

EMC TEST REPORT

No. 2300576STO-101

Electromagnetic disturbances

EQUIPMENT UNDER TEST

Equipment: Radio Unit
Type/Model: Radio 4490HP 44B5 44B12A C
Product number: KRC 161 981/3
Product configuration: NR, LTE & NB IoT
Manufacturer: Ericsson AB
Tested by request of: Ericsson AB

*See opinions and interpretations clause 2.6

SUMMARY

Referring to the emission limits, and the operating mode during the tests specified in this report, the equipment complies with the radiated spurious emission requirements according to the following standards:

47 CFR Part 2 Subpart J
47 CFR Part 22 Subpart H
47 CFR Part 27 Subpart C
RSS-GEN Issue 5
RSS-130 Issue 2
RSS-132 Issue 3

For details, see clause 2 – 4.

Date of issue: April 5, 2023

Issued by:



Martin Erwe

Approved by:



Per Larsson

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Revision History

Test report number	Date	Description	Changes
2300576STO-101	April 5, 2023	First release	

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1. CLIENT INFORMATION

The EUT has been tested by request of

Company: Ericsson AB
 164 80 Stockholm
 Sweden

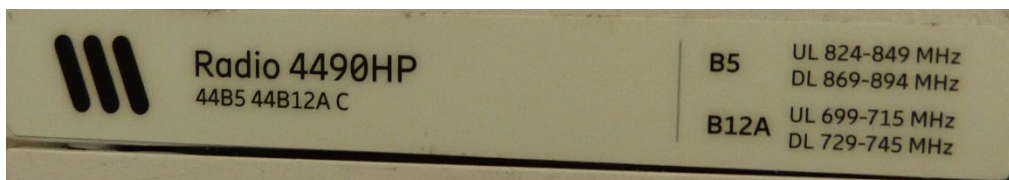
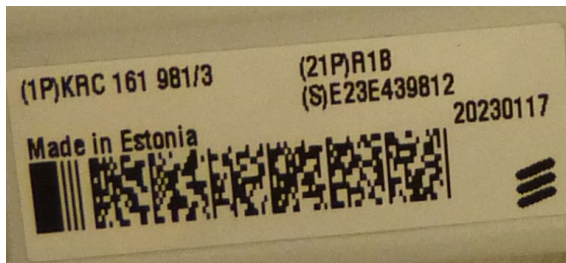
Name of contact: Lennart Blixt
 BNEW DNEW RA RPSE1 IVC EMC
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Client observer: Per Sjöberg & Tomas Johansson

2. EQUIPMENT UNDER TEST (EUT)

2.1 Identification of the EUT

Equipment	Radio Unit
Type/Model	Radio 4490HP 44B5 44B12A C
Product number	KRC 161 981/3
Product configuration	NR, LTE & NB IoT
Brand name	Ericsson
Manufacturer	Ericsson
Rating	-48VDC max: 30A
Class	III
Highest clock frequency	CPRI 25,78 GHz

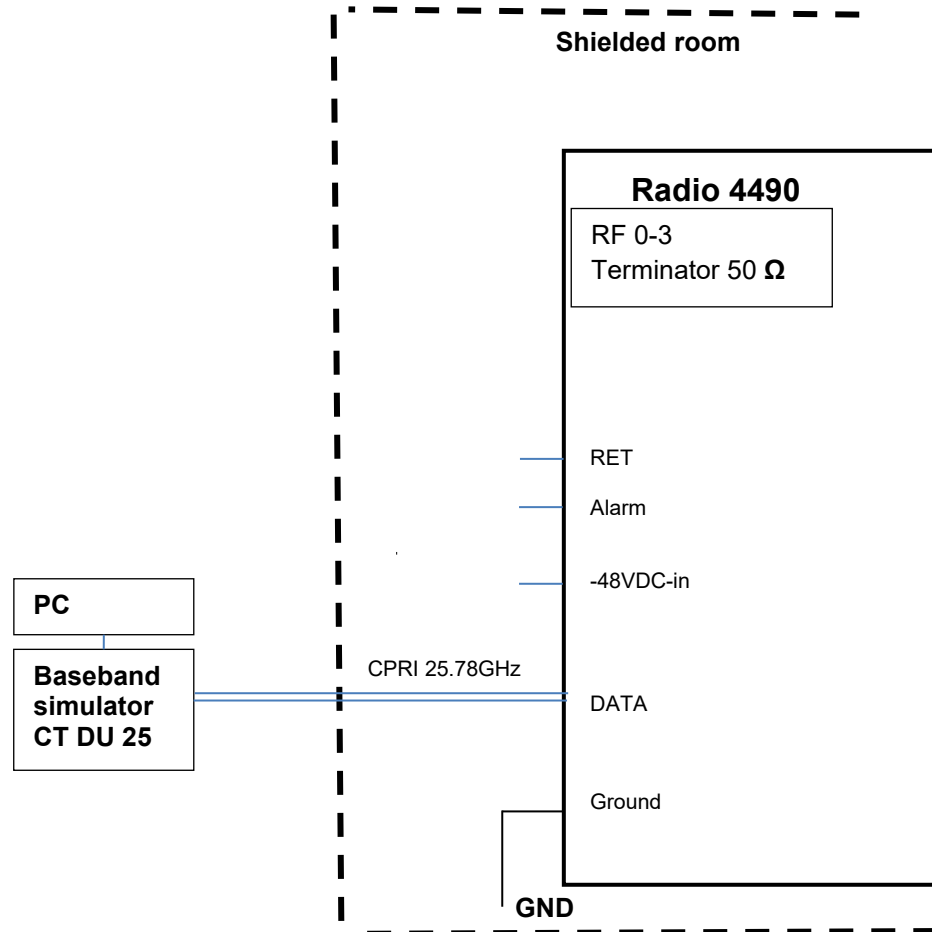


Photos of marking and EUT

2.2 Description of the EUT

The test object is a Radio 4490 for a base station with NR & LTE. It is designed to provide mobile users with a connection to a mobile network.

2.3 Test setup- block diagram



Block diagram of EUT during the tests

2.4 External cables connected to the EUT

Port	Type	Length [m]	Specifications
DC in	DC power	3.0	Two-core
Earth	Ground	3.0	Single wire, 35mm ²
External alarm	Signal cable	5.0	RPM 513 2350/1
Data_1 & Data_2	RPM 253 1610/20M	20.0	Optical fibre cable

2.5 Auxiliary equipment (AE)

Auxiliary equipment is equipment needed for correct operation of the EUT, but not included as part of the testing and evaluation of the EUT.

Equipment	Type / Model	Manufacturer	Serial no.
Computer	MacBook Pro	Apple	BAMS1002122810
PSU	LP2 x 700W	PA Emilsson	BAMS-1017033682
Baseband simulator CT-DU25	LPC 102 500/1	Ericsson	T01G520908 BAMS-1017028177
SFP module	RDH 102 75/3 R1A	Ericsson	EA61XL09A8
SFP module	RDH 102 75/3 R1A	Ericsson	EA61XL099A
Power supply (for EUT)	SGA 60/250	Sorensen	BAMS-1000234866

2.6 Opinions and interpretations

The following types are also included as additional types in this test report:

The differences between the models are (according to the manufacturer):

Type/Model	Product numbers	Comment
Radio 4490HP 44B5 44B12A C	KRC 161 981/3 *	With un-security software
	KRC 161 981/31	With security software

* Tested model. The tests were performed on KRC 161 981/3 (Radio 4490HP 44B5 44B12A C with un-security software for testing purpose).

The hardware and software (except for the security software) are identical for all types above. The difference is considered not to imply different FCC part 2 Radio characteristics when compared to the tested type.

2.7 Decision rule

The statements of conformity are reported as:

Passed – When the measured values are within the specified limits.

Failed – When one or more measures values are outside the specified limits.

3. TEST SPECIFICATIONS

3.1 Standards

Requirements:

- FCC 47 CFR Part 2 Subpart J (2019)
- FCC 47 CFR Part 22 Subpart H
- FCC 47 CFR Part 27 Subpart C (2019) + amendment published on April 23, 2020
- RSS-GEN Issue 5
- RSS-130 Issue 2
- RSS-132 Issue 3

Test methods:

- KDB971168 D01 Power Meas License Digital Systems v03r01
- ANSI C63.26: 2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

3.2 Additions, deviations and exclusions from standards and accreditation

The following deviation from standards and accreditation was made: only the radiated spurious emission performed according to manufacturer’s request.

No other additions, deviations or exclusions have been made from standards and accreditation.

3.3 Test site

Measurements were performed at:

Intertek Semko AB.
 Torshamnsgatan 43,
 P.O. Box 1103
 SE-164 22 Kista

Intertek Semko AB is a FCC listed test site with site registration number 90913
 Intertek Semko AB is a FCC accredited conformity assessment body with designation number SE0002
 Intertek Semko AB is an Industry Canada listed test facility with IC assigned code 2042G
 Intertek Semko AB is an Innovation, Science and Economic Development Canada recognized wireless device testing laboratory with CAB identifier SE0003

Measurement chambers

Measurement Chamber	Type of chamber	IC Site filing #
5 m CHAMBER	Semi-anechoic 5 m	2042G-3

3.4 Mode of operation during the test

The EUT was tested with – 53 V DC, up to 24 A. Output Power: max 480W.

Transmission band

B5: DL: 869 - 894 MHz, UL 824 -849 MHz

B12A: DL: 729 - 745 MHz, UL 699 - 715MHz

Radio Configuration

LTE:

The test object was activated for maximum transmit power. E-TM1.1 as defined in ETSI TS 136 141/ 3GPP TS 36.141 was used in all cells.

NR:

The test object was transmitting test model FR1-TM1.1 as defined in ETSI TS 138 141/ 3GPP TS 38.141-1.

NB IoT:

The NB IoT carrier transmitting test model N-TM as defined in ETSI TS 136 141/ 3GPP TS 36.141 in physical resource block (PRB) of the LTE carrier.

All the RF ports are activated for maximum transmit power. See table below for detailed radio configurations.

Radio configuration emission

Config. No.	Band	No. of Carriers	Channel BW (MHz)	RF power (W)	RF power (dBm)	Test Model	Carrier Frequency (DL)
							MHz
1	5	NR1	25	60	47.8	FR1-TM1.1	881.5
2	12A	NR1	15	60	47.8	FR1-TM1.1	731.5
3	12A	NR1	15	60	47.8	FR1-TM1.1	737.0
4	12A	NR1	15	60	47.8	FR1-TM1.1	742.5
5	5	LTE1	5	60	47.8	ETM1.1	871.5
6	5	LTE1	5	60	47.8	ETM1.1	881.5
7	5	LTE1	5	60	47.8	ETM1.1	891.5
8	12A	LTE1	15	60	47.8	ETM3.1	731.5
9	12A	LTE1	15	60	47.8	ETM3.1	737.0
10	12A	LTE1	15	60	47.8	ETM3.1	742.5
11	5	NR2	5	2x 30	2x 44.8	FR1-TM1.1	871.5 891.5
12	12A	NR2	5	2x 30	2x 44.8	FR1-TM1.1	731.5 742.5
13	5	LTE2	5	2x 30	2x 44.8	ETM1.1	871.5 891.5
14	12A	LTE2	5	2x 30	2x 44.8	ETM3.1	731.5 742.5
15	5	NR5	5	5x 12	5x 40.8	FR1-TM1.1	871.5 876.5 881.5 886.5 891.5

16	12A	NR3	5	3x 20	3x 43.0	FR1-TM1.1	731.5 736.5 742.5
17	5	LTE5	5	5x 12	5x 40.8	ETM3.1	871.5 876.5 881.5 886.5 891.5
18	12A	LTE3	5	3x 20	3x 43.0	ETM3.1	731.5 736.5 742.5
19	5	NR1 LTE1	15 5	2x 30	2x 44.8	FR1-TM1.1 ETM 1.1	876.5 891.5
20	5	NR1 LTE2	15 5	3x 20	3x 43.0	FR1-TM1.1 ETM 1.1	876.5 886.5 891.5
21	12A	NR1 LTE1	10 5	2x 30	2x 44.8	FR1-TM1.1 ETM 1.1	731.5 742.5
22	12A	NR1 LTE2	5 5 5	3x 20	3x 43.0	FR1-TM1.1 ETM 1.1	731.5 736.5 742.5
23	5 12A	NR1 LTE	25 5	2x 60	50.8	FR1-TM1.1 ETM 1.1	881.5 737.0
24	5 12A	NR1 LTE3	15 5 5 5	60 + 3x 20	50.8	FR1-TM1.1 ETM 1.1	876.5 891.5 732.5 742.5
25	5 12A	NR NB-IoT	10 15		47.8	ESS_QPSK_NBIOT	874.0 734.0
26	5 12A	NR NB-IoT	10 15		47.8	ESS_QPSK_NBIOT	881.5 737.0
27	5 12A	NR NB-IoT	10 15		47.8	ESS_QPSK_NBIOT	889.0 740.0
28	5 12A	LTE NB-IoT	10		47.8	ETM1_1_NBIOT	874.0 734.0
29	5 12A	LTE NB-IoT	10		47.8	ETM1_1_NBIOT	881.5 737.0
30	5 12A	LTE NB-IoT	10		47.8	ETM1_1_NBIOT	889.0 740.0

3.5 Compliance

The EUT shall comply with the emission limits as listed below

Spurious emission at antenna terminals

CFR47 §2.1051, §27.53(l)(1), §22.917, RSS-130.4.6, RSS-132.5.5

the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

4. TEST SUMMARY

The results in this report apply only to sample tested:

Standard	Description	Result
	Emission	
ANSI C63.26 5.5	Field strength of spurious radiation The EUT complies with the limits. The margin to the limit was more than 20 dB to the limit at 30– 1000 MHz. The margin to the limit was more than 20 dB to the limit at 1–9 GHz.	PASS

5. RADIATED RF EMISSION IN THE FREQUENCY-RANGE 30 MHZ– 1 – 9 GHZ

Date of test	Temperature [°C]	Relative Humidity [%]
March 3, 2023	22	22
March 6, 2023	20	15
March 7, 2023	22	13
March 8, 2023	22	18
March 9, 2023	22	13
March 10, 2023	21	17
March 13, 2023	22	12
March 14, 2023	21	30
March 16, 2023	21	20
March 17, 2023	21	19
March 20, 2023	21	30
March 21, 2023	21	25
March 22, 2023	21	34
March 23, 2023	21	29

5.1 Test set-up and test procedure

The test method is in accordance with ANSI C63.26.

The EUT was set up in order to emit maximum disturbances.

30 – 1000 MHz: The EUT was placed on a pole 0.8 m above the turntable which is part of the reference ground plane (RGP). The pole was insulated from RGP with 15 cm thick support.

> 1000 MHz: The EUT was placed on a pole 1.5 m above the turntable which is part of the reference ground plane (RGP). The pole was insulated from RGP with 15 cm thick support. Absorbers were placed on the floor between the EUT and measurement antenna.

Overview sweeps were performed with the measurement receiver in max-hold mode and the peak and average detectors activated in the frequency-range

The EUT is continuously rotated 360°

Test set-up:	30 MHz – 40 GHz	
Test receiver set-up:	Peak	RBW 1 MHz, VBW 3 MHz
Preview test:	Average	RBW 1 MHz, VBW 3 MHz
Final test:	RMS	RBW 1 MHz, VBW 3 MHz
Measuring distance:	3 m	
Measuring angle:	0 – 359°	
EUT height above ground plane:	0.8 m	1.5 m
Antenna	30 – 1000 MHz	1 – 40 GHz
Type:	Bilog	Horn
Antenna tilt:	Not Activated	Activated
Height above ground plane:	1 – 4 m	
Polarisation:	Vertical and Horizontal	

$$E[\text{dB}\mu\text{V}/\text{m}] = \text{Analyser reading} [\text{dB}\mu\text{V}] + \text{Antenna factor} [1/\text{m}] - \text{Amplifier gain} [\text{dB}] + \text{Cable loss} [\text{dB}]$$

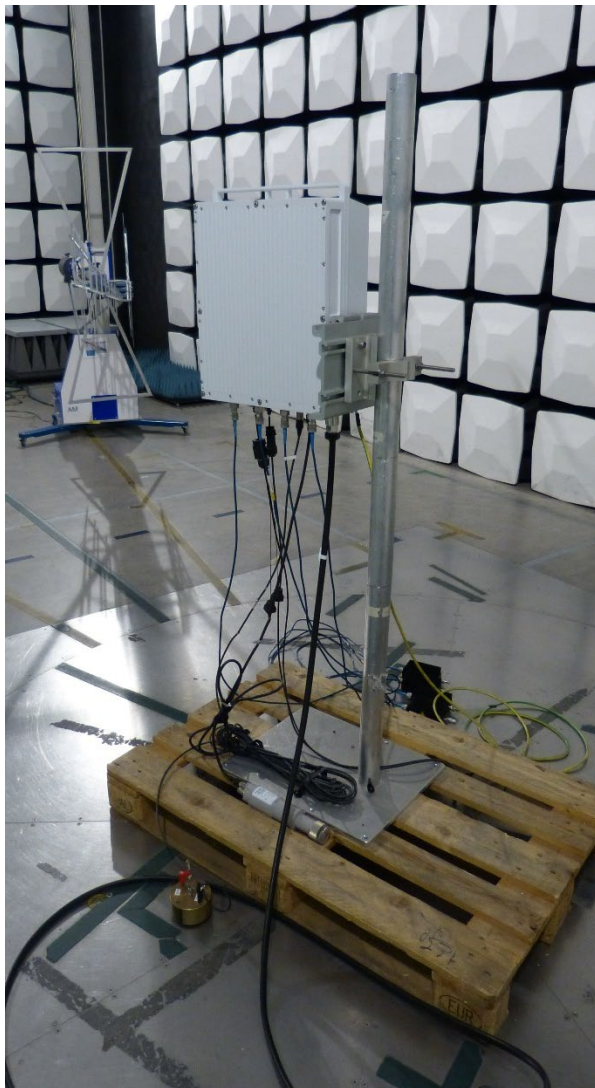
$$\text{EIRP} [\text{dBm}] = E[\text{dB}\mu\text{V}/\text{m}] + 20\log[3] - 104.8$$

5.2 Measurement uncertainty

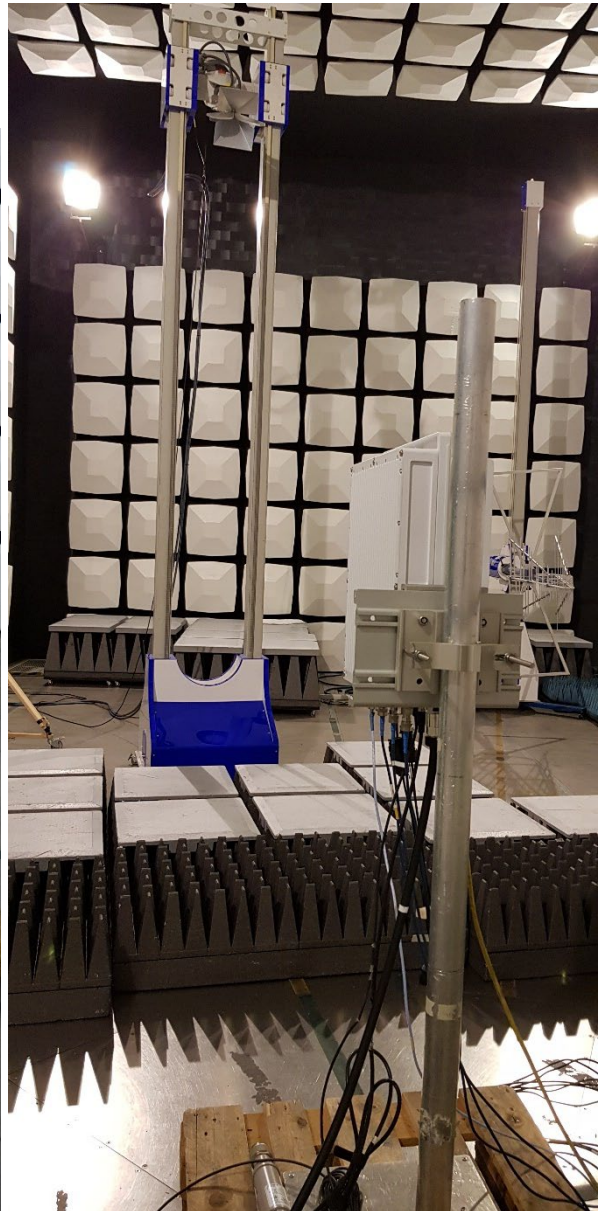
Measurement uncertainty for radiated disturbance

Uncertainty for the frequency range 30 to 1000 MHz at 3 m	± 5.1 dB
Uncertainty for the frequency range 30 to 1000 MHz at 10 m	± 5.0 dB
Uncertainty for the frequency range 1.0 to 18 GHz at 3 m	± 4.5 dB
Uncertainty for the frequency range 18 to 26 GHz at 3 m	± 4.8 dB
Uncertainty for the frequency range 26 to 40 GHz at 3 m	± 5.7 dB

Measurement uncertainty is calculated in accordance with CISPR 16-4-2: 2011.
The measurement uncertainty is given with a confidence of 95 %.



