



Total Solution Provider in Saw Device

SD412DK5

CDMA 450 Rx Balanced SAW DUPLEXER

For 412.5 MHz / 422.5 MHz

Revision 0: May 2011



- 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		K5		
Length x Width	mm ²	5.0 x 5.0		
Height	mm	1.8		

Electrical Specification

Tx → Ant		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	410.0 ~ 415.0	dB	-	3.0	3.8
VSWR	410.0 ~ 415.0	-	-	2.4	2.8
Absolute Attenuation	0.3 ~ 400.0	dB	25	32	-
	420.0 ~ 425.0	dB	40	55	-
	425.0 ~ 1700.0	dB	20	25	-
	1700.0 ~ 2000.0	dB	10	17	-

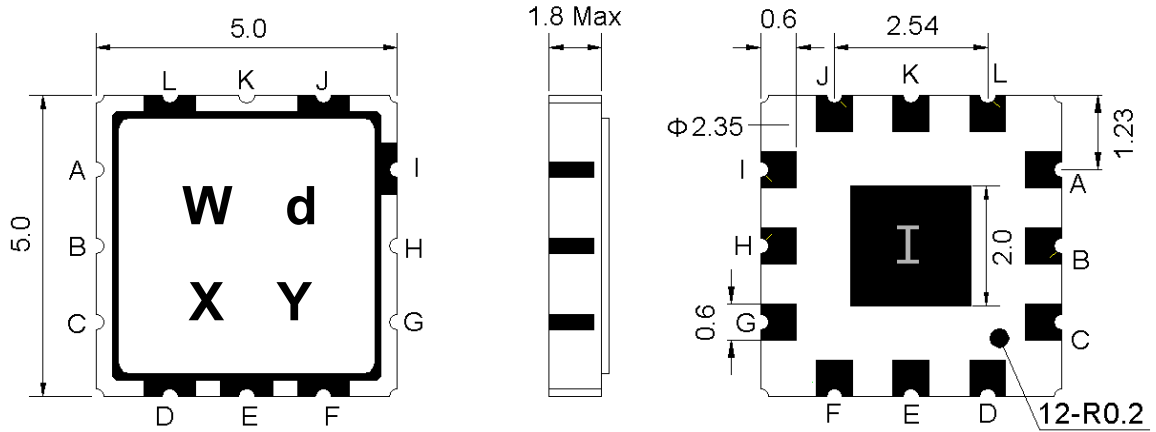


Ant → Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	420.0 ~ 425.0	dB	-	3.2	3.8
Amplitude Imbalance	420.0 ~ 425.0	dB	-1.0	-0.5/0.4	1.0
Phase Imbalance	420.0 ~ 425.0	deg	-10	6.5/8.0	10
VSWR	420.0 ~ 425.0	-	-	2.0	2.5
Absolute Attenuation	0.3 ~ 410.0	dB	45	50	-
	410.0 ~ 415.0	dB	45	50	-
	445.0 ~ 600.0	dB	40	50	-
	600.0 ~ 1200.0	dB	25	35	-
	1200.0 ~ 2000.0	dB	20	27	-

Tx → Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation	410.0 ~ 415.0	dB	50	60	-
	420.0 ~ 425.0	dB	55	70	-

Notes : (1) With Matching Network .

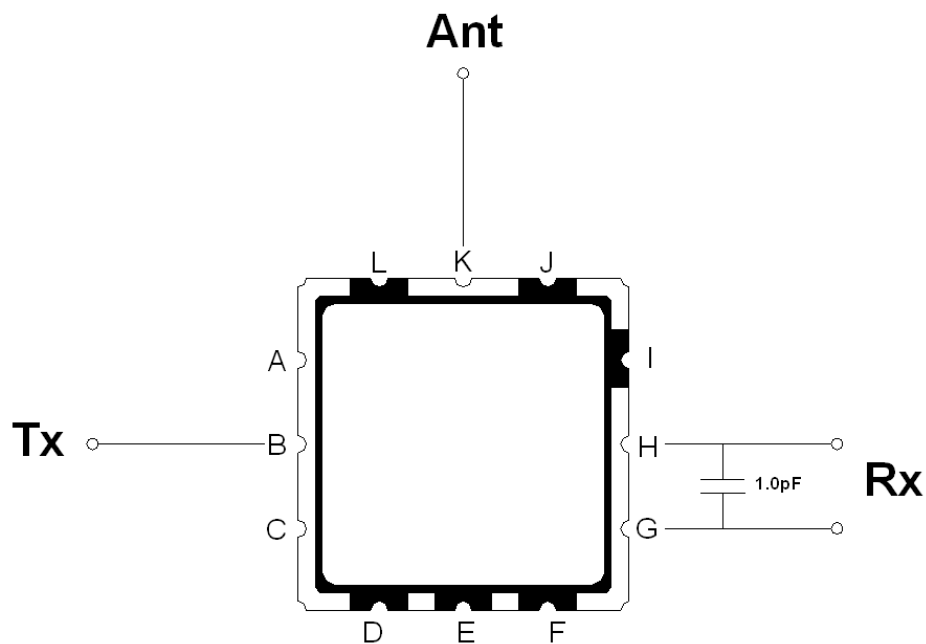
Package Dimensions



Marking Descriptions	
W	CDMA450 Application
d	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

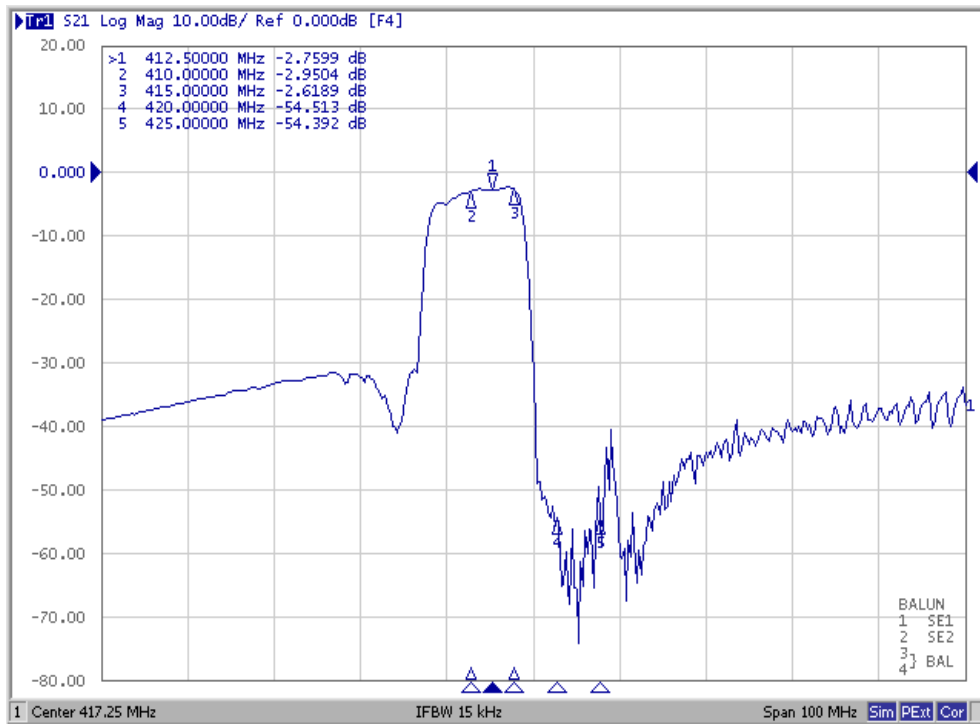
Testing Environment



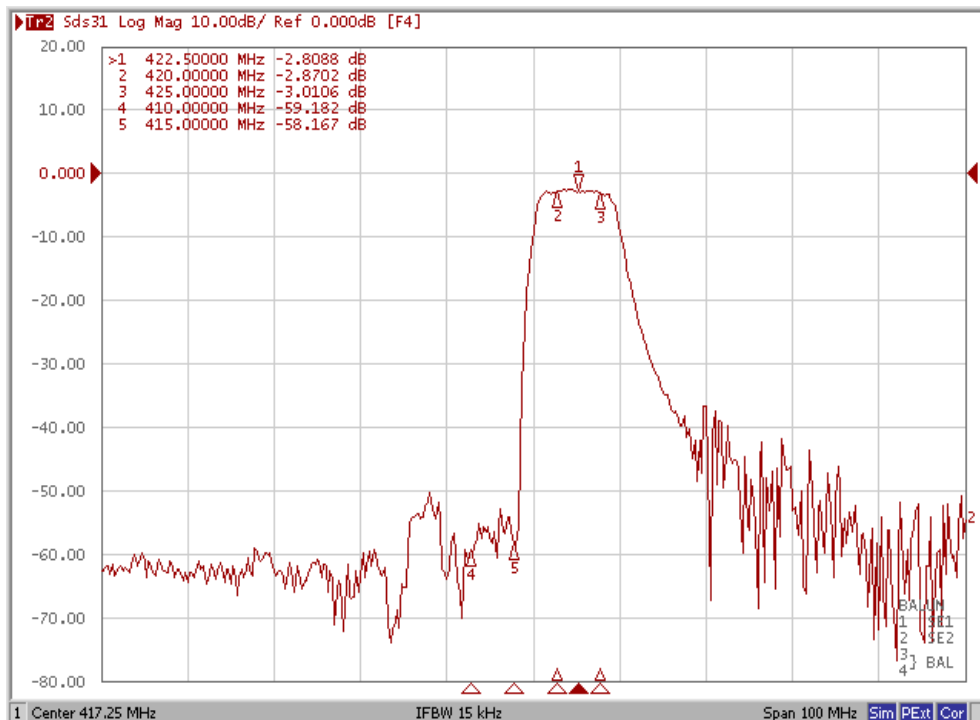


□ Frequency Characteristics

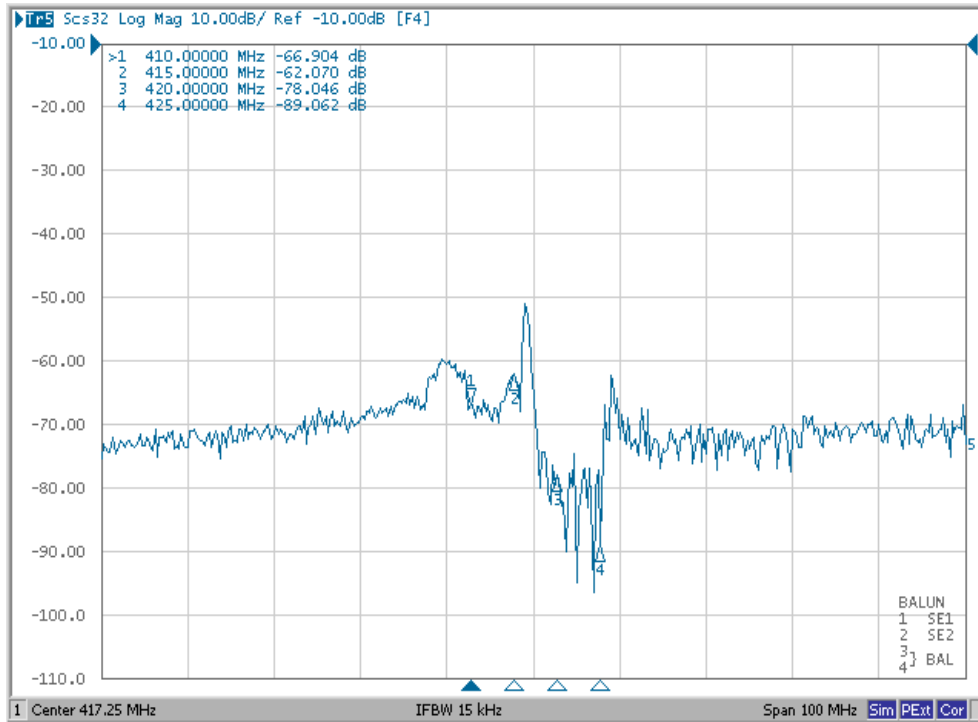
Tx to Ant



Ant to Rx

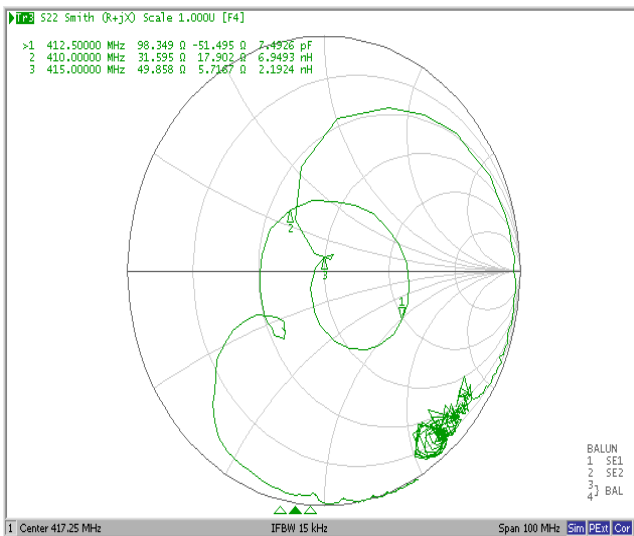


Isolation

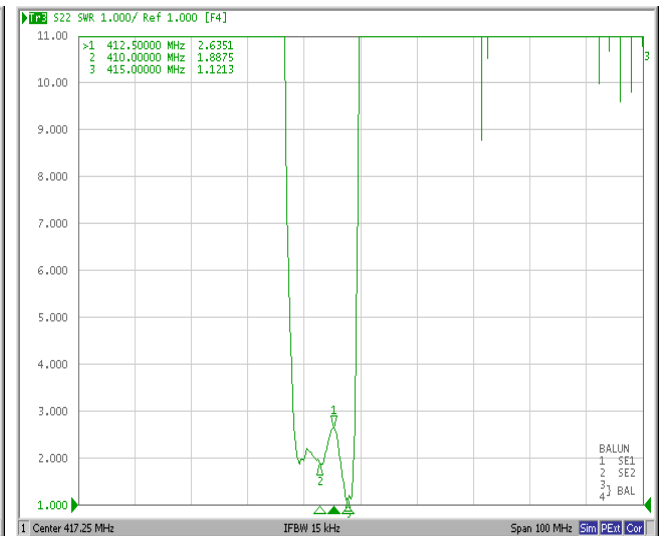


Tx Port

Smith Chart



VSWR

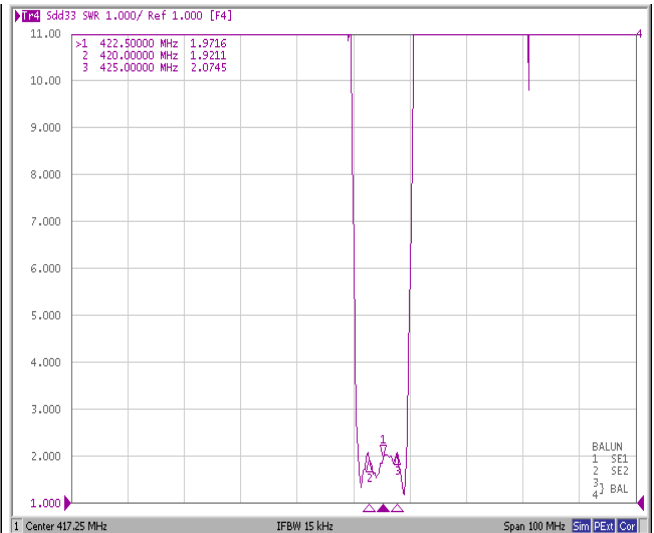
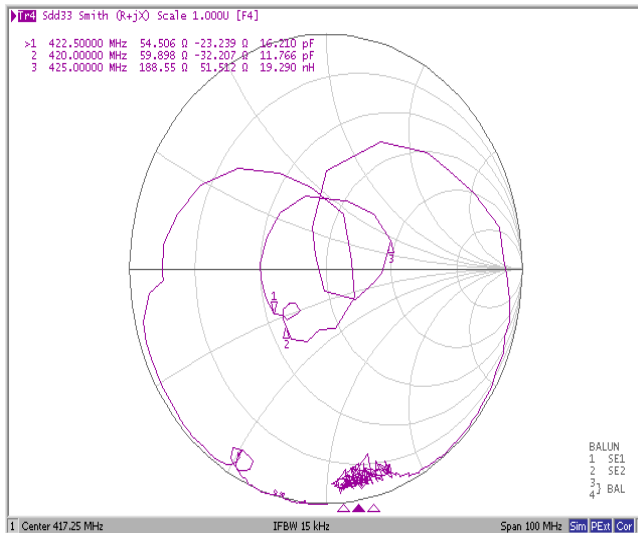




Rx Port

Smith Chart

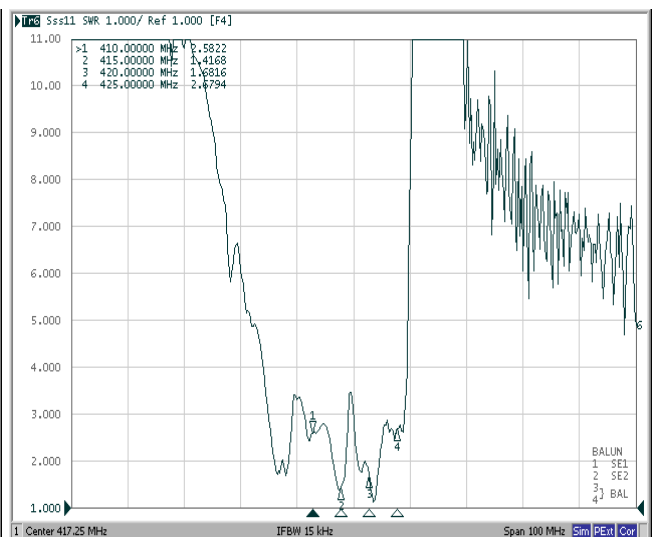
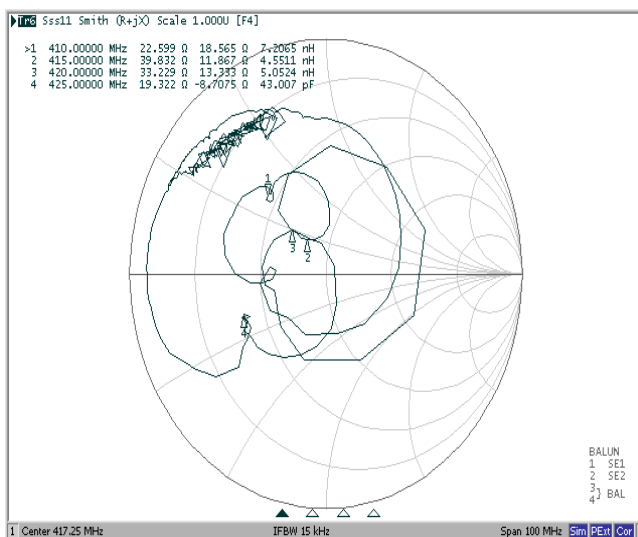
VSWR



Ant Port

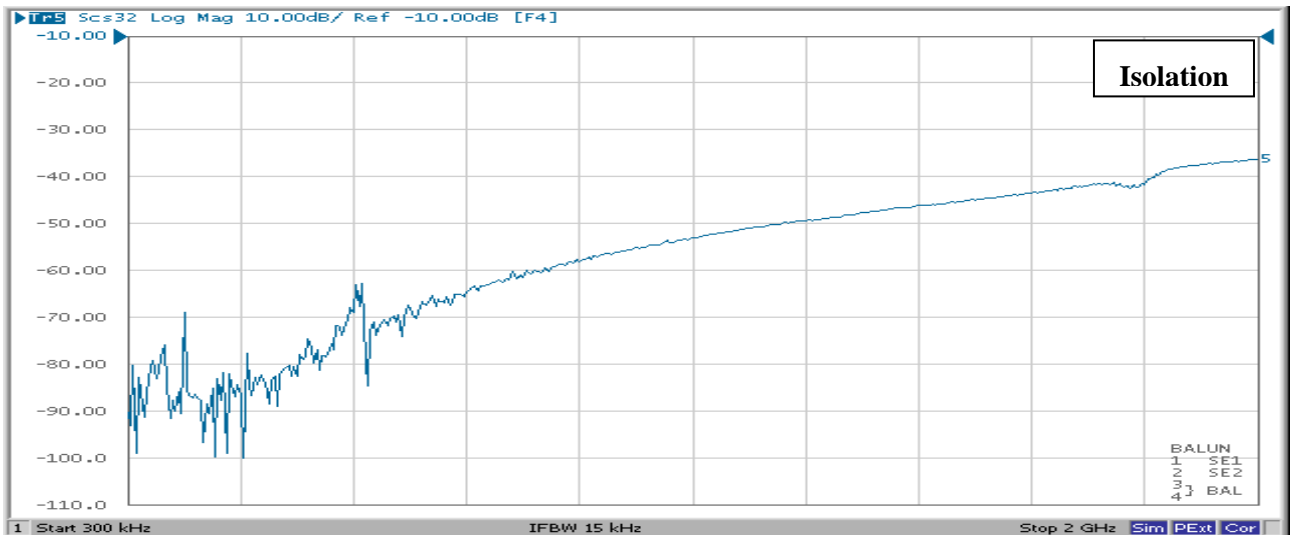
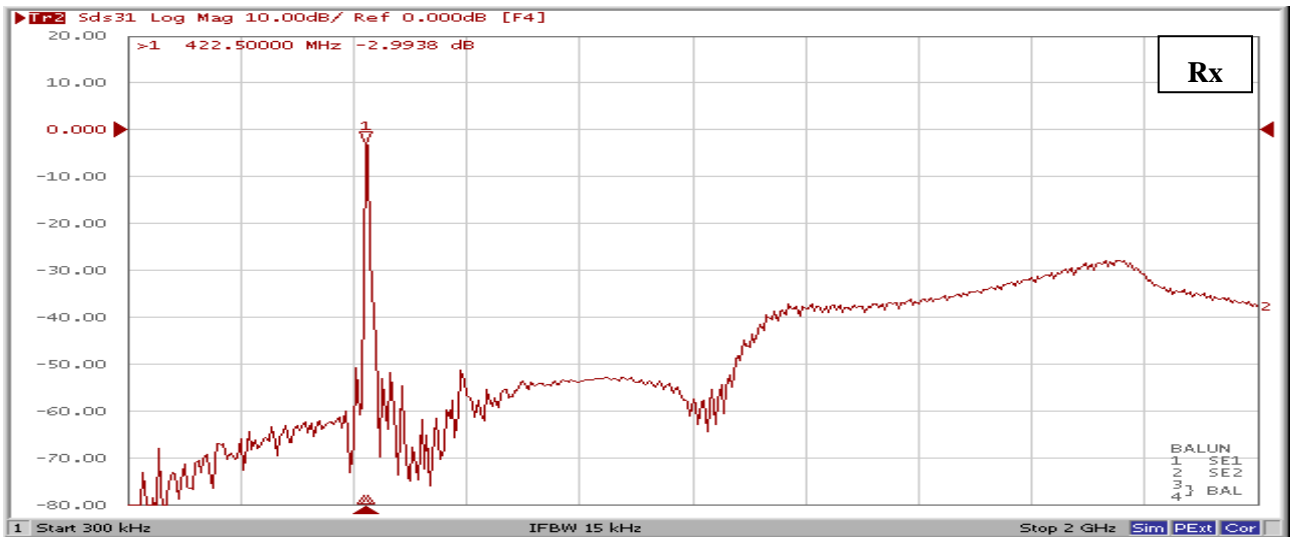
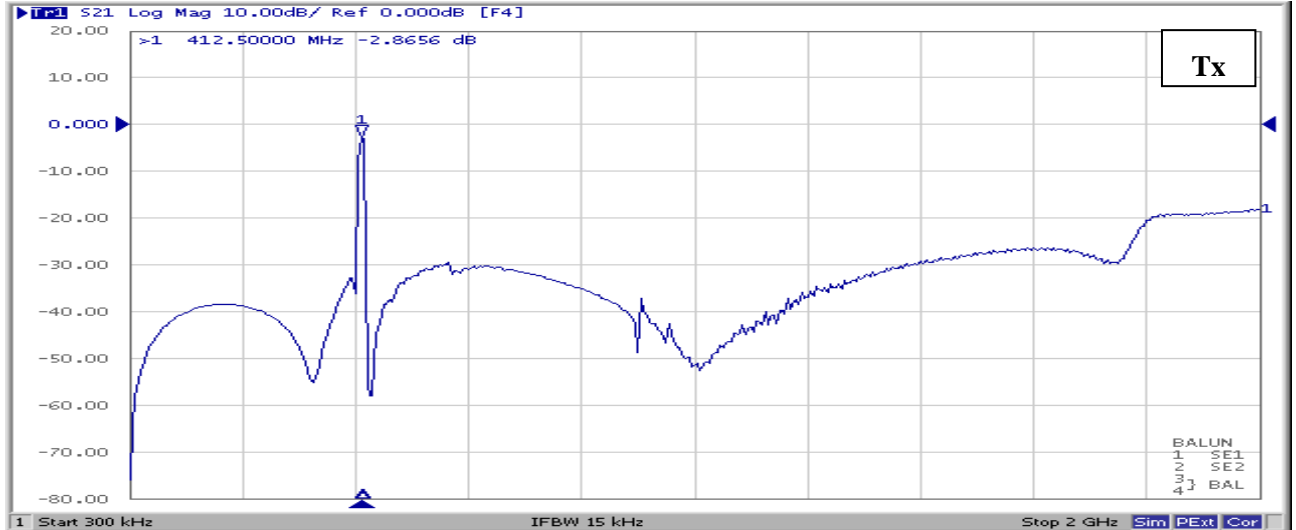
Smith Chart

VSWR



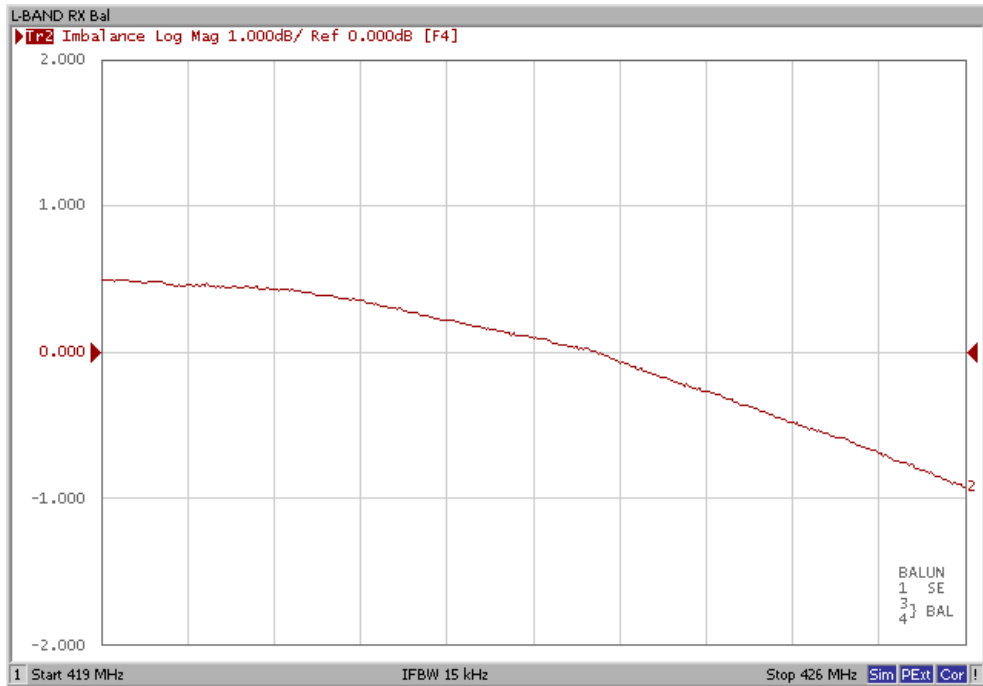


Wide Span





Amplitude Imbalance



Phase Imbalance

