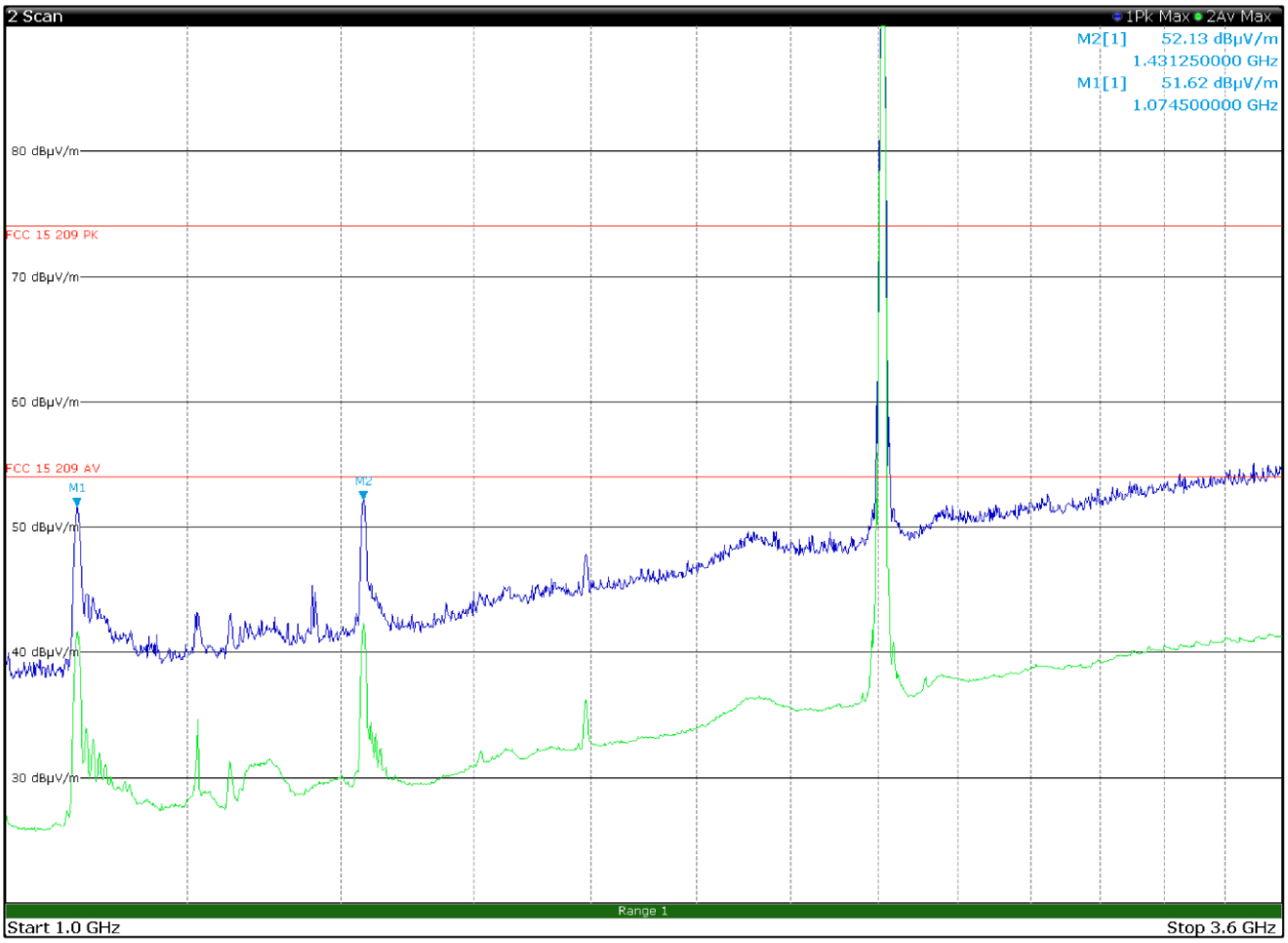


Figure 8.7-32: *Radiated spurious emissions 1 to 3.6 GHz, Low channel with antenna in vertical polarization*

Limit exceeded by the carrier

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1.0745	51.6	74.0	-22.4	PK
1.0745	40.5	54.0	-13.5	AV
1.4312	52.1	74.0	-21.9	PK
1.4312	41.9	54.0	-12.1	AV

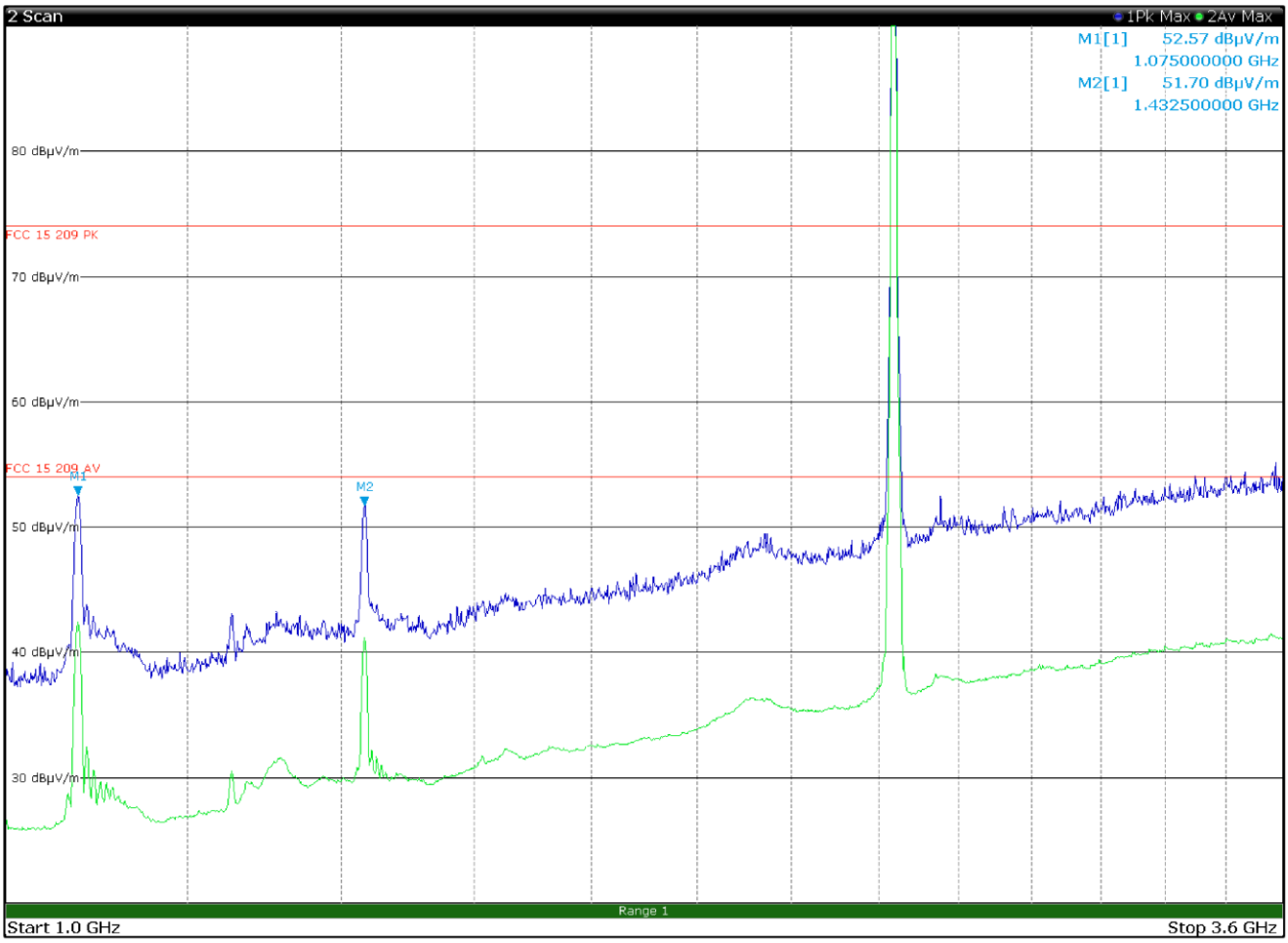


Figure 8.7-33: *Radiated spurious emissions 1 to 3.6 GHz, Mid channel with antenna in horizontal polarization*

Limit exceeded by the carrier

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1.0750	52.6	74.0	-21.4	PK
1.0750	42.4	54.0	-11.6	AV
1.4325	51.7	74.0	-22.3	PK
1.4325	40.9	54.0	-13.1	AV

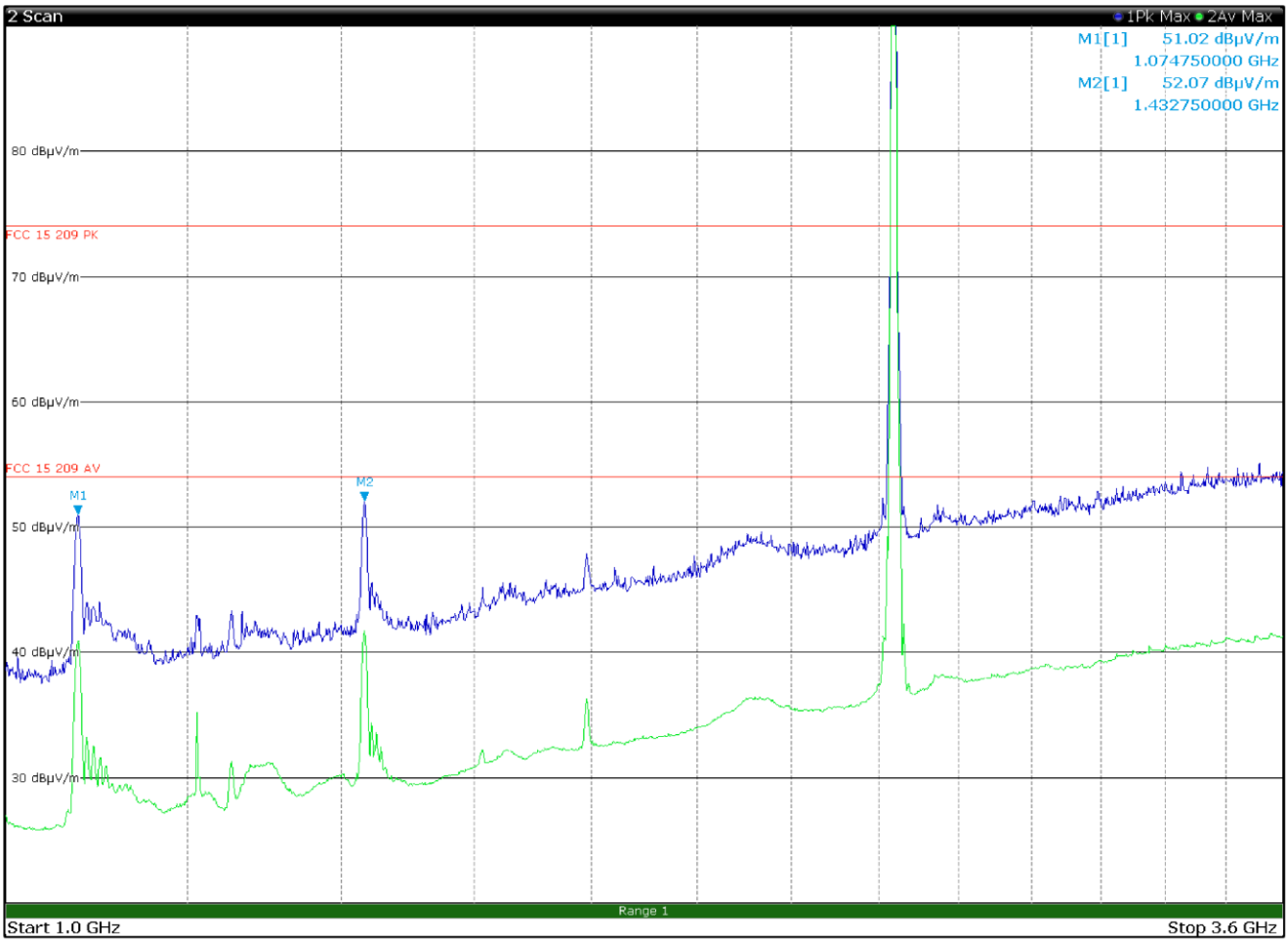


Figure 8.7-34: *Radiated spurious emissions 1 to 3.6 GHz, Mid channel with antenna in vertical polarization*

