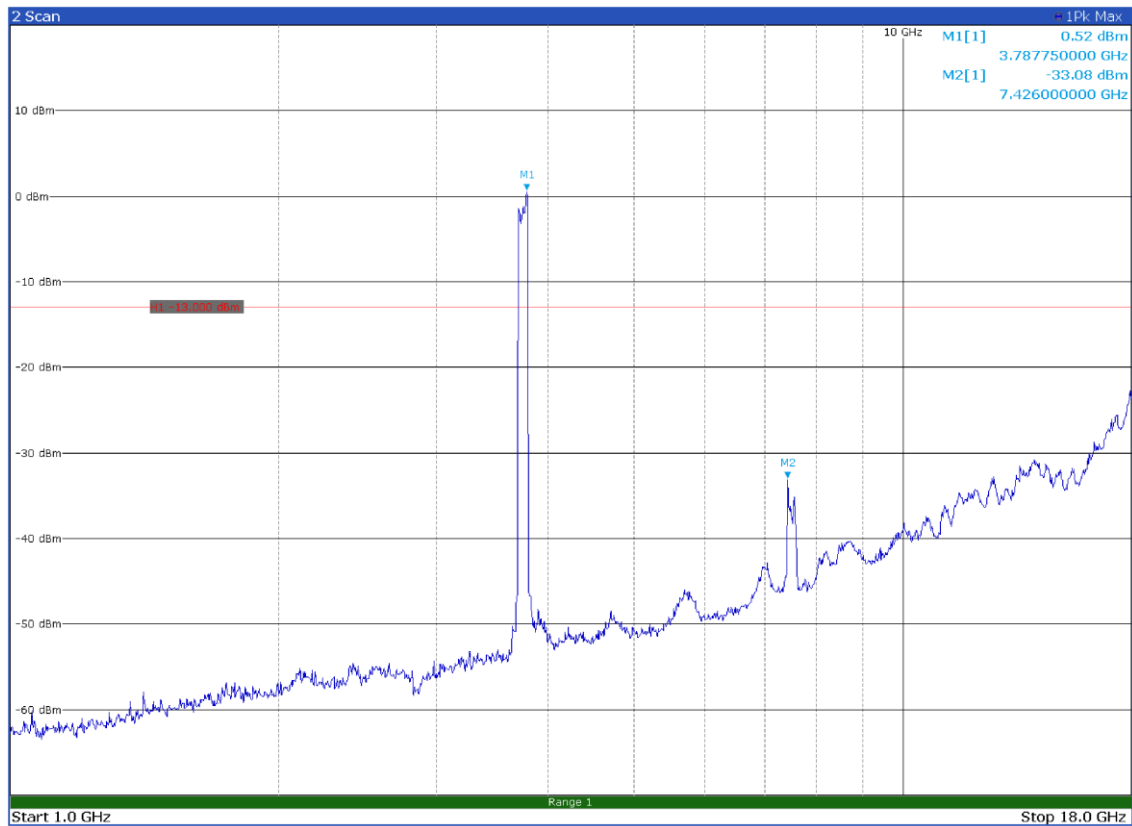
10 MHz signal, Top Channel, 18GHz - 40GHz, V Pol

