SAW Components

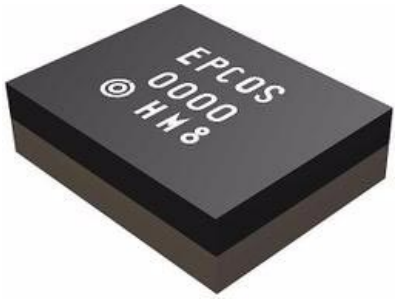
SAW Duplexer

LTE Band 26

Series/type:	**B8546**
Ordering code:	**B39871B8546P810**
Date:	July 24, 2014
Version:	2.2

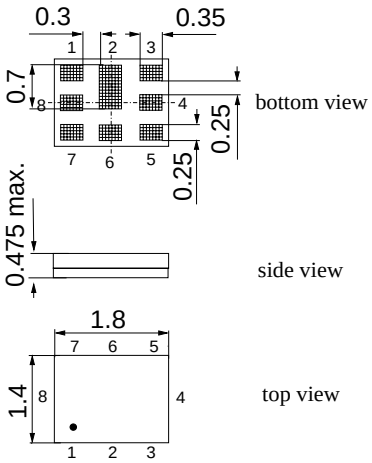
Application

- Low-loss SAW duplexer for mobile telephone LTE Band 26 systems
- Low insertion attenuation
- Usable passband 35MHz
- High Tx - Rx isolation
- Very small size and low height



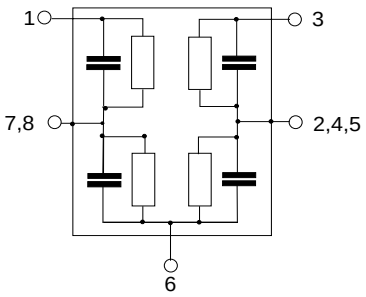
Features

- Package size 1.8 * 1.4 mm^2
- Package height: maximum 0.475 mm
- RoHS compatible
- Approx. weight 0.0042g.
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni terminals, Au-plated
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitive **L**evel (**MSL**) 3



Pin configuration

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



Data sheet

SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +90 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 10.0 nH
RX terminating impedance: Z_{RX} = 50 Ω + 5.4 nH
TX terminating impedance: Z_{TX} = 50 Ω + 9.4 nH

Characteristics TX - ANT		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	832.0	—	MHz
Maximum insertion attenuation					
814.24 ... 815.0 MHz			1.8	2.5	dB
815.0 ... 845.0 MHz			1.5	2.0	dB
845.0 ... 848.76 MHz			1.6	2.5	dB
Amplitude ripple (p-p)					
814.24 ... 848.76 MHz			1.1	1.8	dB
Amplitude ripple (Over any 5MHz in-band)					
814.24 ... 848.76 MHz			0.4	1.6	dB
Input VSWR (TX port)					
814.24 ... 848.76 MHz			1.4	2.0	
Output VSWR (ANT port)					
814.24 ... 848.76 MHz			1.4	2.0	

Data sheet SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +90 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 10.0 nH
RX terminating impedance: Z_{RX} = 50 Ω + 5.4 nH
TX terminating impedance: Z_{TX} = 50 Ω + 9.4 nH

Characteristics TX - ANT				min.	typ. @ 25 ˚C	max.	
Attenuation			α				
10	...	420	MHz	30	45		dB
420	...	494	MHz	38	42		dB
494	...	701	MHz	30	36		dB
701	...	728	MHz	33	36		dB
728	...	764	MHz	34	37		dB
764	...	804	MHz	30	40		dB
859.24	...	893.76	MHz	44	55		dB
1475.9	...	1510.9	MHz	38	46		dB
1559	...	1563	MHz	42	51		dB
1565.42	...	1573.374	MHz	42	52		dB
1573.374	...	1577.466	MHz	42	52		dB
1577.466	...	1585.42	MHz	42	52		dB
1597.552	...	1605.886	MHz	42	52		dB
1628	...	1698	MHz	40	53		dB
1844.9	...	1879.9	MHz	30	57		dB
1884.5	...	1919.6	MHz	30	56		dB
1930	...	1995	MHz	44	55		dB
2110	...	2170	MHz	44	53		dB
2400	...	2690	MHz	45	54		dB
2402	...	2494	MHz	48	58		dB
3256	...	3396	MHz	20	51		dB
3396	...	3800	MHz	20	48		dB
4070	...	4245	MHz	20	35		dB
4884	...	5950	MHz	32	41		dB

