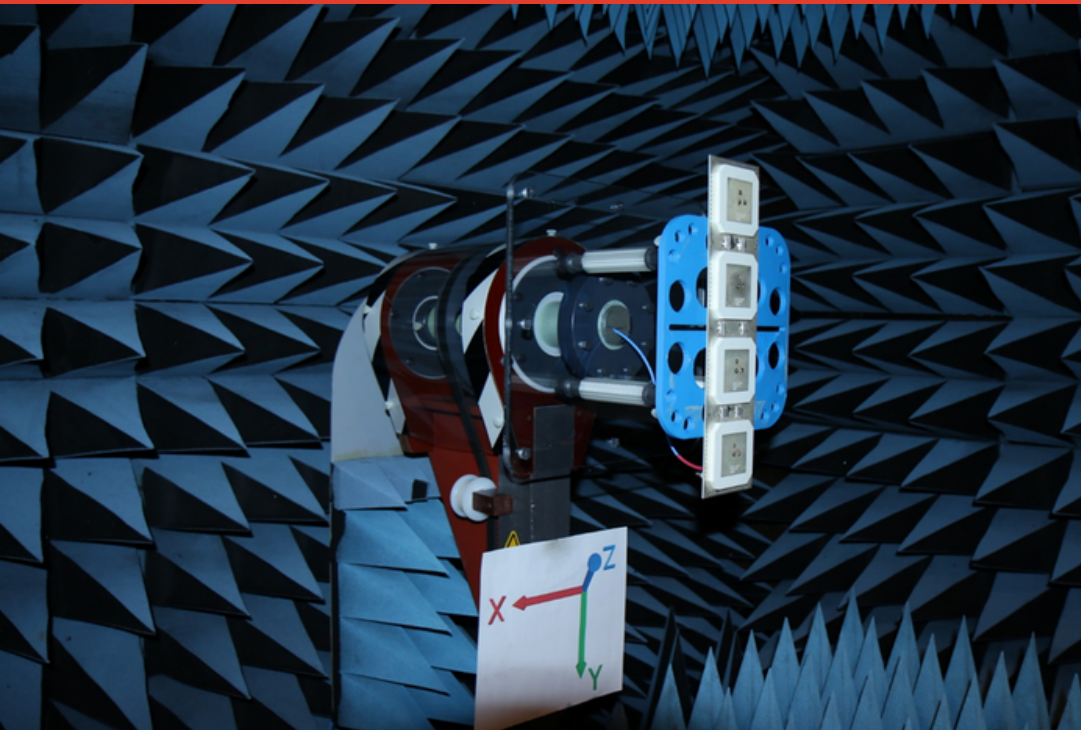


CubeSat GPS L1/L2 Arrays



- 1 by 4 element linear and CP arrays
- Frequency ranges: 1559 – 1610 MHz and 1189 – 1260 MHz
- Linear polarized array uses individual connections for horizontal and vertical polarizations
- CP is generated external to the patches: this yields a better axial ratio and wider CP bandwidth compared to corners truncated or nearly square patches.
- Beam shaping
- Optimized sidelobe suppression
- Individual patches are DC grounded to prevent static buildup and avoid static discharge into the RF front-end.

Description

These L-Band arrays use pairs of vertically stacked patches that have individual connections for each band and for each linear polarization. This allows for the use of these arrays as circularly polarized arrays or as dual linear polarized arrays.

Individual feed networks are implemented in stripline for L1 and L2. This allows an optimization of both feed networks for the band they are operating on and yields an optimal sidelobe suppression and phase behavior versus frequency.

Stripline provides the additional advantage of being shielded and minimizing noise pickup.

Individual connections for L1 and L2 avoid the use of diplexers.

Beam steering is optional.



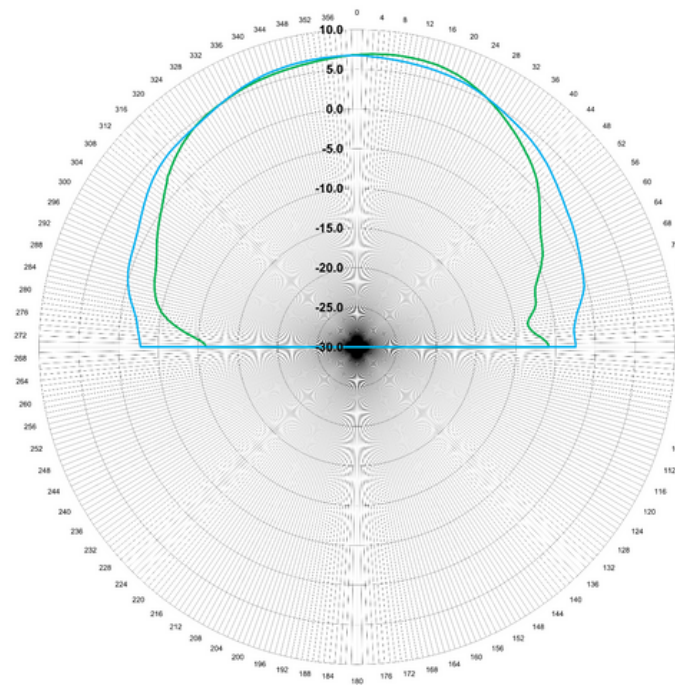
Orban Microwave, Inc.
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321-200-0080