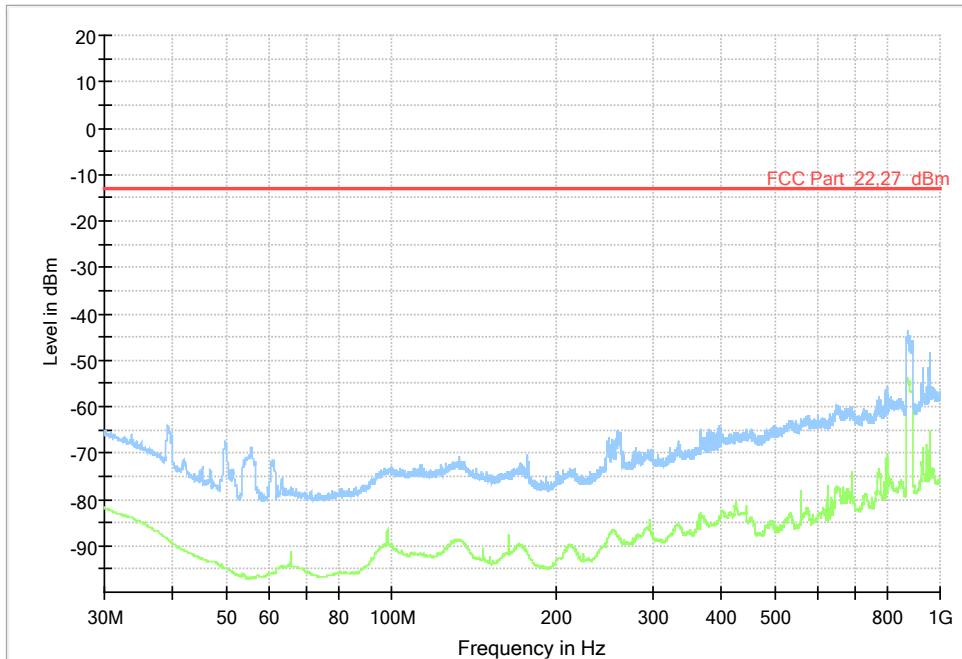
30 – 1000 MHz



1 – 9 GHz

Photos of the test set ups

5.3 Test results, 30 – 1000 MHz, configuration 1: 1 NR B5 BW25MHz

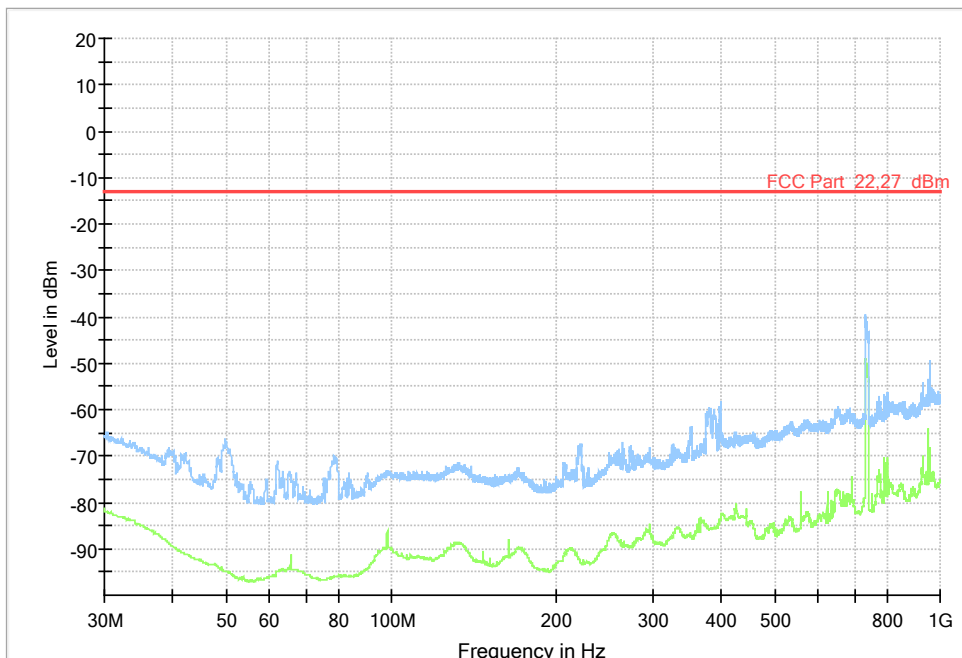


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.4 Test results, 30 – 1000 MHz, configuration 2: 1 NR B12A Bot BW15MHz

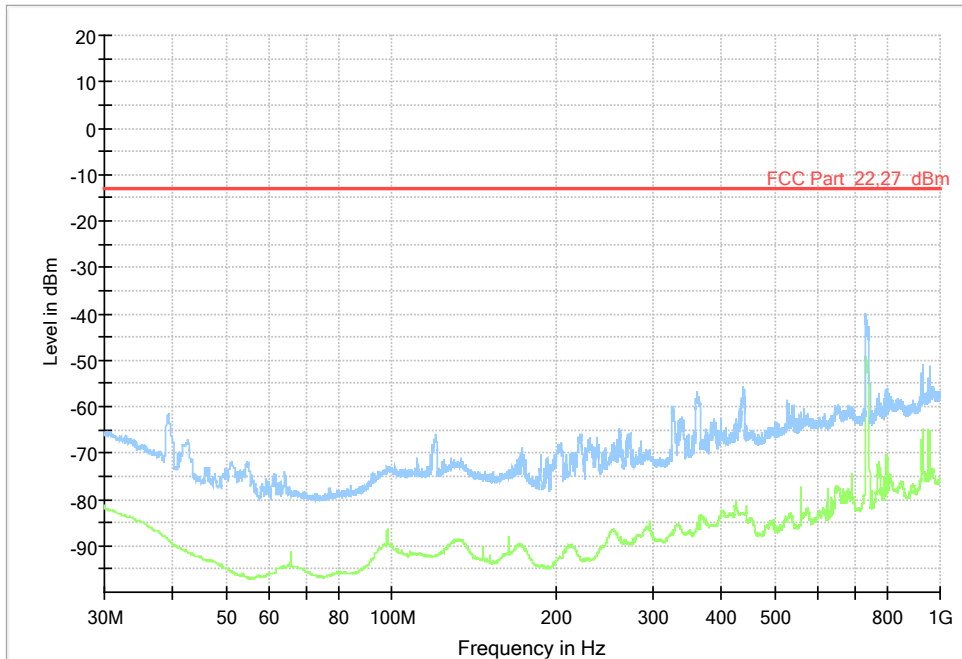


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.5 Test results, 30 – 1000 MHz, configuration 3: 1 NR B12A Mid BW15MHz

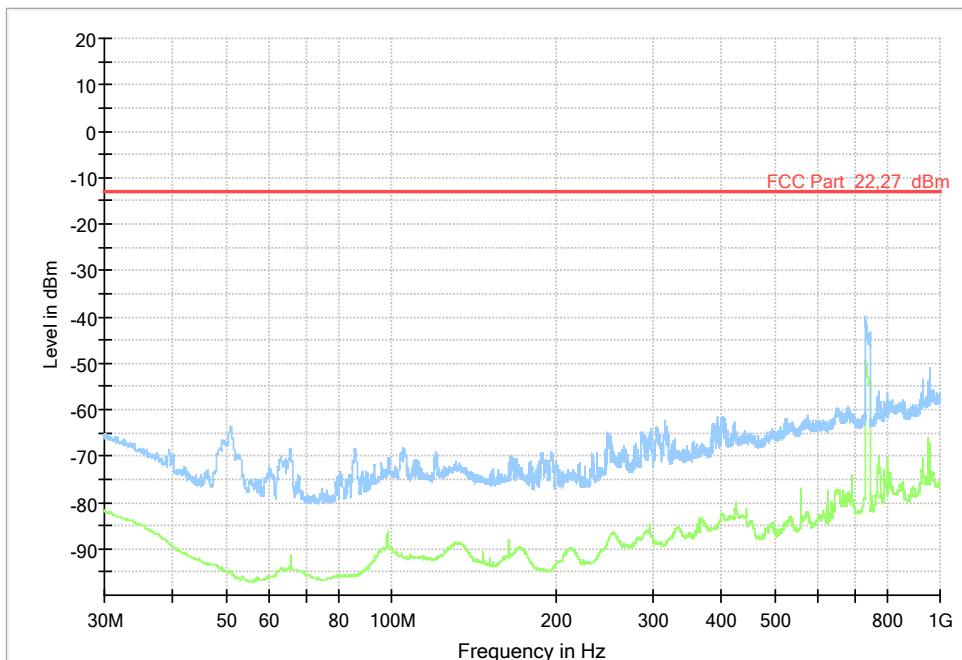


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.6 Test results, 30 – 1000 MHz, configuration 4: 1 NR B12A Top BW15MHz

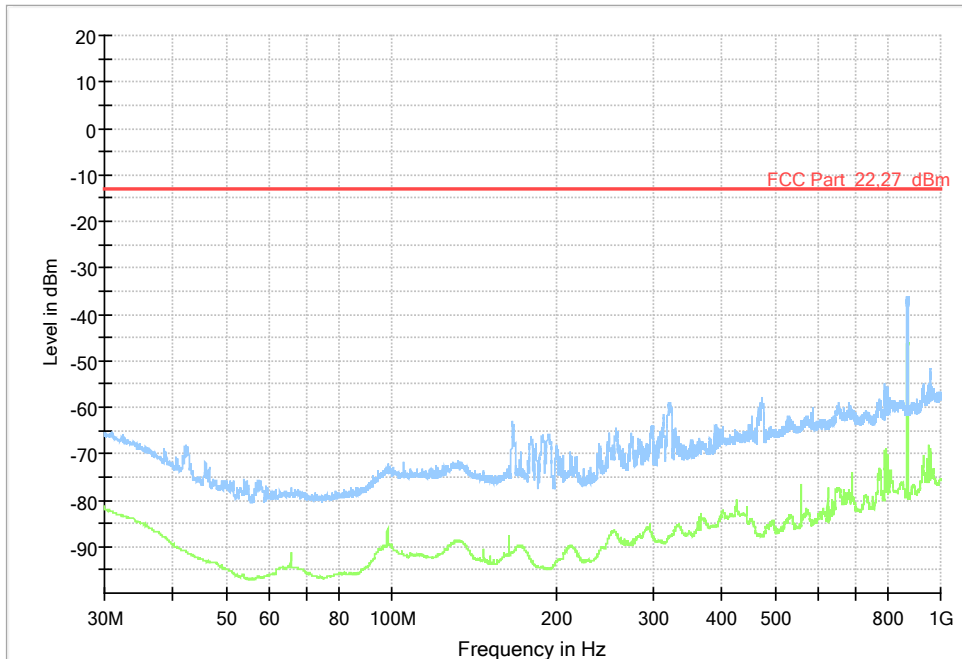


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.7 Test results, 30 – 1000 MHz, configuration 5: 1 LTE B5 Bot BW5MHz

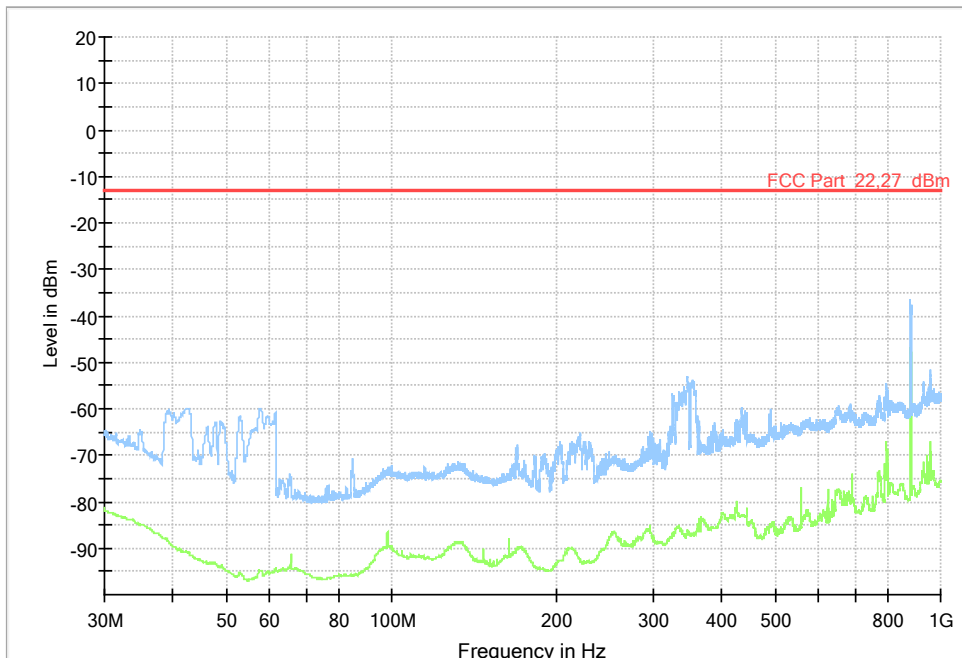


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.8 Test results, 30 – 1000 MHz, configuration 6: 1 LTE B5 Mid BW5MHz

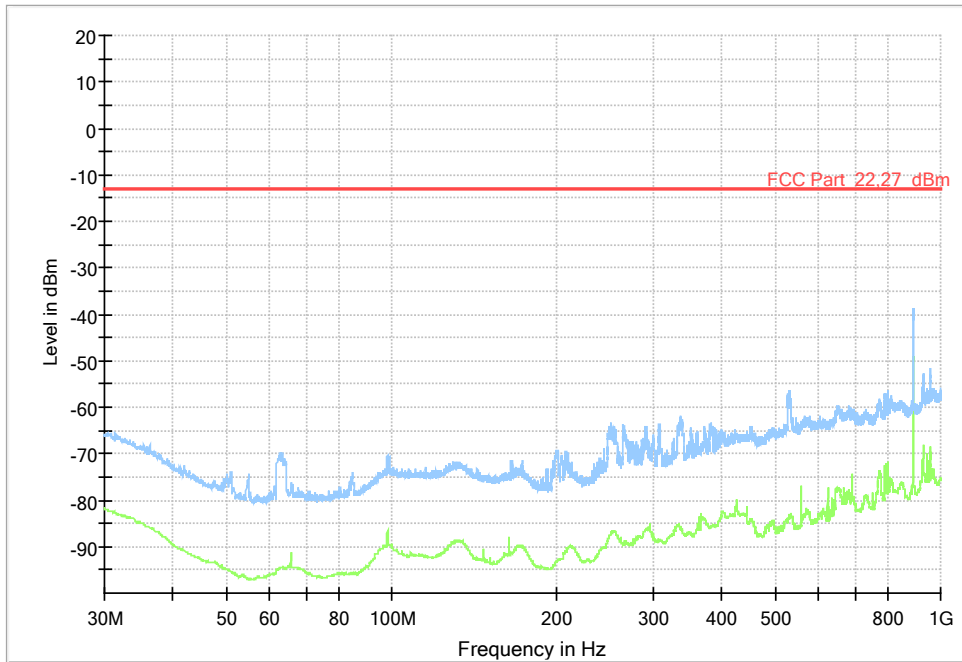


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.9 Test results, 30 – 1000 MHz, configuration 7: 1 LTE B5 Top BW5MHz

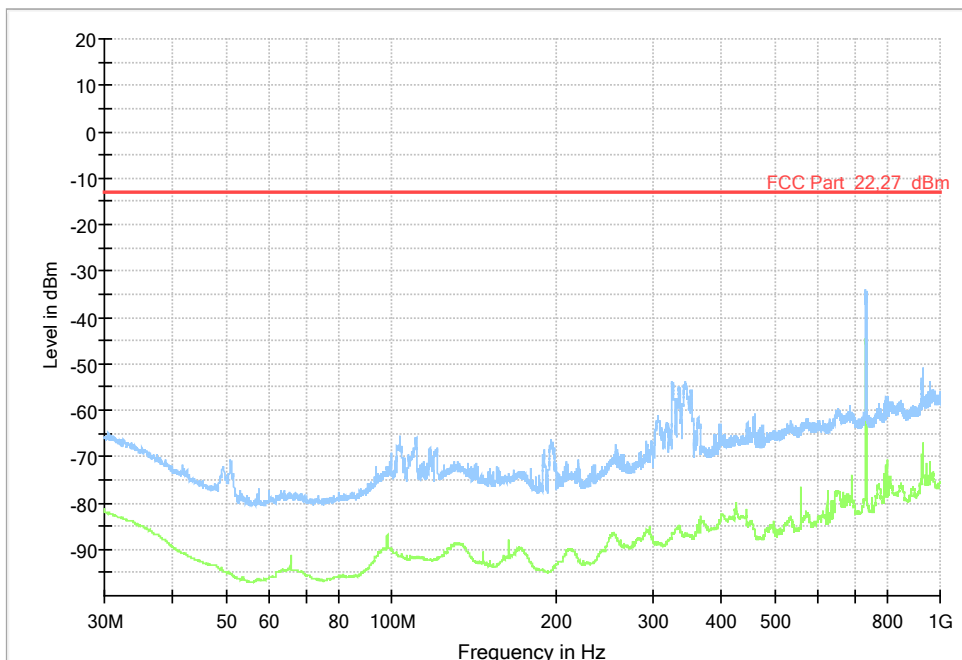


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.10 Test results, 30 – 1000 MHz, configuration 8: 1 LTE B12 Bot BW15MHz

