
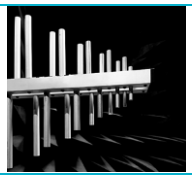
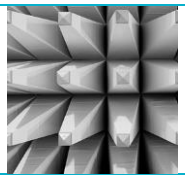

CTC advanced
member of RWTÜV group

Bundesnetzagentur

BNetzA-CAB-02/21-102

DAkkS Deutsche Akkreditierungsstelle D-PL-12076-01-03

Maximum Permissible Exposure (MPE) & Exposure evaluation

Report identification number: 1-0796/20-01-07 MPE (FCC_ISED)

Certification numbers and labeling requirements	
FCC ID	2AWXTAIRGRMP70801
ISED number	-/-
HVIN (Hardware Version Identification Number)	-/-
PMN (Product Marketing Name)	-/-
FVIN (Firmware Version Identification Number)	-/-
HMN (Host Marketing Name)	-/-

This report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

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EUT technologies:

Technologies:	Max. measured EIRP: [dBm]	Max. antenna gain:
Satellite Uplink 70GHz	35.0 dBm	< 19.0 dBi

NOTE: For detailed test results see CTC advanced test report 1-0796/20-01-02-A

Prediction of MPE limit at given distance - FCC

Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG / 4\pi R^2$

where: S = Power density
P = Power input to the antenna
G = Antenna gain
R = Distance to the center of radiation of the antenna
PG = Output Power including antenna gain

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled “Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure”

Frequency Range (MHz)	Power Density (mW/cm^2)	Averaging Time (minutes)
300 -1500	f/1500	30
1500 - 100000	**1.0**	30

where f = Frequency (MHz)

Prediction: worst case

	Technologies:	Satellite	
	Frequency (MHz)	70000	
PG	Declared max power (EIRP)	35	dBm
R	Distance	200	cm
S	MPE limit for uncontrolled exposure	1	mW/cm^2
	Calculated Power density:	0.0063	mW/cm^2
	Calculated percentage of Limit:	0.63%	

This prediction demonstrates the following:

The power density levels for FCC at a distance of 2m are below the maximum levels allowed by regulations.

Prediction of MPE limit at given distance - ISED

RSS-102, general limitations for E- and H- Field

Reference levels for general public (uncontrolled environment) exposure to time-varying electric and magnetic fields

According to: RSS 102-ISSUE 05		
Frequency Range (MHz)	**Power density** (W/m²)	**Reference Period** (minutes)
0.003-10	--	**Instantaneous***
0.1-10	--	6**
1.1-10	--	6**
10-20	2	6
20-48	$8.944 / f^{0.5}$	6
48-300	1.291	6
300-6000	$0.02619 \times f^{0.6834}$	6
6000-15000	10	6
15000-150000	**10**	$616000 / f^{1.2}$
150000-300000	$6.67 \times 10^{-5} \times f$	$616000 / f^{1.2}$

Note: f is frequency in MHz.
* Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

Prediction: worst case

		Satellite	
	Frequency	70000	MHz
R	Distance	200	cm
PG	Maximum EIRP	35	dBm
PG	**Maximum EIRP**	3162.3	mW
S	**Power density**	0.06291	W/m²
	Exclusion Limit from above:	10.00	W/m²
	Calculated percentage of Limit:	0.63%	