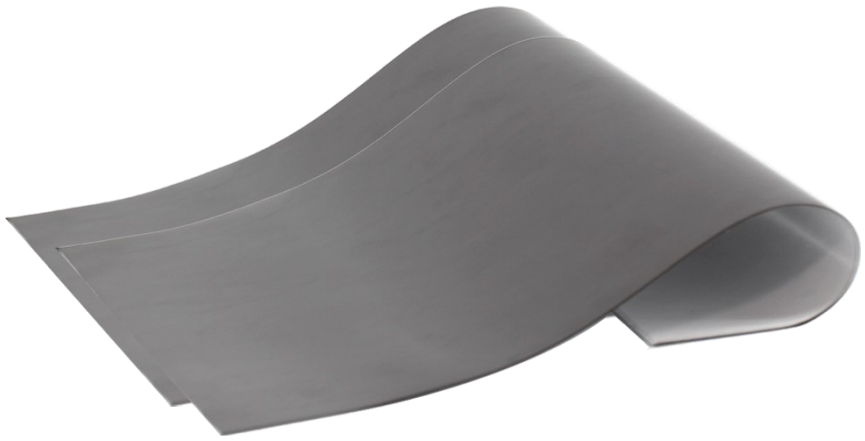
W-Absorber™

Flexible Microwave Absorber Sheet

withwave
Next Generation Connectivity

WithWave's **W-Absorber**™ is microwave absorber in thin sheet format made of a mixture of polymer resin and metal magnetic powder which is thin and flexible and excellent in workability and can be easily bonded. This absorber can suppress radiation noise of electronic devices for wideband microwave frequency range and reduce surface current as well as surface reflection in cavity resonant application.



Features

- Available for Microwave Freq. range
- Lightweight, flexible, thin and excellent processability
- Wide absorption bandwidth
- Included Adhesive tape on backside

Markets

- Commercial communications
- Security and Defense
- Antenna Chamber
- Automotive, general electronics



Applications

- W-Absorber can suppress radiation noise of electronic devices for wideband radio frequency range and is effective in reducing surface current as well as surface reflection in cavity resonant applications due to the high magnetic loss characteristics of materials.
- It suppresses the reflection inside the microwave module and is used to reduce cavity resonance of the module.
- It can be used for various applications such as anechoic chamber, medical equipment facility.

Availability

- Standard sheet size : S1 (105 X 150 mm) , S2 (150 x 210 mm), S3 (210 x 300 mm : A4 Size)
- W-Absorber can be used in different sizes, thicknesses and custom configurations on request.
- Thickness depends on the desired resonant frequency, and other resonant frequencies are available according to special request.

Instructions for USE

- W-Absorber is designed to function directly in front of a metallic surface. Otherwise, a metallic foil should be bonded to the object.
- Epoxy and acrylic adhesives are recommended or use the self-adhesive version.
- To obtain a strong bond of the absorber to the object, the metallic surface should first be thoroughly cleaned with a degreasing solvent.
- W-Absorber can be readily cut with a sharp knife and template.



