

Approval sheet of

Victa POS

Internal Antenna

Antenna Product Specification

Entry Name	Victa POS WIFI 3IN1
Frequency Channel	NA SKU: LTE:B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B41/B66/B71 WCDMA:WB2/WB4/WB5 WIFI/BT/GPS EU SKU: LTE:B1/B2/B3/B4/B5/B7/B7/B10/B20/B28/B38/B40/B41/B66 WCDMA:WB1/WB2/WB4/WB5/WB8 GSM: 850/900/1800/1900 WIFI/BT/GPS
Supplier Name	Zhejiang Haitong communications electronic Limited by Share Ltd
Supplier Address	15, North Keji 1st Road, Nanshan District, Shenzhen City, Guangdong Province, South Zone, 1st Floor, Fenghuangcheng Building
Antenna part number	01. WF7. A1POS2HT000

Prepared by	Signed by	Approved by Customer
RF Engineer	Wu peigeng	
ME Engineer	Zheng Youqiang	
Reviewed by	Xu Weiwei	
RF Manager	Xu Weiwei	
ME Manager	Zheng Youqiang	
Project Manager	Gao Jiaqi	

Project:Victa POS	Author: Wu Peigeng	File Name:victa POS WIFI/BT/GPS 3IN1 PEAK GAIN REPORT
Date: 2025-12-31		
Language: English	Check: Xu Weiwei	
Document No.:		
Address : Yidao Building, Pingshan District, Shenzhen, Guangdong		

1 Antenna Description

WIFI/BT/GPS 3IN1 Antenna Structure
Insert Molding Antenna+FPC Antenna
Antenna Type: PIFA Antenna

2 Product Specification

2.1 S11 (Return Loss)

The S11 over the frequencies stated in Table 1 below shall be measured at the connector end of the cable for each antenna assembly. The S11 are measured with the antennas installed on platform. The S11 shall be 100% tested in production.

Test Parameter	600MHz to 3000 MHz
S11:	-5dB Max



S-parameter test

2.2 Test environment

The radiation pattern and antenna gain shall be tested either with a conventional far field anechoic chamber or a near field anechoic chamber such as a Satimo SG24-L.

For a far field anechoic chamber, the gain measurements shall be made within an RF anechoic chamber with at least 3-meter separation from the receive antenna to the antenna under test (AUT). The RF anechoic chamber must be lined with absorptive material rated as a minimum frequency range from 400MHz to 10GHz. The notebook with the antenna assemblies installed shall be placed on a non-conductive structure at a sufficient height to be in the 'quiet zone' of the chamber. All test equipment including horn antennas, adapters, cables, network analyzers, and receivers shall be calibrated per manufacturer's minimum calibration requirements. For a near field anechoic chamber, the AUT test must be place in the center (and within the admissible offset) of the probe array elements. The RF anechoic chamber must be lined with absorptive material rated as a minimum frequency range from 400MHz to 10GHz. The notebook with the antenna assemblies installed shall be placed on a non-conductive structure.

2.3 Antenna radiation measurement

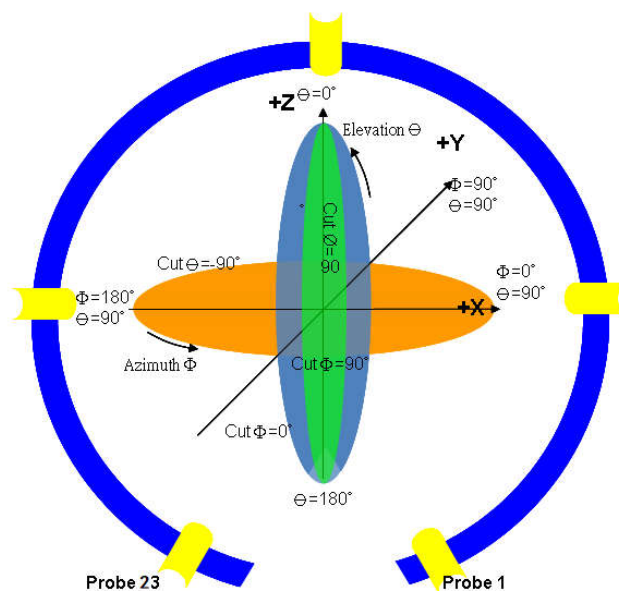
In order to ensure compliance with network carrier specifications, it is required to measure a 3-D gain measurement for LTE MAIN Antenna.