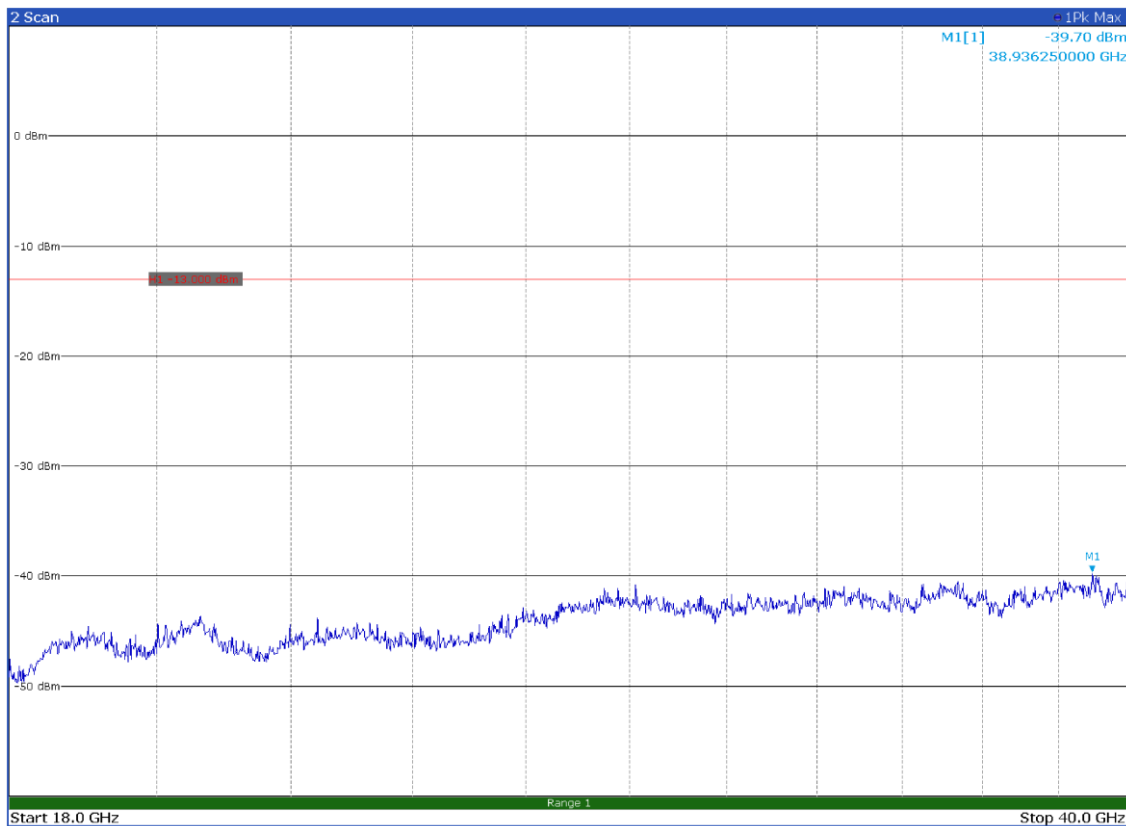


100 MHz signal, Bottom Channel, 30MHz - 1GHz, H Pol

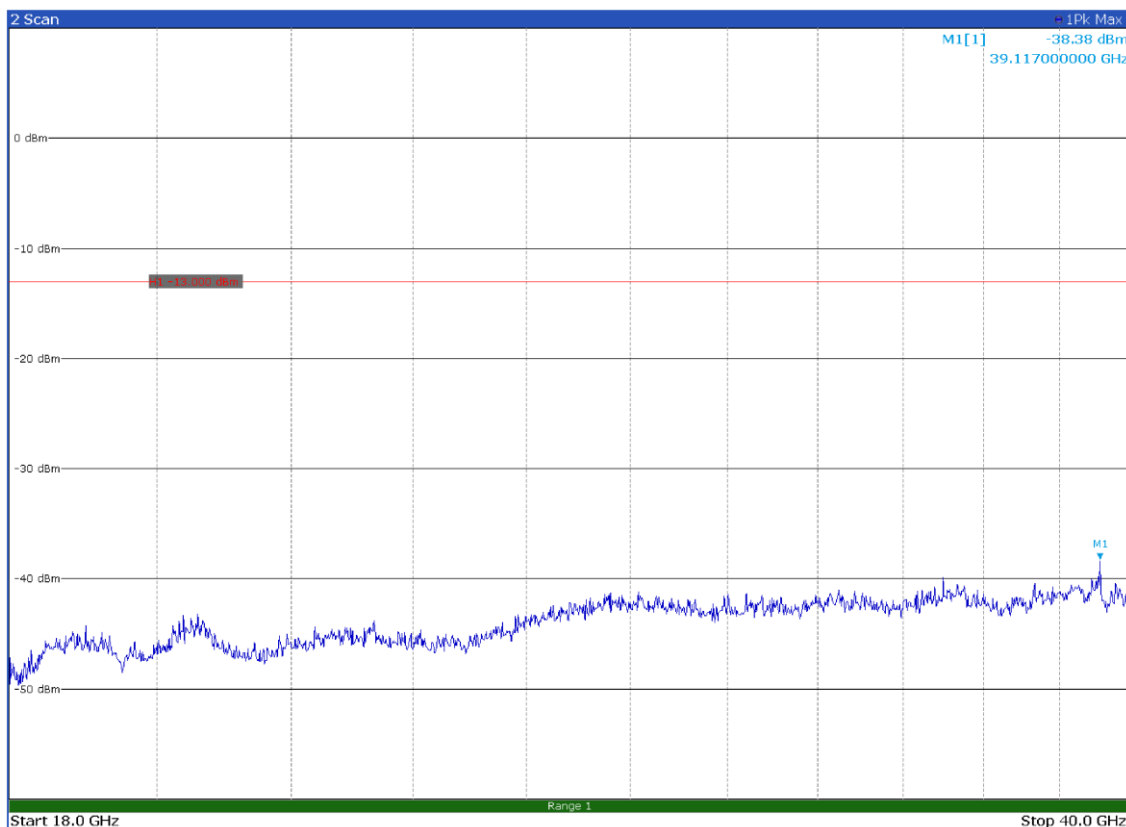


100 MHz signal, Bottom Channel, 30MHz - 1GHz, V Pol

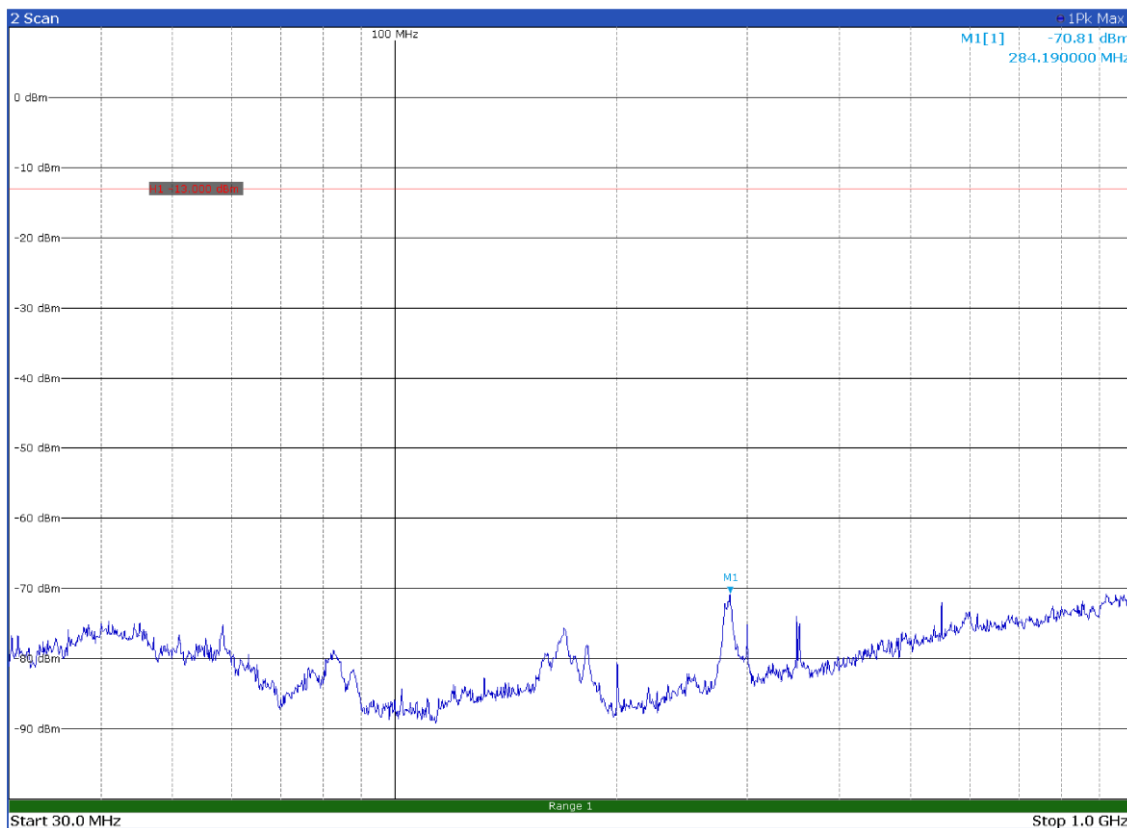




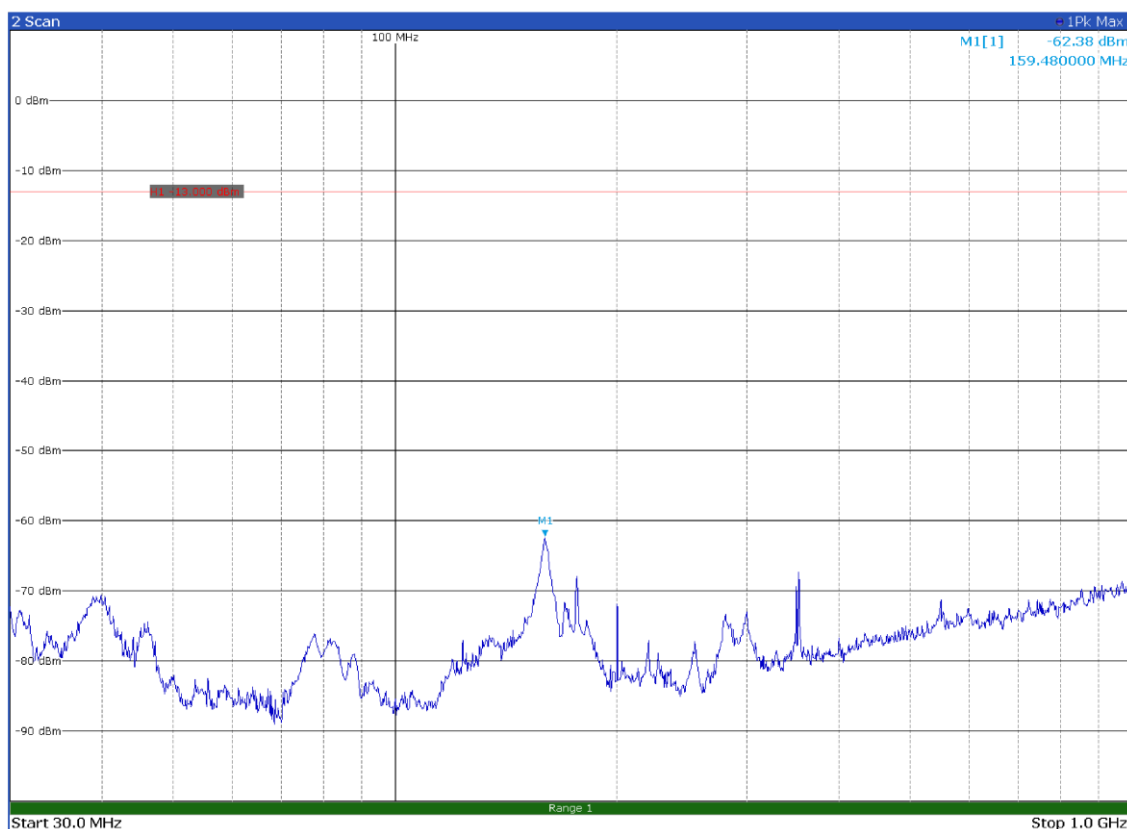
100 MHz signal, Bottom Channel, 18GHz - 40GHz, H Pol