Limit exceeded by the carrier

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1.0747	51.0	74.0	-23.0	PK
1.0747	40.3	54.0	-13.7	AV
1.4327	52.1	74.0	-21.9	PK
1.4327	41.9	54.0	-12.1	AV

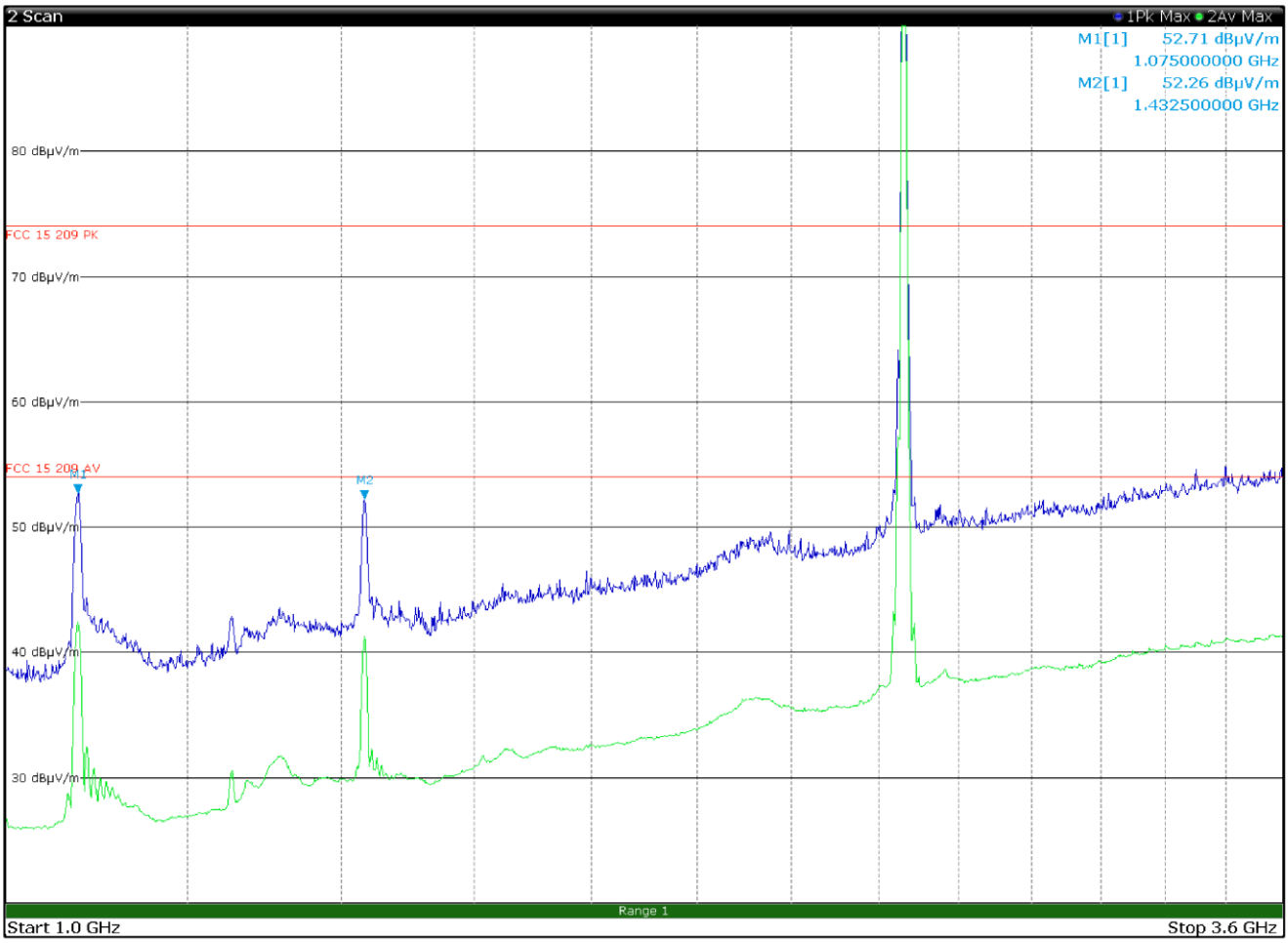


Figure 8.7-35: *Radiated spurious emissions 1 to 3.6 GHz, High channel with antenna in horizontal polarization*

Limit exceeded by the carrier

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1.0750	52.8	74.0	-21.2	PK
1.0750	41.9	54.0	-12.1	AV
1.4325	52.3	74.0	-21.7	PK
1.4325	41.5	54.0	-12.5	AV

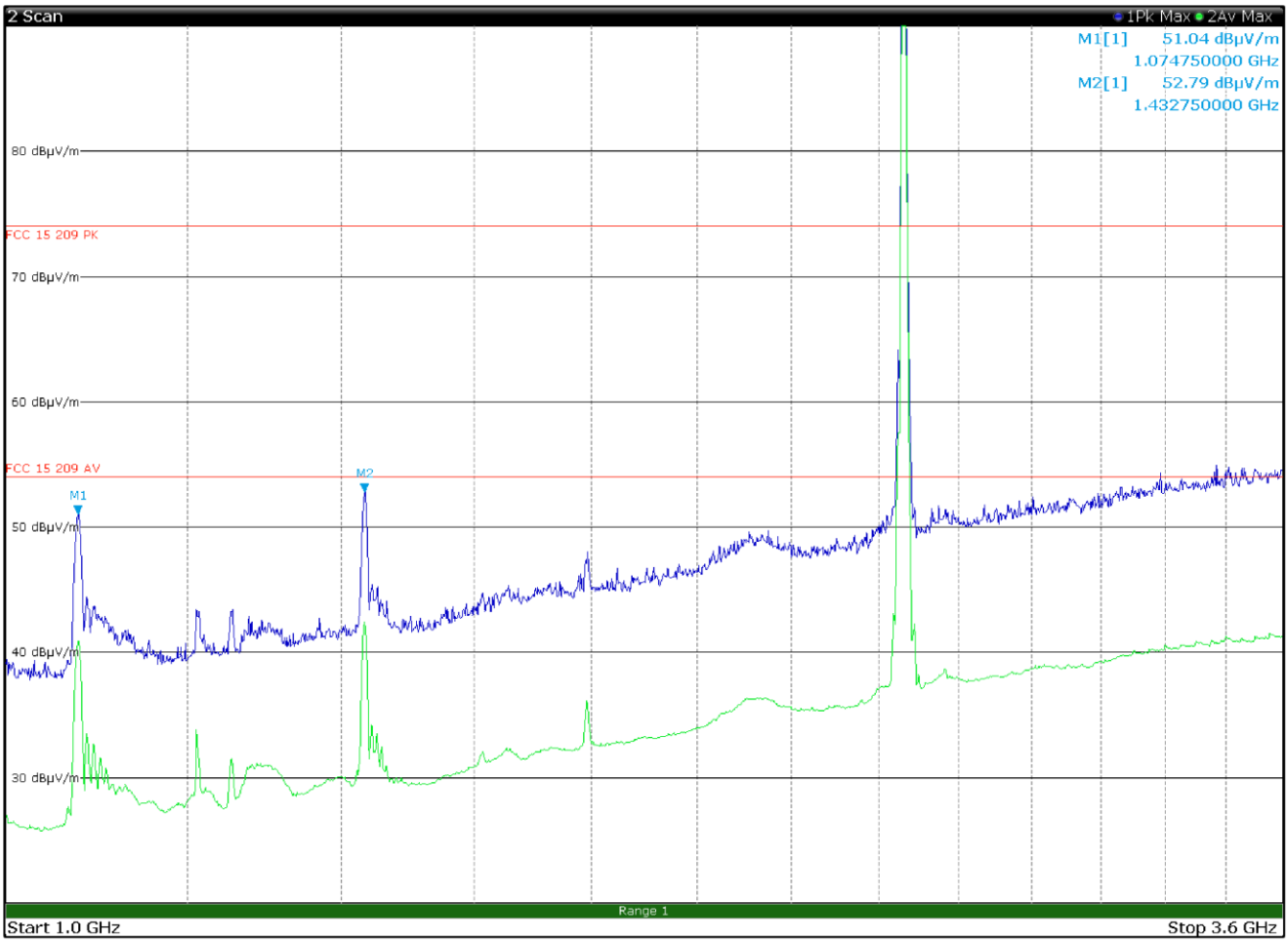


Figure 8.7-36: *Radiated spurious emissions 1 to 3.6 GHz, High channel with antenna in vertical polarization*

Limit exceeded by the carrier

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1.0747	51.1	74.0	-22.9	PK
1.07547	40.3	54.0	-13.7	AV
1.4327	52.8	74.0	-21.2	PK
1.4327	42.5	54.0	-11.5	AV

