



*Total Solution Provider in Saw Device*

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# SD453EK4

CDMA 450 Rx Balanced SAW DUPLEXER

For 453.55 MHz / 463.55 MHz



Revision 0: May 2011

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- 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	°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		K4		
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	-	2.0	3.2
Amplitude Ripple	451.3 ~ 455.8	dB <sub>p-p</sub>	-	0.5	1.5
Absolute Attenuation	D.C ~ 440.0	dB	25	32	-
	461.3 ~ 465.8	dB	40	55	-
	465.8 ~ 1700.0	dB	20	29	-
	1700.0 ~ 2000.0	dB	10	18	-
VSWR	451.3 ~ 455.8	-	-	2.0	2.5

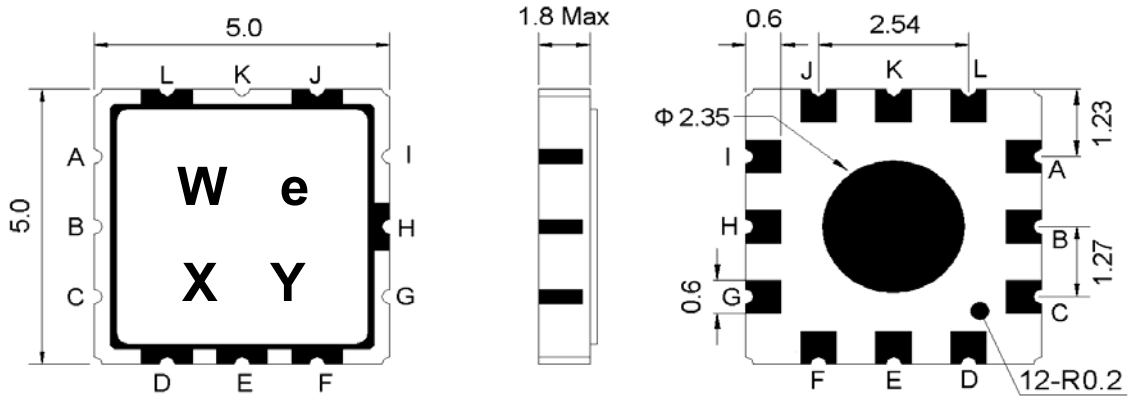


Ant → Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	461.3 ~ 465.8	dB	-	2.8	3.8
Amplitude Ripple	461.3 ~ 465.8	dB <sub>p-p</sub>	-	0.7	1.5
Amplitude Imbalance	461.3 ~ 465.8	dB	-1.0	-0.6/0.1	1.0
Phase Imbalance	461.3 ~ 465.8	deg	-10	4.0/6.0	10
Absolute Attenuation	D.C ~ 451.3	dB	40	50	-
	451.3 ~ 455.8	dB	45	50	-
	485.0 ~ 507.5	dB	35	44	-
	507.5 ~ 1200.0	dB	25	35	-
	1200.0 ~ 2000.0	dB	15	25	-
VSWR	461.3 ~ 465.8	-	-	2.0	2.3

Tx → Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation	451.3 ~ 455.8	dB	52	60	-
	461.3 ~ 465.8	dB	52	70	-

