

ANTENNAS FOR CELLULAR NETWORKS

NodeLine | TwinLine | UltraLine | E-Series | StreamLine |
High Band | Tri-Sector | Small Cell



Performance-Driven Technology for Cellular Networks



ONE SOURCE. GLOBAL SITE SOLUTIONS™

Amphenol Antenna Solutions is a leading global solutions provider for wireless infrastructure systems. Whether it's a complex base station, a small DAS network or an In-Building System, we supply over 6,000 products with best-in-class performance.

With Amphenol Antenna solutions, OEMs and operators have the convenience of a one-stop shop, not only for quality antennas, but also for transmission line products like feeder cable, hybrid fiber, surge arrestors and connectors as well as RF peripherals like TMAs, combiners, couplers and splitters. All products support next generation wireless communication systems.

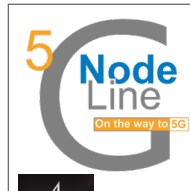
Always aiming at preparing for tomorrow, we developed and field tested a range of new products for different applications, both in 4G and 5G with many strategic partnerships.

Amphenol Antenna Solutions offers years of expertise in product design, development and engineering along with an unparalleled commitment to customer service.



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It's a TwinLine to which we add 1 or 2 band in the middle. The best solution to improve 4G and enable 5G.



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6 TwinLine Panel Antennas

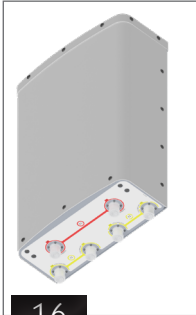
Quad antennas with two multiband arrays housed in an optimally designed package for low windload. Ideal for site / technology sharing.



8

8 UltraLine Panel Antennas

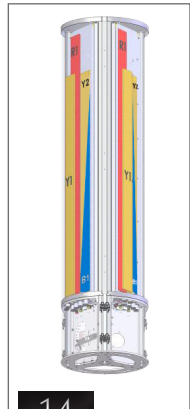
Evolutionary antenna configuration that can allow up to five (5) different bands in one compact arrangement. Perfect for future-proofing a base.



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10 E-Series Panel Antennas

Economic versions that offer a large non-interleaved panel of antennas according to your needs.



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Evolutionary antenna configuration that can allow up to five (5) different bands. Designed for enhanced MIMO performance.

13 High Band Panel Antennas

Ultra-wideband antennas designed to handle 2G, 3G networks and MIMO configurations for LTE on 1.7 / 2.1 / 2.6 networks.

14 Tri-Sector Antennas

Three-Sector antennas inside a small, low visual impact cylindrical enclosure. Discretely deployed as flag poles, roof-top vents, street lamps or telephone poles.

16 Small Cell Antennas

Innovative wide band, dual band and tri band antenna configurations allow one distributed antenna system to serve multiple service providers with minimum visual impact.

17 RET Control Systems

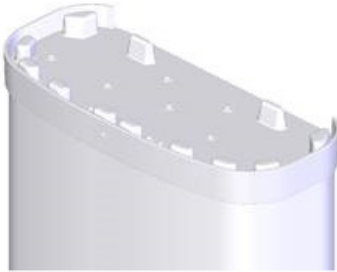
Amphenol's patented fully integrated RET control units add no additional length to the antenna.

19 Site Solutions

A comprehensive suite of solutions for virtually all applications, with product available from the top of the tower to the base station.



19



NodeLine : The new concept to facilitate 5G rollout. All NodeLine antennas are equipped with a special cap. This cap allows to receive the 5G platform on the top. Independent, easy to install and with low visual impact, choose your 5G solutions at any moment.

Ask us for more informations.

NodeLine Panel Antennas

472 mm



65°

14 ports
5798400

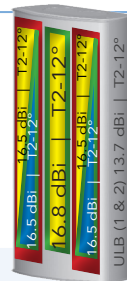
472 mm



65°

12 ports
5763470

472 mm



65°

14 ports
5796400



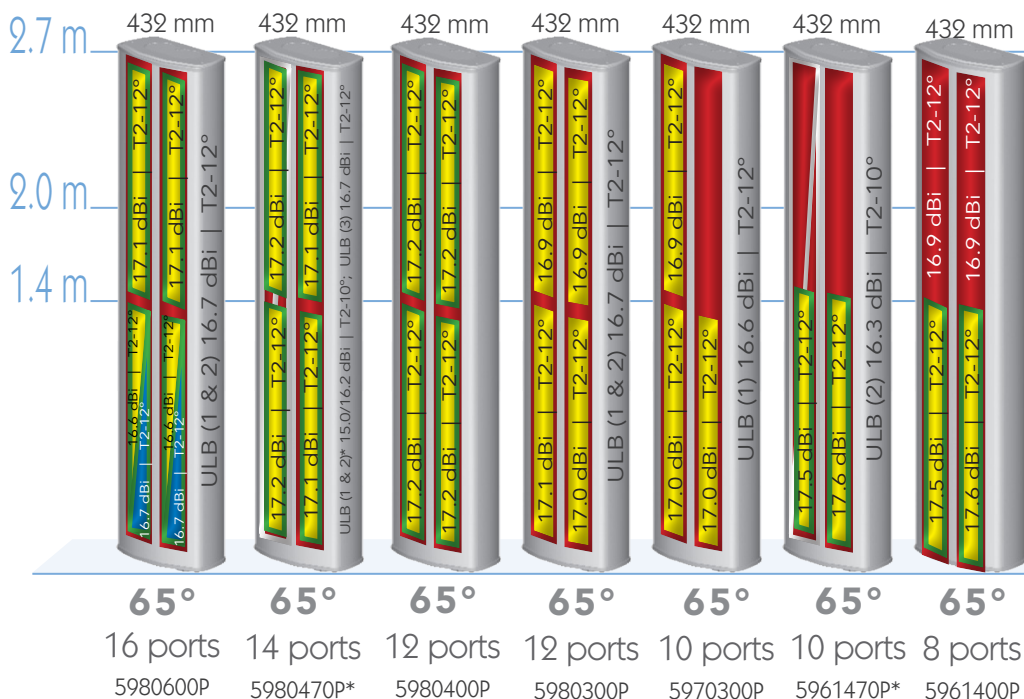
Mega Wide Band Array (MWB)
1427-2690 MHz





