

CAT[®] 5G External Antennas Telematics Hardware Datasheet

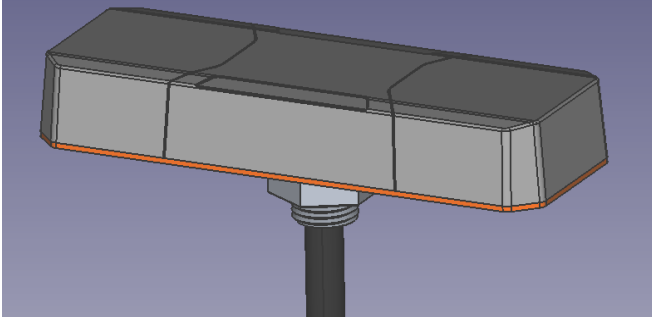


-Key Features-

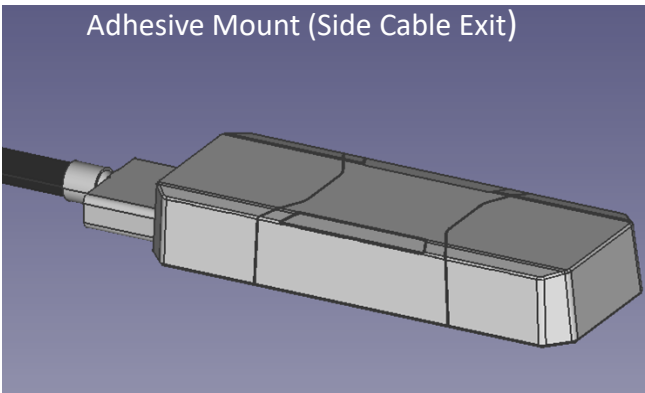
- 5-port ruggedized antenna assembly
- 2 x Cellular elements for 5G/4G/3G/2G bands
- 2 x Wi-Fi / BLE elements for dual band 2.4GHz/5Ghz
- 1 x GNSS Antenna
- Ampseal 16 Connectors for direct connection to the CAT 5G Pro/Pro+ Radios (external antenna variant)
- Two mounting types: Hard Mount (Through-Hole with Bottom cable exit) and Adhesive Mount (Side Cable Exit)
- 3 Coax pigtail length options (0.5-meter, 1.0-meter, 2.0-meter) and optional external coax extension 3.0-meter

CAT Part Number:	Mounting Type	Coax Cable Length (meters)
656-7883	Hard Mount	0.5
656-7884	Adhesive	0.5
661-9348	Hard Mount	1.0
661-9349	Adhesive	1.0
661-9351	Hard Mount	2.0
661-9352	Adhesive	2.0

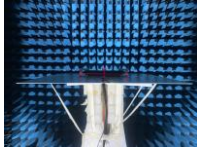
Hard Mount (Bottom Cable Exit)



Adhesive Mount (Side Cable Exit)