100 MHz signal, Bottom Channel, 18GHz - 40GHz, V Pol

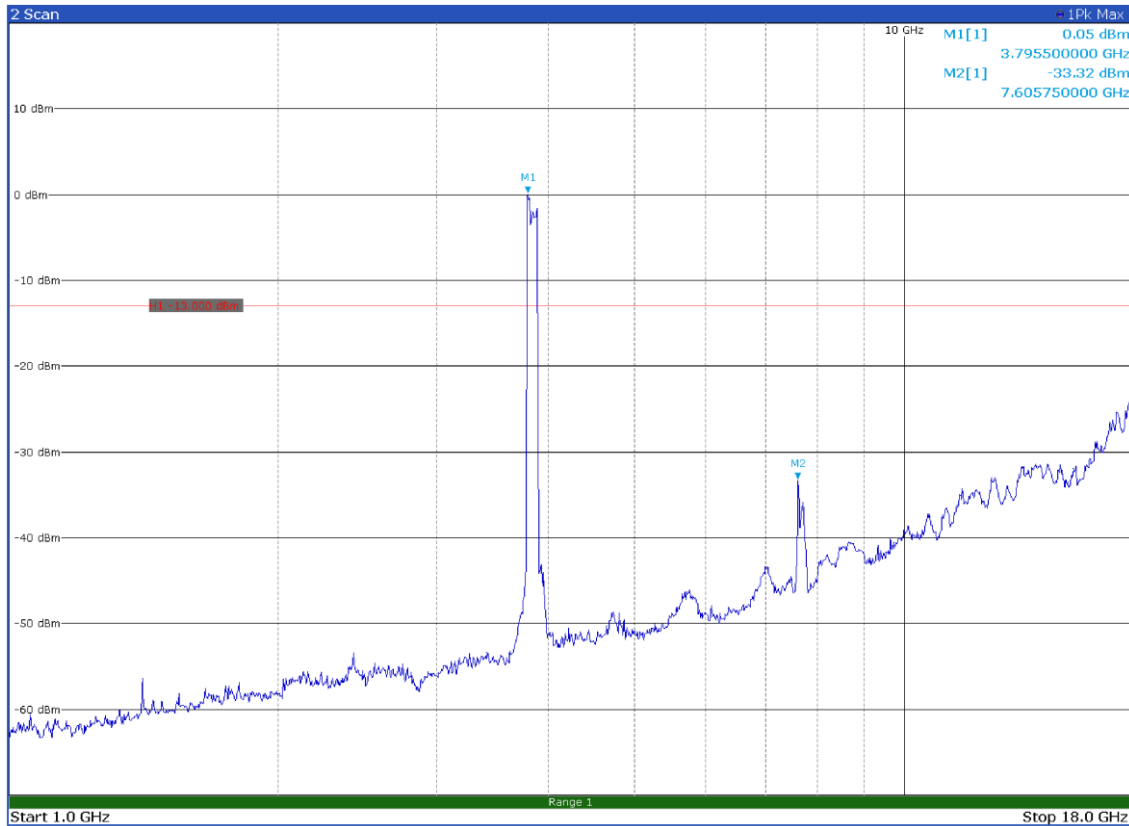


100 MHz signal, Middle Channel, 30MHz - 1GHz, H Pol

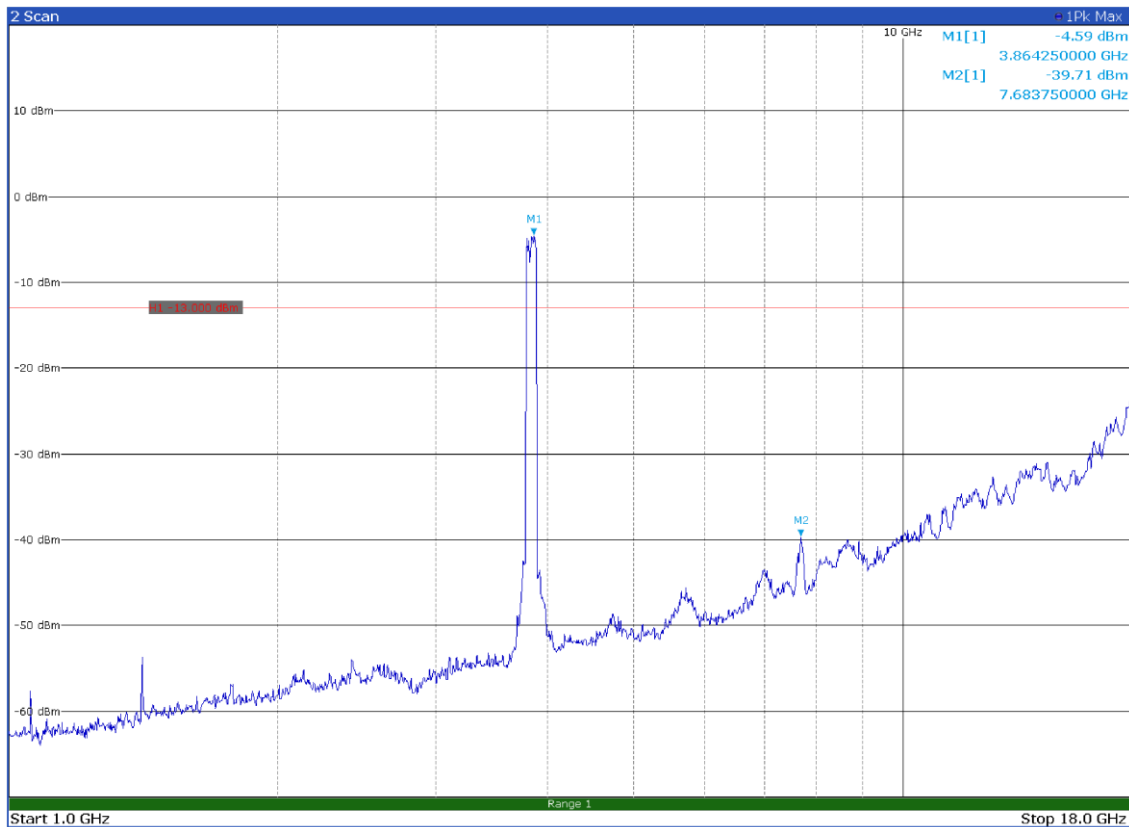


100 MHz signal, Middle Channel, 30MHz - 1GHz, V Pol

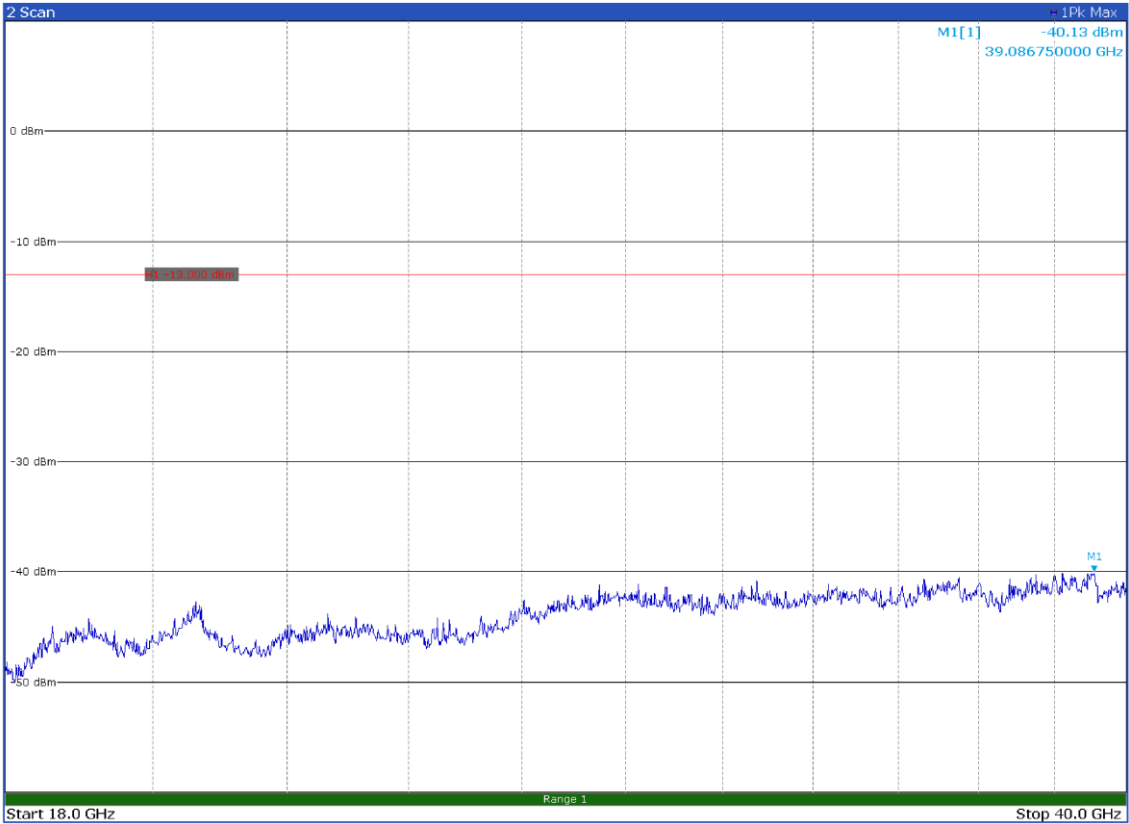




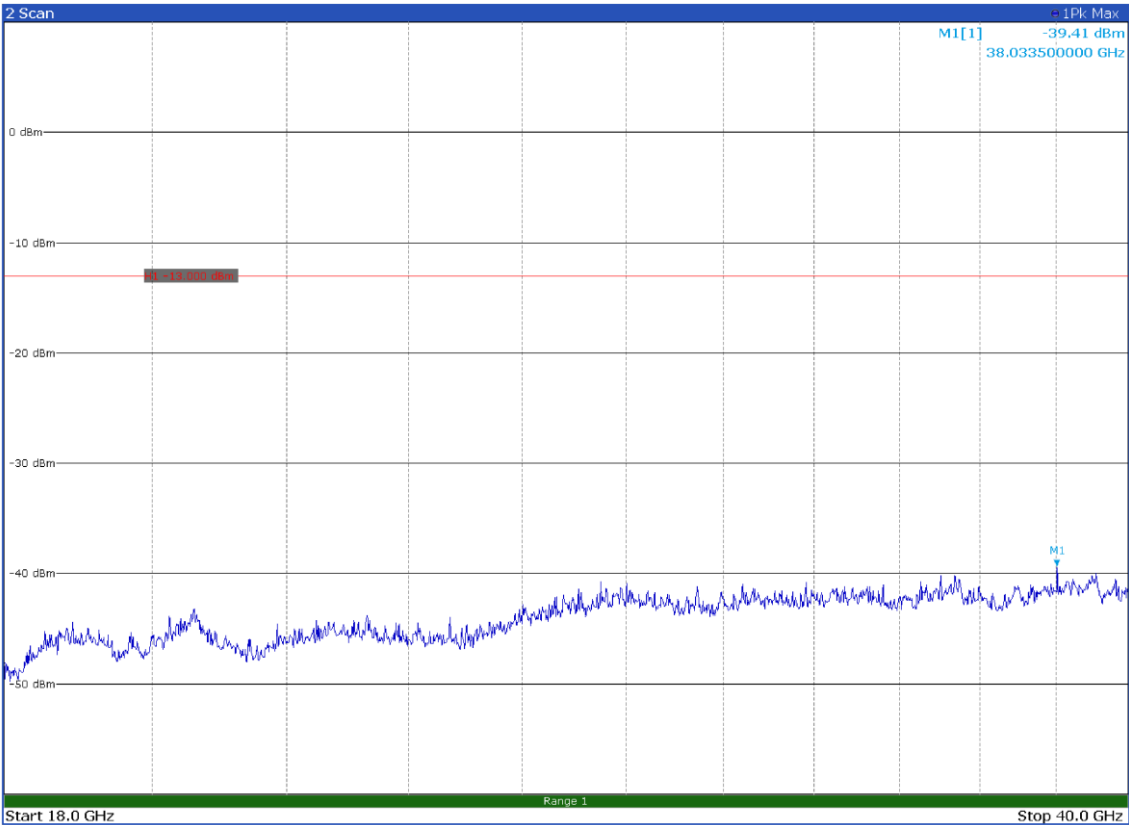
100 MHz signal, Middle Channel, 1GHz - 18GHz, H Pol



