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Golledge Electronics Ltd
Eaglewood Park, ILMINSTER
Somerset, TA19 9DQ, UK

SAW Duplexer SMD: 2535 - 2655MHz — Model: TF0061A
Part No: MP05447 — Rev No: 2

A. MAXIMUM RATING:

Electrostatic **S**ensitive **D**evice (**ESD**)

1. DC Voltage: 0V
2. Operating Temperature: -30°C to +85°C
3. Storage Temperature: -40°C to +85°C

B. ELECTRICAL CHARACTERISTICS:

Parameters Description	Unit	Min.	Typ.	Max.
Operation Temperature Range	°C	-30	-	+85
Storage Temperature Range	°C	-40	-	+85
Maximum DC Voltage	V		0	
Input Power Level	W		2.0	
Antenna Impedance (single ended)	Ω		50	
Tx Impedance (single ended)	Ω		50	
Rx Impedance (balanced) (1)	Ω		100	
Length x Width	mm²		2.0 x 1.6	
Height	mm		0.9	

Parameters Description	Unit	Min.	Typ.	Max.
Operation Temperature Range	°C	-30	-	+85
Storage Temperature Range	°C	-40	-	+85
Maximum DC Voltage	V		0	
Input Power Level	W		2.0	
Antenna Impedance (single ended)	Ω		50	
Tx Impedance (single ended)	Ω		50	
Rx Impedance (balanced) (1)	Ω		100	
Package type	C43			
Length x Width	mm²		2.0 x 1.6	
Height	mm		0.9	

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Tx to Ant		Specifications (+25°C)			
Parameters Description	Condition [MHz]	Unit	Min.	Typ.	Max.
Insertion Loss	2500.0 ~ 2570.0	dB	-	3.2	3.8
Return Loss of Tx Port	2500.0 ~ 2570.0	dB	5	8	-
Return Loss of Ant Port	2500.0 ~ 2570.0	dB	6	9	-
Attenuation in Rx Band	2620.0 ~ 2690.0	dB	45	51	-
Attenuation in ISM band	2400.0 ~ 2480.0	dB	33	38	-
Attenuation in ISM band	2480.0 ~ 2483.0	dB	30	35	-

Ant to Rx		Specifications (+25°C)			
Parameters Description	Condition [MHz]	Unit	Min.	Typ.	Max.
Insertion Loss	2620.0 ~ 2690.0	dB	-	3.0	3.5
Return Loss of Rx Port	2620.0 ~ 2690.0	dB	5	8	-
Return Loss of Ant Port	2620.0 ~ 2690.0	dB	5	8	-
Attenuation in Tx Band	2500.0 ~ 2570.0	dB	50	56	-
Amplitude balance(|S31/S41|)	2620.0 ~ 2690.0	dB	-0.5	-0.3 / +0.2	+0.5
Phase balance Φ(S31)-Φ(S41)+180°	2620.0 ~ 2690.0	deg	-6.5	+1.0/ +3.5	+6.5

Tx to Rx		Specifications (+25°C)			
Parameters Description	Condition [MHz]	Unit	Min.	Typ.	Max.
Isolation in Rx Band	2620.0 ~ 2690.0	dB	48	52	-
Isolation in Tx Band	2500.0 ~ 2570.0	dB	53	58	-

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C. ELECTRICAL SPECIFICATION:

Tx to Ant		**Specifications (-30 ~ +85°C)**			
Parameters Description	Condition [MHz]	Unit	Min.	Typ.	Max.
Insertion Loss	2500.0 ~ 2570.0	dB	-	3.1	4.0
Return Loss of Rx Port	2500.0 ~ 2570.0	dB	5	8	-
Return Loss of Ant Port	2500.0 ~ 2570.0	dB	6	9	-
Attenuation in Rx Band	2620.0 ~ 2690.0	dB	45	51	-
Attenuation in ISM band	2400.0 ~ 2480.0	dB	33	38	-
Attenuation in ISM band	2480.0 ~ 2483.0	dB	30	35	-