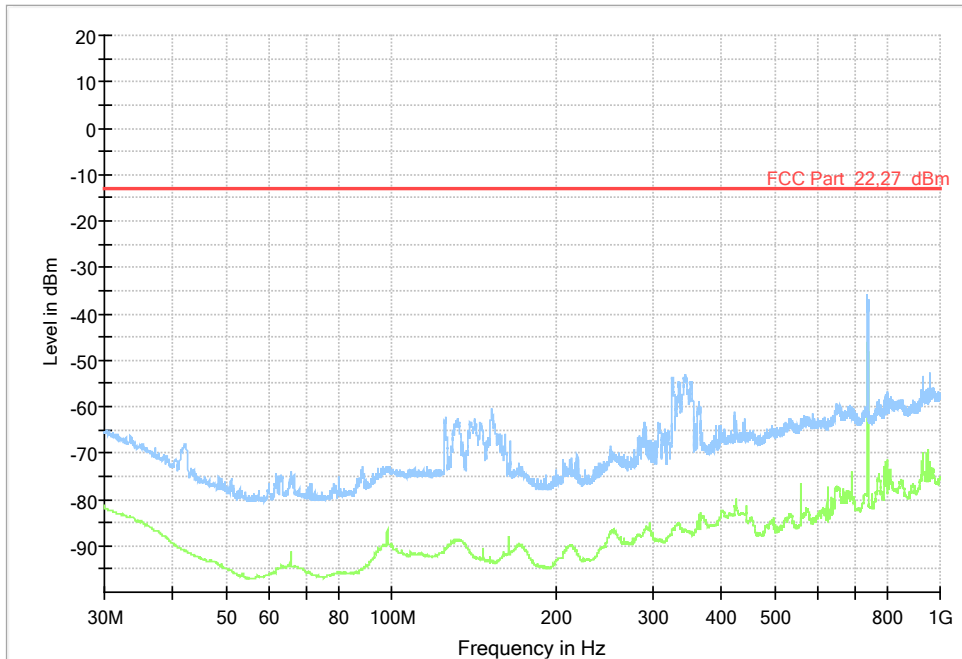


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.11 Test results, 30 – 1000 MHz, configuration 9: 1 LTE B12 Mid BW15MHz

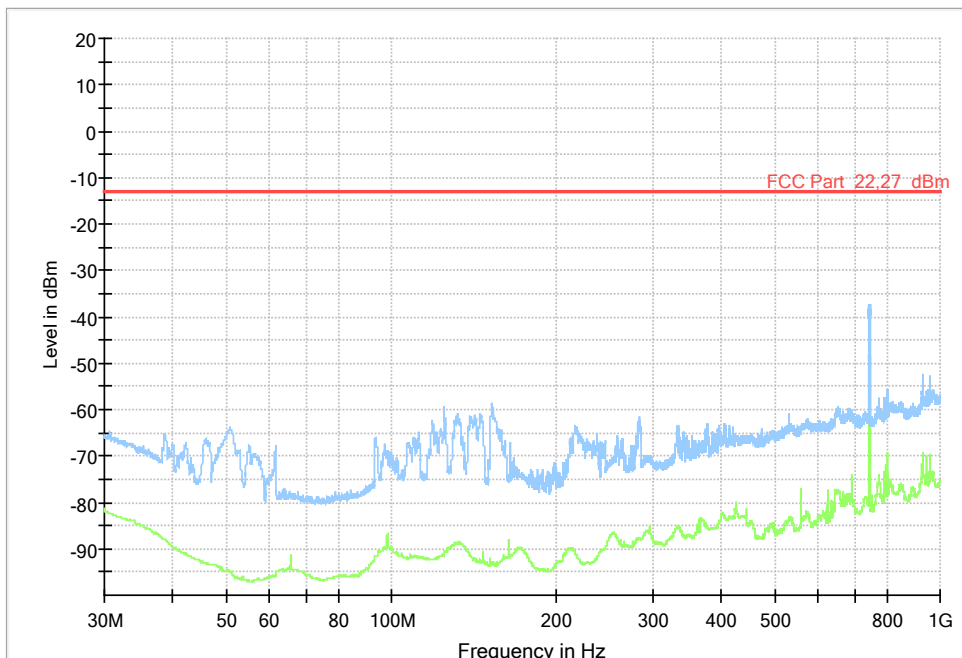


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.12 Test results, 30 – 1000 MHz, configuration 10: 1 LTE B12 Top BW15MHz

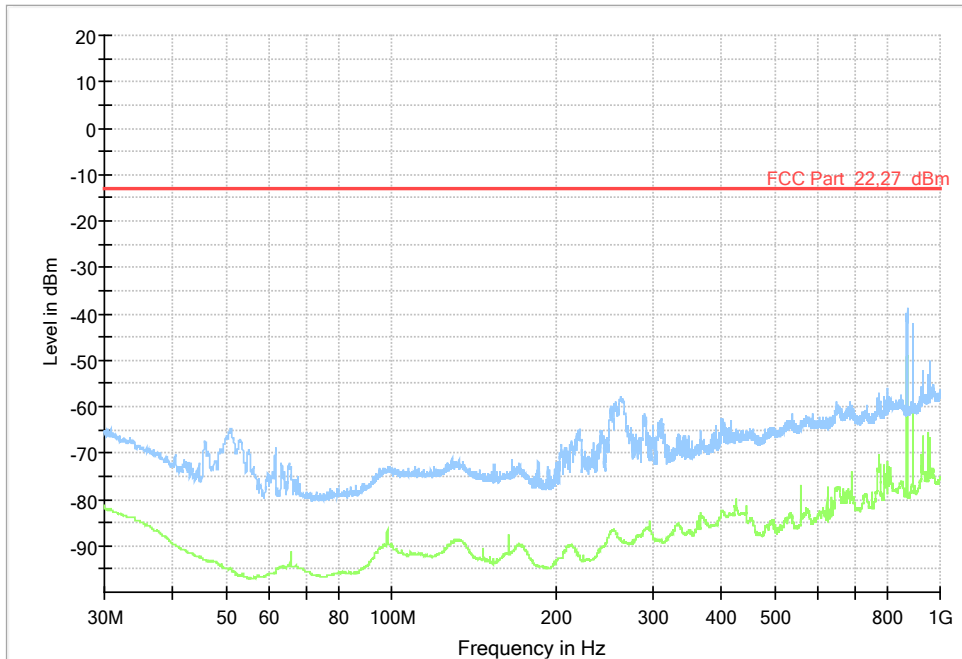


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.13 Test results, 30 – 1000 MHz, configuration 11: 2 NR B5 BW5MHz

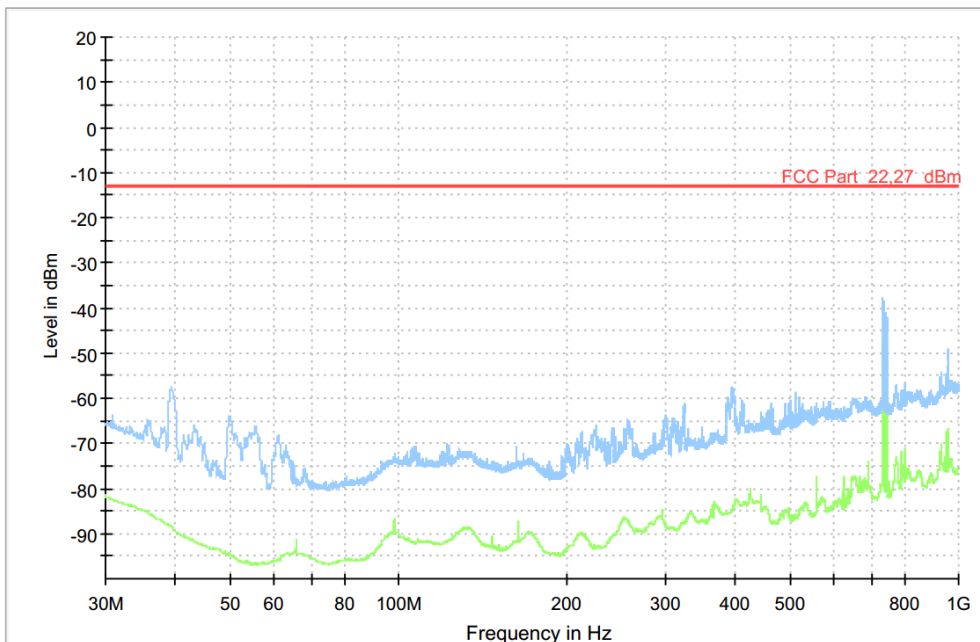


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.14 Test results, 30 – 1000 MHz, configuration 12: 2 NR B12 BW5MHz

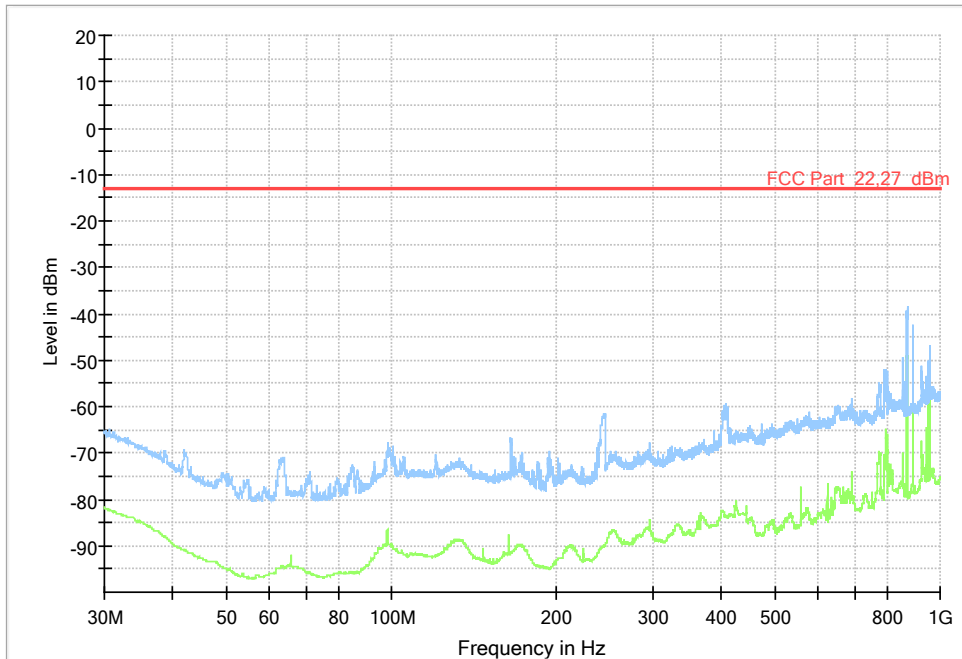


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.15 Test results, 30 – 1000 MHz, configuration 13: 2 LTE B5 BW5MHz

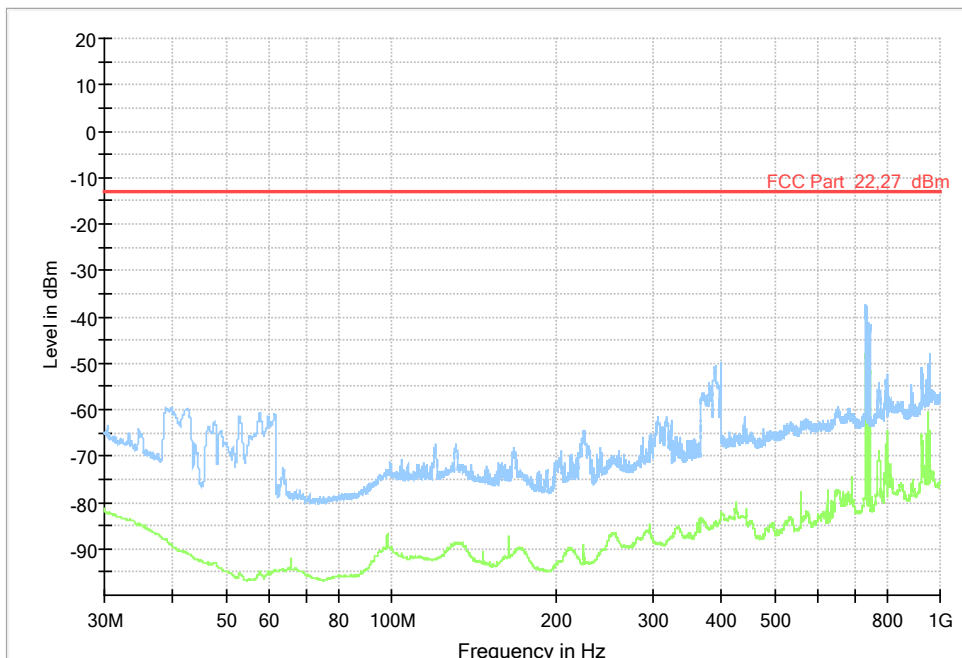


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.16 Test results, 30 – 1000 MHz, configuration 14: 2 LTE B12 BW5MHz

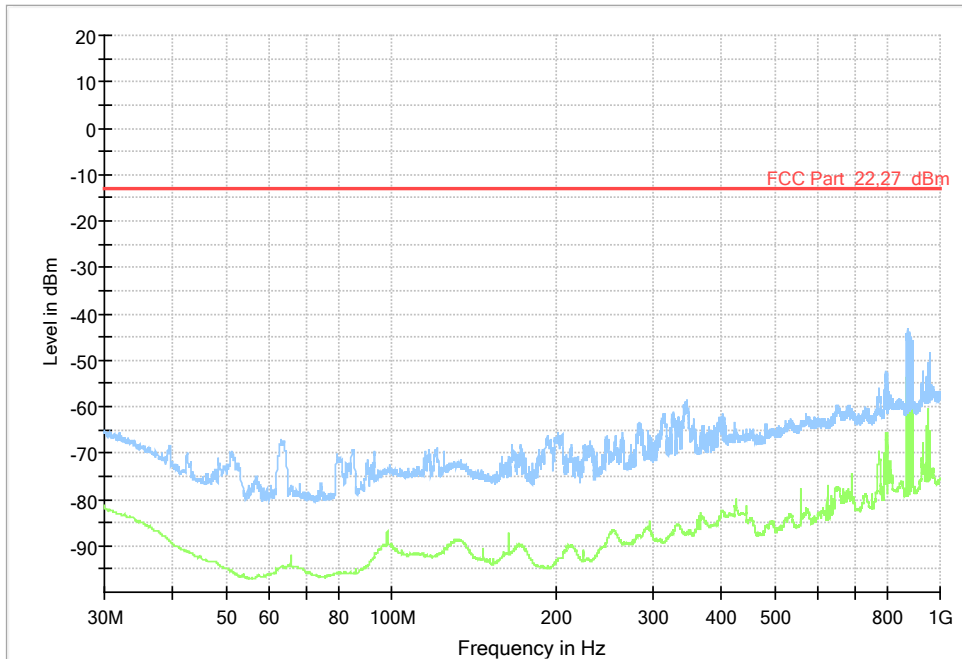


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.17 Test results, 30 – 1000 MHz, configuration 15: 5 NR B5 BW5MHz

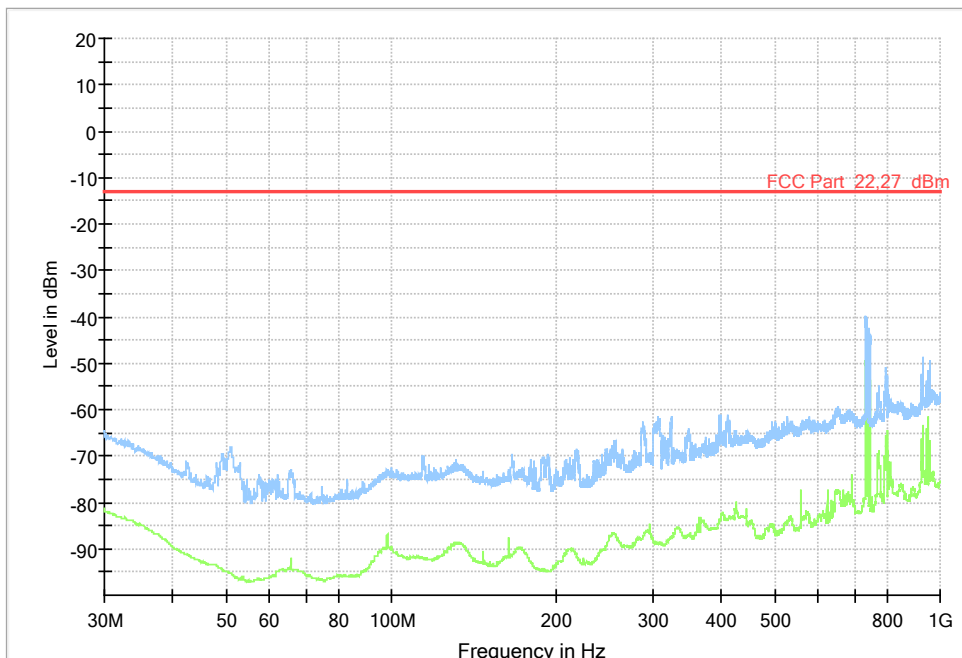


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.18 Test results, 30 – 1000 MHz, configuration 16: 3 NR B12 BW5MHz

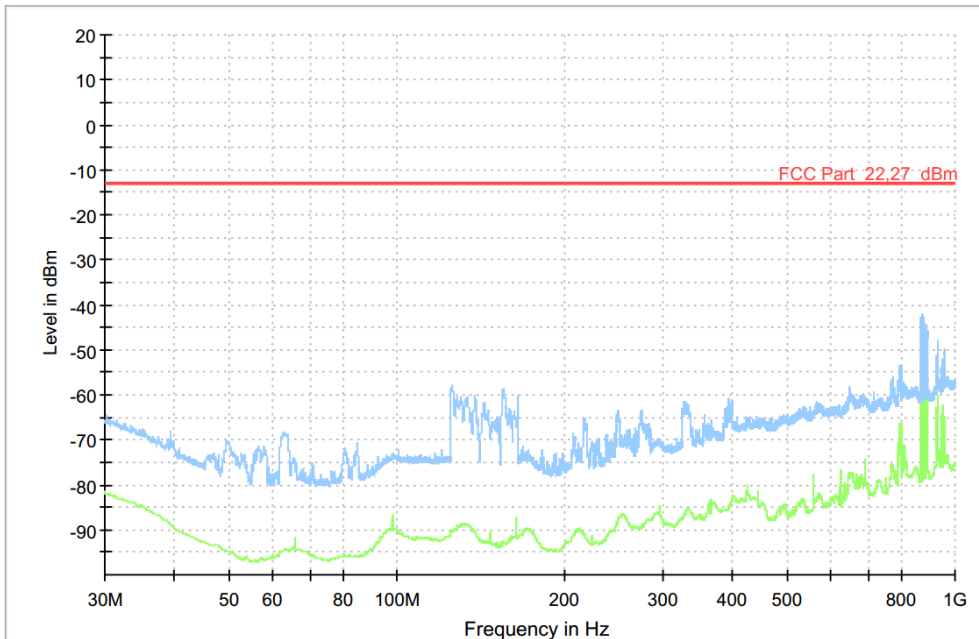


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.19 Test results, 30 – 1000 MHz, configuration 17: 5 LTE B5 BW5MHz

