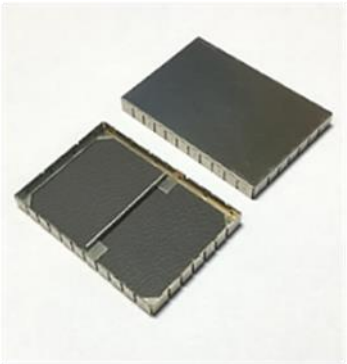
Shieldzorb Solution

Absorber Enhanced Board Level Shielding



ABSORBER ENHANCED BOARD LEVEL SHIELDING:

Shieldzorb Solution integrates absorber with board level shielding (BLS) or so-called shielding can to damp cavity resonant, to reduce unwanted coupling of electronic components in the BLS and/or coupling between components in the BLS and nearby RF antennas. At high frequencies, cavity resonant of BLS can cause serious deterioration of its shielding effectiveness at cavity resonant frequency. Unwanted coupling with nearby RF antennas might lead to desensitization of those RF components while the cross talk within the BLS might xxxx. Shieldzorb solution can effectively fixing those problems.

BLS mentioned here can be stamped/deep draw shielding can or die casting/machined aluminum alloy shielding covers. There are a large variety of absorber options for different frequencies. Fully automated assembly process is available to make high volume production cost effective.

FEATURES

- BLS with absorber attached
- Wide variety of absorber options
- Customized BLS design and material options
- EM Simulation support
- Automated assembly
- Ease of maintenance
- RoHS compliance and Halogen free

BENEFITS

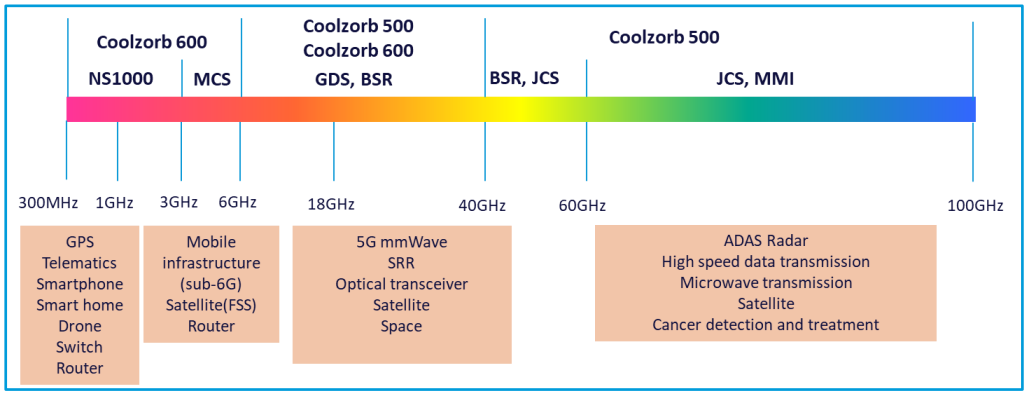
- Higher shielding performance
- Elimination of unwanted coupling
- Design support to solve the issue at earlier design stage
- Simpler supply chain

MARKET & APPLCATION

- Automotive: mmWave radar
- Telecom: 5G Active Antenna System

SHIELDING CAN AND ABSORBER OPTIONS

Processing	Material
Stamping	Nickel Silver
	Cold Rolled Steel
	Stainless Steel
	Aluminum
Deep Draw	Cold Rolled Steel
	Stainless Steel
	Aluminum
Die Casting	ADC10
	ADC12
	A413



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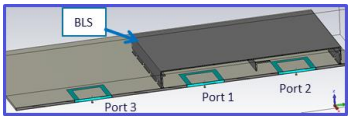
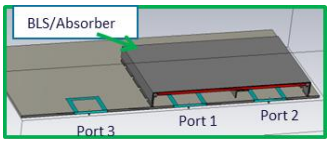
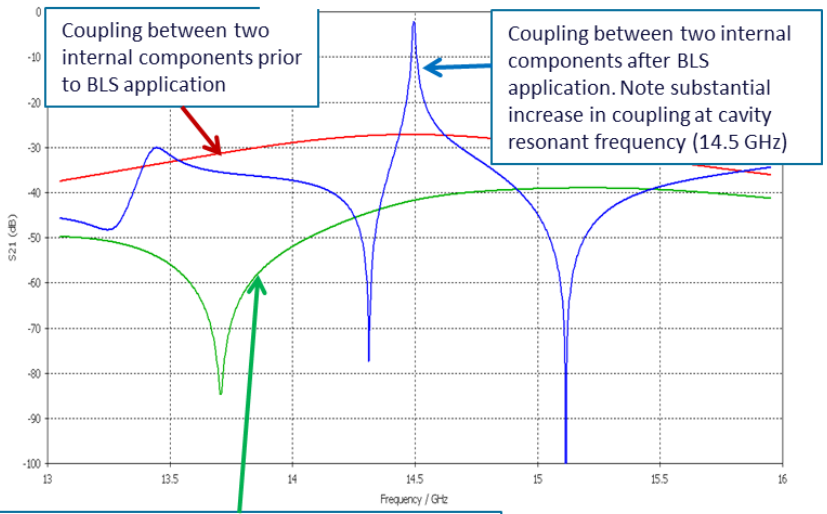




APPLICATIONS

A study of three ports BLS structure was done with CST software. The EM performance comparison between general BLS and Shieldzorb solution can be found in below graphe.

Internal Coupling (Port 1 & 2)

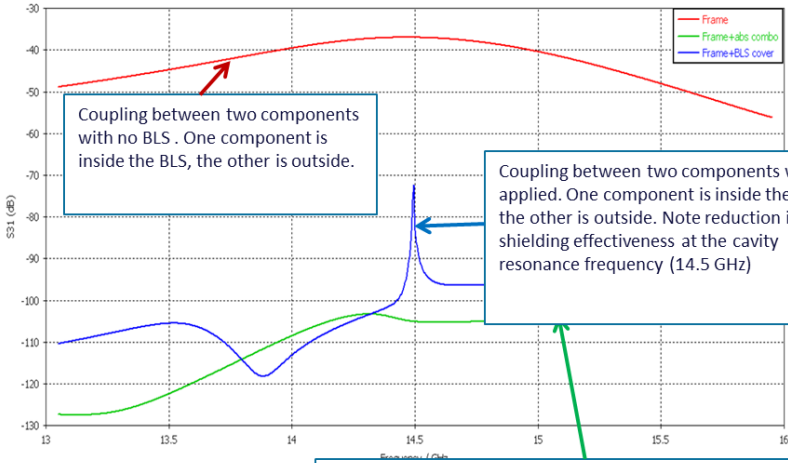


Coupling between two internal components prior to BLS application

Coupling between two internal components after BLS application. Note substantial increase in coupling at cavity resonant frequency (14.5 GHz)

Coupling between two internal components after BLS application with included absorber. Note elimination of cavity resonance effect and improved (lower) coupling across the band.

External Coupling (Port 1 & 3)



Coupling between two components with no BLS . One component is inside the BLS, the other is outside.

Coupling between two components with BLS applied. One component is inside the BLS, the other is outside. Note reduction in shielding effectiveness at the cavity resonance frequency (14.5 GHz)

Coupling between two components with BLS and absorber applied. One component is inside the BLS, the other is outside. Application of absorber increased the shielding effectiveness by >30 dB