Ant to Rx		**Specifications (-30~+85°C)**			
Parameters Description	Condition [MHz]	Unit	Min.	Typ.	Max.
Insertion Loss	2620.0 ~ 2690.0	dB	-	3.0	4.0
Return Loss of Tx Port	2620.0 ~ 2690.0	dB	5	8	-
Return Loss of Ant Port	2620.0 ~ 2690.0	dB	5	8	-
Attenuation in Tx Band	2500.0 ~ 2570.0	dB	50	56	-
Amplitude balance (|S31/S41|)	2620.0 ~ 2690.0	dB	-0.5	-0.3 / +0.2	+0.5
Phase balance Φ(S31)-Φ(S41)+180°	2620.0 ~ 2690.0	deg	-10	+1.0/ +3.5	+10

Tx to Rx		**Specifications (-30~+85°C)**			
Parameters Description	Condition [MHz]	Unit	Min.	Typ.	Max.
Isolation in Rx Band	2620.0 ~ 2690.0	dB	48	52	-
Isolation in Tx Band	2500.0 ~ 2570.0	dB	53	58	-

D. OUTLINE DRAWING:

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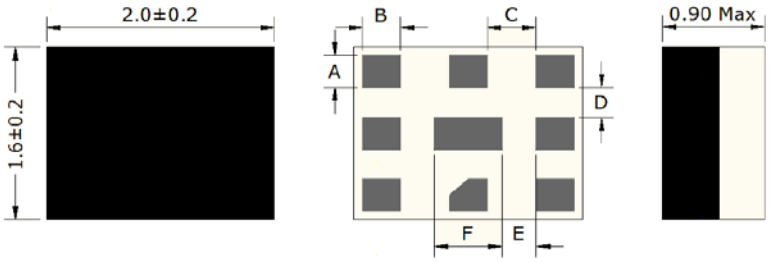
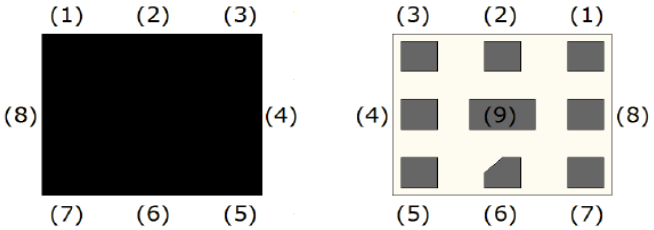


<TOP VIEW> <BOTTOM VIEW> <SIDE VIEW>

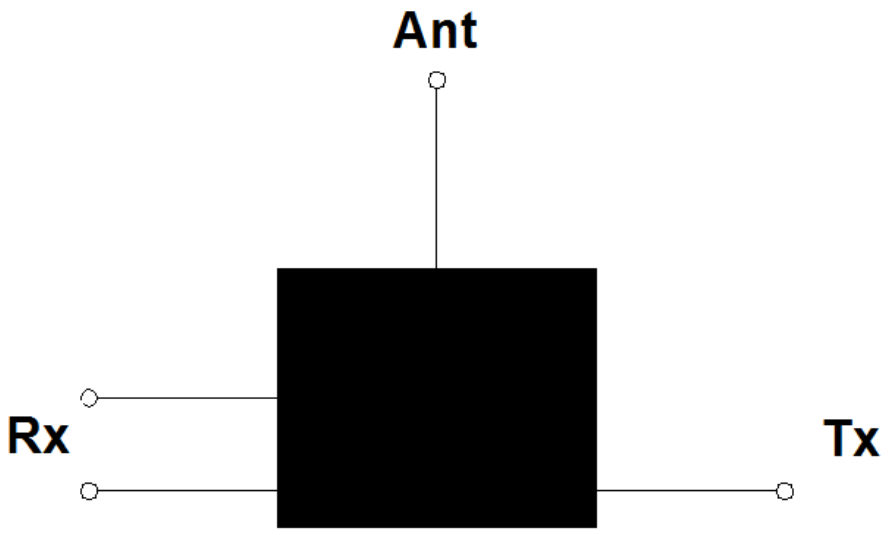
A	B	C	D	E	F	Thickness
0.30 ± 0.1	0.33 ± 0.1	0.43 ± 0.1	0.275 ± 0.1	0.295 ± 0.1	0.60 ± 0.1	0.90 MAX