Data sheet

Characteristics

Temperature range for specification: T = –30 ˚C to +90 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 10.0 nH
RX terminating impedance: Z_{RX} = 50 Ω + 5.4 nH
TX terminating impedance: Z_{TX} = 50 Ω + 9.4 nH

Characteristics ANT - RX		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	876.5	—	MHz
Maximum insertion attenuation					
859.24 ... 893.76 MHz			2.4	3.7	dB
Amplitude ripple (p-p)					
859.24 ... 893.76 MHz			1.2	2.5	dB
Amplitude ripple (Over any 5MHz in-band)					
859.24 ... 893.76 MHz			1.2	2.1	dB
Input VSWR (ANT port)					
859.24 ... 893.76 MHz			1.8	2.4	
Output VSWR (RX port)					
859.24 ... 893.76 MHz			1.8	2.4	

Data sheet SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +90 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 10.0 nH
RX terminating impedance: Z_{RX} = 50 Ω + 5.4 nH
TX terminating impedance: Z_{TX} = 50 Ω + 9.4 nH

Characteristics ANT - RX				min.	typ. @ 25 ˚C	max.	
Attenuation			α				
10	...	447	MHz	40	62		dB
		45	MHz	50	96		dB
814.24	...	848.76	MHz	45	57		dB
848.76	...	854	MHz	7	26		dB
909	...	979	MHz	15	23		dB
979	...	6000	MHz	40	46		dB
1427	...	1447	MHz	40	64		dB
1710	...	1785	MHz	50	56		dB
1850	...	1915	MHz	40	53		dB
1920	...	1980	MHz	40	52		dB
2400	...	2500	MHz	40	54		dB
2467	...	2494	MHz	47	54		dB
2577	...	2682	MHz	40	54		dB
4900	...	5950	MHz	40	51		dB

Data sheet SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +90 ˚C
Antenna terminating impedance: Z_{ANT}= 50 Ω || 10.0 nH
RX terminating impedance: Z_{RX} = 50 Ω + 5.4 nH
TX terminating impedance: Z_{TX} = 50 Ω + 9.4 nH

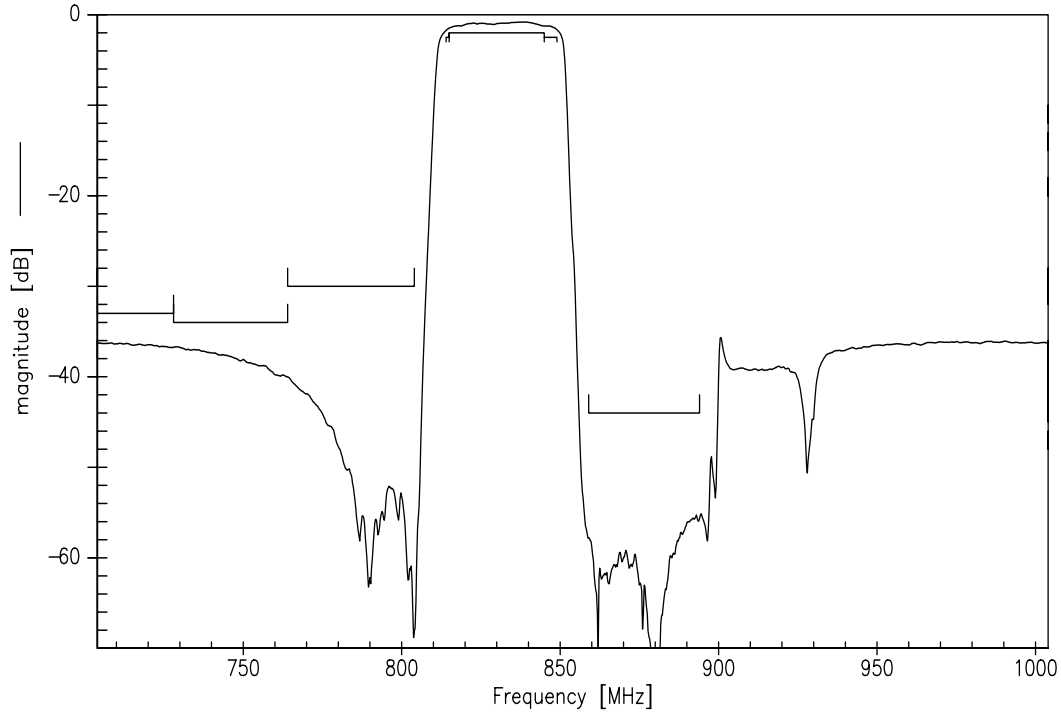
Characteristics TX - RX		min.	typ. @ 25 ˚C	max.	
Isolation	α				
814.24 ... 848.76 MHz		55	60		dB
859.24 ... 893.76 MHz		55	58		dB
1574 ... 1577 MHz		40	62		dB
1628 ... 1698 MHz		20	62		dB
2442 ... 2547 MHz		20	65		dB

