

Maximum Permissible Exposure Evaluation

FCC ID: 2AP7K-H100

1. Client Information

Applicant	:	Shenzhen Holloo Technology Co.,Ltd.
Address	:	103,105, Building6, 1980 Industrial Park, Minzhi Street, Longhua New District, Shenzhen, China
Manufacturer	:	Shenzhen Holloo Technology Co.,Ltd.
Address	:	103,105, Building6, 1980 Industrial Park, Minzhi Street, Longhua New District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Vehicle Wireless Terminal(GSM)
Models No.	:	H100A, H100B, H100C
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.
Product Description	Frequency Bands: GSM850; PCS1900;	
	GSM 850 Power :	Cond:29.97dBm ERP:28.54dBm
	PCS 1900 Power :	Cond:29.80dBm EIRP:27.97dBm
	Antenna Gain:	3.8 dB Dipole Antenna
	Modulation Type:	GPRS:GMSK
FCC Operating Frequency	:	GSM 850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz
Emission Designator	:	GPRS 850: 248KG7W; GPRS 1900: 250KG7W
Power Rating	:	DC 9~36V
Software Version	:	N/A
Hardware Version	:	V1.3
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note: More test information about the EUT please refer the RF Test Report.

TB-RF-075-1.0

MPE Calculations for GSM

1. Antenna Gain:

GPRS 850: 3.8dBi Dipole Antenna
GPRS 1900: 3.8dBi Dipole Antenna

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

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: 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

4. Test Result:

Worst Maximum MPE Result							
Mode	N _{TX}	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
GPRS 850	1	29.97	29±1	30	3.8	20	0.477
GPRS 1900	1	29.80	29±1	30	3.8	20	0.477
Note: (1) N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted Peak Output Power.							

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

300-1500MHz:

The worst MPE is calculated as $0.477 \text{ mW} / \text{cm}^2 < \text{limit } 824.0/1500=0.5494 \text{ mW/cm}^2$. So, RF exposure limit warning or SAR test are not required.

1500-100000MHz:

The worst MPE is calculated as $0.477 \text{ mW} / \text{cm}^2 < \text{limit } 1\text{mW/cm}^2$. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

-----END OF THE REPORT-----