Table below specifies the details of the 3-D gain measurement points

Theta Start: 0°	Phi Start: 0°
Theta Stop: 150°	Phi Stop: 330°
Theta increment: 30°	Phi Increment: 30°

The table above specifies the minimum 23 measurement points (x2 polarizations) for each measurement frequency.

The test environment for gain measurements are outlined in below Figures.



Calibration certificate	
Instrument number:	CT1012326B5.25
Calibration date:	2024.12.28
Next calibration date:	2027.12.27
Calibrator:	Hu mo

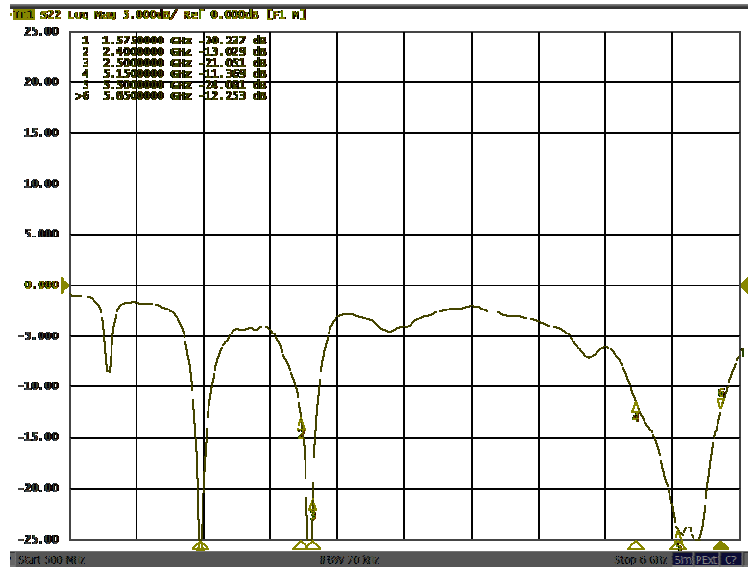
3 Antenna Performance Test

3.1 Matching Circuit Description

天线	器件功能	位号	EU版本	NA版本
三合一 主路	天线主馈弹片 (top)	M2801	贴	贴
	天线主馈弹片 (bot)	M2803	贴	贴
	TVS管	V26	贴	贴
	串位 (SAR匹配位, 值不改)	C190	1.2pF	1.2pF
	并位 (SAR匹配位, 值不改)	L2	68nH	68nH
	并位	C130	NC	NC
	串位	R158	1.5nH	1.5nH
	并位	C189	0.75pF	0.75pF

Main Match

3.2 S11 of WIFI/BT/GPS 3IN1 Antenna



3.2 Antenna Radiated Efficiency

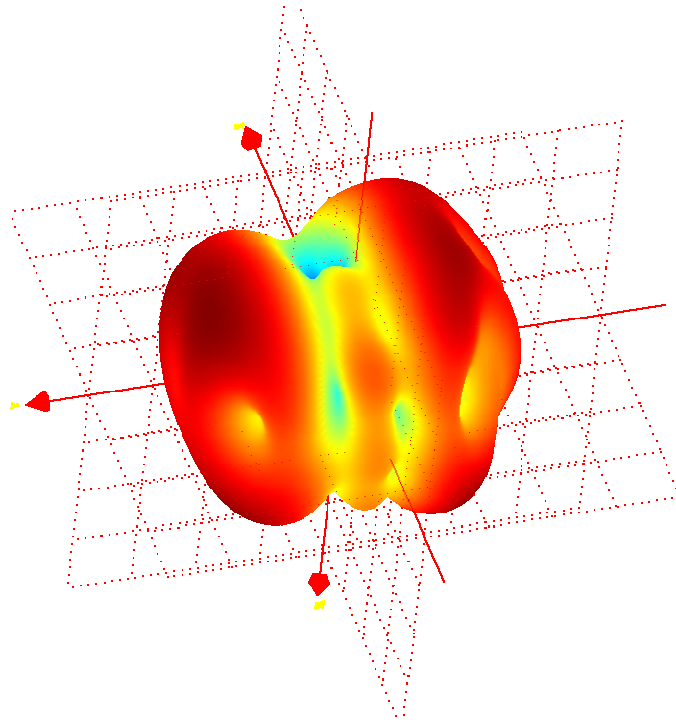
Frequency	Peak Gain (dBi)
1550	0.5
1555	0.4
1560	0.3
1565	0.3
1570	0.2
1575	0.3
1580	0.1
1585	0.2
1590	0.3
1595	0.2
1600	0.2
2400	1.3
2410	1.2
2420	1.2
2430	1.6
2440	1.8
2450	1.6
2460	1.6
2470	1.6
2480	1.7
2490	1.8
2500	1.5