**Notes :** (1) With Matching Network .

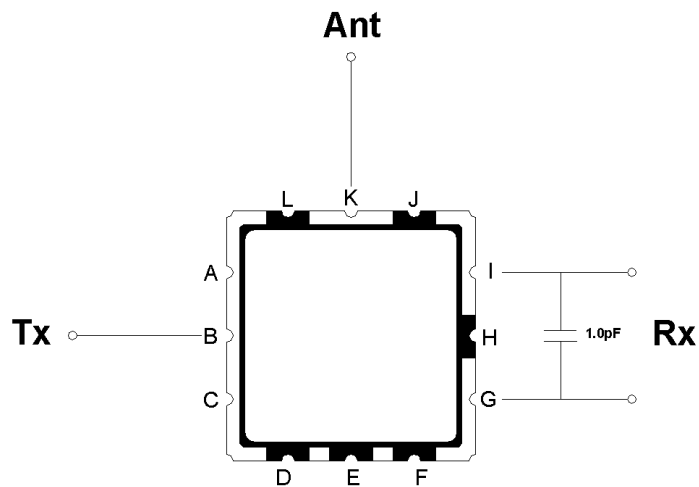
**Package Dimensions**



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

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

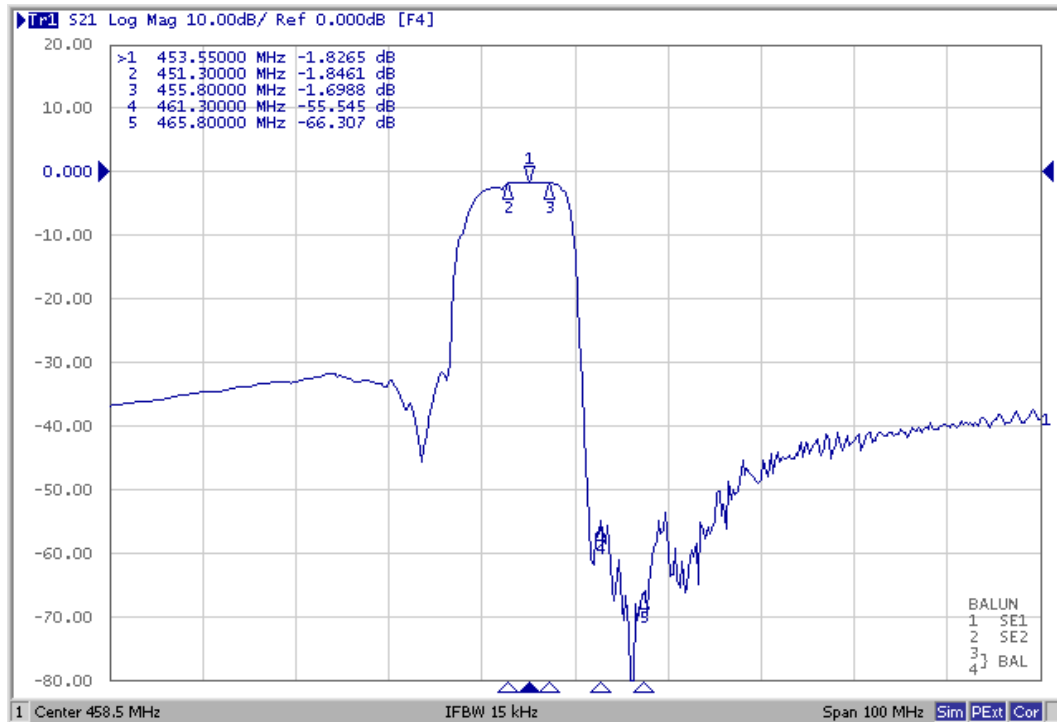
**Testing Environment**



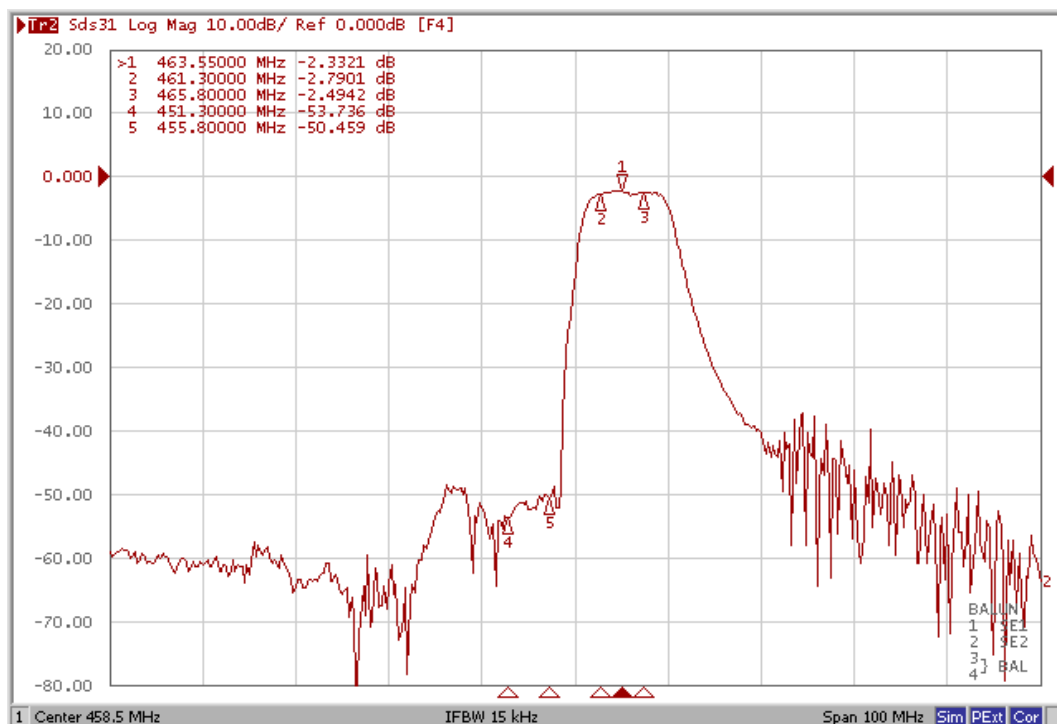


### □ Frequency Characteristics

Tx to Ant

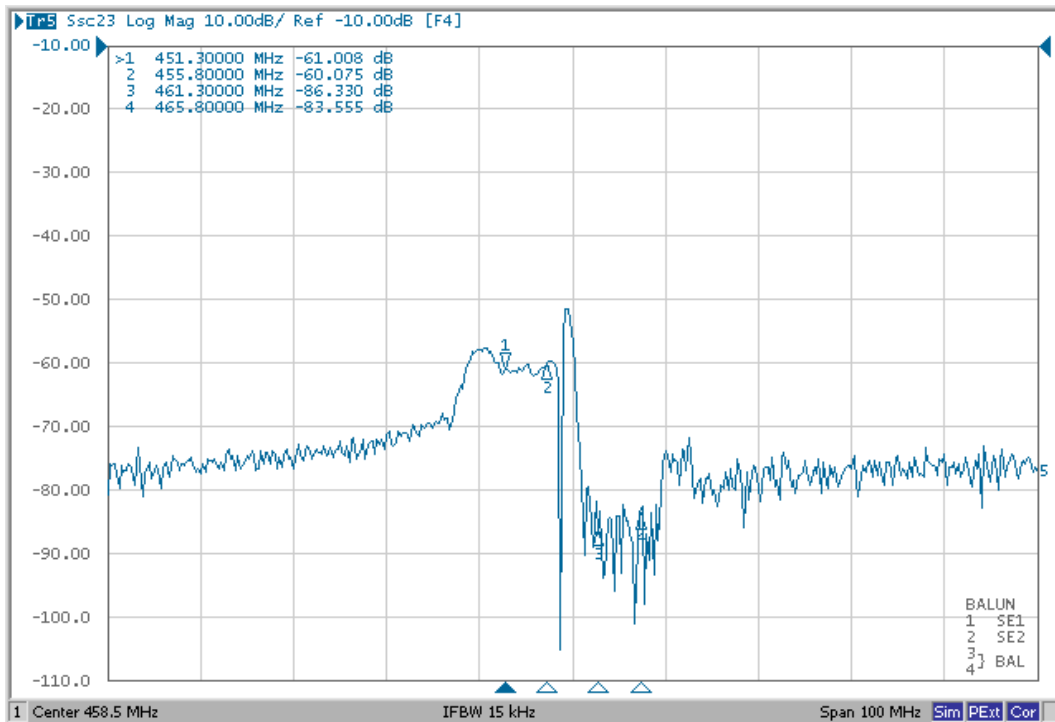


Ant to Rx



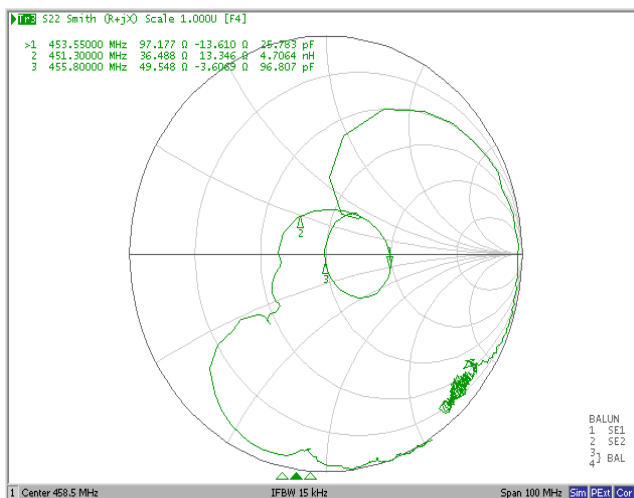


