SAW Components

SAW Duplexer

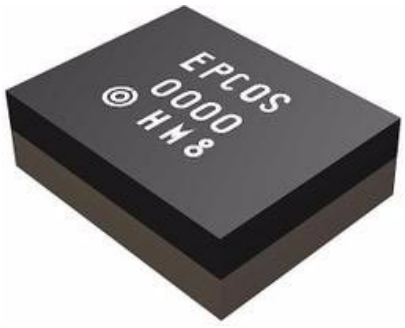
WCDMA/LTE Band XI

Series/type:	**B8560**
Ordering code:	**B39142B8560P810**
Date:	September 14, 2011
Version:	2.0

EPCOS AG is a TDK Group Company.

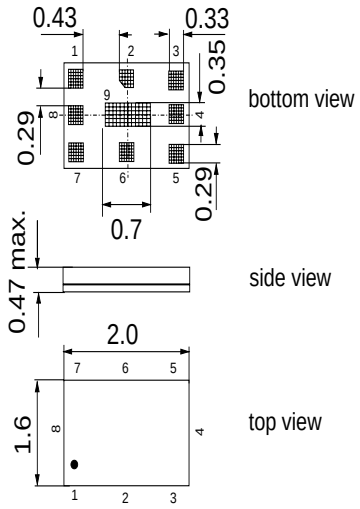
Application

- Low-loss SAW duplexer for mobile telephone WCDMA/LTE Band XI systems
- Low insertion attenuation
- High Tx rejection
- Usable passband 20 MHz



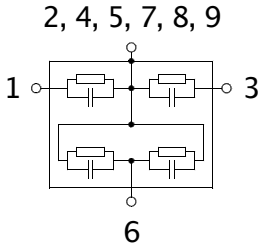
Features

- Package size 2.0 x 1.6 mm², package height 0.47 mm max.
- RoHS compatible
- Approx. weight 0.006g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel (**MSL**) 3



Pin configuration

■	1	RX Output
■	3	TX Input
■	6	Antenna
■	2, 4, 5, 7, 8, 9	To be grounded



Data Sheet SMD

Characteristics

Temperature range for specification: T = -30 ˚C to +85 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 5.6 nH
RX terminating impedance: Z_{RX} = 50 Ω
TX terminating impedance: Z_{TX} = 50 Ω

Characteristics TX - ANT			min.	typ. @ 25 ˚C	max.	
Center frequency	f_C		—	1437.9	—	MHz
Maximum insertion attenuation	α_{max}					
1427.9 ... 1437.9 MHz				1.4	1.7	dB
1437.9 ... 1447.9 MHz				1.5	2.1	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
1427.9 ... 1437.9 MHz				0.5	1.0	dB
1437.9 ... 1447.9 MHz				0.5	1.0	dB
Input VSWR (TX port)						
1427.9 ... 1447.9 MHz				1.4	2.0	
Output VSWR (ANT port)						
1427.9 ... 1447.9 MHz				1.5	2.0	
Attenuation	α					
470 0 ... 770.0 MHz			30	38		dB
1475.9 ... 1485.9 MHz			40	50		dB
1485.9 ... 1495.9 MHz			40	53		dB
1574.0 ... 1577.0 MHz			34	37		dB
1805.0 ... 1880.0 MHz			35	40		dB
1884.5 ... 1919.6 MHz			35	42		dB
2110.0 ... 2170.0 MHz			35	47		dB
2400.0 ... 2500.0 MHz			35	45		dB
2855.8 ... 2895.8 MHz			28	38		dB
4283.7 ... 4343.7 MHz			26	29		dB
5711.6 ... 5791.6 MHz			20	24		dB

Data Sheet SMD

Characteristics

Temperature range for specification: T = -30 ˚C to +85 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 5.6 nH
RX terminating impedance: Z_{RX} = 50 Ω
TX terminating impedance: Z_{TX} = 50 Ω

