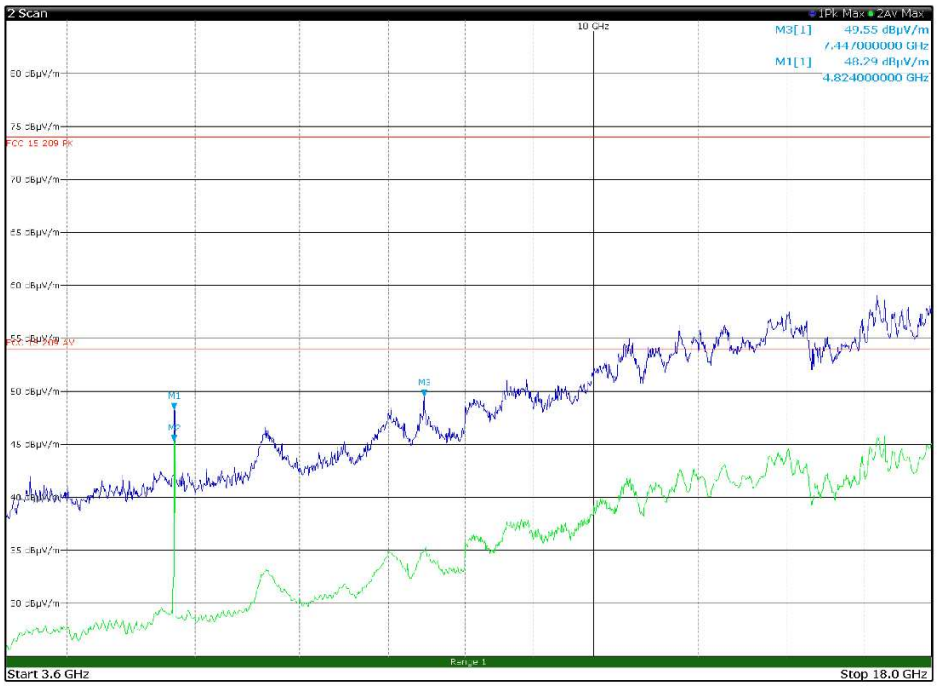


Figure 8.7-61: *Radiated spurious emissions 3.6 to 18 GHz, Low channel with antenna in horizontal polarization*

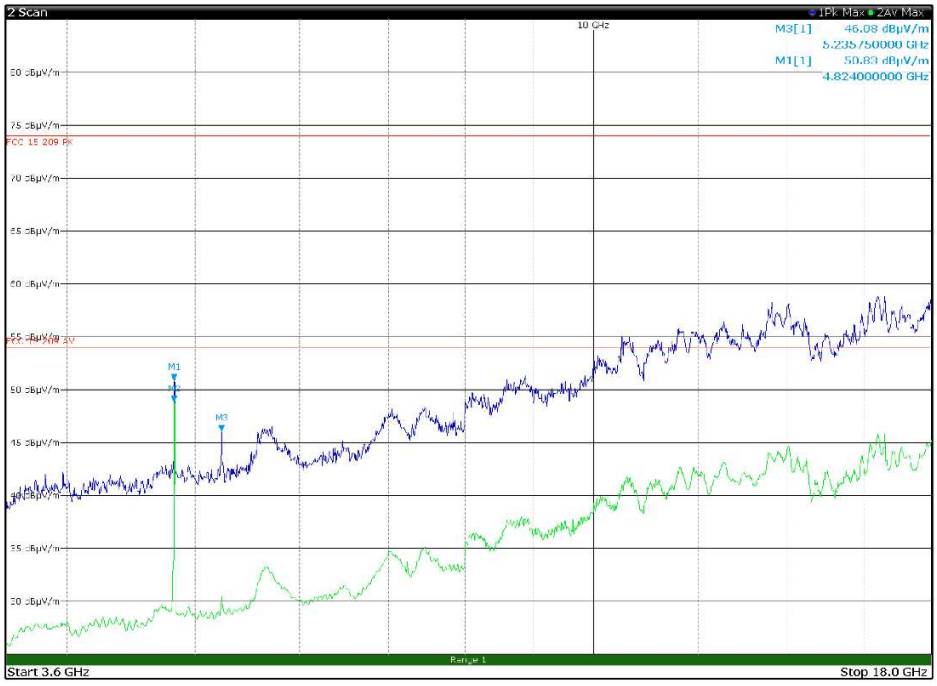


Figure 8.7-62: *Radiated spurious emissions 3.6 to 18 GHz, Low channel with antenna in vertical polarization*

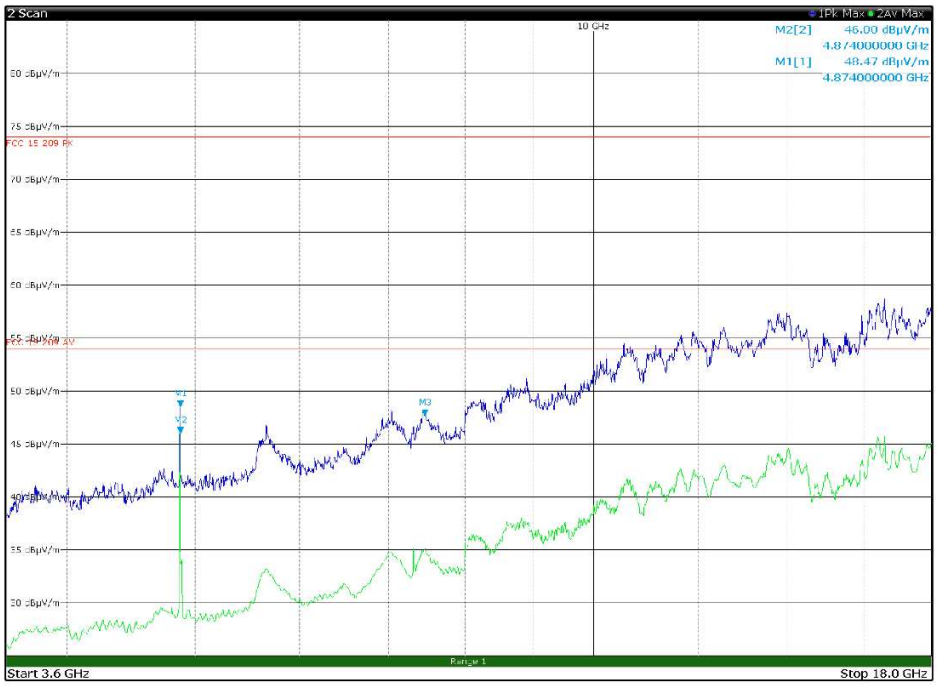


Figure 8.7-63: *Radiated spurious emissions 3.6 to 18 GHz, Mid channel with antenna in horizontal polarization*

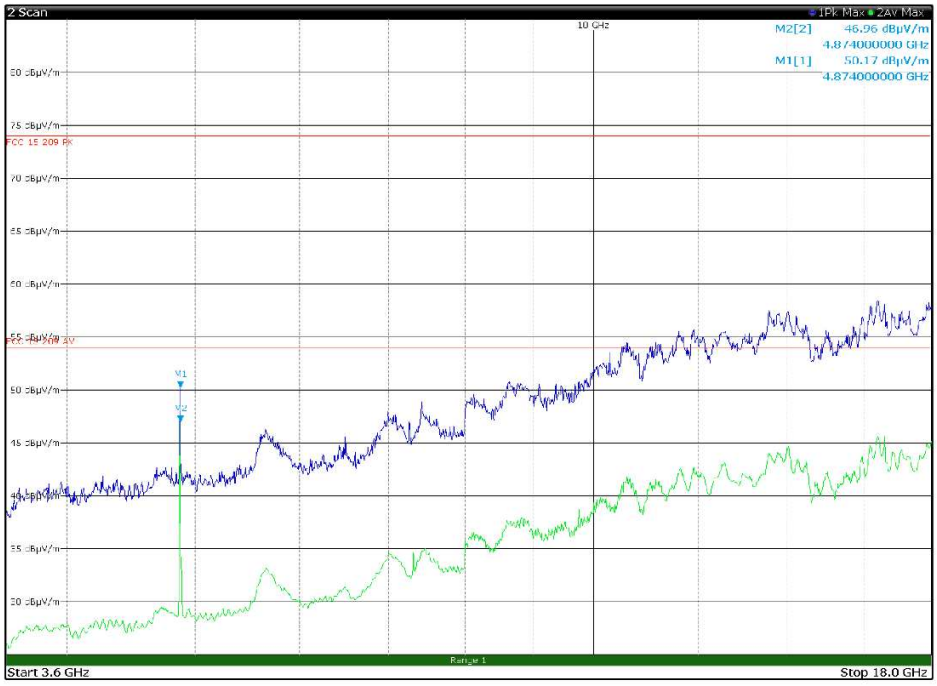


Figure 8.7-64: *Radiated spurious emissions 3.6 to 18 GHz, Mid channel with antenna in vertical polarization*

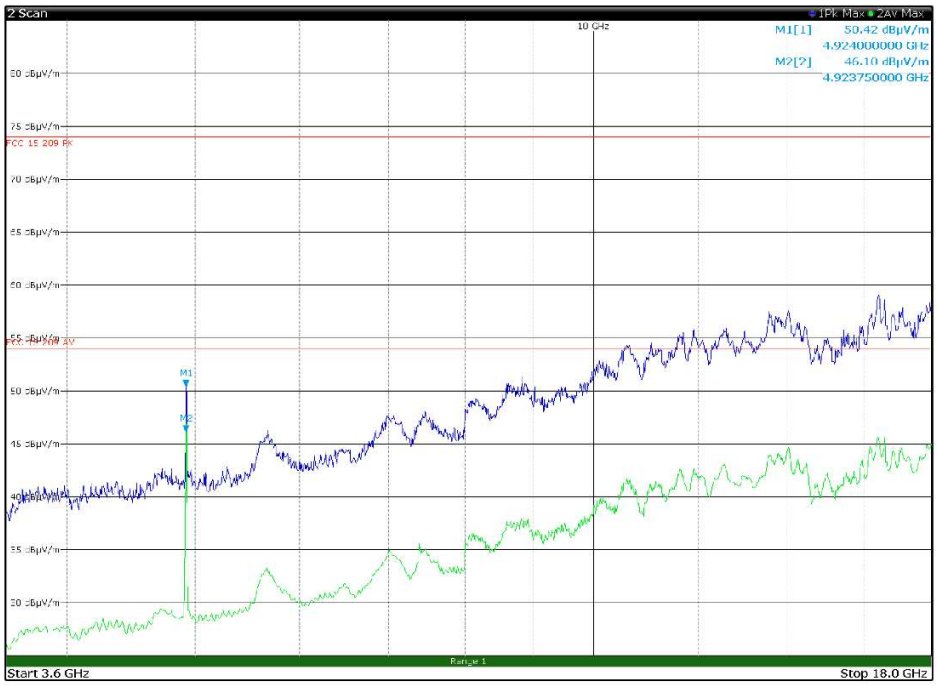


Figure 8.7-65: *Radiated spurious emissions 3.6 to 18 GHz, High channel with antenna in horizontal polarization*

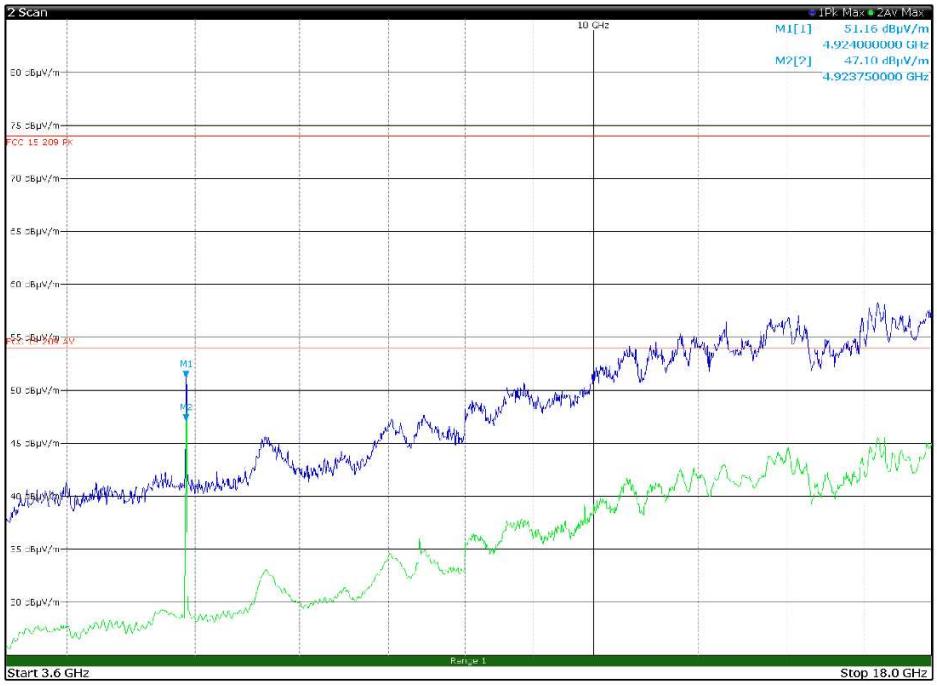


Figure 8.7-66: *Radiated spurious emissions 3.6 to 18 GHz, High channel with antenna in vertical polarization*