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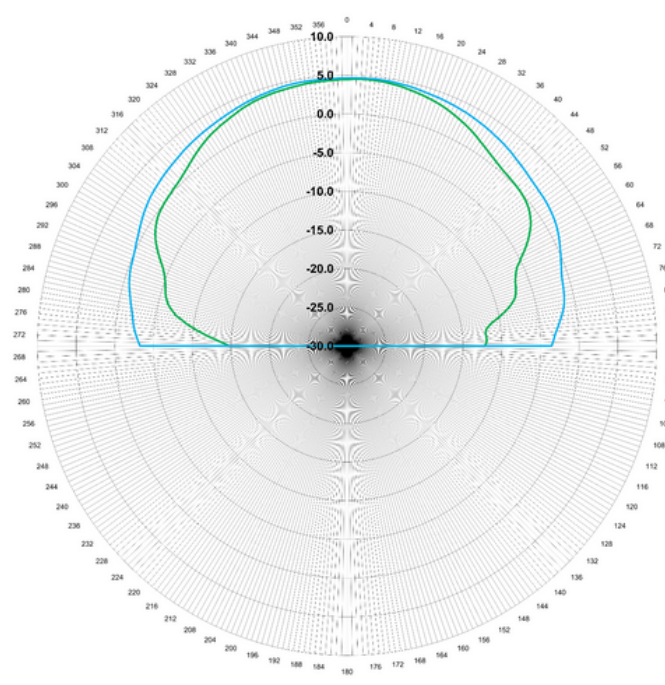
CubeSat GPS L1/L2 Arrays

Options

- Different array configurations with additional elements
- Other frequency ranges
- Low Noise Amplifiers with band pass filtering
- Single element can be used as a stand alone L1/L2 antenna with hemispheric coverage
- Standard connections are SMA type connectors. Other connector types can be mounted.
- Single feedpoint for L1 and L2
- Narrow band versions (corners truncated) available



Radiation pattern for a single patch at L1



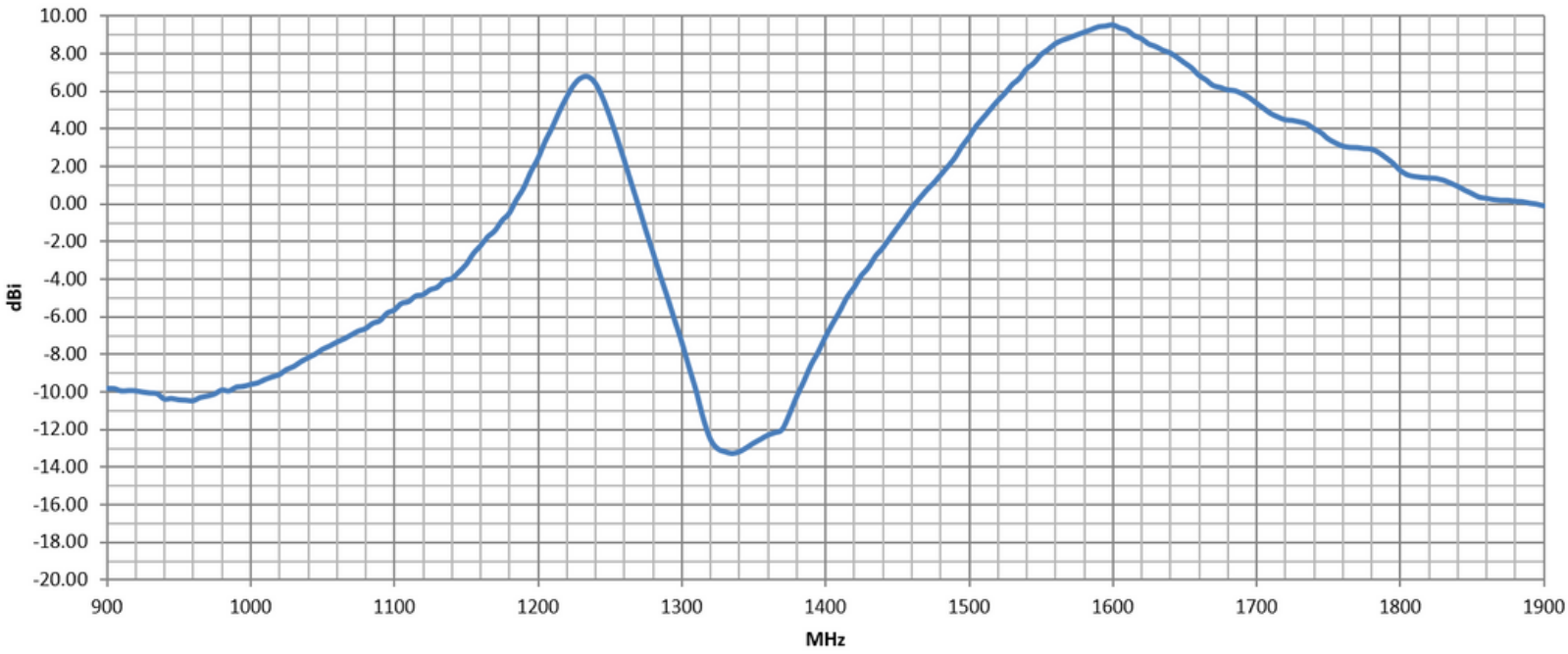
Radiation pattern for a single patch at L2



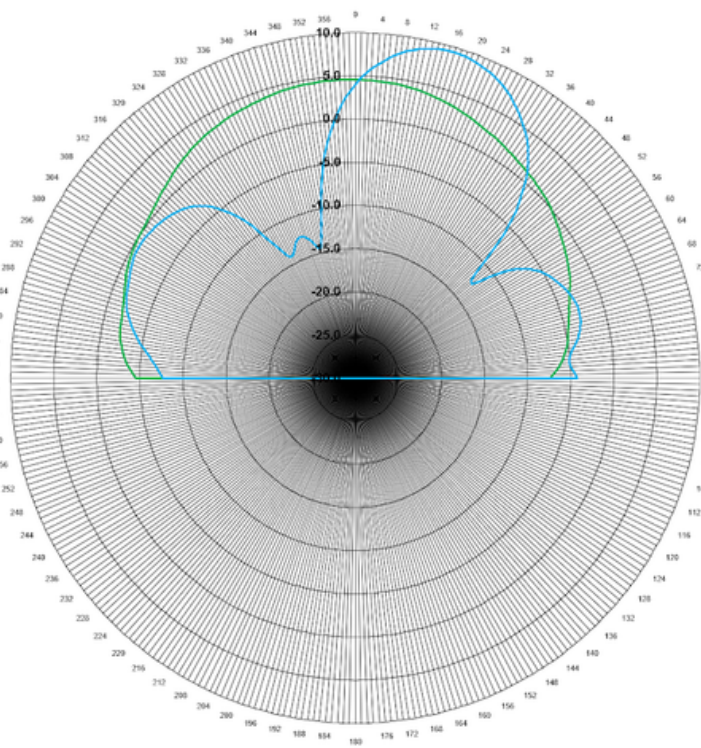
S11 for linear polarized array



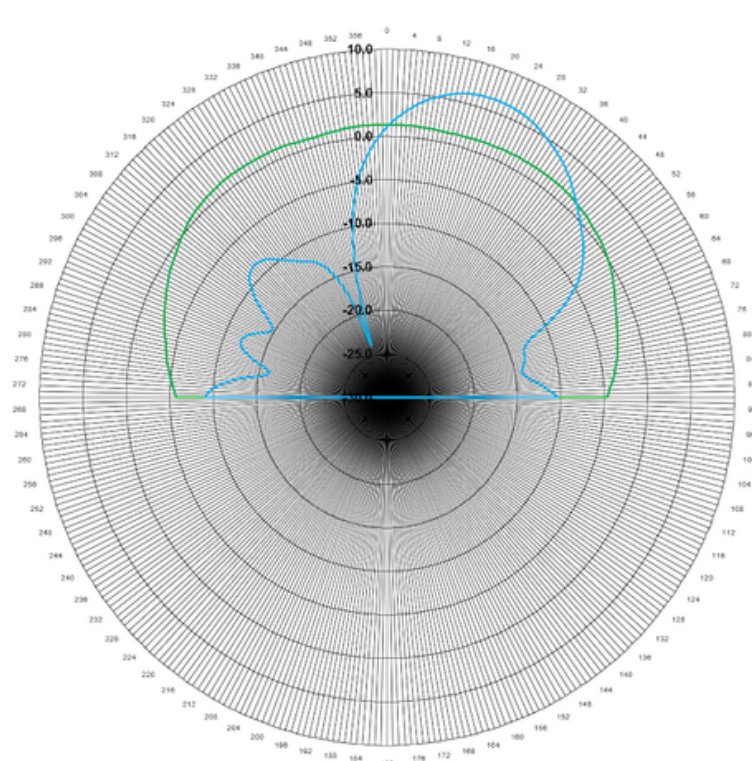
CubeSat GPS L1/L2 Arrays



Gain versus frequency in broadside



Radiation pattern for the linear polarized array with beamforming at L1



Radiation pattern for the linear polarized array with beamforming at L2

CubeSat GPS L1/L2 Arrays

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Here at Orban Microwave, our model is to design 'at cost', acting as a true partner with our customers, profiting only once we've entered production with the final product. Unlike traditional design companies who part ways at the critical stage of production, we retain responsibility for the entire product lifecycle - all the way to integration into the final system. Since we are not a catalog manufacturer that depends on high-volume production, your custom order is our only priority. Have an idea or a specific product in mind? Let Orban Microwave Products help you achieve something extraordinary.

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- OMP uses state-of-the-art circuit and 3D electromagnetic simulations tools
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- We will work with our customers on the integration of products designed
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