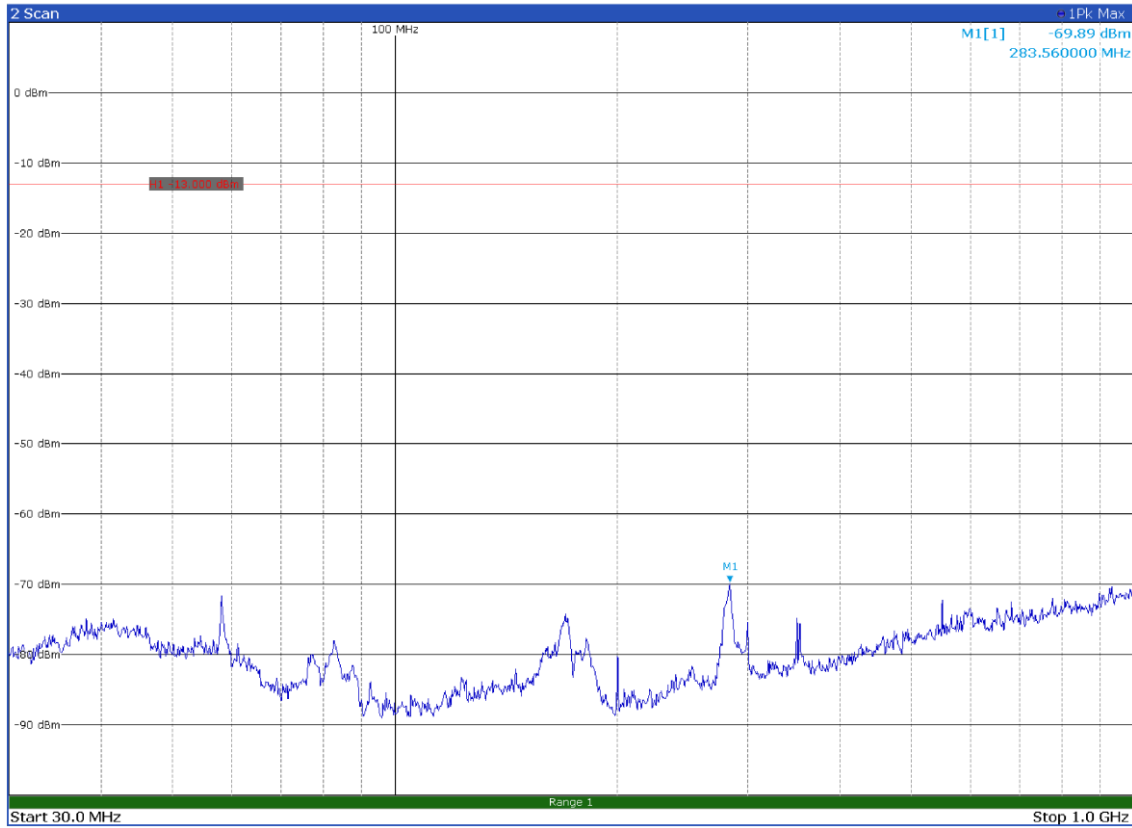
100 MHz signal, Middle Channel, 1GHz - 18GHz, V Pol



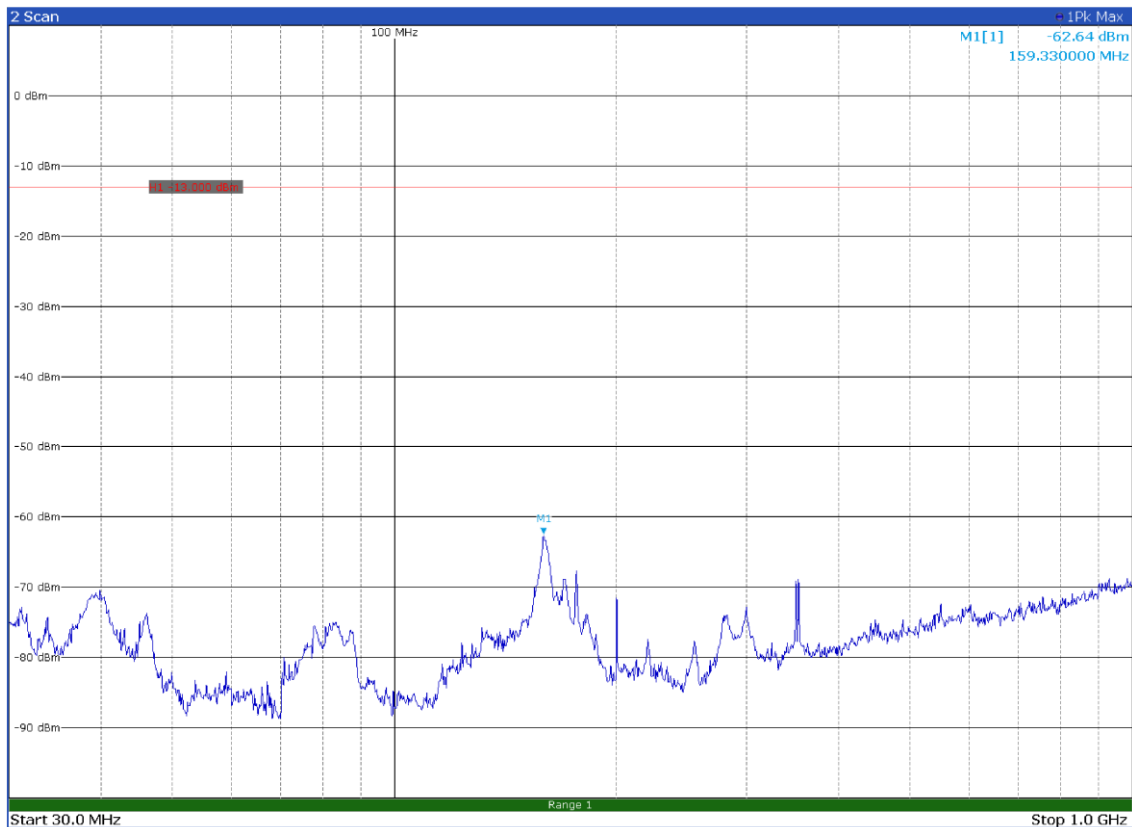
100 MHz signal, Middle Channel, 18GHz - 40GHz, H Pol



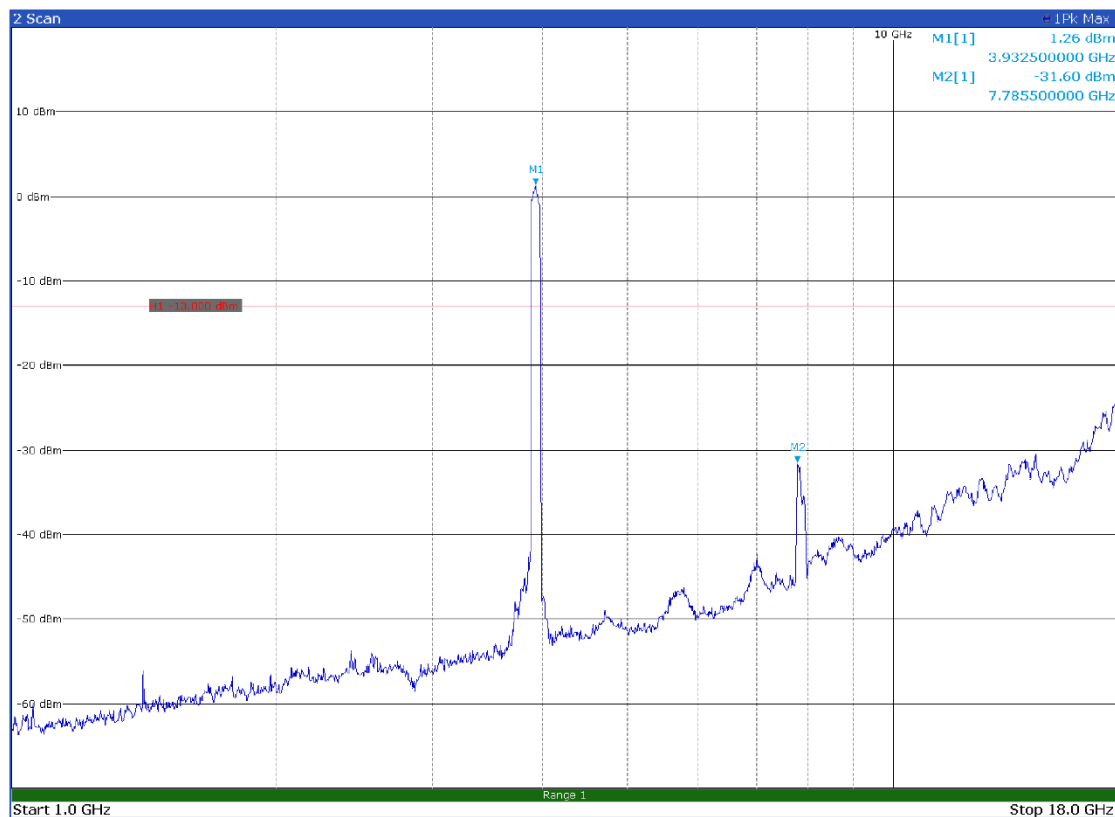
100 MHz signal, Middle Channel, 18GHz - 40GHz, V Pol



