

# MC345A/MC345B Antenna SPECIFICATION

Antenna Manufacturer Name	Universal Global Scientific Industrial Co., Ltd.
Address	No.141, Lane 351, Sec.1, Taiping Road, Tsaotuen, Nantou County 542007, Taiwan
ODM P/N:	46-500587-01
Test DATE	2024/10/31
DATASHEET REVISION	V1
Ant. Type (Monopole)	Ant-7
Ant. Type (PIFA)	Ant-6
Ant. Type (Loop)	NFC



Test Engineer: Star Chen



# **Description of Antenna**

Antenna 6 Structure	
	1560-1610MHz, 2400-2500MHz, 5150-
Frequency Range	5850MHz and 5925-7125MHz
Impedance	50 ohm
Antenna type	PIFA
Manufacturing Process	LDS

### Antenna Ant-6 Peak Gain

Brick SKU	
Frequency (MHz)	Peak gain (dBi)
2400	1.77
2450	1.81
2500	1.59
5150	0.99
5250	1.34
5350	1.06
5450	0.83
5550	0.89
5650	1.26
5750	1.31
5850	1.05
5925	1.02
6425	0.93
6525	0.81
6875	0.55
7125	0.57

### Antenna Ant-6 UHIS

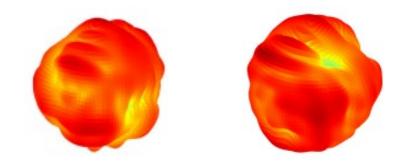
Brick SKU	
Frequency (MHz)	UHIS ←
1560↩	-6.26
1570↩	-6.17
1580↩	-5.83
1590↩	-5.88
1600↩	-5.8↩
1610↩	-6.03



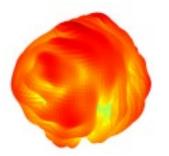
**Antenna Radiation Patterns DUT Axis Reference** Υ Υ Back LCM housing 2400 MHz -2450 MHz -2500 MHz -

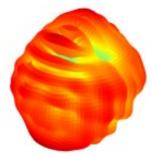


- 5150 MHz

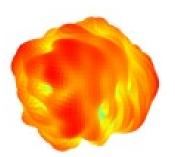


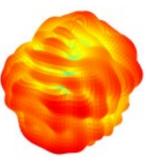
- 5450 MHz

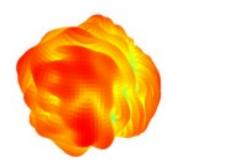


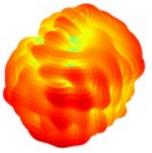


- 5850 MHz



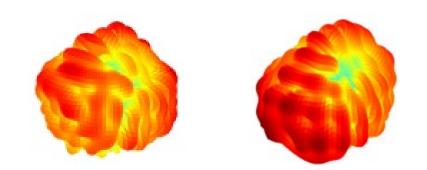




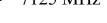




- 6525 MHz



- 7125 MHz



### Antenna Ant-6 Peak Gain

Gun SKU		
Frequency (MHz)	Peak gain (dBi)	
2400	1.68	
2450	1.72	
2500	1.43	
5150	0.85	
5250	1.19	
5350	0.95	
5450	0.74	
5550	0.78	
5650	1.09	
5750	1.13	
5850	0.88	
5925	0.85	
6425	0.81	
6525	0.71	
6875	0.48	
7125	0.47	

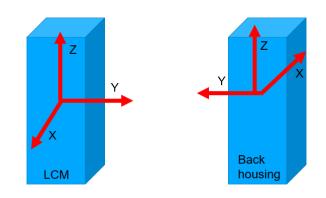
### Antenna Ant-6 UHIS

Gun SKU	
Frequency (MHz)	UHIS
1560	-6.15
1570	-6.03
1580	-5.85
1590	-5.91
1600	-5.67
1610	-5.97