Filtered Array Mega Wide Band (MWB)
2 Ports 1427-2180 MHz
2 Ports 2490-2690 MHz

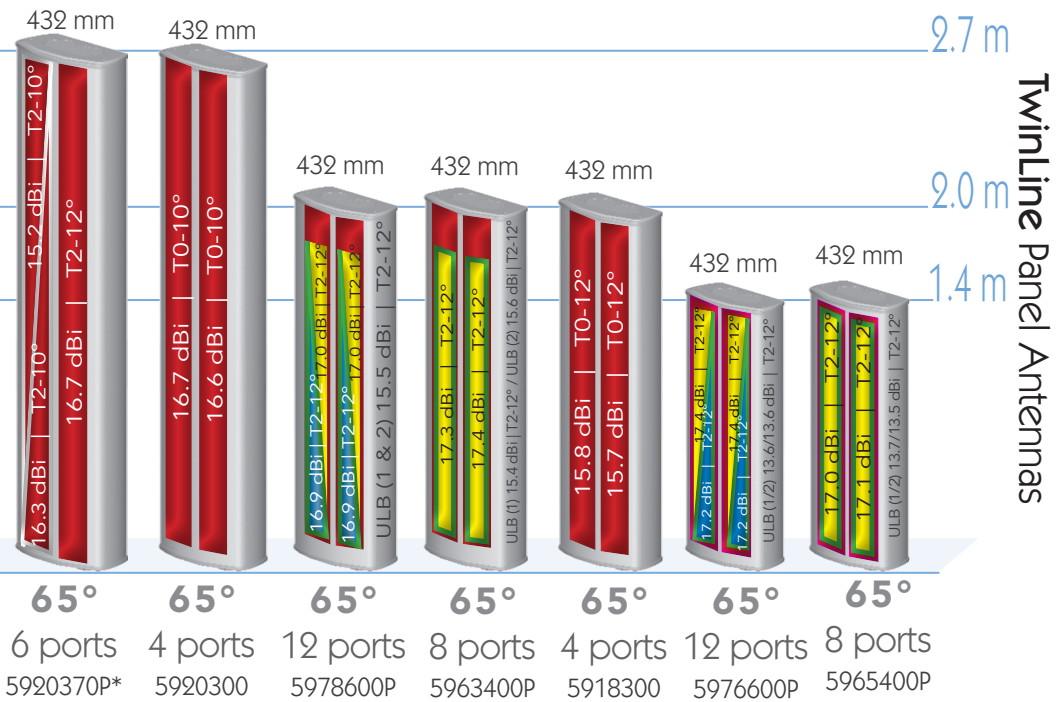
TwinLine Panel Antennas

Quad antennas with two multiband arrays housed in an optimally designed package for low windload. Ideal for site/technology sharing.



 Ultra Low Band (ULB)
698-960 MHz

 *Filtered Ultra Low Band (ULB)
2 Ports 698-803 or 698-788 MHz
2 Ports 880-960 MHz