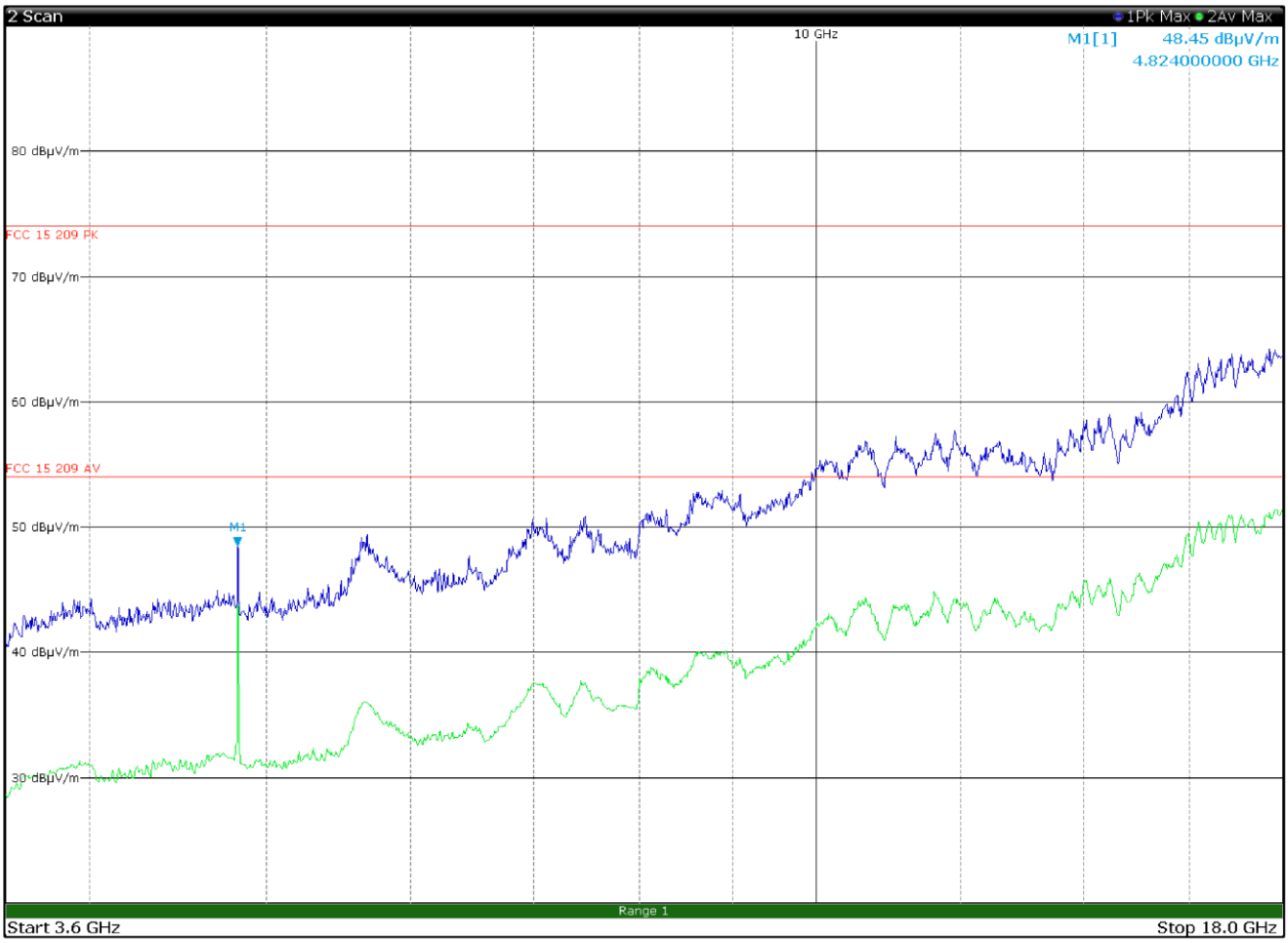


Figure 8.7-37: *Radiated spurious emissions 3.6 to 18 GHz, Low channel with antenna in horizontal polarization*

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
4.8240	48.5	74	-25.5	PK
4.8240	45.1	54	-8.9	AV

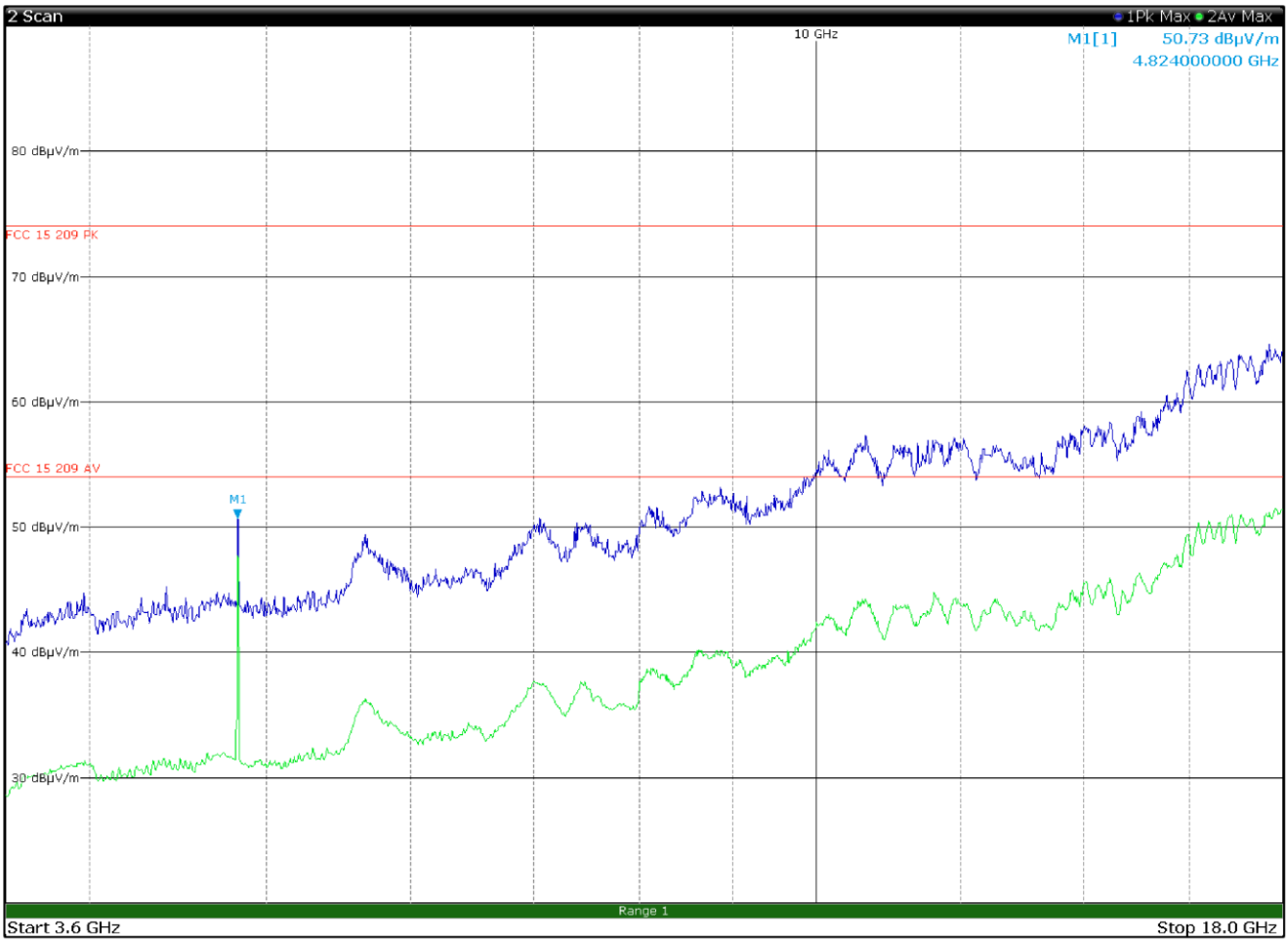


Figure 8.7-38: *Radiated spurious emissions 3.6 to 18 GHz, Low channel with antenna in vertical polarization*

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
4.824	50.8	74	-23.2	PK
4.824	47.3	54	-6.7	AV

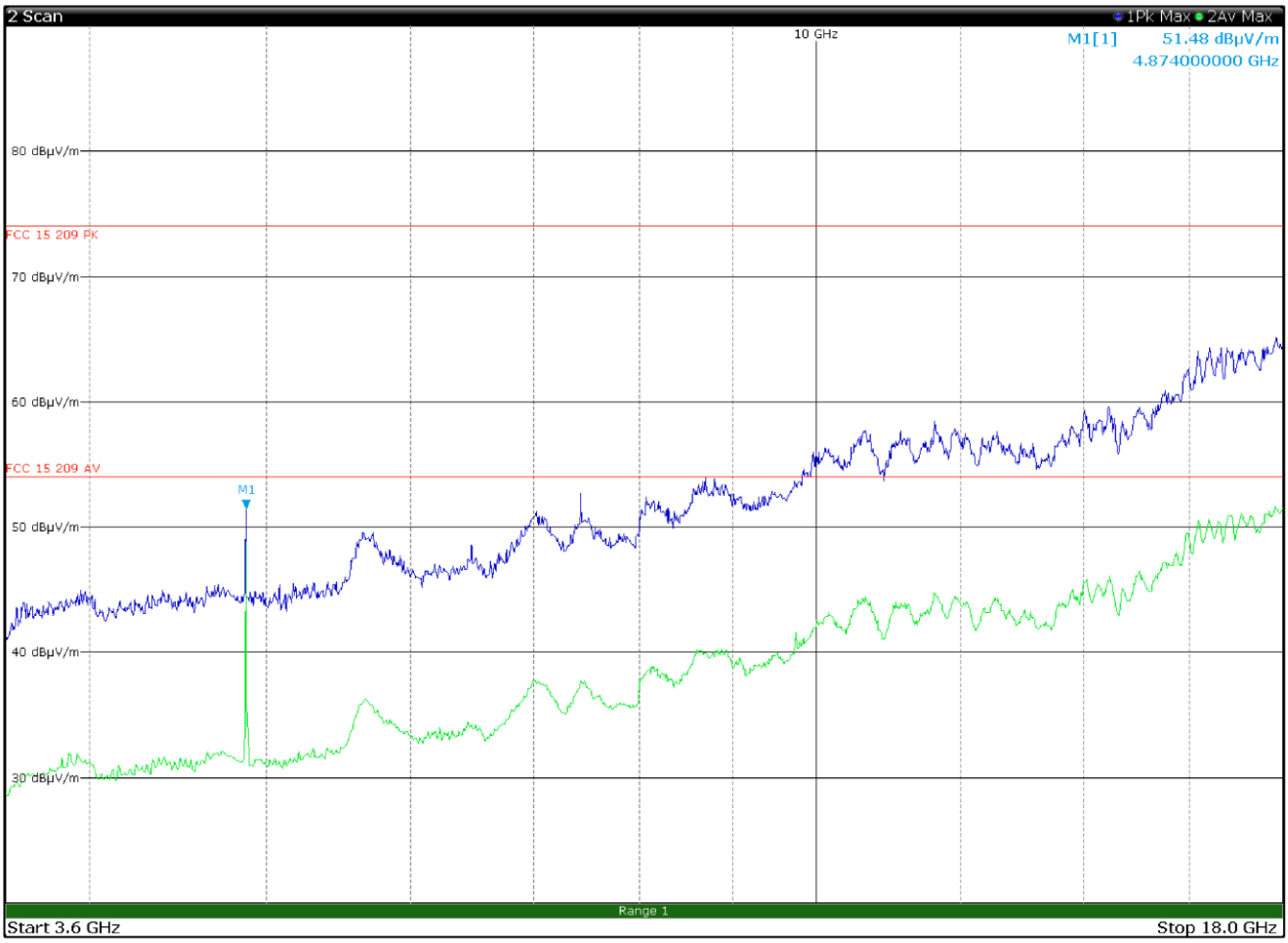


Figure 8.7-39: *Radiated spurious emissions 3.6 to 18 GHz, Mid channel with antenna in horizontal polarization*

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
4.8740	51.5	74	-22.5	PK
4.8740	48.7	54	-5.3	AV