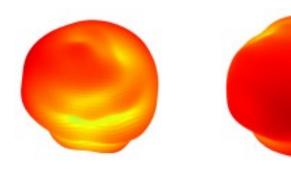


### **Antenna Radiation Patterns**

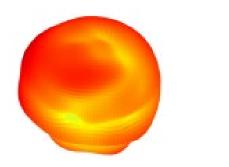
DUT Axis Reference



- 2400 MHz

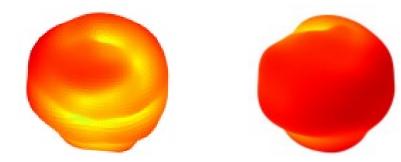


- 2450 MHz



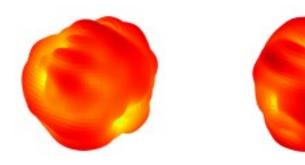


- 2500 MHz

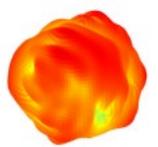


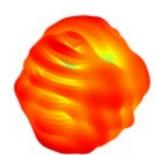


- 5150 MHz

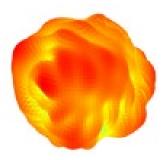


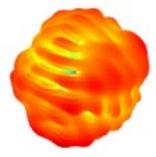
- 5450 MHz

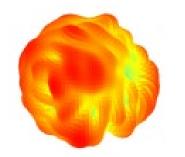


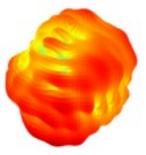


- 5850 MHz



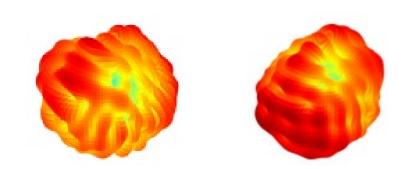




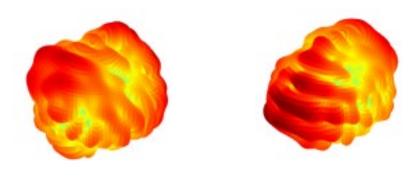




- 6525 MHz



- 7125 MHz





Antenna 7 Structure	
Hradilancy Ronga	1160-1190MHz, 2400-2500MHz, 5150-
requency Range	5850MHz and 5925-7125MHz
Impedance	50 ohm
Antenna type Monopole	
Manufacturing Process	LDS

### Antenna Ant-7 Peak Gain

Brick SKU		
Frequency (MHz)	Peak gain (dBi)	
2400	0.50	
2450	0.47	
2500	-0.17	
5150	0.85	
5250	1.02	
5350	0.68	
5450	0.74	
5550	0.61	
5650	0.64	
5750	0.83	
5850	0.98	
5925	0.91	
6425	1.23	
6525	1.19	
6875	0.64	
7125	0.88	

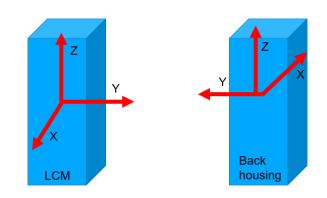
### Antenna Ant-7 UHIS

Brick SKU	
Frequency (MHz)	UHIS
1160	-8.04
1170	-7.83
1180	-7.94
1190	-8.03



### **Antenna Radiation Patterns**

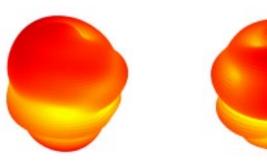
DUT Axis Reference



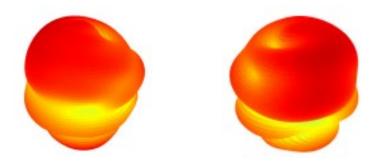
- 2400 MHz



- 2450 MHz



- 2500 MHz





- 5150 MHz

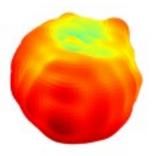


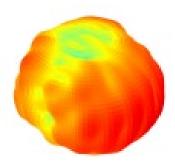
- 5450 MHz

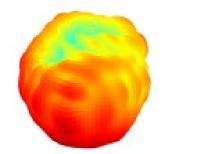


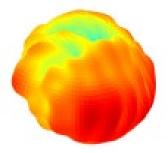


- 5850 MHz



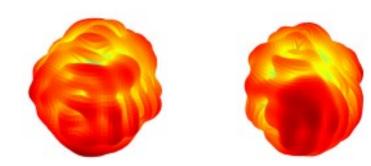




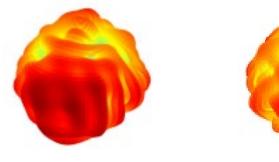




- 6525 MHz



- 7125 MHz



### Antenna Ant-7 Peak Gain

Gun SKU		
Frequency (MHz)	Peak gain (dBi)	
2400	0.46	
2450	0.44	
2500	-0.25	
5150	0.77	
5250	0.96	
5350	0.60	
5450	0.70	
5550	0.59	
5650	0.57	
5750	0.74	
5850	0.91	
5925	0.86	
6425	1.18	
6525	1.15	
6875	0.59	
7125	0.85	