Characteristics ANT - RX				min.	typ. @ 25 ˚C	max.	
Center frequency		f_C		—	1485.9	—	MHz
Maximum insertion attenuation		α_{max}					
1475.9 ... 1485.9	MHz				1.6	2.2	dB
1485.9 ... 1495.9	MHz				1.8	2.2	dB
Amplitude ripple(p-p)		$\Delta\alpha$					
1475.9 ... 1485.9	MHz				0.4	1.0	dB
1485.9 ... 1495.9	MHz				0.4	1.0	dB
Input VSWR (ANT port)							
1475.9 ... 1495.9	MHz				1.3	2.0	
Output VSWR (RX port)							
1475.9 ... 1495.9	MHz				1.4	2.0	
Attenuation		α					
48.0	MHz			60	88		dB
738.0 ... 748.0	MHz			37	57		dB
1379.9 ... 1399.9	MHz			43	54		dB
1427.9 ... 1437.9	MHz			50	58		dB
1437.9 ... 1447.9	MHz			48	56		dB
1451.9 ... 1460.9	MHz			3.5	10		dB
1460.9 ... 1471.9	MHz			1	2		dB
1560.9 ... 1585.9	MHz			15	45		dB
2400.0 ... 2500.0	MHz			35	50		dB
2903.8 ... 2943.8	MHz			42	47		dB
4331.7 ... 4391.7	MHz			32	40		dB
4427.7 ... 4487.7	MHz			25	40		dB
5759.6 ... 5839.6	MHz			25	39		dB

Data Sheet SMD

Characteristics

Temperature range for specification: T = -30 ˚C to +85 ˚C
Antenna terminating impedance: Z_{ANT} = 50 Ω || 5.6 nH
RX terminating impedance: Z_{RX} = 50 Ω
TX terminating impedance: Z_{TX} = 50 Ω

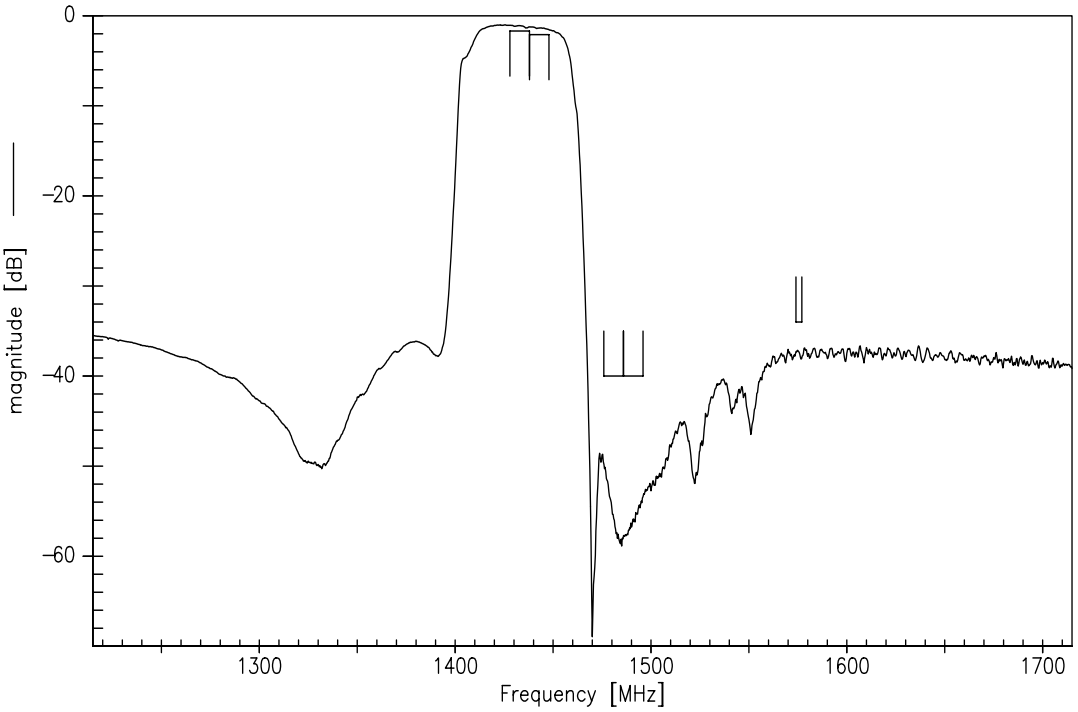
Characteristics TX - RX		min.	typ. @ 25 ˚C	max.	
Isolation	α				
1427.9 ... 1437.9 MHz		53	58		dB
1437.9 ... 1447.9 MHz		48	58		dB
1475.9 ... 1485.9 MHz		43	53		dB
1485.9 ... 1495.9 MHz		43	53		dB

