Data Sheet

CUSTOMER: Gigabyte

MODEL NAME: SB-513 WLAN Antenna

ACON P/N: APP6P-700762

ADVANCED-CONNECTEK INC.

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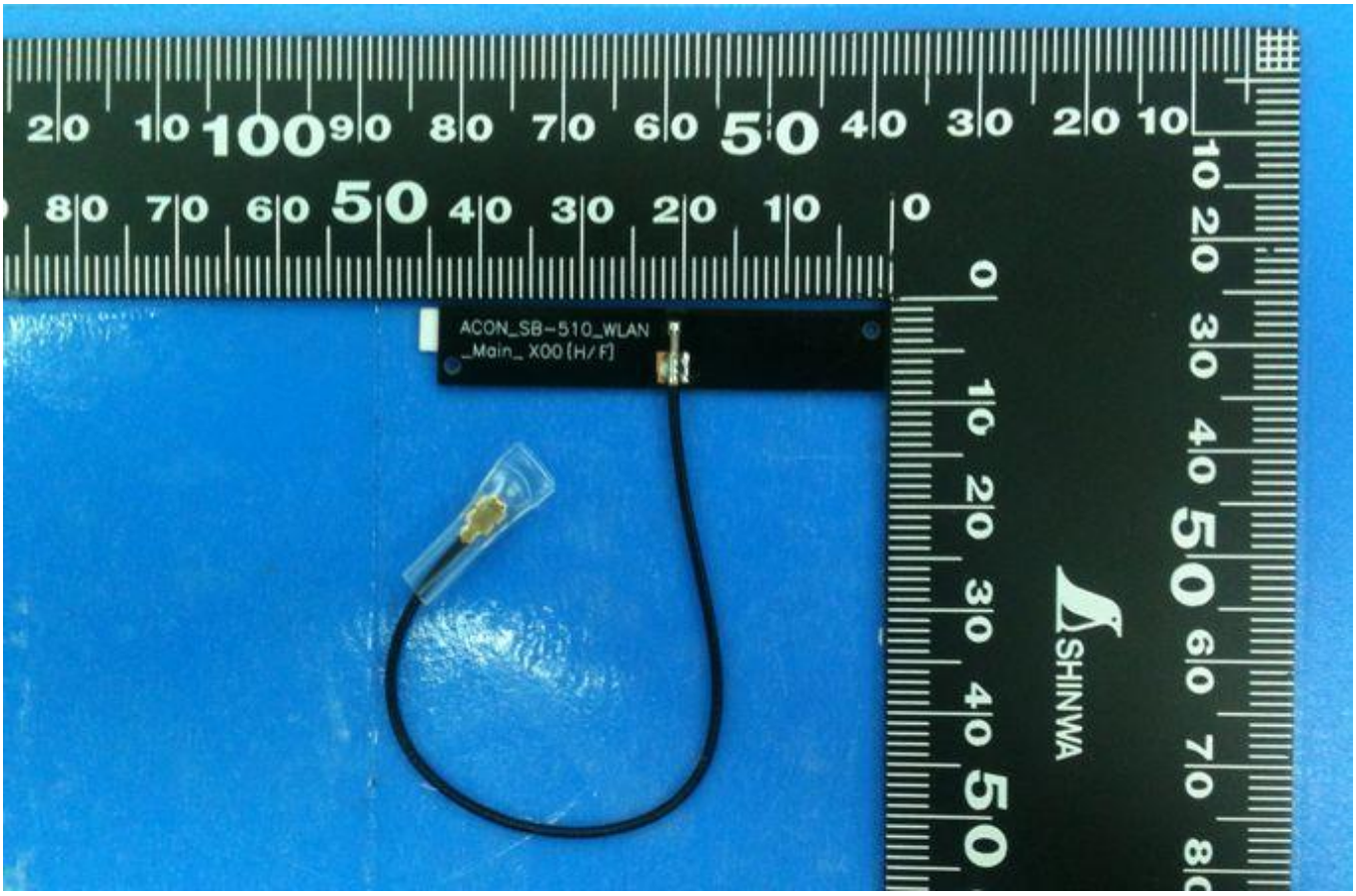
1. Description