Isolation

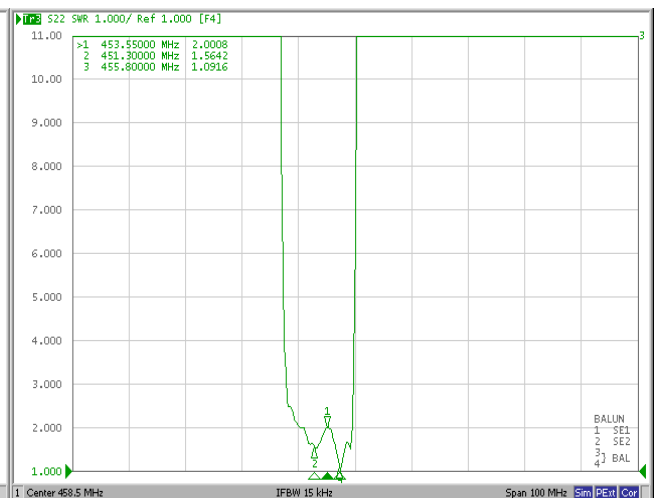


Tx Port

Smith Chart



VSWR





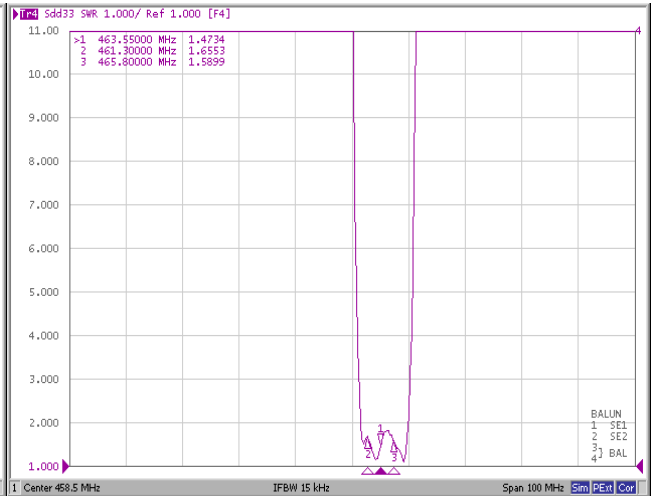
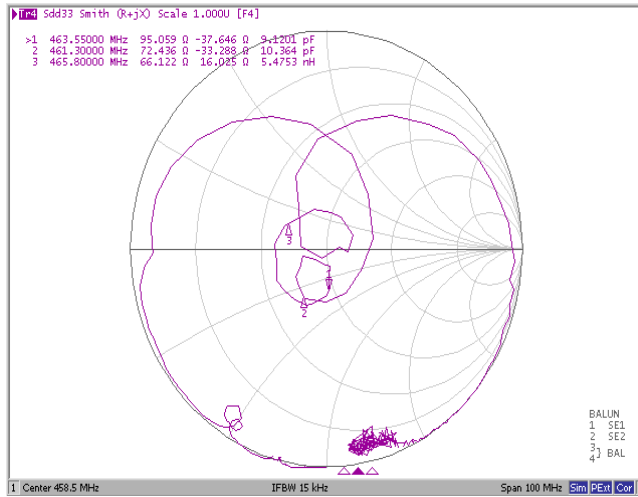
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Rx Port

