AsahiKASEI

XYRON™ (m-PPE) for Slotted Waveguide Array Antenna

A solution for the future beyond 5G

Technologies and Products

Slotted waveguide array antennas (SWAAs) have high performance in power efficiency and cross-polarization, but their application is limited by their weight and high cost due to metal machining.
Together with the Tokyo Institute of Technology, Asahi Kasei has created a prototype SWAA utilizing XYRON™ to overcome those challenges.
Metal-plated XYRON™ antenna achieved equivalent circuit characteristics to metal-machined antennas in the targeted frequency range and appx. 40% weight reduction.

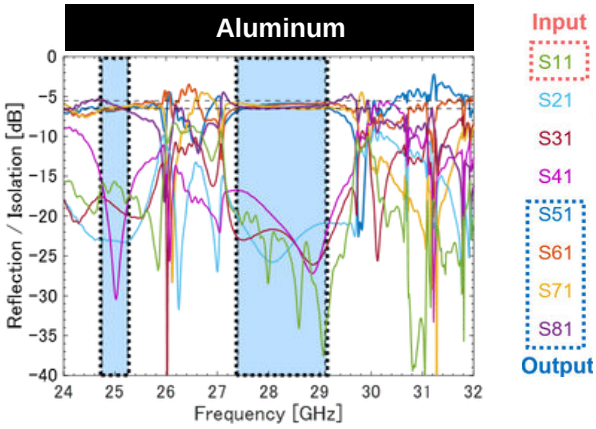
Features of XYRON™

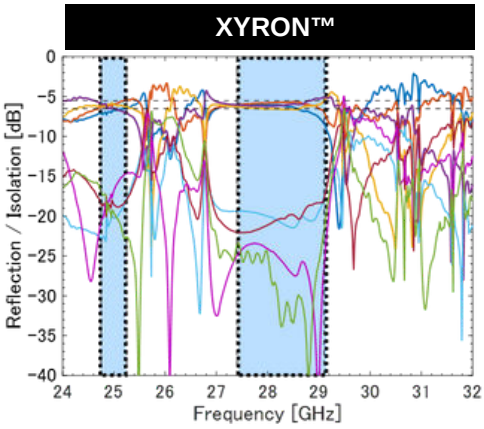
- Up to 40% weight reduction compared to aluminum
- Low CLE over wide temperature range
- Reflow heat resistance
- Excellent plating appearance/adhesion

		XYRON™		Aluminum (A5052)
		DG040	AA105-52 (under development)	
Specific gravity	-	1.52	1.56	2.68
DTUL (1.8 MPa)	°C	188	253	-
Coefficient of Linear expansion (-30 to 65° C)	x10^{-5}/°C	MD: 2.2 TD: 3.1	MD: 1.5 TD: 2.8	2.4

The data shown are typical values obtained by proper testing methods and should not be used for specification purposes. The data may be changed because of improvements in properties

Circuit Characteristics





Target frequency band: 24.75 - 25.25 GHz, 27.4 - 29.1 GHz
Amplitude range (Output): -6.02 ± 0.5 dB

Application Fields

- ADAS - Radar antennas
- Drone antennas
- Base station antennas

Further Information

https://www.asahi-kasei-plastics.com/en/topics/tech-01/

Creating for Tomorrow

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