Maximum ratings

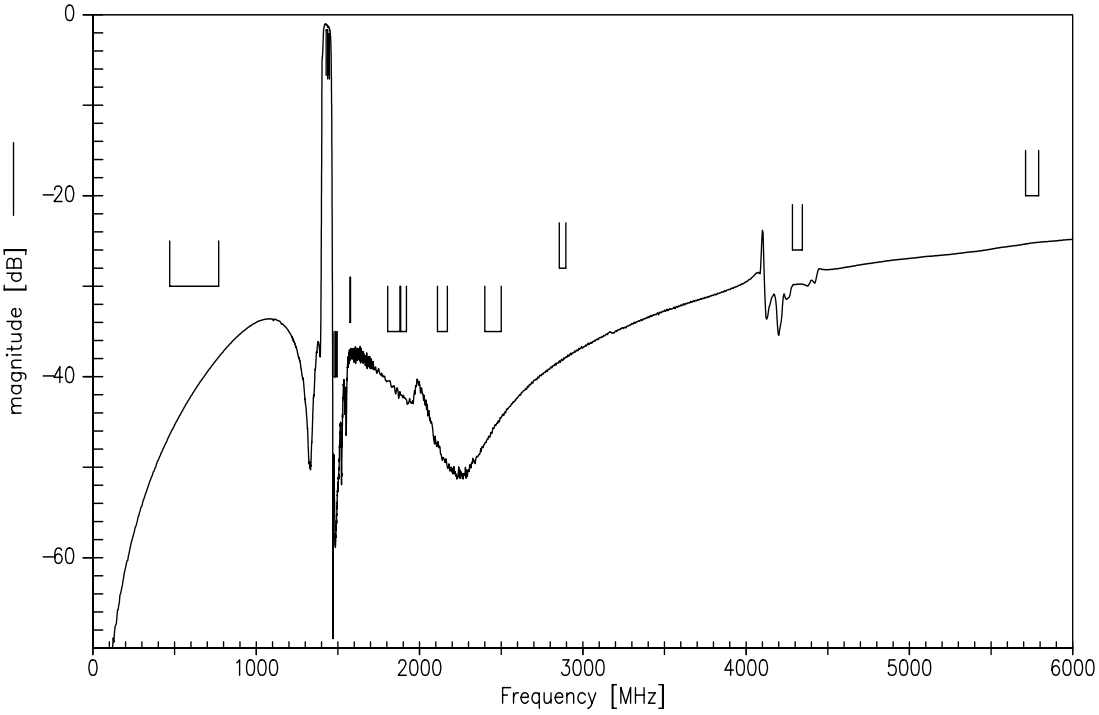
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power at	P_{IN}			source and load impedance 50 Ω
1427.9 ... 1447.9 MHz		27	dBm	} continuous wave
elsewhere		10	dBm	*T* = 50˚C, 5,000 h

1) acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

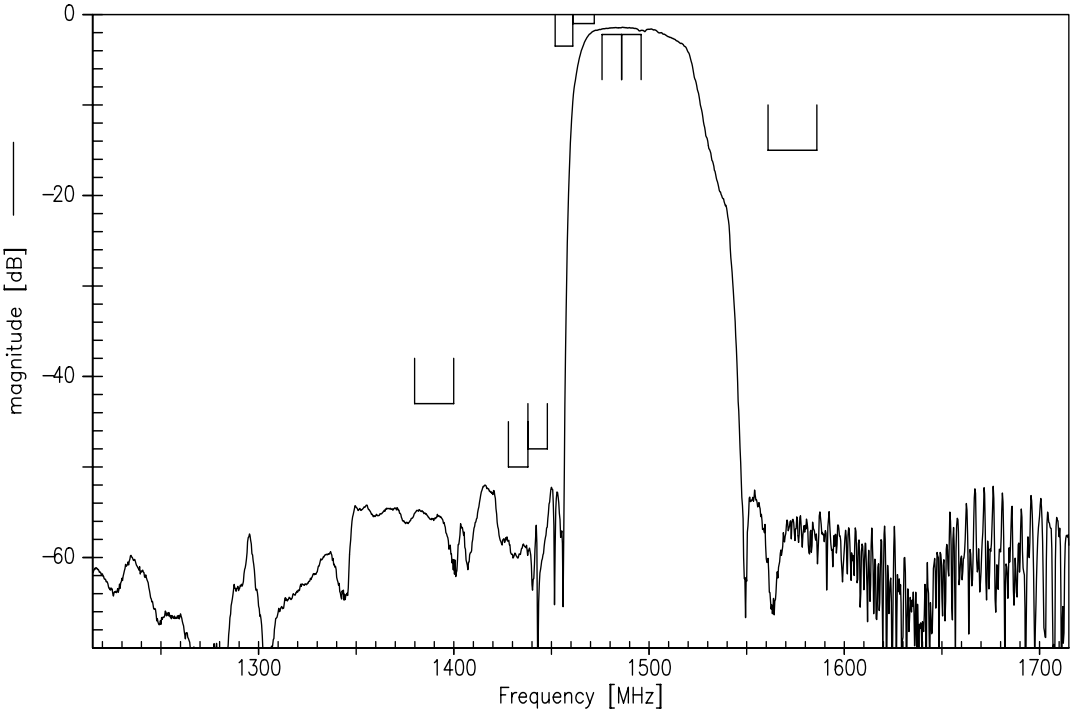
Frequency Response Tx-ANT (passband)



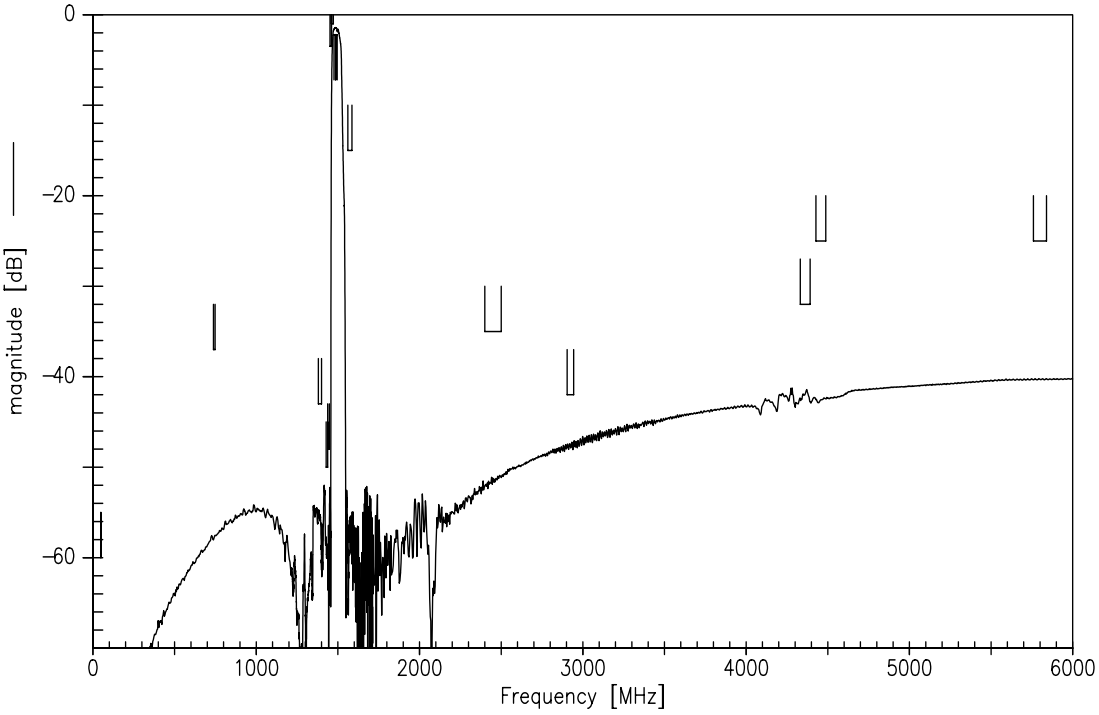
Frequency Response Tx-ANT (wideband)