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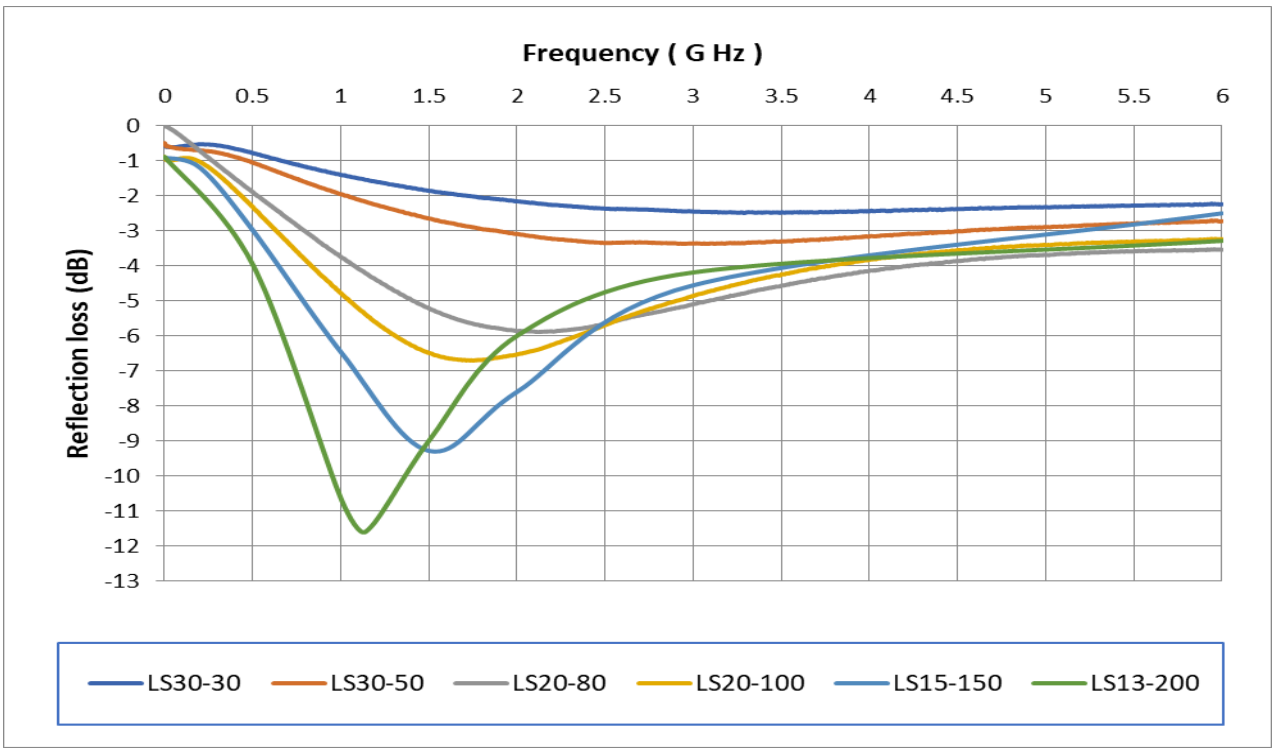
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Next Generation Connectivity

Specification

Items	LS13-200	LS15-150	LS20-100	LS20-80	LS30-30	LS30-50
Freq. range (GHz)	< 6.0					
Peak &Center Freq. (GHz)	1.3	1.5	2	2	3	3
Standard thickness (mm)	2	1.5	1	0.8	0.3	0.5
Standard size (mm)	S3 : 210 x 300 (A4 size) S4 : 150 X 300					
Surface resistance (Ω)	$1x10^6$ (min)					
Specific gravity	3.4 ± 0.5					
Temp. Range (°C)	-30 to 90					
Hardness (Shore A)	93 ± 5					

