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, 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：shorting monopole type
WLAN：shorting monopole type
BT：PIFA type

1.3 Antenna Brand

EDGE：HTC
WLAN：HTC
BT：HTC

1.4 Antenna Model name

EDGE：D00031388
WLAN：36H00417-00M
BT：D00031818

2. Gain measurements

2.1 EDGE 3D Antenna Gain Measurement Result

Frequency (MHz)	824	894	960	1710	1850	1990
Peak Gain (dBi)	-1.9	-0.96	-3.98	-1.42	+1.68	-0.07
Average Gain (dBi)	-4.16	-4.65	-7.54	-4.52	-1.55	-3.66

2.2 Bluetooth 2D Antenna Gain Measurement Result

Frequency (MHz)	2402	2441	2480
Peak Gain (dBi)	+0.54	+1.51	+1.13
Average Gain (dBi)	-2.98	-2.76	-2.02

2.3 WLAN 2D Antenna Gain Measurement Result

Frequency (MHz)	2412	2442	2472
Peak Gain (dBi)	+0.99	+1.48	+0.09
Average Gain (dBi)	-4.08	-2.73	-4.57

2.4 EDGE EIRP and EIS Measurement Result

GSM850

Channel	128	189	251
EIRP (dBm)	30.30	32.10	32.40
Cell power (dBm)	-108	-107.5	-106

EGSM

Channel	975	42	124
EIRP (dBm)	28.48	28.86	28.79
Cell power (dBm)	-104.5	-106	-104.5

DCS

Channel	512	698	885
EIRP (dBm)	26.87	27.27	28.64
Cell power (dBm)	-107	-107.5	-108

PCS

Channel	512	661	810
EIRP (dBm)	30.17	30.70	31.56
Cell power (dBm)	-108	-108	-109

2.5 Bluetooth EIRP and EIS Measurement Result

Channel	0	39	78
EIRP (dBm)	+1.26	+1.92	+3.21
Sensitivity (dBm)	-80.8	-80.3	-82

2.6 WLAN EIRP Measurement Result

Channel	0	39	78
EIRP (dBm)	13.8	12.5	11.5

3. Antenna Materials

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