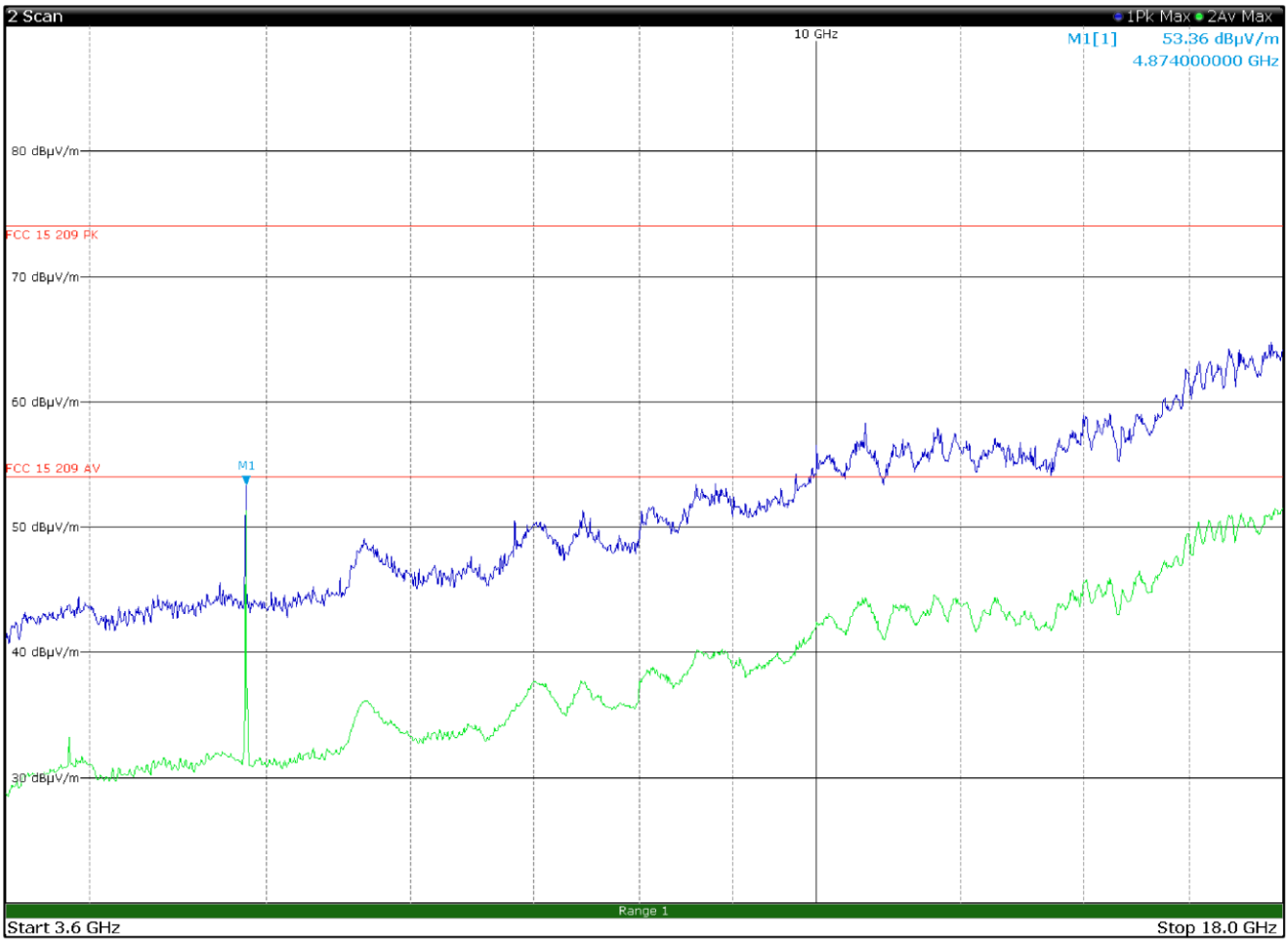


Figure 8.7-40: *Radiated spurious emissions 3.6 to 18 GHz, Mid channel with antenna in vertical polarization*

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
4.8740	53.4	74	-20.6	PK
4.8740	50.0	54	-4.0	AV

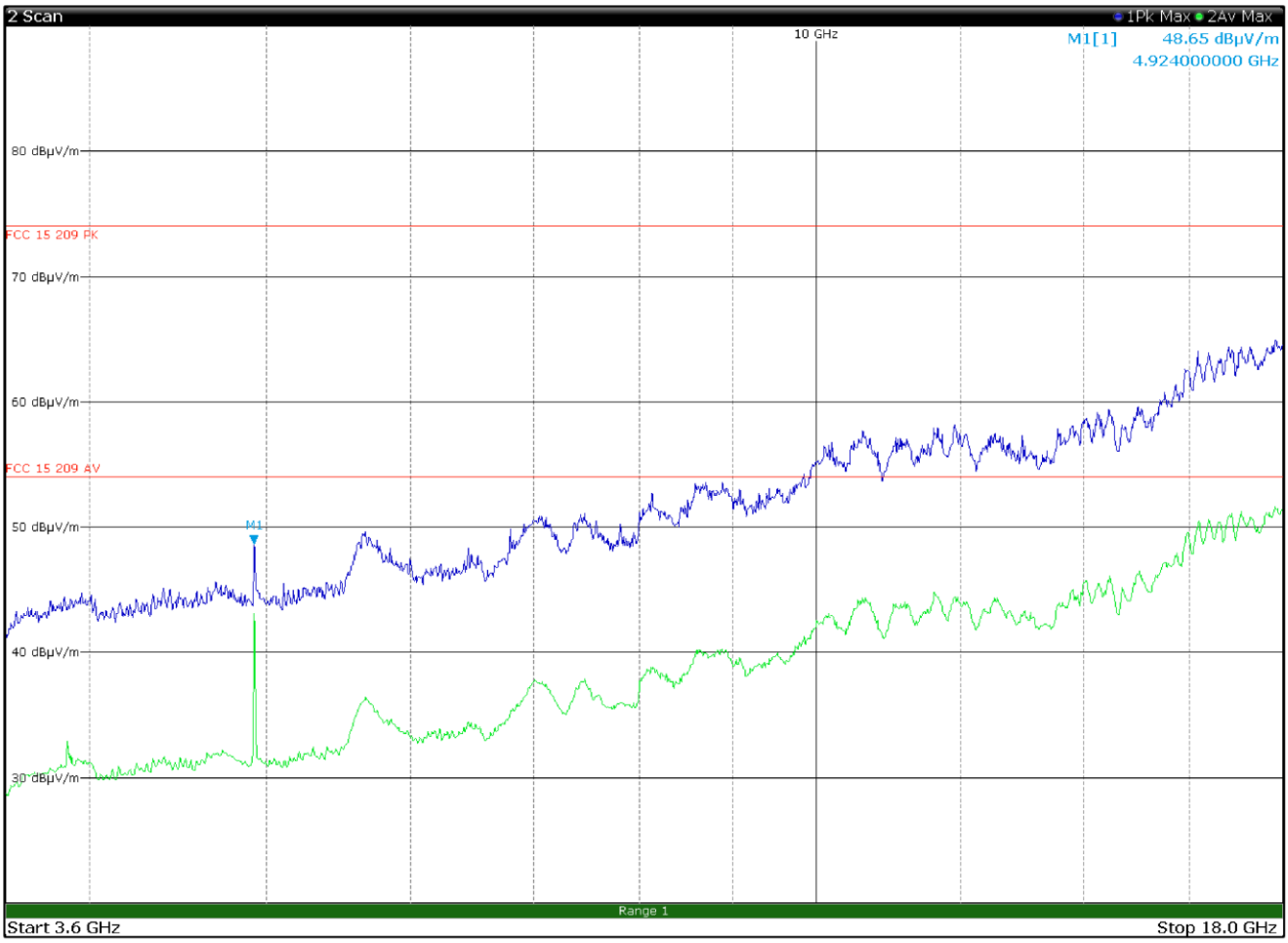


Figure 8.7-41: *Radiated spurious emissions 3.6 to 18 GHz, High channel with antenna in horizontal polarization*

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
4.9240	48.7	74	-25.3	PK
4.9240	45.3	54	-8.7	AV

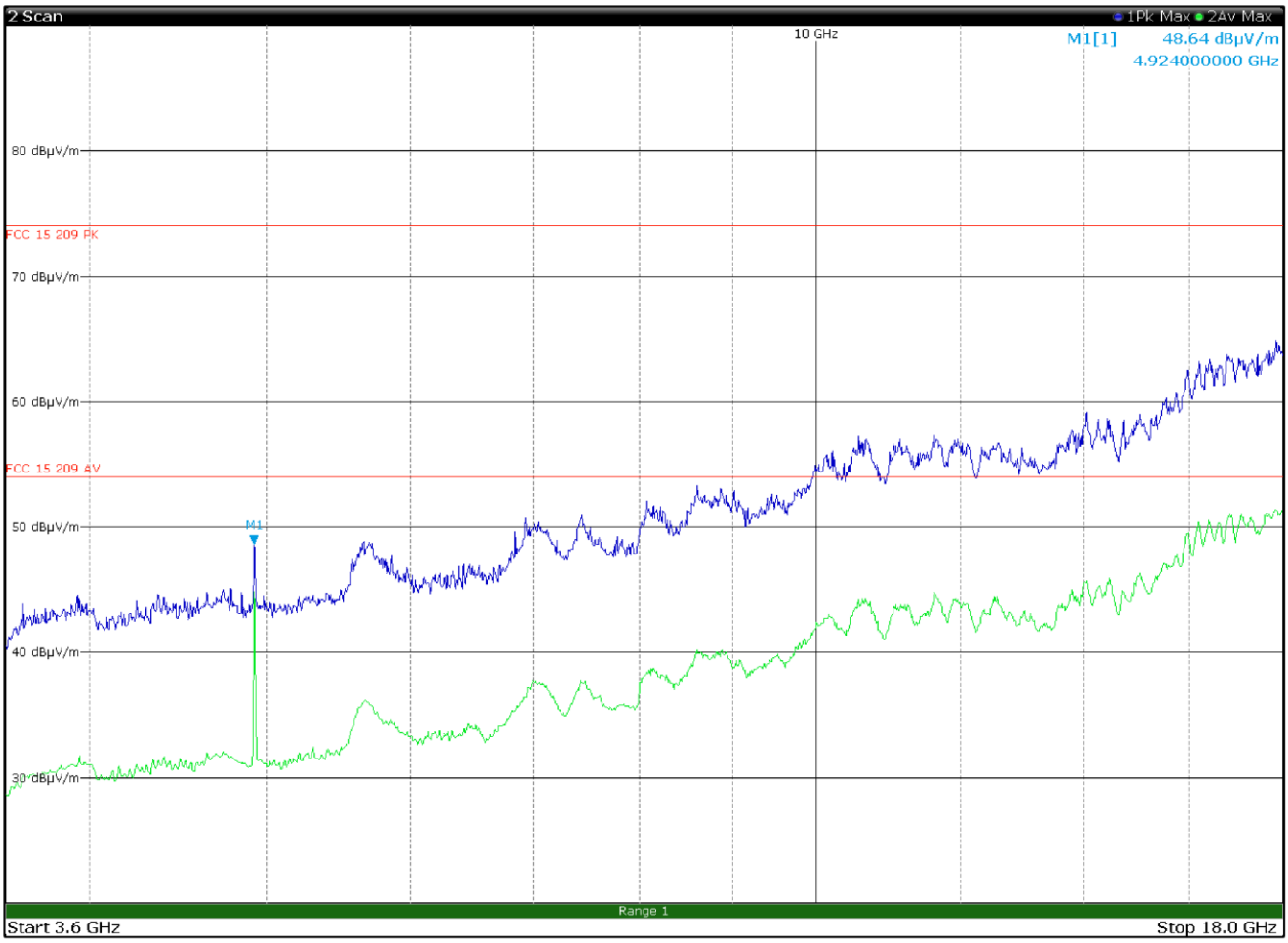


Figure 8.7-42: *Radiated spurious emissions 3.6 to 18 GHz, High channel with antenna in vertical polarization*

Frequency (GHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
4.9240	48.7	74	-25.3	PK
4.9240	45.3	54	-8.7	AV