Smith Chart

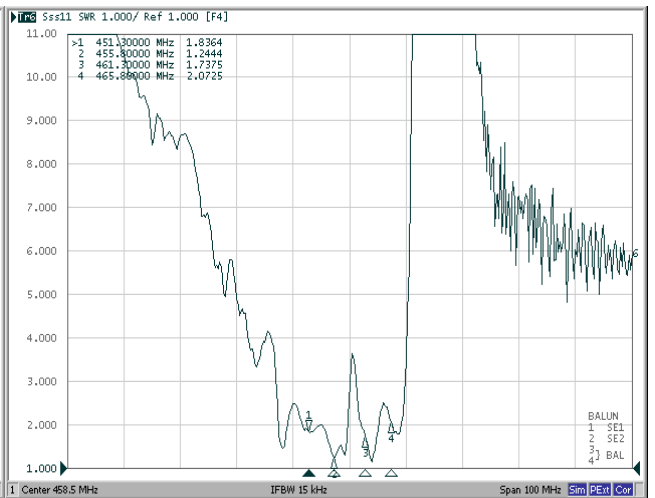
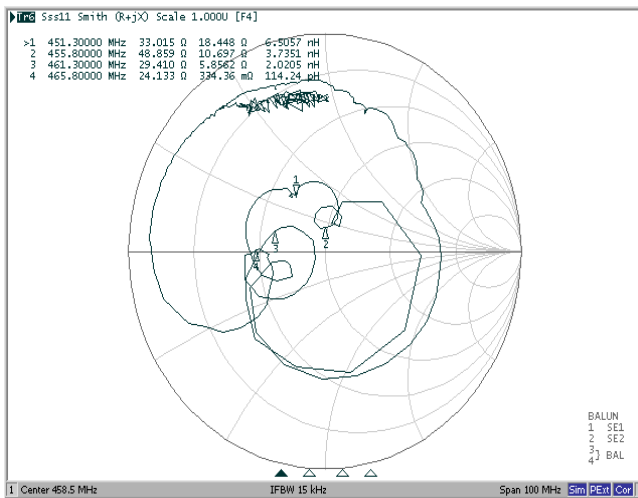
VSWR