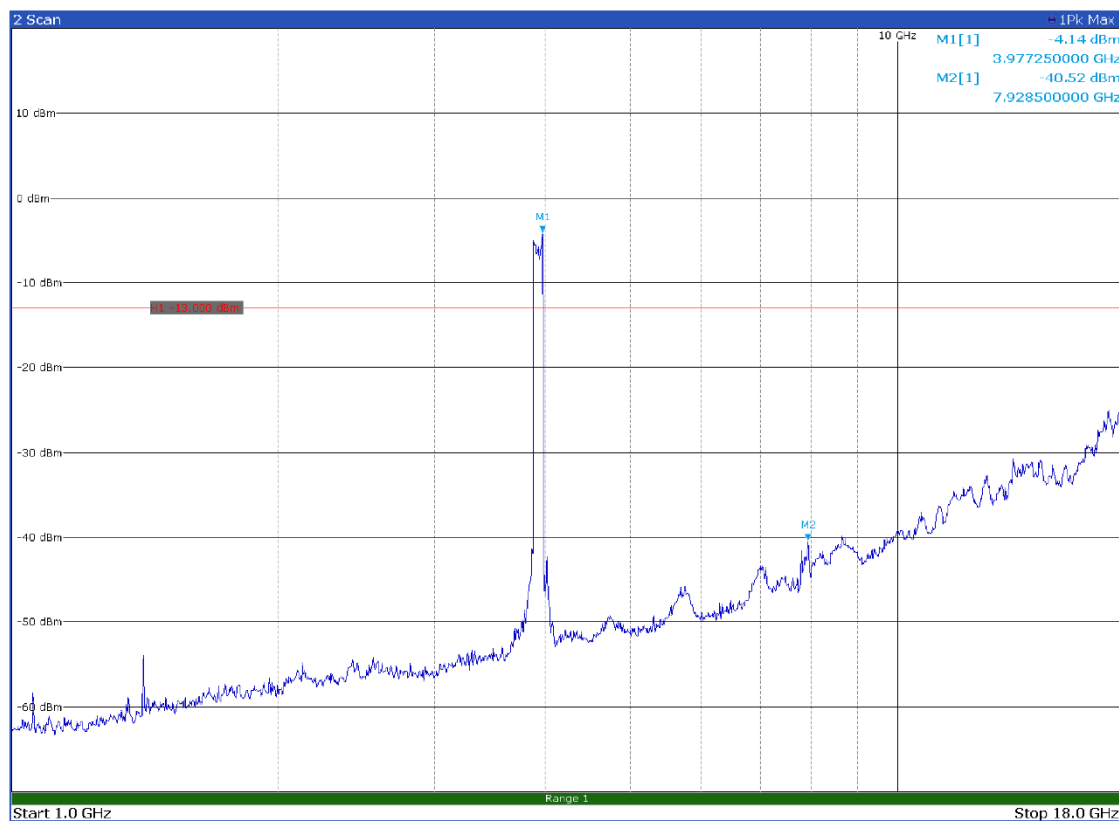
100 MHz signal, Top Channel, 30MHz - 1GHz, H Pol



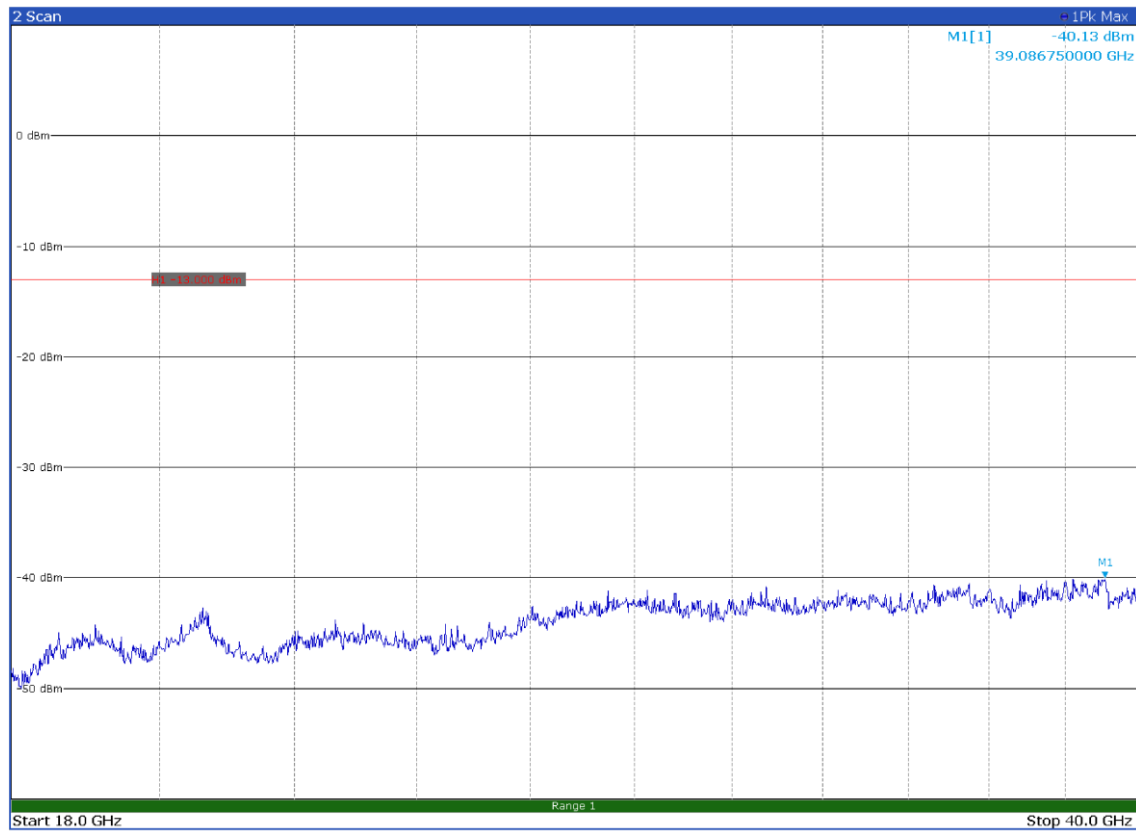
100 MHz signal, Top Channel, 30MHz - 1GHz, V Pol



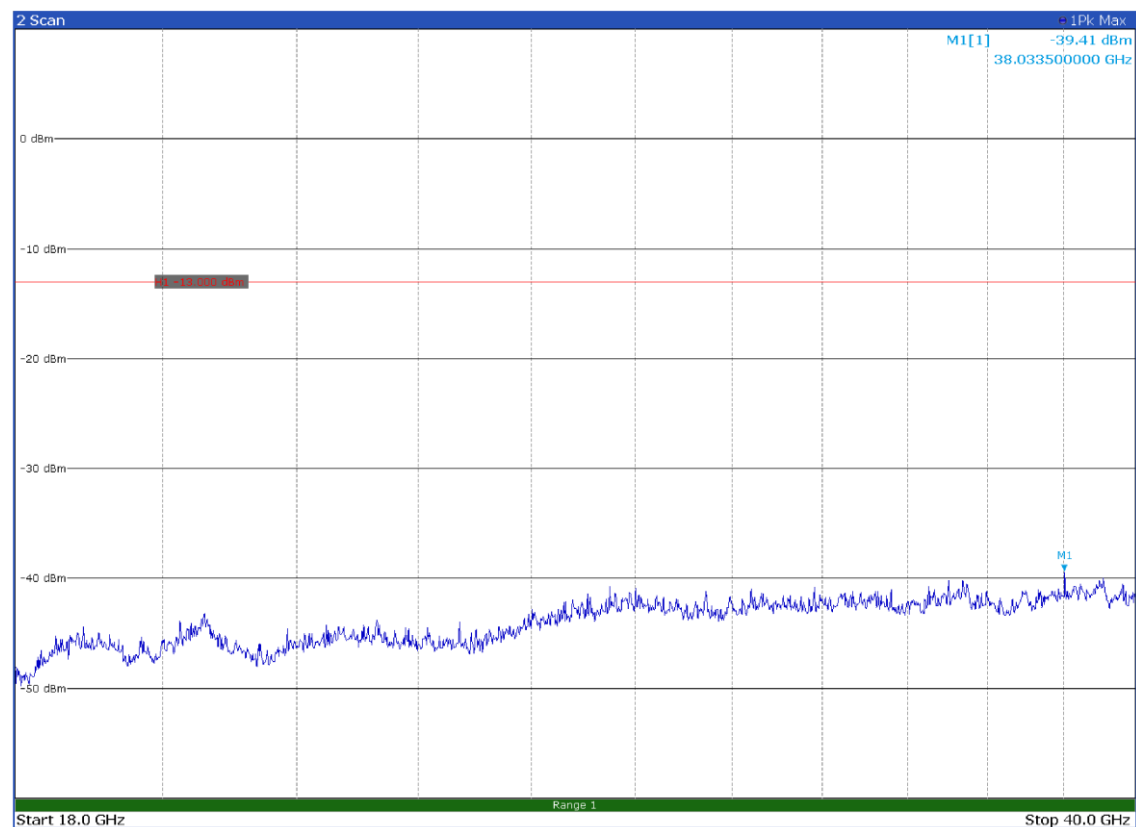
100 MHz signal, Top Channel, 1GHz - 18GHz, H Pol



100 MHz signal, Top Channel, 1GHz - 18GHz, V Pol



100 MHz signal, Top Channel, 18GHz - 40GHz, H Pol



100 MHz signal, Top Channel, 18GHz - 40GHz, V Pol

## Clause 27.54 Frequency stability

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test date: 2022-11-11 to 2022-11-25

Test results: Pass

## Special notes

Test are performed at 85% (90Vac) and 115% (264Vac) of the primary supply voltage and the same result was found.

