



# CFSA69594P / CFSA69594P1

## 5G Ceiling Mount DAS Antennas Datasheet

CFSA69594P and CFSA69594P1 are low-PIM, indoor, wideband, omnidirectional low-profile ceiling mount DAS antennas. Designed to provide pattern coverage that is optimized for indoor coverage requirements at 698-960 MHz and 1690-5925 MHz for 5G, 4G/LTE and older cellular networks. Applicable for environments where wide-angle coverage is necessary for a successful wireless deployment, while maintaining desired in-building aesthetics.

### FEATURES AND BENEFITS

- 5G sub-6 GHz networks including C-Band, CBRS, LAA
- Ultra-low profile
- Ultra-low and optimized PIM rating less than -163 dBc
- Mounts directly and easily to ceiling tile or hard ceilings
- Radome is paintable using commonly available spray paints (must not contain metal)
- UL94-VO flammability rating
- Plenum rated cable

### ELECTRICAL SPECIFICATION

Operating Frequency (MHz)	698-824	824-894	880-960	1350-1550	1690-1880	1850-1990	1910-2200	2300-2700	3300-4000	4000-4200	5150-5925			
VSWR - Avg	<1.3:1	<1.2:1	<1.4:1	<1.3:1	<1.2:1	<1.2:1	<1.2:1	<1.3:1	<1.4:1	<1.4:1	<1.4:1			
VSWR - Max	<1.7:1	<1.7:1	<1.7:1	<2.0:1	<1.7:1	<1.7:1	<1.7:1	<1.7:1	<1.7:1	<2.5:1	<2.0:1			
Peak Gain - Average (dBi)	3.2	3.0	2.6	3.8	5.2	5.4	5.3	5.2	3.7	3.8	4.4			
Peak Gain (dBi)	3.7	3.4	3.2	4.5	5.4	5.6	5.6	5.6	4.3	4.1	4.9			
PIM - 2x20W - Ave (dBc)	<-166						<-163	<-164			-			
PIM - 2x20W - Max (dBc)	< -150													
Nominal Impedance (Ohms)	-50													
Max Power - Ambient 25°C (W)	50													
Polarization	Linear - Horizontal													
Azimuth Beamwidth	360°, Omnidirectional													

### MECHANICAL SPECIFICATION

Dimensions - height x diameter - mm (in.)	7.6 x 180 (0.30 x 7.09)
Weight - g (oz.)	240 (8.47)
Ports	1
Cable Length / Connector (cm)	Standard 30 cm, available Type N (female) and 4.3-10 (female)
Radome	PC, UL94-VO (White)
Mounting	Ceiling mount (flush mount with screws or anchors)