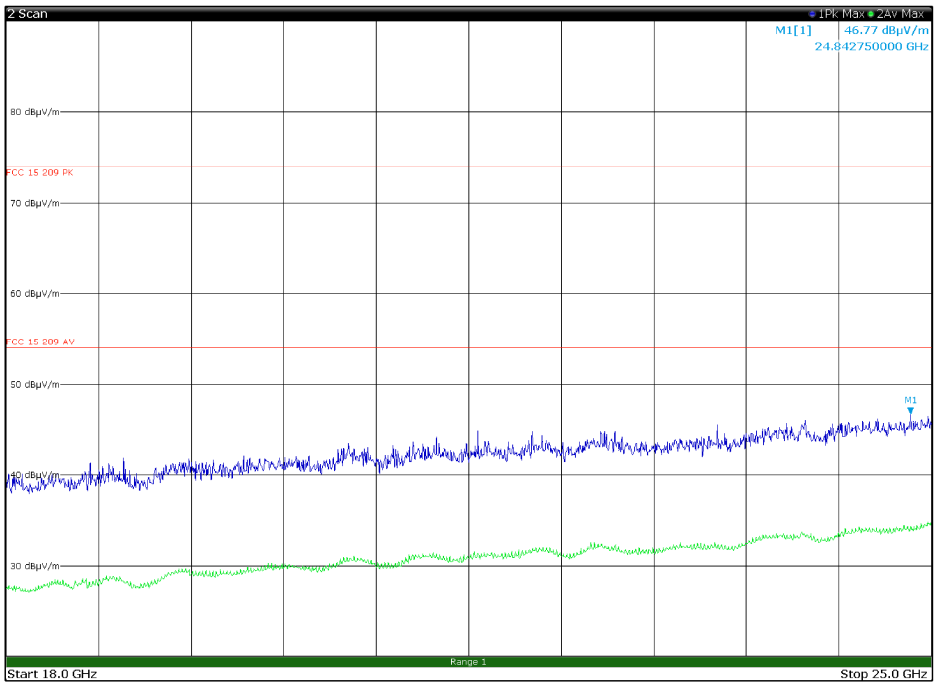


Figure 8.7-67: *Radiated spurious emissions 18 to 25 GHz, Low channel with antenna in horizontal polarization*

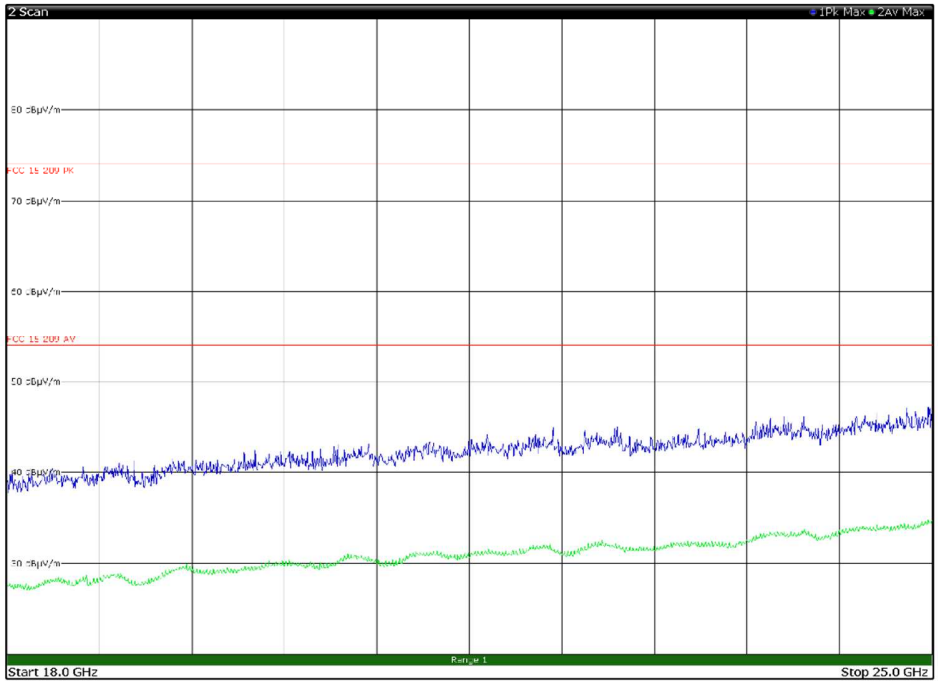


Figure 8.7-68: *Radiated spurious emissions 18 to 25 GHz, Low channel with antenna in vertical polarization*

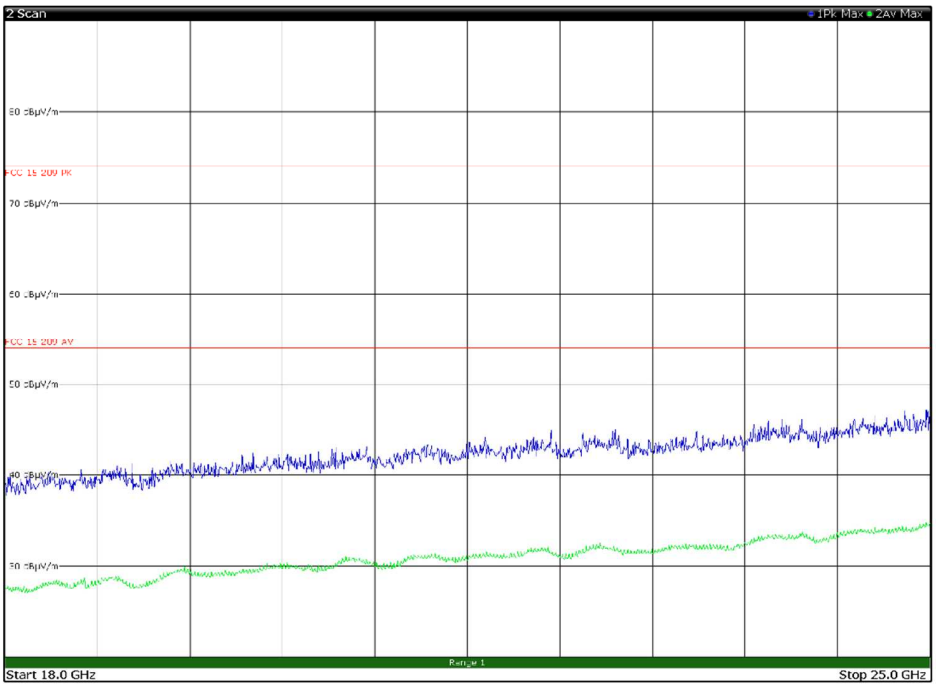


Figure 8.7-69: *Radiated spurious emissions 18 to 25 GHz, Mid channel with antenna in horizontal polarization*

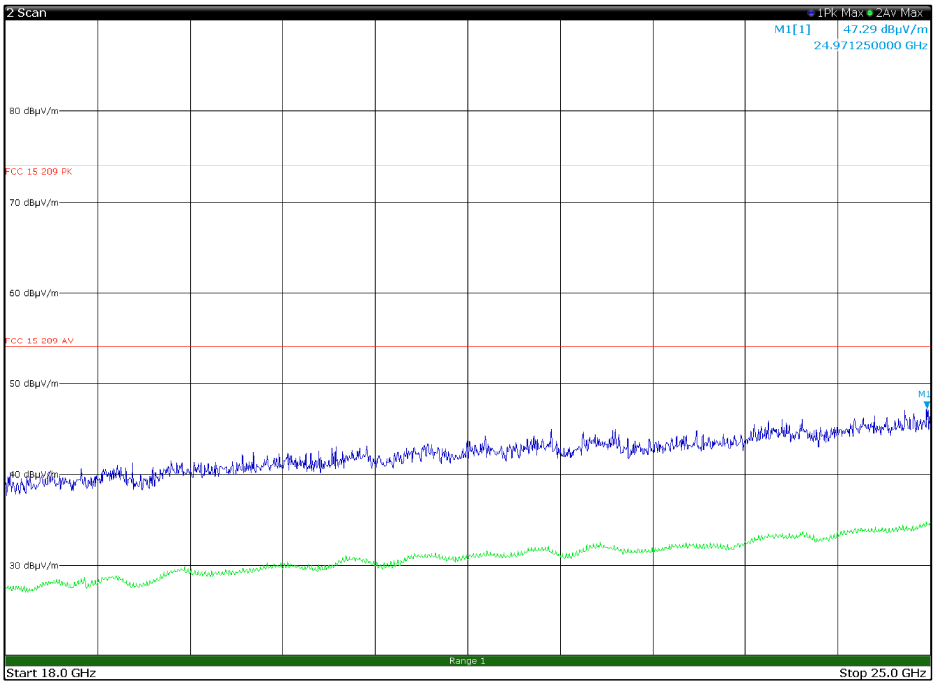


Figure 8.7-70: *Radiated spurious emissions 18 to 25 GHz, Mid channel with antenna in vertical polarization*

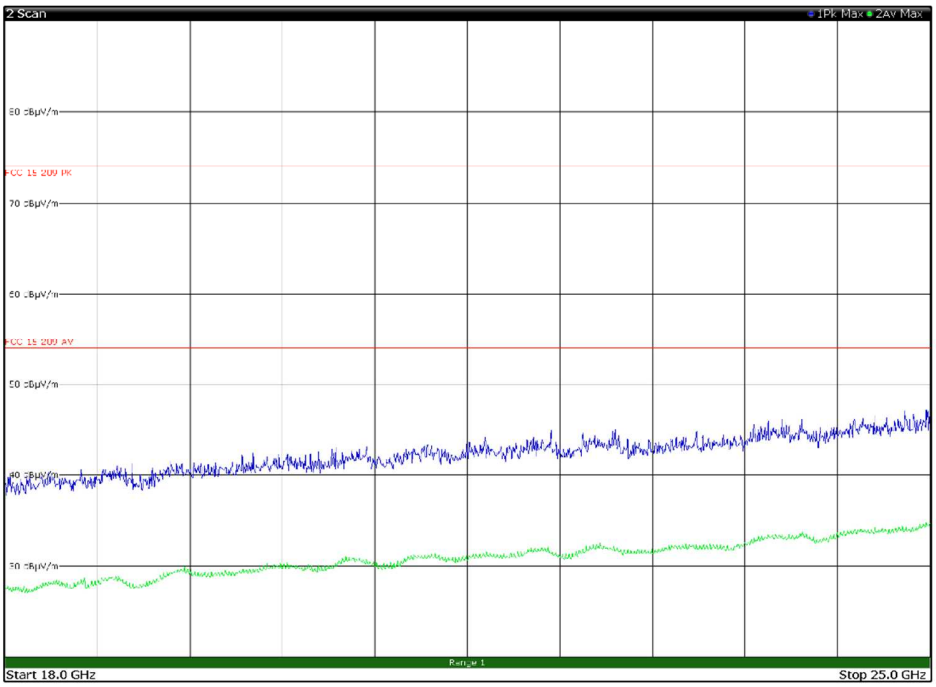


Figure 8.7-71: *Radiated spurious emissions 18 to 25 GHz, High channel with antenna in horizontal polarization*

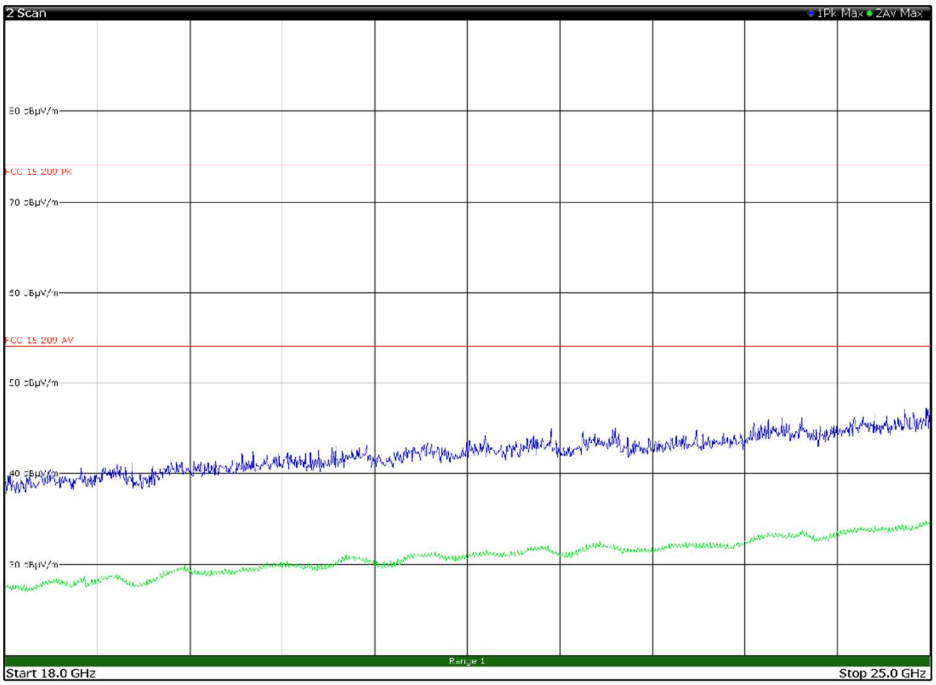


Figure 8.7-72: *Radiated spurious emissions 18 to 25 GHz, High channel with antenna in vertical polarization*

