

## Antenna Report

Project Name :	Excalibur	Date:	06/07/2006
Project Manager:	Jesse_Hsu	Author	Stanley Wang

**Countersign:**

Stanley Wang \_\_\_\_\_

**PROPRIETARY NOTE**

THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO HIGH TECH COMPUTER CORP. AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS OBTAINED WITHOUT THE EXPRESSED WRITTEN CONSENT OF HIGH TECH COMPUTER CORP.

**HTC CONFIDENTIAL**

**CONTENTS**

**Embedded Quad-Band ,WLAN and Bluetooth Antenna Test Results ..... P.3**

**PROPRIETARY NOTE**

THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO HIGH TECH COMPUTER CORP. AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS OBTAINED WITHOUT THE EXPRESSED WRITTEN CONSENT OF HIGH TECH COMPUTER CORP.

*HTC CONFIDENTIAL*

## 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

#### **PROPRIETARY NOTE**

THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO HIGH TECH COMPUTER CORP. AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS OBTAINED WITHOUT THE EXPRESSED WRITTEN CONSENT OF HIGH TECH COMPUTER CORP.

*HTC CONFIDENTIAL*

**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

**PROPRIETARY NOTE**

THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO HIGH TECH COMPUTER CORP. AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS OBTAINED WITHOUT THE EXPRESSED WRITTEN CONSENT OF HIGH TECH COMPUTER CORP.

*HTC CONFIDENTIAL*

**2.4 EDGE EIRP and EIS Measurement Result**

GSM850	<b>Channel</b>	<b>128</b>	<b>189</b>	<b>251</b>
	<b>EIRP (dBm)</b>	30.30	32.10	32.40
	<b>Cell power (dBm)</b>	-108	-107.5	-106
EGSM	<b>Channel</b>	<b>975</b>	<b>42</b>	<b>124</b>
	<b>EIRP (dBm)</b>	28.48	28.86	28.79
	<b>Cell power (dBm)</b>	-104.5	-106	-104.5
DCS	<b>Channel</b>	<b>512</b>	<b>698</b>	<b>885</b>
	<b>EIRP (dBm)</b>	26.87	27.27	28.64
	<b>Cell power (dBm)</b>	-107	-107.5	-108
PCS	<b>Channel</b>	<b>512</b>	<b>661</b>	<b>810</b>
	<b>EIRP (dBm)</b>	30.17	30.70	31.56
	<b>Cell power (dBm)</b>	-108	-108	-109

**2.5 Bluetooth EIRP and EIS Measurement Result**

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

**2.6 WLAN EIRP Measurement Result**

<b>Channel</b>	<b>0</b>	<b>39</b>	<b>78</b>
<b>EIRP (dBm)</b>	13.8	12.5	11.5

**3. Antenna Materials**

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

**PROPRIETARY NOTE**

THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO HIGH TECH COMPUTER CORP. AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS OBTAINED WITHOUT THE EXPRESSED WRITTEN CONSENT OF HIGH TECH COMPUTER CORP.

*HTC CONFIDENTIAL*