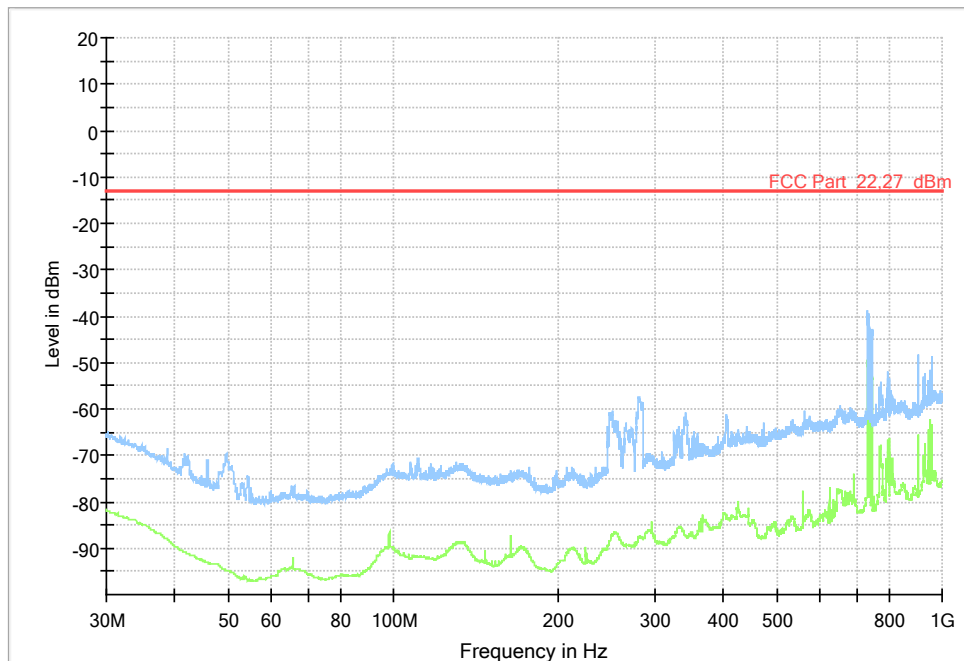


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.20 Test results, 30 – 1000 MHz, configuration 18: 3 LTE B12 BW5MHz

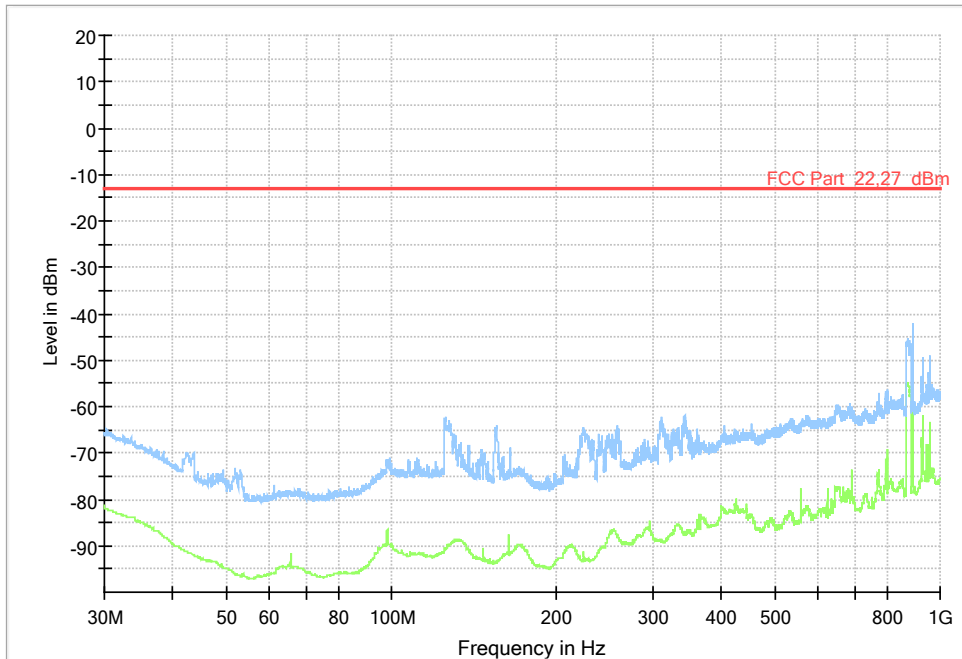


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.21 Test results, 30 – 1000 MHz, configuration 19: 1 NR BW15MHz 1 LTE BW5MHz B5

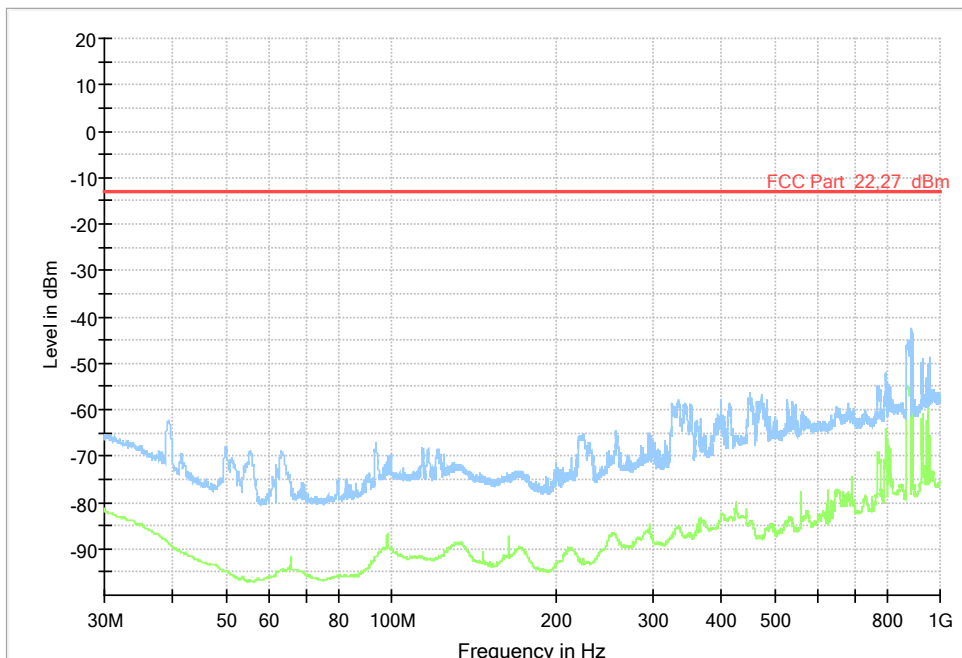


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.22 Test results, 30 – 1000 MHz, configuration 20: 1 NR BW15MHz 2 LTE BW5MHz B5

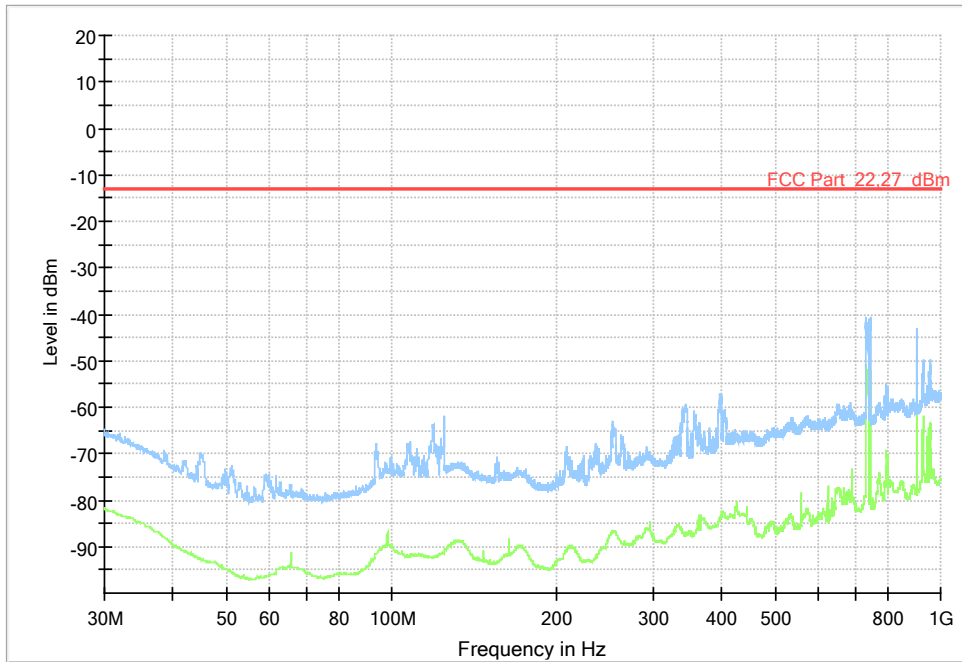


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.23 Test results, 30 – 1000 MHz, configuration 21: 1 NR BW10MHz 1 LTE BW5MHz B12

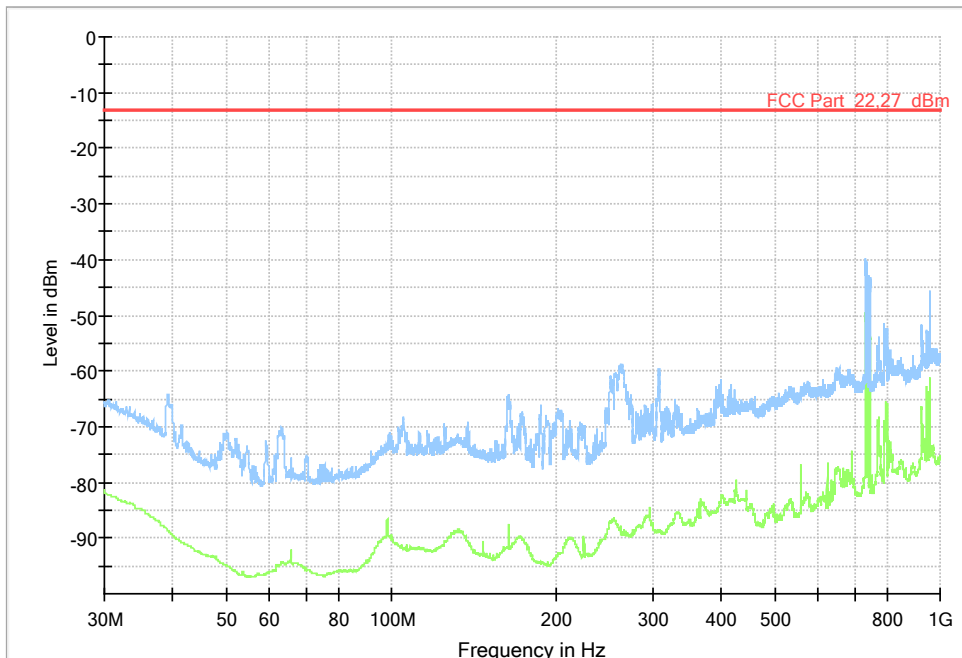


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.24 Test results, 30 – 1000 MHz, configuration 22: 1 NR BW5MHz 2 LTE BW5MHz B12

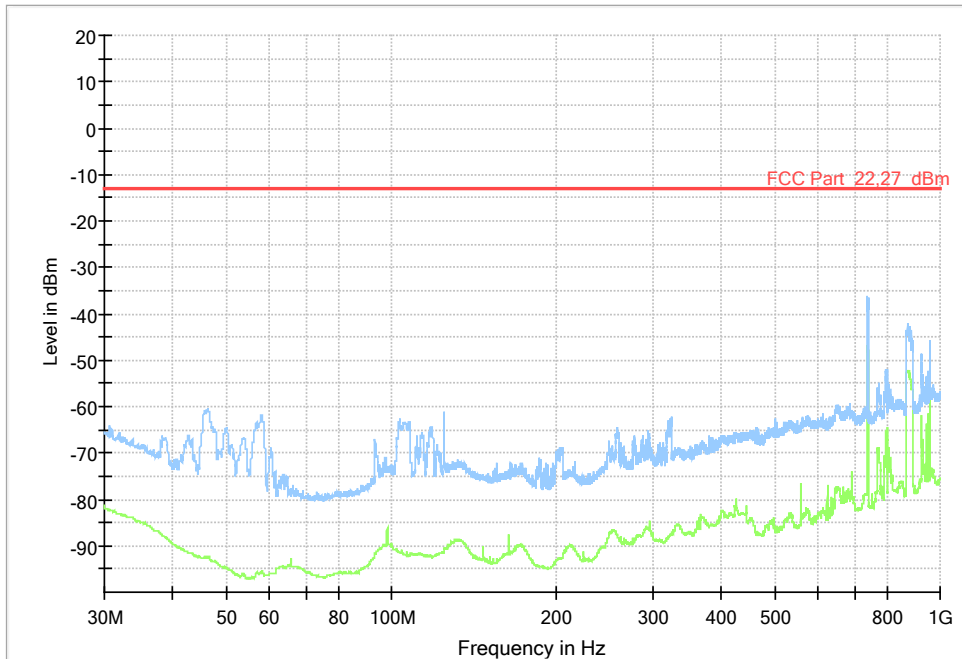


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.25 Test results, 30 – 1000 MHz, configuration 23: 1 NR BW25MHz B5 1 LTE BW5MHz B12

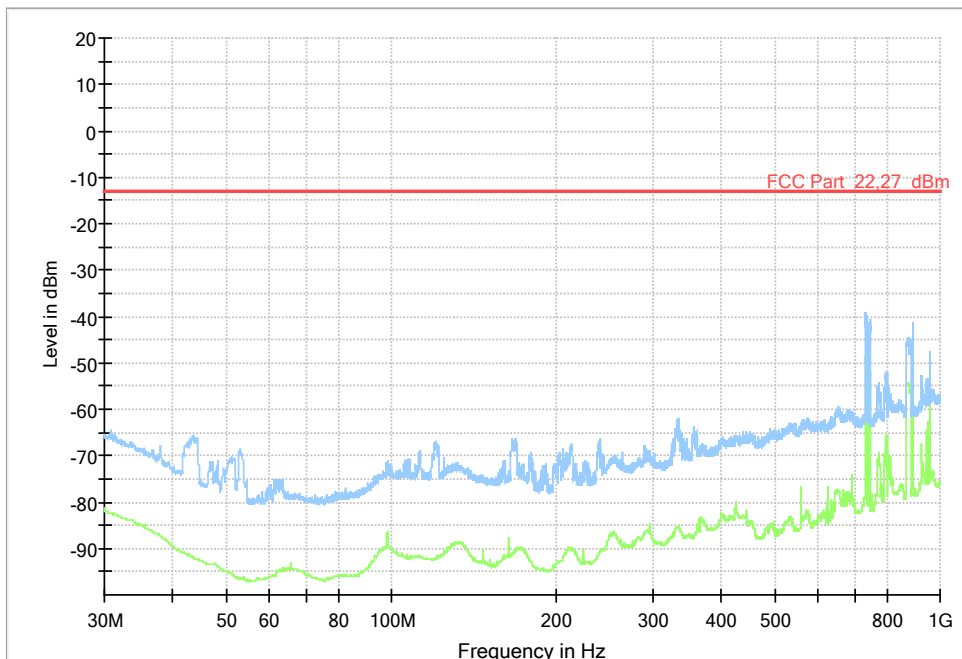


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.26 Test results, 30 – 1000 MHz, configuration 24: 1 NR BW15MHz B5 1 LTE BW5MHz B5 1 NR BW5MHz B12 1 LTE BW5MHz B12

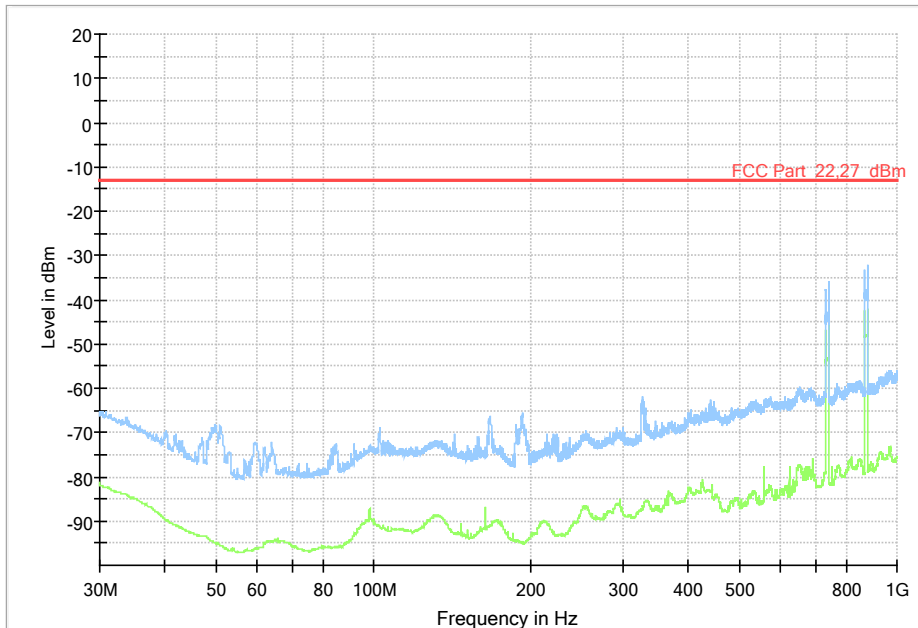


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.27 Test results, 30 – 1000 MHz, configuration 25: 1 NR NB-IoT BW10MHz B5 1 NR NB-IoT BW15MHz B12 BOT