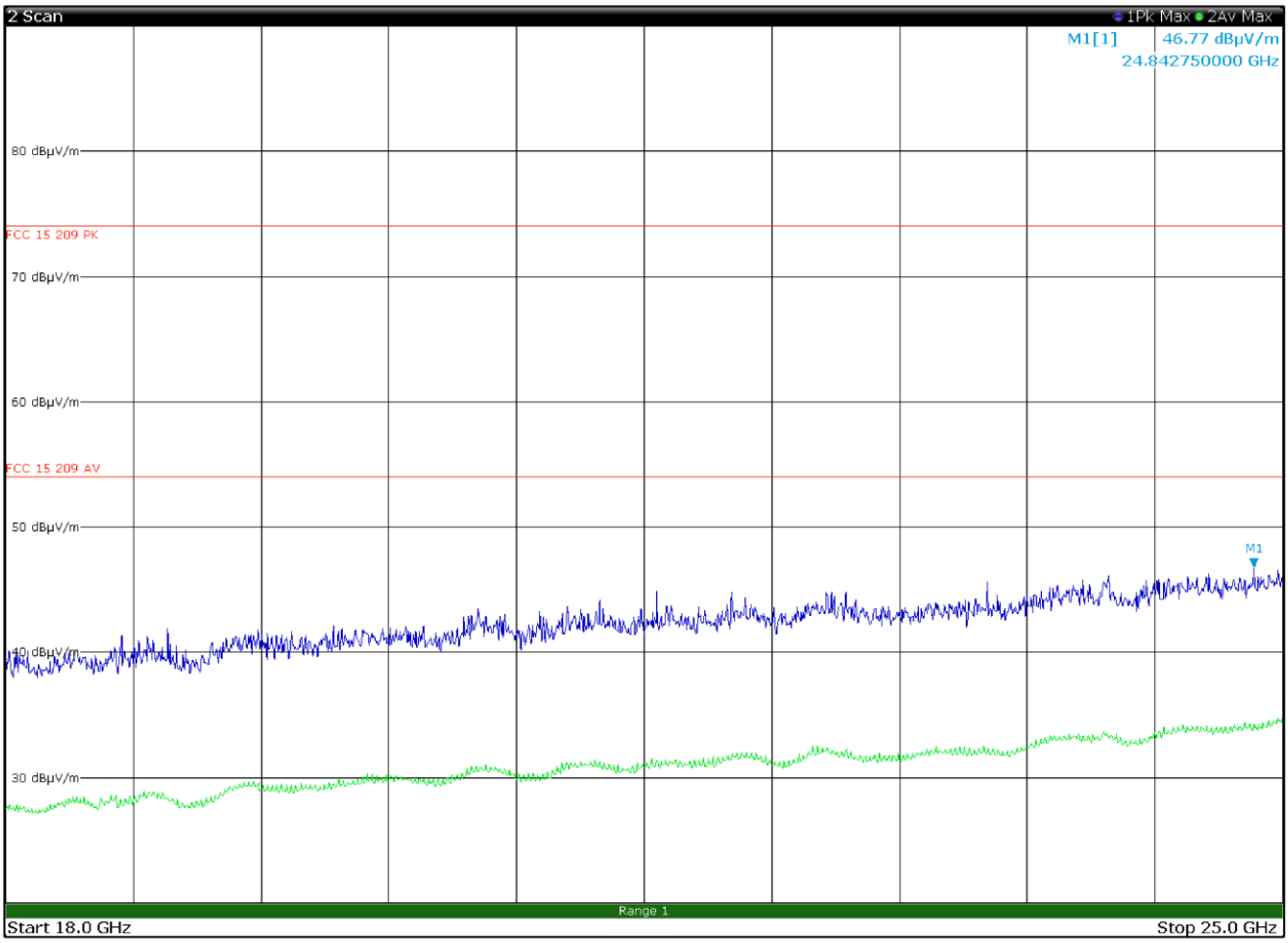


Figure 8.7-43: *Radiated spurious emissions 18 to 25 GHz, Low channel with antenna in horizontal polarization*

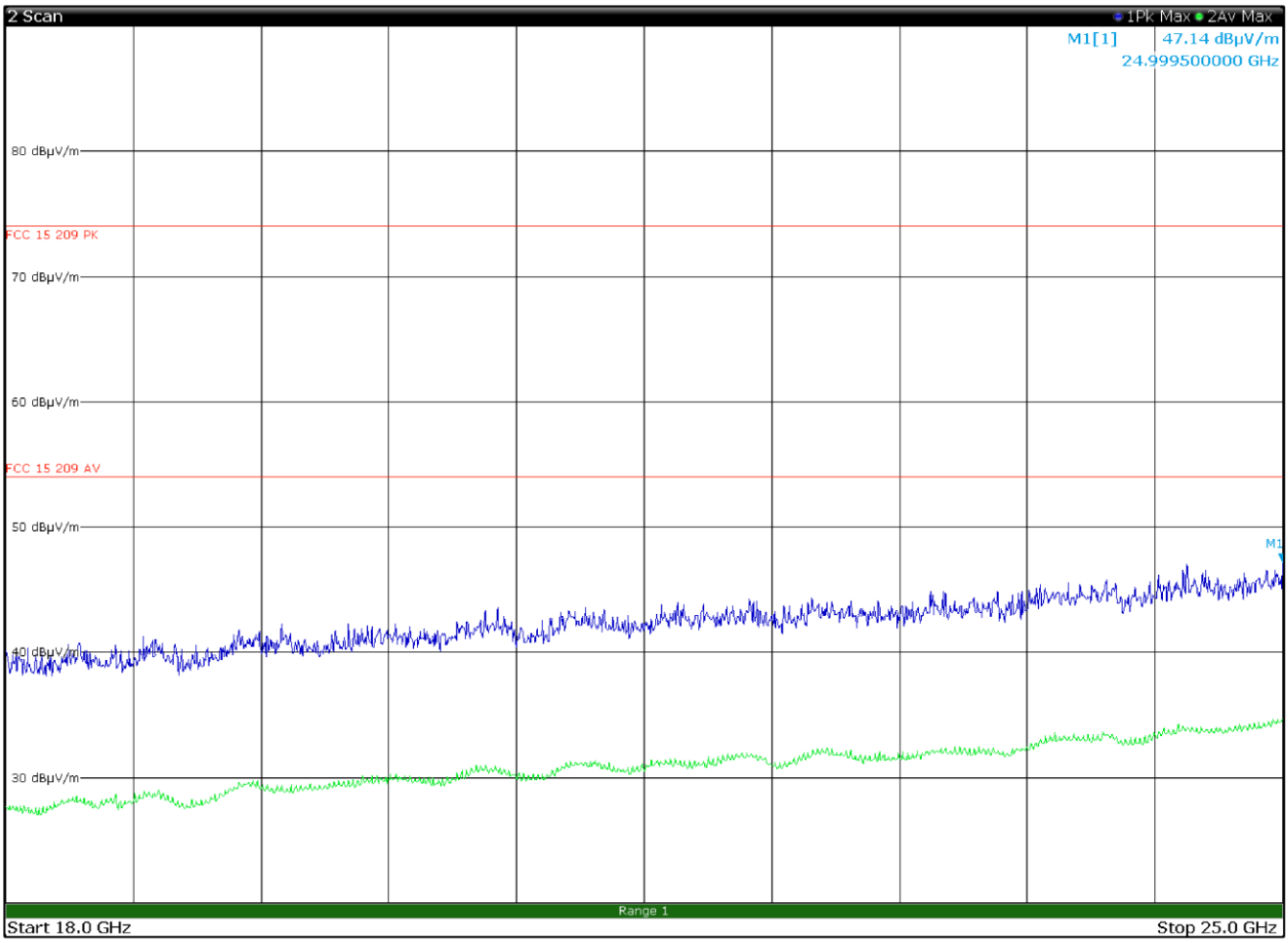


Figure 8.7-44: *Radiated spurious emissions 18 to 25 GHz, Low channel with antenna in vertical polarization*

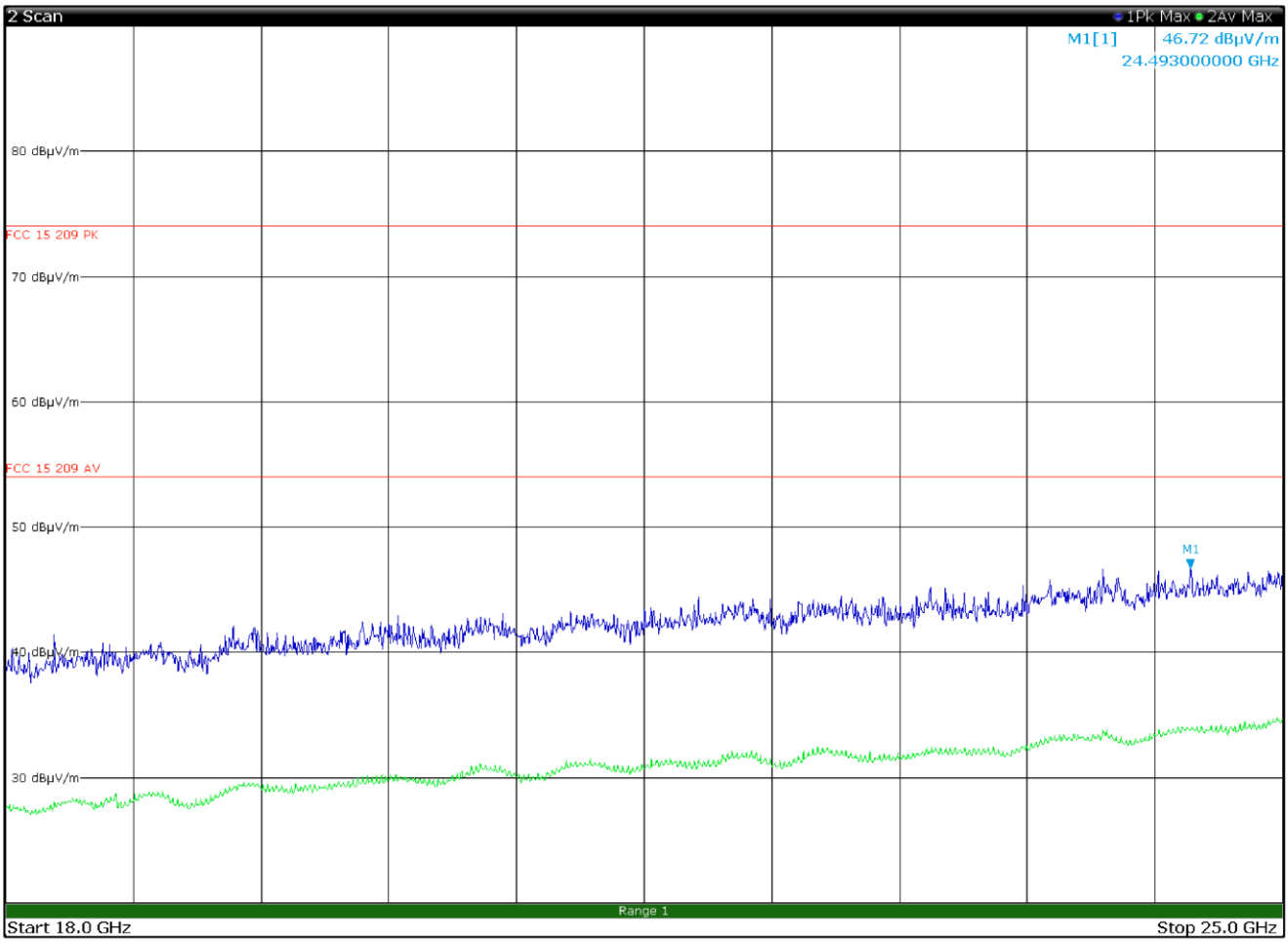


Figure 8.7-45: *Radiated spurious emissions 18 to 25 GHz, Mid channel with antenna in horizontal polarization*