-Electrical Specifications-

Cellular Antenna(s) 1 and 2																																																																																																																																	
Nominal Impedance	50Ω																																																																																																																																
Polarization	Vertical																																																																																																																																
Type	PIFA (Stamped Metal)																																																																																																																																
Power Handling (W)	2W																																																																																																																																
Operating Frequency Range	617-960 MHz 1525 – 5000 MHz																																																																																																																																
Peak Gain* (dBi)	<table> <tr> <th></th><th colspan="3">Coax Cable Length</th><th>**Ext. Loss</th></tr> <tr> <th>Frequency (MHz)</th><th>0.5 meter</th><th>1.0 meter</th><th>2.0 meter</th><th>+3.0 meter</th></tr> <tr><td>617 - 698</td><td>1.6</td><td>1.4</td><td>1.1</td><td>(1.0)</td></tr> <tr><td>698 - 716</td><td>1.7</td><td>1.4</td><td>1.2</td><td>(1.0)</td></tr> <tr><td>716 - 793</td><td>1.5</td><td>1.2</td><td>1.0</td><td>(1.1)</td></tr> <tr><td>793 - 817</td><td>1.8</td><td>1.5</td><td>1.2</td><td>(1.1)</td></tr> <tr><td>817 - 894</td><td>3.4</td><td>3.1</td><td>2.8</td><td>(1.2)</td></tr> <tr><td>894 - 960</td><td>3.9</td><td>3.6</td><td>3.3</td><td>(1.2)</td></tr> <tr><td>1520 - 1660</td><td>5.4</td><td>4.9</td><td>4.5</td><td>(1.7)</td></tr> <tr><td>1710 - 1785</td><td>5.1</td><td>4.7</td><td>4.2</td><td>(1.7)</td></tr> <tr><td>1785 - 1880</td><td>4.8</td><td>4.3</td><td>3.8</td><td>(1.8)</td></tr> <tr><td>1880 - 1995</td><td>4.8</td><td>4.2</td><td>3.8</td><td>(1.8)</td></tr> <tr><td>1995 - 2025</td><td>3.7</td><td>3.2</td><td>2.7</td><td>(1.9)</td></tr> <tr><td>2025 - 2110</td><td>5.1</td><td>4.6</td><td>4.1</td><td>(2.0)</td></tr> <tr><td>2110 - 2300</td><td>5.3</td><td>4.7</td><td>4.3</td><td>(2.0)</td></tr> <tr><td>2300 - 2412</td><td>5.4</td><td>4.9</td><td>4.4</td><td>(2.1)</td></tr> <tr><td>2412 - 2483.5</td><td>5.4</td><td>4.8</td><td>4.3</td><td>(2.1)</td></tr> <tr><td>2483.5 - 2500</td><td>4.7</td><td>4.1</td><td>3.6</td><td>(2.2)</td></tr> <tr><td>2500 - 2600</td><td>4.8</td><td>4.3</td><td>3.7</td><td>(2.3)</td></tr> <tr><td>2600 - 2700</td><td>4.7</td><td>4.1</td><td>3.6</td><td>(2.3)</td></tr> <tr><td>2700 - 2800</td><td>5.5</td><td>4.8</td><td>4.0</td><td>(2.3)</td></tr> <tr><td>2800 - 3000</td><td>4.6</td><td>4.0</td><td>3.4</td><td>(2.5)</td></tr> <tr><td>3000 - 3300</td><td>4.8</td><td>4.2</td><td>3.5</td><td>(2.5)</td></tr> <tr><td>3300 - 4200</td><td>5.5</td><td>4.8</td><td>4.0</td><td>(3.0)</td></tr> <tr><td>4200 - 5000</td><td>5.5</td><td>4.7</td><td>3.8</td><td>(3.4)</td></tr> </table>					Coax Cable Length			**Ext. Loss	Frequency (MHz)	0.5 meter	1.0 meter	2.0 meter	+3.0 meter	617 - 698	1.6	1.4	1.1	(1.0)	698 - 716	1.7	1.4	1.2	(1.0)	716 - 793	1.5	1.2	1.0	(1.1)	793 - 817	1.8	1.5	1.2	(1.1)	817 - 894	3.4	3.1	2.8	(1.2)	894 - 960	3.9	3.6	3.3	(1.2)	1520 - 1660	5.4	4.9	4.5	(1.7)	1710 - 1785	5.1	4.7	4.2	(1.7)	1785 - 1880	4.8	4.3	3.8	(1.8)	1880 - 1995	4.8	4.2	3.8	(1.8)	1995 - 2025	3.7	3.2	2.7	(1.9)	2025 - 2110	5.1	4.6	4.1	(2.0)	2110 - 2300	5.3	4.7	4.3	(2.0)	2300 - 2412	5.4	4.9	4.4	(2.1)	2412 - 2483.5	5.4	4.8	4.3	(2.1)	2483.5 - 2500	4.7	4.1	3.6	(2.2)	2500 - 2600	4.8	4.3	3.7	(2.3)	2600 - 2700	4.7	4.1	3.6	(2.3)	2700 - 2800	5.5	4.8	4.0	(2.3)	2800 - 3000	4.6	4.0	3.4	(2.5)	3000 - 3300	4.8	4.2	3.5	(2.5)	3300 - 4200	5.5	4.8	4.0	(3.0)	4200 - 5000	5.5	4.7	3.8	(3.4)
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Wi-Fi / BLE Antenna(s) 1 and 2																								
Nominal Impedance	50Ω																							
Polarization	Vertical																							
Type	Monopole (PCB)																							
Power Handling (W)	2W																							
Frequency Range	2400-2500 MHz 5170-5895 MHz																							
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GNSS (Receive Only)	
Frequency Range	L1: 1561-1602 MHz L5: 1166-1186 MHz
Passive Peak Gain @ Boresight (Elevation 90°)	L1: <3 dBi @ 1561-1602 MHz L5: <2 dBi @ 1166-1186 MHz
GNSS Input DC Voltage	3 ± 0.3V
GNSS Active LNA Gain	28 dB
Nominal Impedance	50Ω
Polarization	RHCP
Type	Patch