## Test equipment

| Equipment               | Manufacturer | Model No.      | Asset/Serial No. | Next cal. |
|-------------------------|--------------|----------------|------------------|-----------|
| Vector Signal Generator | Keysight     | N5182B MXG     | MY59100262       | 2025-07   |
| Spectrum Analyzer       | Keysight     | N9030B PXA     | MY61330632       | 2023-04   |
| Climatic Chambre        | Angelantoni  | ACS-Hygros 600 | 7237             | 2023-11   |

Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use  
(\*) Equipment supplied by manufacturer's

## Test data

## RF PORT 1

| Temperature = -30°C |            |                 |                  |
|---------------------|------------|-----------------|------------------|
| Channel             | Signal     | Frequency Error | Measurement unit |
| BOTTOM              | 5G 10 MHz  | -33.14          | Hz               |
| MIDDLE              | 5G 10 MHz  | -34.67          | Hz               |
| TOP                 | 5G 10 MHz  | -35.81          | Hz               |
| BOTTOM              | 5G 100 MHz | -33.09          | Hz               |
| MIDDLE              | 5G 100 MHz | -34.10          | Hz               |
| TOP                 | 5G 100 MHz | -34.54          | Hz               |

| Temperature = -20°C |            |                 |                  |
|---------------------|------------|-----------------|------------------|
| Channel             | Signal     | Frequency Error | Measurement unit |
| BOTTOM              | 5G 10 MHz  | -32.66          | Hz               |
| MIDDLE              | 5G 10 MHz  | -34.16          | Hz               |
| TOP                 | 5G 10 MHz  | -35.24          | Hz               |
| BOTTOM              | 5G 100 MHz | -32.34          | Hz               |
| MIDDLE              | 5G 100 MHz | -33.20          | Hz               |
| TOP                 | 5G 100 MHz | -33.71          | Hz               |

| Temperature = -10°C |            |                 |                  |
|---------------------|------------|-----------------|------------------|
| Channel             | Signal     | Frequency Error | Measurement unit |
| BOTTOM              | 5G 10 MHz  | -33.38          | Hz               |
| MIDDLE              | 5G 10 MHz  | -33.24          | Hz               |
| TOP                 | 5G 10 MHz  | -33.02          | Hz               |
| BOTTOM              | 5G 100 MHz | -33.75          | Hz               |
| MIDDLE              | 5G 100 MHz | -33.22          | Hz               |
| TOP                 | 5G 100 MHz | -33.56          | Hz               |

| Temperature = 0°C |            |                 |                  |
|-------------------|------------|-----------------|------------------|
| Channel           | Signal     | Frequency Error | Measurement unit |
| BOTTOM            | 5G 10 MHz  | -32.82          | Hz               |
| MIDDLE            | 5G 10 MHz  | -31.26          | Hz               |
| TOP               | 5G 10 MHz  | -32.53          | Hz               |
| BOTTOM            | 5G 100 MHz | -31.57          | Hz               |
| MIDDLE            | 5G 100 MHz | -32.39          | Hz               |
| TOP               | 5G 100 MHz | -32.09          | Hz               |

| Temperature = 10°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -30.30          | Hz               |
| MIDDLE             | 5G 10 MHz  | -31.53          | Hz               |
| TOP                | 5G 10 MHz  | -32.73          | Hz               |
| BOTTOM             | 5G 100 MHz | -30.30          | Hz               |
| MIDDLE             | 5G 100 MHz | -30.93          | Hz               |
| TOP                | 5G 100 MHz | -31.75          | Hz               |

| Temperature = 20°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -30.76          | Hz               |
| MIDDLE             | 5G 10 MHz  | -31.90          | Hz               |
| TOP                | 5G 10 MHz  | -33.13          | Hz               |
| BOTTOM             | 5G 100 MHz | -30.72          | Hz               |
| MIDDLE             | 5G 100 MHz | -31.72          | Hz               |
| TOP                | 5G 100 MHz | -32.42          | Hz               |

| Temperature = 30°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -31.13          | Hz               |
| MIDDLE             | 5G 10 MHz  | -32.32          | Hz               |
| TOP                | 5G 10 MHz  | -33.71          | Hz               |
| BOTTOM             | 5G 100 MHz | -31.30          | Hz               |
| MIDDLE             | 5G 100 MHz | -31.98          | Hz               |
| TOP                | 5G 100 MHz | -32.69          | Hz               |

| Temperature = 40°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -31.23          | Hz               |
| MIDDLE             | 5G 10 MHz  | -32.61          | Hz               |
| TOP                | 5G 10 MHz  | -33.87          | Hz               |
| BOTTOM             | 5G 100 MHz | -31.60          | Hz               |
| MIDDLE             | 5G 100 MHz | -32.21          | Hz               |
| TOP                | 5G 100 MHz | -33.11          | Hz               |



| Temperature = 50°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -31.61          | Hz               |
| MIDDLE             | 5G 10 MHz  | -32.67          | Hz               |
| TOP                | 5G 10 MHz  | -33.90          | Hz               |
| BOTTOM             | 5G 100 MHz | -31.60          | Hz               |
| MIDDLE             | 5G 100 MHz | -32.48          | Hz               |
| TOP                | 5G 100 MHz | -33.39          | Hz               |

## RF PORT 2

| Temperature = -30°C |            |                 |                  |
|---------------------|------------|-----------------|------------------|
| Channel             | Signal     | Frequency Error | Measurement unit |
| BOTTOM              | 5G 10 MHz  | -32.97          | Hz               |
| MIDDLE              | 5G 10 MHz  | -34.35          | Hz               |
| TOP                 | 5G 10 MHz  | -35.66          | Hz               |
| BOTTOM              | 5G 100 MHz | -32.82          | Hz               |
| MIDDLE              | 5G 100 MHz | -33.77          | Hz               |
| TOP                 | 5G 100 MHz | -34.28          | Hz               |

| Temperature = -20°C |            |                 |                  |
|---------------------|------------|-----------------|------------------|
| Channel             | Signal     | Frequency Error | Measurement unit |
| BOTTOM              | 5G 10 MHz  | -32.49          | Hz               |
| MIDDLE              | 5G 10 MHz  | -33.80          | Hz               |
| TOP                 | 5G 10 MHz  | -34.71          | Hz               |
| BOTTOM              | 5G 100 MHz | -32.42          | Hz               |
| MIDDLE              | 5G 100 MHz | -33.18          | Hz               |
| TOP                 | 5G 100 MHz | -33.80          | Hz               |

| Temperature = -10°C |            |                 |                  |
|---------------------|------------|-----------------|------------------|
| Channel             | Signal     | Frequency Error | Measurement unit |
| BOTTOM              | 5G 10 MHz  | -32.96          | Hz               |
| MIDDLE              | 5G 10 MHz  | -32.57          | Hz               |
| TOP                 | 5G 10 MHz  | -33.52          | Hz               |
| BOTTOM              | 5G 100 MHz | -32.43          | Hz               |
| MIDDLE              | 5G 100 MHz | -32.50          | Hz               |
| TOP                 | 5G 100 MHz | -33.40          | Hz               |

| Temperature = 0°C |            |                 |                  |
|-------------------|------------|-----------------|------------------|
| Channel           | Signal     | Frequency Error | Measurement unit |
| BOTTOM            | 5G 10 MHz  | -32.14          | Hz               |
| MIDDLE            | 5G 10 MHz  | -32.41          | Hz               |
| TOP               | 5G 10 MHz  | -32.40          | Hz               |
| BOTTOM            | 5G 100 MHz | -32.09          | Hz               |
| MIDDLE            | 5G 100 MHz | -32.25          | Hz               |
| TOP               | 5G 100 MHz | -32.07          | Hz               |

| Temperature = 10°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -30.71          | Hz               |
| MIDDLE             | 5G 10 MHz  | -31.92          | Hz               |
| TOP                | 5G 10 MHz  | -33.10          | Hz               |
| BOTTOM             | 5G 100 MHz | -30.84          | Hz               |
| MIDDLE             | 5G 100 MHz | -31.33          | Hz               |
| TOP                | 5G 100 MHz | -32.32          | Hz               |

| Temperature = 20°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -30.52          | Hz               |
| MIDDLE             | 5G 10 MHz  | -31.81          | Hz               |
| TOP                | 5G 10 MHz  | -32.88          | Hz               |
| BOTTOM             | 5G 100 MHz | -30.60          | Hz               |
| MIDDLE             | 5G 100 MHz | -31.12          | Hz               |
| TOP                | 5G 100 MHz | -32.37          | Hz               |