1.1 Specifications

Antennas Type	PIFA Antenna for WLAN 802.11b/g application	
Connector Type	I-PEX & ACON Connector for 1.13 cable	
Cable Type	OD 1.13 RF Cable	
Impedance	50Ω	
Polarization	Linear	
Radiation pattern	Omni-directional	
Frequency	WLAN 802.11b/g	2.40～2.50 GHz
VSWR	WLAN 802.11b/g	2.0 Max
Peak gain	WLAN 802.11b/g	2.85 dBi
Cable Loss	WLAN 802.11b/g	0.29 dBi
Cable length	WLAN (APP6P-700762)	100mm, Black

1.2 Antenna Picture



WLAN P/N: APP6P-700762

2. Electrical Specification

2.1 Test Equipment

A. VSWR and input impedance: Agilent 8720/8753 Network Analyzer
B. Antenna gain and efficiency: ETS three-dimensional anechoic chamber

2.2 Test Setup

2.2.1 Frequency Range

A. WLAN 802.11 b/g : 2.40～2.50 GHz

2.2.2 VSWR

Step 1: The antenna is arranged on the customer provided test fixture.
Step 2: The VSWR of the antenna is measured via Agilent 8720/8753 Network Analyzer (see figure. 1).

Figure.1

2.2.3 Radiation pattern and Gain

A. The 3D chamber provides less than -40dB reflectivity from 800MHz to 6GHz and a 40cm diameter spherical quiet zone. The measurement results are calibrated using both dipoles and standard gain horns (see figure. 2).
B. The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 3).
C. The measured results of the radiation patterns and antenna gain are obtained from the control system and showed on the monitor (see figure. 4 and 5).