8.7.1 Test data for DYGATE-10-12-GS04 Antenna configuration 2

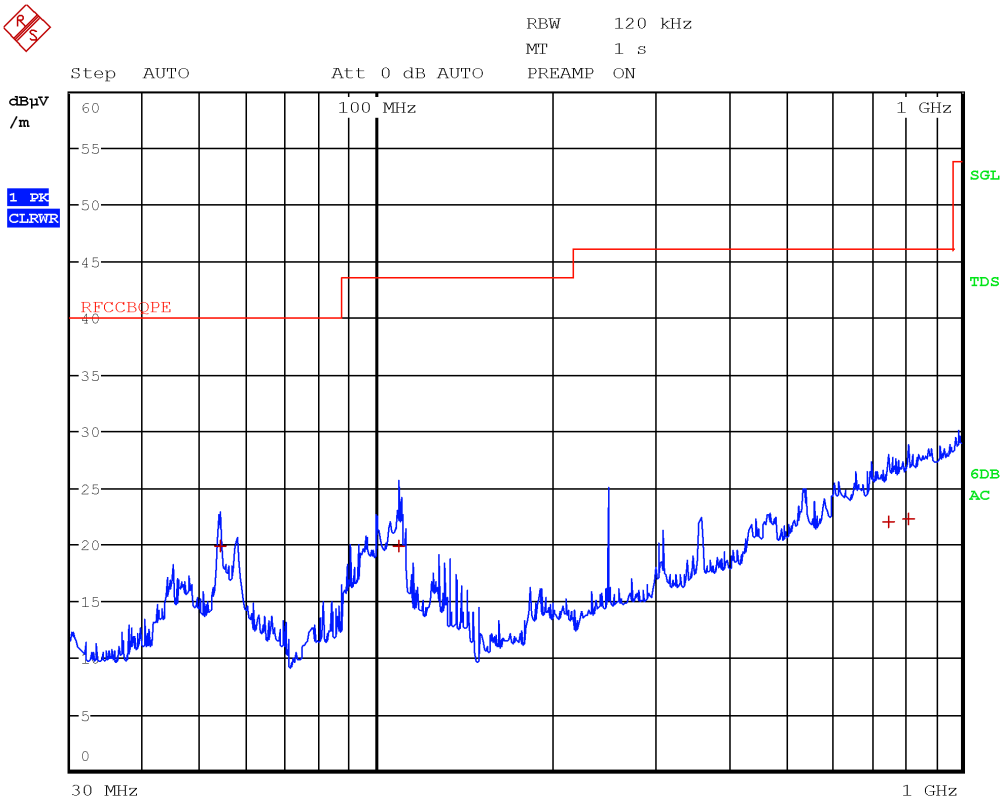


Figure 8.7-73: *Radiated spurious emissions 30 to 1000 MHz, Low channel with antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
53.9600	19.8	40.0	-20.2	QP
109.1200	19.9	43.5	-23.6	QP
750.0400	22.1	46.0	-23.9	QP
810.8000	22.3	46.0	-23.7	QP

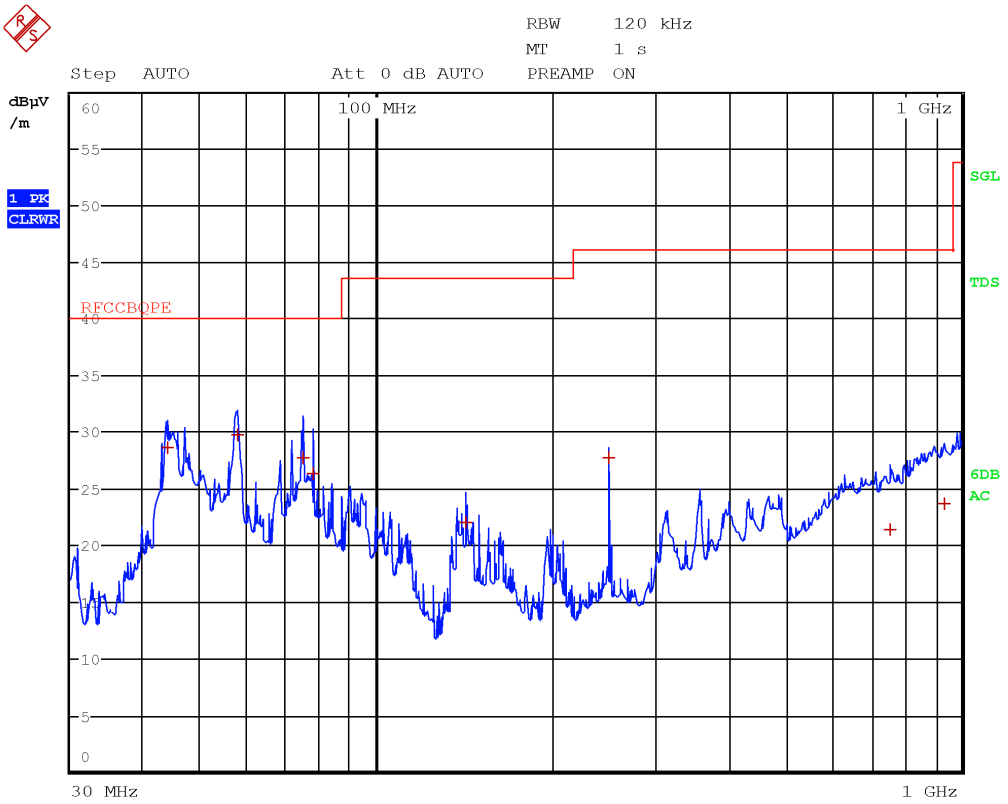


Figure 8.7-74: *Radiated spurious emissions 30 to 1000 MHz, Low channel with antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
43.8000	28.6	40.0	-11.4	QP
57.8400	29.7	40.0	-10.3	QP
74.8000	27.7	40.0	-12.3	QP
77.8000	26.4	40.0	-13.6	QP
142.1200	22.0	43.5	-21.5	QP
250.0000	27.7	46.0	-18.3	QP
754.4000	21.4	46.0	-24.6	QP
935.8800	23.7	46.0	-22.3	QP

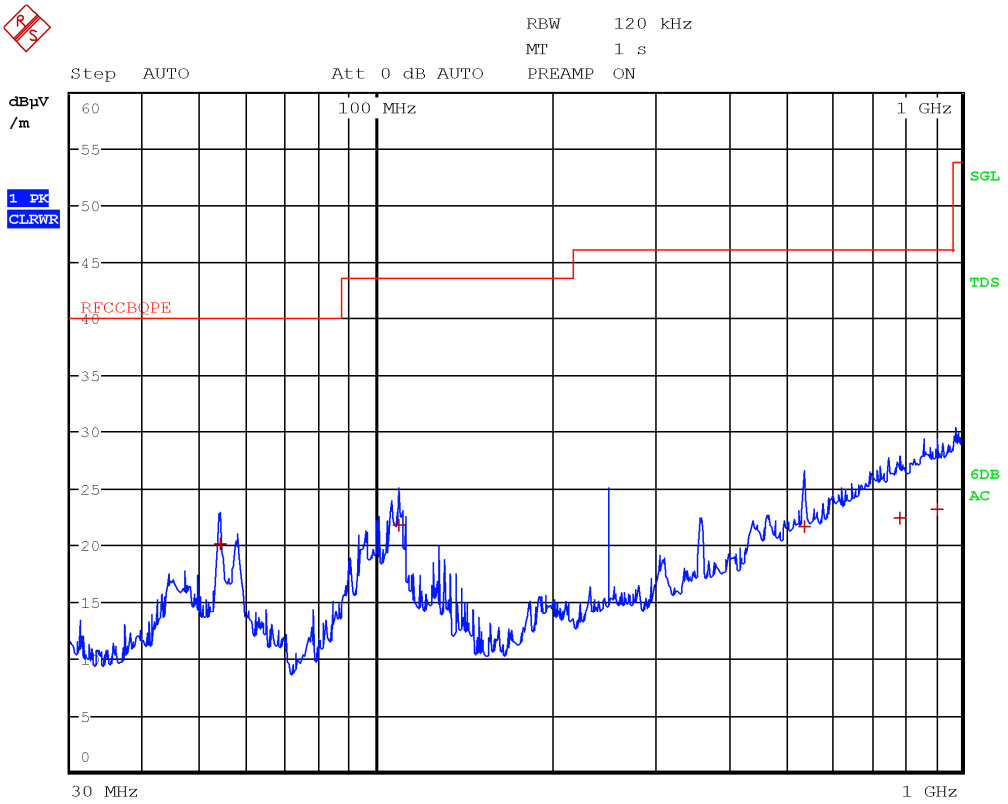


Figure 8.7-75: *Radiated spurious emissions 30 to 1000 MHz, Mid channel with antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
54.0400	20.1	40.0	-19.9	QP
109.0000	21.8	43.5	-21.7	QP
539.1600	21.7	46.0	-24.3	QP
783.2000	22.5	46.0	-23.5	QP
906.9600	23.2	46.0	-22.8	QP

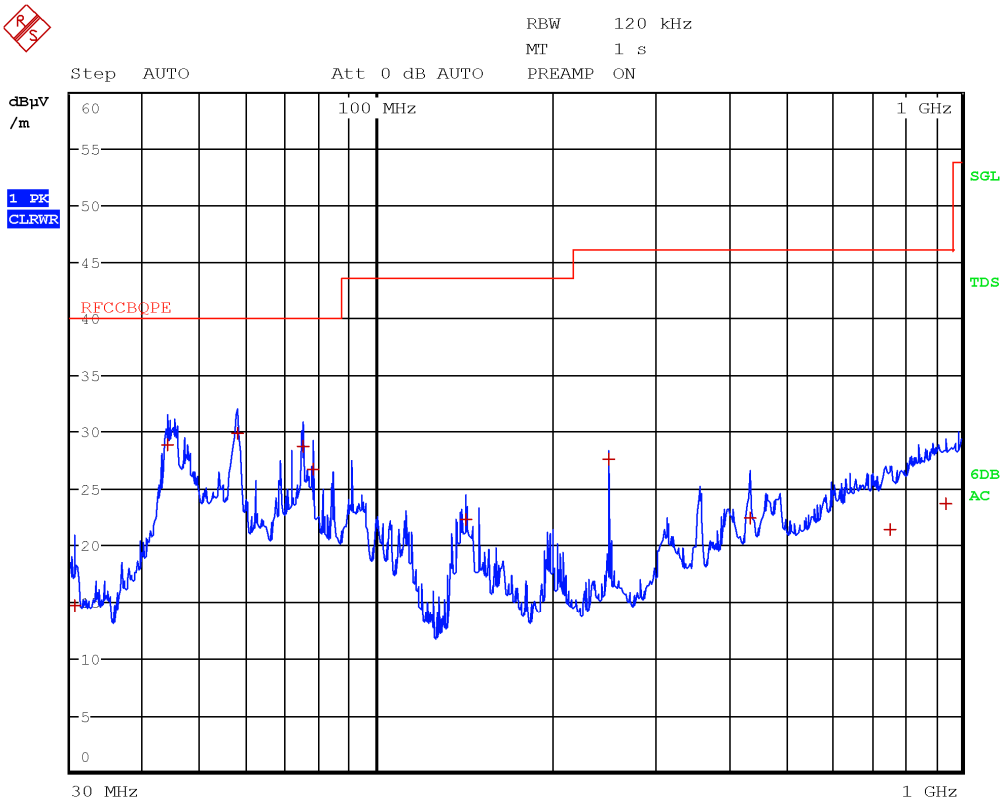


Figure 8.7-76: *Radiated spurious emissions 30 to 1000 MHz, Mid channel with antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
30.4800	14.8	40.0	-25.2	QP
43.8000	28.8	40.0	-11.2	QP
57.8800	29.8	40.0	-10.2	QP
74.7600	28.7	40.0	-11.3	QP
77.8400	26.8	40.0	-13.2	QP
142.1200	22.3	43.5	-21.2	QP
250.0000	27.5	46.0	-18.5	QP
436.1600	22.4	46.0	-23.6	QP
754.2400	21.4	46.0	-24.6	QP
939.9200	23.6	46.0	-22.4	QP