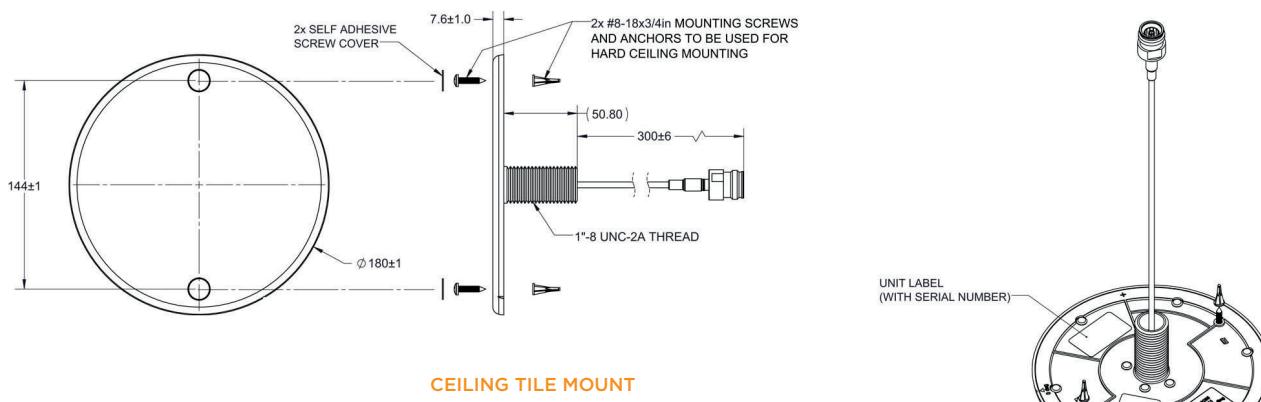
## ENVIRONMENTAL SPECIFICATION

Operating Temperature - °C (°F)	-30 to +70°C (-22 to +158°F)
Storage Temperature - °C (°F)	-40 to +85°C (-40 to +185°F)
Flammability Rating	UL94-VO
Material Substance Compliance	RoHS Compliant
Standard for Safety: Fire and Smoke (Plenum)	Plenum UL 444

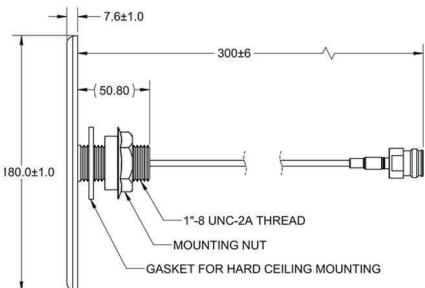
PART NUMBER	CABLE LENGTH	CONNECTOR	MOUNTING	PACKAGING
CFS69594P-30NF	30 cm (12 in.)	Type N-Female	Ceiling Tile	Unit
CFS69594P-30D43F	30 cm (12 in.)	4.3-10 Female	Ceiling Tile	Unit
CFS69594P-B30NF	30 cm (12 in.)	Type N-Female	Ceiling Tile	Bulk (16 Pack)
CFS69594P-B30D43F	30 cm (12 in.)	4.3-10 Female	Ceiling Tile	Bulk (16 Pack)
CFS69594P1-30NF	30 cm (12 in.)	Type N-Female	Hard Ceiling	Unit
CFS69594P1-30D43F	30 cm (12 in.)	4.3-10 Female	Hard Ceiling	Unit
CFS69594P1-B30NF	30 cm (12 in.)	Type N-Female	Hard Ceiling	Bulk (16 Pack)
CFS69594P1-B30D3F	30 cm (12 in.)	4.3-10 Female	Hard Ceiling	Bulk (16 Pack)