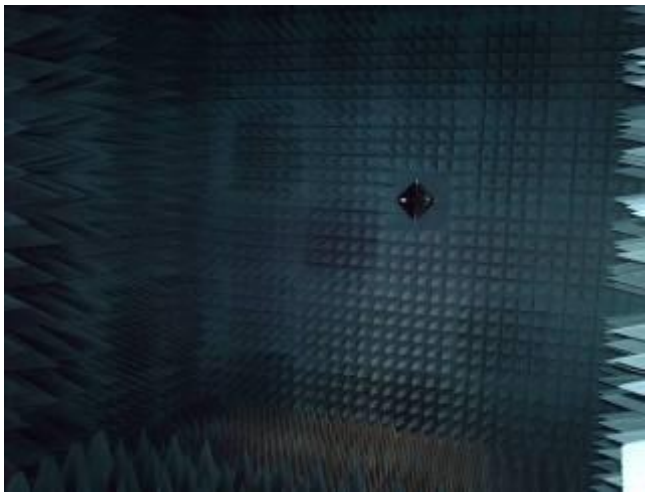


Figure.2

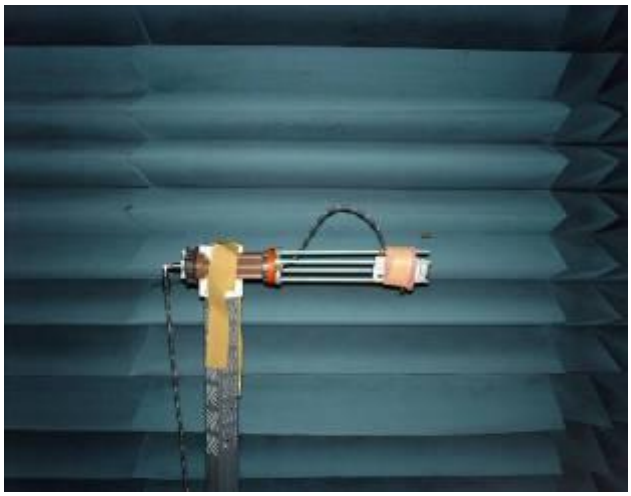


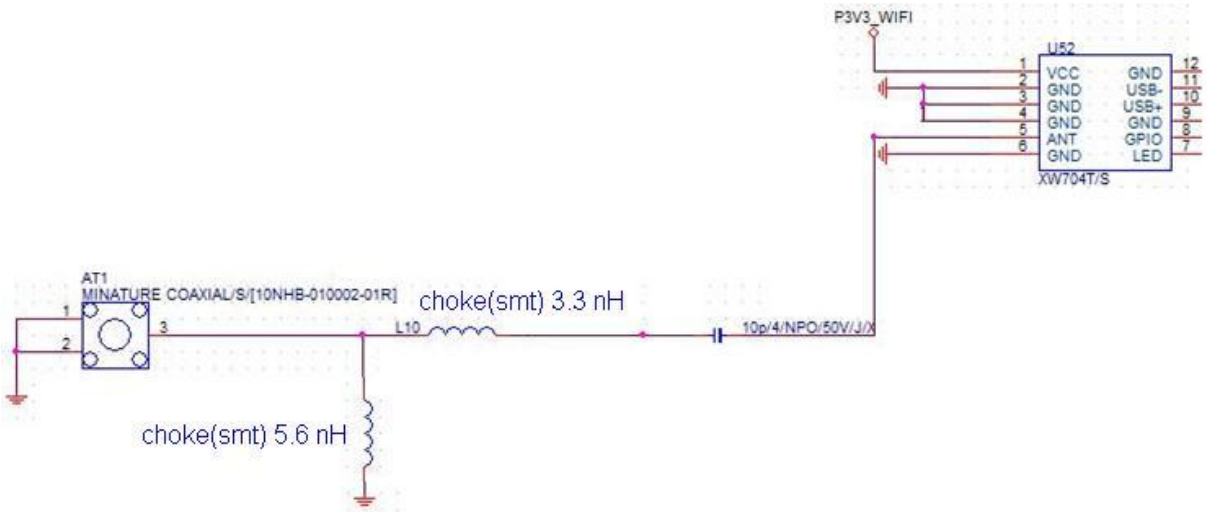
Figure.3

Figure.4

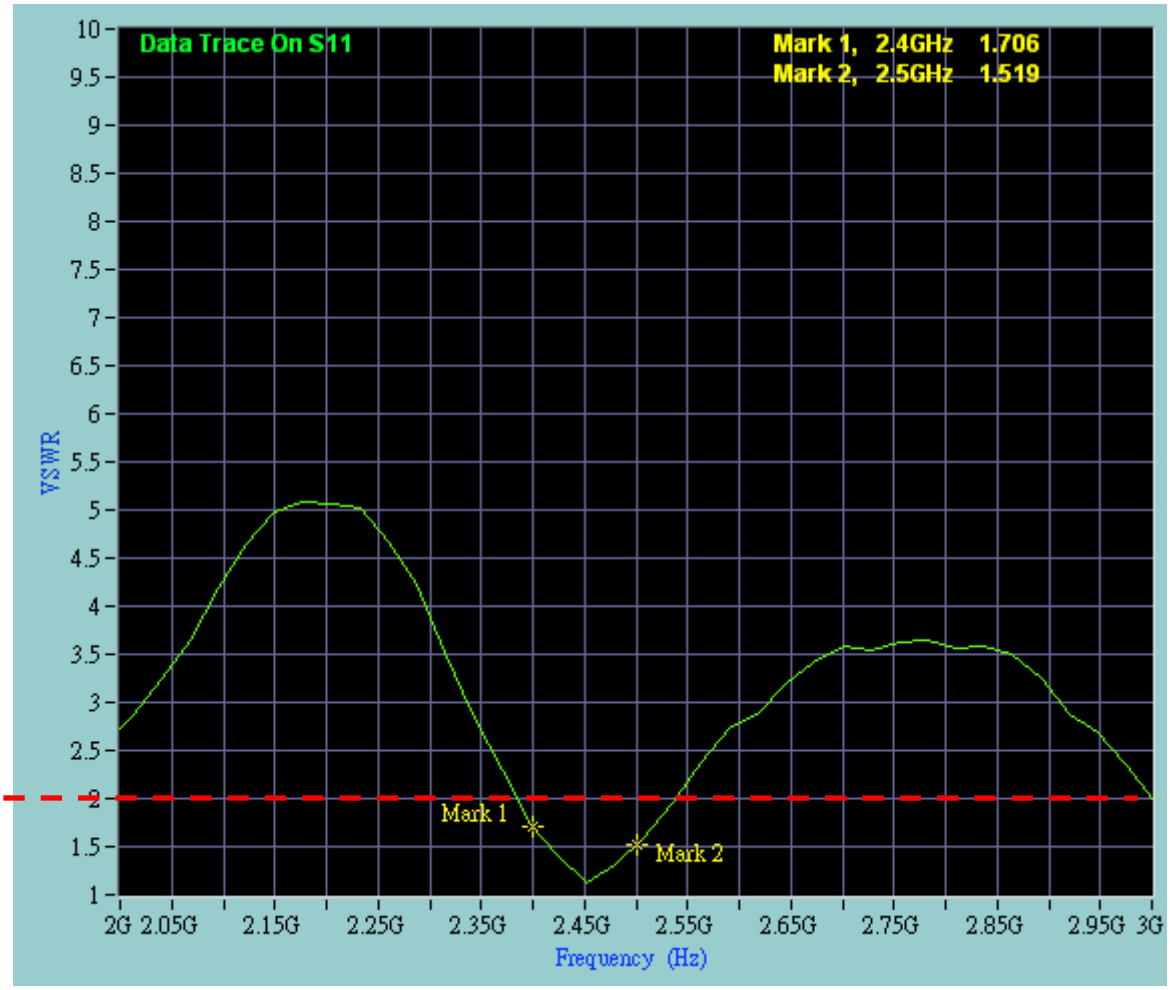
Figure.5