<TOP VIEW> <BOTTOM VIEW>

Pin Description	
(1),(3),(4),(6),(9)	Ground
(2)	Antenna
(5)	Tx
(7)	Rx - Balanced
(8)	Rx + Balanced

E. TESTING ENVIRONMENT:



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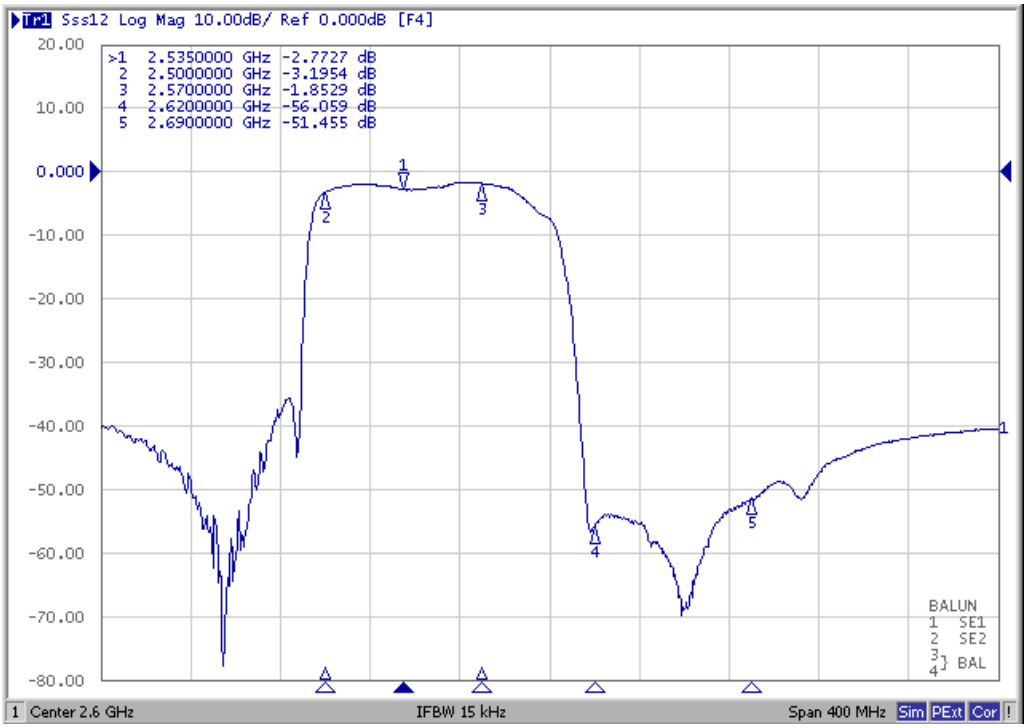
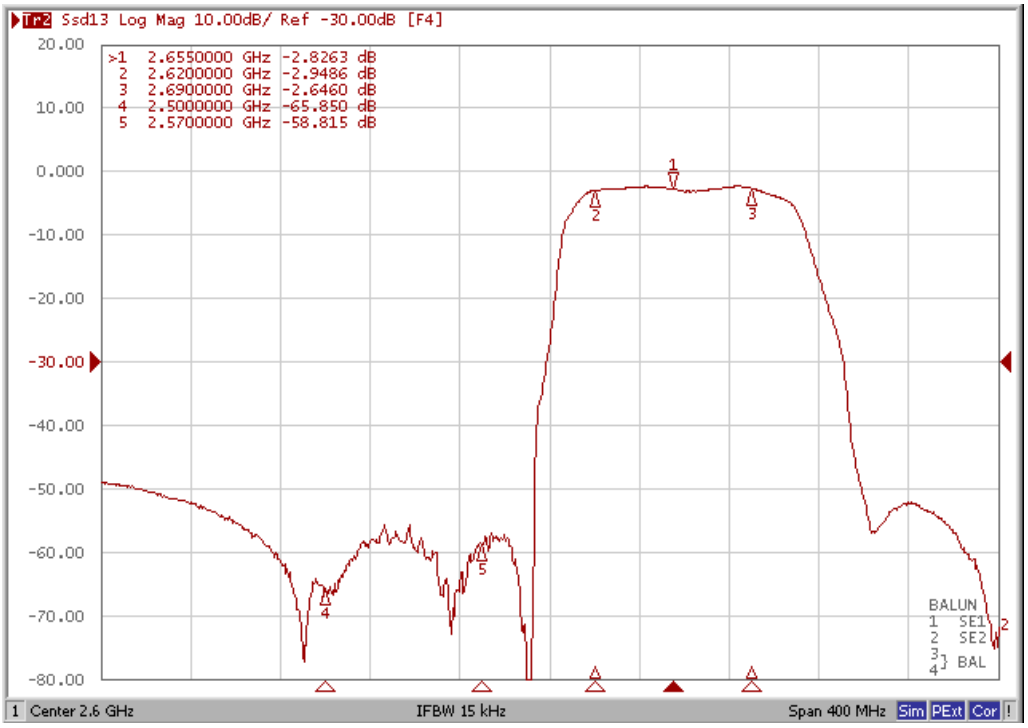
F. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx



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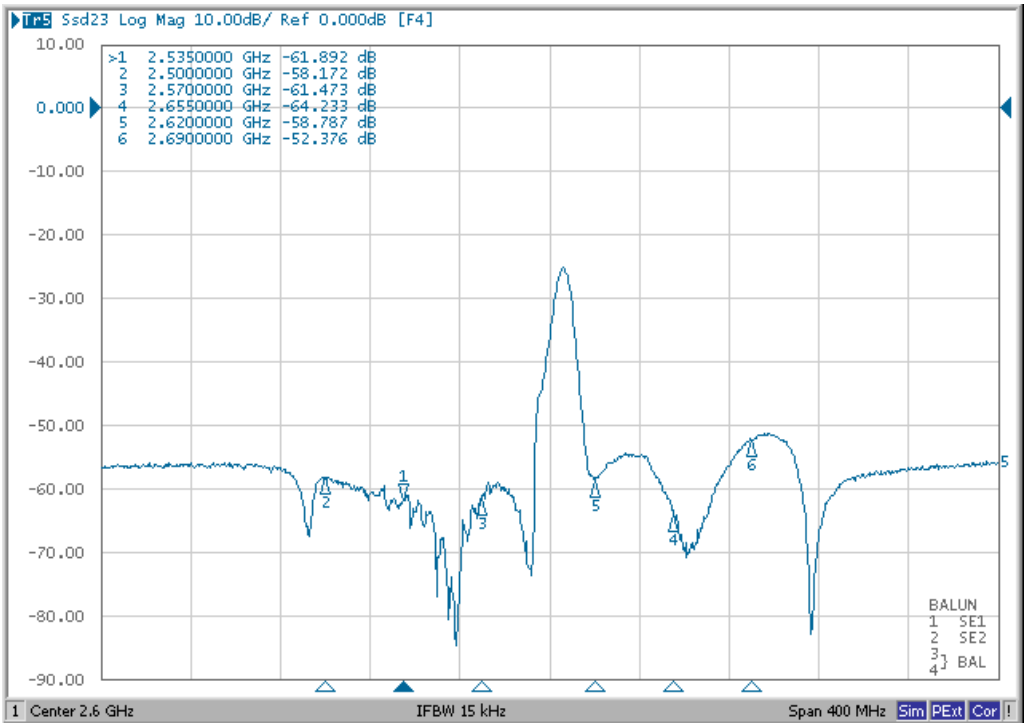
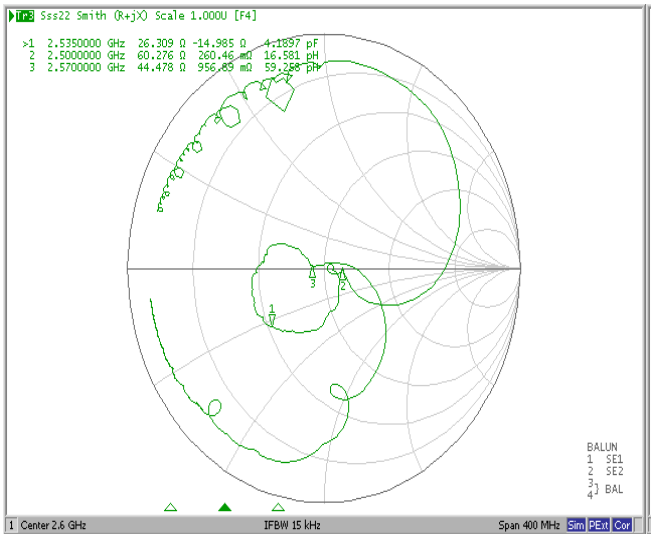
Isolation