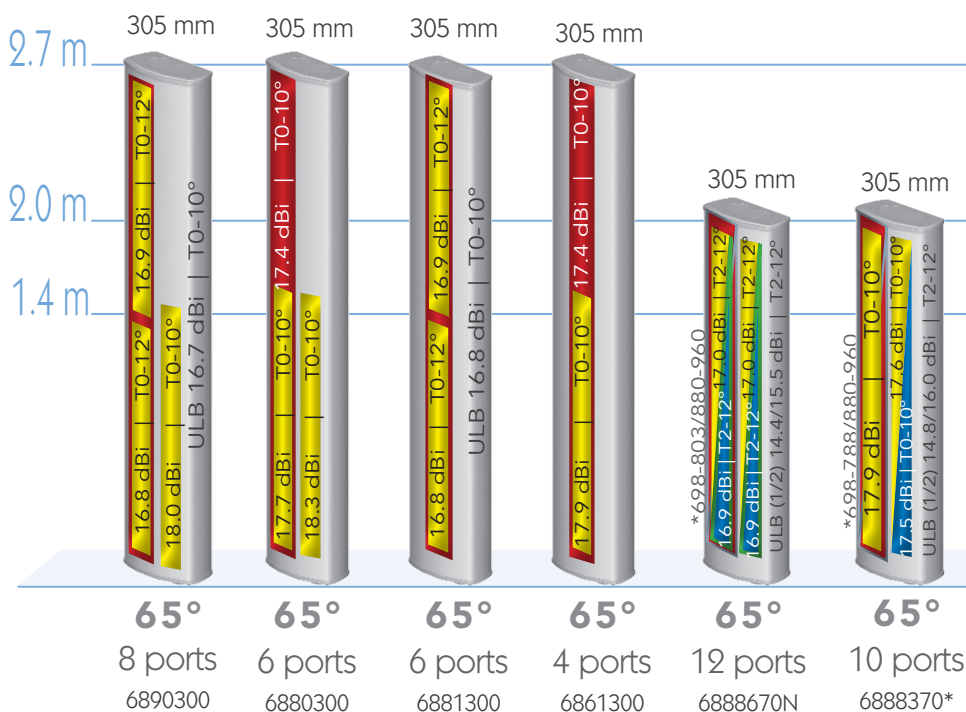



 Mega Wide Band Array (MWB)
1427-2690 MHz


 Filtered Mega Wide Band (MWB)
2 Ports 1427-2180 MHz
2 Ports 2490-2690 MHz

UltraLine Panel Antennas

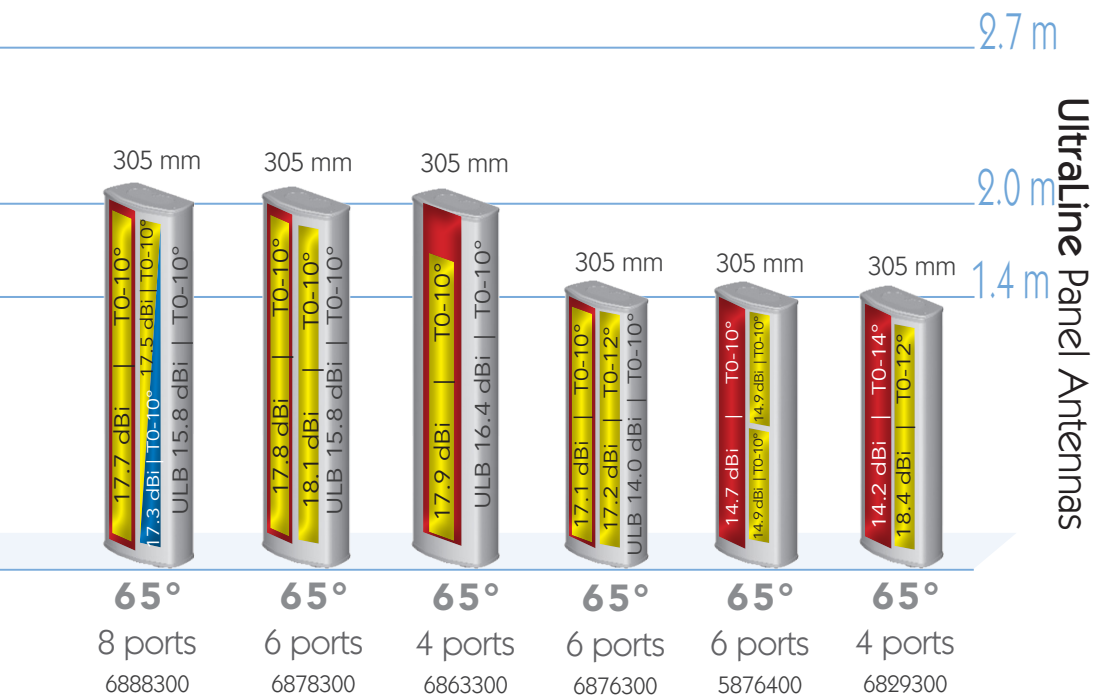
Evolutionary antenna configuration that can allow up to five (5) different bands in one compact arrangement. Perfect for future-proofing a base station site.