**ROHS Compliant*

Test Data



W-Absorber™

Flexible Microwave Absorber Sheet

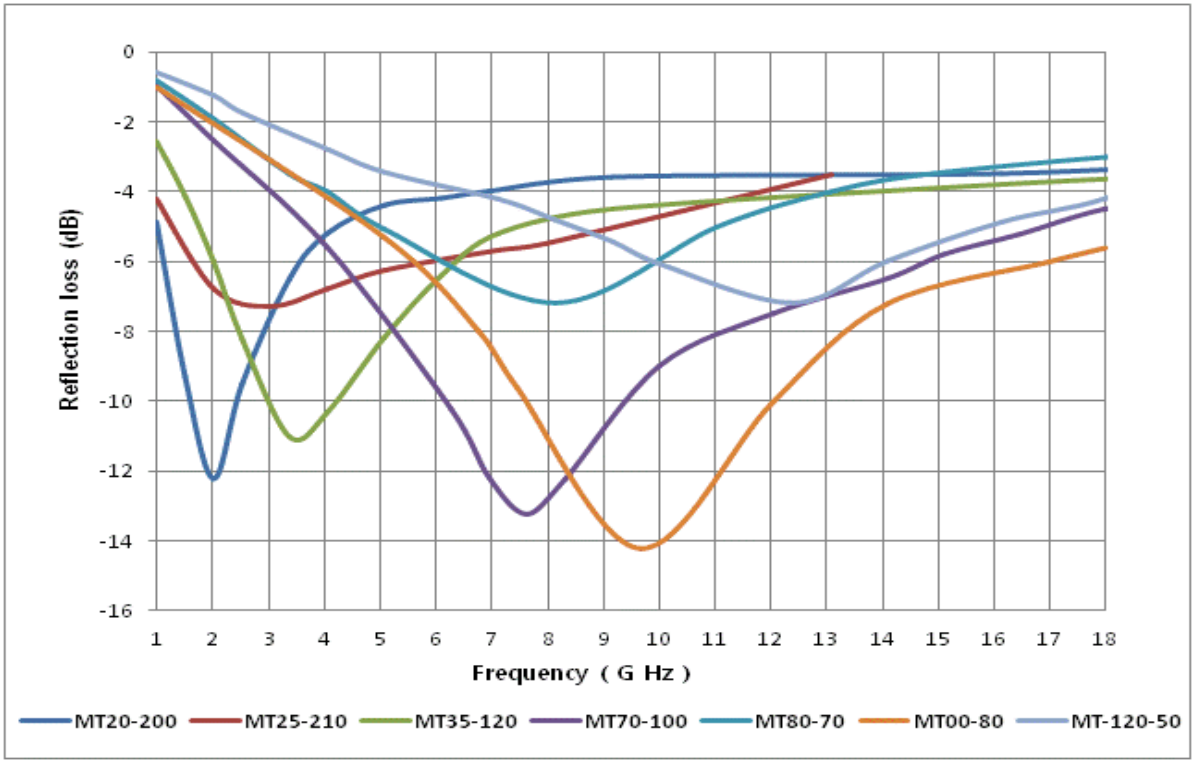
withwave
Next Generation Connectivity

Specification

Items	MT20-200	MT25-210	MT30-210	MT35-120	MT70-100	MT80-70	MT100-80	MT120-50
Freq. range (GHz)	< 18.0							
Peak &Center Freq. (GHz)	2	2.5	3	2	7	8	10	12
Standard thickness (mm)	2.0	2.1	2.1	1.2	1.0	0.7	0.8	0.5
Standard size (mm)	S3 : 210 x 300 (A4 size) S4 : 150 X 300							
Surface resistance (Ω)	$1x10^6$ (min)							
Specific gravity	3.7 ± 0.7							
Temp. Range (°C)	-30 to 90							
Hardness (Shore A)	93 ± 5							