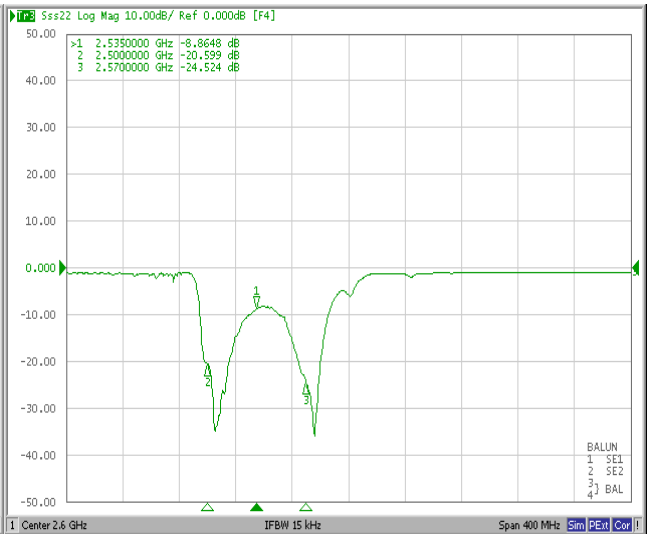


Tx Port

Smith Chart



Return Loss



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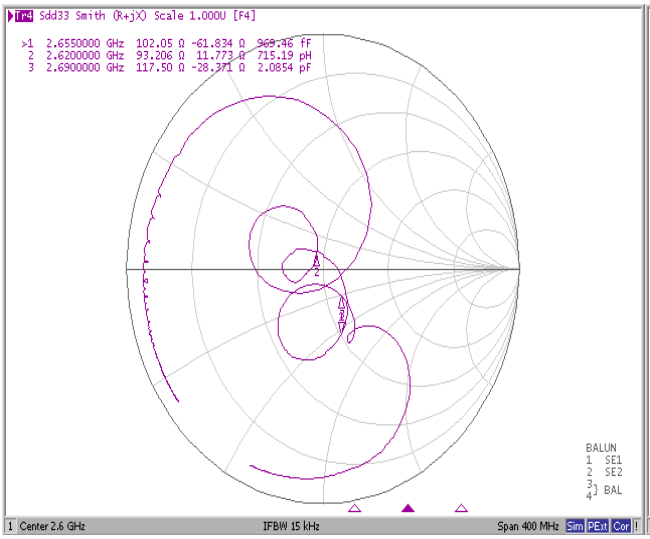
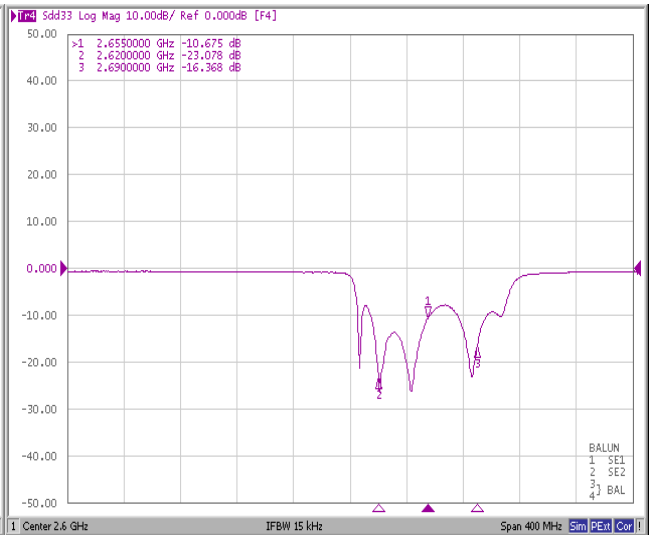
Rx Port