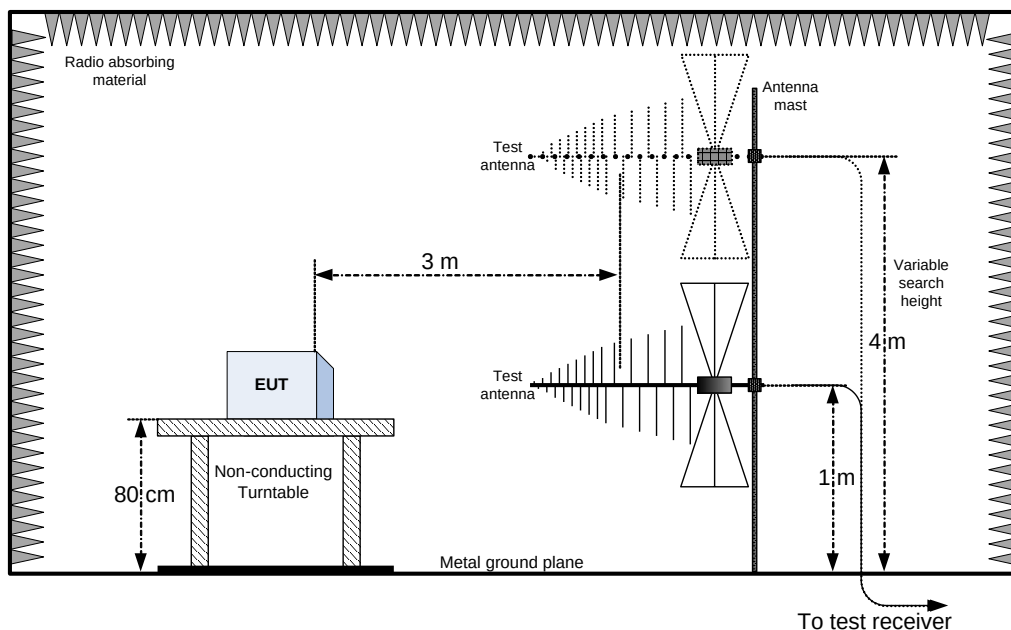
| Temperature = 30°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -31.22          | Hz               |
| MIDDLE             | 5G 10 MHz  | -32.26          | Hz               |
| TOP                | 5G 10 MHz  | -33.46          | Hz               |
| BOTTOM             | 5G 100 MHz | -31.02          | Hz               |
| MIDDLE             | 5G 100 MHz | -31.90          | Hz               |
| TOP                | 5G 100 MHz | -32.51          | Hz               |

| Temperature = 40°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -31.50          | Hz               |
| MIDDLE             | 5G 10 MHz  | -32.33          | Hz               |
| TOP                | 5G 10 MHz  | -33.75          | Hz               |
| BOTTOM             | 5G 100 MHz | -31.32          | Hz               |
| MIDDLE             | 5G 100 MHz | -32.14          | Hz               |
| TOP                | 5G 100 MHz | -32.81          | Hz               |

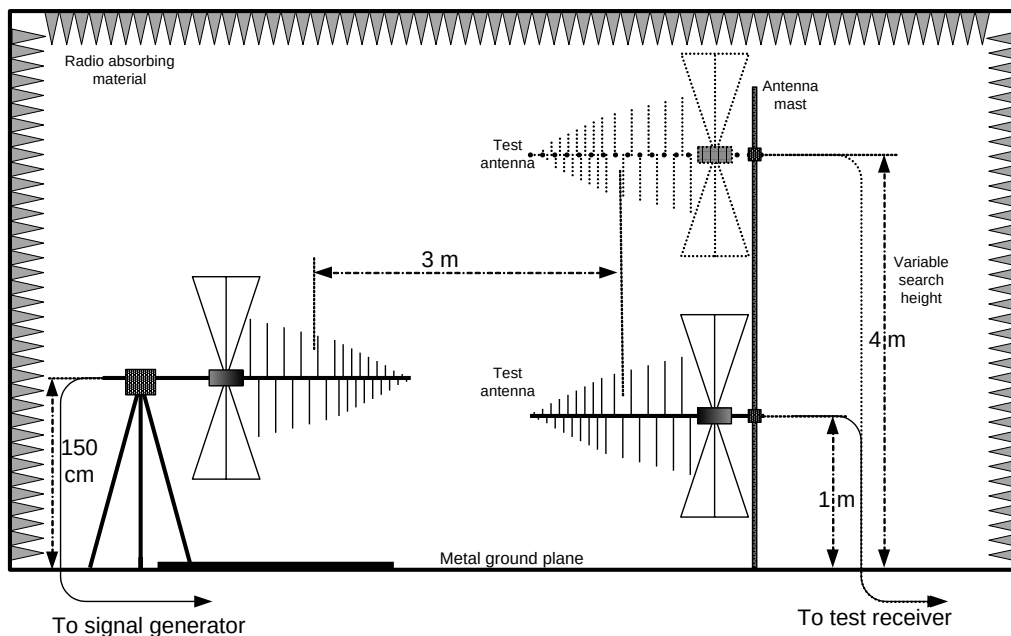
| Temperature = 50°C |            |                 |                  |
|--------------------|------------|-----------------|------------------|
| Channel            | Signal     | Frequency Error | Measurement unit |
| BOTTOM             | 5G 10 MHz  | -31.74          | Hz               |
| MIDDLE             | 5G 10 MHz  | -33.00          | Hz               |
| TOP                | 5G 10 MHz  | -34.40          | Hz               |
| BOTTOM             | 5G 100 MHz | -31.85          | Hz               |
| MIDDLE             | 5G 100 MHz | -32.77          | Hz               |
| TOP                | 5G 100 MHz | -33.55          | Hz               |

## Appendix B: Block diagrams of test set-ups

### Radiated emissions set-up

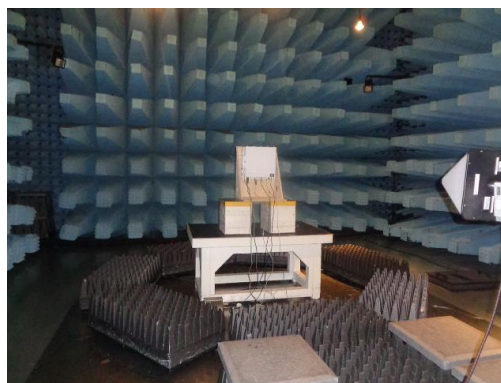
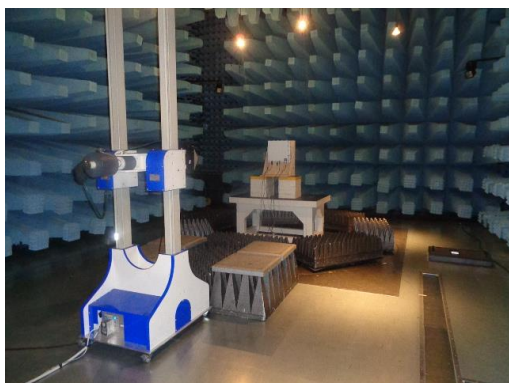
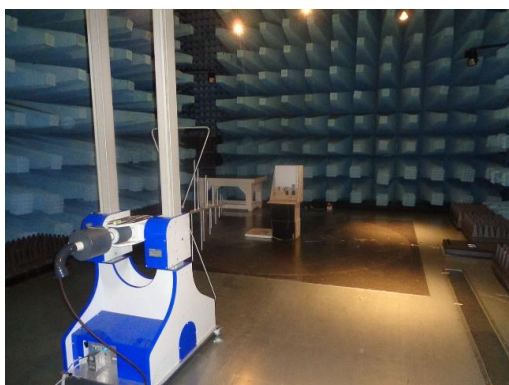