 Ultra Low Band (ULB)
698-960 MHz


 Wide Band Array (WB)
1695-2180 MHz

 Mega Wide Band Array (MWB)
1427-2690 MHz



 Ultra Wide Band Array (UWB)
 1695-2690 MHz

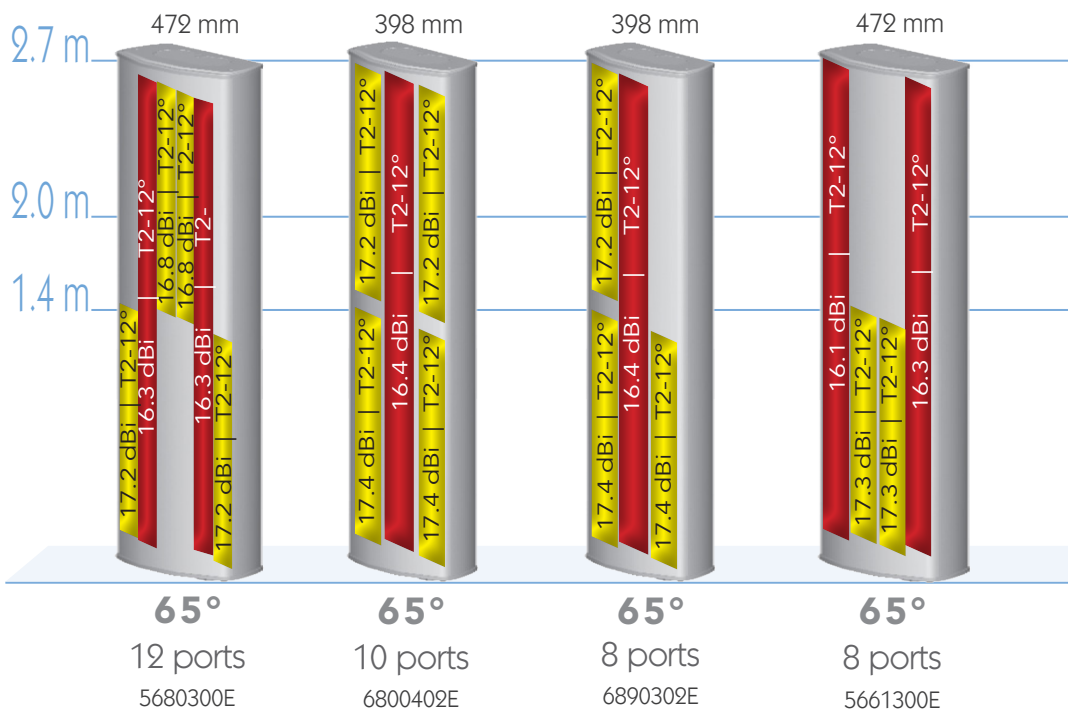
 Filtered Ultra Wide Band (UWB)
 2 Ports 1695-2180 MHz
 2 Ports 2490-2690 MHz

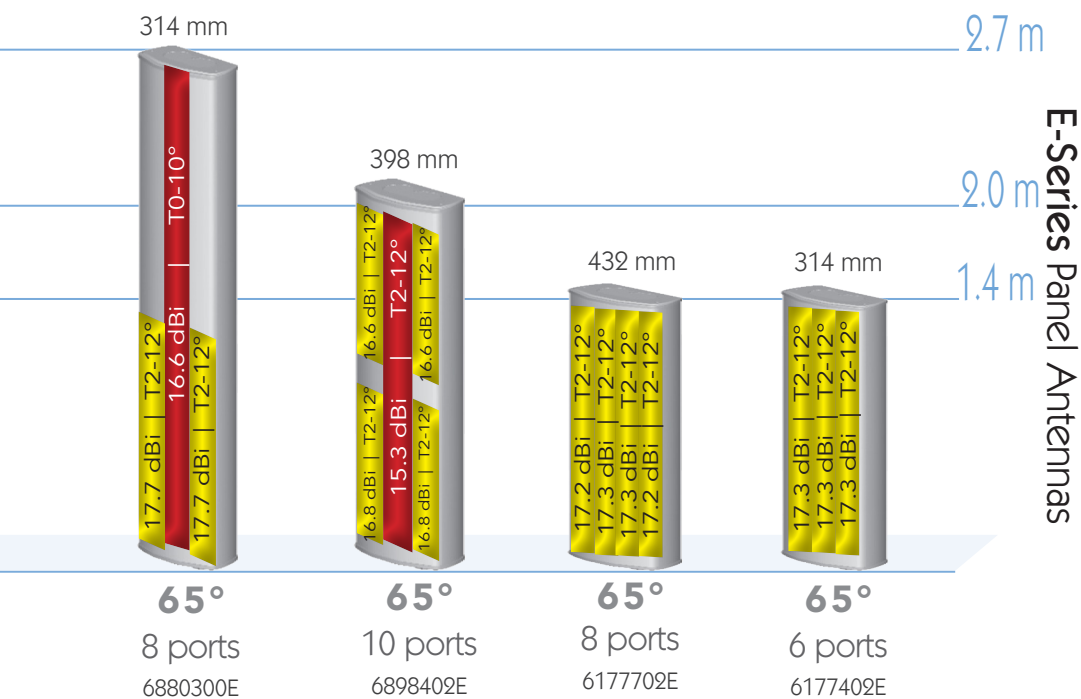
 *Filtered Ultra Low Band (ULB)
 2 Ports 698-803 or 698-788 MHz
 2 Ports 880-960 MHz

 Filtered Mega Wide Band (MWB)
 2 Ports 1427-2180 MHz
 2 Ports 2490-2690 MHz

E-Series Panel Antennas

E-series are economic versions that offer a large non-interleaved panel of antennas according to your needs.