3. Performance Data

3.1 Matching



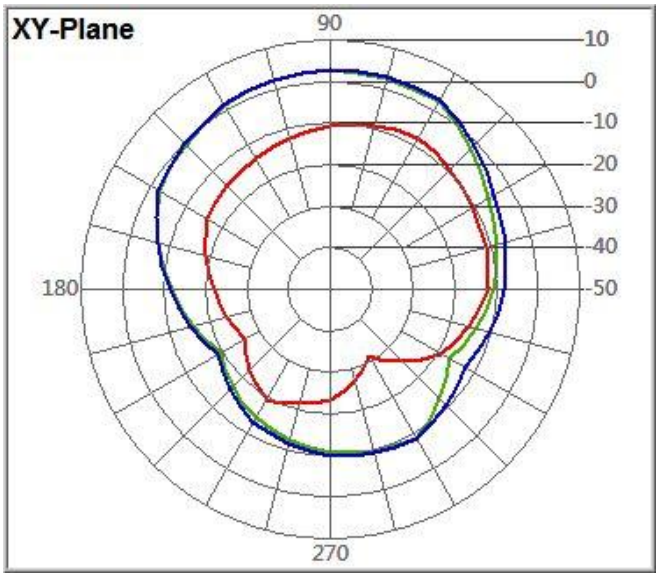
3.2 VSWR



WLAN Main

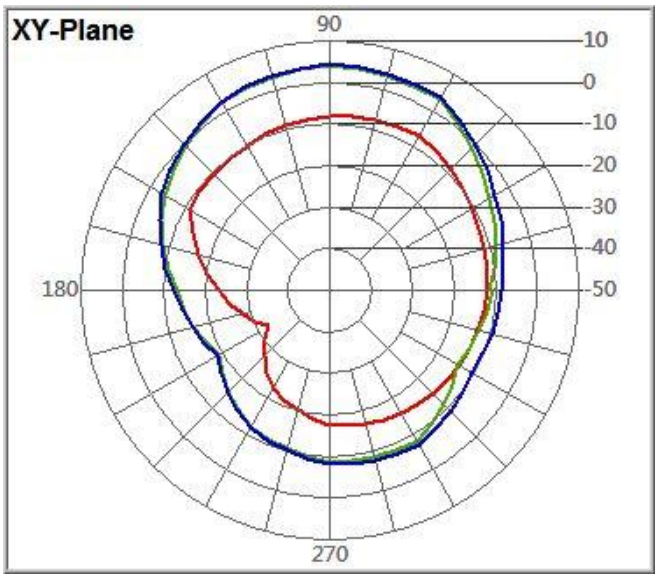
3.3 Radiation pattern & Gain (WLAN Antenna)

3.3.1 2D WLAN Antenna (XY Plane)



