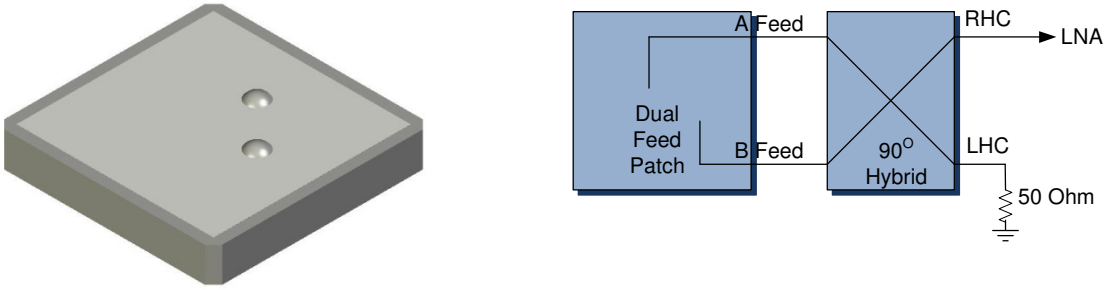
Tallysman's *Accutenna*™ technology has proven its ability to provide superior multi-path signal rejection thereby providing un-matched precision for its size and price. *Accutenna*™ technology*:*

- Employs Tallysman's unique dual feed patch technology
- Provides truly circular response over the entire antenna bandwidth
- Provides superior rejection of multi-path and cross polarized signals
- Offers pre-filtering option to provide additional protection from near band signals
- Is available for only GPS L1 coverage or multi-constellational coverage (GPS, GLONASS, BeiDou, and Galileo)

GNSS is changing. An increasing number of receivers are capable of accessing multiple constellations (GPS / GLONASS / BeiDou /Galileo). Yesterday's single feed antennas were perfectly fine for single constellation / single frequency access, but in today's world, Tallysman's *Accutenna*™ technology is necessary to provide the precision you demand.

What is a Dual Feed Antenna?



Dual Feed Patch Architecture

Dual feed antennas are two orthogonally oriented dipoles. When the received signals of each dipole are summed, after a 90 degree phase shift of one of the signals, it perfectly replicates the circular response over the full bandwidth of the antenna. This greatly improves rejection of cross polarized (multi-path) signals and thus provides much higher precision than single feed antennas.

A single feed patch antenna is circular only at its single frequency of resonance. As carriers depart from this single frequency of resonance, they will appear increasingly more elliptical to this antenna. So when a single feed antenna is used to access two constellations, such as GPS (at 1575.42 MHz) and GLONASS (at 1602 MHz), it is tuned to the mid-point of the two frequencies; typically 1590 MHz. The result is the GPS and the GLONASS signals appear elliptical to this antenna. So when the single feed antenna receives the GPS and the GLONASS signals, it also receives cross-polarized (multi-path) signals which are also elliptical. The end result is statistically very poor precision.

Figure 2 illustrates this point well. At the tuned frequency of 1590 MHz, the single feed antenna has a cross polarized signal rejection of about 25 dB but only about 5 dB of rejection at the frequencies of interest; 1575.42 MHz and 1602 MHz.

GNSS receivers are at the mercy of the quality of the signal presented by the antenna. No receiver can fully mitigate the effects of a poor antenna.

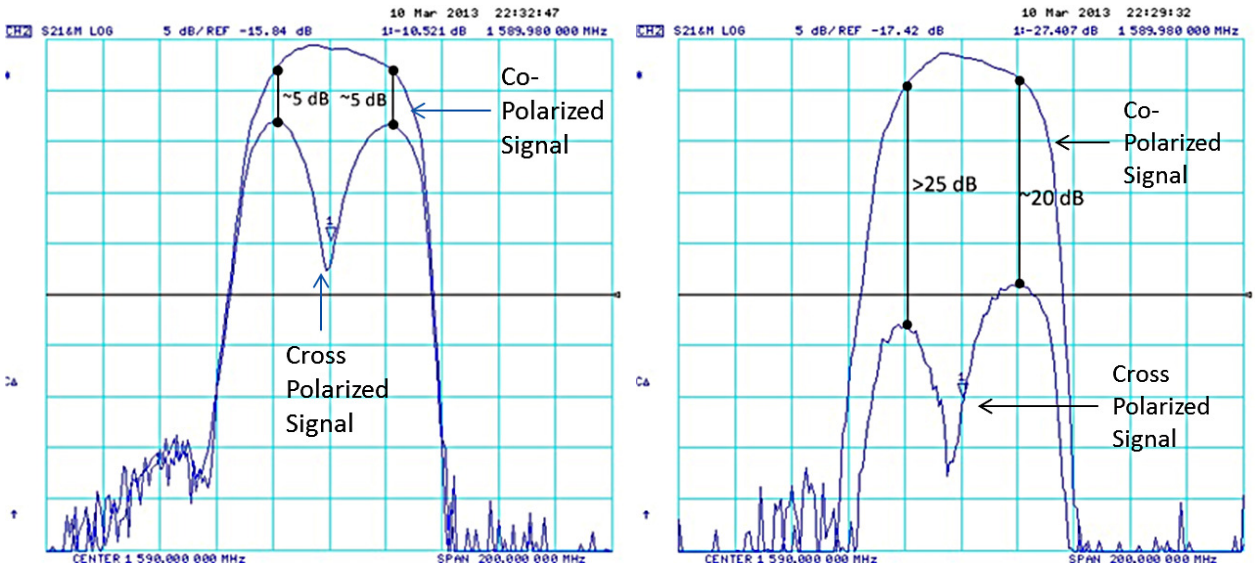


Figure 2 - Response of a Single Feed Antenna versus Response of an Accutenna antenna

Figure 2 provides an excellent illustration of the effects of using *Accutenna*™ technology which provides a circular response over the entire bandwidth. The cross polarization rejection at the two frequencies of interest is significantly better: approximately 25 dB at 1575.42 MHz and 20 dB at 1602 MHz.

Tallysman's *Accutenna*™ technology is employed in many of our antennas. This technology has proven its superiority for multi-path rejection which provides the receiver with the best opportunity to reliably report the accuracy of position as shown in an independent side-by-side test of the *Accutenna*™ technology against a single feed patch both accessing GPS L1 and GLONASS G1.


100%
Google hybrid
Tracks:
- Accutenna Technology
- Single Feed Antenna
Center: 29.53139,-98.44044
Google
Map created at GPSVisualizer.com