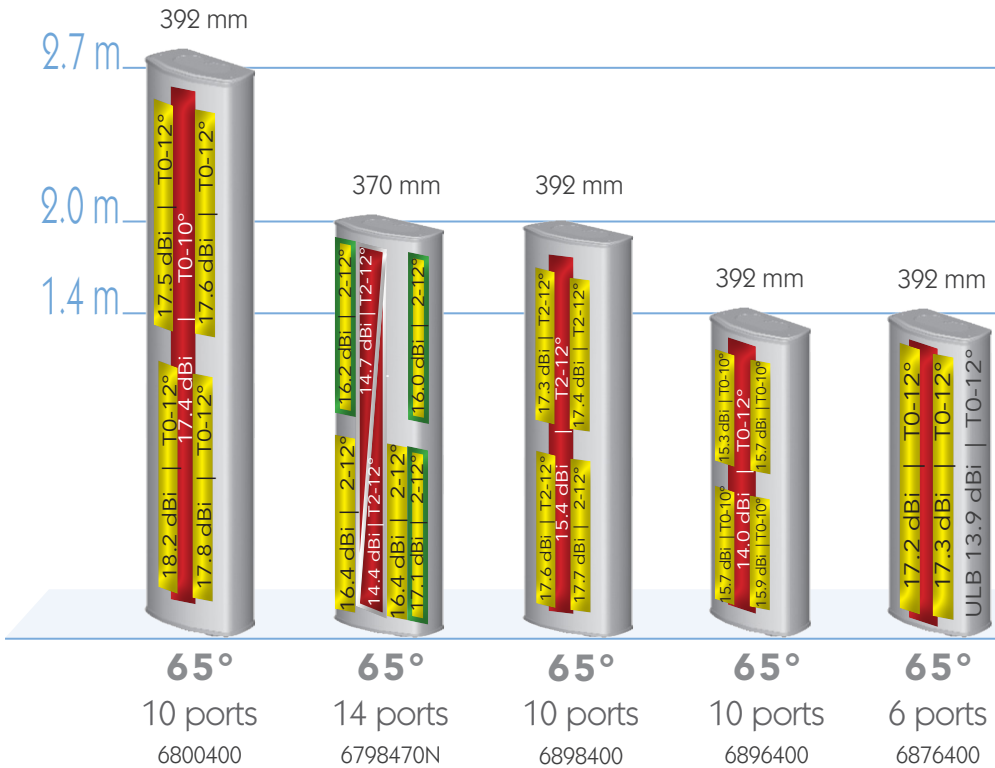




 Ultra Wide Band Array (UWB)
1695-2690 MHz

StreamLine Panel Antennas

Evolutionary antenna configuration that can allow up to five (5) different bands.
Designed for enhanced MIMO performance.



Ultra Low Band (ULB)
698-960 MHz



*Filtered Ultra Low Band (ULB)
2 Ports 698-788 MHz
2 Ports 880-960 MHz



Ultra Wide Band Array (UWB)
1695-2690 MHz

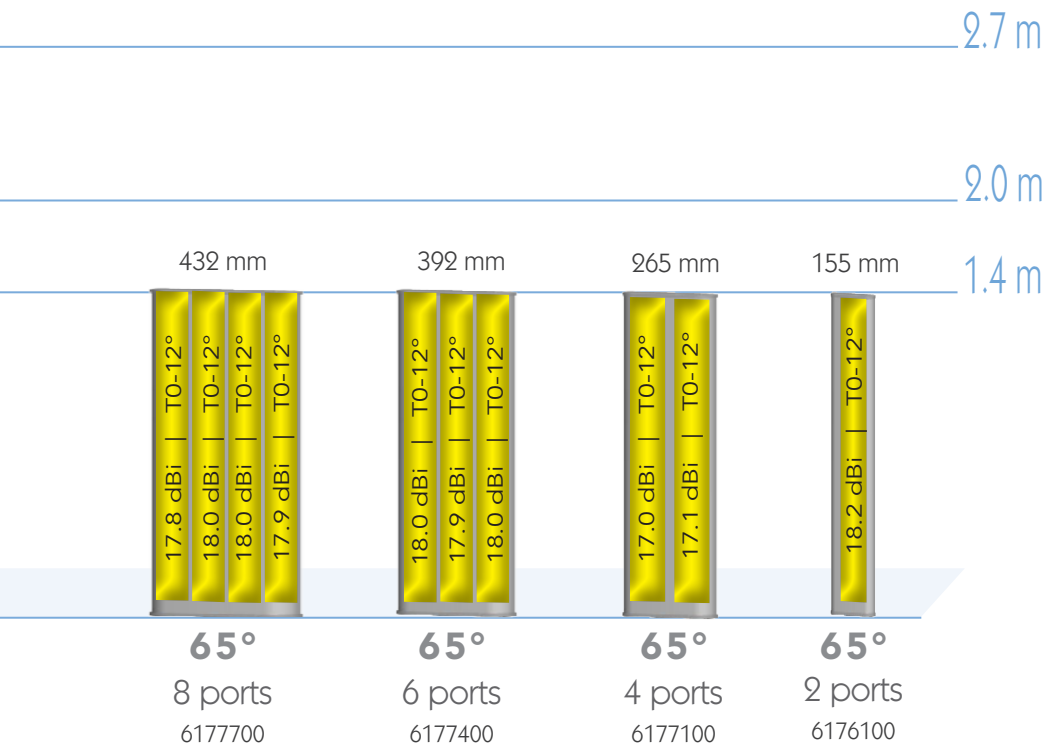


Mega Wide Band Array (MWB)
1427-2690 MHz

High Band Panel Antennas

Ultra-wideband antennas designed to handle 2G, 3G networks and MIMO configurations for LTE on 1.7 / 2.1 / 2.6 networks.