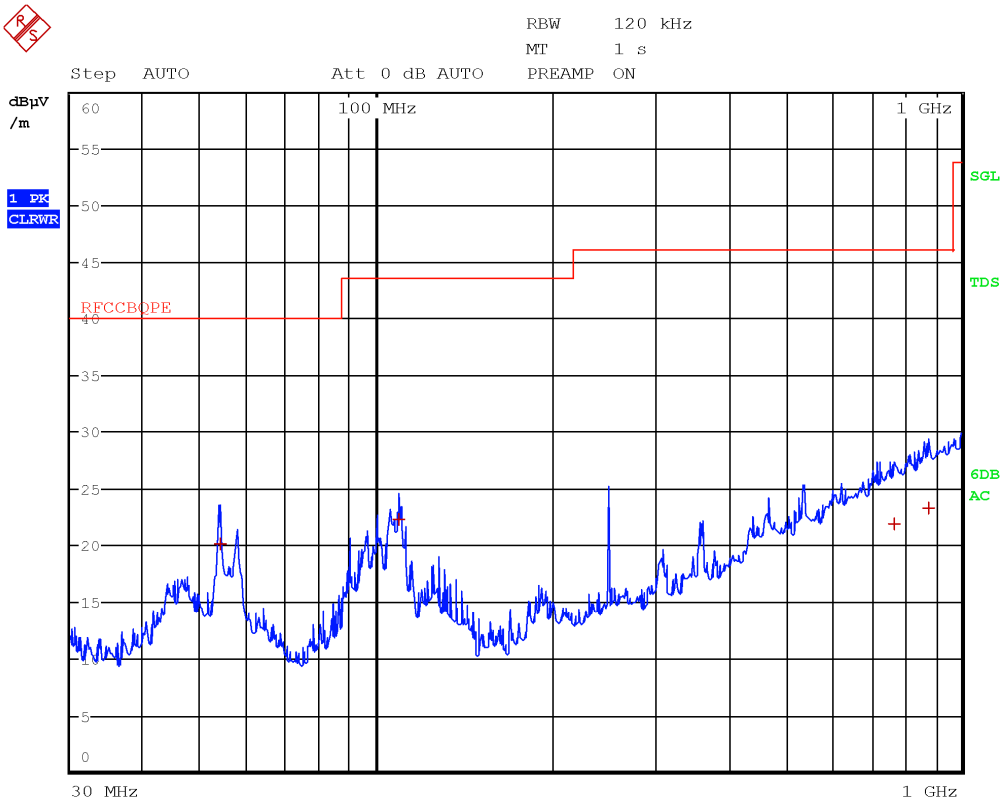


Figure 8.7-77: *Radiated spurious emissions 30 to 1000 MHz, High channel with antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
54.0800	20.1	40.0	-19.9	QP
109.0400	22.3	43.5	-21.2	QP
766.0800	21.9	46.0	-24.1	QP
877.8400	23.3	46.0	-22.7	QP

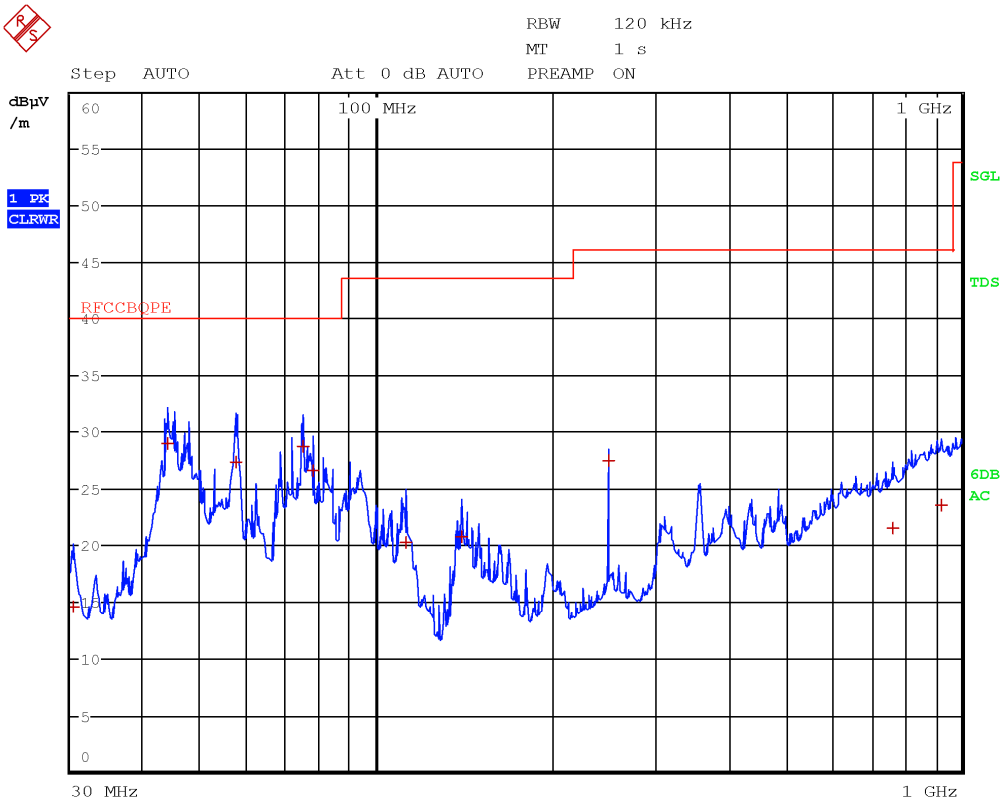


Figure 8.7-78: *Radiated spurious emissions 30 to 1000 MHz, High channel with antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
30.3200	14.6	40.0	-25.4	QP
43.8400	29.0	40.0	-11.0	QP
57.6800	27.3	40.0	-12.7	QP
74.7600	28.8	40.0	-11.2	QP
77.8800	26.6	40.0	-13.4	QP
112.2000	20.3	43.5	-23.2	QP
140.1600	20.8	43.5	-22.7	QP
250.0000	27.5	46.0	-18.5	QP
763.0800	21.5	46.0	-24.5	QP
925.8400	23.6	46.0	-22.4	QP

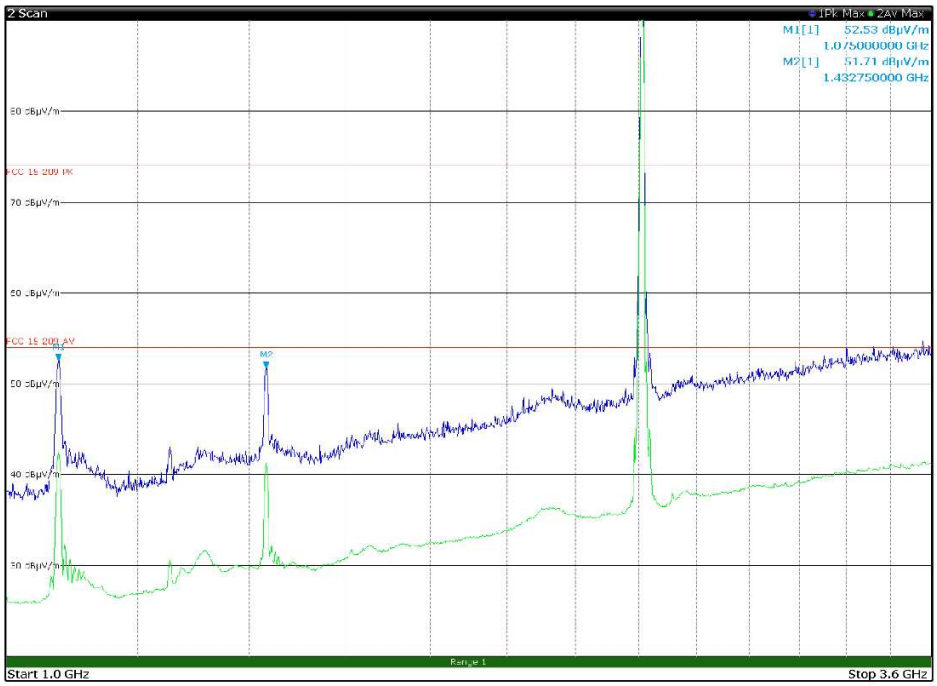


Figure 8.7-79: *Radiated spurious emissions 1 to 3.6 GHz, Low channel with antenna in horizontal polarization*

Limit exceeded by the carrier

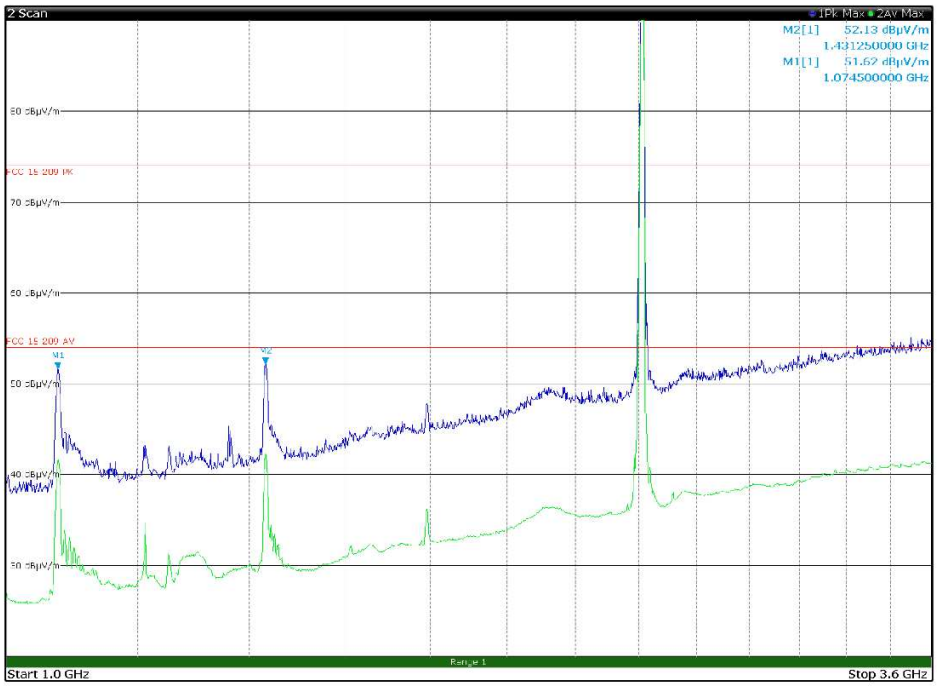


Figure 8.7-80: *Radiated spurious emissions 1 to 3.6 GHz, Low channel with antenna in vertical polarization*

Limit exceeded by the carrier

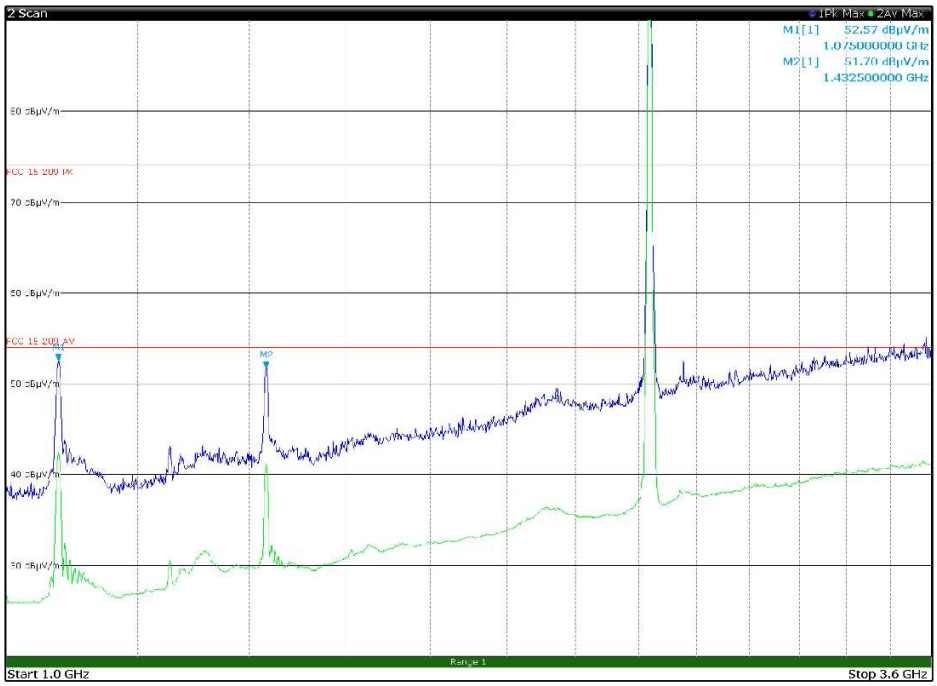


Figure 8.7-81: *Radiated spurious emissions 1 to 3.6 GHz, Mid channel with antenna in horizontal polarization*

Limit exceeded by the carrier

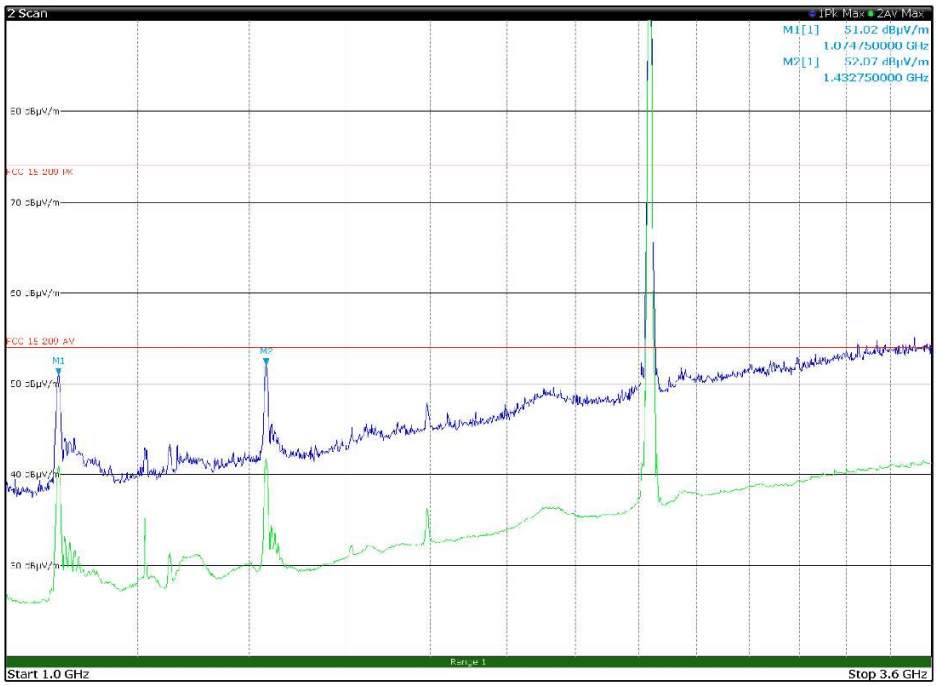


Figure 8.7-82: *Radiated spurious emissions 1 to 3.6 GHz, Mid channel with antenna in vertical polarization*

