



### Prediction of MPE limit at a given distance

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

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Valid for frequencies from 30 to 100.000 MHz

BT MPE calculation

Maximum peak output power at antenna input terminal:	<u>13.62</u>	(dBm)
Maximum peak output power at antenna input terminal:	<u>23.01441817</u>	(mW)
Antenna gain(typical):	<u>0.50</u>	(dBi)
Maximum antenna gain:	<u>1.122018454</u>	(numeric)
Prediction distance:	<u>20</u>	(cm)
Prediction frequency:	<u>2480</u>	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	<u>1.00</u>	(mW/cm <sup>2</sup> )
Power density at prediction frequency:	<b>0.005137</b>	(mW/cm <sup>2</sup> )
Maximum allowable antenna gain:	<b>23.39</b>	(dBi)
Margin of Compliance:	<b>22.89</b>	(dB)



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$$S = \frac{PG}{4\pi R^2}$$

GPRS 800 MPE Calculation

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Valid for frequencies from 30 to 100.000 MHz

Maximum peak output power at antenna input terminal:	<u>31.50</u>	(dBm)
Maximum peak output power at antenna input terminal:	<u>1412.537545</u>	(mW)
Antenna gain(typical):	<u>1.00</u>	(dBi)
Maximum antenna gain:	<u>1.258925412</u>	(numeric)
Prediction distance:	<u>20</u>	(cm)
Prediction frequency:	<u>824.2</u>	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	<u>0.55</u>	(mW/cm <sup>2</sup> )
Power density at prediction frequency:	<b>0.353777</b>	(mW/cm <sup>2</sup> )
Maximum allowable antenna gain:	<b>2.91</b>	(dBi)
Margin of Compliance:	<b>1.91</b>	(dB)



### Prediction of MPE limit at a given distance

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

$$S = \frac{PG}{4\pi R^2}$$

GPRS 1900 MPE calculation

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Valid for frequencies from 30 to 100.000 MHz

Maximum peak output power at antenna input terminal: 28.60 (dBm)

Maximum peak output power at antenna input terminal: 724.4359601 (mW)

Antenna gain(typical): 1.00 (dBi)

Maximum antenna gain: 1.258925412 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 1850.2 (MHz)

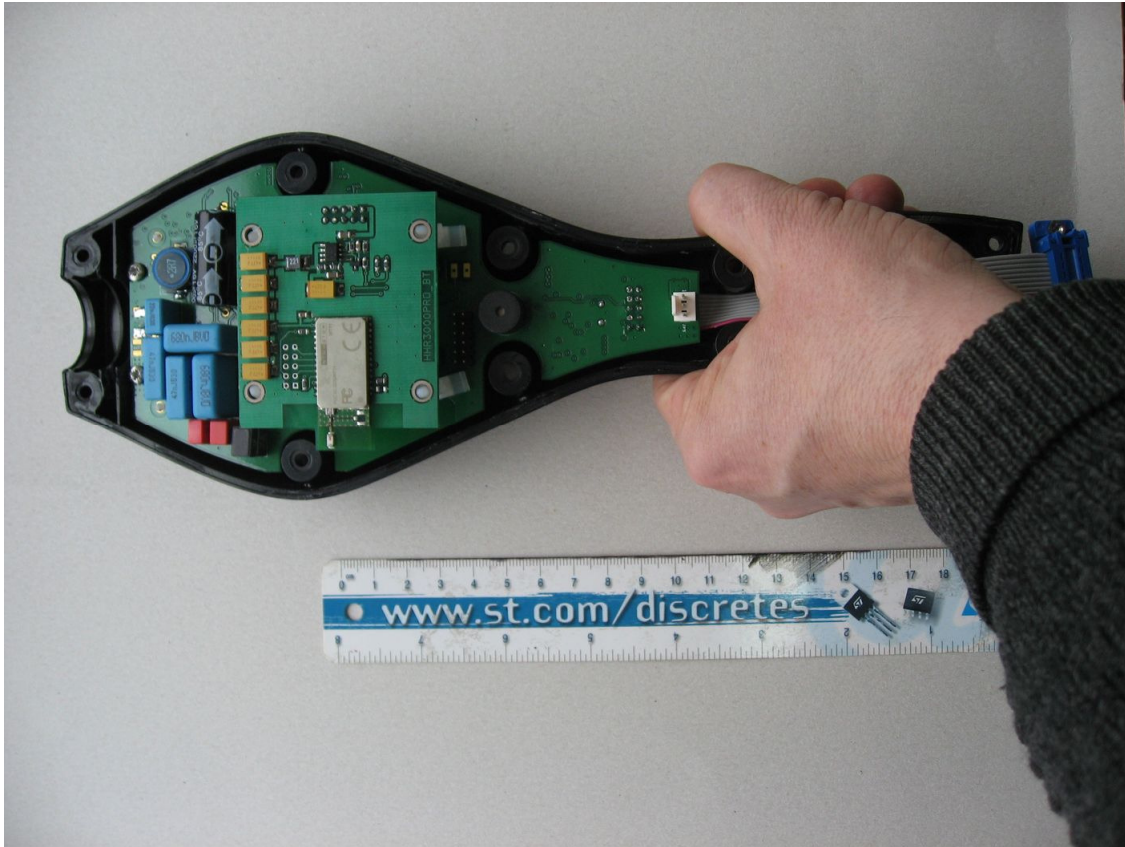
MPE limit for uncontrolled exposure at prediction frequency: 1.00 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.181439** (mW/cm<sup>2</sup>)