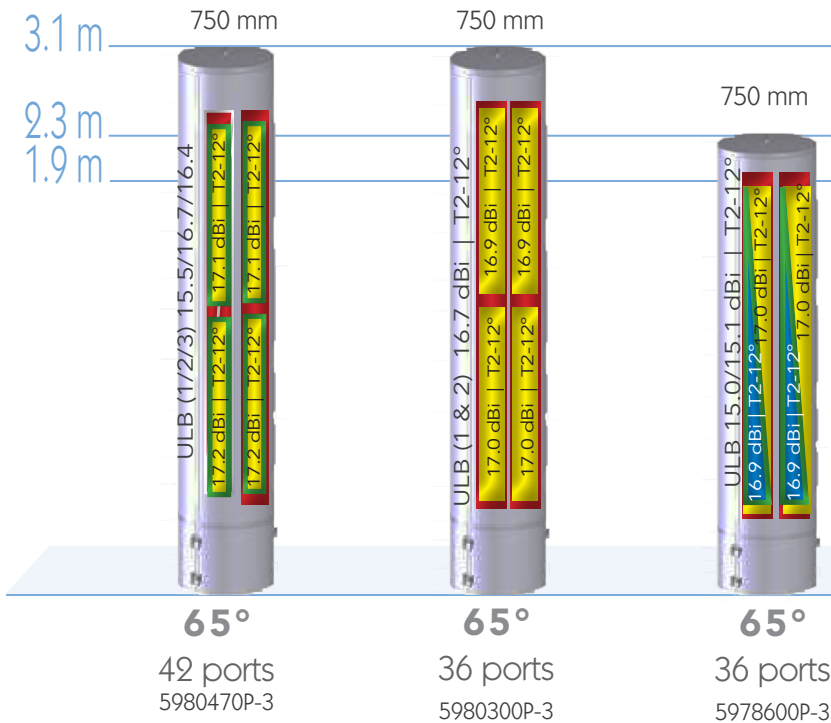
Streamline Panel Antennas / High Band Panel Antennas




 Ultra Wide Band Array (UWB)
 1695-2690 MHz

Tri-Sector Antennas

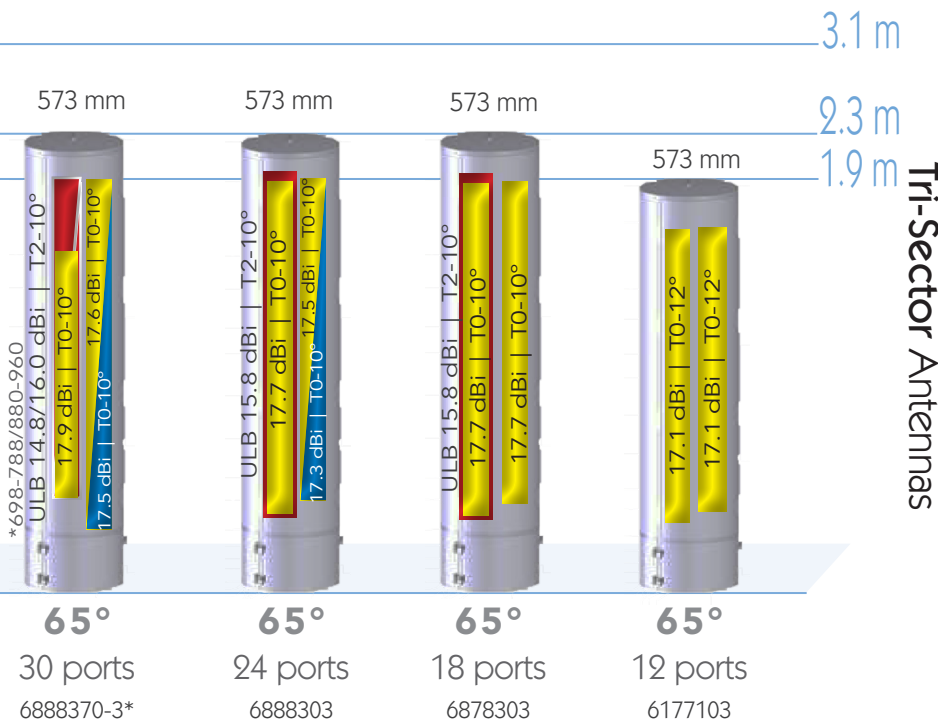
Three-Sector antennas inside a small, low visual impact cylindrical enclosure.
Discretely deployed as flag poles, roof-top vents, street lamps or telephone poles.