Limit exceeded by the carrier

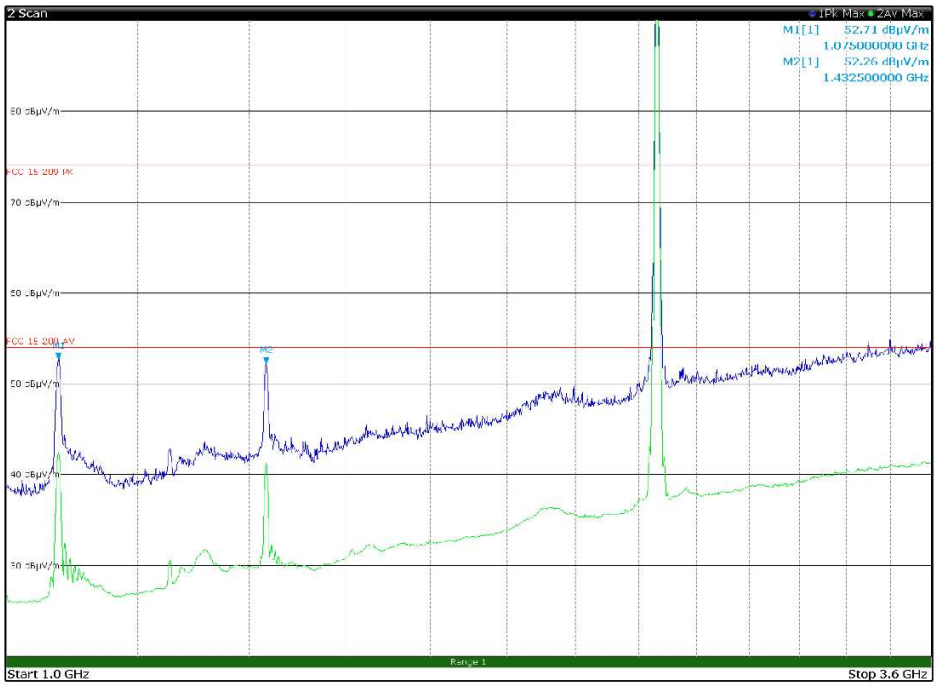


Figure 8.7-83: *Radiated spurious emissions 1 to 3.6 GHz, High channel with antenna in horizontal polarization*

Limit exceeded by the carrier

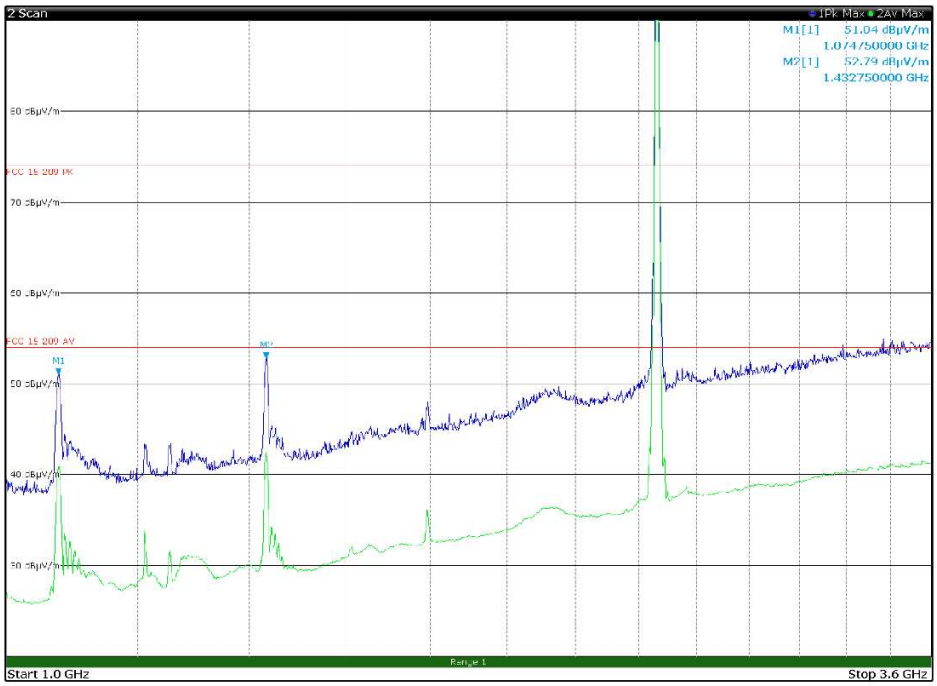


Figure 8.7-84: *Radiated spurious emissions 1 to 3.6 GHz, High channel with antenna in vertical polarization*

Limit exceeded by the carrier

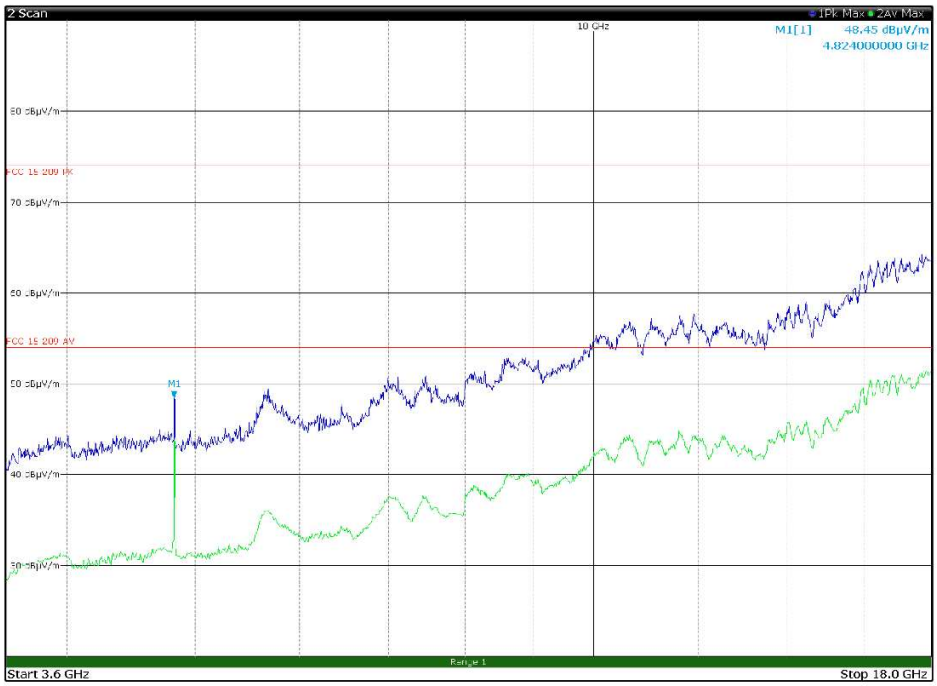


Figure 8.7-85: *Radiated spurious emissions 3.6 to 18 GHz, Low channel with antenna in horizontal polarization*

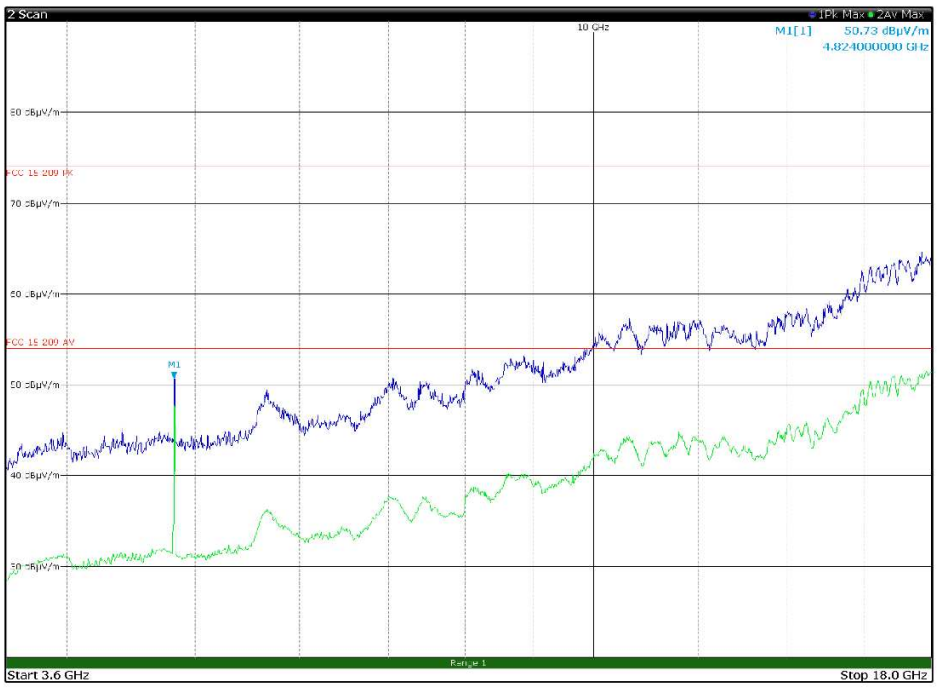


Figure 8.7-86: *Radiated spurious emissions 3.6 to 18 GHz, Low channel with antenna in vertical polarization*

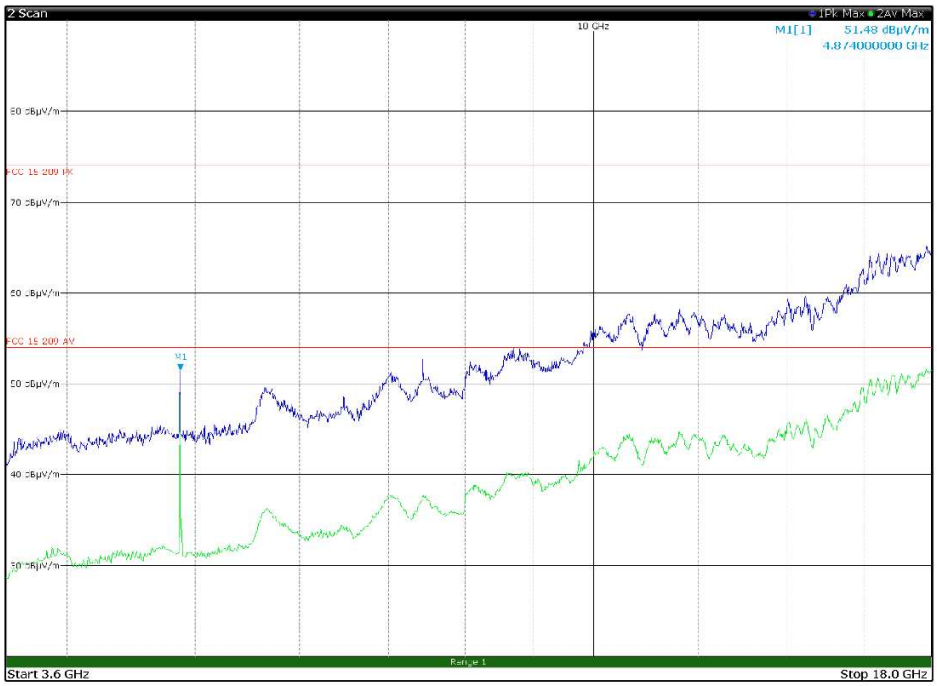


Figure 8.7-87: *Radiated spurious emissions 3.6 to 18 GHz, Mid channel with antenna in horizontal polarization*

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

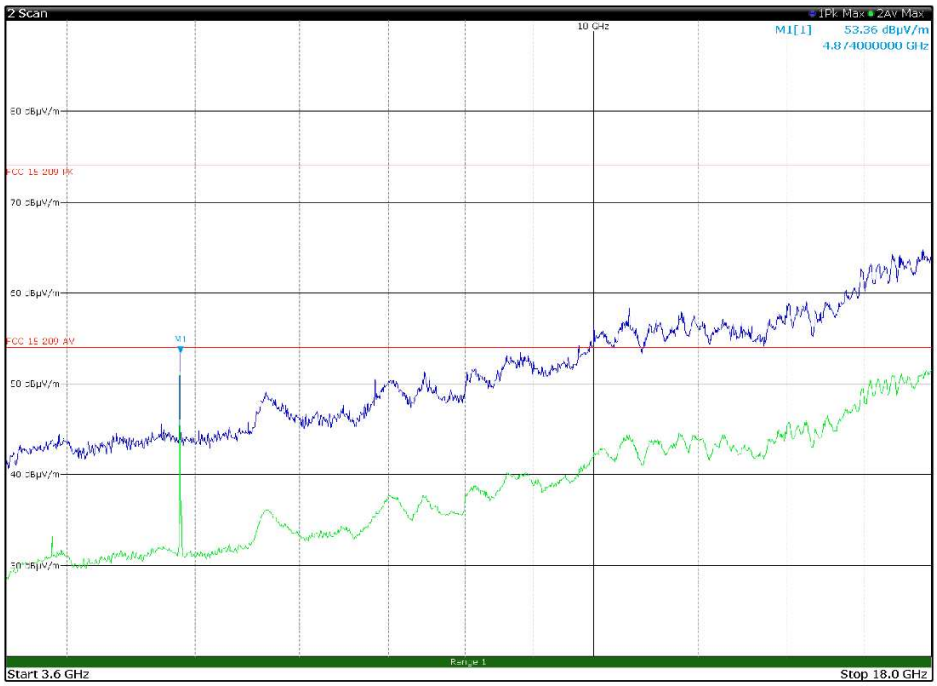


Figure 8.7-88: *Radiated spurious emissions 3.6 to 18 GHz, Mid channel with antenna in vertical polarization*