Ant Port

Smith Chart

VSWR

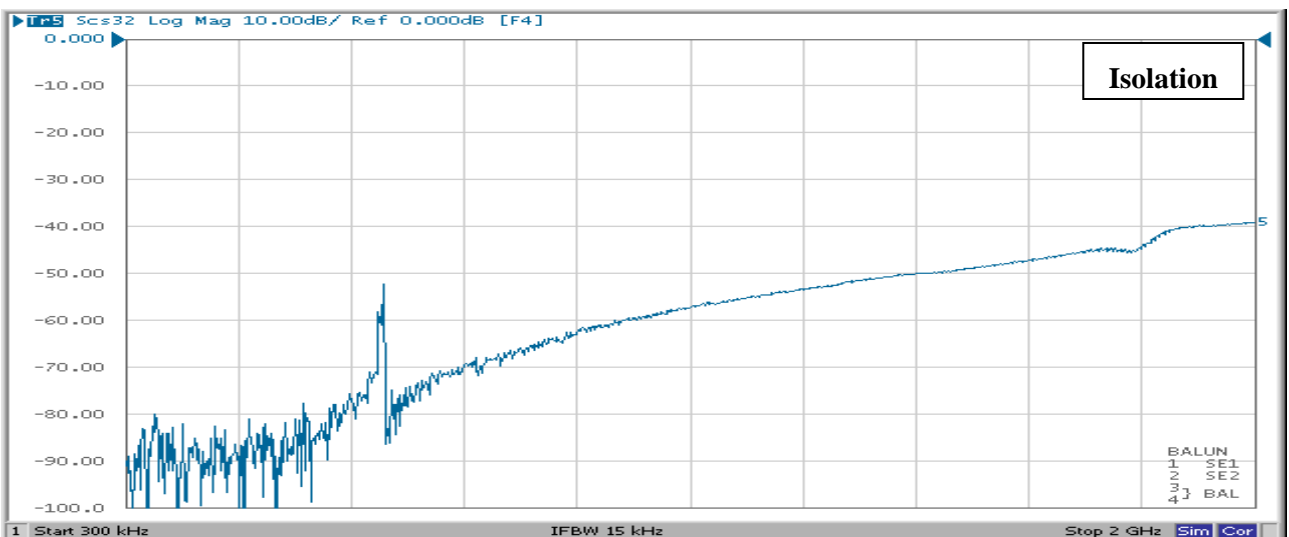
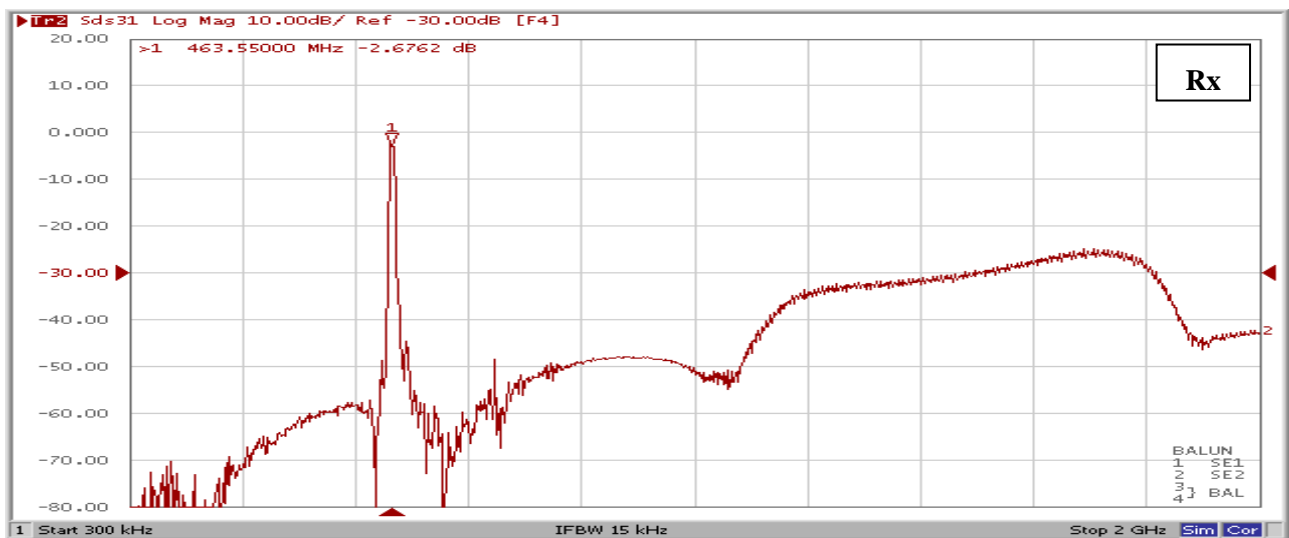
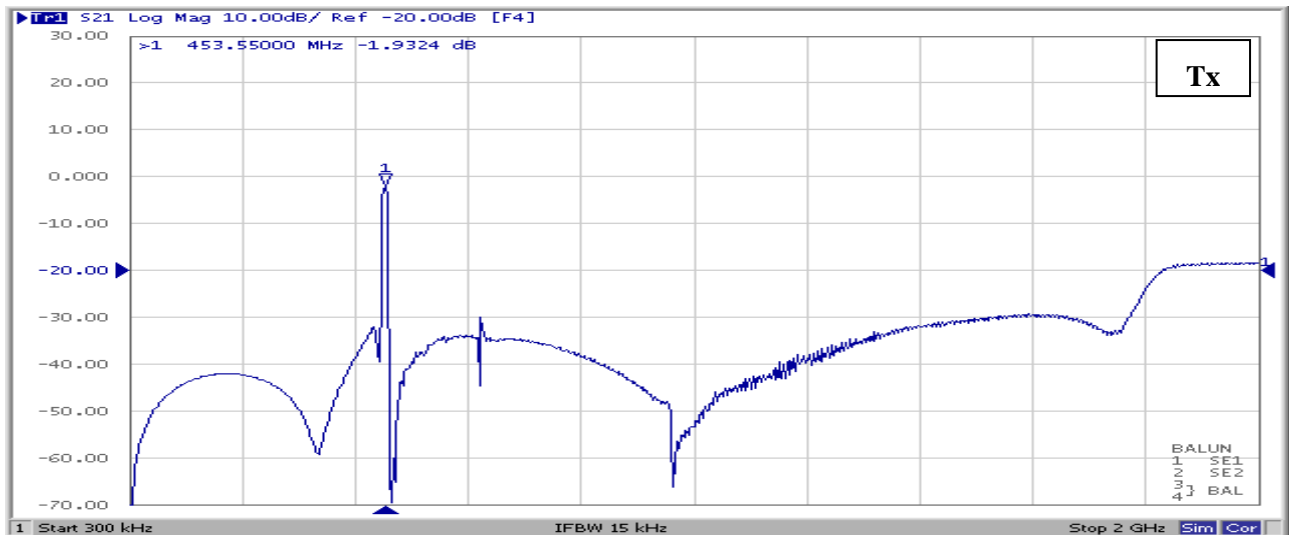




## SD453EK4

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### Wide Span







Amplitude Imbalance



Phase Imbalance