Test Data

*ROHS Compliant

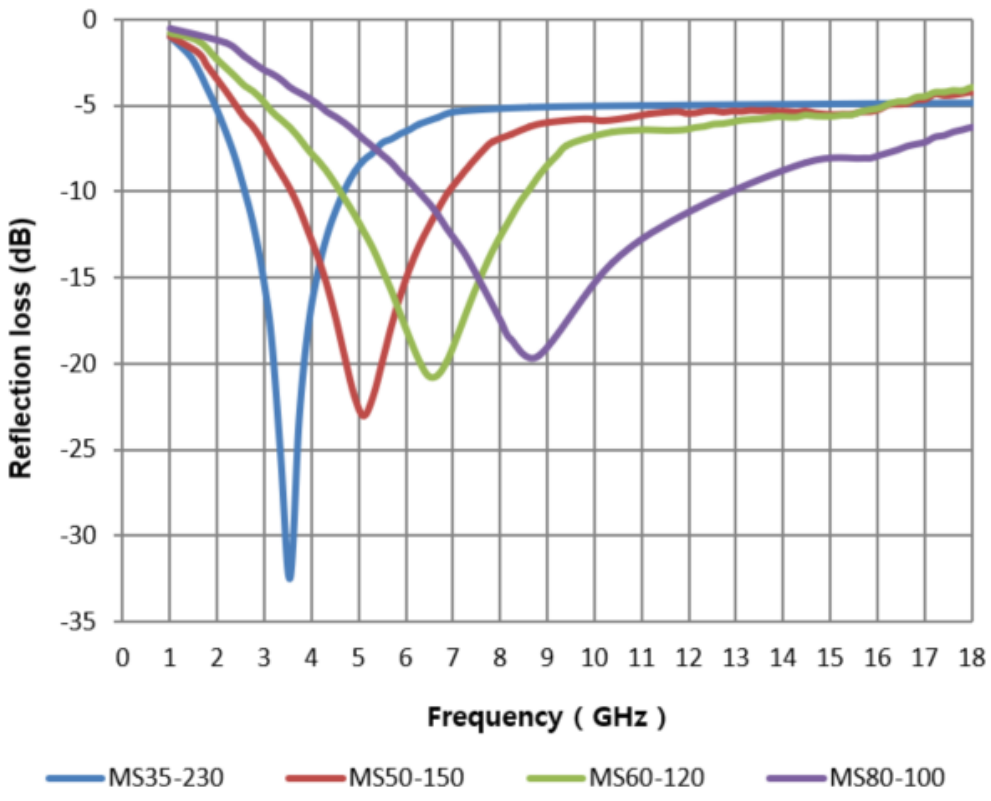


Specification

Items	MS35-230	MS50-150	MS60-120	MS80-100
Freq. range (GHz)	< 18.0			
Peak &Center Freq. (GHz)	3.5	5.0	6.0	8.0
Standard thickness (mm)	2.3	1.5	1.2	1.0
Standard size (mm)	S3 : 210 x 300 (A4 size) S4 : 150 X 300			
Surface resistance (Ω)	$1x10^6$ (min)			
Specific gravity	3.7 ± 0.7			
Temp. Range (°C)	-30 to 90			
Hardness (Shore A)	93 ± 5			

*ROHS Compliant

Test Data

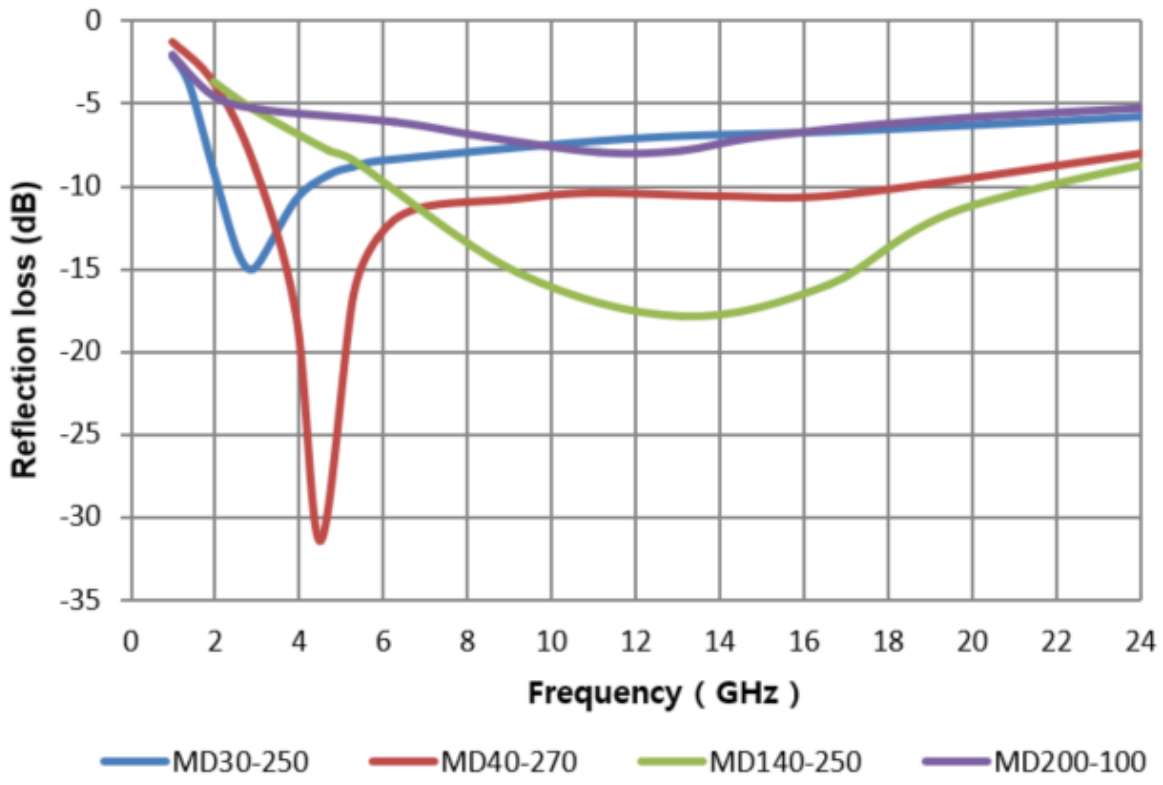


Specification

Items	MD30-250	MD40-270	MD140-250	MD200-100
Freq. range (GHz)	< 24.0			
Peak &Center Freq. (GHz)	3.0	4.4	14.0	20.0
Standard thickness (mm)	2.5	2.7	2.5	1.0
Standard size (mm)	S3 : 210 x 300 (A4 size) S4 : 150 X 300			
Surface resistance (Ω)	$1x10^6$ (min)			
Specific gravity	3.4 ± 0.5			
Temp. Range (°C)	-30 to 90			
Hardness (Shore A)	93 ± 5			