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

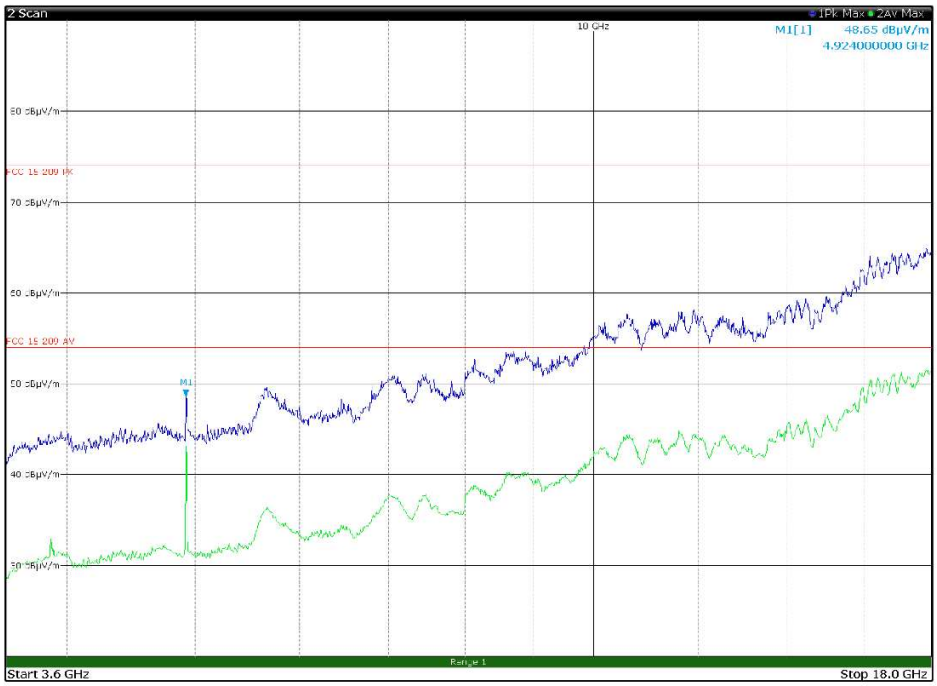


Figure 8.7-89: *Radiated spurious emissions 3.6 to 18 GHz, High channel with antenna in horizontal polarization*

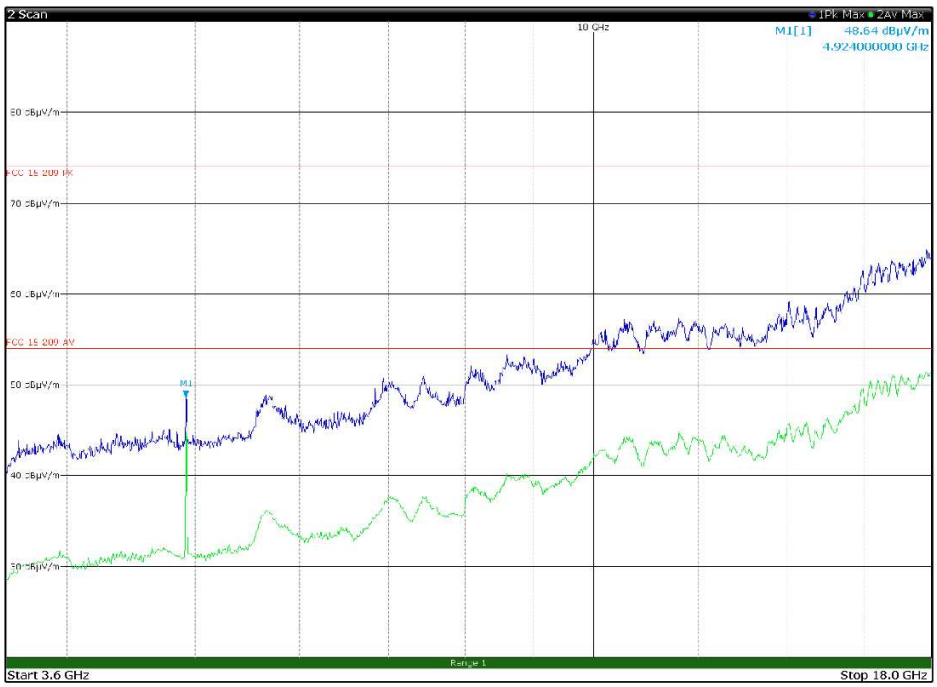


Figure 8.7-90: *Radiated spurious emissions 3.6 to 18 GHz, High channel with antenna in vertical polarization*

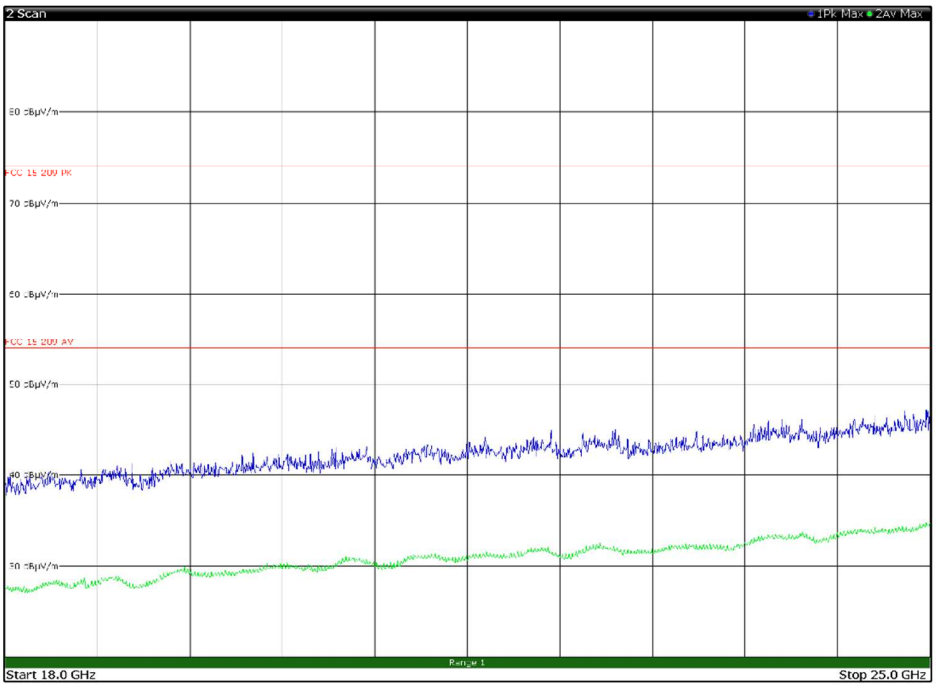


Figure 8.7-91: *Radiated spurious emissions 18 to 25 GHz, Low channel with antenna in horizontal polarization*

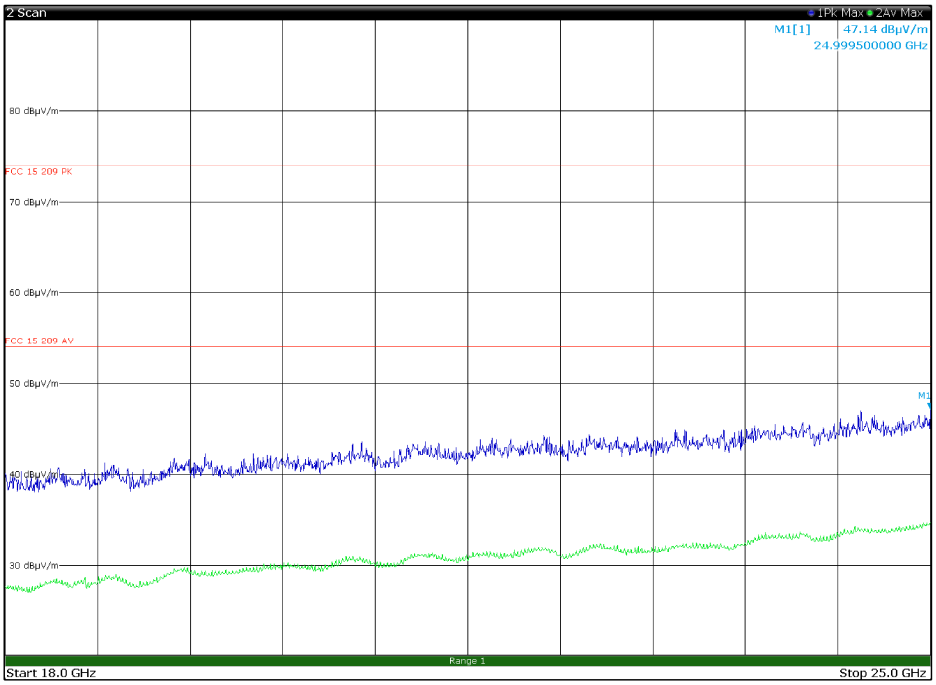


Figure 8.7-92: *Radiated spurious emissions 18 to 25 GHz, Low channel with antenna in vertical polarization*

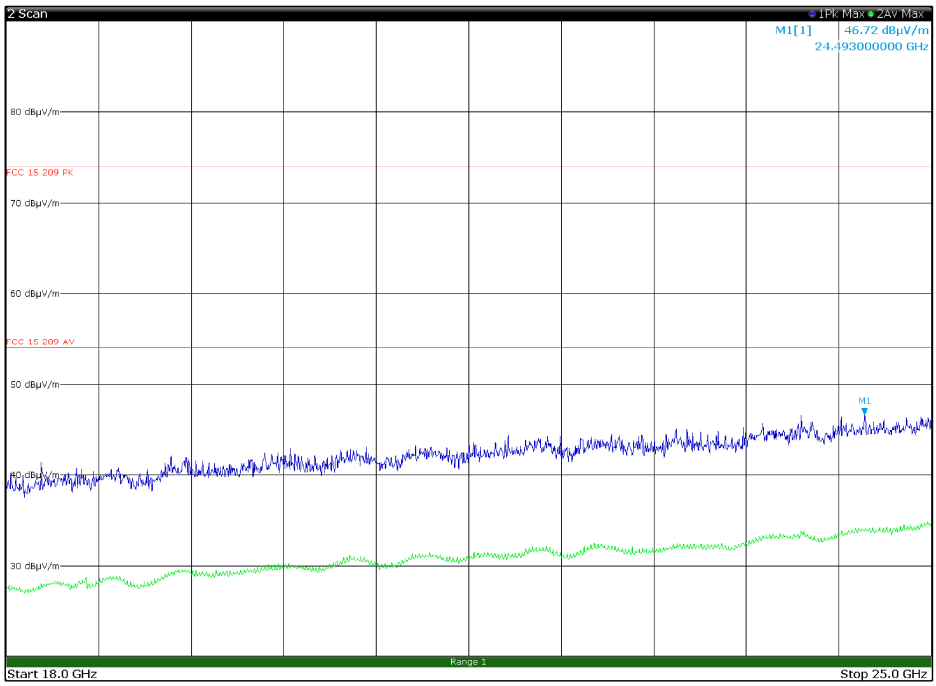


Figure 8.7-93: *Radiated spurious emissions 18 to 25 GHz, Mid channel with antenna in horizontal polarization*

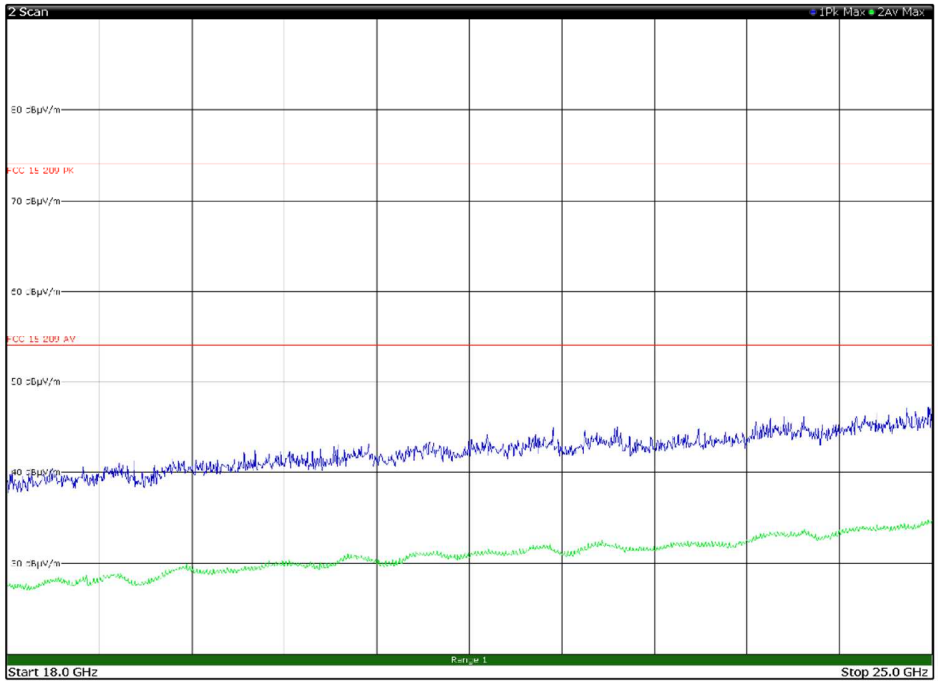


Figure 8.7-94: *Radiated spurious emissions 18 to 25 GHz, Mid channel with antenna in vertical polarization*