 Ultra Low Band (ULB)
698-960 MHz

 *Filtered Ultra Low Band (ULB)
2 Ports 698-788 MHz
2 Ports 880-960 MHz

 Wide Band Array (WB)
1695-2180 MHz

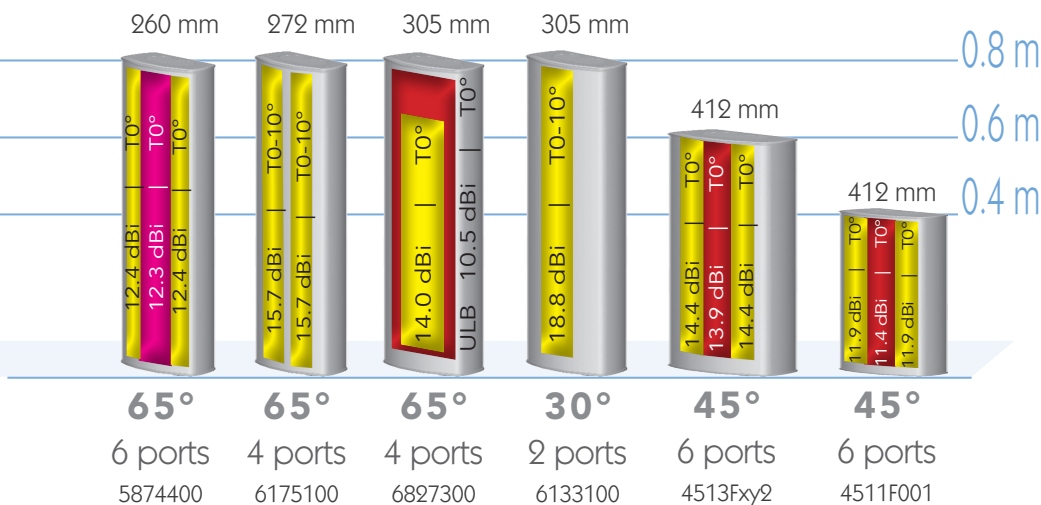


-  Ultra Wide Band Array (UWB)
1695-2690 MHz
 -  Filtered Array Ultra Wide Band (UWB)
 2 Ports **1695-2180 MHz**
 2 Ports **2490-2690 MHz**
 -  Filtered Array Mega Wide Band (MWB)
 2 Ports **1427-2180 MHz**
 2 Ports **2490-2690 MHz**

Small Cell Panel Antennas

Innovative wide band, dual band and tri band antenna configurations allow one distributed antenna system to serve multiple service providers with minimum visual impact.

Slimline Panel Antennas / Small Cell Antennas



Extended Low Band (ELB)
790-960 MHz



Ultra Low Band (ULB)
698-960 MHz



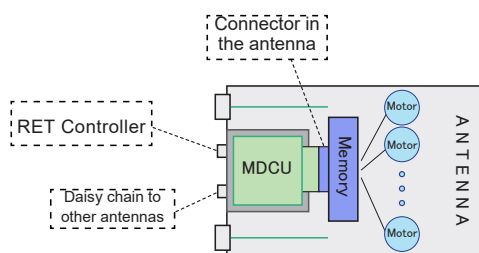
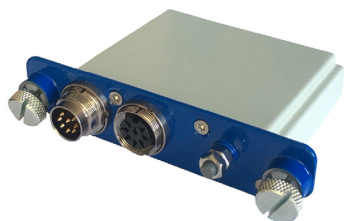
Ultra Wide Band Array (UWB)
1695-2690 MHz

RET Control Systems

Amphenol offers patented fully integrated RET control units. The RET control units add no additional length to the antenna and are field replaceable. No calibration is required. Each RET is configured for the antenna and pre-commissioned at the factory. The electrical downtilt indicator is always visible and manual control is always possible. AISG v2.0 / 3GPP and Ericsson protocols. Compatible with most BTS vendors.

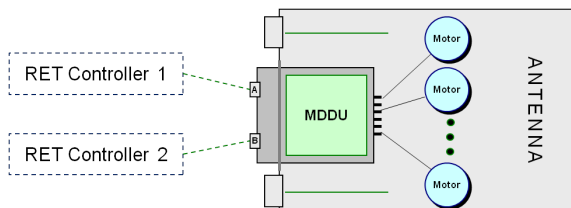
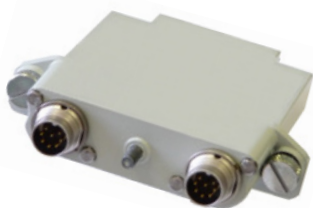
MDCU

One module will control the electrical downtilt of all the arrays of an antenna. In 2020, the newly manufactured antennas will be equipped with memory, allowing to configure the RET without human intervention.



MDDU

Intended for site sharing. One module has two separate inputs, each controlling the electrical downtilt of the arrays of one operator.



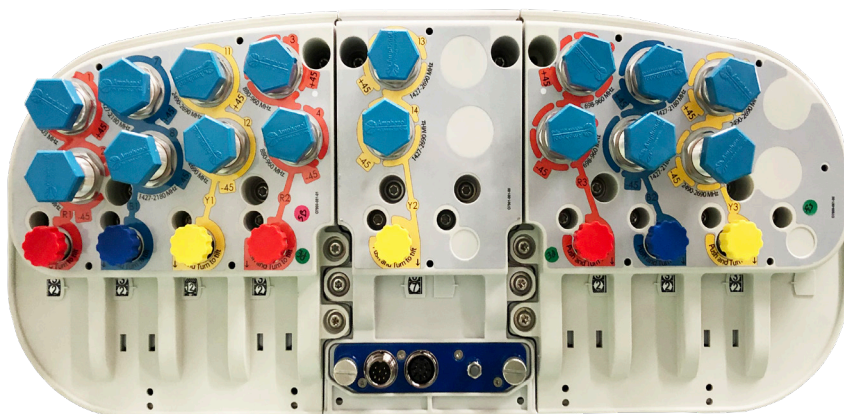
New 4th Generation Integrated RET

featuring new Memory system integrated in the antennas

The last generation RET/VET system was designed with the objective of more efficiently using the available space, while also making it more durable and easier for field operations. For the new generation, we keep all the benefits of the 3rd generation, with previously unseen innovation : The RET is able to recognize an antenna and automatically reconfigure itself. In the new antennas delivered with smart multiplexing, a memory is included that matches with the antenna identity. When an MDCU is inserted, it will automatically take the configuration of the antenna without human intervention.