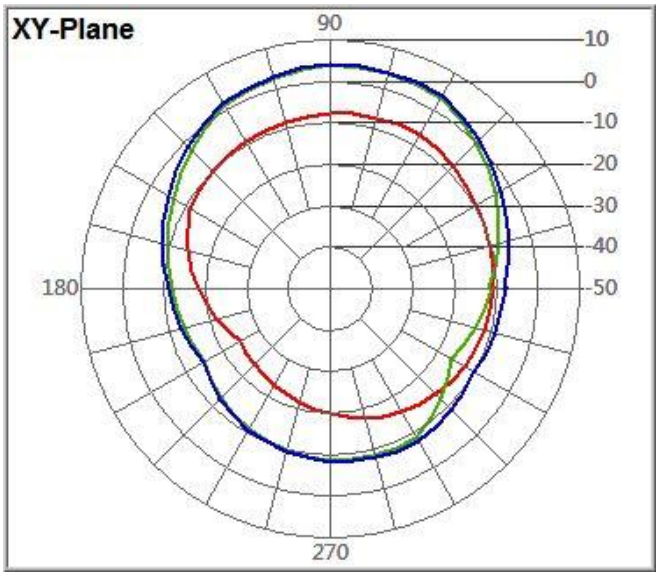
Center Frequency	**2400 MHz**
Horizontal (dBi) peak	**-8.91**
Vertical (dBi) peak	**2.07**

Horizontal
Vertical
H+V



Center Frequency	2450 MHz
Horizontal (dBi) peak	-8.57
Vertical (dBi) peak	2.46

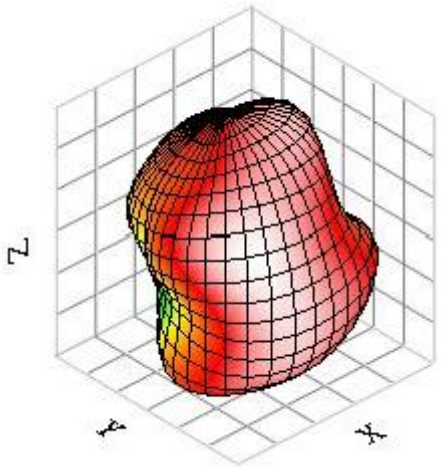
Horizontal
Vertical
H+V



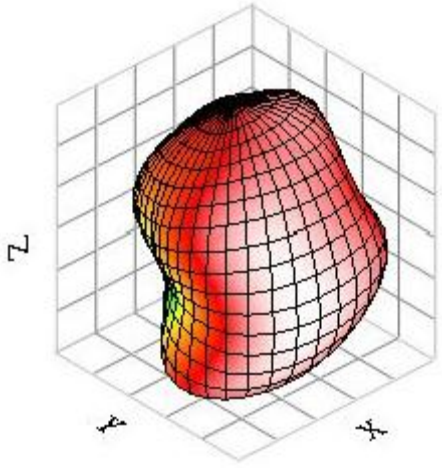
Center Frequency	2500 MHz
Horizontal (dBi)	-8.02
Vertical (dBi) peak	2.05