-Environmental Specifications-

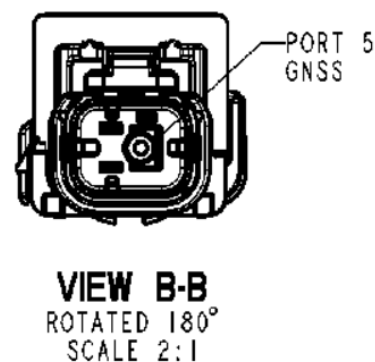
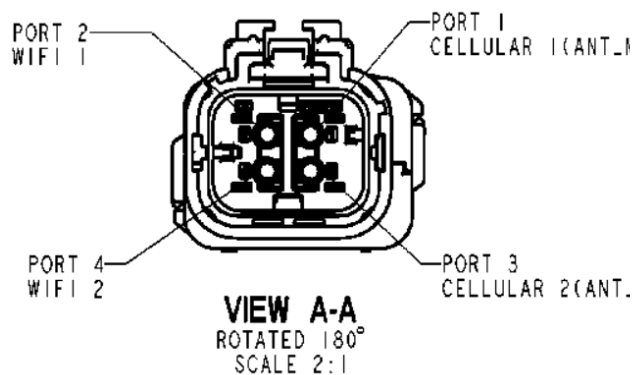
Environmental	
Operating Temperature Range	-40°C to +85°C
Vibration	9.8 Grms
Sealing Capability	+/- 5psi
Mounting Torque (Hard Mount variant only)	8 N*m

-Connector Pinout-

2 Ampseal 16 connectors are used to connect to the 5G radio interface.

4-port AS16 Pin #	Function
1	Cellular 1 (Ant_Main)
2	Wi-Fi 1
3	Cellular 2 (Ant_Div)
4	Wi-Fi 2

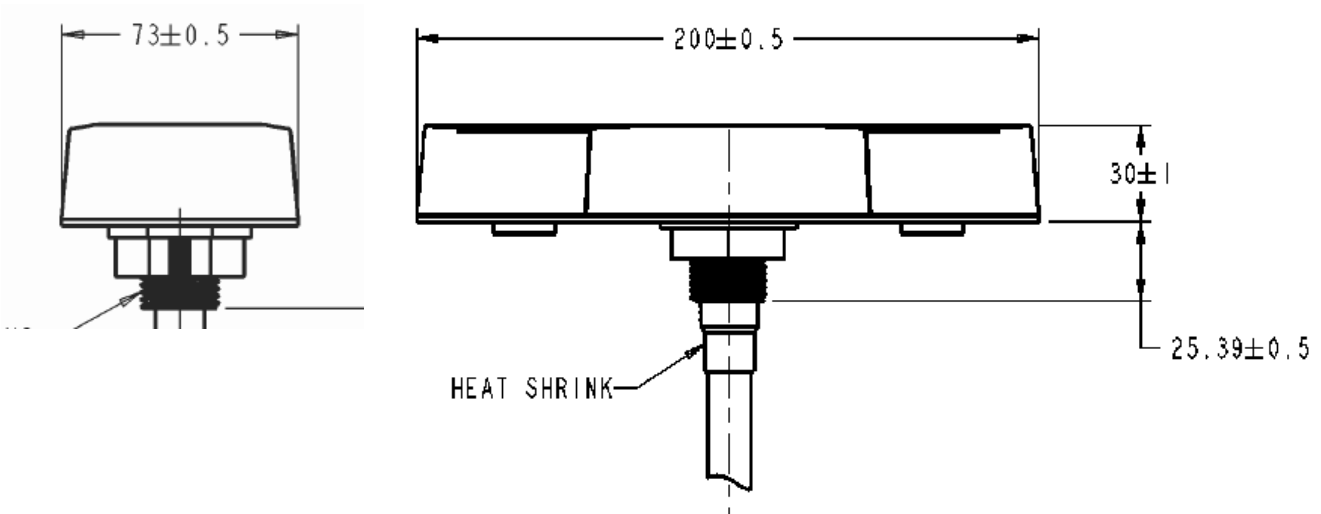
1-Port AS16 Pin #	Function
5	GNSS



-Mechanical Dimensions (mm)-

Main Plastic Housing Dimensions are 200 x 73 x 30 for all variants

Hard Mount (Bottom Cable Exit)



Adhesive Mount (Side Cable

Exit)