Smith Chart

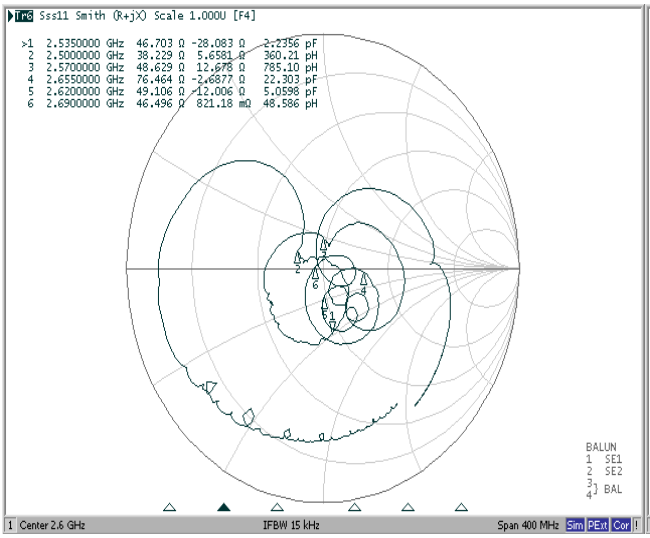


Return Loss

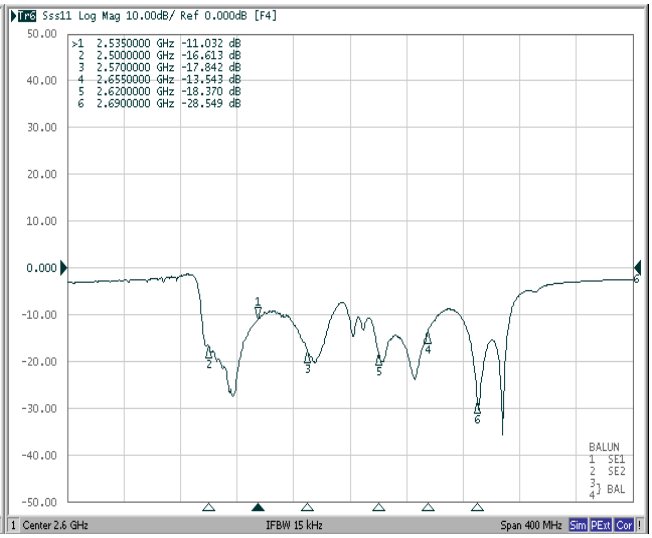


Ant Port

Smith Chart



Return Loss



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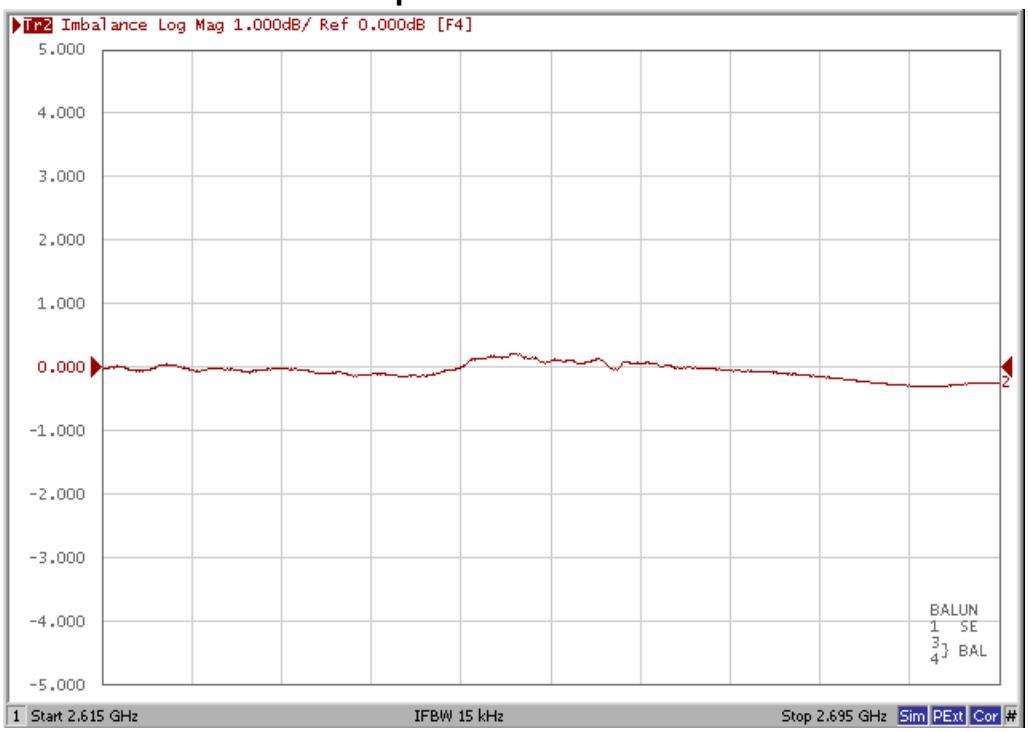
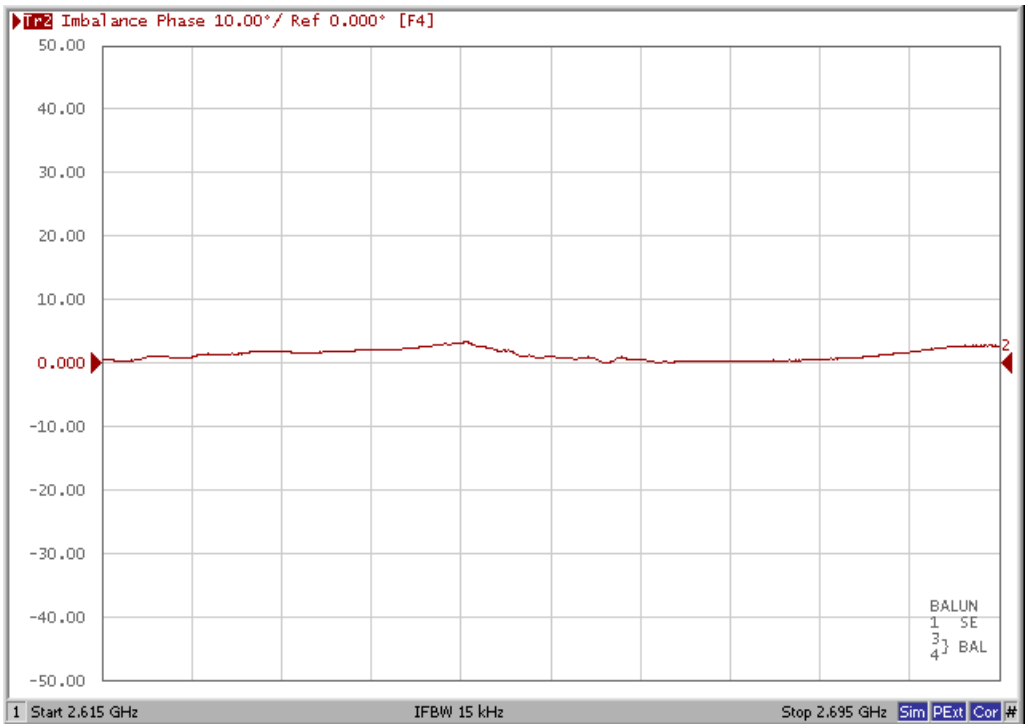
Amplitude Imbalance



Phase Imbalance



Notes:

1. Antenna and Tx ports are Single-ended port of 50Ω impedance
2. Each of the two balanced-ended port is 50Ω impedance. Total impedance is 100Ω
3. Dimensions of all signal line width & space should be adjusted for 50Ω lined