## MECHANICAL DRAWINGS

### HARD CEILING MOUNT

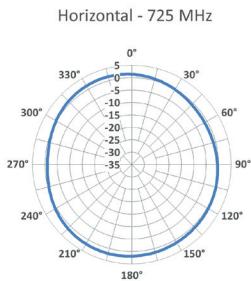


### CEILING TILE MOUNT

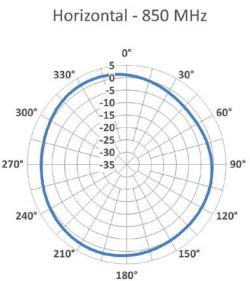


## RADIATION PATTERNS

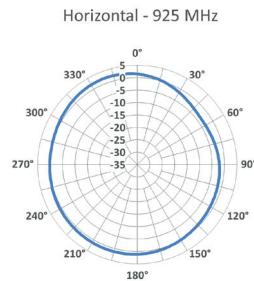
**725 MHz**



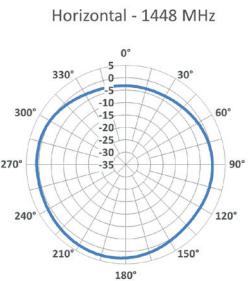
**850 MHz**



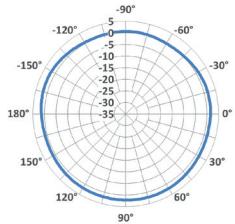
**925 MHz**



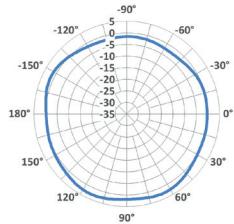
**1448 MHz**



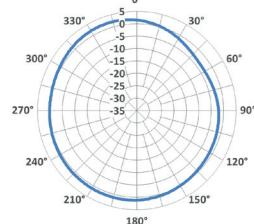
Vertical - 725 MHz



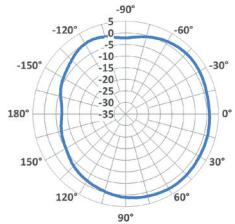
Vertical - 850 MHz



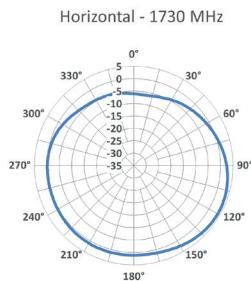
Vertical - 925 MHz



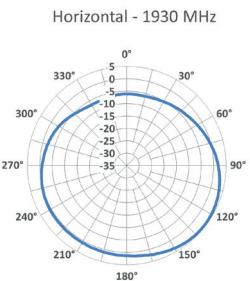
Vertical - 1448 MHz



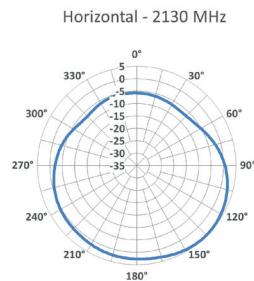
**1730 MHz**



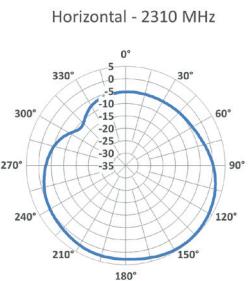
**1930 MHz**



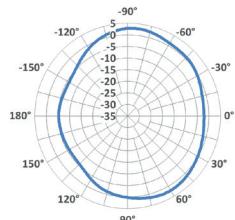
**2130 MHz**



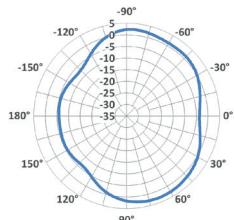
**2310 MHz**



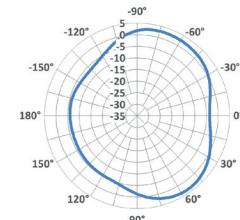
Vertical - 1730 MHz



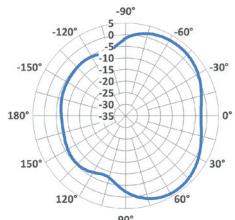
Vertical - 1930 MHz



Vertical - 2130 MHz

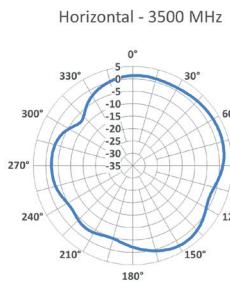


Vertical - 2310 MHz

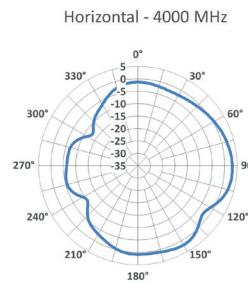


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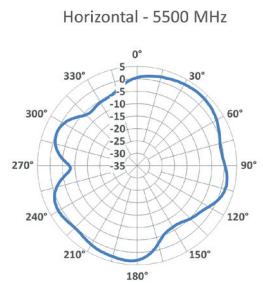
## 3500 MHz