To make the most of the new RET generation, we will change the software to the A2-5.0X version. This new architecture with memory is a good way to prepare for the arrival of AISG3.0.

RET Control Systems



Site Solutions

Amphenol Antenna Solutions is a single source for wireless infrastructure offering not only quality base station and Small Cell antennas, but also transmission line products like feeder cable, hybrid fiber, surge arrestors and connectors as well as RF peripherals like TMAs, combiners, couplers and splitters.

The company provides a comprehensive suite of solutions for virtually all applications and global frequencies, with product available from the top of the tower to the base station.

Feeder Cable



Whether it's a connection to a single component or a fully integrated RF transmission line system, Amphenol can supply your RF **Feeder Cable**. Select from flexible or superflexible, copper or aluminum with standard or fire retardant jackets in 1/4", 3/8", 1/2", 7/8", 1-1/4" or 1-5/8".

Jumper Cable Assemblies



Amphenol's premium **Jumper Cable** options are designed for outdoor applications under extreme conditions with high flexibility and small bending diameters. Cable assemblies are available in a variety of lengths and connector combinations and are waterproof per the IP68 water immersion testing standard.

Tower Mounted Amplifiers



Operators know that a cost-effective solution to maximizing site coverage and boosting call quality is through the use of **Tower Mounted Amplifiers** (TMAs). Amphenol offers a global portfolio of single-band, multi-band and integrated filter designs to provide uplink amplification and support. Compatible power distribution units and Bias-Ts complete the solution.

Connectors & Adaptors



Amphenol has been a leading global interconnect solutions provider since 1932 and offers a multitude of products for wireless infrastructure. Our fast fitting, precision grade RF **Connectors & Adaptors** are available in 4.3/10, 7/16-DIN and N-Type with male and female interfaces. All are suitable for both copper and aluminum cable assemblies.

Splitters & Couplers



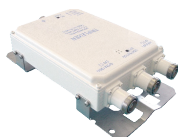
Amphenol offers **Splitters & Couplers** covering all wireless service bands. Products feature broadband characteristics with outstanding RF performance, high isolation, low insertion loss and low VSWR. Power splitters and couplers are available with 4.3/10, 7/16-DIN and N-Type connectors and are fully weatherproofed to satisfy class IP67 standards.

Lightning Protection



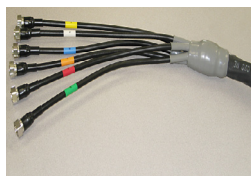
Protect your network by limiting voltage and energy from lightning strikes with Amphenol's **Lightning Protection/Surge Arrestors**. Available with 7/16-DIN or N-Type connectors in 1/4 wave, Gas Tube or a Hybrid type that combines the functions of the 1/4 wave and gas tube design.

Combiners



Amphenol's **Combiners** allow operators to combine multiple frequencies onto a single run of coax reducing overall costs, wind loads and weight in a streamlined arrangement. Diplexers, triplexers and quadruplexers are available for 2G, 3G and LTE systems and are designed for low insertion loss to ensure minimal impact on the overall system.

Bundled Corrugated Cable



Amphenol's **Bundled Corrugated Cable** provides both material and labor savings as well as considerable improvements in ruggedness, system reliability and aesthetics for outdoor DAS systems. Complementing the bundled coaxial cable are custom accessories such as ground blocks, weather tight end caps and simple to use prep tools.

Hybrid Fiber Cable



Save installation time and costs with Amphenol's **Hybrid Cables**. Hybrid Cables simplify tower cabling by providing power and optical connectivity in a single cable. For even faster installation, request factory-terminated assemblies with Amphenol connectors. Custom configurations of conductor counts, cable types or shielding are available with fast-turn delivery.

Accessories & Tools



All you need to get the job done - Feeder Clamps, Grounding Kits, Grounding Bars, Wall Entry Glands, Hangers and more.

| | | | |
|-----------------|----|--------------------------------|----|
| 4511F001..... | 16 | 6177400E..... | 11 |
| 4513Fxy2..... | 16 | 6177700..... | 13 |
| | | 6177700E..... | 11 |
| 5661302E..... | 10 | | |
| 5680302E..... | 10 | 6798470..... | 12 |
| | | 6800400..... | 12 |
| 5763470..... | 5 | 6800400E..... | 10 |
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| 5780470..... | 4 | 6829300..... | 9 |
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| 5798400..... | 5 | 6863300..... | 9 |
| 5798470..... | 4 | 6876300..... | 9 |
| | | 6876400..... | 12 |
| 5874400..... | 16 | 6878300..... | 9 |
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| | | 6880300..... | 8 |
| 5918300..... | 7 | 6880300E..... | 8 |
| 5920300..... | 7 | 6881300..... | 8 |
| 5920370P..... | 7 | 6888300..... | 9 |
| 5961400P..... | 6 | 6888303..... | 15 |
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| 5963400P..... | 7 | 6888370-3..... | 15 |
| 5965400P..... | 7 | 6890300E..... | 10 |
| 5970300P..... | 6 | 6896400..... | 12 |
| 5976600P..... | 7 | 6898400..... | 12 |
| 5978600P..... | 7 | 6898400E..... | 10 |
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Amphenol Antenna Solutions

One Source. Global Site Solutions.



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