Excellence in Compliance Testing

Certification Exhibit

FCC ID: TFT-IDLMAX01

FCC Rule Part: 15.225

ACS Report Number: 09-0001

Manufacturer: MaxID
Model: iDLMax

RF Exposure

General Information:

Applicant: MaxID
ACS Project: 09-0001
FCC ID: TFT-IDLMAX01
Environment: General Population/Uncontrolled Exposure
Exposure Conditions: Mobile
Simultaneous Transmit: Yes
FCC KDB Reference: 341531 (allows for mobile RF exposure classification in handheld operating configurations)

Technical Information:

This device contains multiple simultaneous transmitting devices however the contribution of the low power 13.56 MHz RFID / smartcard reader to the overall MPE calculation is negligible and therefore not included in the power density calculations contained within this document.

Radio	802.11b/g *FCC ID: TFT-W2SW0001*	Bluetooth *FCC ID: QOQWIT12*	GSM/GPRS *FCC ID: IHDT56FV2 (850 Band)*	GSM/GPRS *FCC ID: IHDT56FV2 (PCS 1900 Band)*
Antenna Type	Dielectric Planar Inverted-F Type	Multilayer Chip	PCB omnidirectional	PCB omnidirectional
Antenna Gain	1.71dBi	0.5dBi	0.01dBi	1.25dBi
Conducted Power	0.03W 14.77dBm	0.002W 3.46dBm	0.500W* 26.99dBm*	0.278W* 24.44dBm*
Maximum EIRP	0.044W	0.002W	0.501W*	0.371W*
Maximum ERP	0.027W	0.002W	0.306W*	0.226W*

* Note: The conducted output power, EIRP, and ERP for the GPRS/GSM module is corrected for source-based time-averaging based on a duty cycle of 25%. See details in the MPE calculation below.

MPE Calculation:

Power Density

The Power Density (mW/cm^2) is calculated as follows:

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

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 center of radiation of the antenna (appropriate units, e.g., cm)

Source-Based Time-Averaging of GSM/GPRS FCC ID: IHDT56FV2

The FCC ID: IHDT56FV2 GSM/GPRS module has a declared 25% source-based time-averaged duty factor. The maximum conducted output power level was corrected by a factor of 0.25 or 6dB to account for the source-based time-averaging.

Corrected Output Power Level 850 = 2W * 0.25 = 0.5W = 26.99dBm
Corrected Output Power Level 1900 = 1.112W * 0.25 = 0.278W = 24.44dBm

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	**Radio Power (dBm)**	**Power Density Limit (mW/Cm2)**	**Radio Power (mW)**	**Antenna Gain (dBi)**	**Antenna Gain (mW eq.)**	**Distance (cm)**	**Power Density (mW/cm^2)**
2437	14.77	1.00	29.99	1.71	1.483	20	0.009
2480	3.46	1.00	2.22	0.5	1.122	20	0.000
836.4	27	0.56	501.19	0.01	1.002	20	0.100
1880	24	1.00	251.19	1.25	1.334	20	0.067

Summation of Power Densities – Simultaneous Transmissions

This device contains multiple transmitters which can operate simultaneously and therefore the maximum RF exposure is determined by the summation of power densities.

The GSM/GPRS and 802.11b/g radios can not operate simultaneously therefore separate calculations are provided for each simultaneous transmission scenario.

The maximum power density as calculated by a summation of power densities for each simultaneous transmission combination as follows:

GSM/GPRS 850 and Bluetooth:

Bluetooth :	0.000 (mW/cm^2)
GSM 850 (GSM/GPRS):	0.100 (mW/cm^2)
TOTAL:	**0.100 (mW/cm^2)**

GSM/GPRS PCS 1900 and Bluetooth:

Bluetooth:	0.000 (mW/cm^2)
GSM 1900 (GSM/GPRS):	0.067 (mW/cm^2)
TOTAL:	**0.067 (mW/cm^2)**

802.11b/g and Bluetooth:

802.11b/g:	0.009 (mW/cm^2)
Bluetooth:	0.000 (mW/cm^2)
TOTAL:	**0.009 (mW/cm^2)**

Installation Guidelines:

The installation manual shall contain text similar to the following advising how to install the equipment to maintain compliance with the FCC RF exposure requirements:

"RF Exposure (Intentional Radiators Only)

In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element shall be installed such that a minimum separation distance of 20cm is maintained from the general population."

Conclusion:

This device complies with the MPE requirements by providing adequate separation between the device, any radiating structure and the general population.