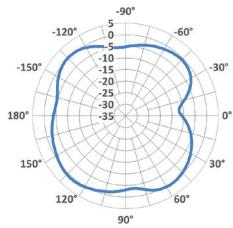
## 4000 MHz



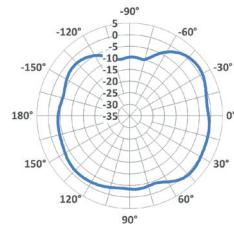
## 5500 MHz



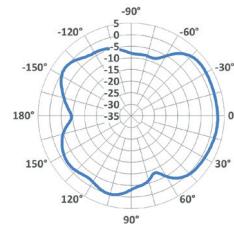
### Vertical - 3500 MHz



### Vertical - 4000 MHz

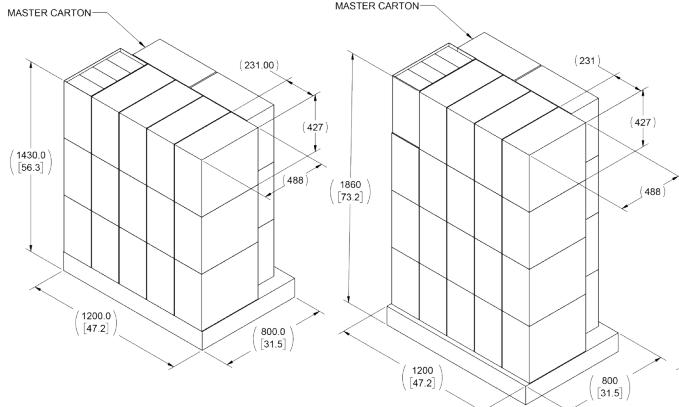


### Vertical - 5500 MHz



## PACKING INFORMATION

## PACKAGING - INDIVIDUAL CARTON

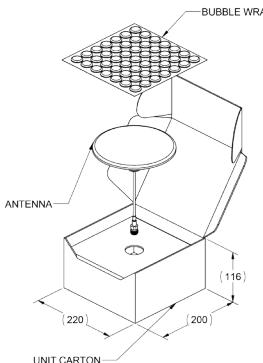


## AIR SHIPMENT PALLET LAYOUT

- 8 UNITS OF ANTENNA PER MASTER CARTON
- 7 MASTER CARTON PER LAYER
- 3 LAYERS STACK PER PALLET
- TOTAL OF ANTENNA PER PALLET = 168 PCS
- ESTIMATED FULL PALLET WEIGHT= 96 Kg

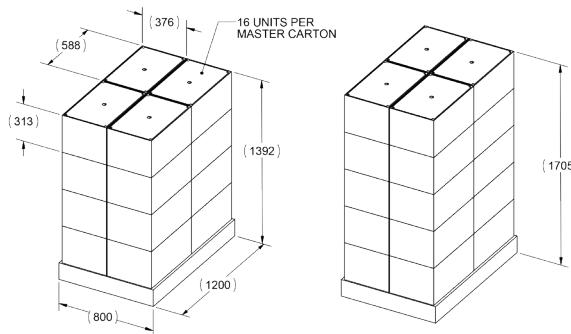
## OCEAN SHIPMENT PALLET LAYOUT

- 8 UNITS OF ANTENNA PER MASTER CARTON
- 7 MASTER CARTON PER LAYER
- 4 LAYERS STACK PER PALLET
- TOTAL OF ANTENNA PER PALLET = 224 PCS
- ESTIMATED FULL PALLET WEIGHT= 124 Kg



#### **UNIT PACKAGING DETAIL**

## PACKAGING - BULK PACK

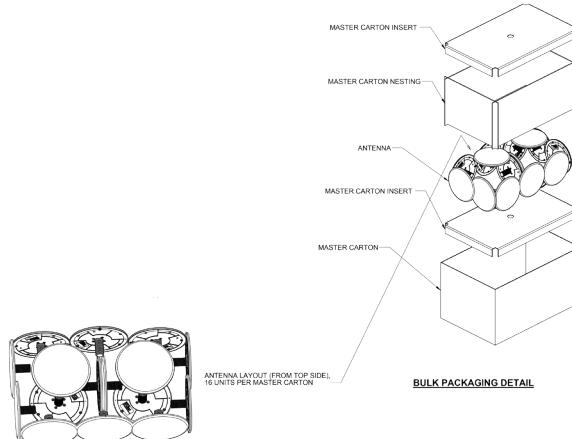


PALLETIZE- FOR AIR SHIPMENT

**PALLETIZE- FOR OCEAN SHIPMENT**

**BULK PACKAGING INFORMATION**

- PALLET (1200 x 800 x 140) MM
- FOR AIR SHIPMENT, TOTAL 16 MASTER CARTONS @ 256 UNIT ANTENNAS PER PALLET. ESTIMATED FULL PALLET WEIGHT = 125 Kg
- FOR OCEAN SHIPMENT, TOTAL 20 MASTER CARTONS @ 320 UNIT ANTENNAS PER PALLET. ESTIMATED FULL PALLET WEIGHT = 149 Kg



#### ANTENNA LAYOUT (FROM TOP SIDE)

ESTUARIES AND COASTS (2010) 33:100–108

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