*ROHS Compliant

Test Data



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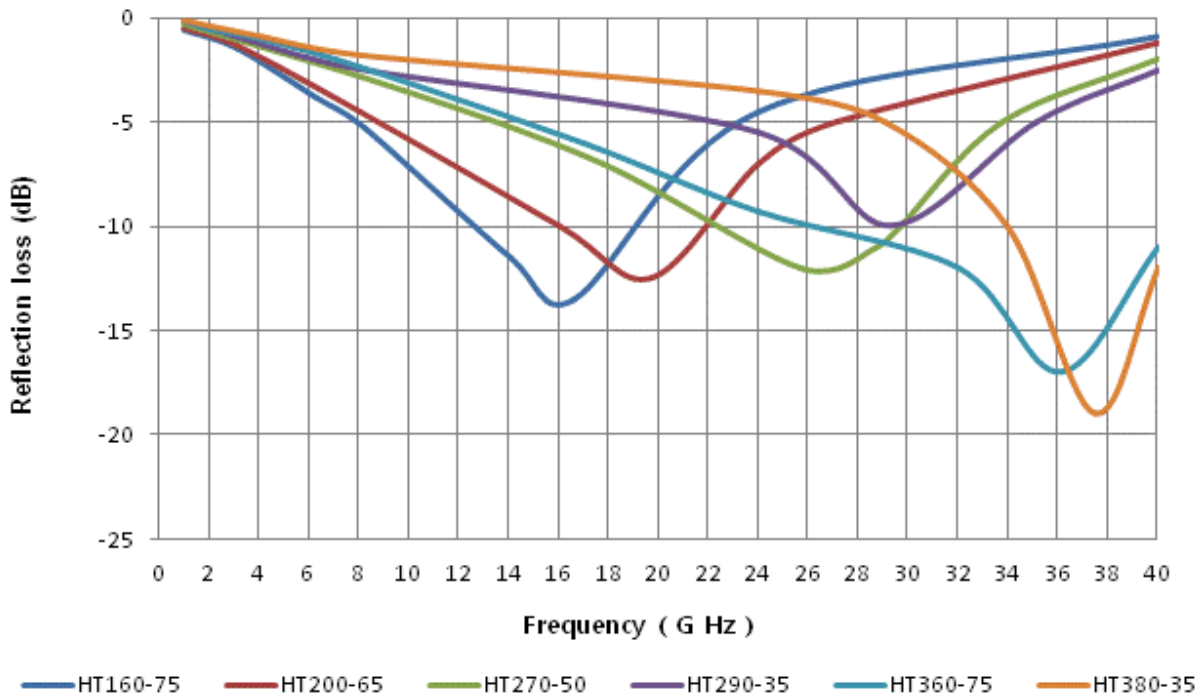
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Specification

Items	HT160-75	HT200-65	HT270-50	HT290-35	HT360-75	HT380-35
Freq. range (GHz)	<24	<28	<35		<40	
Peak &Center Freq. (GHz)	16	20	27	29	36	38
Standard thickness (mm)	0.75	0.65	0.5	0.35	0.75	0.35
Standard size (mm)	S3 : 210 x 300 (A4 size) S4 : 150 X 300					
Surface resistance (Ω)	$1x10^6$ (min)					
Specific gravity	3.4 ± 0.5					
Temp. Range (°C)	-30 to 90					
Hardness (Shore A)	93 ± 5					