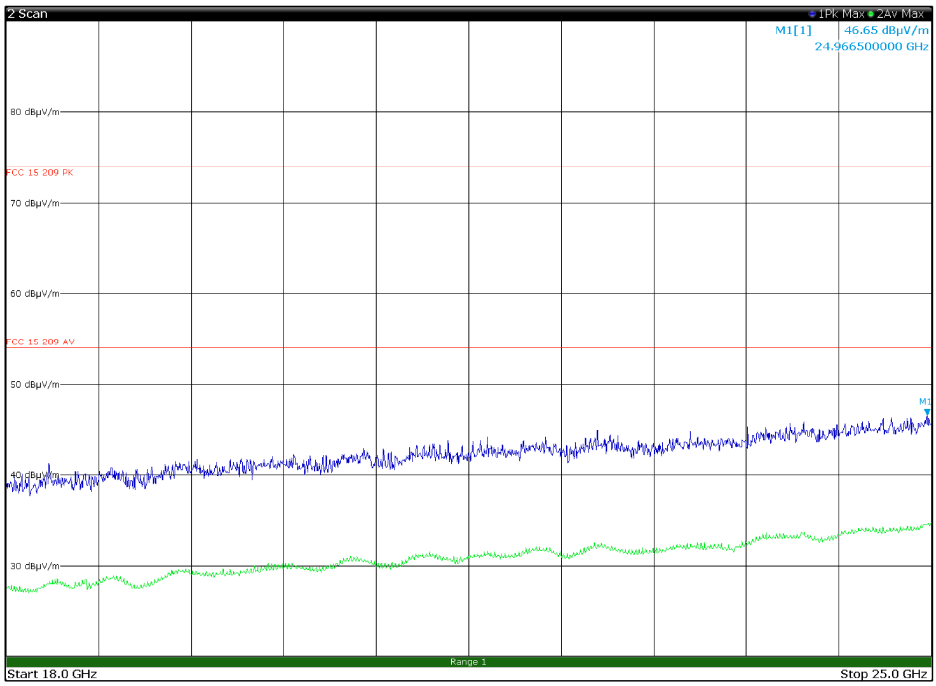


Figure 8.7-95: *Radiated spurious emissions 18 to 25 GHz, High channel with antenna in horizontal polarization*

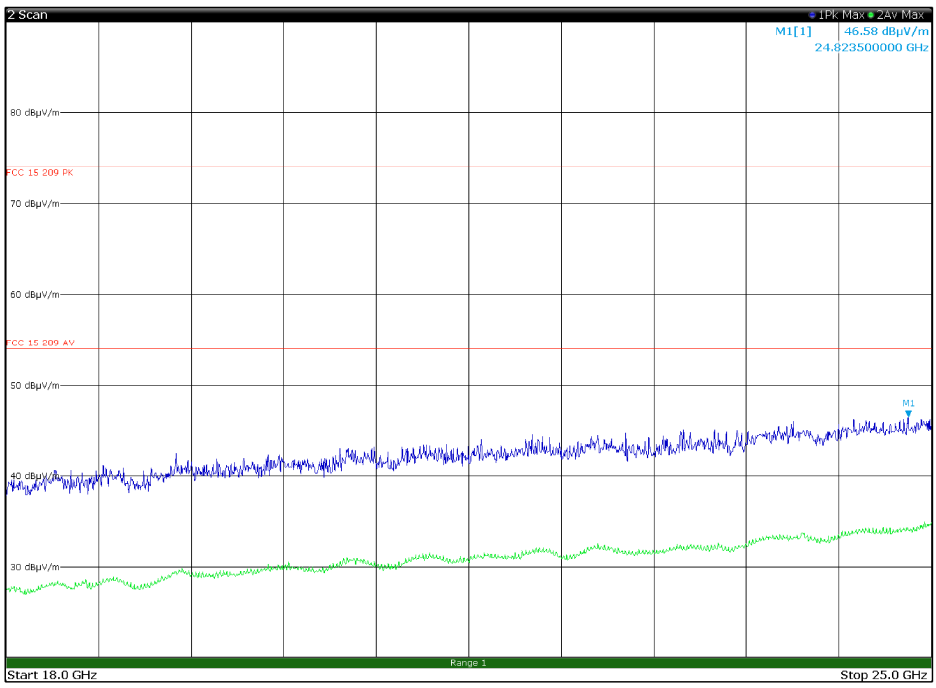


Figure 8.7-96: *Radiated spurious emissions 18 to 25 GHz, High channel with antenna in vertical polarization*

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	January 19, 2021

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 Equipment list

Table 8.8-1: *Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
EMI receiver (20 Hz ÷ 8 GHz)	Rohde & Schwarz	ESW44	101620	2020-08	2021-08
Shielded room	Siemens	Conducted emission test room	1862	NCR	NCR

Note: NCR - no calibration required, VOU - verify on use

8.8.4 Test data

Table 8.8-2: *PSD measurements results*

Modulation	Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
802.11b	2412	-7.7	8	15.7
	2437	-8.2	8	16.2
	2462	-8.0	8	16.0

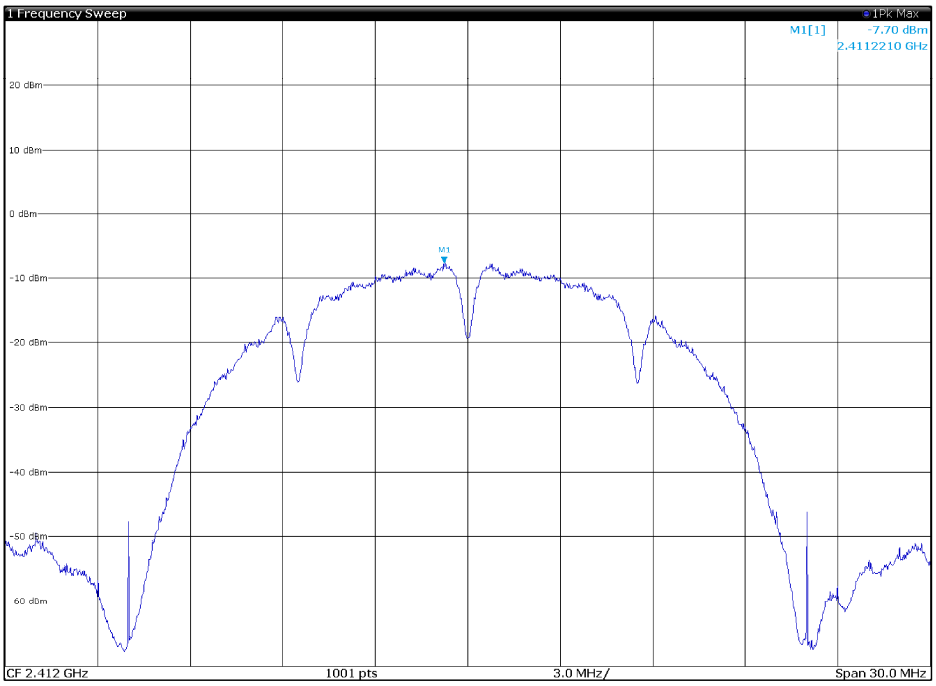


Figure 8.8-1: *PSD sample plot on WIFI 802.11b - Low channel*

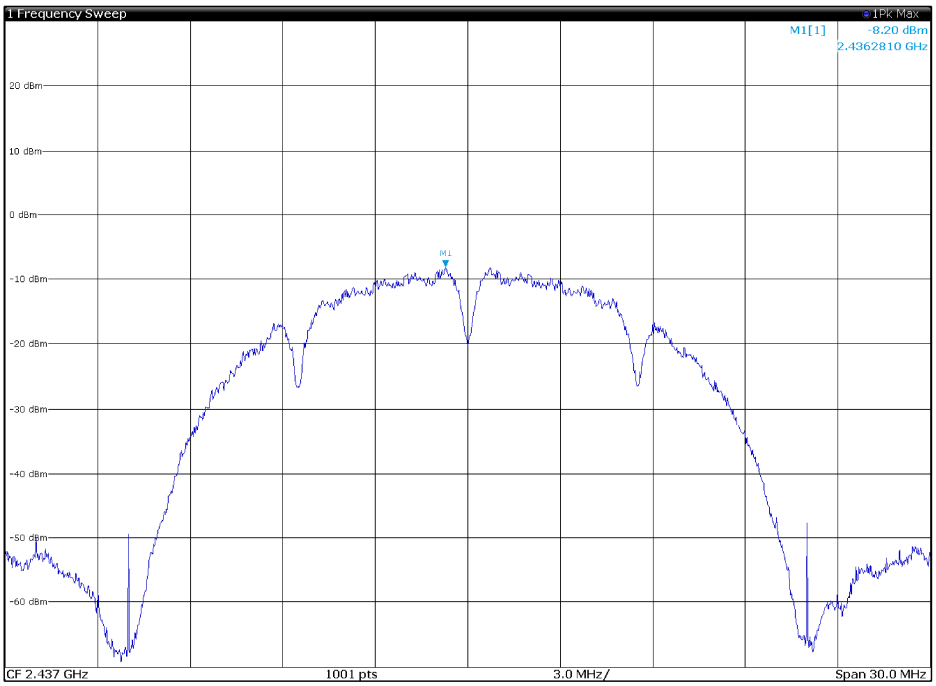


Figure 8.8-2: *PSD sample plot on WIFI 802.11b - Mid channel*

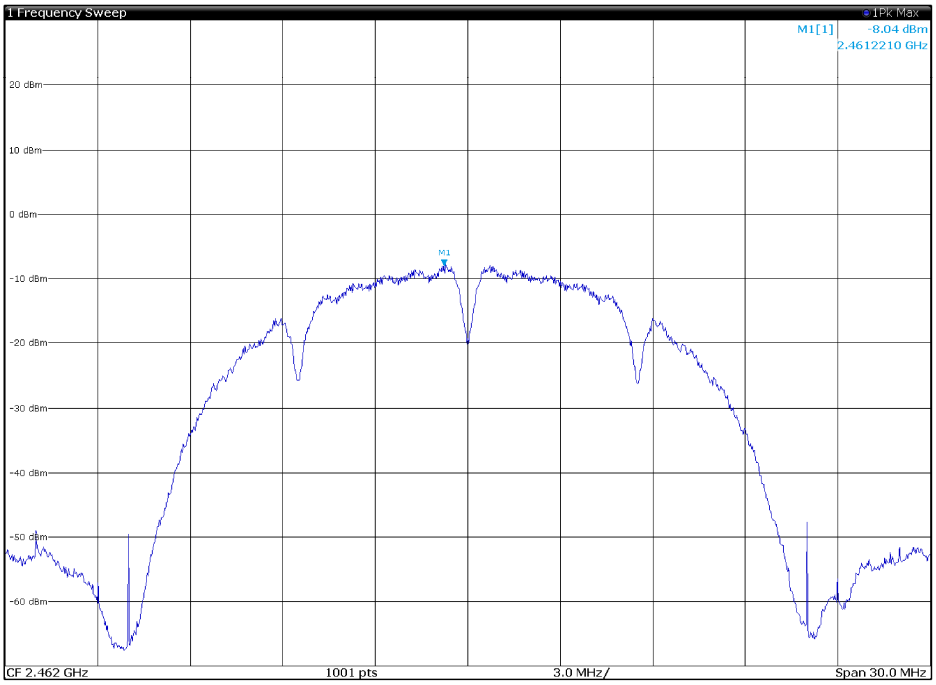
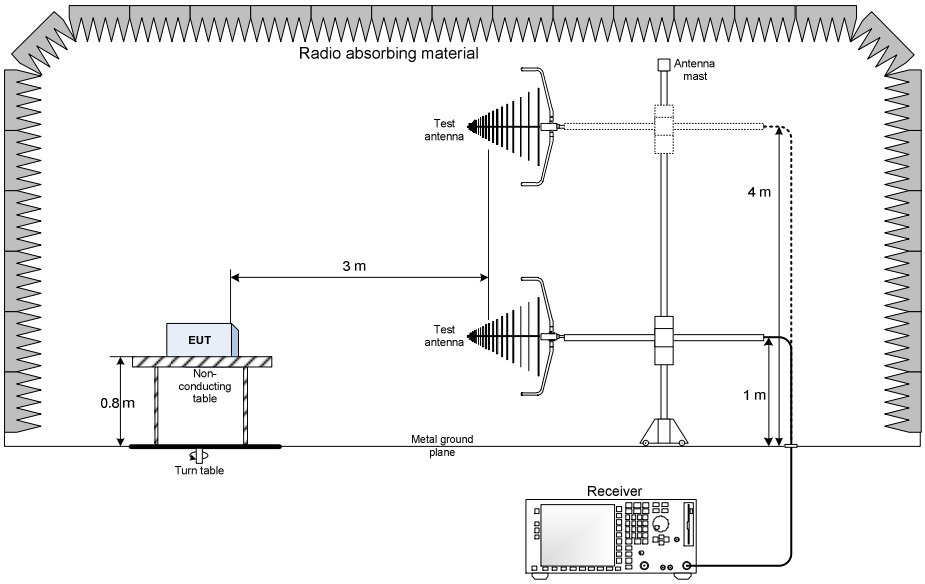