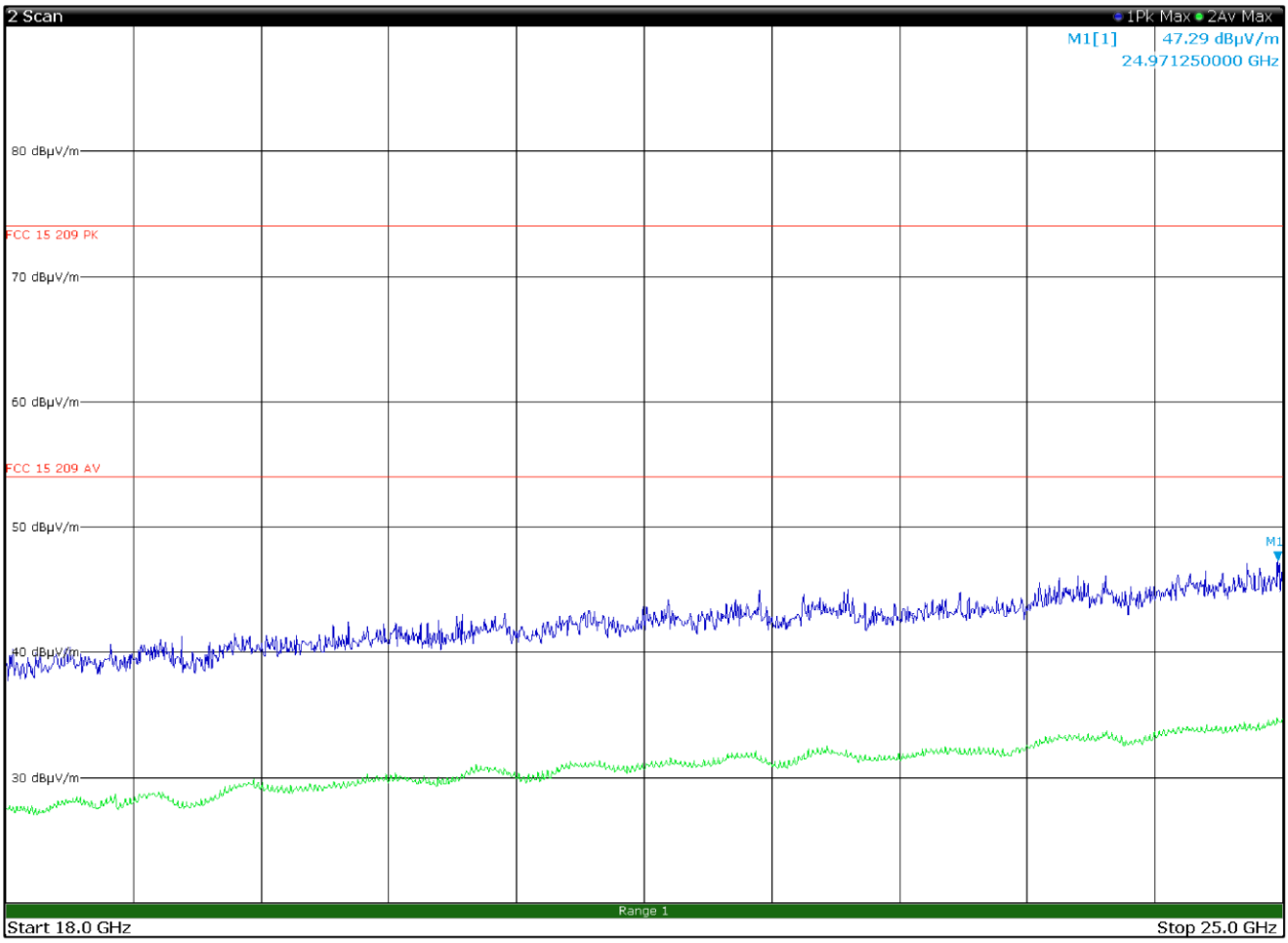


Figure 8.7-46: *Radiated spurious emissions 18 to 25 GHz, Mid channel with antenna in vertical polarization*

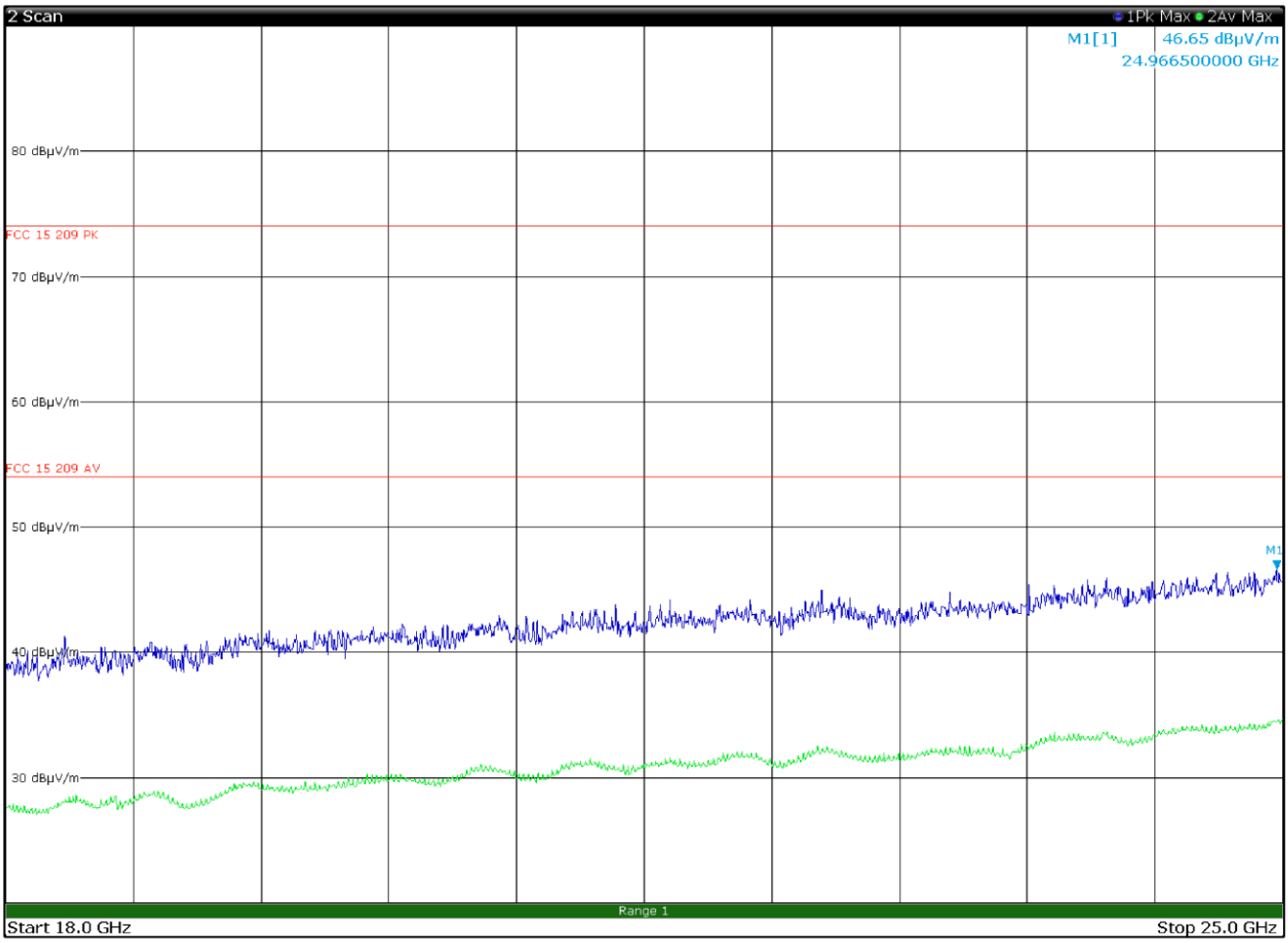


Figure 8.7-47: *Radiated spurious emissions 18 to 25 GHz, High channel with antenna in horizontal polarization*

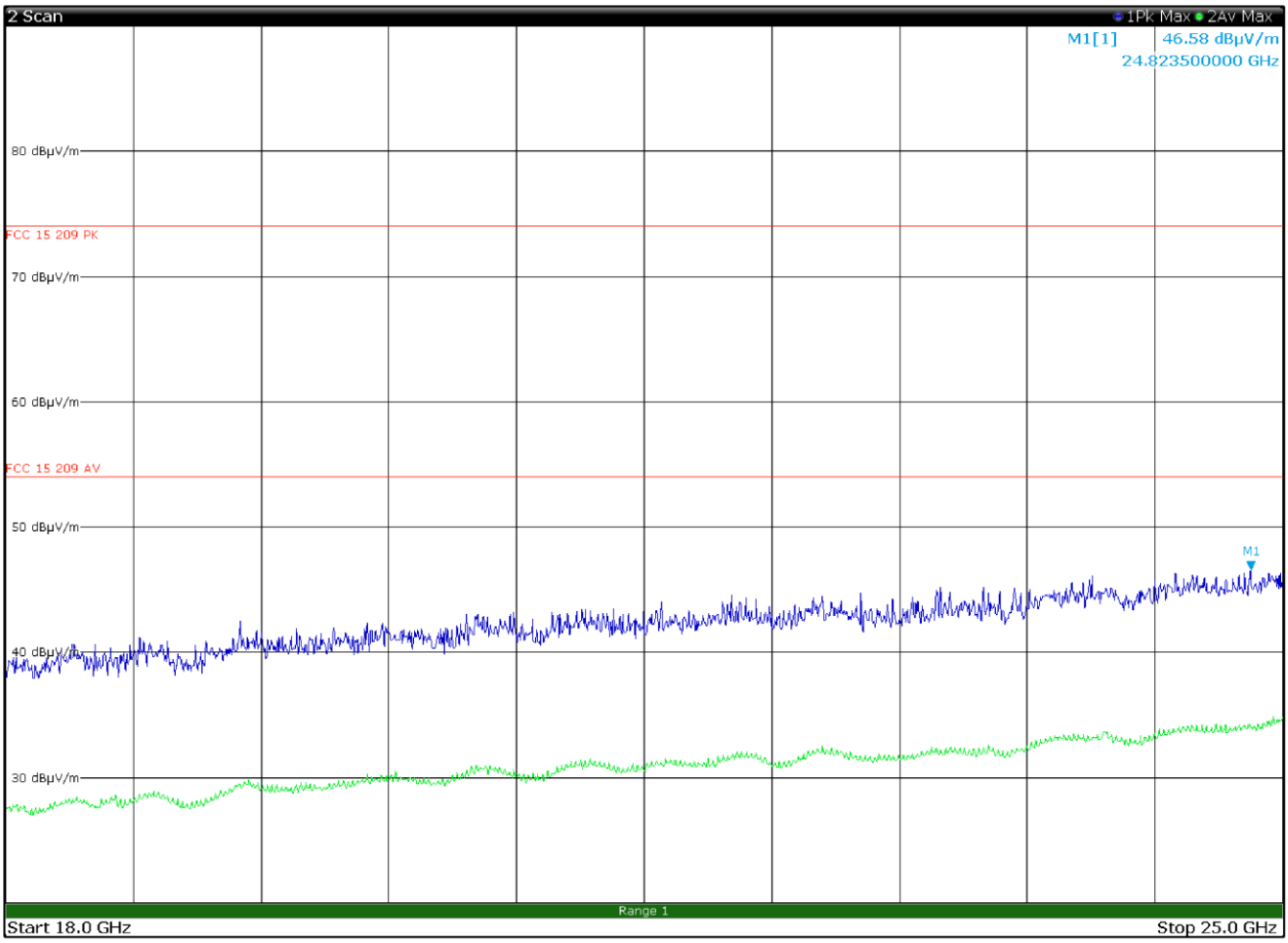


Figure 8.7-48: *Radiated spurious emissions 18 to 25 GHz, High channel with antenna in vertical polarization*

