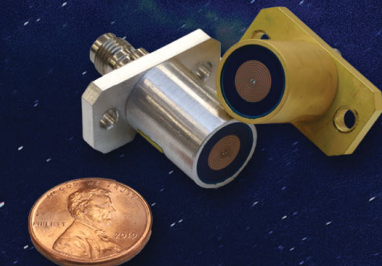


NUVOTRONICS[®]
Breakthrough. Engineering. Delivered.[™]

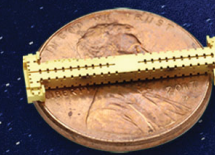
PRODUCT CATALOG / LINE CARD



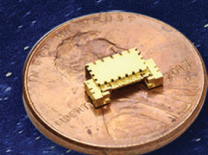
POLYSTRATA[®]
PACKAGES



WIDEBAND
ANTENNAS



COUPLERS
COMBINERS



FILTERS



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10MAY2024



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Who We Are

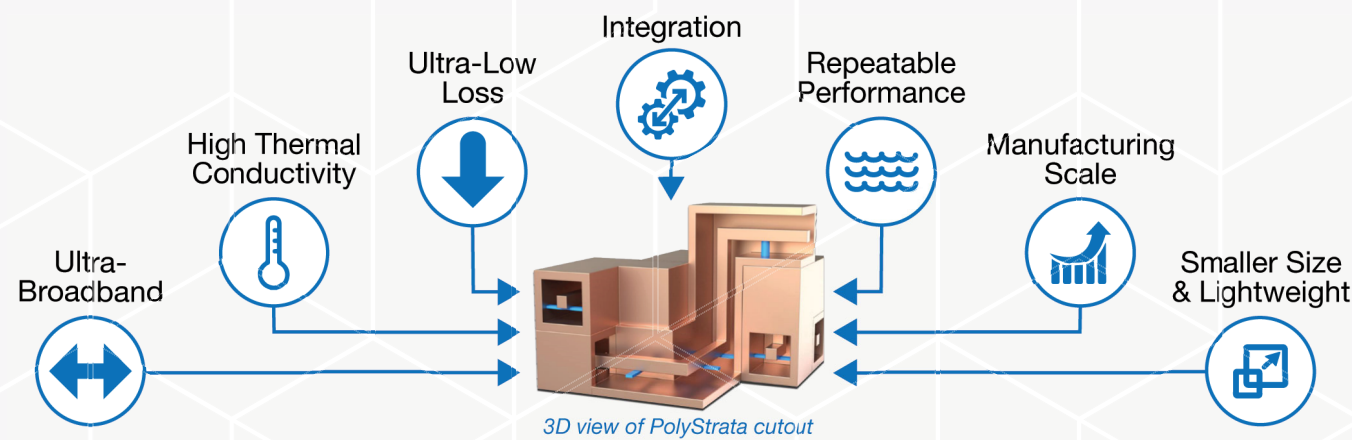
Nuvotronics designs, manufactures and supplies micro-miniature solutions for Commercial & Defense Space, Airborne, SATCOM, EW, mmWave Package, Test & Measurement, and mmWave Telecom applications with our PolyStrata® technology. It offers high performance value with low loss, high isolation, and power handling capability all within a micro-miniature surface-mount package. The solutions are ideal for millimeter wave and ultra-broadband performance with either individual passive component functions or highly integrated passives within the same assemblies of multiple devices (Multi-Chip Modules).

What is our PolyStrata® Technology?

Our PolyStrata® architecture provides an unprecedented platform for mmWave performance, integration, and miniaturization. Because of its 10x to 100x improvement in Size, Weight, and Power (SWaP), PolyStrata® is the industry leader in mmWave technologies for space, defense, and commercial markets.

PolyStrata® Advantages

High Performance Low SWaP Components & Sub Assemblies



About Us

For the last 16 years, we have perfected our patented PolyStrata® technology, introducing the world's first 3D air-dielectric circuit board. Leveraging our PolyStrata® technology to deliver unprecedented performance in minimal form factors, we provide high-performance components and hardware solutions suitable for demanding space, airborne and terrestrial applications. The benefits of the PolyStrata® integration means that systems can experience improved small form factor, reducing the number of banded solutions, power handling and greater heat dissipation compared to other solutions available on the market.