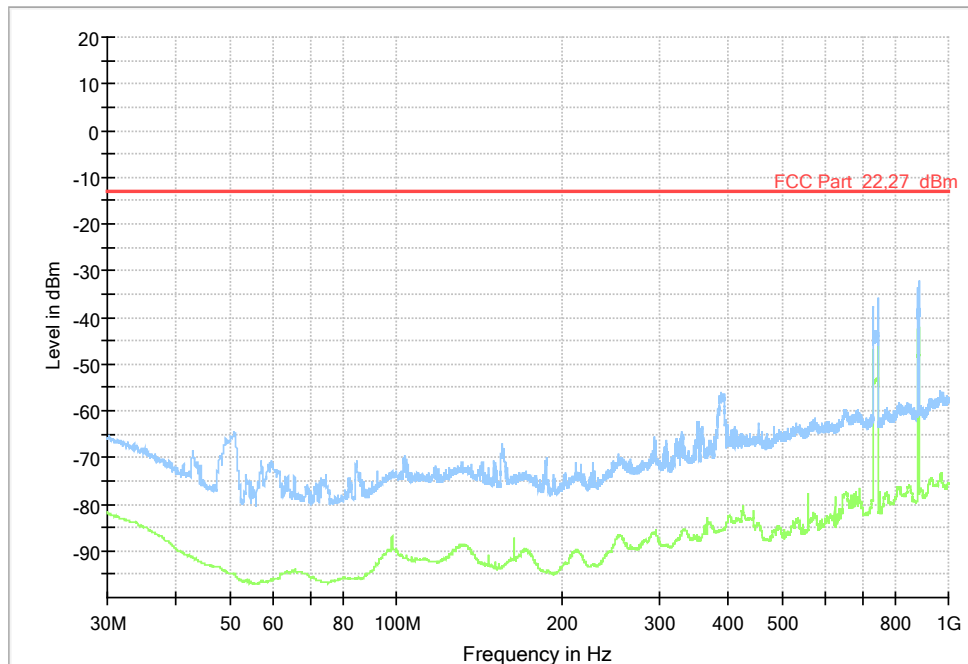


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.28 Test results, 30 – 1000 MHz, configuration 26: 1 NR NB-IoT BW10MHz B5 1 NR NB-IoT BW15MHz B12 MID

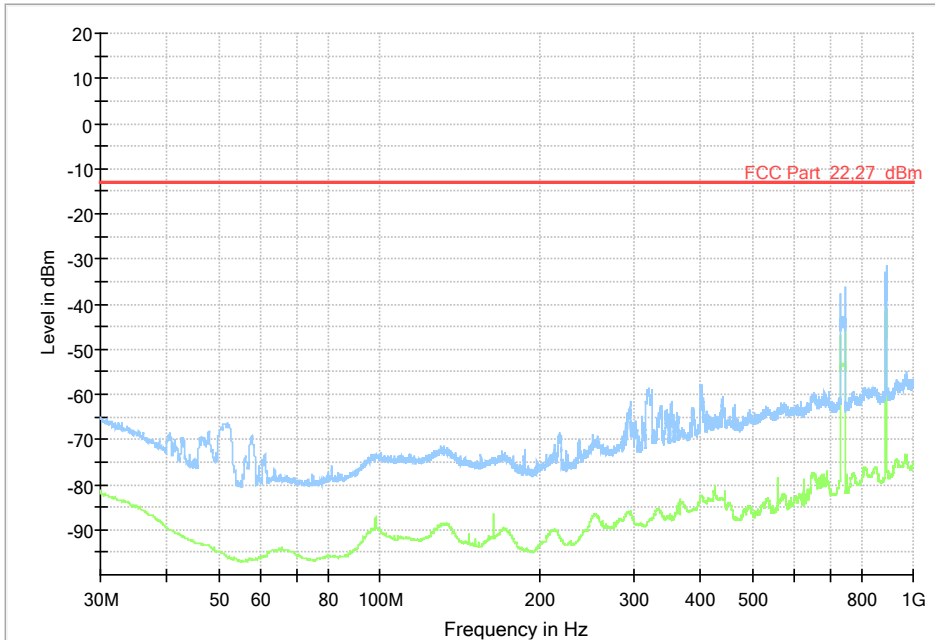


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.29 Test results, 30 – 1000 MHz, configuration 27: 1 NR NB-IoT BW10MHz B5 1 NR NB-IoT BW15MHz B12 TOP

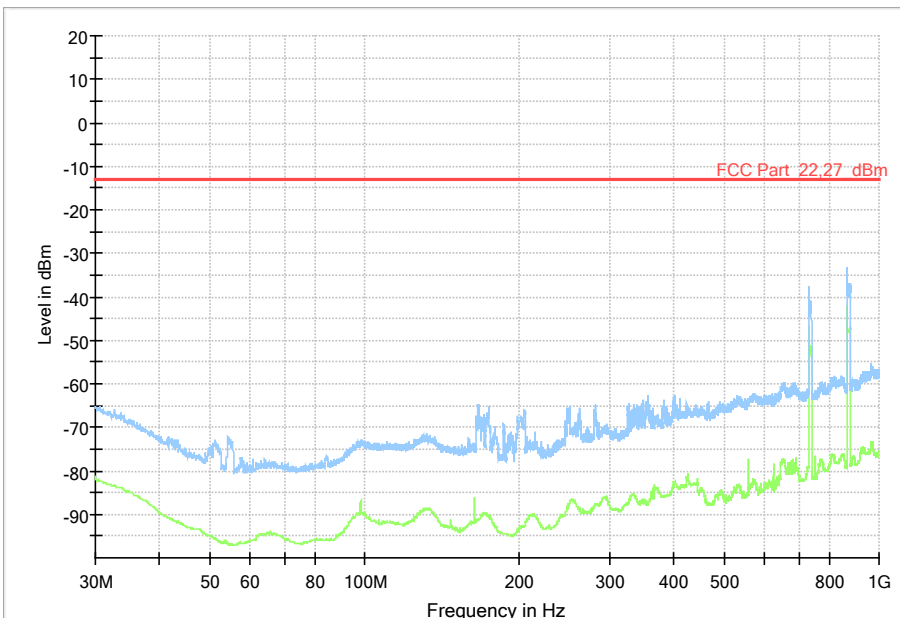


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.30 Test results, 30 – 1000 MHz, configuration 28: 1 LTE NB-IoT BW10MHz B5 1 LTE NB-IoT BW10MHz B12 BOT

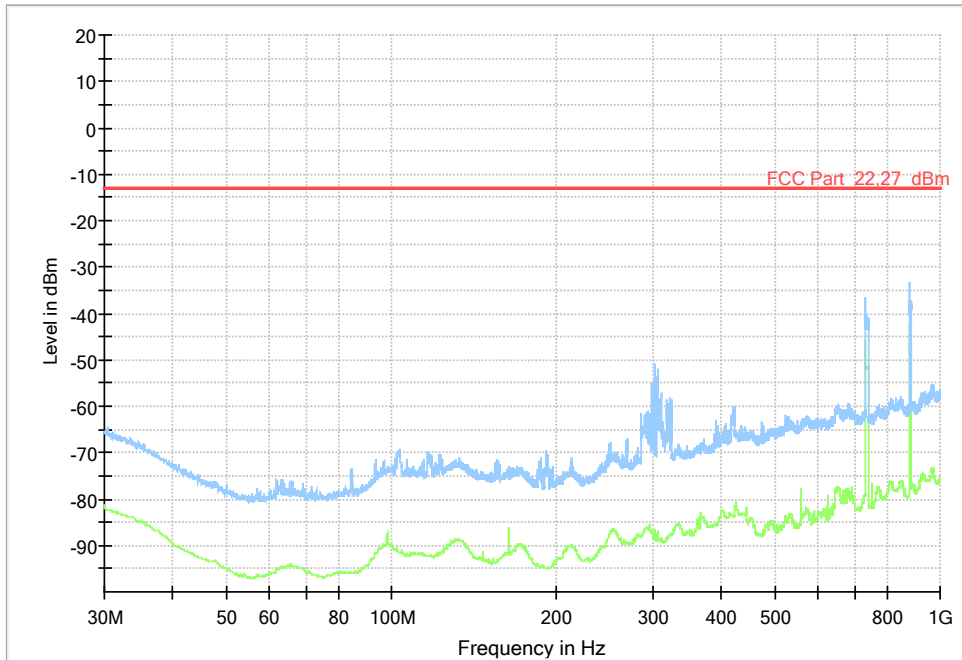


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.31 Test results, 30 – 1000 MHz, configuration 29: 1 LTE NB-IoT BW10MHz B5 1 LTE NB-IoT BW10MHz B12 MID

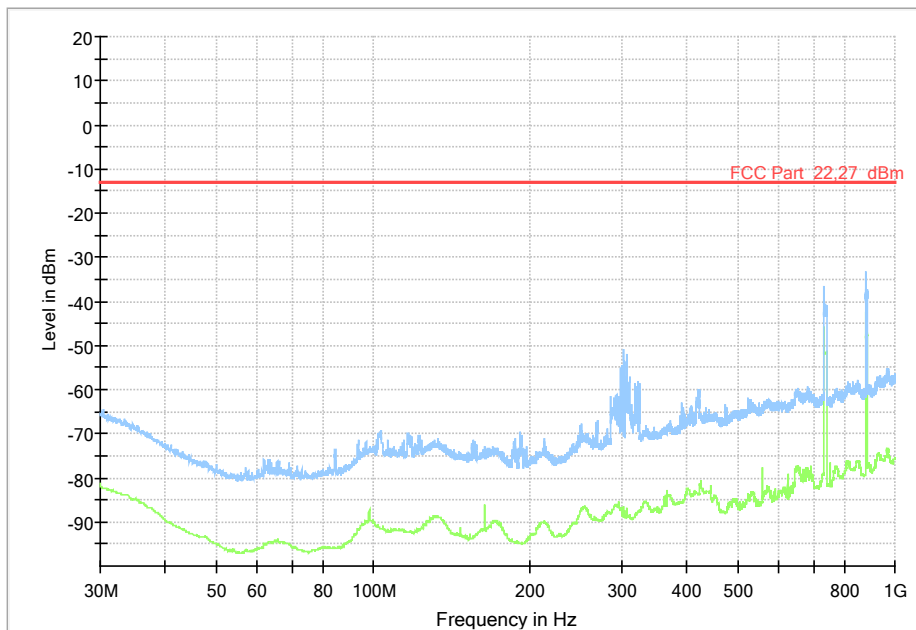


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.32 Test results, 30 – 1000 MHz, configuration 30: 1 LTE NB-IoT BW10MHz B5 1 LTE NB-IoT BW10MHz B12 TOP

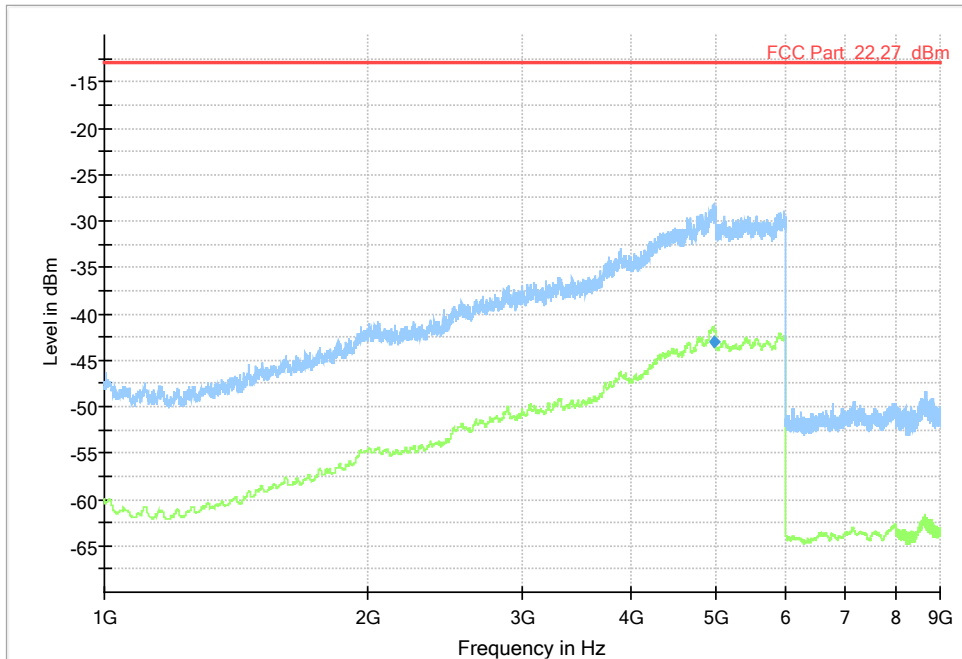


Diagram, Peak and average overview sweep, 30 – 1000 MHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.33 Test results, 1 – 9 GHz, configuration 1: 1 NR B5 BW25MHz

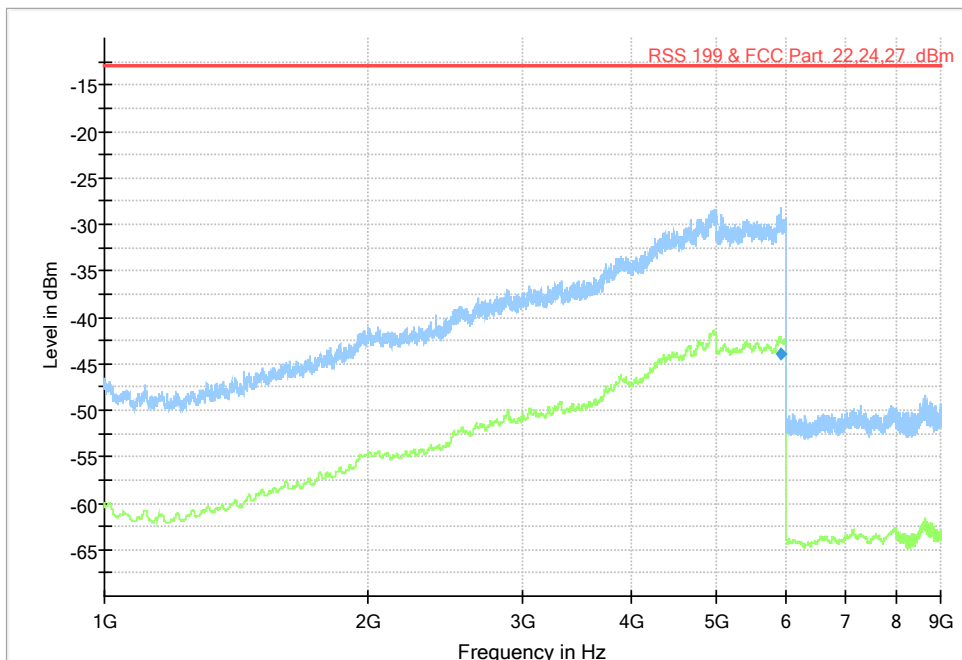


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.34 Test results, 1 – 9 GHz, configuration 2: 1 NR B12A Bot BW15MHz

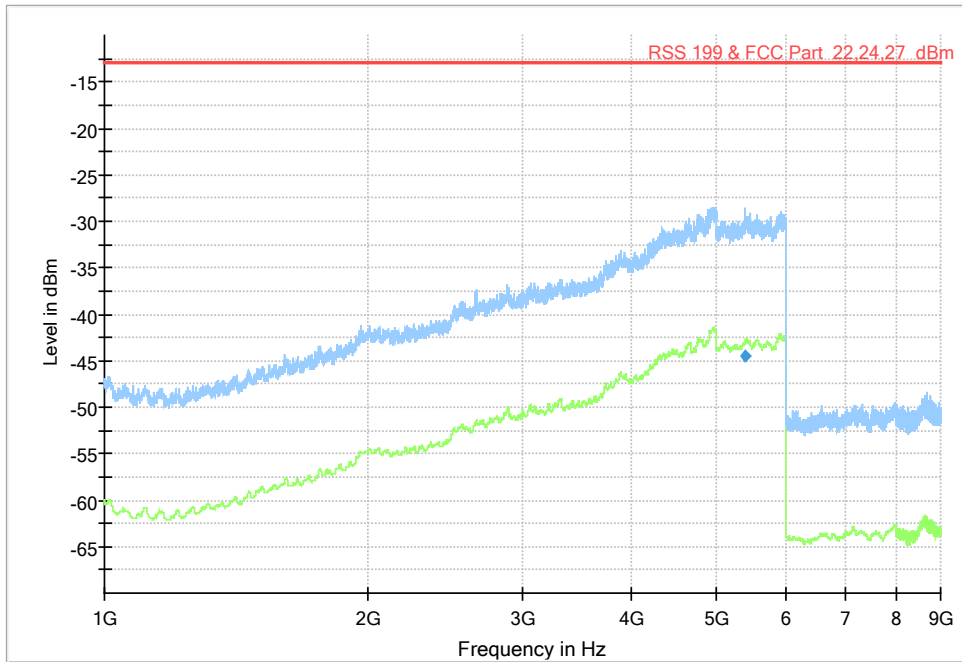


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.35 Test results, 1 – 9 GHz, configuration 3: 1 NR B12A Mid BW15MHz

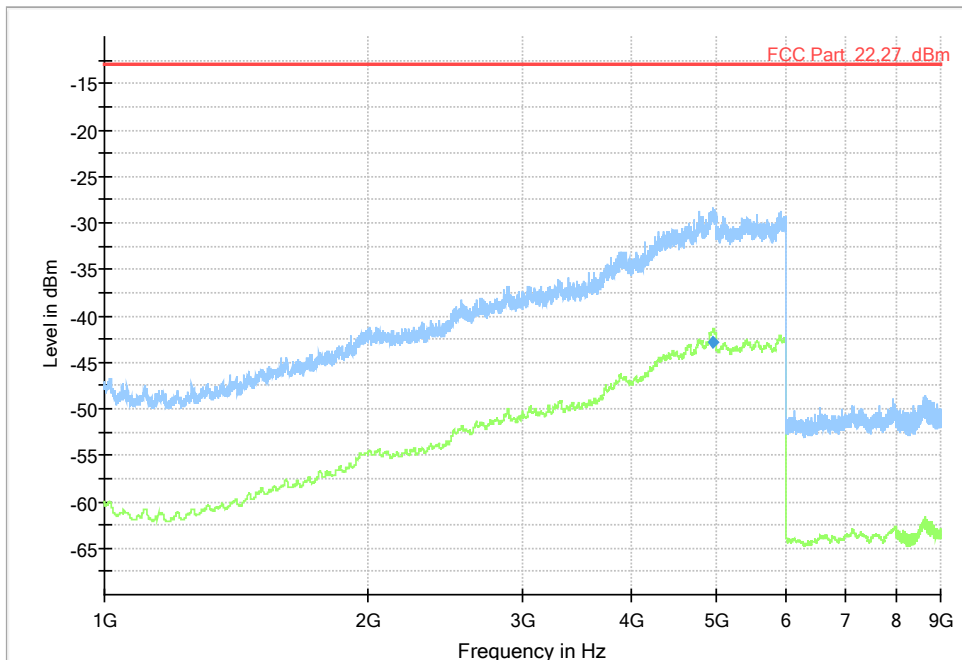


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.36 Test results, 1 – 9 GHz, configuration 4: 1 NR B12A Top BW15MHz