8.8 FCC 15.247(e) and RSS-247 5.2(b) Power spectral density for digitally modulated devices

8.8.1 Definitions and limits

FCC:
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

ISED:
The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

8.8.1 Test date

Start date	April 15, 2020

8.8.2 Observations, settings and special notes

The test was performed using method PKPSD (peak PSD).
Spectrum analyser settings:

Resolution bandwidth:	3 kHz ≤ RBW ≤ 100 kHz
Video bandwidth:	≥3 × RBW
Frequency span:	1.5 times the OBW
Detector mode:	Peak
Trace mode:	Max hold

8.8.3 Test data

Table 8.8-1: *PSD measurements results*

Modulation	Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
802.11b	2412	-8.4	8	16.4
	2437	-6.3	8	14.2
	2462	-8.6	8	16.5

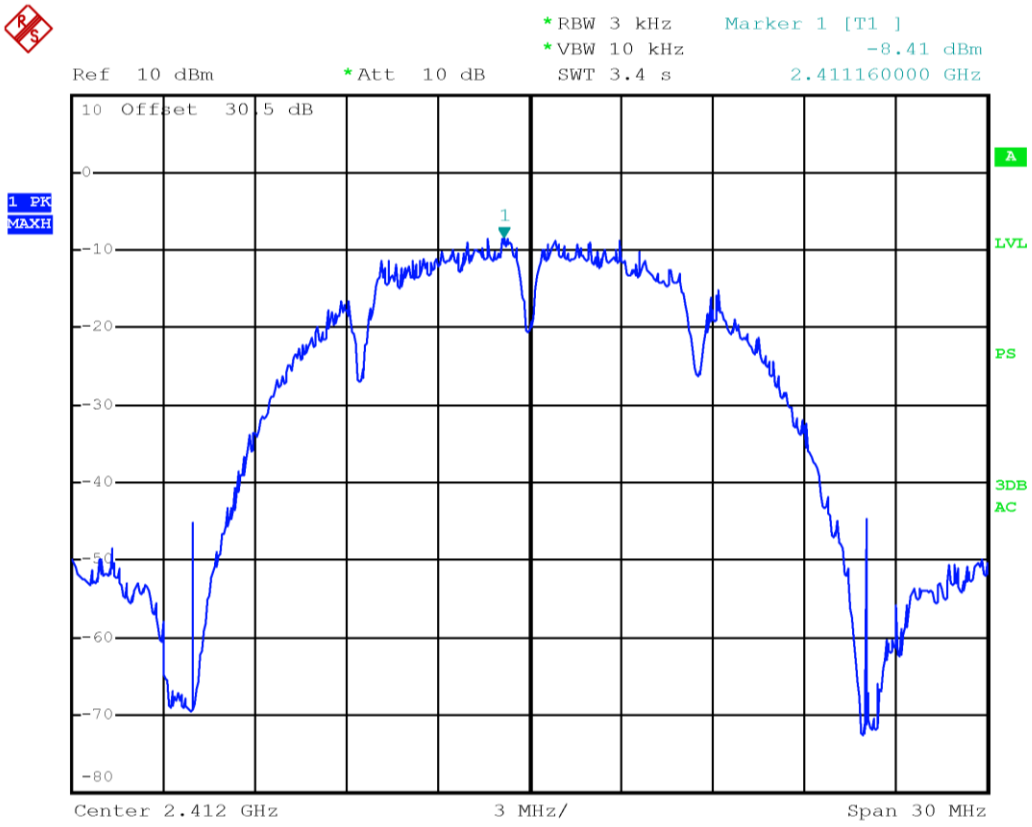


Figure 8.8-1: *PSD sample plot on WIFI 802.11b - Low channel*

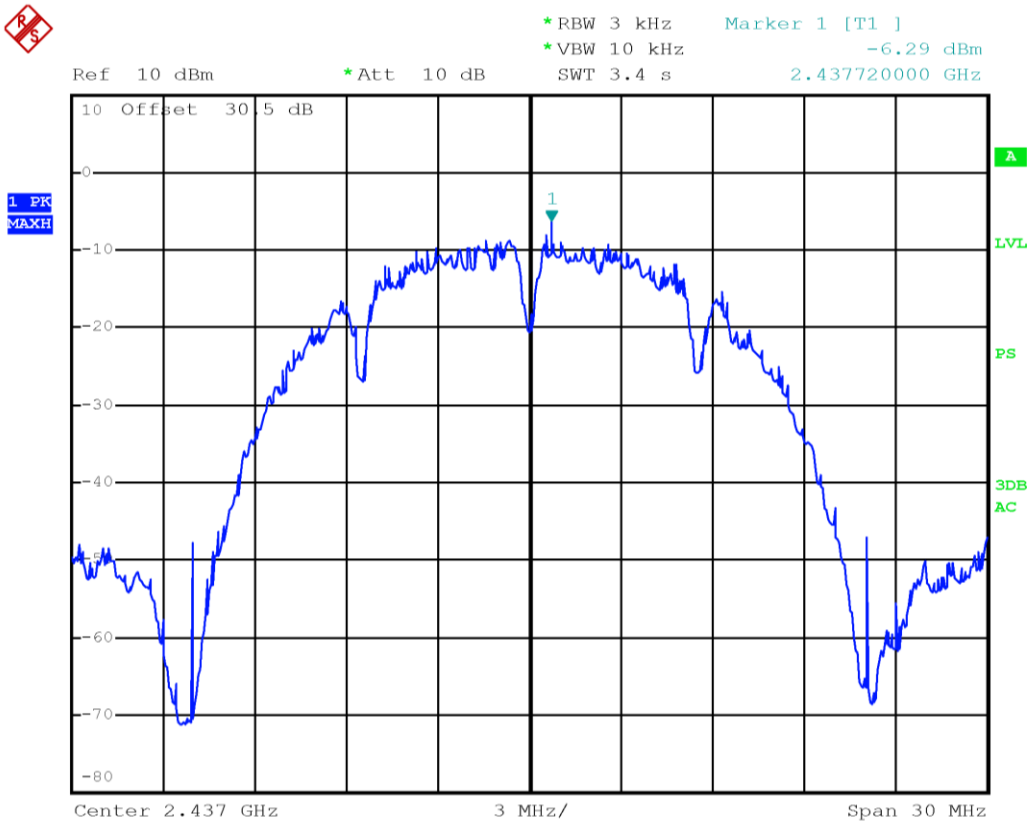


Figure 8.8-2: *PSD sample plot on WIFI 802.11b - Mid channel*

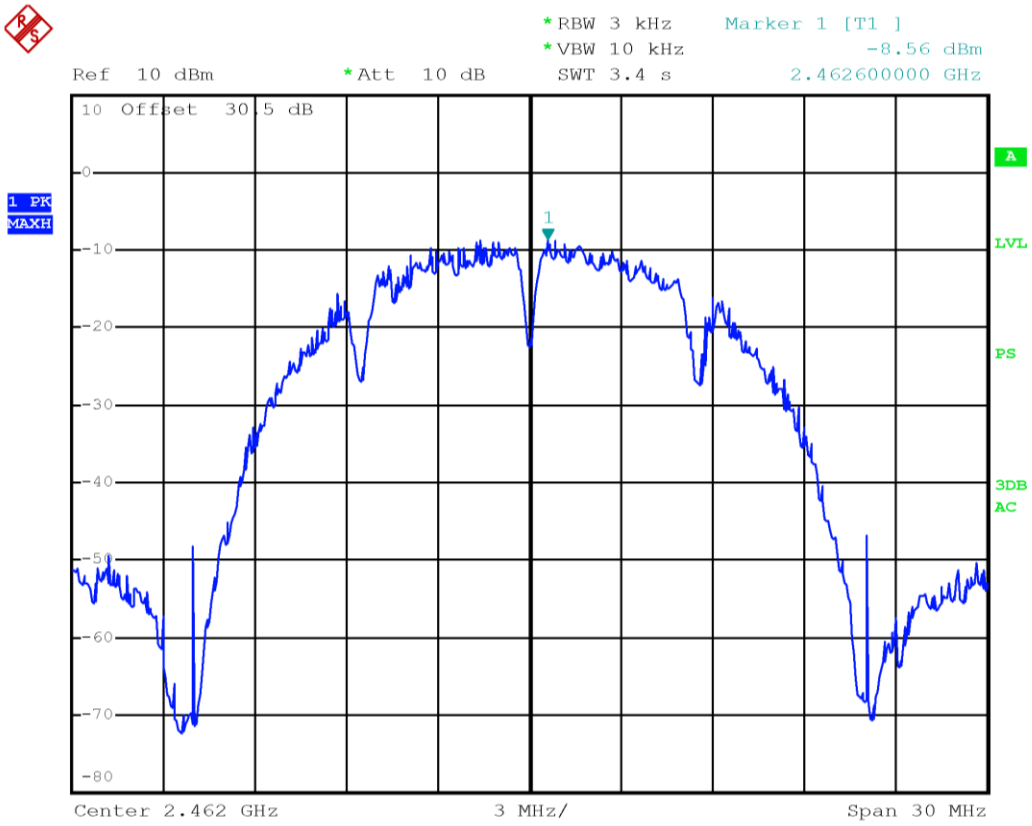
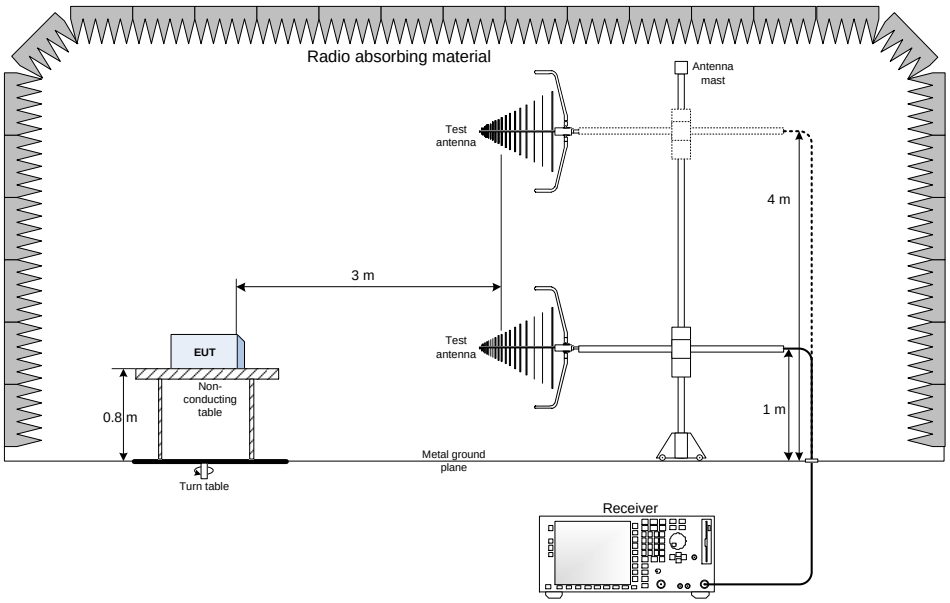