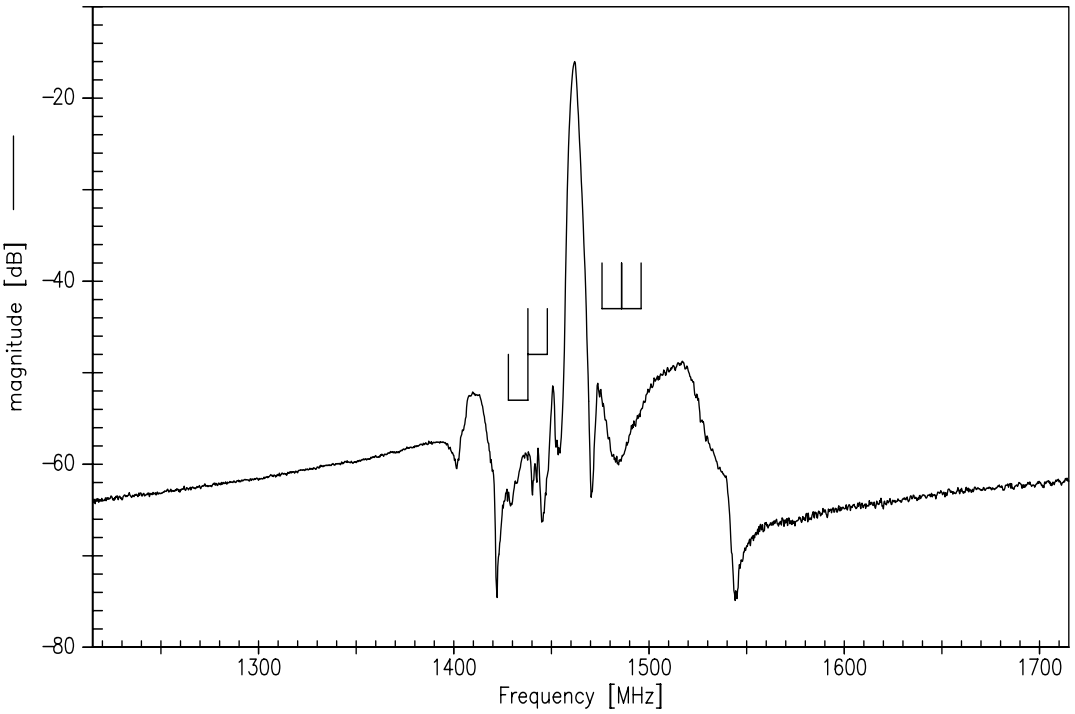
Frequency Response ANT-Rx (passband)



