A Tallysman Accutenna®
TW3865 / TW3867 GPS L1/L2 + GLONASS G1/G2 + BeiDou B1 + Galileo E1

The TW3865 and TW3867 employ Tallysmans unique Accutenna technology providing dual band GPS L1 & L2, GLONASS G1 & G2, BeiDou B1, and Galileo E1 coverage and is especially designed for precision dual frequency positioning.

The antennas feature a precision tuned, circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

The TW3867 has a strong pre-filter to mitigate intermodulated signal interference from LTE and other cellular bands.

Both antennas offer excellent axial ratio and a tightly grouped phase center.

They cover GPS L2 (1227.6MHz), GLONASS G2 (1248MHz centre), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), BeiDou B1 (1561 MHz, 1589 MHz), and Galileo E1 (1176.45MHz, centre).

The OEM antennas are supplied with a standard 60mm diameter circular ground plane, with a coaxial cable terminated with your choice of connector (right angle MCX is shown in the drawing). Mounting holes are provided for attachment to larger ground planes. Custom tuning and ground plane options may be available, depending on purchase level commitment.

Applications
- Precision GPS position
- Dual Frequency RTK receivers
- Military & Security
- Network Timing and Synchronization

Features
- Very low Noise Preamp,
- Axial ratio: <2dB typ.; <1 dB at Zenith
- Tight Phase Center Variation
- LNA Gain 28 dB typ.
- Low current: 24 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 12VDC

Benefits
- Ideal for dual frequency RTK and PPP surveying systems
- Great multipath rejection
- Increased system accuracy
- Great signal to noise ratio
- RoHS and REACH compliant

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Specifications (Measured a Vcc = 3V, and Temperature=25°C)

Antenna
Patch Architecture
L2 Gain (100mm ground plane), 1227.6-1246MHz
L1 Gain (100mm ground plane), 1557MHz-1606MHz
Axial Ratio, over full bandwidth, both L1 & L2

1dB Bandwidth,
Polarization

Circular, Dual Feed, Dual Stacked Patch

Electrical
Bandwidth
Overall LNA Gain
Gain Variation with Temperature.
LNA Noise Figure
VSWR (at LNA output)
Supply Voltage Range
EMI Immunity
Supply Current
ESD Circuit protection
Out-of-Band Rejection

L1
<1450 MHz >40 dB
<1520 MHz >30 dB
>1650 MHz >35 dB

L2
<1180 MHz >40 dB
<1190 MHz >30 dB
>1284 MHz >32 dB

Mechanicals & Environmental
Mechanical Size, Ground Plane
Operating Temperature Range
Weight
Attachment Method
Environmental
Shock
Vibration
Warranty

60mm diameter, 0.75mm thick, see mechanical drawing

-40°C to +85°C
70 g (excluding cable)
Through hole screws in ground plane
RoHS and REACH compliant
Vertical axis: 50 G, other axes: 30 G
3 axis, sweep = 15 min, 10 to 200 Hz sweep; 3 G
One year – parts and labour

Ordering Information

TW3865 – GPS L1/L2 + GLONASS G1/G2 + BeiDou B1 + Galileo E1 antenna
TW3867 – GPS L1/L2 + GLONASS G1/G2 + BeiDou B1 + Galileo E1 antenna

Where xx = connector type, yyyy = cable length in mm and zz = assigned by Tallysman for custom tuning


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