*ROHS Compliant

Test Data



W-Absorber™

Flexible Microwave Absorber Sheet

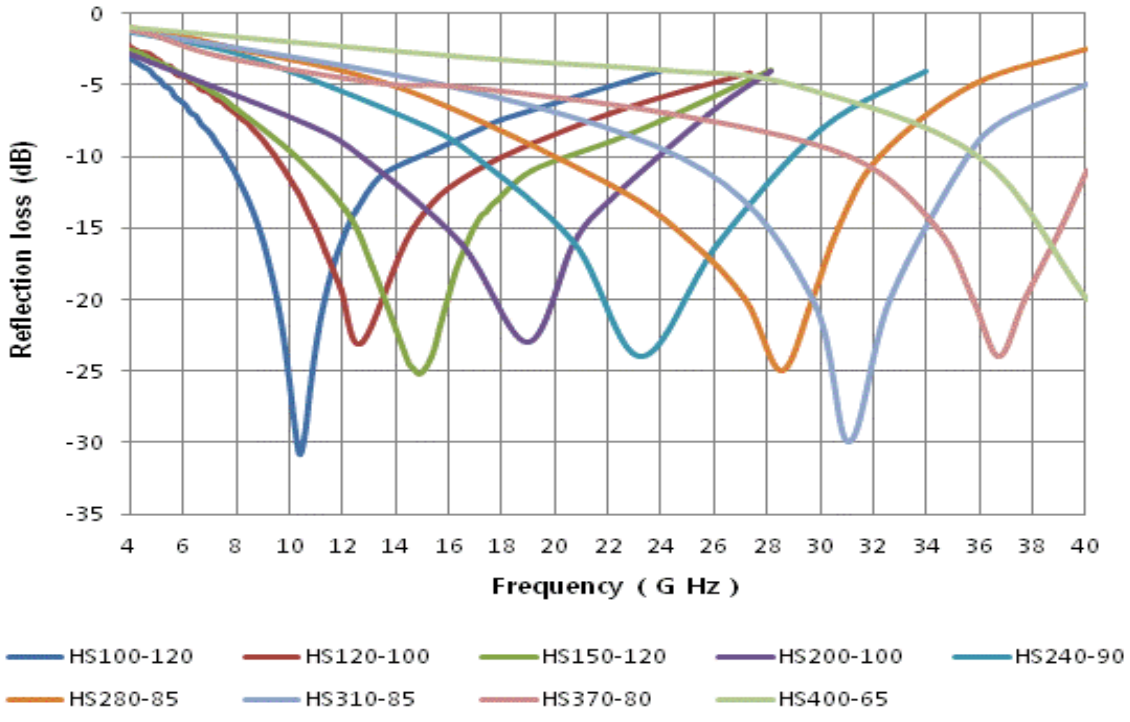
withwave
Next Generation Connectivity

Specification

Items	HS100-120	HS120-100	HS150-120	HS200-100	HS240-80	HS280-85	HS310-85	HS370-80	HS400-65
Freq. range (GHz)	~20		~26	~26	~32	~36	~40	~40	~45
Peak &Center Freq. (GHz)	10.2	12.5	15	19	24	28	31	37	40
Standard Thickness (mm)	1.2	1	1.2	1	0.8	0.85	0.85	0.8	0.65
Standard Size (mm)	S3 : 210 x 300 (A4 size) S4 : 150 X 300								
Surface resistance (Ω)	$1x10^6$ (min)								
Specific gravity	3.4 ± 0.5								
Temp. Range (°C)	-30 to 90								
Hardness(Shore A)	93 ± 5								

