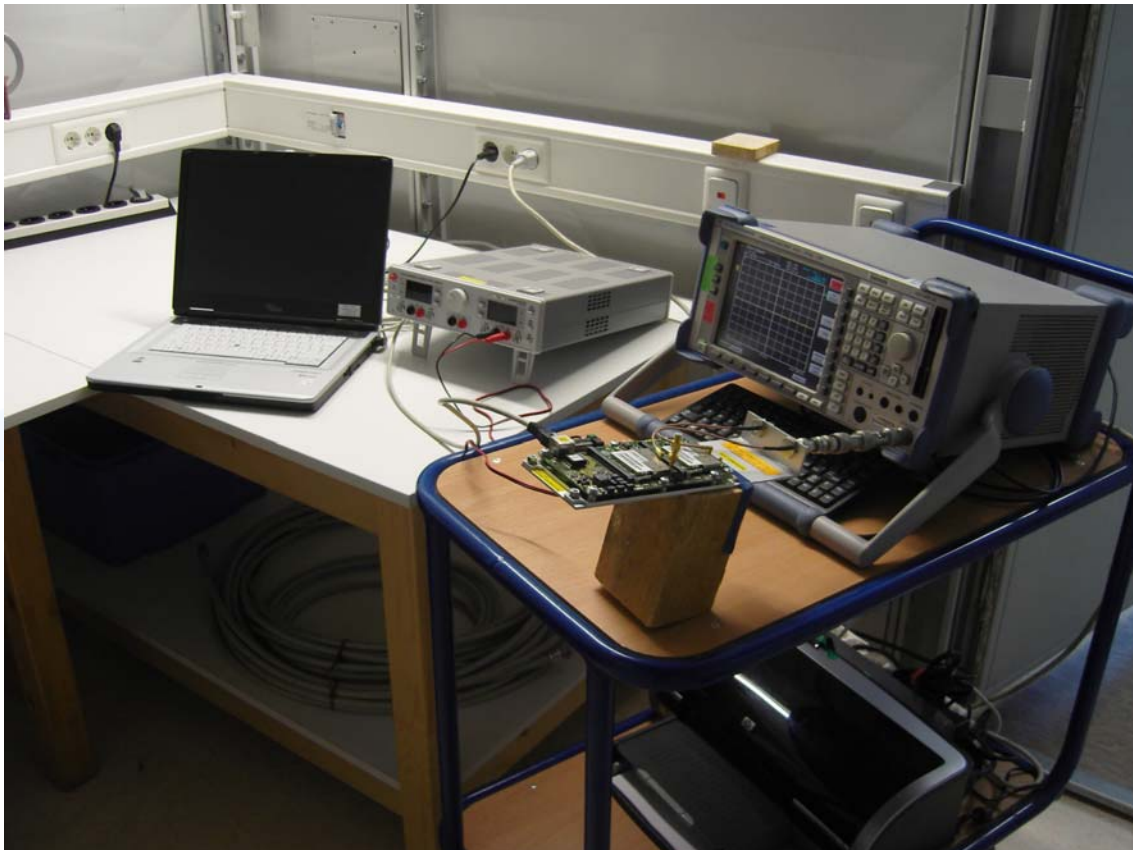


FCC ID: VEB-NKRDCMA82**5.6 Maximum permissible exposure (MPE)**

For test instruments and accessories used see section 6 Part **CPC 3**.

5.6.1 Description of the test location

Test location: AREA 4

5.6.2 Photo documentation of the test set-up**5.6.3 Applicable standard**

According to FCC Part 15, Section 15.407(f):

U-NII devices are subject to the radio frequency radiation exposure requirements specified in Section 1.1307(b), 2.1091 and 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. The test methods used comply with ANSI/IEEE C95.1-2005, "IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz".

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5.6.4 Description of Measurement

The maximum total power input to the antenna has been measured conducted as described in clause 5.3 of this document. Through the Friis transmission formula, which is a far field assumption and the known maximum gain of the antenna, the maximum MPE at a defined distance away from the product, can be calculated.

Friis transmission formula:
$$P_d = \frac{P_{out} * G}{4 * \Pi * r^2}$$

where

- P_d =power density in mW/cm²
- P_{out} = output power to antenna in mW
- G = gain of antenna (linear scale)
- r = distance between antenna and observation point (cm)

5.6.5 Test result

Worst case: Antenna Nahfeldkoppler with an antenna gain of 3.7 dBi, Power setting: 18 dBm

Channel No.	Frequency	Max power output to antenna		Antenna gain	Power density	Limit of power density
	(MHz)	(dBm)	(mW)	(dBi)	(mW/cm ²)	(mW/cm ²)
36	5180	16.2	41.7	3.7	0.019	1.0
40	5200	16.3	42.7	3.7	0.020	1.0
48	5240	16.8	47.9	3.7	0.022	1.0

Limits for maximum permissible exposure (MPE)

Frequency range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
(B) Limits for General Population / Uncontrolled Exposure				
0.3 – 3.0	614	1.63	100	30
3.0 – 30	824/f	2.19/f	180/ f ²	30
30 - 300	27.5	0.073	0.2	30
300-1500	---	---	f/1500	30
1500-100000	---	---	1.0	30

f = Frequency (MHz)

The requirements are **FULFILLED**.

Remarks: Addition of new antennas would not change previous results.