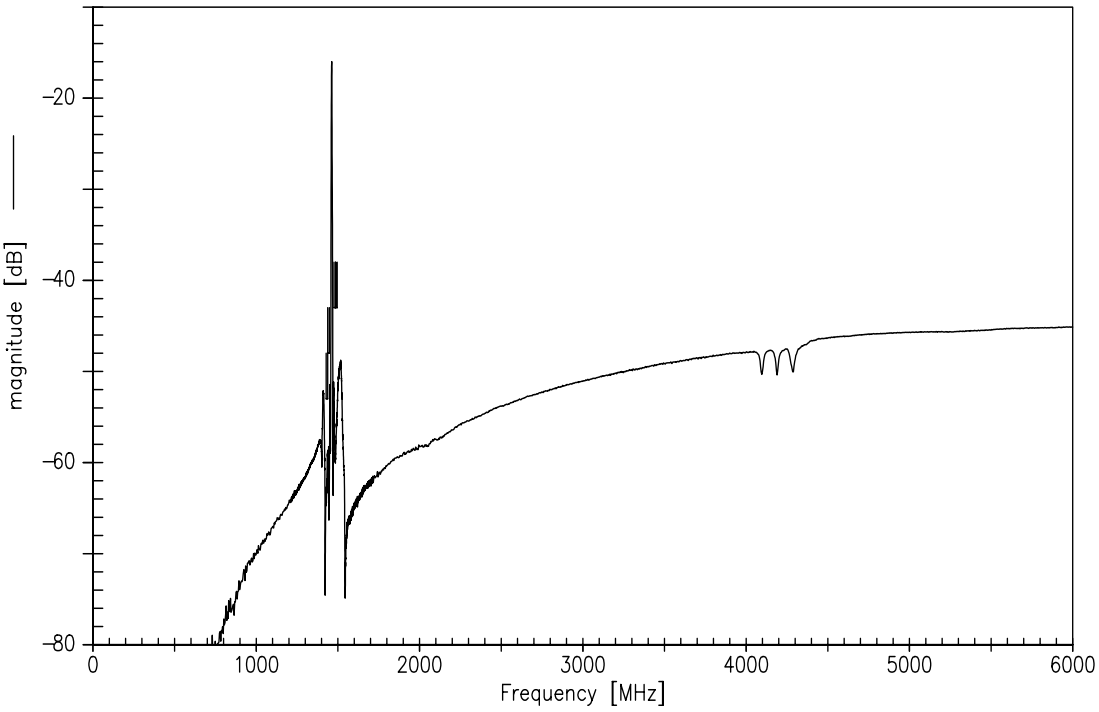
Frequency Response ANT-Rx (wideband)



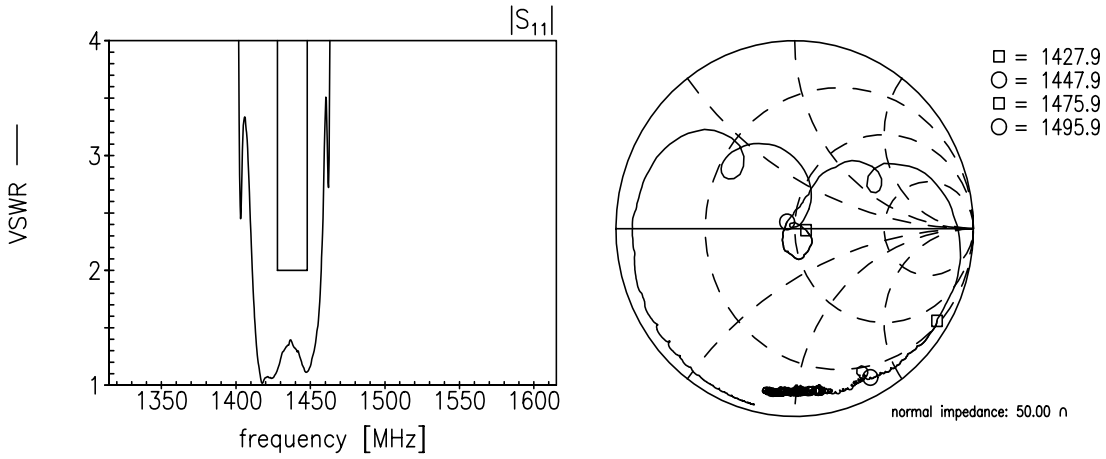
Frequency Response Tx-Rx (passband)