Test Data

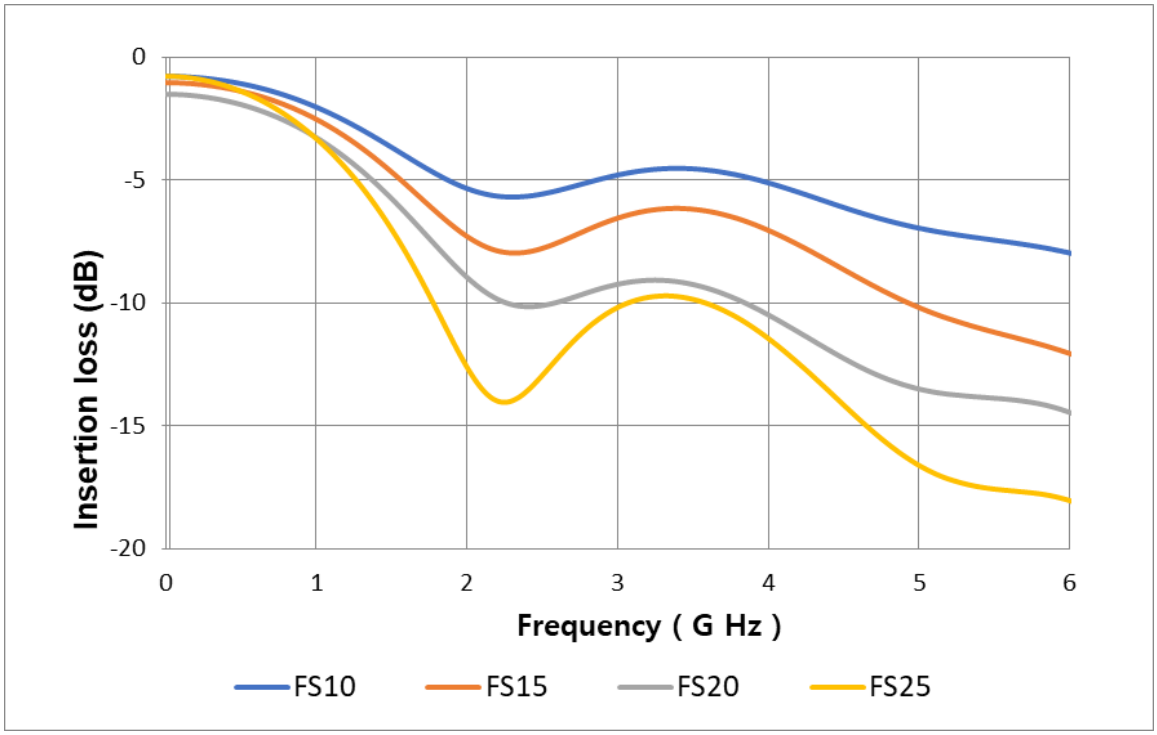
*ROHS Compliant



W-Absorber FA series absorbers are conductive polyurethane foam absorbers impregnated with carbon and used to lower cavity Q in cabinets containing RF amplifiers, oscillators, microwave devices, computer housings, LNBs, and in isolation of antennas due to insertion loss. It is also used to reduce surface currents on the surface of radiating elements and external ground plane types, and is applied in commercial communications, test boxes, sensors, security and defense fields.

■ *Specification*

Items	FA10	FA15	FA20	FA25
Freq. range (GHz)	> 1.0			
Standard thickness (mm)	10	15	20	25
Standard size (mm)	300 X 300			
Temp. Range (°C)	-30 to 90			
Color	Black			
Weight g (300 * 300 mm)	35	50	65	80



W-Absorber™

Flexible Microwave Absorber Sheet

withwave
Next Generation Connectivity

Specification

Broadband 2-Layer Type for Antenna Chamber, Shield Box

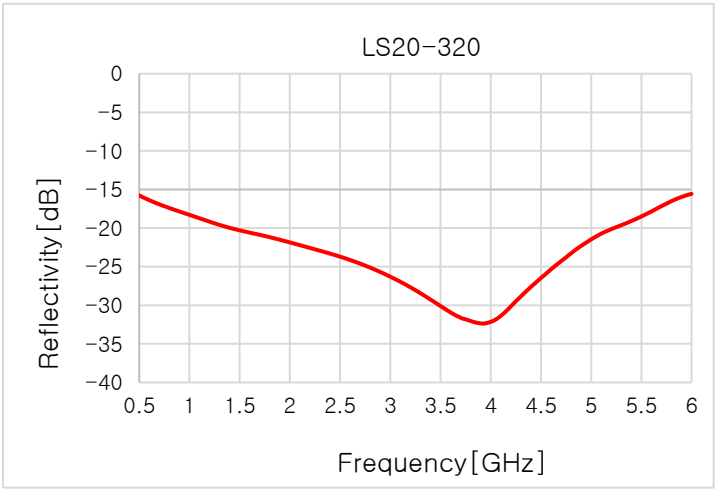
Items	LS20-320
Freq. range (GHz)	< 7.0
Peak &Center Freq. (GHz)	2.0 & 6.0
Standard thickness (mm)	3.2
Standard size (mm)	S4 : 150 X 300 S5 : 240 X 360
Surface resistance (Ω)	$1x10^6$ (min)
Specific gravity	3.7 ± 0.7
Temp. Range (°C)	-30 to 90
Hardness (Shore A)	93 ± 5

**ROHS Compliant*

Test Data

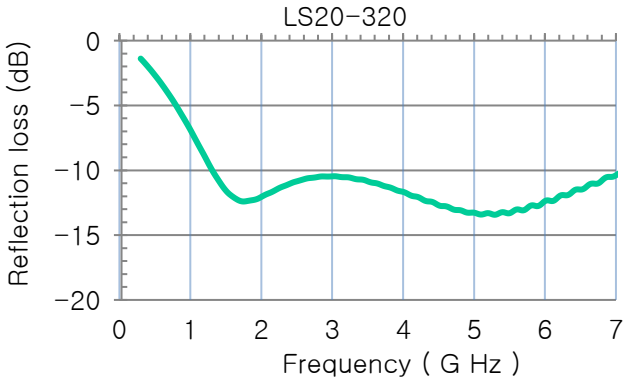
NRA arch test set-up





Sample Holder test set-up





* The NRL Arch is the industry standard for testing the reflectivity of materials. It allows quick, repeatable non-destructive testing of microwave absorbent materials over a wide frequency range.