Horizontal
Vertical
H+V

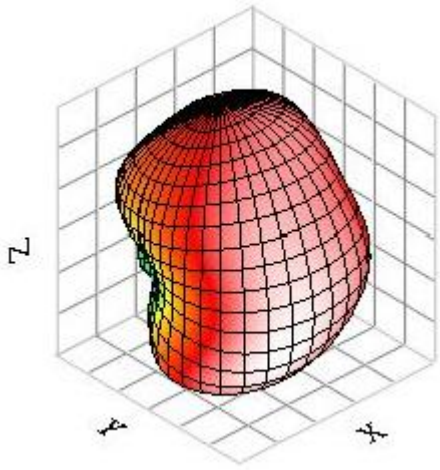
3.3.2 3D WLAN Antenna



2.40GHz



2.45GHz



2.50GHz

WLAN MAIN Antenna 2.40GHz~2.50GHz

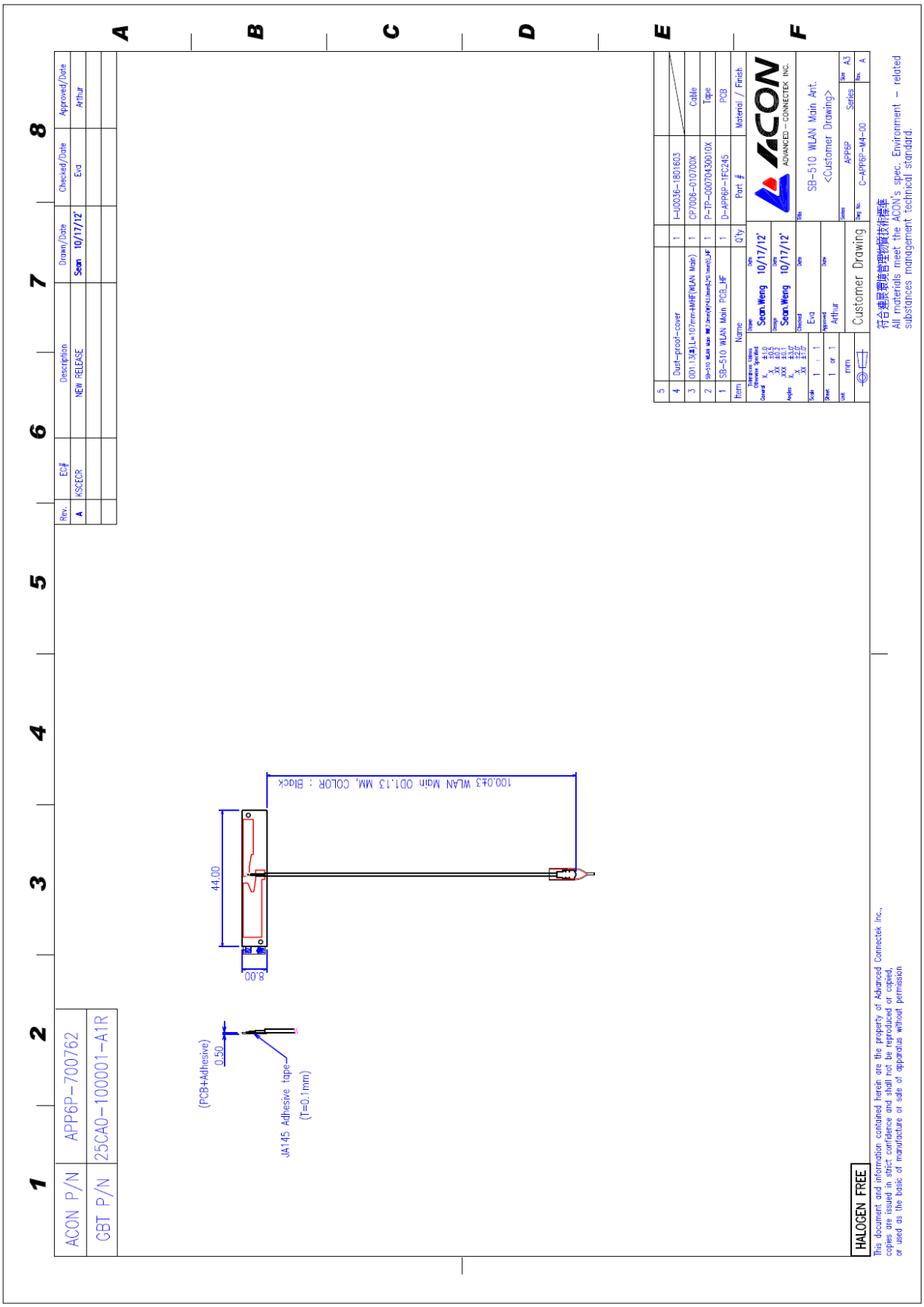
3.4 Gain

Antenna Gain Table:

WLAN Main Antenna Gain								
Frequency	MAX Value (dBi)			Average (dBi)				
	H-pol.	V-pol.	Total	H-pol.	V-pol.	Total	3D Gain	Efficiency %
2400(MHz)	-8.91	2.07	2.57	-12.16	-2.37	-1.74	-2.85	51.88
2450(MHz)	-8.57	2.46	2.85	-11.90	-2.12	-1.62	-2.20	60.26
2500(MHz)	-8.02	2.05	2.66	-11.35	-2.26	-1.67	-2.76	52.97

4.Mechanical Specification

4.1 Assembly Drawing(WLAN Main Antenna)



Revision

Revision	Date	Change Notification	Notes
Rev.0	2014-07-30	--	--