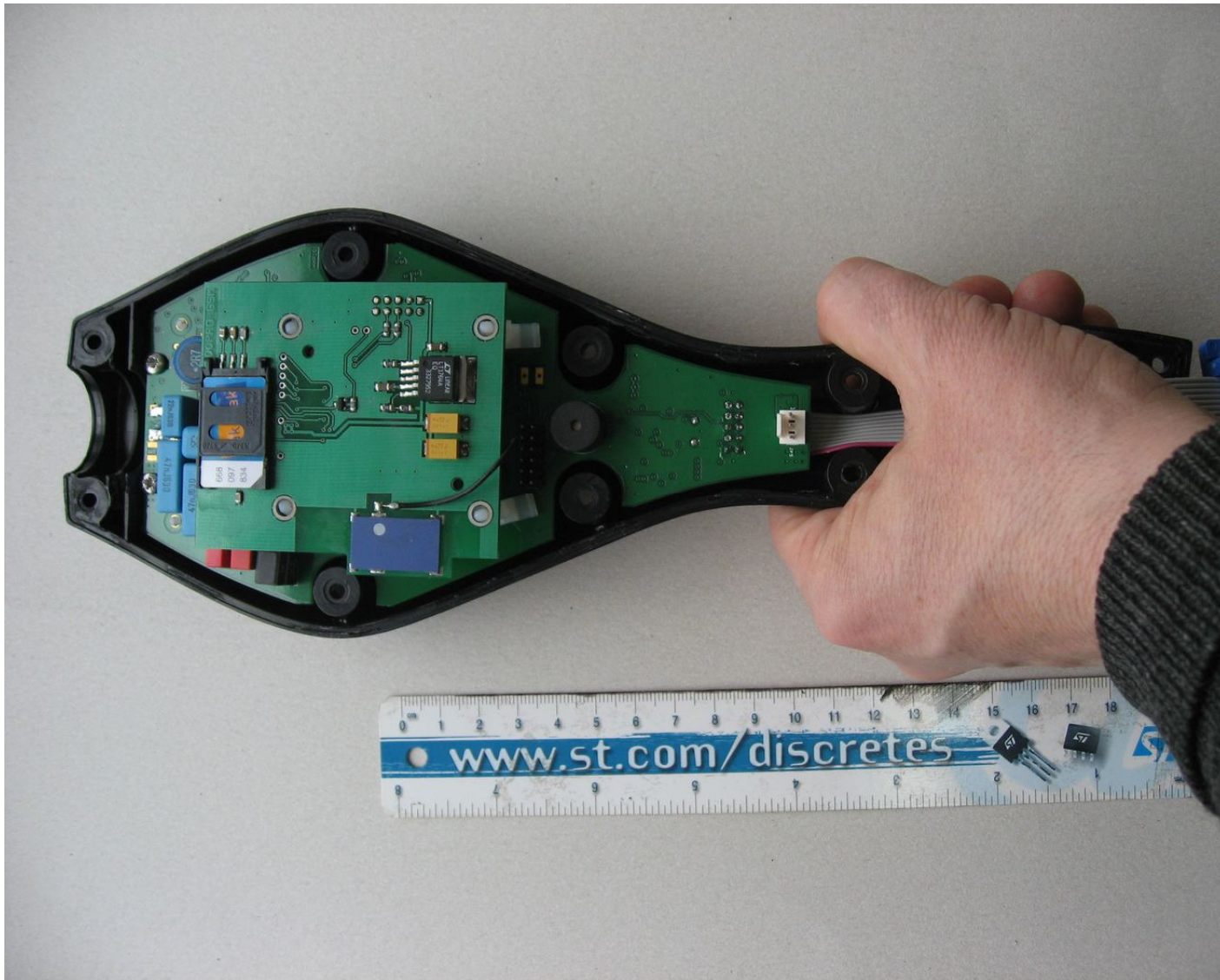
Maximum allowable antenna gain: **8.41** (dBi)

Margin of Compliance: **7.41** (dB)

HHR3000Pro V2 with Bluetooth module.



# HHR3000Pro wiht GPRS module





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attn: Reviewing Engineer

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7435 Oakland Mills Road  
Columbia, MD 21046

RE: Body worn declaration **FCC ID: VW2-HHR3000PRO-V2**

To Whom It May Concern:

We hereby declare that the RFID reader HHR 3000 Pro V2 has no possibility of being body worn.

Please contact me if there is any information you may need.

Sincerely,

Raymond Solem

date: 14.02.2008