■ Specification

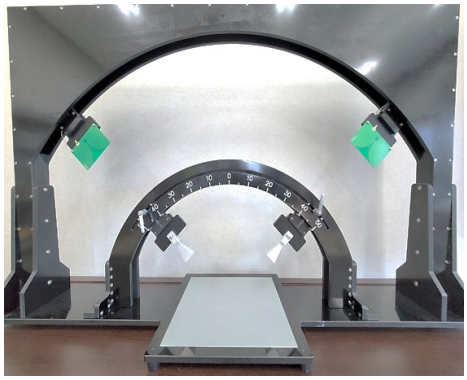
Broadband 2-Layer Type for Antenna Chamber, Shield Box
Dual Band Type (< 7GHz , 20 ~ 40 GHz)

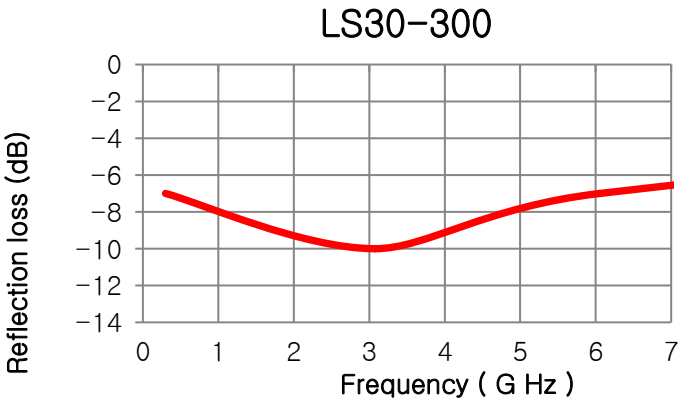
Items	LS30-300
Freq. range (GHz)	< 7.0 & 20~40
Peak &Center Freq. (GHz)	3.0 & 34.0
Standard thickness (mm)	3.0
Standard size (mm)	S4 : 150 X 300 S5 : 240 X 360
Surface resistance (Ω)	$1x10^6$ (min)
Specific gravity	3.7 ± 0.7
Temp. Range (°C)	-30 to 90
Hardness (Shore A)	93 ± 5

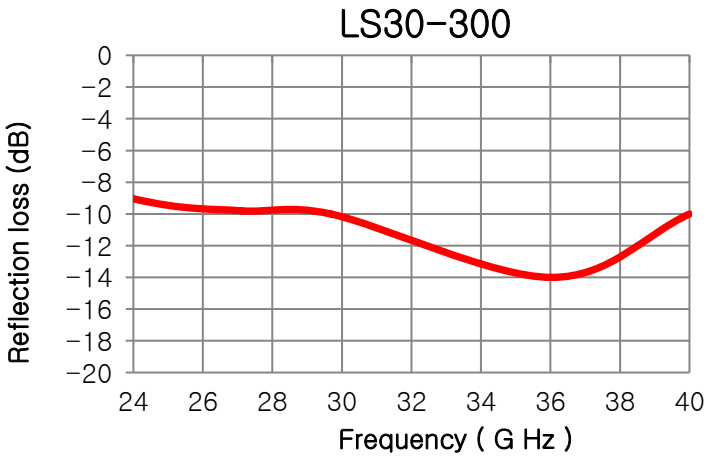
TEST DATA FOR TYPICAL REFLECTION OF WA-LS-30-300 .

■ Test Data

NRA arch test set-up







Selection Guide

MT70-100- S3

Absorber type	Thickness	Size
MT70 HT200	75 : 0.75 mm 100 : 1.0 mm	S3 : 210 X 300 mm (A4 Size) S4 : 150 X 300 mm (For 2-Layer) S5 : 240 X 360 mm

S3



S4



S5



Revision History

Revision	Date	Changes
Ver 1.0	2019-01-11	Releases Flexible Microwave Absorber Sheet
Ver 2.0	2019-07-26	Add products
Ver 2.1	2019-12-10	Revised spec.
Ver 2.2	2020-09-07	Add new models (2-Layer types)
Ver 2.3	2020-10-22	Add Adhesive tape information
Ver 3.0	2021-12-01	Add New types of Absorbers