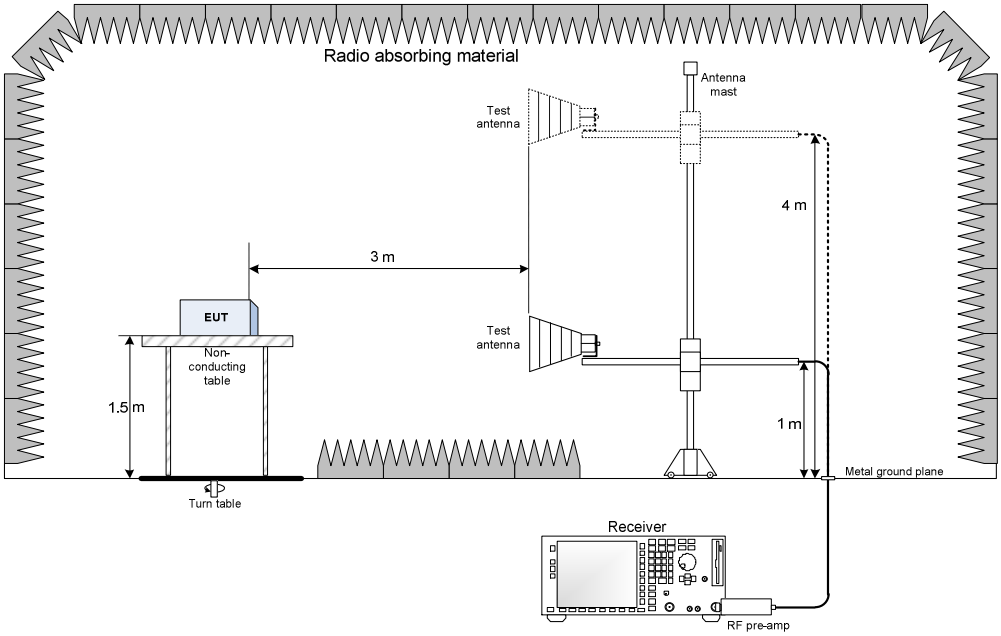
Figure 8.8-3: *PSD sample plot on WIFI 802.11b - High channel*

Section 9. Block diagrams of test set-ups

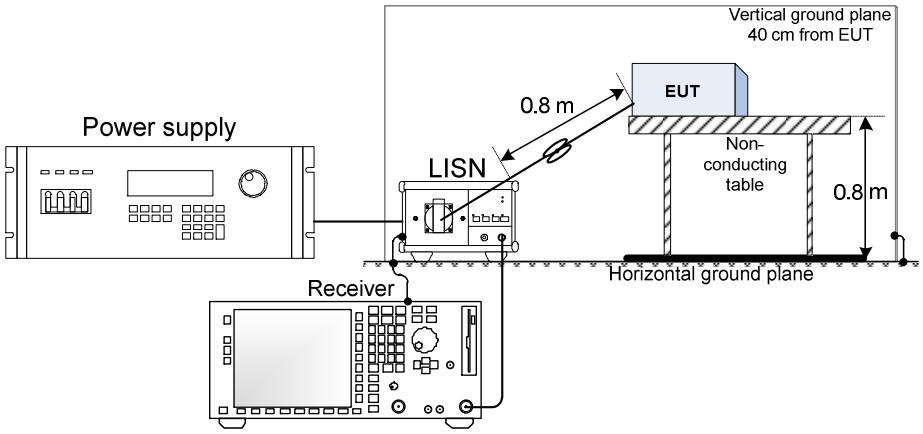
9.1 Radiated emissions set-up for frequencies below 1 GHz



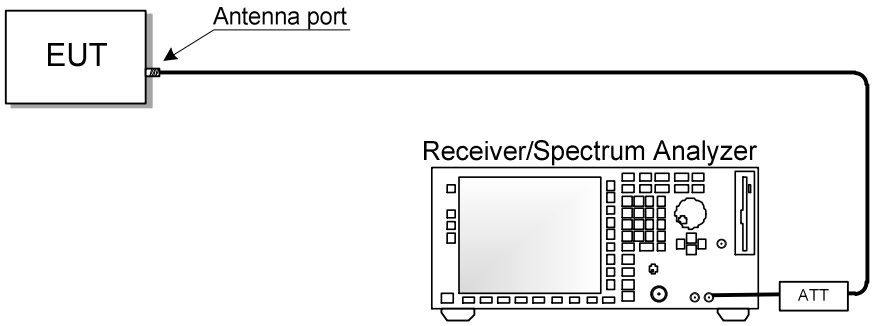
9.2 Radiated emissions set-up for frequencies above 1 GHz



9.3 Conducted emissions set-up

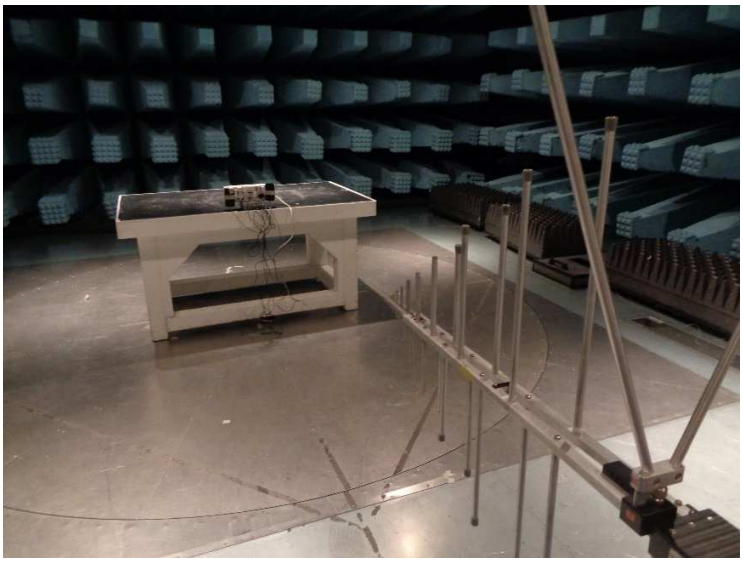


9.4 Antenna port set-up



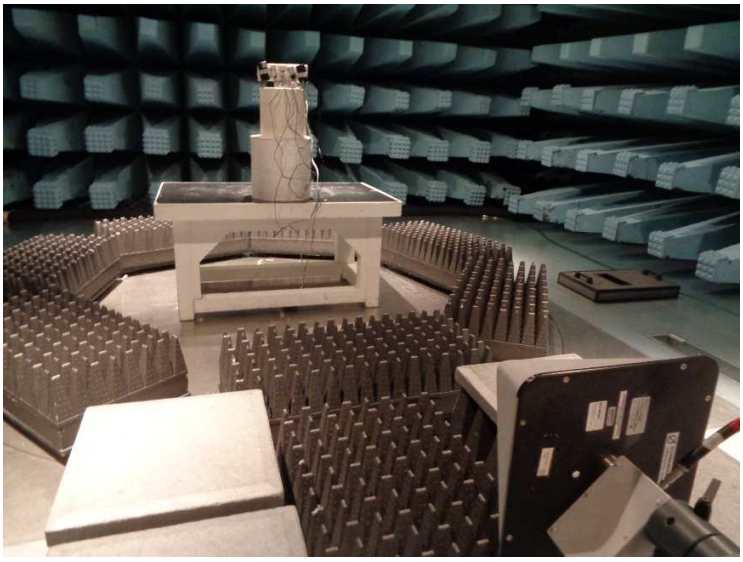
Section 10. Photos

10.1 Photos of the test set-up

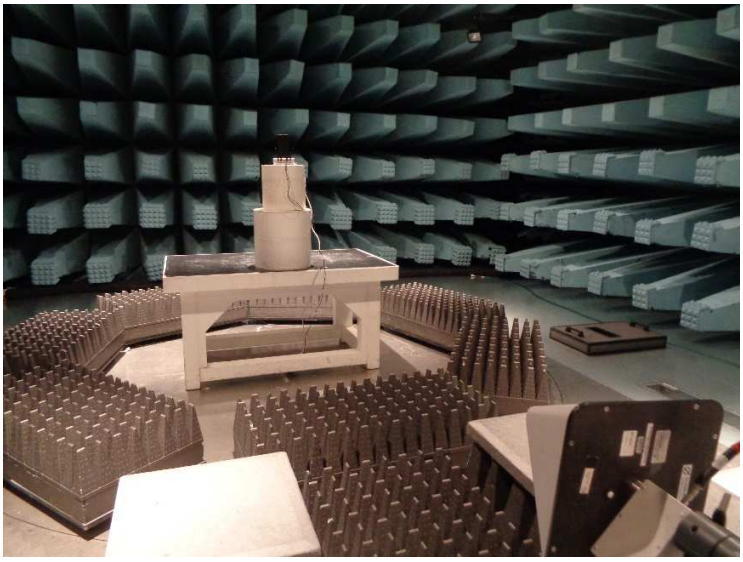


Radiated emission below 1 GHz – Antenna configuration 1

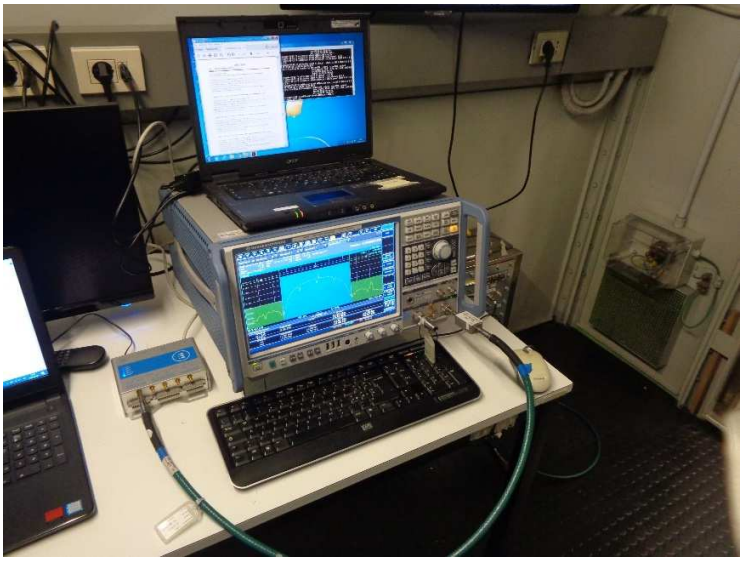
Radiated emission below 1 GHz – Antenna configuration 2



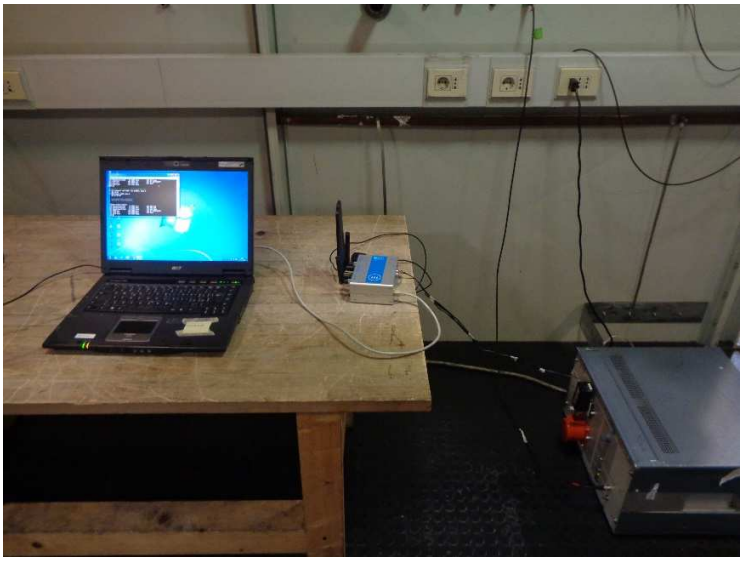
Radiated emission above 1 GHz - Configuration 1



Radiated emission above 1 GHz - Configuration 2



Conducted emission on the antenna port



Conducted emission on the AC Mains

10.2 Photos of the EUT

REGATE-10-12-GS04


EUROTECH Manufacturer: Eurotech SpA
Via F.lli Solari 3/a 33020 Amaro, UD - Italy
Product: ReliaGATE 10-12
Model: REGATE-10-12-GS04
INPUT: 12-24VDC 15W
CONTAINS IC: 21442-MRG1012
CONTAINS FCC ID: RI7LE910CXNF
CONTAINS IC: 5131A-LE910CXNF
CAN ICES-3 (B)/NMB-3(B)


SERIAL: Y120HKA0082
MAC ID: 1442FC9D1CB5
IMEI: 357441093386037

DYGATE-10-12-GS04


EUROTECH
Manufacturer: Eurotech SpA
Product: DynaGATE 10-12
Model: DYGATE-10-12-GS04
INPUT: 12-24VDC 15W
SERIAL: Y119LKA0010
MAC ID: 684749B43C17
IMEI: E357766096517284

Section 10: Photos

(End of report)