

DEKRA Testing and Certification S.A.U.

Parque Tecnológico de Andalucía
 Severo Ochoa, 2 & 6
 29590 Málaga
 Spain

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RF exposure analysis for the equipment

Model: NTG6 HIGH FCC ID: T8GNTGH IC: 6434A-NTG6H

The device under evaluation consists of a Radio with Navigation, Tuner, DAB, BT, Wi-Fi.

For the Bluetooth and WIFI technologies, as stated into DEKRA test reports 54022RRF.007A1 and 54022RRF.008A1 the maximum output power and antenna gain values are (The worst case for simultaneous transmission was taken in consideration):

Frequency band (MHz)	Mode	Frequency Range (MHz)	CONDUCTED OUTPUT POWER (dBm)	CONDUCTED OUTPUT POWER (mW)	Antenna gain (dBi)	Antenna gain (numerical)	Duty cycle (%)	Evaluation distance (cm)	Power density (mW/cm ²)	FCC MPE limit (mW/cm ²)	IC MPE limit (mW/cm ²)	MPE RATIO	
2400-2483,5	SISO	WLAN1-MAC1-port4	2412-2462	20,27	106,414	1,6	1,45	100%	20	0,0306	1,0000	0,5366	0,0655
	SISO	Bluetooth – port 3	2402-2480	5,92	3,908	0,7	1,17	100%	20	0,0009	1,0000	0,5351	0,0017
5725 – 5850	SISO	WLAN 1 - MAC 0- port3	5745-5825	12,57	18,072	0,9	1,23	100%	20	0,0044	1,0000	0,9710	0,0046
	MIMO	WLAN 0 - MAC 1 - port 1	5745-5825	4,88	3,076	3,2	2,09	100%	20	0,0013	1,0000	0,9710	0,0013
		WLAN 0 - MAC 0 - port 4	5745-5825	5,97	3,954	2,3	1,70	100%	20	0,0013	1,0000	0,9710	0,0014

Results are:

Σ of MPE ratios (ISED): 0,0744
 Σ of Power density (mW/cm²): 0,0385
 Σ of Power density (W/m²): 0,385

MPE exposure limits

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 (MHz) /1500	30
1500 – 100.000	1,0	30

The table below is excerpted from RSS-102, Issue 5, titled “Table 4: RF Field Strength Limits for Devices Used by the General Public”:

Frequency Range (MHz)	Power density (W/m ²)	Averaging time (minutes)
300 – 6000	0.02619 · f ^{0.6834}	6

Using the equation $S = \frac{PG}{4\pi R^2}$ to calculate the exposure to electromagnetic fields

where: S = power density (in appropriate units, e.g. mW/cm²)
 P = power input to the antenna (in appropriate units, e.g., mW)
 G = power gain of the antenna in the direction of interest relative to an isotropic radiator
 R = distance to the centre of radiation of the antenna (appropriate units, e.g., cm)

Assessment summary

The addition of power densities is less than the limits established by FCC and ISED, then the NTG6 HIGH complies with the regulation for mobile exposure conditions.

Yours sincerely,



P.A.

By: **Voegelé Simon**
 Title: **Project Manager**
 Company: HARMAN BECKER AUTOMOTIVE SYSTEMS GMBH
 Telephone: **+49 7248 71 3667**
 e-mail: **simon.voegelé@harman.com**