SD413BK6

CDMA 450 Rx Balanced SAW DUPLEXER

For 413.5 MHz / 423.5 MHz

Revision 0: June 2012

RoHS compliance

Pb free

- ❒ Electrical Characteristics
- ❒ Package Dimensions
- ❒ Testing Environment
- ❒ Frequency Characteristics

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❒ Electrical Characteristics

Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-30	-	+85
Storage Temperature Range		-40	-	+85
Maximum DC Voltage	V	0		
Input Power Level	dBm	29dBm> 50000 Hours, CW tone(Ta= +55°C)		
Antenna & Tx Impedance(single ended)	Ω	50		
Rx Impedance (balanced)(1)	Ω	100		
Package type	K6			
Length x Width	mm²	5.0 x 5.0		
Height	mm	1.8		

Electrical Specification

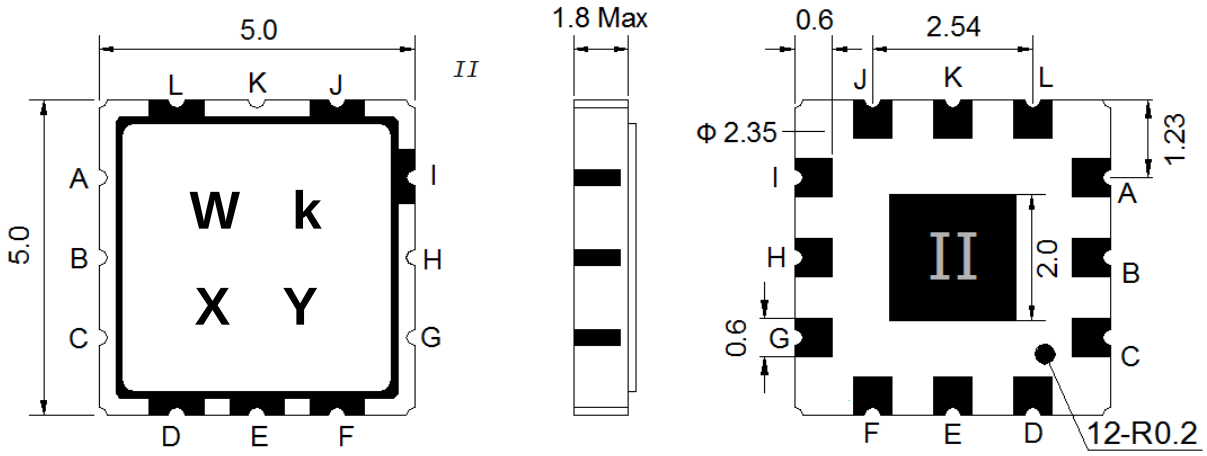
Tx → Ant		**Specifications**			
Parameters Description	**Condition [MHz]**	**Unit**	**Minimum**	**Typical**	**Maximum**
Insertion Loss	411.0 ~ 416.0	dB	-	2.7	3.3
VSWR	411.0 ~ 416.0	-	-	1.9	2.2
Absolute Attenuation	0.3 ~ 400.0	dB	25	32	-
	421.0 ~ 426.0	dB	40	45	-
	426.0 ~ 1700.0	dB	15	18	-
	1700.0 ~ 2000.0	dB	10	17	-

Ant → Rx		Specifications			
Parameters Description	**Condition [MHz]**	**Unit**	**Minimum**	**Typical**	**Maximum**
Insertion Loss	421.0 ~ 426.0	dB	-	3.3	3.8
VSWR	421.0 ~ 426.0	-	-	2.0	2.5
Absolute Attenuation	0.3 ~ 411.0	dB	45	53	-
	411.0 ~ 416.0	dB	45	50	-
	442.0 ~ 600.0	dB	40	47	-
	600.0 ~ 1200.0	dB	30	40	-
	1200.0 ~ 2000.0	dB	25	34	-

Tx → Rx		Specifications			
Parameters Description	**Condition [MHz]**	**Unit**	**Minimum**	**Typical**	**Maximum**
Isolation	411.0 ~ 416.0	dB	52	60	-
	421.0 ~ 426.0	dB	52	60	-

Notes : (1) With Matching Network .

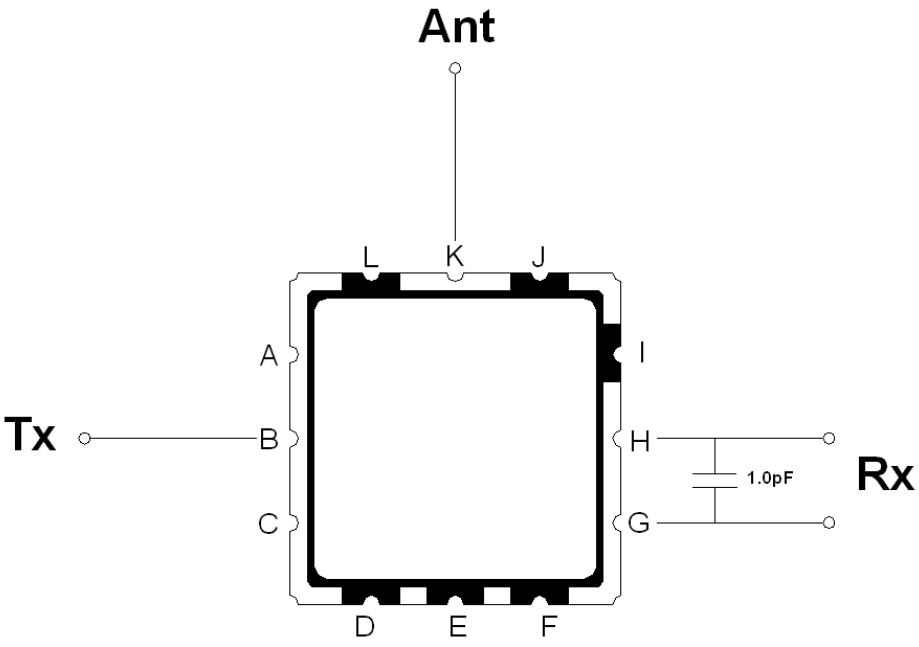
❒ Package Dimensions



Marking Descriptions	
W	CDMA450 Application
k	Series Number
X	Date Code(Year)
Y	Date Code(Month)

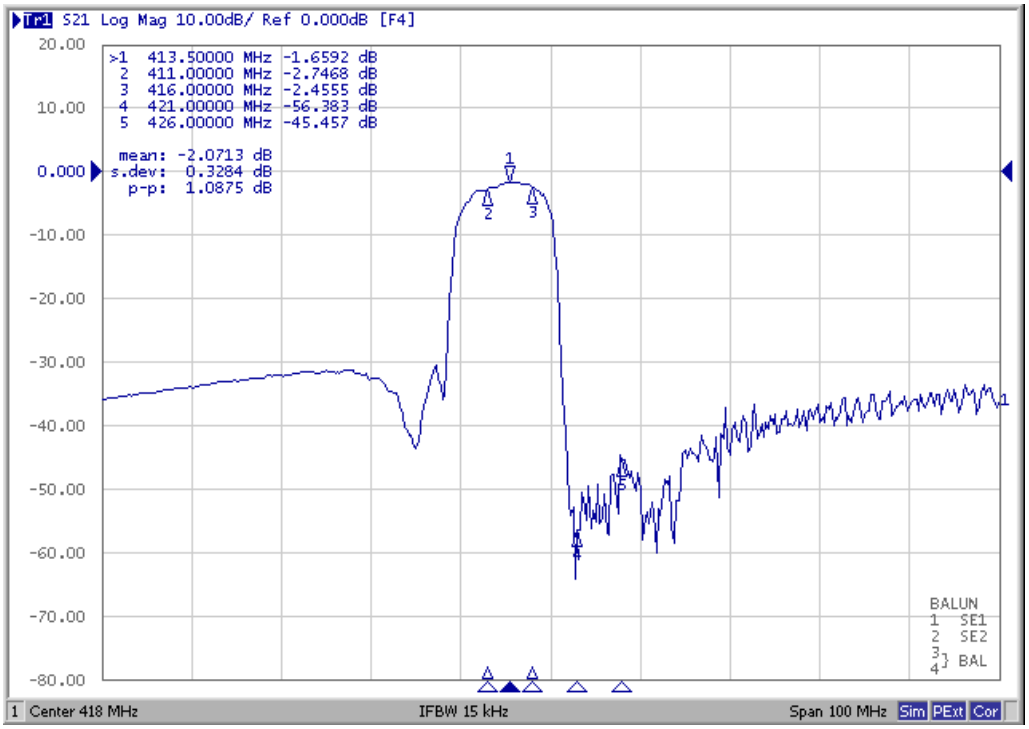
Pin Description	
A, C, D, E, F, I, J, L	Ground
K	Antenna
B	Tx
G, H	Rx Balanced

❒ Testing Environment

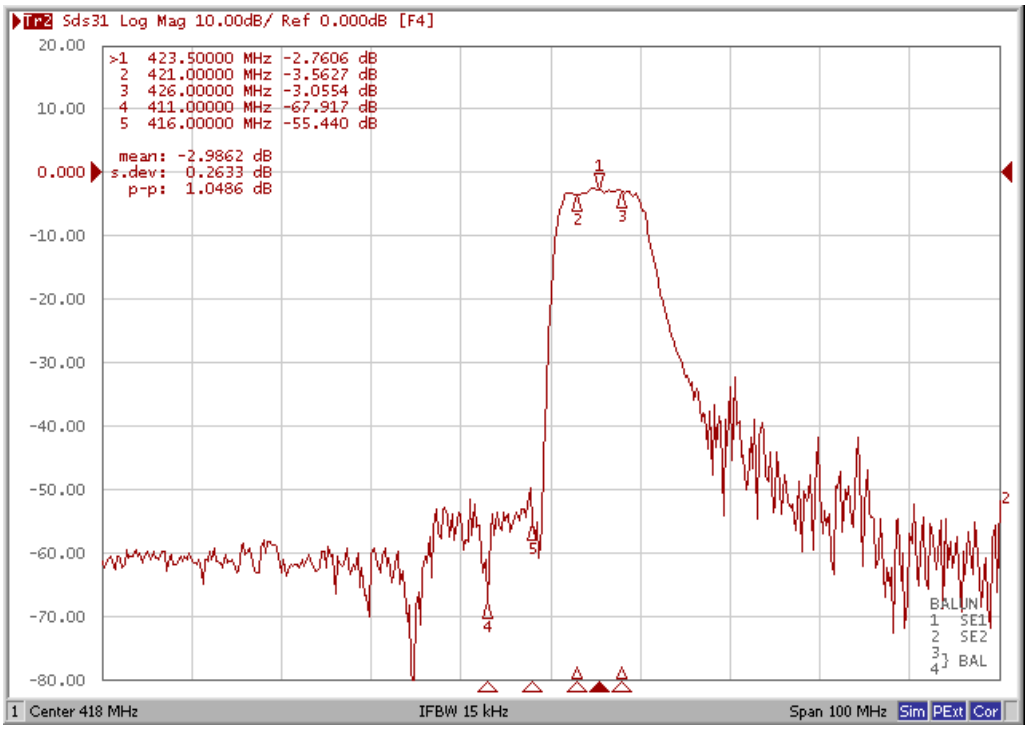


❒ Frequency Characteristics

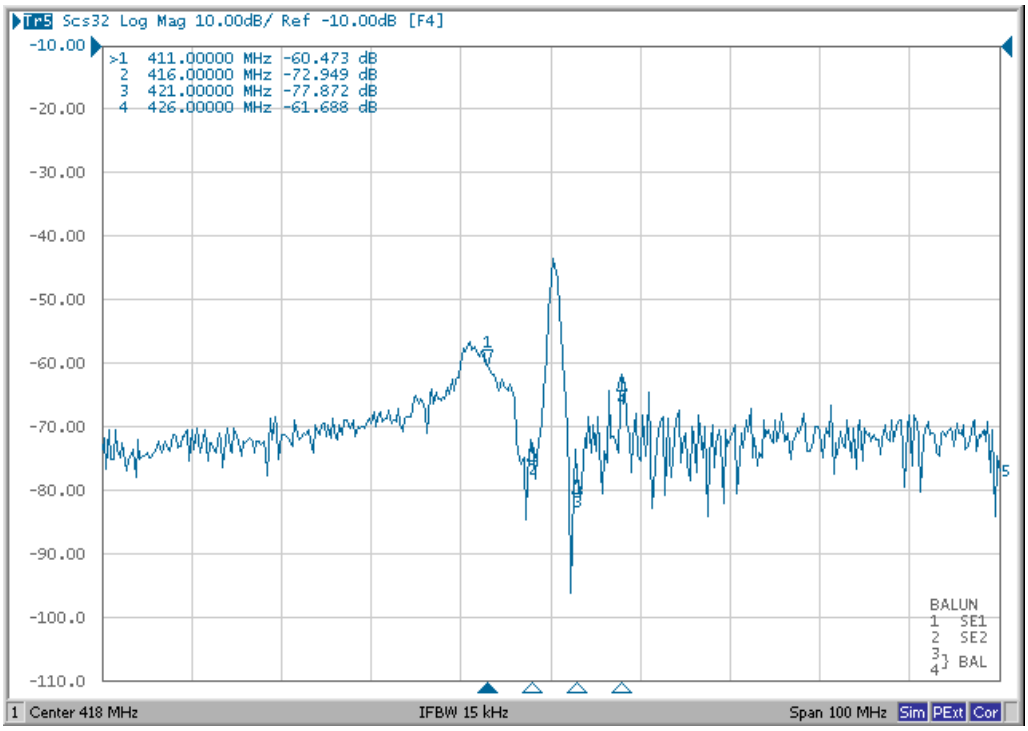
Tx to Ant



Ant to Rx

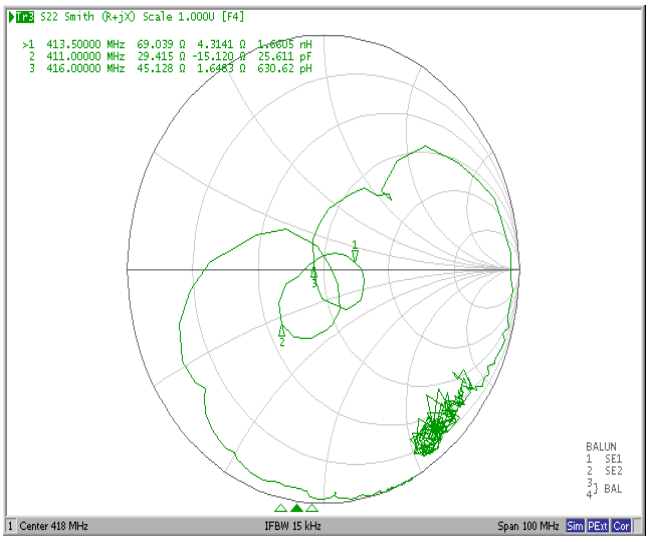


Isolation

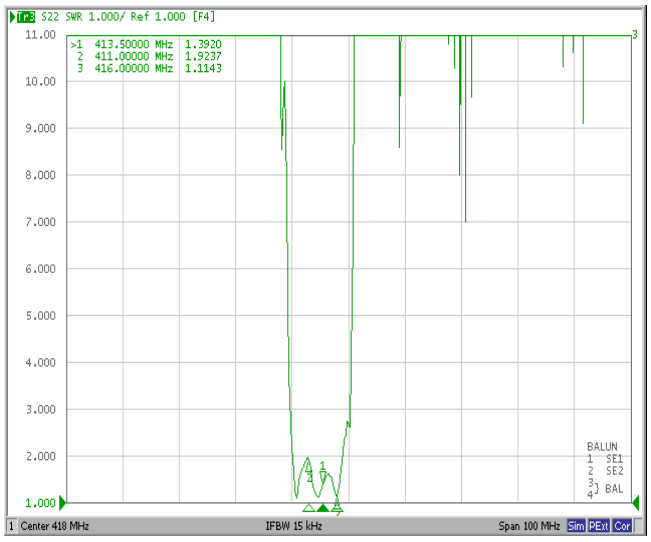


Tx Port

Smith Chart



VSWR



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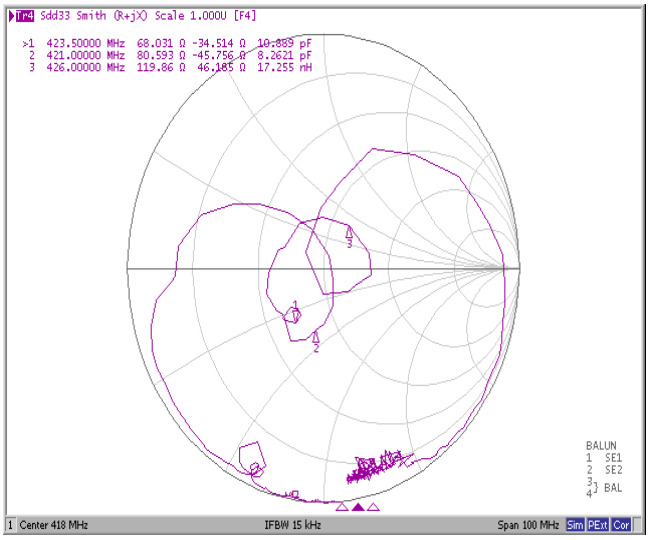
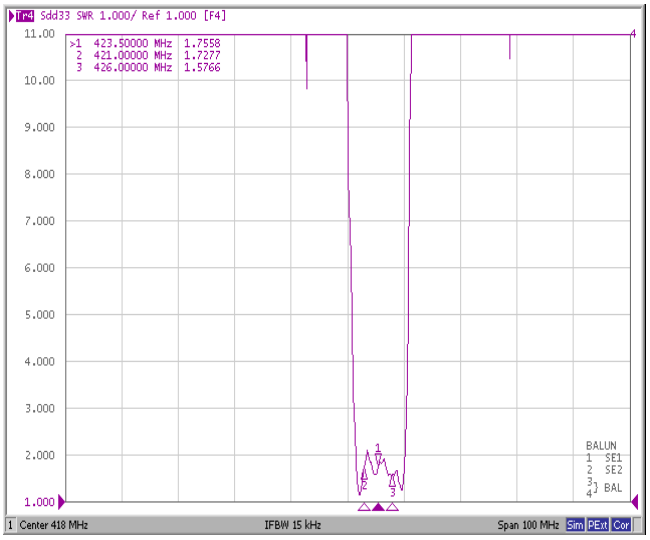
Rx Port

Smith Chart

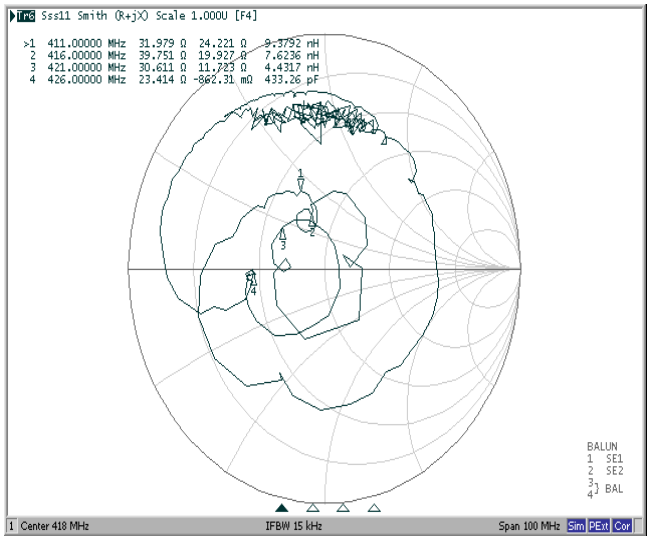


VSWR

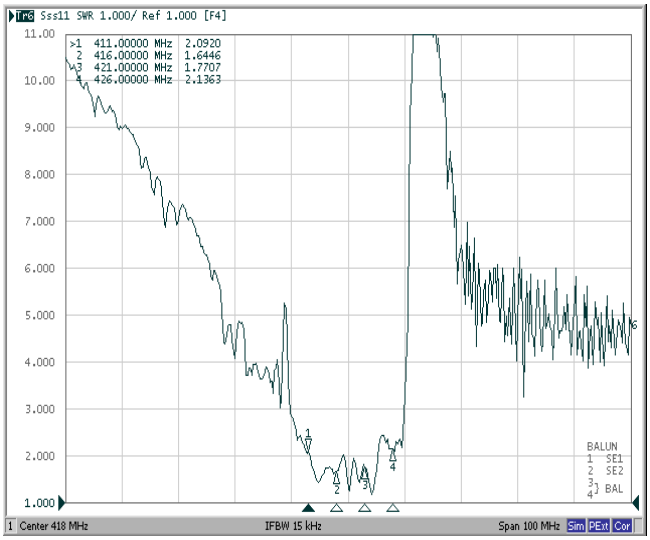


Ant Port

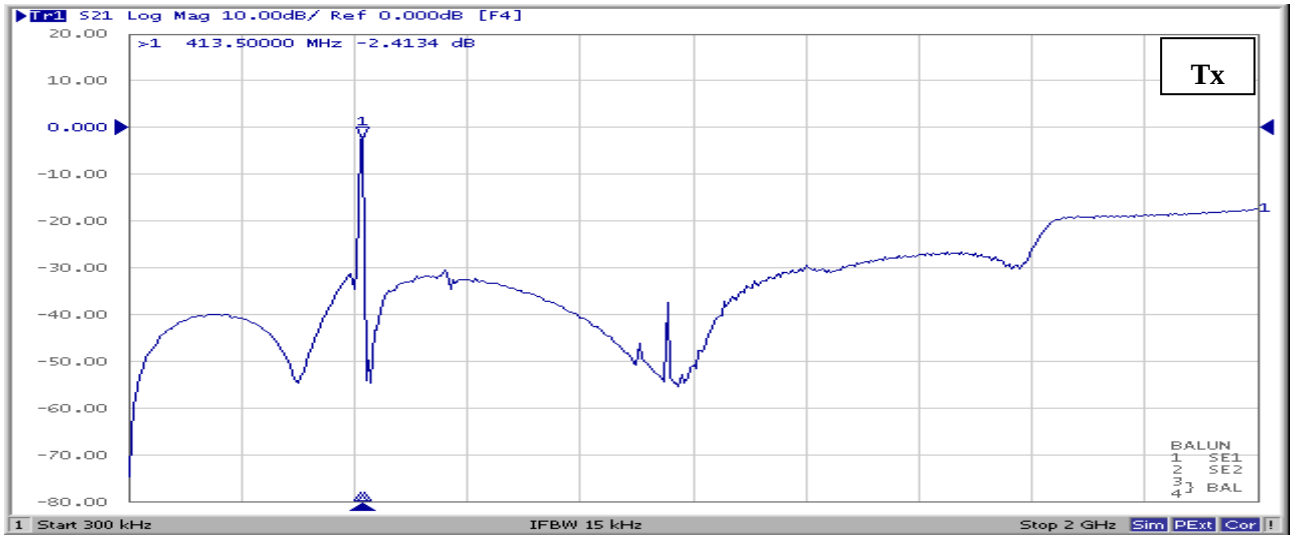
Smith Chart

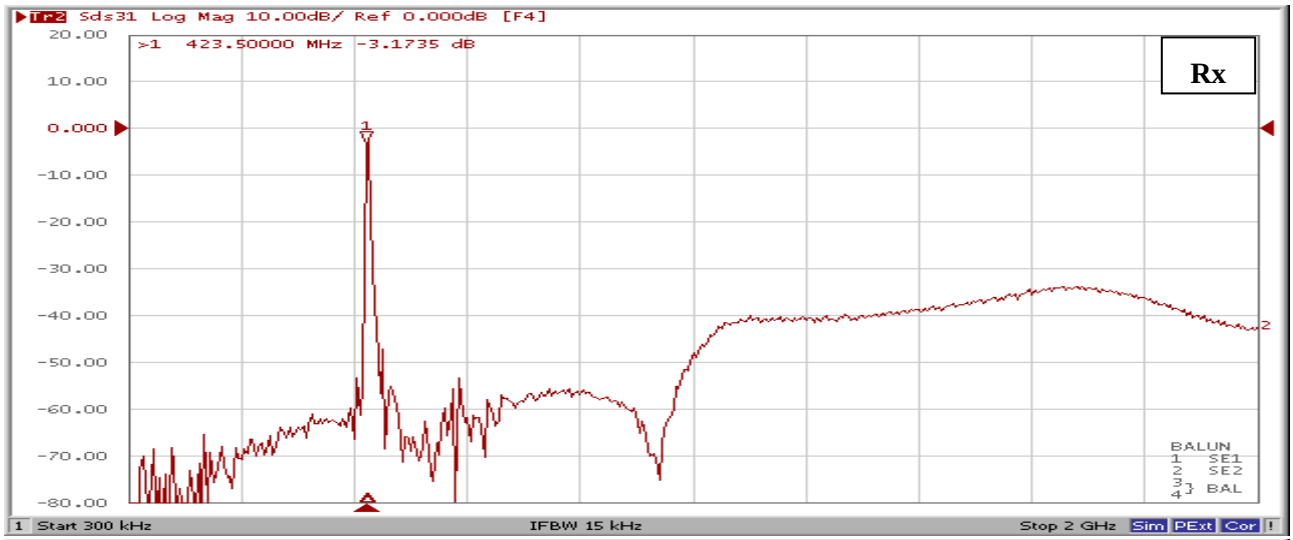


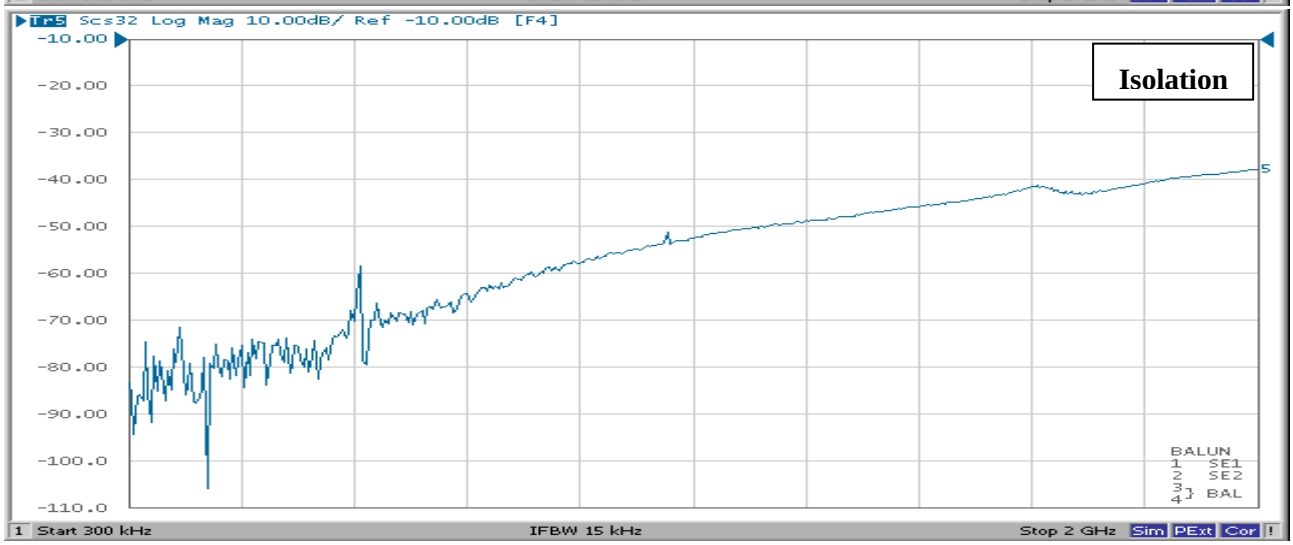
VSWR



Wide Span


Tr1 S21 Log Mag 10.00dB/ Ref 0.000dB [F4]
>1 413.50000 MHz -2.4134 dB
Tx
BALUN
1 SE1
2 SE2
3 4 BAL
1 Start 300 kHz
IFBW 15 kHz
Stop 2 GHz
Sim PExt Cor


Tr2 Sds31 Log Mag 10.00dB/ Ref 0.000dB [F4]
>1 423.50000 MHz -3.1735 dB
Rx
BALUN
1 SE1
2 SE2
3 4 BAL
1 Start 300 kHz
IFBW 15 kHz
Stop 2 GHz
Sim PExt Cor


Tr5 Scs32 Log Mag 10.00dB/ Ref -10.00dB [F4]
Isolation
BALUN
1 SE1
2 SE2
3 4 BAL
1 Start 300 kHz
IFBW 15 kHz
Stop 2 GHz
Sim PExt Cor