Nuvotronics' Office in Durham, NC

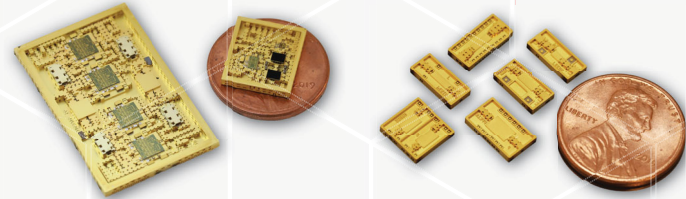


Nuvotronics Main Facility – Durham, NC

- 17,000 sq.ft. cleanroom
- Component / module design and assembly expertise in house, DC to 300 GHz
- Full test capability to 110 GHz
- Over 60,000 sq ft of manufacturing space
- AS9100D Certified
- Capable for ITAR and Classified work
- DoD Category 1A Trusted IC Supplier – Post Processing & Packaging / Assembly Services

Where to buy Nuvotronics | Cubic

PolyStrata[®] mmWave Packages



Part Number	Single Sided Transition Performance			Max Die Size			Package Size			DC Pins
	Max Frequency (GHz)	Insertion Loss (dB)	Return Loss (dB)	X (mm)	Y (mm)	Z (mm)	X (mm)	Y (mm)	Z (mm)	
PSP1025530_002	21 GHz	0.2 dB	20dB	2.1	1.3	0.08	6.34	3.896	0.7	6
PSP1025530_003	40 GHz	0.3 dB	20dB	3.55	5.965	0.18	6.79	10.39	0.85	4
PSP1028104*	95 GHz	0.5 dB	20dB	5	5	0.1	10	10	0.7	12
PSP1028105*	95 GHz	0.5 dB	20dB	4	3.75	0.1	8	8	0.7	12
PSP1028106*	95 GHz	0.5 dB	20dB	3.25	3.25	0.1	7	7	0.7	12
PSP1028107*	95 GHz	0.5 dB	20dB	2.55	2.55	0.1	6	6	0.7	10
PSP1028108*	95 GHz	0.5 dB	20dB	1.6	1.6	0.1	5	5	0.7	8
PSP1028109*	50 GHz	0.3 dB	20dB	5	5	0.1	7	7	0.4	12
PSP1028110*	50 GHz	0.3 dB	20dB	4	4	0.1	6	6	0.4	10
PSP1028111*	50 GHz	0.3 dB	20dB	3	3	0.1	5	5	0.4	8
PSP1028112*	50 GHz	0.3 dB	20dB	2	2	0.1	4	4	0.4	6
PSP1028113*	50 GHz	0.3 dB	20dB	1	1	0.1	3	3	0.4	4

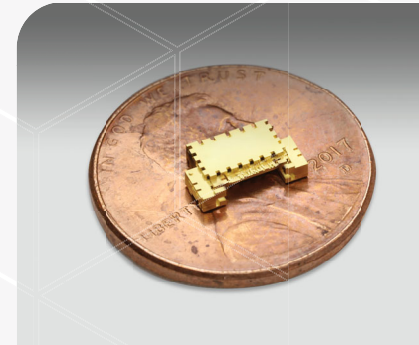
*In development

Wideband Antennas



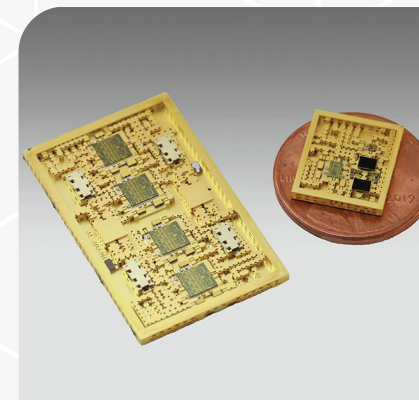
Part Number	Description	Frequency (GHz)	Band	Application
PSA1850C-4	4-arm sinuous antenna	18-50	Mid/High	Electronic Warfare
PSA1850C	2-arm spiral antenna	18-50	Mid/High Band	Electronic Warfare

What We Offer:



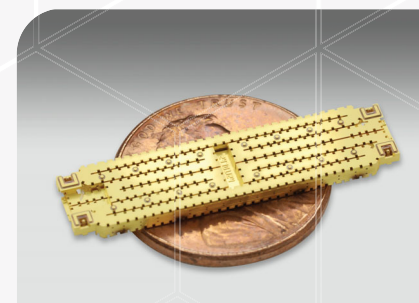
PolyStrata[®] Filters

- Near Ideal Performance
 - Lowest insertion loss by volume in the market and high rejection
- Precision
 - Low part-to-part variation
- Ease of Assembly
 - Standard SMT processes



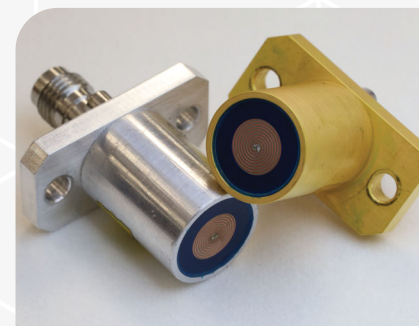
PolyStrata[®] mmWave Package

- Solid copper package body results in optimal thermal performance
- MMIC interfaces minimize loss and wire bond length
- Compatible with automated Au wire bonding
- PCB interface compatible with standard SMT processes
- High isolation between components
- High performance - 0.5 dB loss up to 95 GHz



PolyStrata[®] Couplers/Combiners

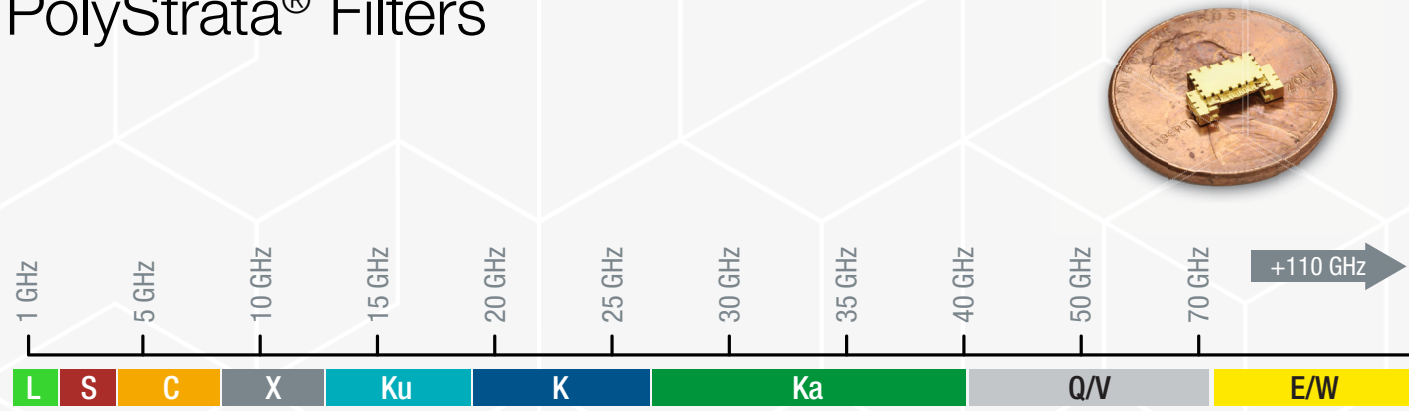
- Surface Mount form factor
 - Ease of integration and assembly
- Excellent Amplitude and Phase Balance
 - 3 dB coupling across band with high isolation
- Over 20 dB isolation between channels



Wideband Antennas

- Spirals available with right or left polarization
- Available with 2.40/2.92/1.85 mm connector options
- 18 – 60 GHz coverage (can go to over 100 GHz)
- 0.5" diameter package, excluding mounting flange
- Sinuous antennas also available

PolyStrata® Filters



K Band:

Part Number	Frequency (GHz)	Insertion Loss	Application
PSF19B02V4S	17.8-20.2	< 0.5 dB	Commercial Space
PSF19B02S	17.7-20.2	< 2 dB	Commercial Space
PSF19B03S	17.7-20.2	0.9 dB	Commercial Space
PSF19B02V3S	17.7-20.2	0.8 dB	Commercial Space
PSF19B03V2S	17.7-21.2	< 0.5 dB	Defense Space

Ka Band:

Part Number	Frequency (GHz)	Insertion Loss	Application
PSF26B04V2S	24-28	1.3 dB	Test & Measurement
PSF26B04S	24.5-28.3	1.2 dB	mmWave Telecom
PSF28B04S	26.5-30.5	1.9 dB	Test & Measurement
PSF28B02S	27.5-30	1 dB	Commercial Space
PSF29B02S	27.5-30	0.7 dB	Commercial Space
PSF29B02V2S	27.5-30	0.4 dB	Commercial Space
PSF28B02S	27.5-30	1 dB	Commercial Space
PSF28B02V2S	27.5-30	< 0.5 dB	Commercial Space
PSF29B03S	27.5-31	1.2 dB	Defense Space
PSF29B03V2S	27.5-31	< 0.5 dB	Defense Space
PSF32B04S	30-34	2 dB	Test & Measurement
PSF39B04S	37-41	2.2 dB	Test & Measurement
PSF39B03S	38-40	1.25 dB	Test & Measurement

Q Band:

Part Number	Frequency (GHz)	Insertion Loss	Application
PSF38B03S	37-40	1.4 dB	Commercial Space
PSF38B03V2S	37-40	< 0.5 dB	Commercial Space
PSF40B05S	37.5-42.5	1.1 dB	Commercial Space
PSF40B05V2S	37.5-42.5	< 0.5 dB	Commercial Space
PSF42B05S	39.7-45.3	1.3 dB	Commercial Space

V Band:

Part Number	Frequency (GHz)	Insertion Loss	Application
PSF42B04S	40-44	2.2 dB	Test & Measurement
PSF49B05S	47.2-52.4	1.2 dB	Commercial Space
PSF49B05V2S	47.2-52.4	< 0.5 dB	Commercial Space

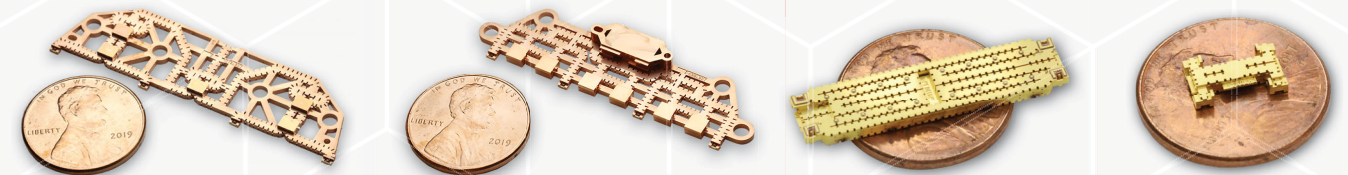
E Band:

Part Number	Frequency (GHz)	Insertion Loss	Application
PSF71B07W	69-76	2.8 dB	Test & Measurement
PSF85B08W	81-89	0.75 dB	Test & Measurement

Wideband:

Part Number	Frequency (GHz)	Insertion Loss	Application
PSF29B22S	18-40	0.4 dB	Electronic Warfare
PSF34B32S	18-50	0.3 dB	Electronic Warfare
PSD2040B2W	LPF < 20 GHz, HPF > 20-40 GHz	0.25 dB	Electronic Warfare

PolyStrata® Couplers/Combiners



Combiners:

Part Number	Description	Frequency (GHz)	Insertion Loss	Output Power (CW)	Application
PSX12Q12W	4-way combiner	6-18	0.4 dB	80W	Electronic Warfare
PSX29Q22W	4-way combiner	18-40	0.4 dB	80W	Electronic Warfare
PSX29Q03W	4-way combiner	27.5-31	0.4 dB	80W	Commercial & Defense Space
PSX40D05W	2-way splitter	37.5-42.5	0.3 dB	80W	Commercial Space
PSX40D05V2W	2-way combiner w/ DC	37.5-42.5	0.3 dB	80W	Commercial Space
PSX50Q05W	4-way combiner	47.2-52.4	0.5 dB	80W	Commercial Space

Couplers:

Part Number	Description	Frequency (GHz)	Insertion Loss	Output Power (CW)	Application
PSC44D15S	Directional Coupler	1-44	< 1.2 dB	20W	Test & Measurement
PSC18H17S	90 Degree Hybrid Coupler	2-18	0.75 dB	20W	Electronic Warfare
PSC18H07S	90 Degree Hybrid Coupler	6-18	0.3 dB	20W	Electronic Warfare
PSC50D07S	Directional Coupler	18-50	0.2 dB	20W	Electronic Warfare
PSC50H08S	90 Degree Hybrid Coupler	18-50	0.35 dB	20W	Electronic Warfare