Frequency	Gain(dBi)
5150	1.1
5170	1.3
5190	1.5
5210	1.2
5230	1.6
5250	1.3
5270	1.6
5290	1.6
5310	1.3
5330	1.2
5350	1.1
5370	0.8
5390	0.7
5410	0.9
5430	1.1
5450	1.1
5470	1.3
5490	1.2
5510	0.9
5530	1.3
5550	1.6
5570	1.5
5590	1.1
5610	1.4
5630	1.2
5650	1.3
5670	1.2
5690	1.4
5710	1.4
5730	1.2
5750	0.9
5770	0.7
5790	0.9
5810	0.7
5830	0.8
5850	1.1

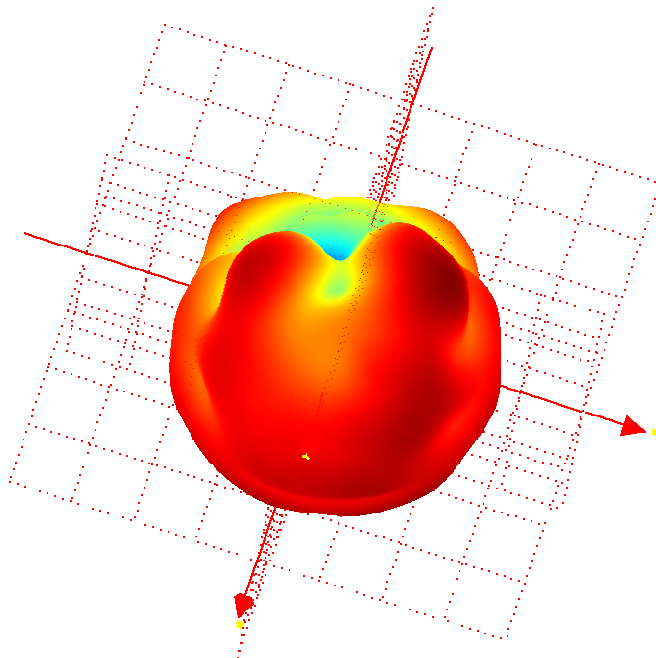
Freq (MHz)	Peak Gain(dBi)
2400~2483.5MHz	1.8
5150~5250MHz	1.6
5250~5350MHz	1.6
5470~5725MHz	1.6
5725~5850MHz	1.2

3.3 Radiation Pattern

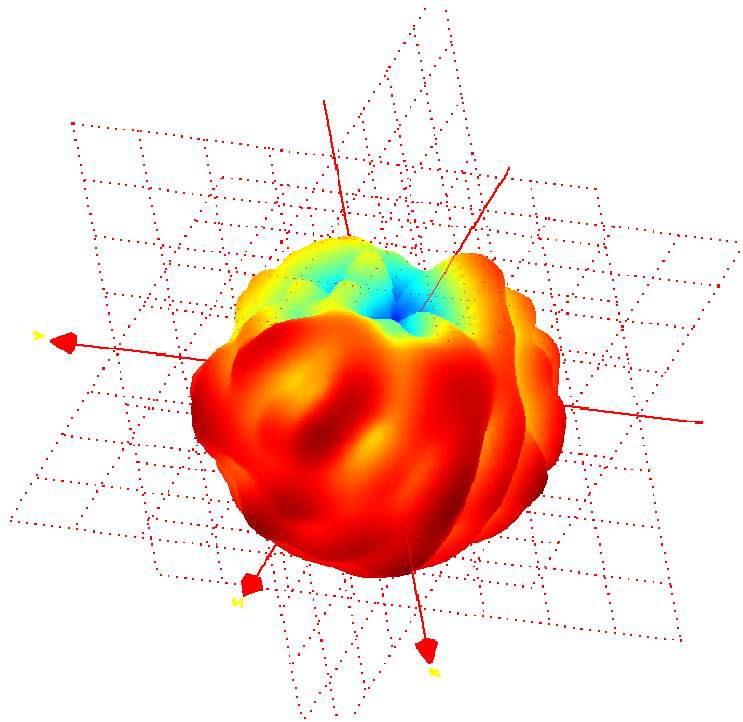
GPS [1575.42MHz]



BT/WiFi 2.4GHz [2450MHz]



WiFi 5GHz [5150MHz]



WiFi 5GHz [5850MHz]