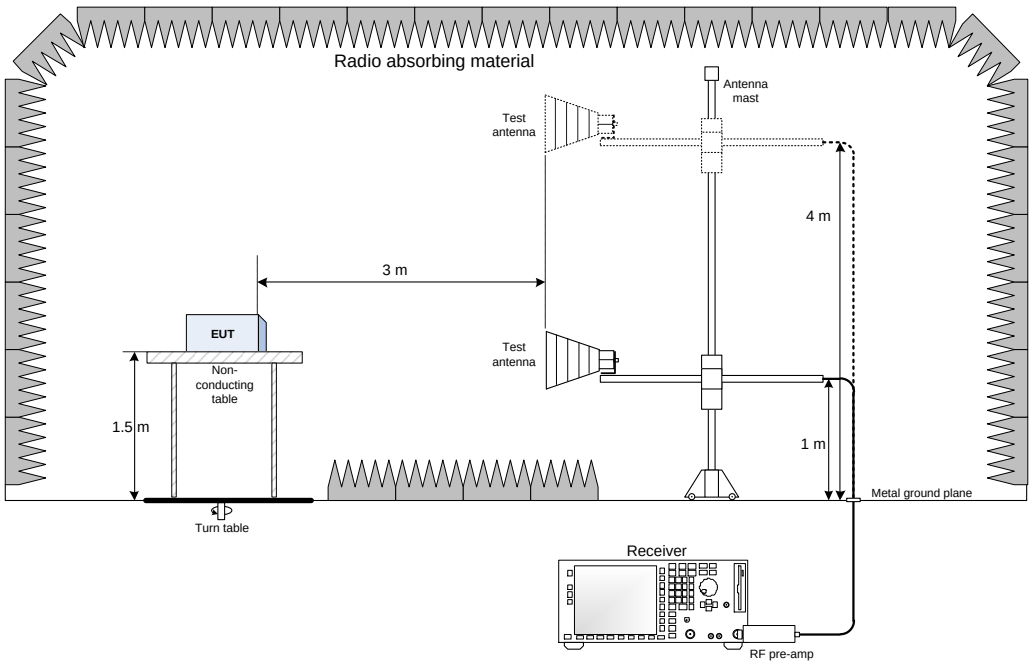
Figure 8.8-3: *PSD sample plot on WIFI 802.11b - High channel*

Section 9. Block diagrams of test set-ups

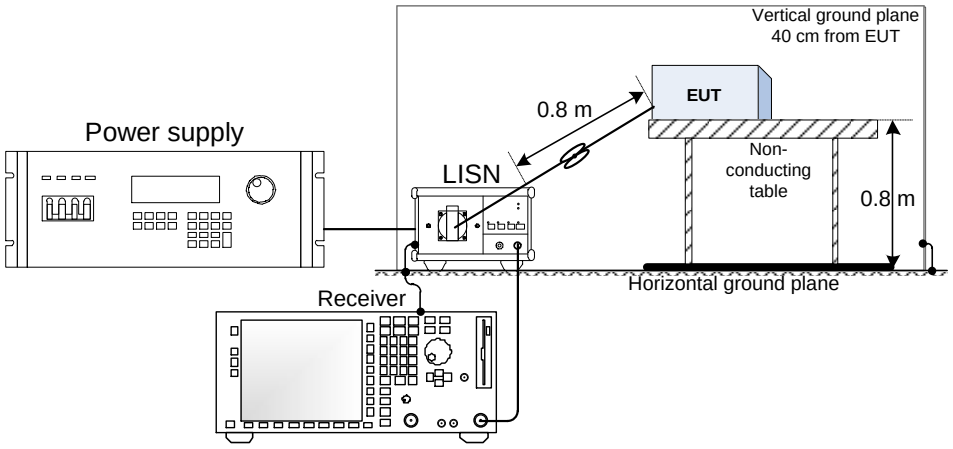
9.1 Radiated emissions set-up for frequencies below 1 GHz



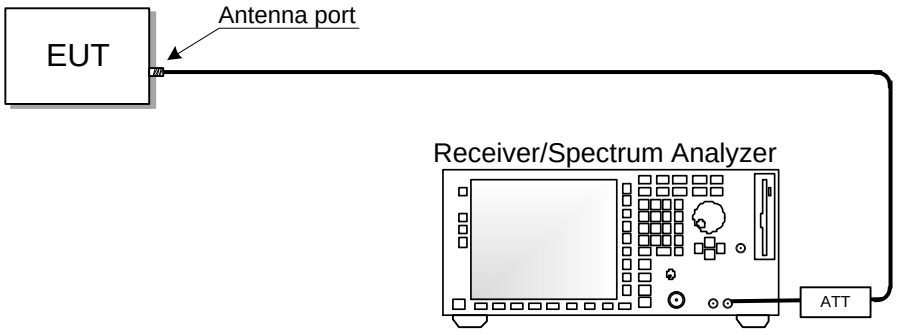
9.2 Radiated emissions set-up for frequencies above 1 GHz



9.3 Conducted emissions set-up

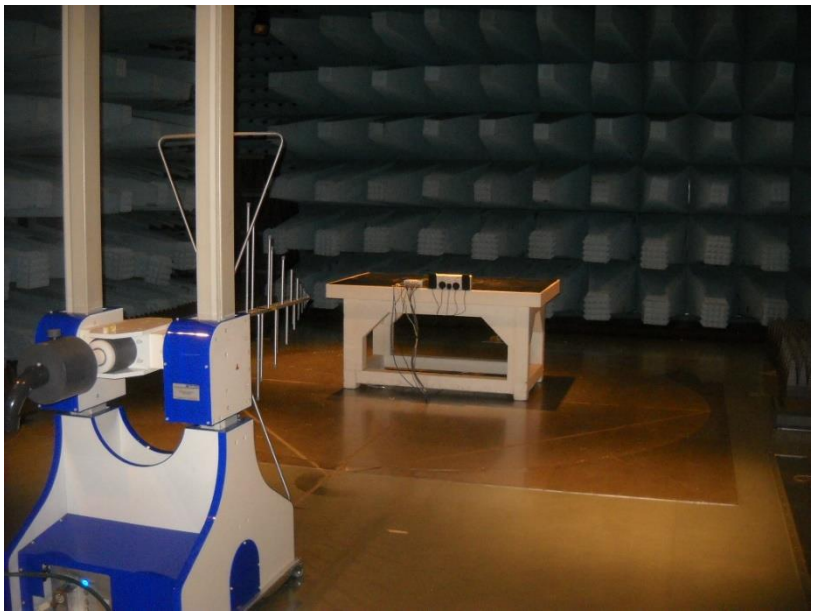


9.4 Antenna port set-up

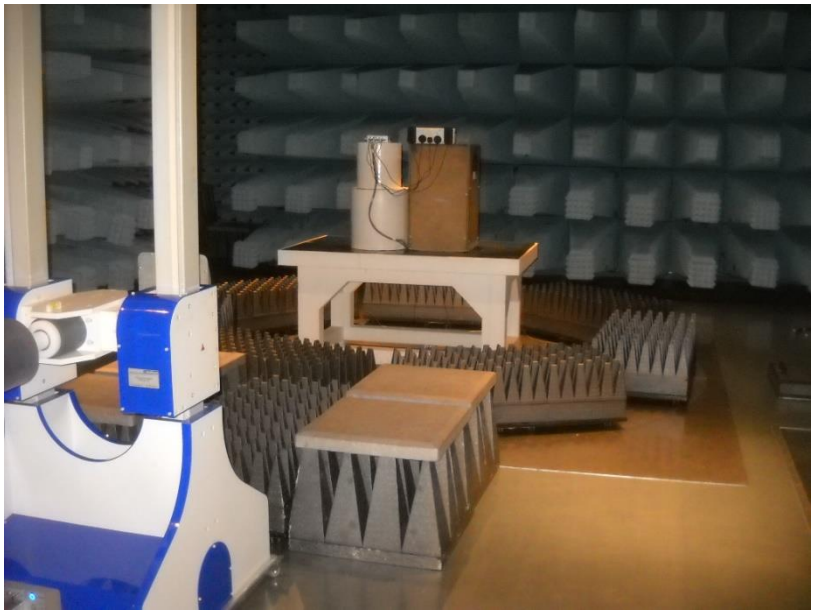


Section 10. Photos

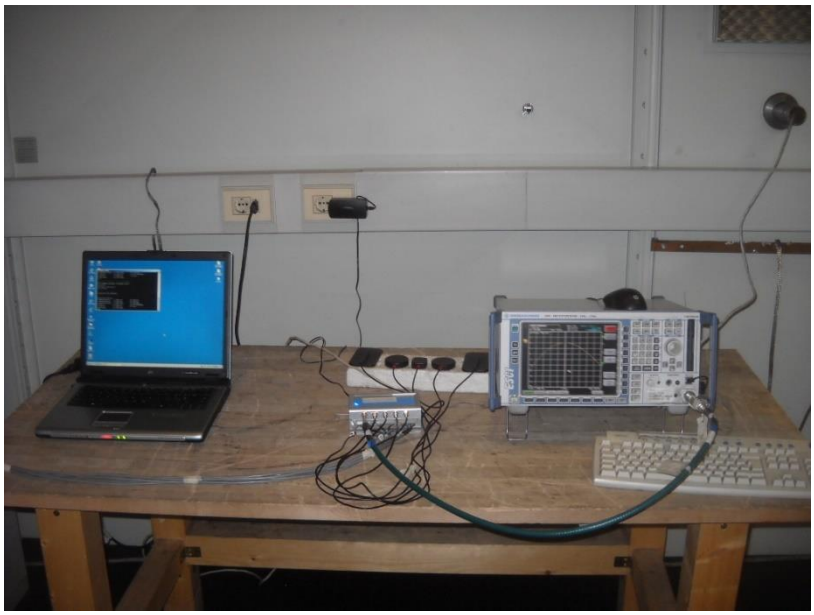
10.1 Photos of the test set-up



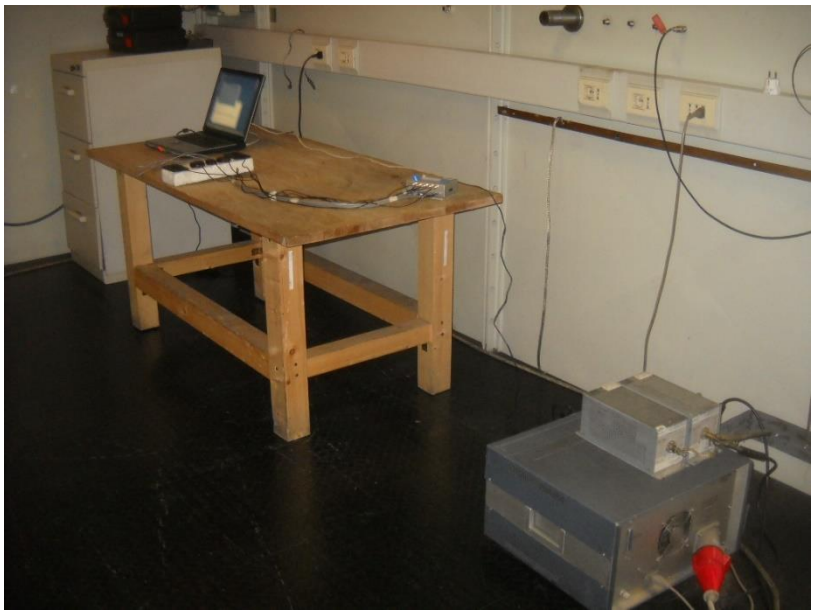
Radiated emission below 1 GHz



Radiated emission above 1 GHz



Conducted emission on the antenna port



Conducted emission on the AC Mains

10.2 Photos of the EUT

REGATE-10-12-GS04

REGATE-10-12-GS04

DYGATE-10-12-GS04

DYGATE-10-12-GS04

(End of report)