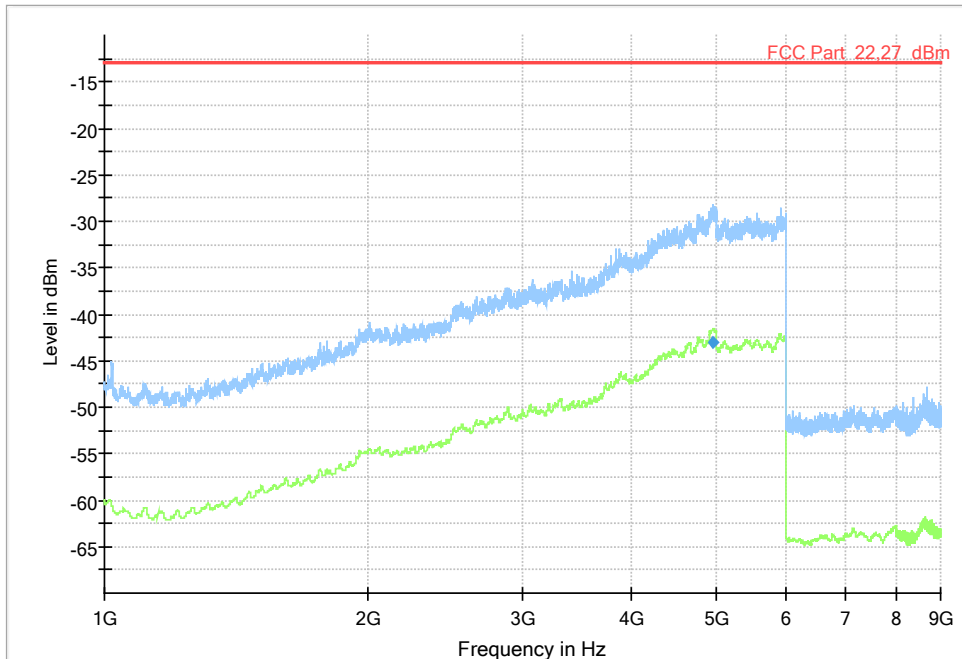


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.37 Test results, 1 – 9 GHz, configuration 5: 1 LTE B5 Bot BW5MHz

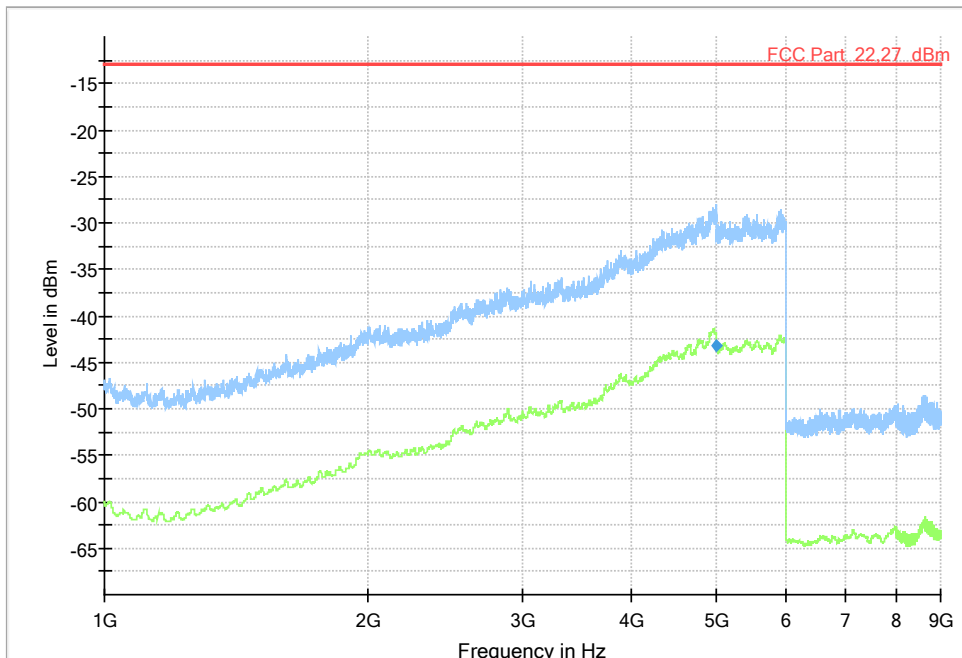


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.38 Test results, 1 – 9 GHz, configuration 6: 1 LTE B5 Mid BW5MHz

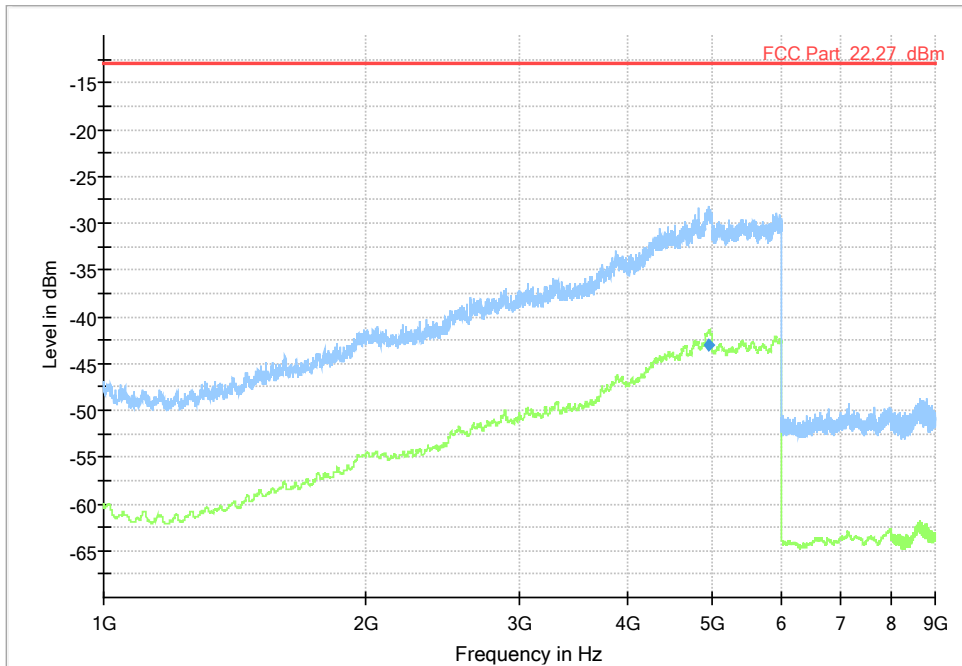


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.39 Test results, 1 – 9 GHz, configuration 7: 1 LTE B5 Top BW5MHz

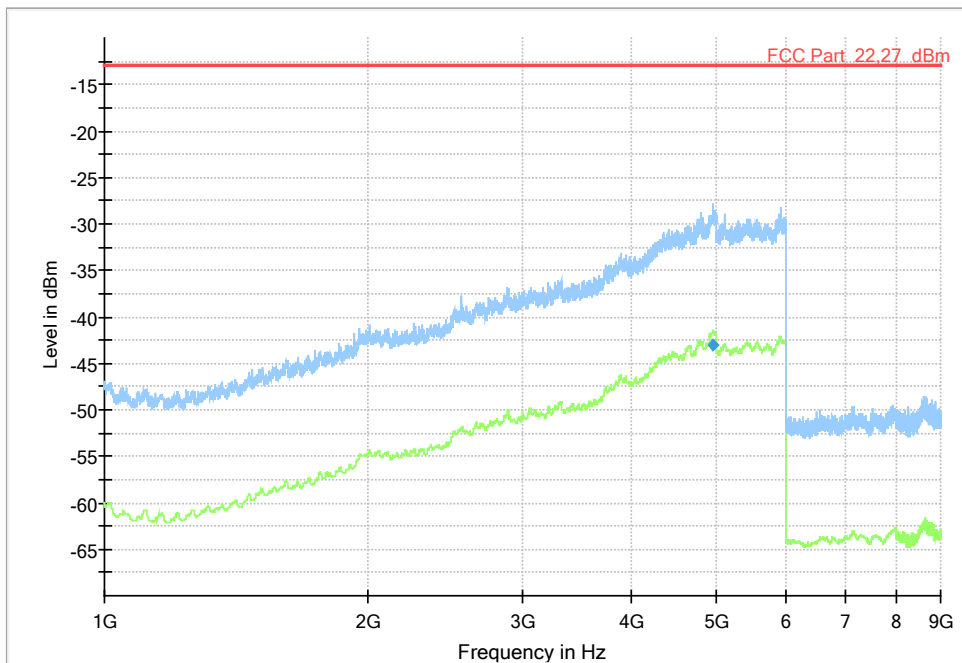


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.40 Test results, 1 – 9 GHz, configuration 8: 1 LTE B12 Bot BW15MHz

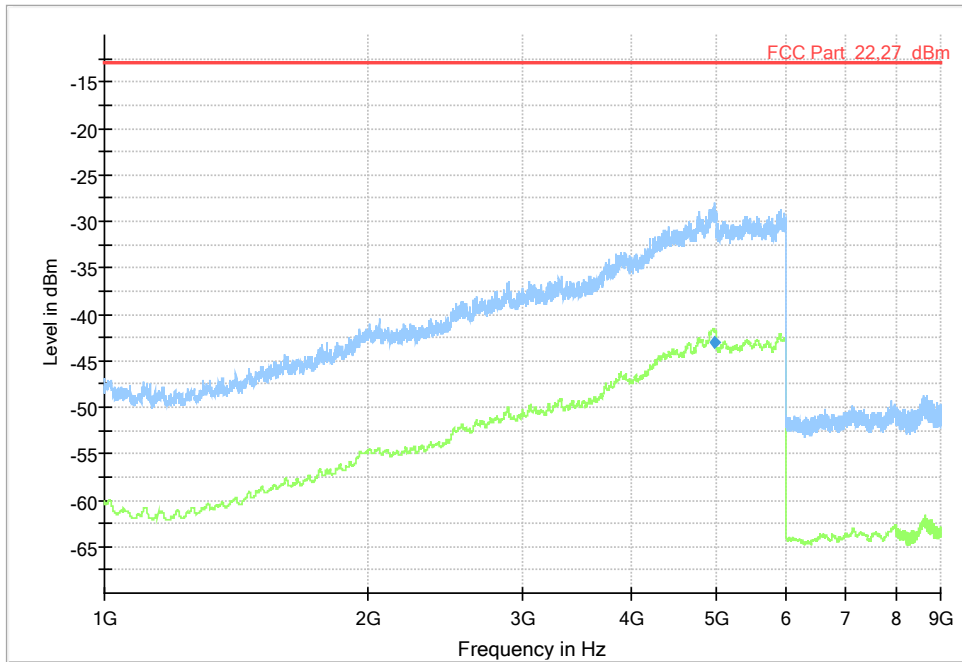


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.41 Test results, 1 – 9 GHz, configuration 9: 1 LTE B12 Mid BW15MHz

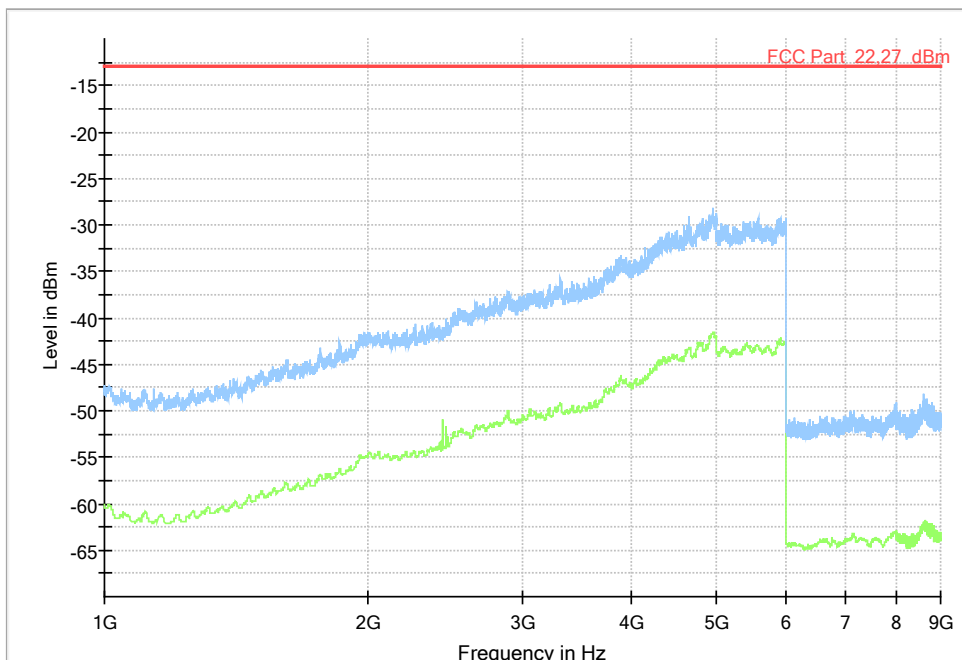


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.42 Test results, 1 – 9 GHz, configuration 10: 1 LTE B12 Top BW15MHz

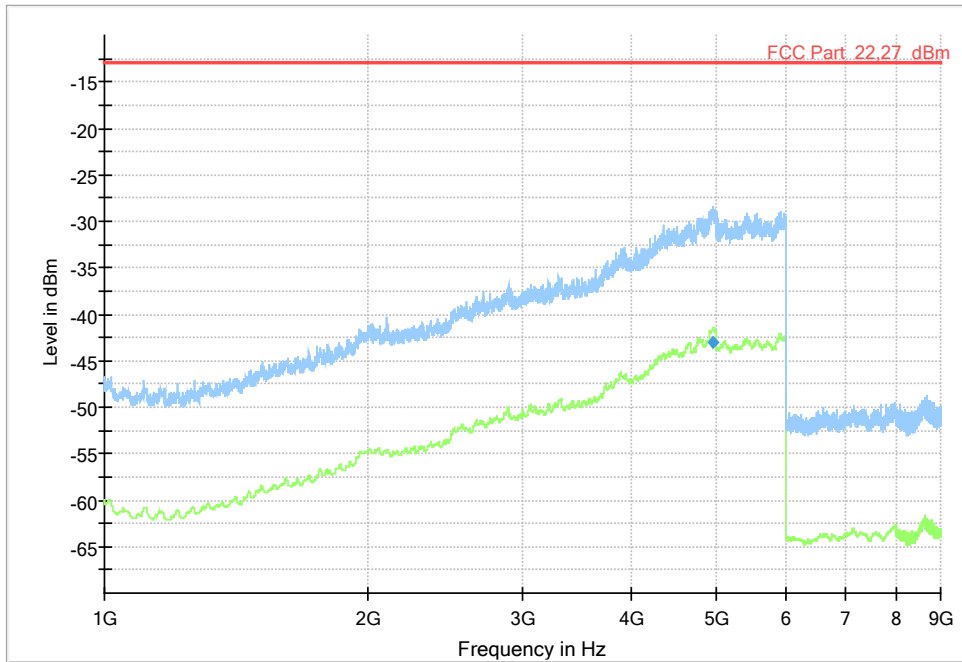


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.43 Test results, 1 – 9 GHz, configuration 11: 2 NR B5 BW5MHz

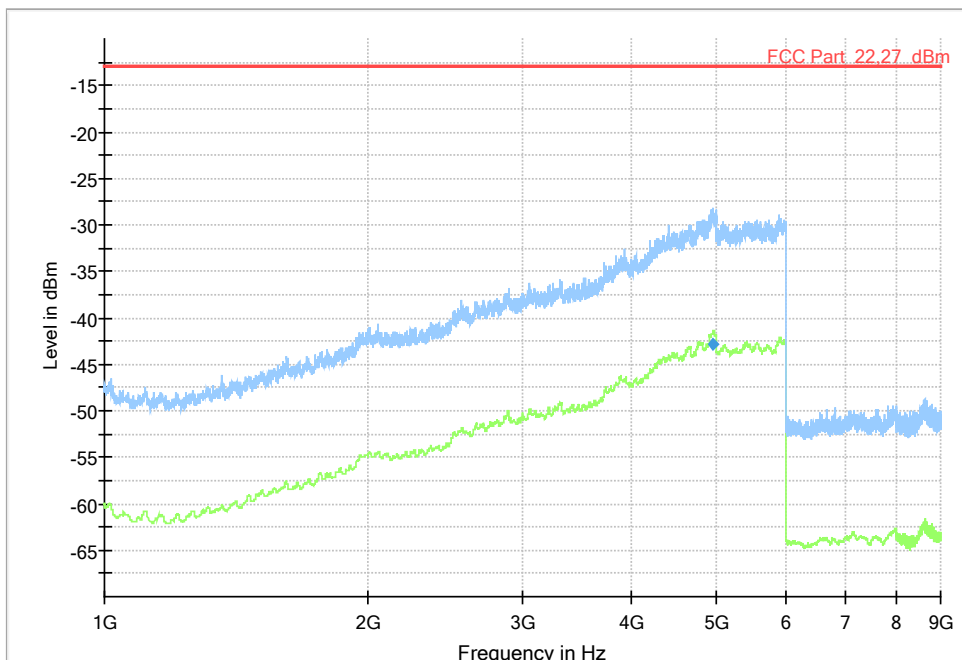


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.44 Test results, 1 – 9 GHz, configuration 12: 2 NR B12 BW5MHz

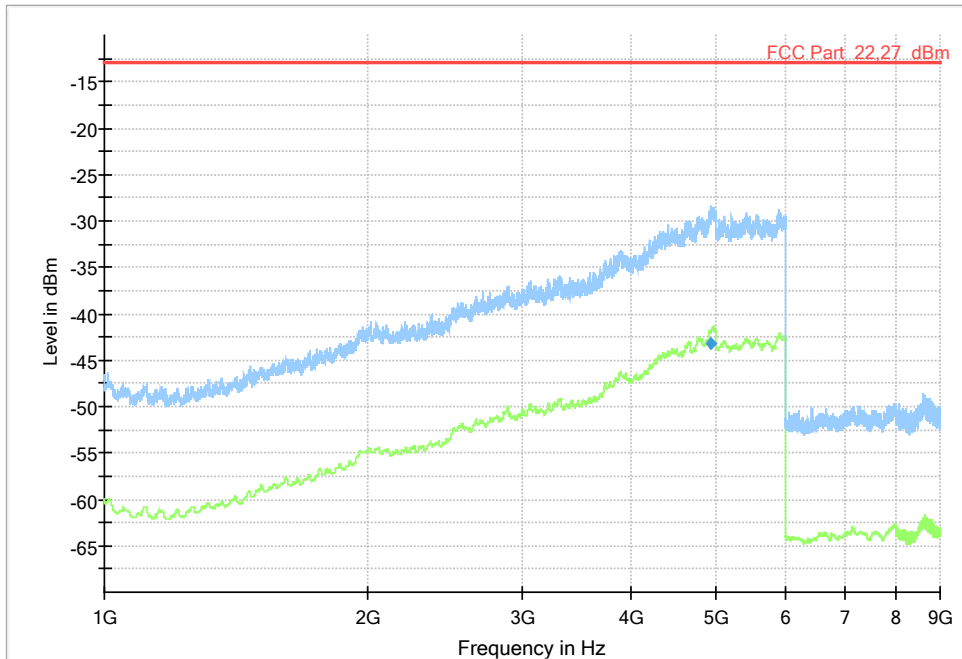


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.45 Test results, 1 – 9 GHz, configuration 13: 2 LTE B5 BW5MHz

