Antenna Report

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Embedded Quad-Band Antenna

1. Overview

The document is the specification of the embedded Quad-band antenna for phone applications. Quad -band includes GSM850, GSM900, DCS1800, and PCS1900.

1.1 Denotations

dBi: Decibel relative isotropic antenna
VSWR: Voltage Standing Wave Ratio
Tx: Transmit frequency
Rx: Receive frequency
GSM: Global Service for Mobile communication
PCS: Personal Communication System
DCS: Digital Communication System
SAR: Specific Absorption Rate
Peak Gain: The peak value of the antenna gain
Average Gain: The average value of the antenna gain

1.2 Antenna Type

EDGE：PIFA type
BT/ WLAN：PIFA type

1.3 Antenna Brand

EDGE：HTC
BT/ WLAN：HTC

1.4 Antenna Model name

EDGE：72H01953-00M
BT/ WLAN：76H01851-00M

2. Gain measurements

2.1 EDGE 3D Antenna Gain Measurement Result

Frequency (MHz)	824	880	960	1710	1880	1990
Peak Gain (dBi)	-4.31	-2.84	-2.06	0.47	0.19	0.06
Average Gain (dBi)	-6.46	-4.81	-4.28	-3.64	-3.70	-4.05

2.2 Bluetooth/ WLAN 2D Antenna Gain Measurement Result

Frequency (MHz)	2402	2441	2480
Peak Gain (dBi)	-0.776	-0.46	-0.14
Average Gain (dBi)	-5.047	-4.78	-4.71

2.3 EDGE EIRP and EIS Measurement Result

	Channel	128	189	251
GSM 850	EIRP (dBm)	29.15	30.56	29.80
	Sensitivity (dBm)	-108.39	-107.92	-108.12
	Channel	**975**	**42**	**124**
GSM 900	EIRP (dBm)	30.65	32.05	31.42
	Sensitivity (dBm)	-107.54	-107.43	-106.95
	Channel	**512**	**698**	**885**
DCS 1800	EIRP (dBm)	31.96	31.74	30.88
	Sensitivity (dBm)	-108.89	-109.23	-107.91
	Channel	**512**	**661**	**810**
PCS 1900	EIRP (dBm)	30.17	30.09	29.98
	Sensitivity (dBm)	-108.53	-107.8	-107.64

2.4 Bluetooth/ WLAN EIRP and EIS Measurement Result

Channel	0	39	78
EIRP (dBm)	0.27	1.54	0.13
Sensitivity (dBm)	-82.41	-83.57	-81.94

3. Antenna Materials

The antenna can not have the materials of plumbum (Pb), halogen and mercury (Hg).