### Substitution method set-up



## Appendix C: EUT Photos

### Photo Set up



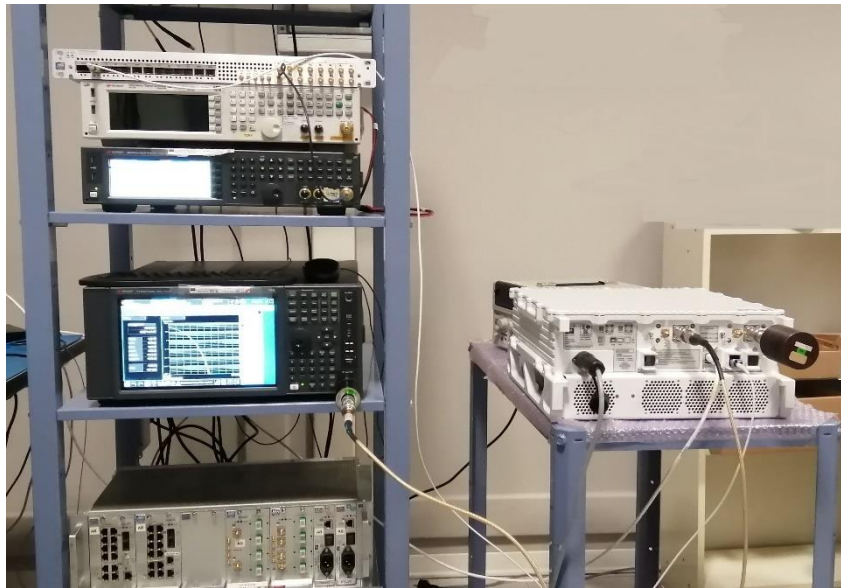
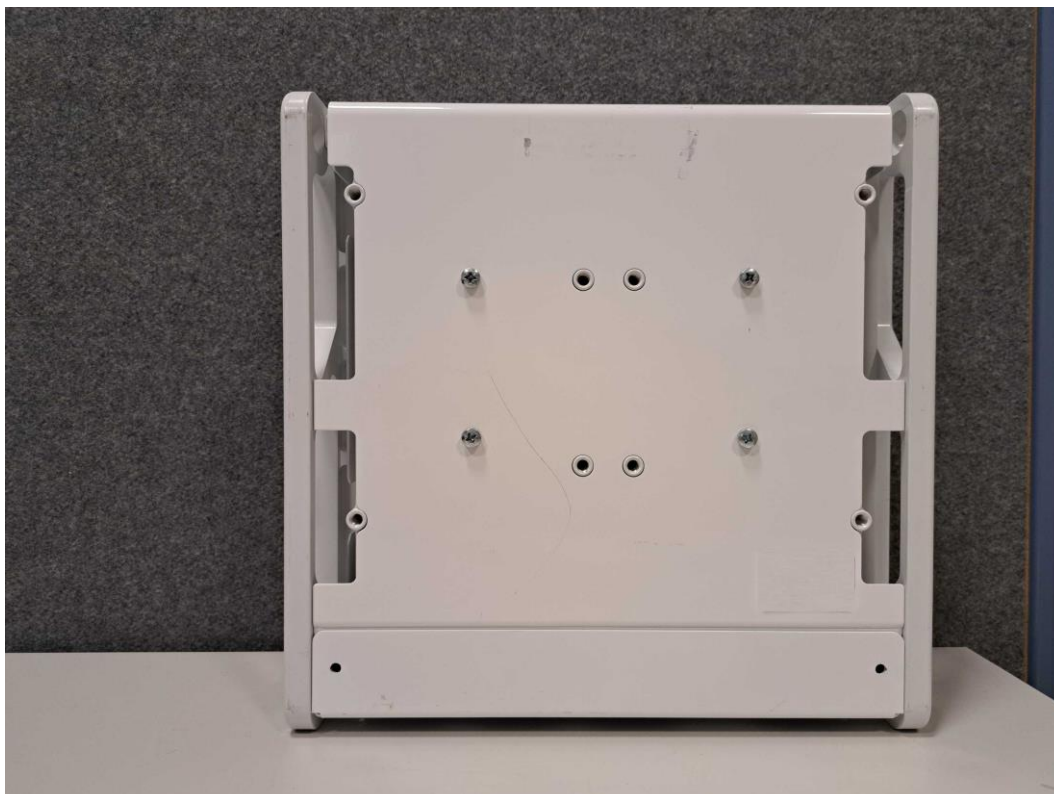
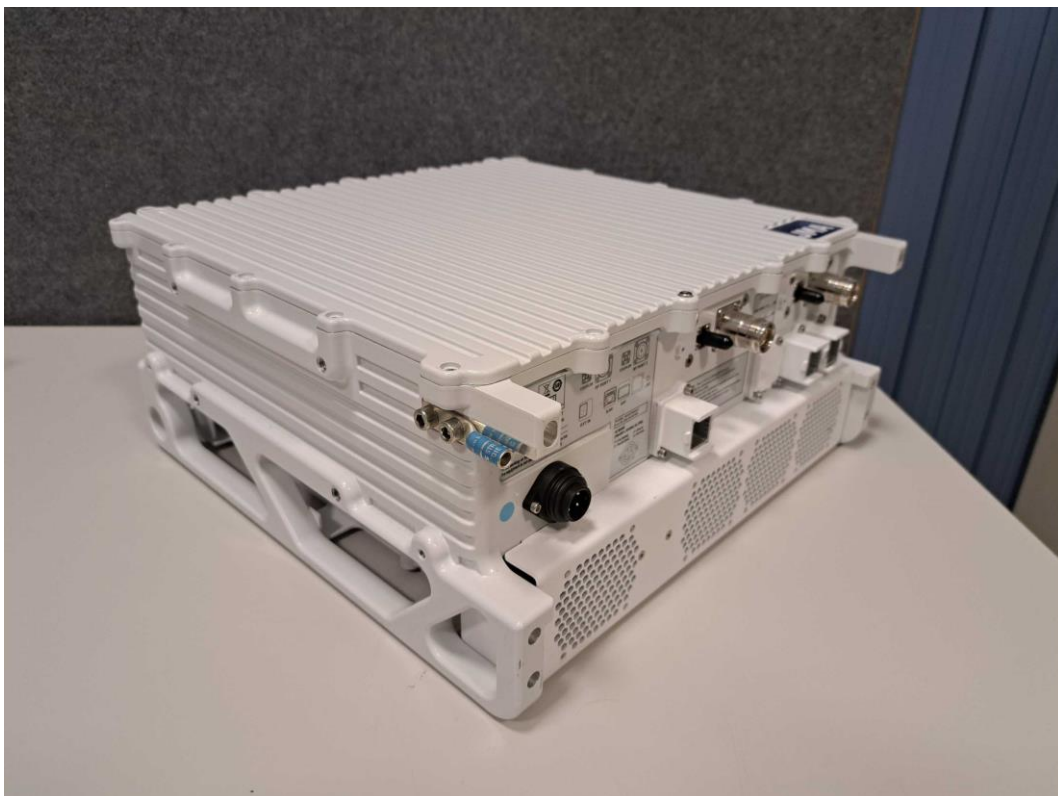
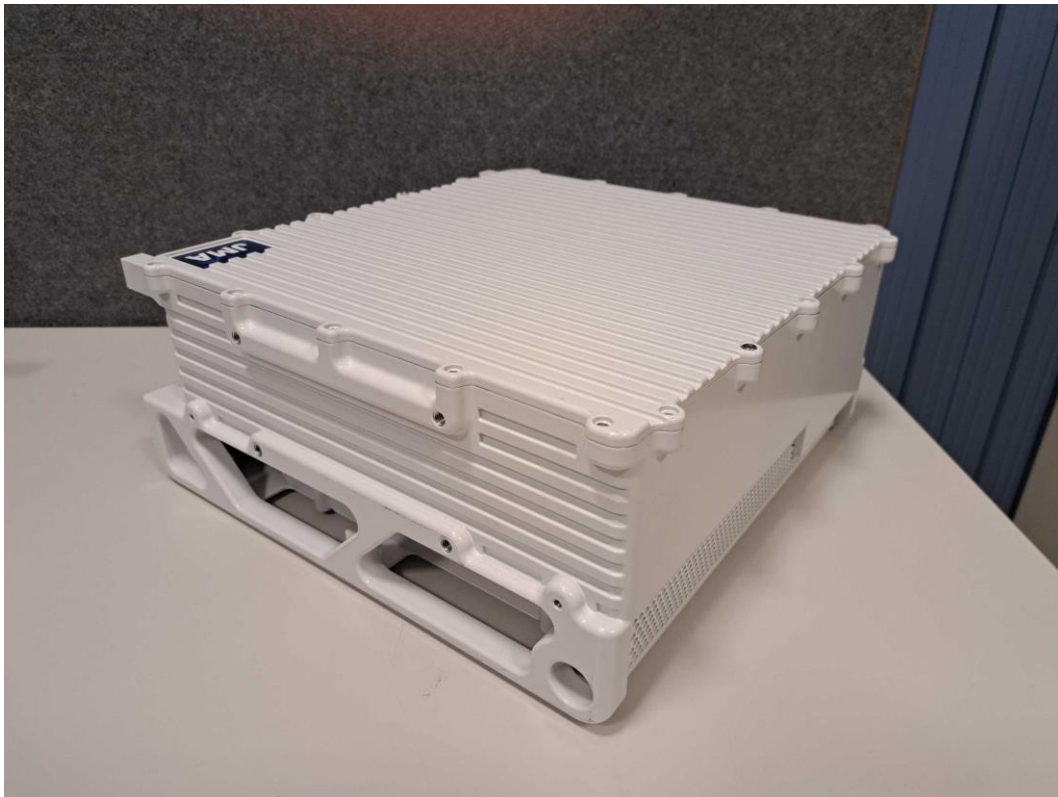


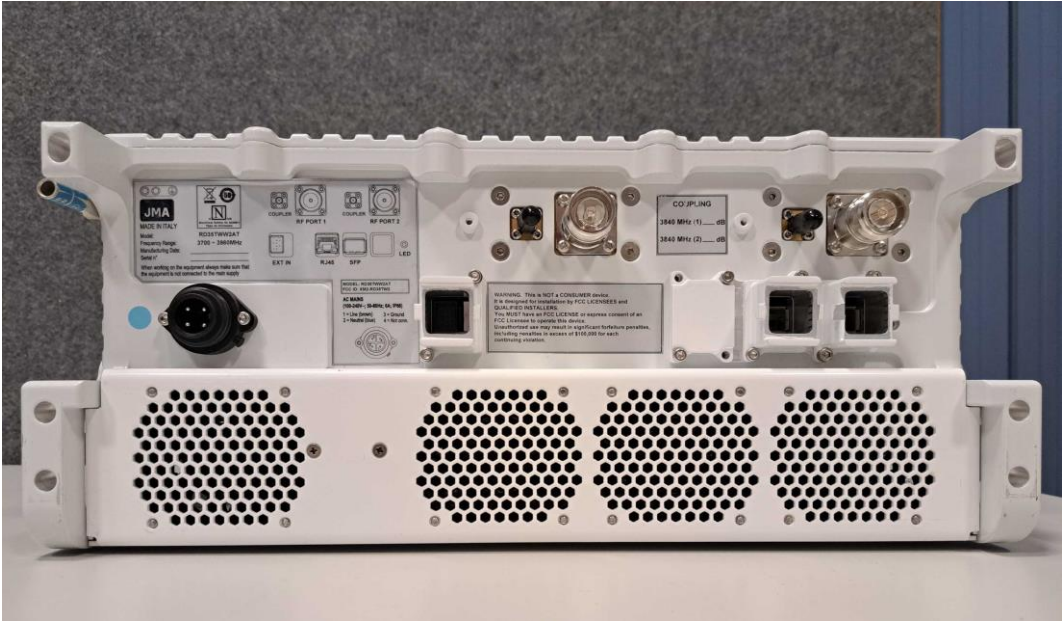


Photo EUT









- END OF REPORT -