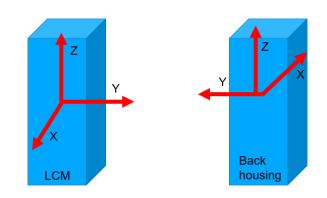
### Antenna Ant-7 UHIS

Gun SKU	
Frequency (MHz)	UHIS
1160	-7.96
1170	-7.85
1180	-7.98
1190	-8



### **Antenna Radiation Patterns**

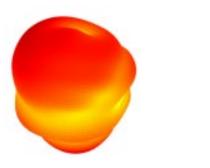
DUT Axis Reference



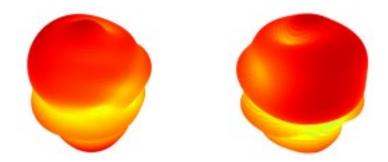
- 2400 MHz



- 2450 MHz

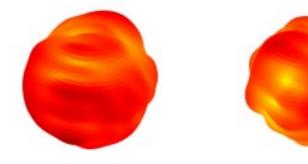


- 2500 MHz



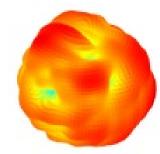


- 5150 MHz

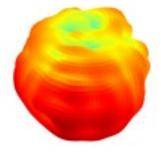


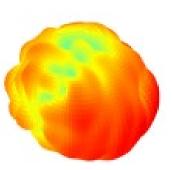
- 5450 MHz

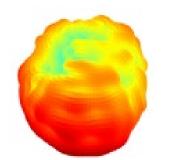


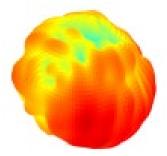


- 5850 MHz





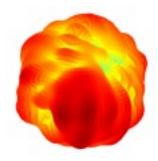




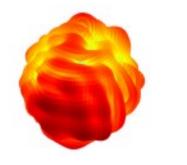


- 6525 MHz





- 7125 MHz

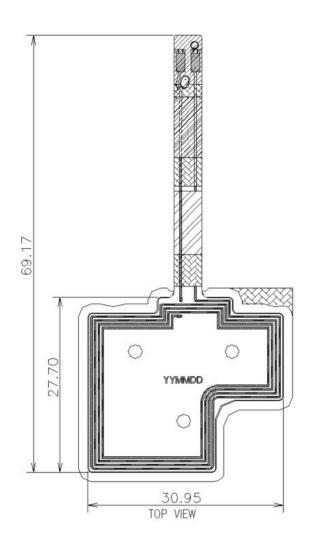


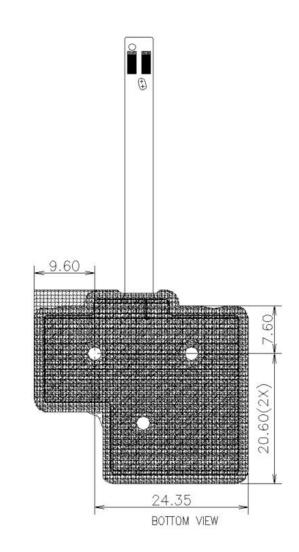




# NFC Antenna

### **FPCB** Dimensions





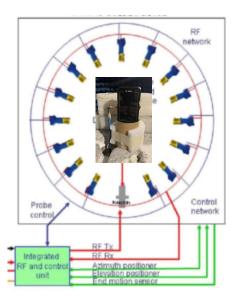




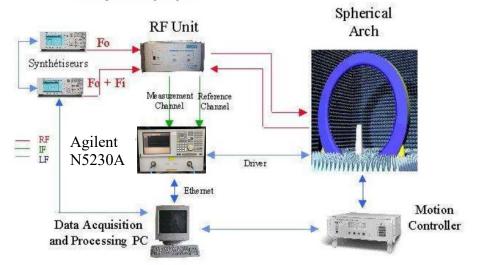
This test procedure primarily adheres to Section 3 of the CTIA Test Plan, which outlines the scope of measurement. The total range loss—comprising air loss, receiving antenna loss, and cable loss—has been pre-calibrated by comparing it with a calibrated antenna (Wide band standard gain horn). While conducting the radiated test on the Device Under Test (DUT), the total range loss has been taken into account for final results.

The Device Under Test (DUT) is positioned on fixture constructed from styrofoam turntable. One of the DUT's antennas is connected to the network analyzer, while the input port of the other antenna is properly terminated.

A three-dimensional characterization of the antenna performance of the DUT is pieced together by analyzing the data from the spatially distributed measurements. Data points taken every 3 degrees in the theta and in the phi axes are deemed sufficient to fully characterize the DUT's antenna radiated gain.



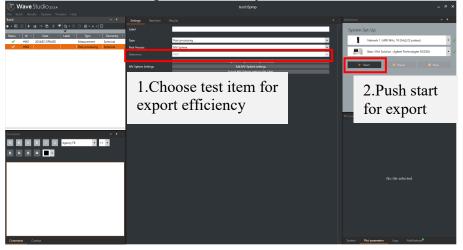
7. SG system synoptic





# Open WaveStudio23.3test software

## Add test item for export efficiency



### Result will show efficiency number