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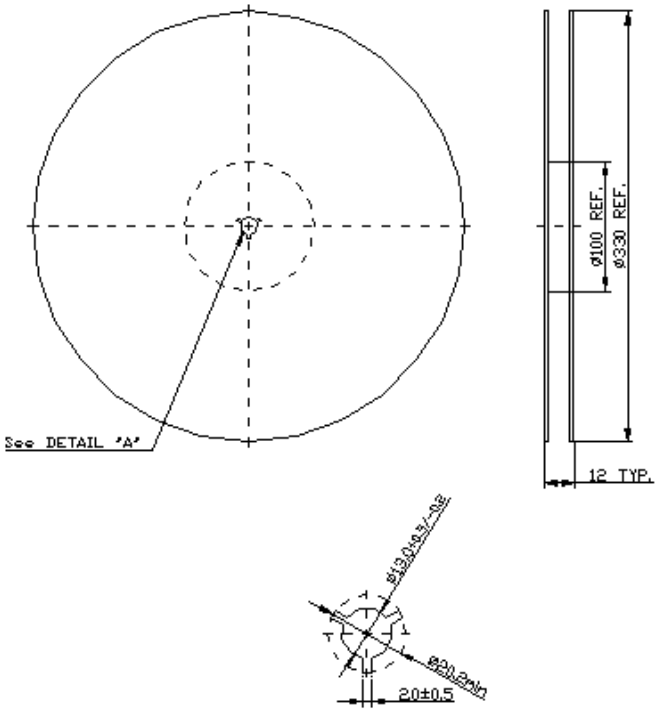
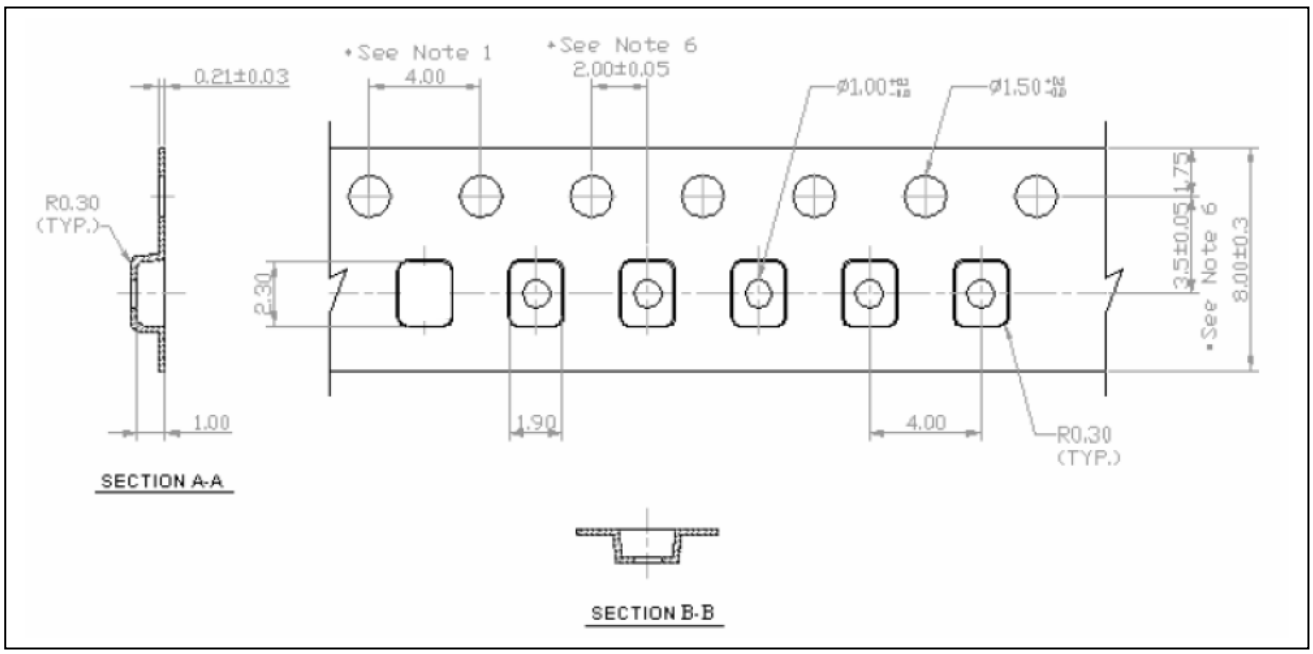
G. PACKING:

1. Reel Dimension

(Please refer to FR-75D10 for packing quantity)



2. Tape Dimension



Direction of Feed

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H. RECOMMENDED REFLOW PROFILE: