



*Total Solution Provider in Saw Device*

---

# SD453EK6

CDMA 450 Rx Balanced SAW DUPLEXER

For 453.55 MHz / 463.55 MHz

Revision 0: August 2011



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

**SAWNICS Inc.**

---

460 Cheonheung-ri, Seonggeo-eup, Cheonan-si, Chungcheongnam-do, 330-836 / Korea.  
Tel: +82 41 550 9372 / Fax: +82 41 550 9399 / [www.sawnics.com](http://www.sawnics.com)



## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-30	-	+85
Storage Temperature Range	°C	-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) <sup>(1)</sup>	Ω	100		
Package type		K6		
Length x Width	mm <sup>2</sup>	5.0 x 5.0		
Height	mm	1.8		

### Electrical Specification

Tx → Ant		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	451.3 ~ 455.8	dB	-	1.8	3.2
Absolute Attenuation	D.C ~ 440.0	dB	25	29	-
	461.3 ~ 465.8	dB	40	55	-
	465.8 ~ 1700.0	dB	15	20	-
	1700.0 ~ 2000.0	dB	10	19	-
VSWR	451.3 ~ 455.8	-	-	1.7	2.2



SD453EK6

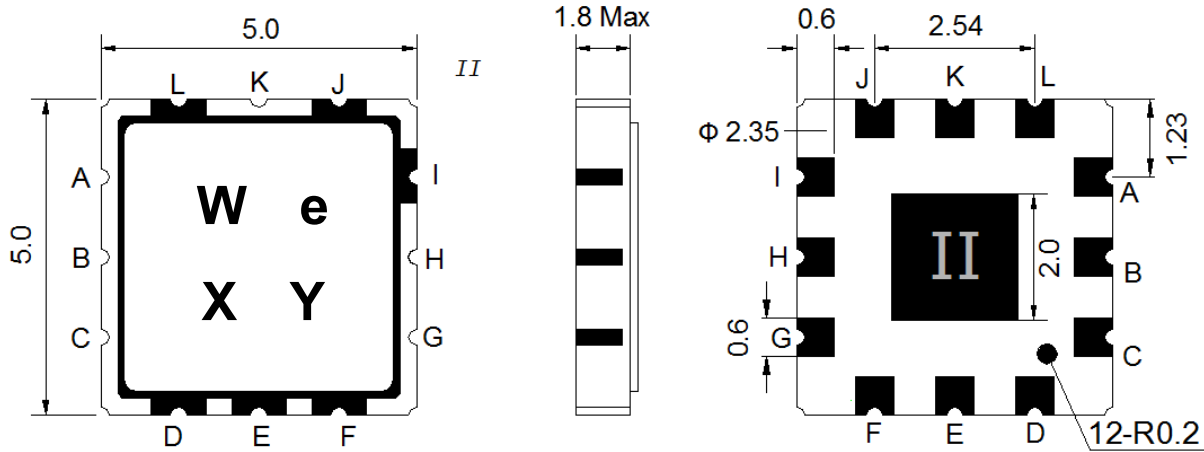
CDMA450 Rx Balanced SAW DUPLEXER FOR453.55 MHz / 463.55MHz

Ant → Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	461.3 ~ 465.8	dB	-	2.7	3.8
Amplitude Imbalance	461.3 ~ 465.8	dB	-1.0	-0.5/0.3	1.0
Phase Imbalance	461.3 ~ 465.8	deg	-15	8.0/10.0	15
Absolute Attenuation	D.C ~ 451.3	dB	40	50	-
	451.3 ~ 455.8	dB	45	52	-
	485.0 ~ 507.5	dB	45	54	-
	507.5 ~ 1200.0	dB	25	37	-
	1200.0 ~ 2000.0	dB	15	27	-
VSWR	461.3 ~ 465.8	-	-	1.8	2.2

Tx → Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation	451.3 ~ 455.8	dB	52	56	-
	461.3 ~ 465.8	dB	52	70	-

**Notes :** (1) No Matching Network .

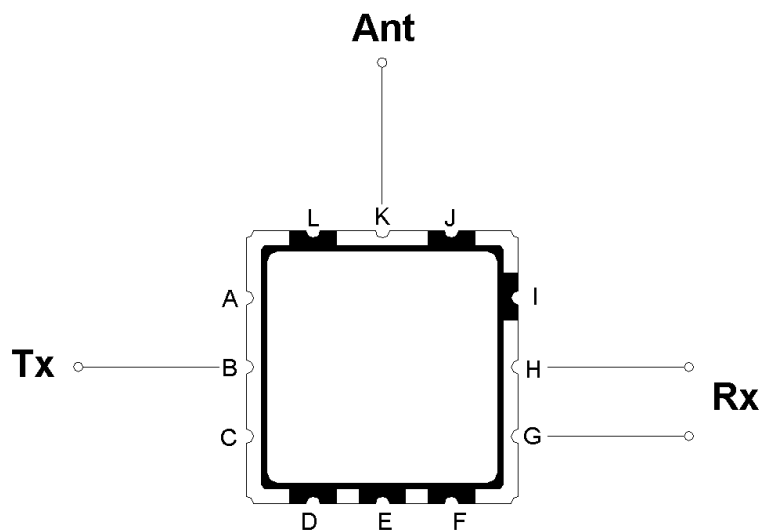
**Package Dimensions**



Marking Descriptions	
W	CDMA450 Application
e	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

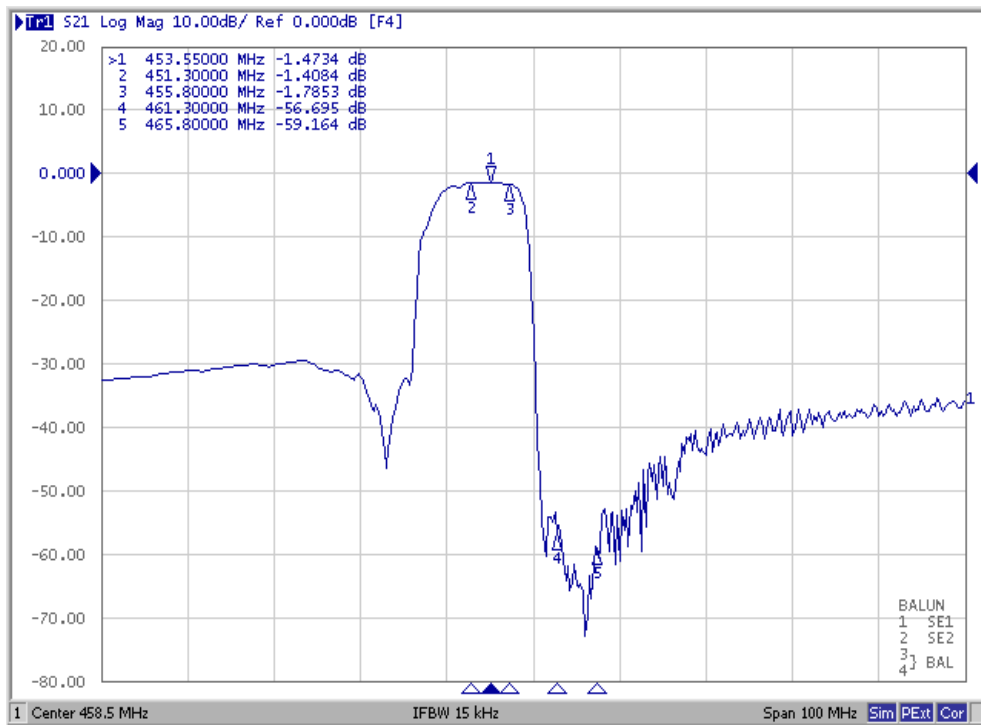
**Testing Environment**



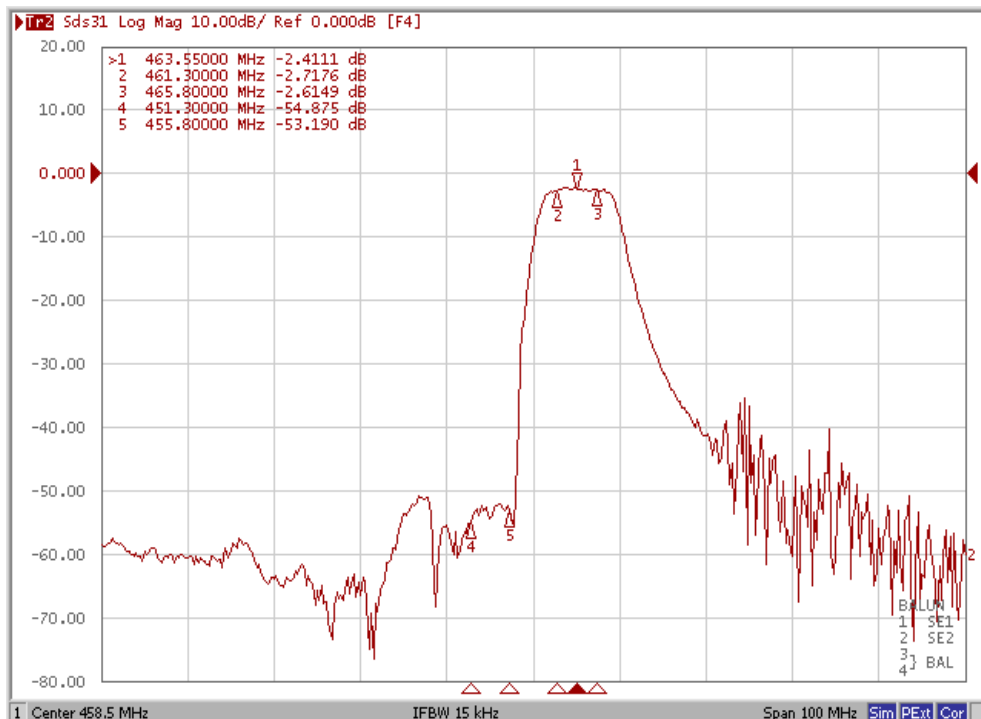


### □ Frequency Characteristics

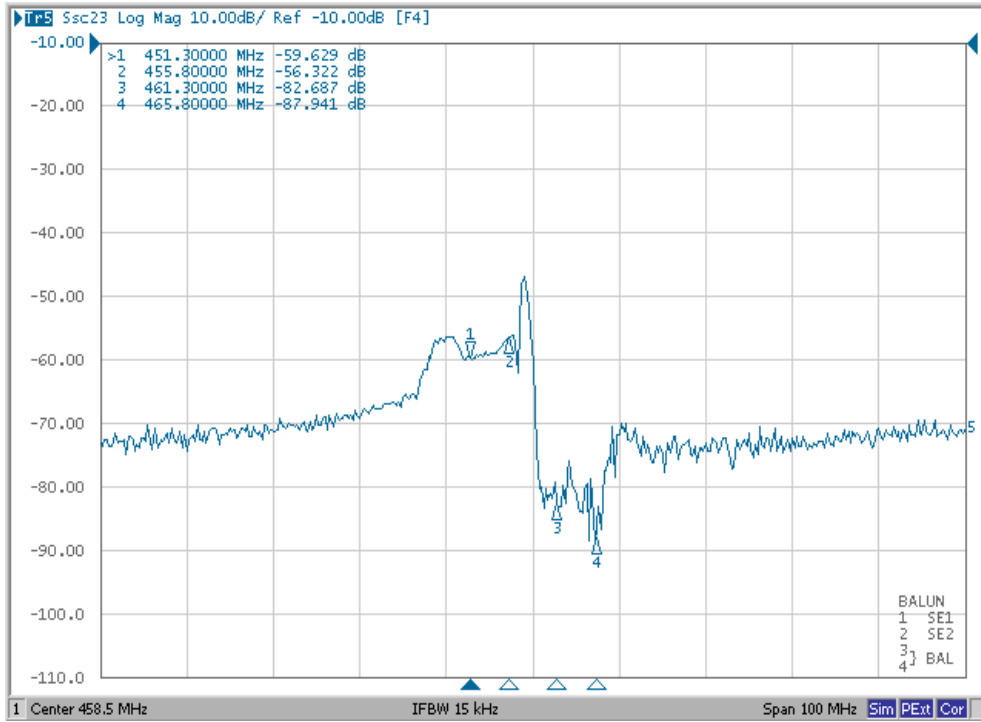
Tx to Ant



Ant to Rx

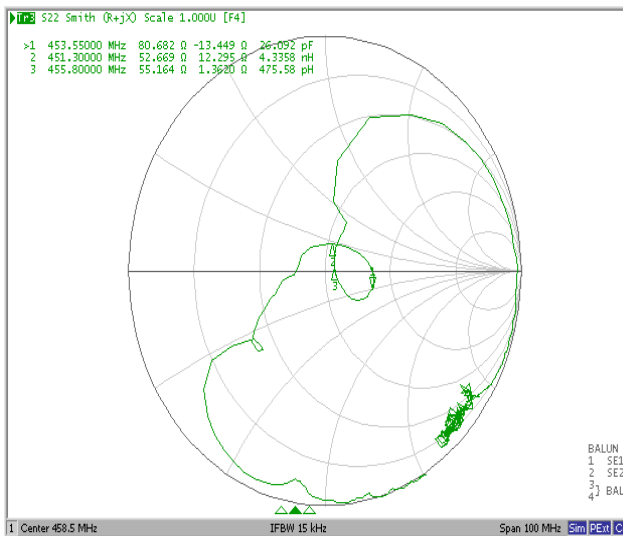


### Isolation

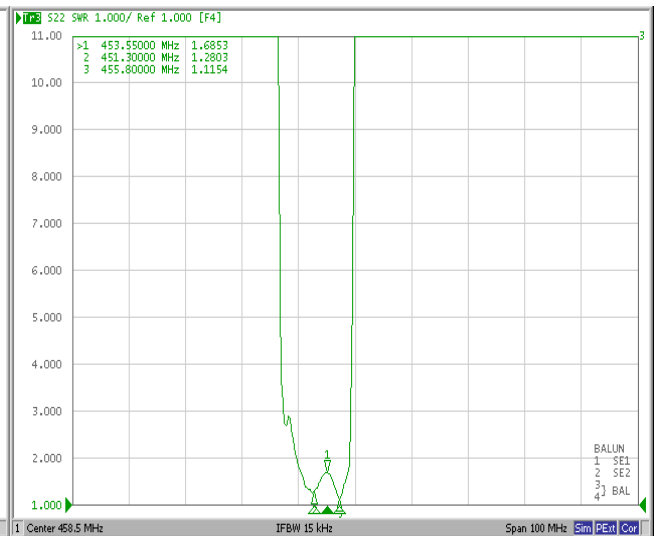


### Tx Port

#### Smith Chart



#### VSWR

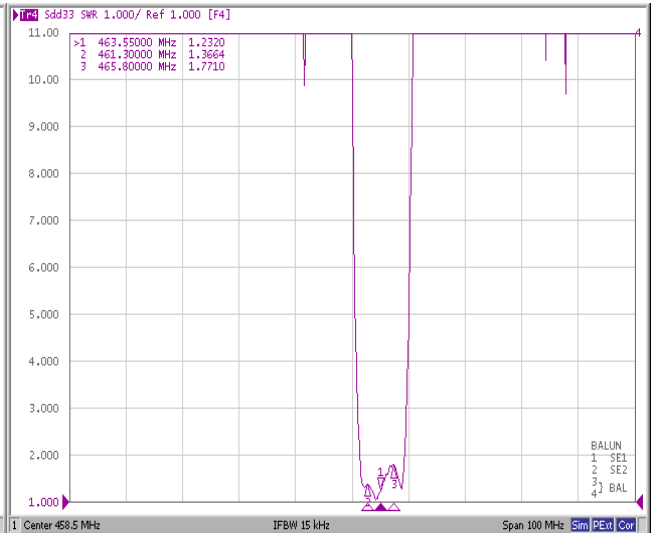
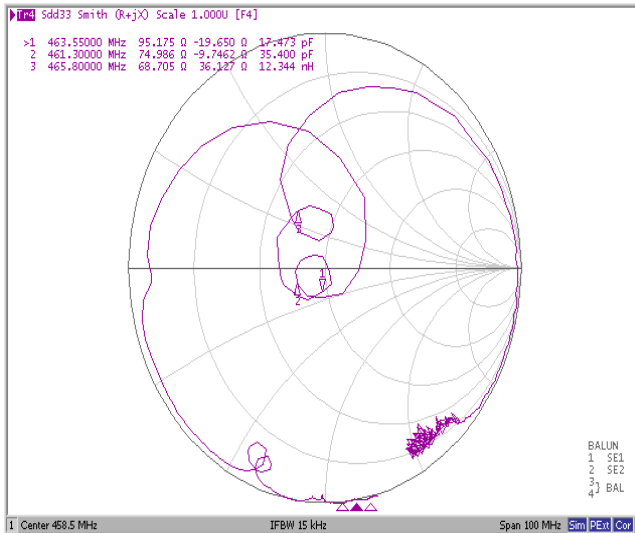




Rx Port

Smith Chart

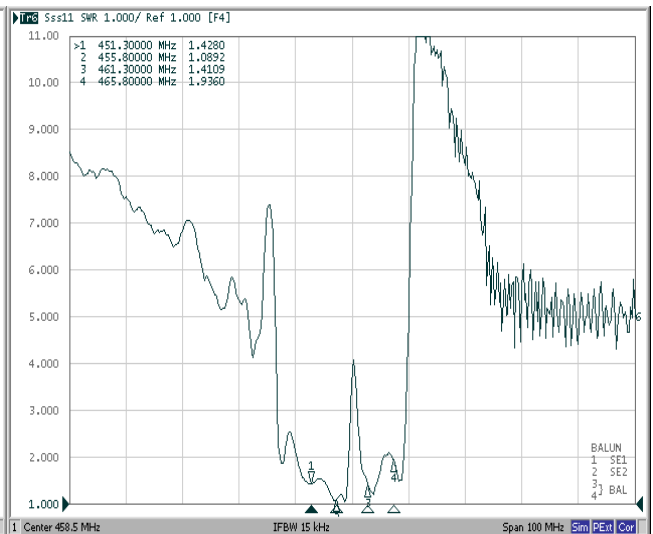
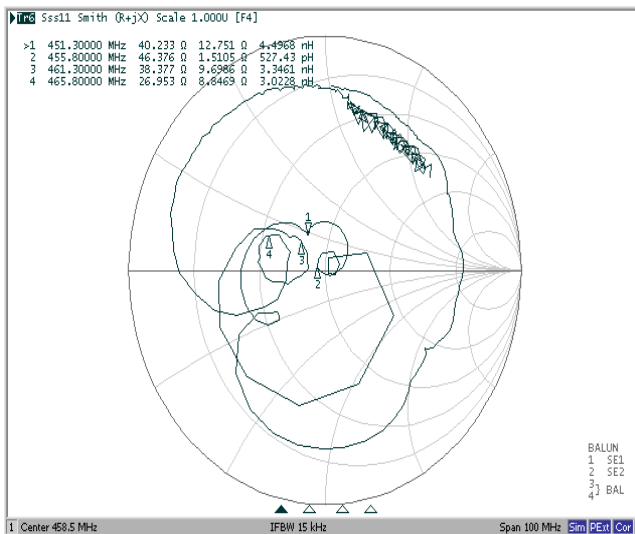
VSWR



Ant Port

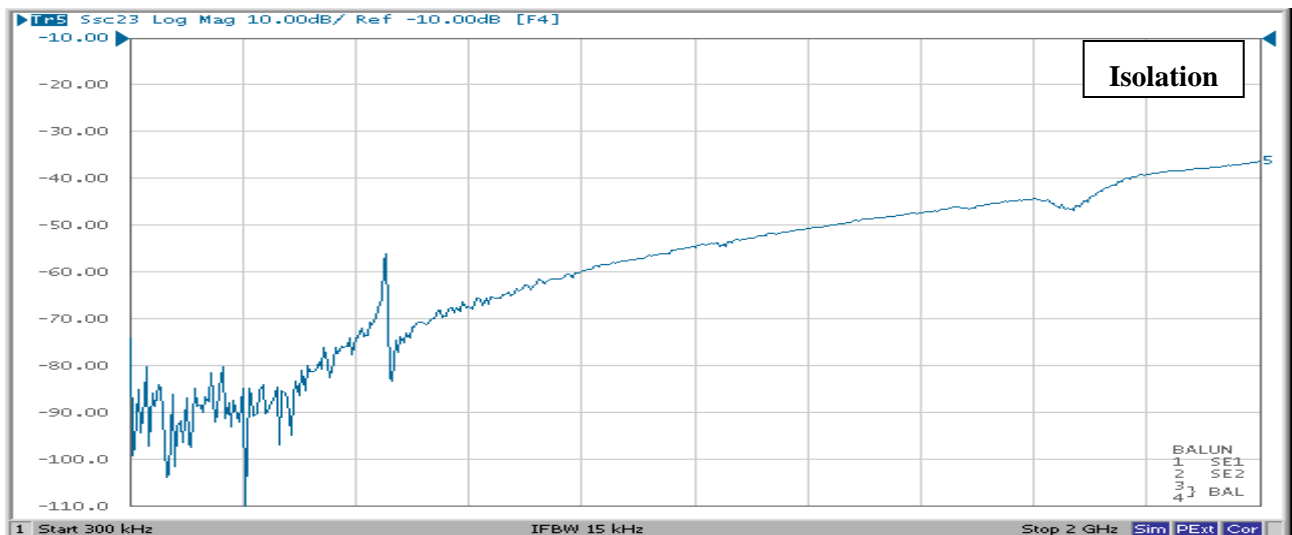
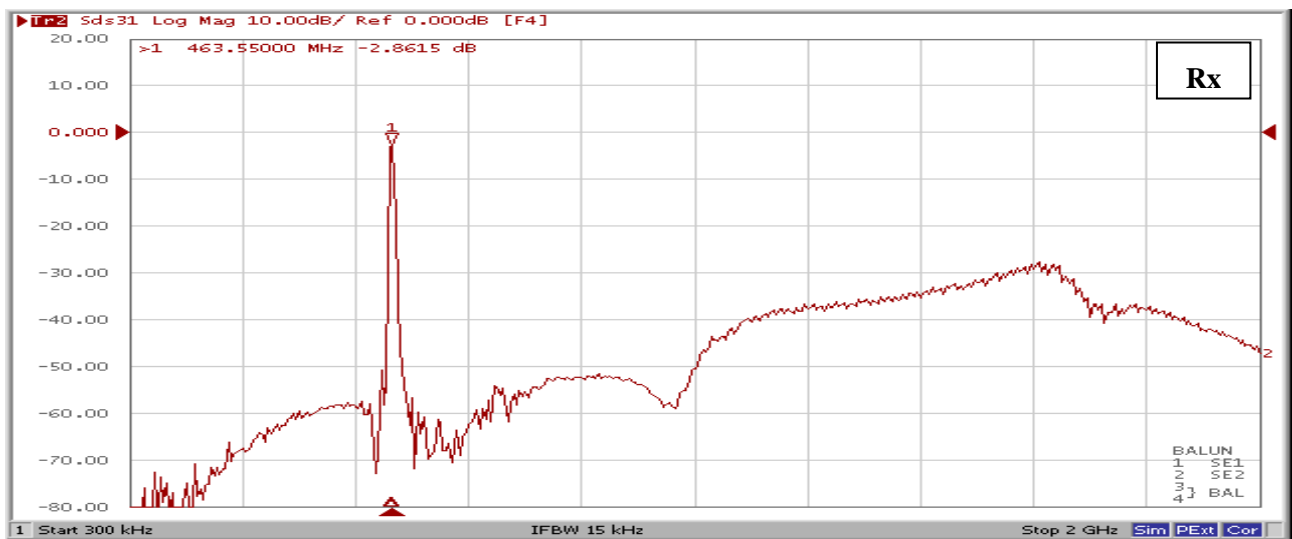
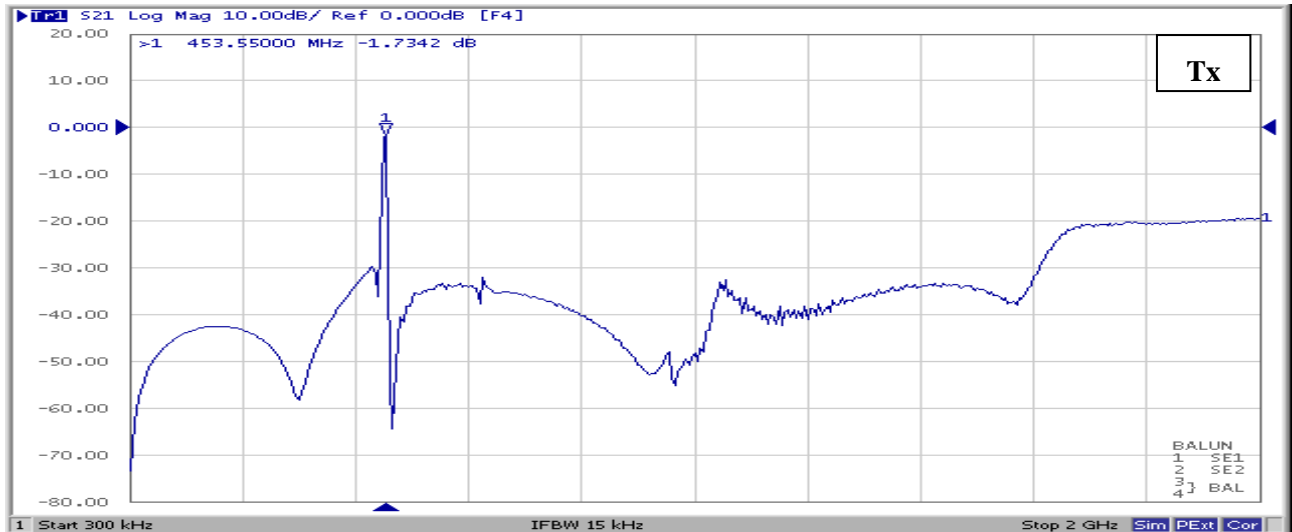
Smith Chart

VSWR





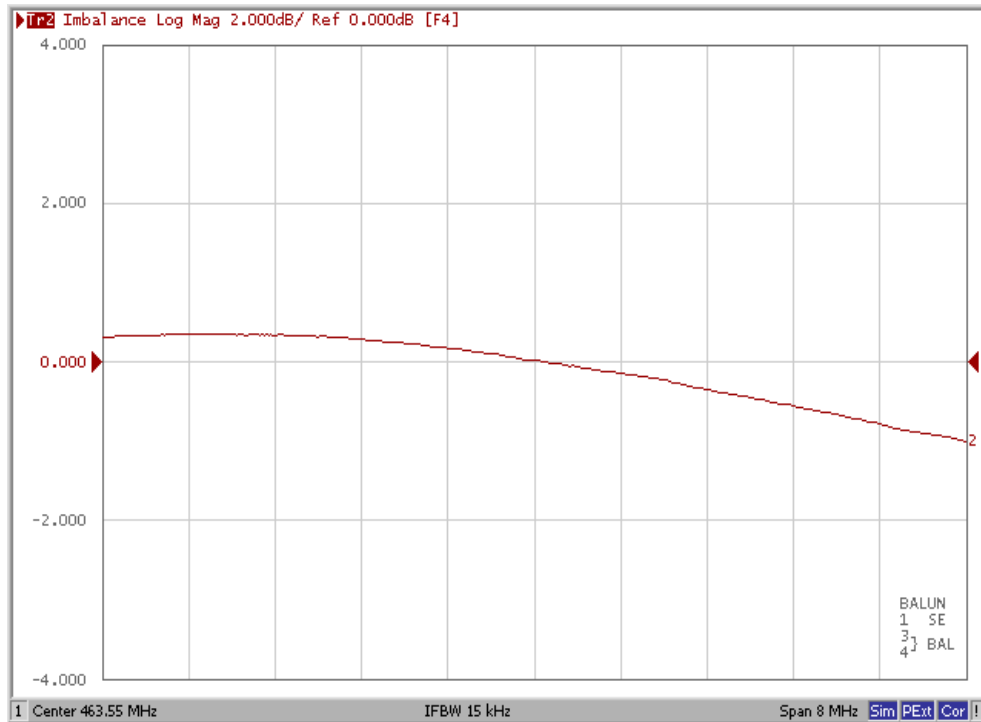
Wide Span







Amplitude Imbalance



Phase Imbalance