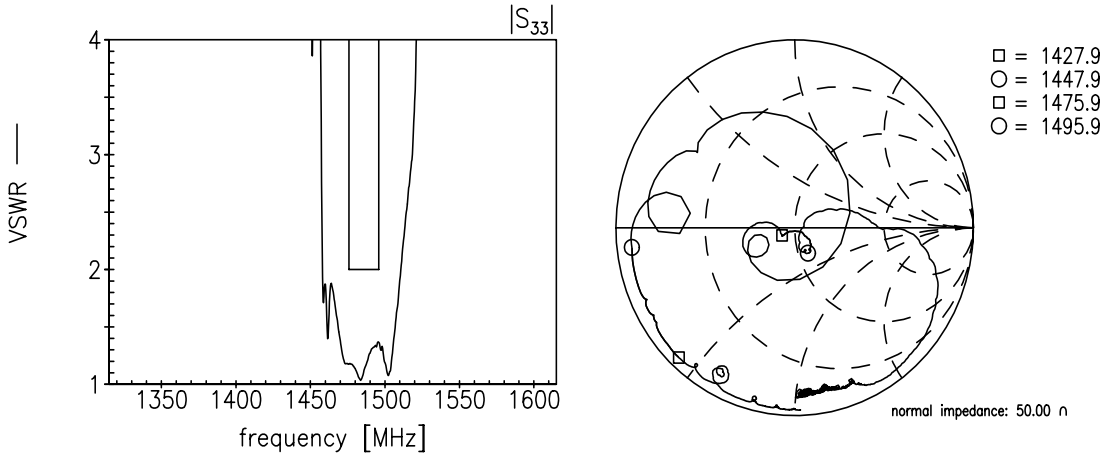


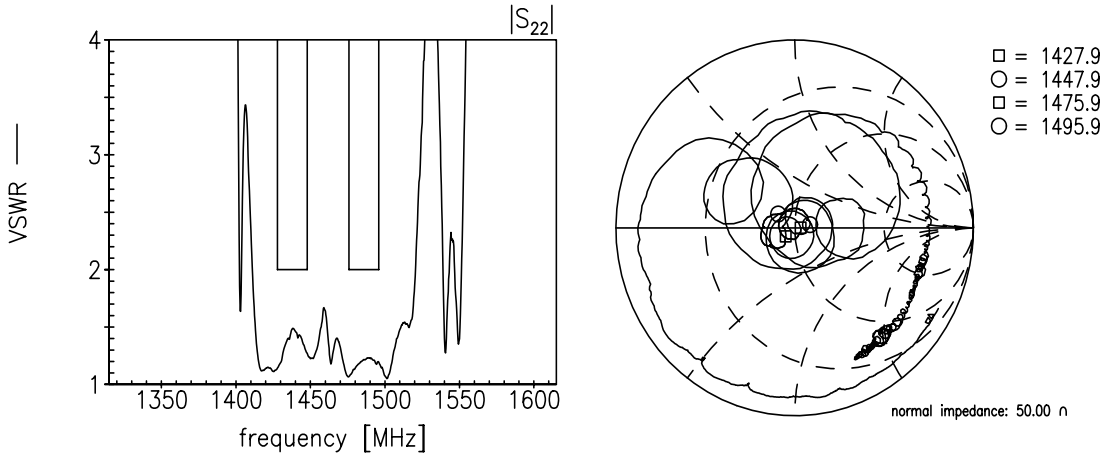
Frequency Response Tx-Rx (wideband)



Return Loss S_{11} Tx - port S_{22} ANT - port S_{33} Rx - port







References

Type	B8560
Ordering code	B39142B8560P810
Marking and package	C61157-A3-A75
Packaging	F61074-V8247-Z000
Date codes	L_1126
S-parameters	B8560_NB.s3p, B8560_WB.s3p see file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
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