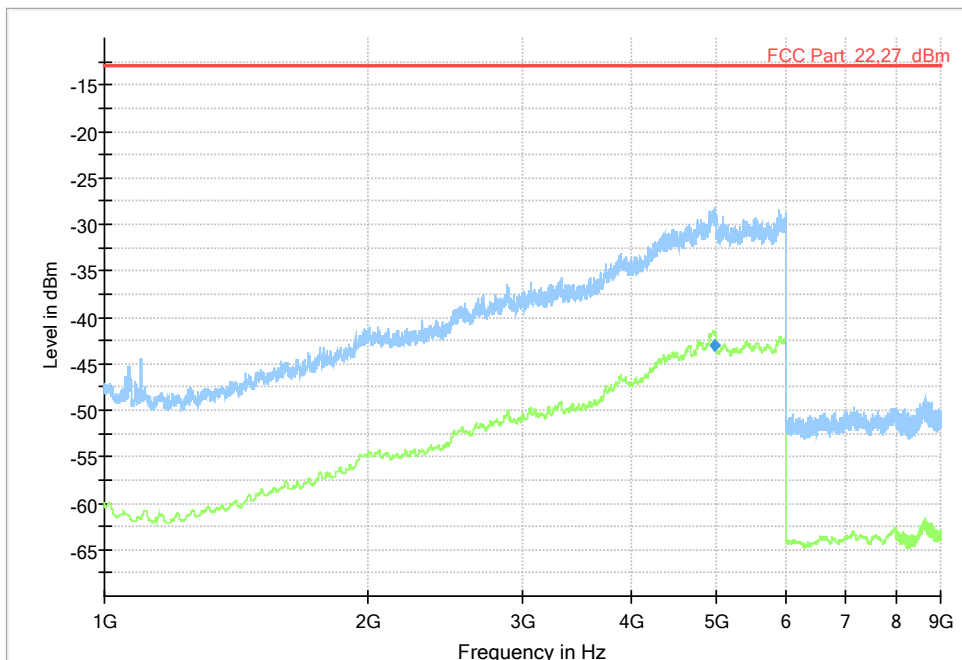


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.46 Test results, 1 – 9 GHz, configuration 14: 2 LTE B12 BW5MHz

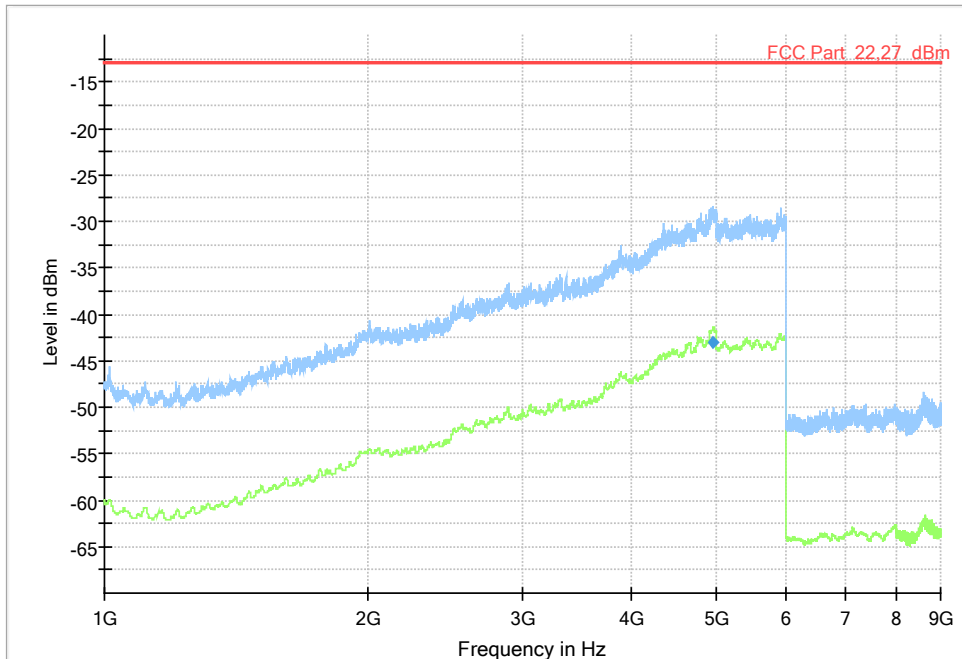


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.47 Test results, 1 – 9 GHz, configuration 15: 5 NR B5 BW5MHz

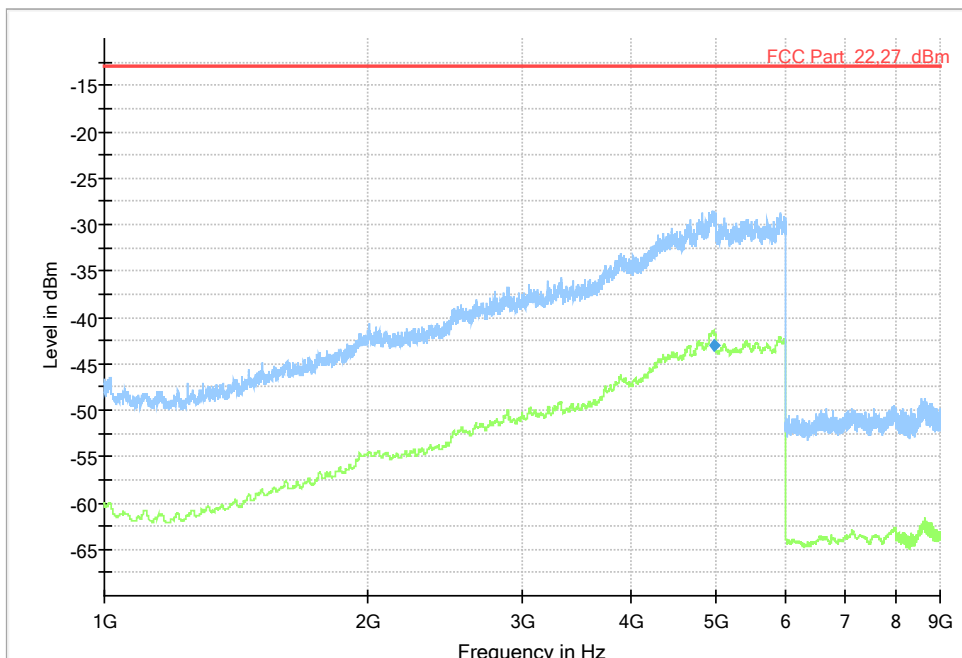


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.48 Test results, 1 – 9 GHz, configuration 16: 3 NR B12 BW5MHz

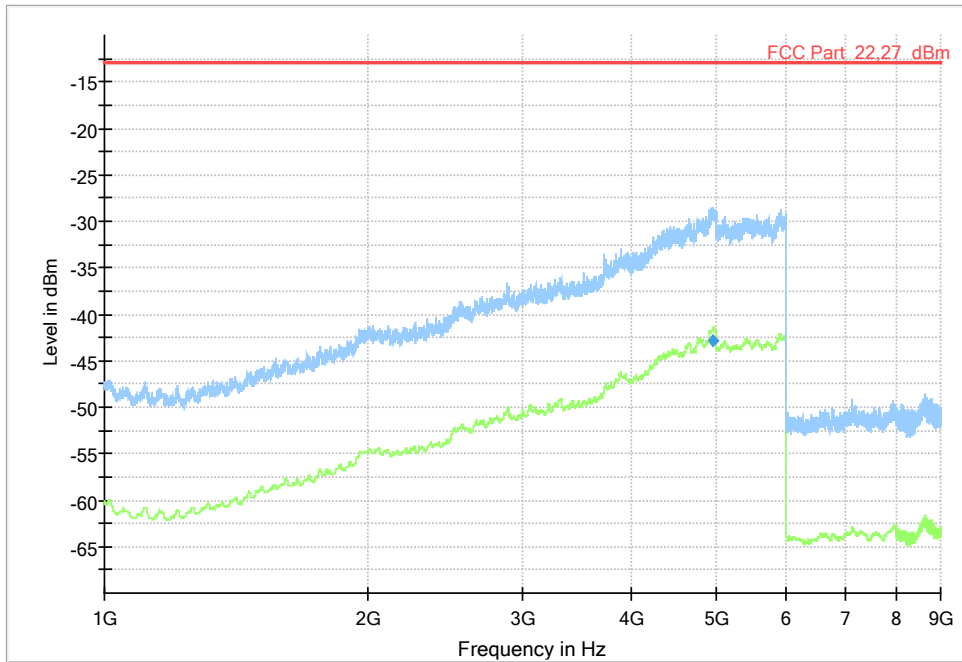


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.49 Test results, 1 – 9 GHz, configuration 17: 5 LTE B5 BW5MHz

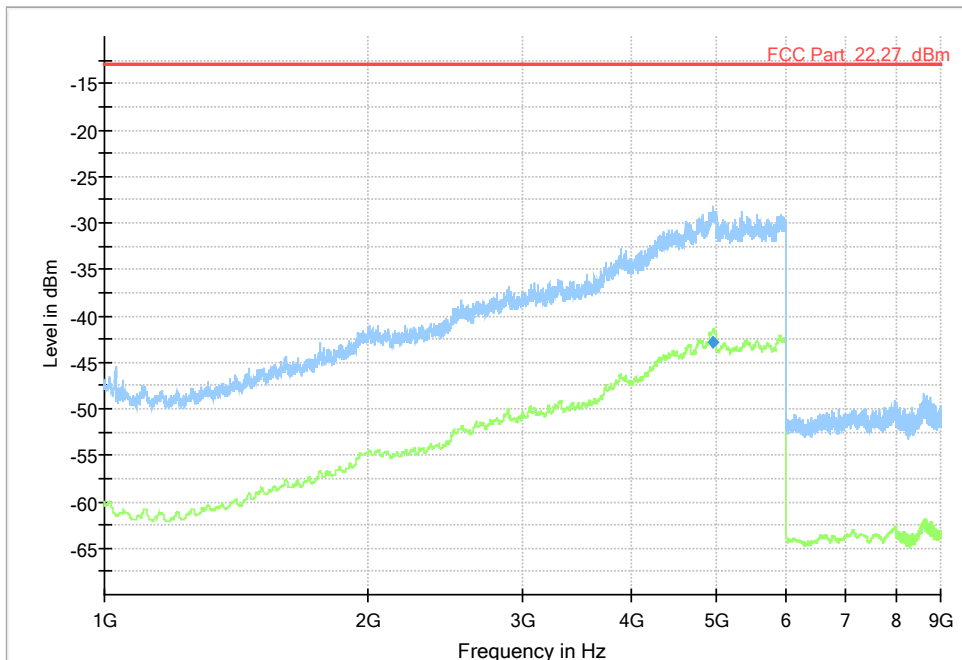


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.50 Test results, 1 – 9 GHz, configuration 18: 3 LTE B12 BW5MHz

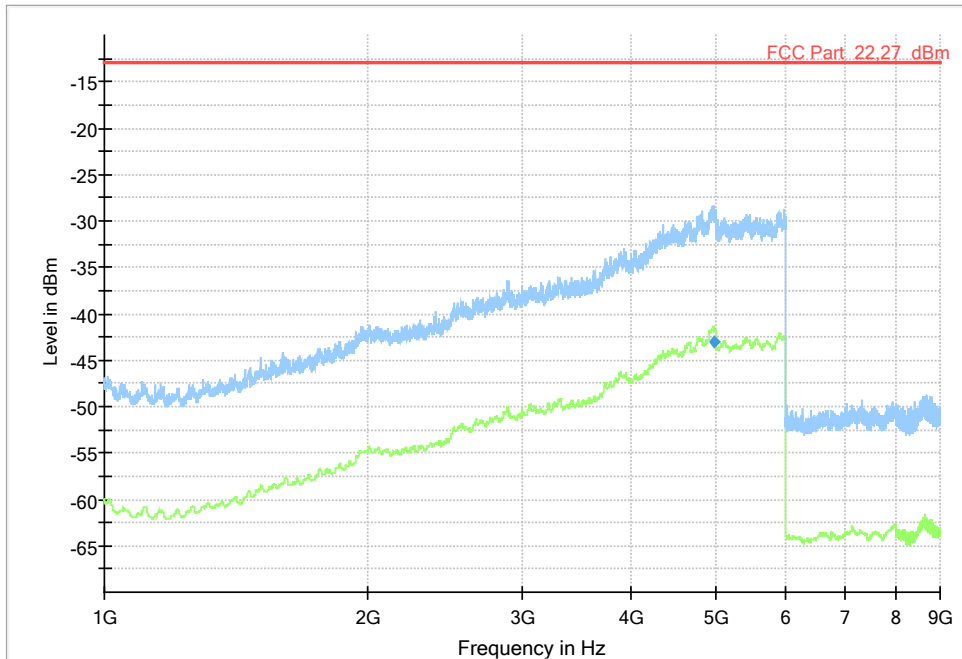


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.51 Test results, 1 – 9 GHz, configuration 19: 1 NR BW15MHz 1 LTE BW5MHz B5

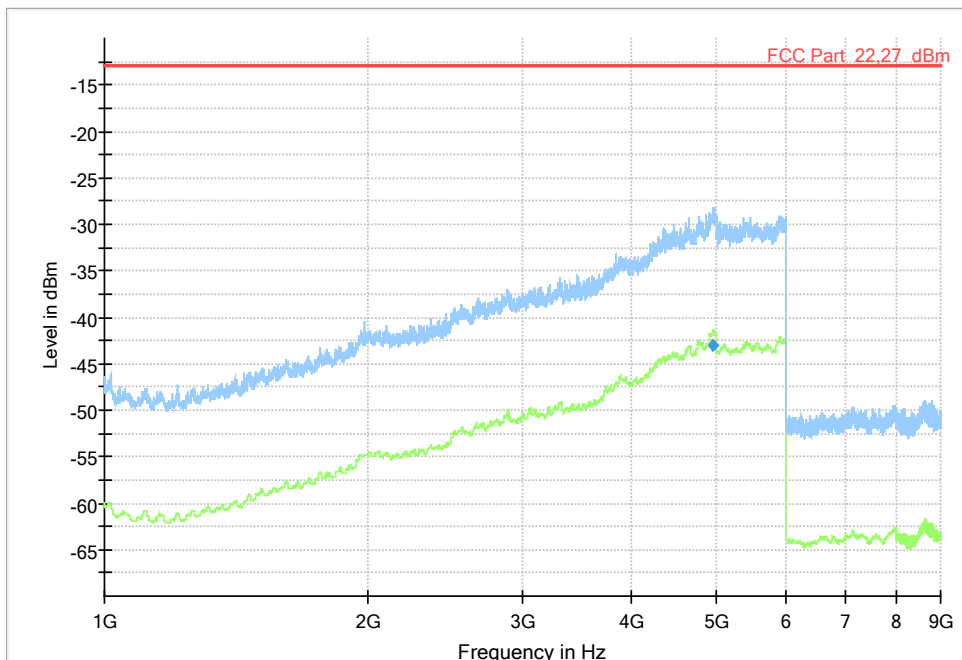


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.52 Test results, 1 – 9 GHz, configuration 20: 1 NR BW15MHz 2 LTE BW5MHz B5

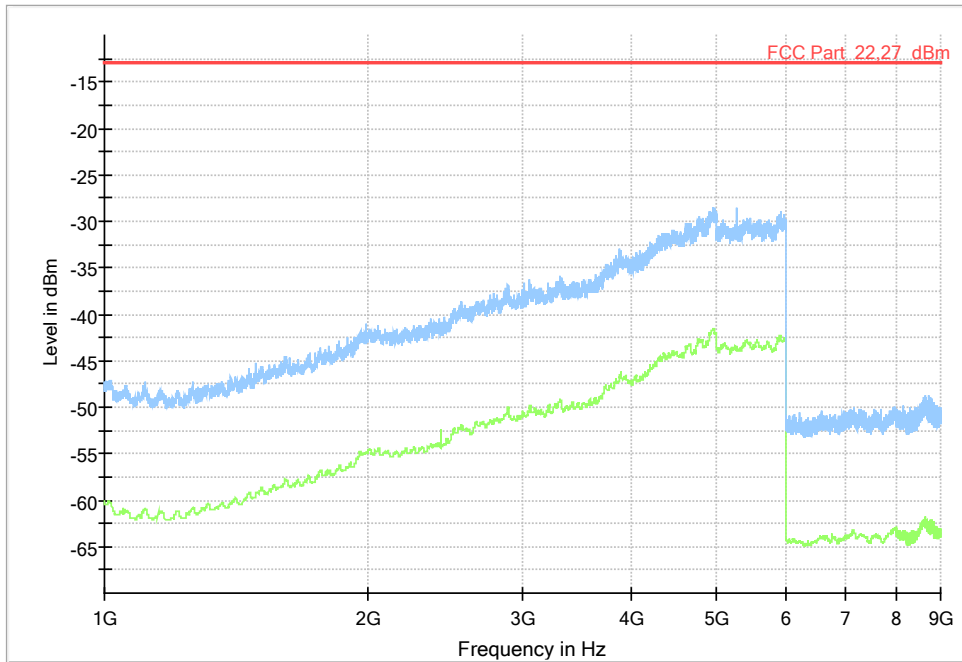


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.53 Test results, 1 – 9 GHz, configuration 21: 1 NR BW10MHz 1 LTE BW5MHz B12

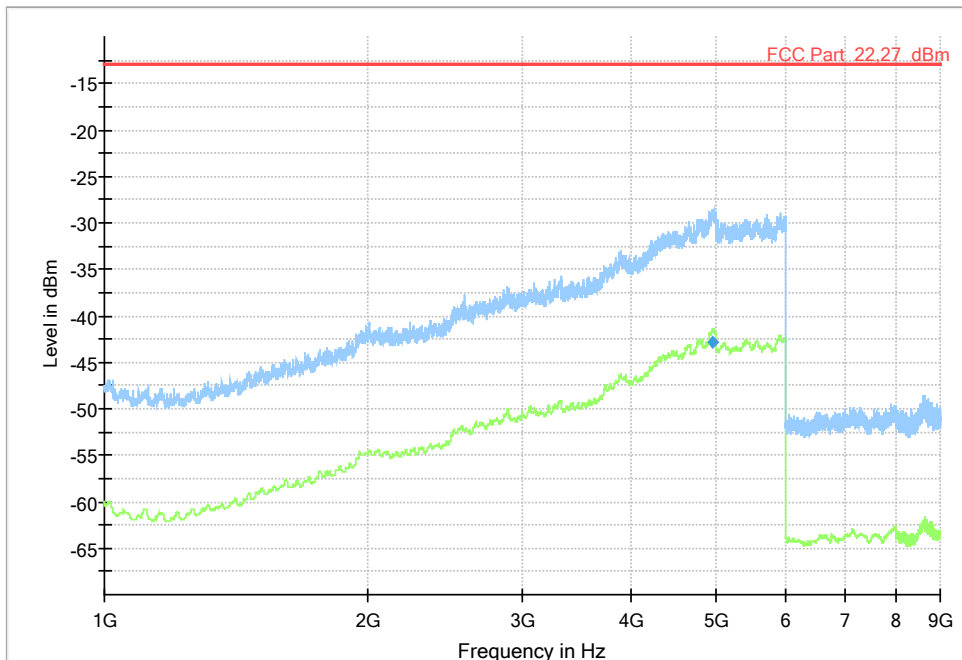


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.54 Test results, 1 – 9 GHz, configuration 22: 1 NR BW5MHz 2 LTE BW5MHz B12

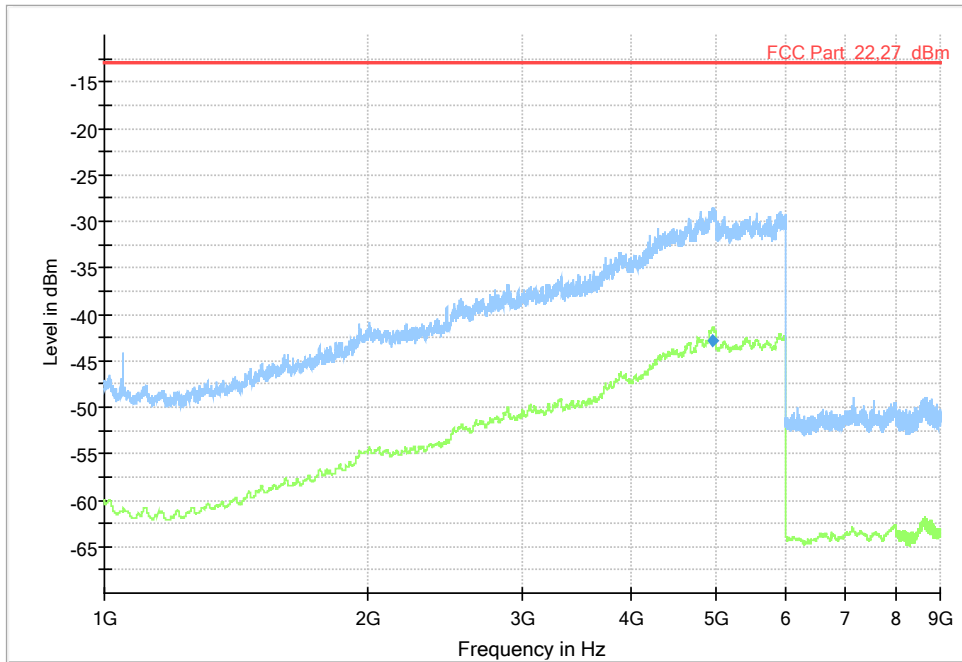


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.55 Test results, 1 – 9 GHz, configuration 23: 1 NR BW25MHz B5 1 LTE BW5MHz B12

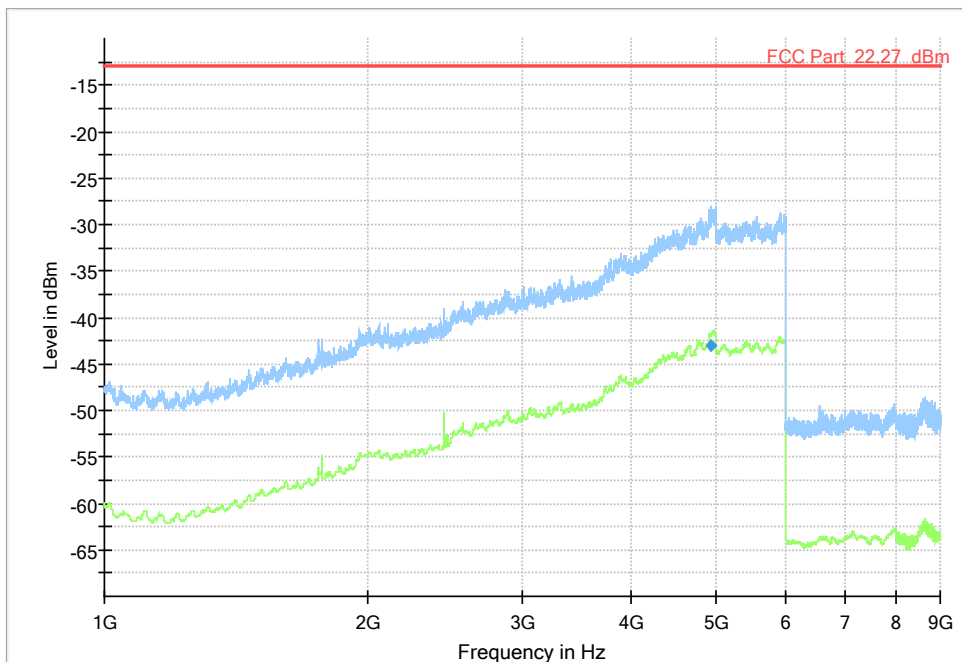


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.56 Test results, 1 – 9 GHz, configuration 24: 1 NR BW15MHz B5 1 LTE BW5MHz B5 1 NR BW5MHz B12 1 LTE BW5MHz B12

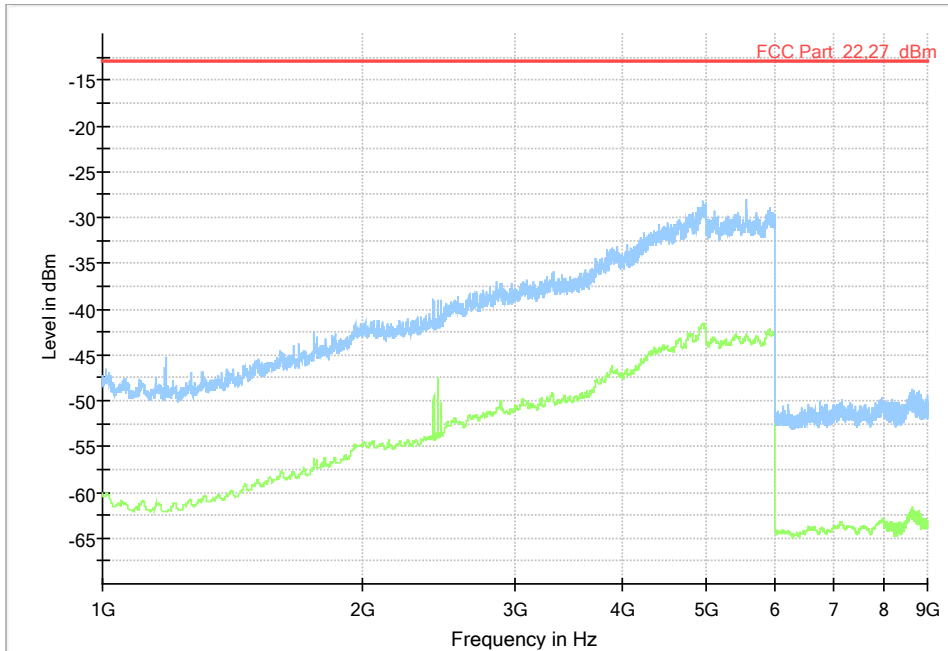


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.57 Test results, 1 – 9 GHz, configuration 25: 1 NR NB-IoT BW10MHz B5 1 NR NB-IoT BW15MHz B12 BOT

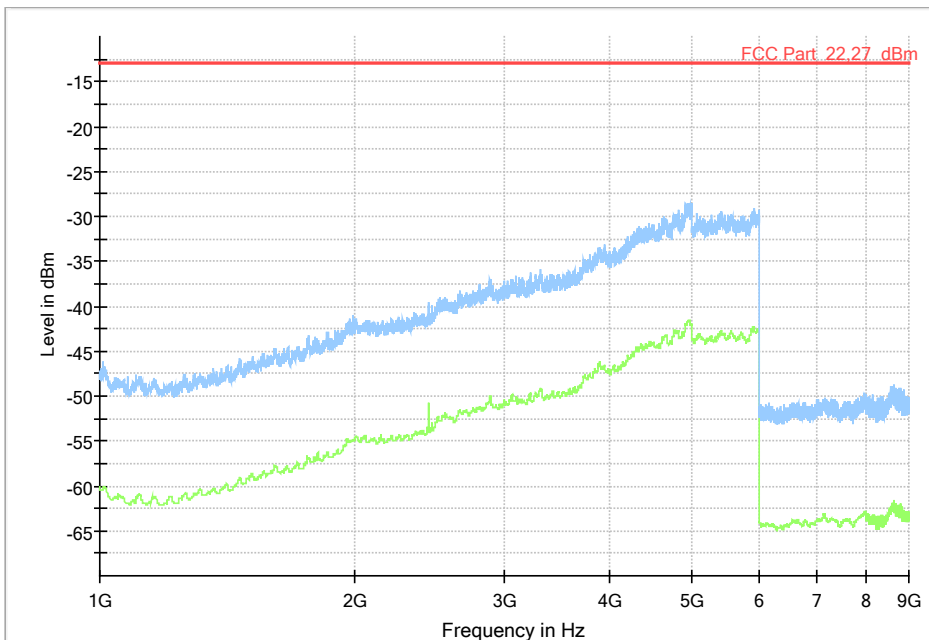


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.58 Test results, 1 – 9 GHz, configuration 26: 1 NR NB-IoT BW10MHz B5 1 NR NB-IoT BW15MHz B12 MID

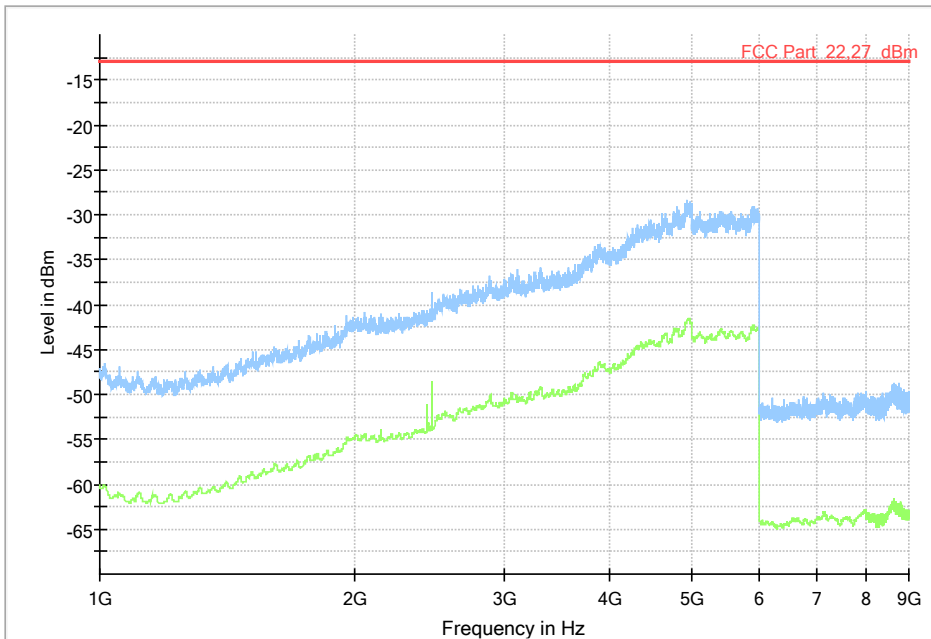


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.59 Test results, 1 – 9 GHz, configuration 27: 1 NR NB-IoT BW10MHz B5 1 NR NB-IoT BW15MHz B12 TOP

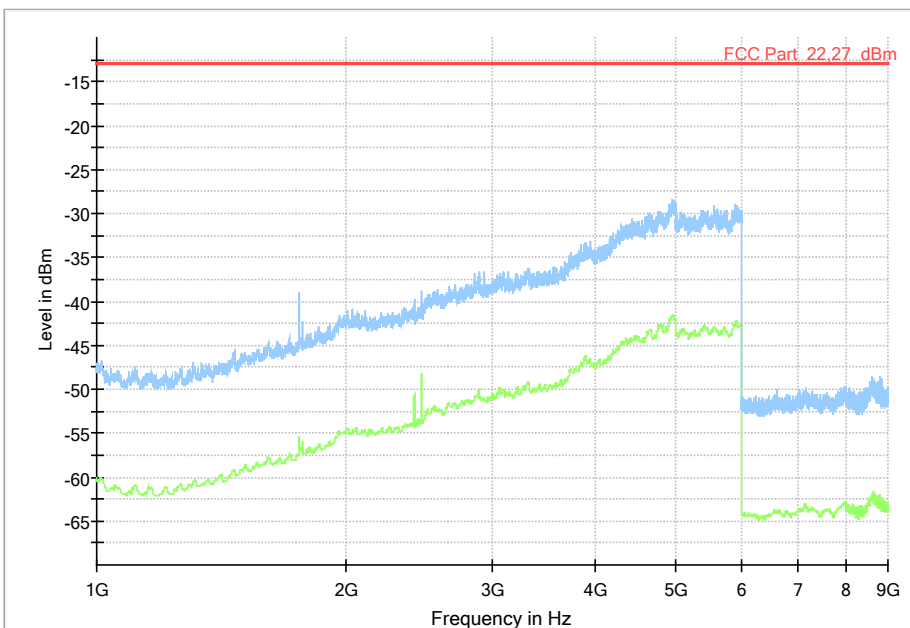


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.60 Test results, 1 – 9 GHz, configuration 28: 1 LTE NB-IoT BW10MHz B5 1 LTE NB-IoT BW10MHz B12 BOT

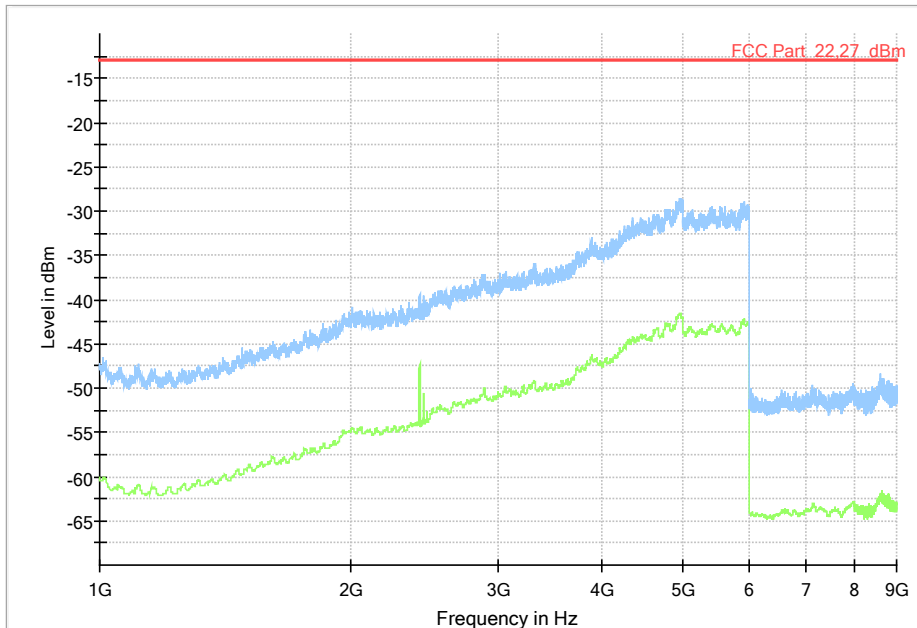


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.61 Test results, 1 – 9 GHz, configuration 29: 1 LTE NB-IoT BW10MHz B5 1 LTE NB-IoT BW10MHz B12 MID

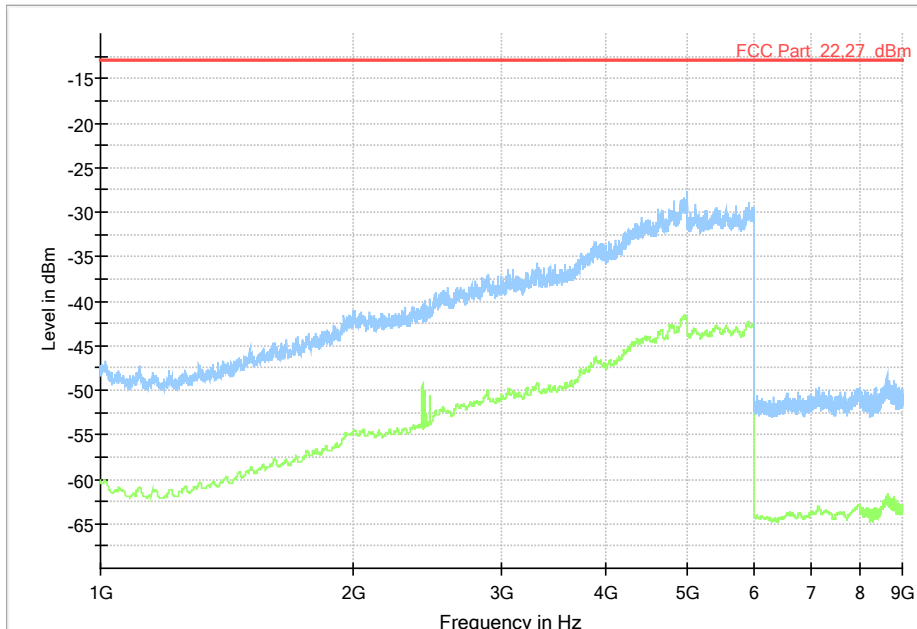


Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.62 Test results, 1 – 9 GHz, configuration 30: 1 LTE NB-IoT BW10MHz B5 1 LTE NB-IoT BW10MHz B12 TOP



Diagram, Peak and average overview sweep, 1 – 9 GHz at 3 m distance.

Measurement results, RMS

All measured disturbances have a margin of more than 20 dB to the limit.

5.63 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Last Cal. date	Next Cal. date
Measurement software 11.30.00	Rohde & Schwarz	EMC32 -			
	--	--	--		
Measurement Receiver	Rohde & Schwarz	ESW44	33950	July 27, 2022	1 year
Open switch and control platform	Rohde & Schwarz	OSP130	32298	December 29, 2022	1 year
Open switch and control platform	Rohde & Schwarz	OSP-F7-B	32299	December 29, 2022	1 year
Antenna	Rohde & Schwarz	HL562	32310	June 13, 2022	3 years
Rotary join	Spinner	BN835027	31807	November 29, 2022	1 year
Coaxial cable	Schuner	SUCOFLEX 104	39003	November 4, 2022	1 year
Coaxial cable	Rosenberger	UFB311A	39053	August 25, 2022	1 year
Coaxial cable	Rosenberger	JFB293C	39141	April 5, 2022	1 year
Coaxial cable	Rosenberger	JFB293C	39142	April 5, 2022	1 year
Horn antenna	Rohde & Schwarz	HF907	32550	July 25, 2022	3 years
Temp & RH meter	Vaisala	HMI41	7503	January 30, 2023	1 year
Preamplifier Signal path	Rohde & Schwarz	TS-PRE1 EMI	32297	December 29, 2022	July 31, 2023

6. EUT SOFTWARE

Software Radio: CXP2021113/1_R16A470

7. EUT HARDWARE LIST

Product	Product No,	R-State	Serial Number
Radio 4490 B5 B12A	KRC 161 981/3	R1B	E23E439812
SFP module Ericsson	RDH 102 75/3	R1A	EA61XL0995
SFP module Ericsson	RDH 102 75/3	R1A	EA61XL0B88
Fan unit SUNON	BKV 106 282/1	R1A	ER21000008