Maximum ratings

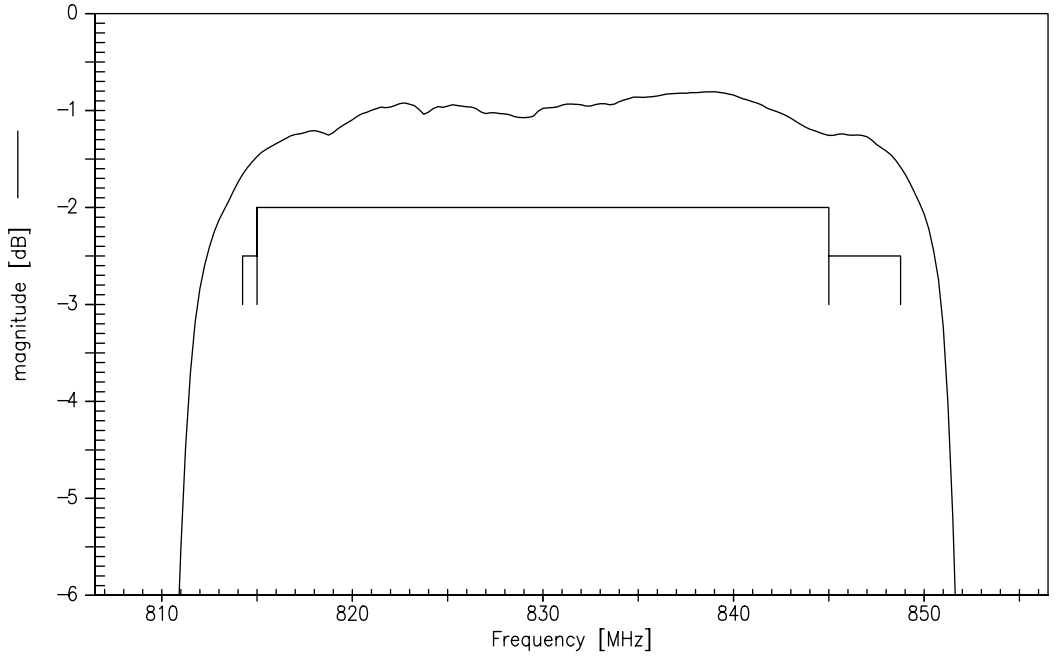
Storage temperature range	T_{stg}	–40/+85	˚C	
ESD voltage	V_{ESD}	100[1)]	V	Machine Model
ESD voltage	V_{ESD}	300[2)]	V	Human Body Model
ESD voltage	V_{ESD}	600[3)]	V	Charged Device Model
Input power at	P_{IN}			
815- 830 MHz (B18)		29	dBm	} continuous wave
830- 845 MHz (B19)		29	dBm	} *T* = 50˚C, 5000h
814.24- 845 MHz (B26-a)		29	dBm	}
845- 848.76 MHz (B26-b)		27	dBm	}
elsewhere		10	dBm	}

1) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses.
2) acc. to JESD22-A114F (HBM - Human Body Model), 1 negative and 1 positive pulses.
3) acc. to JESD22-C101C (CDM - Field-Induced Charged Device Model), 3 negative and 3 positive pulses.

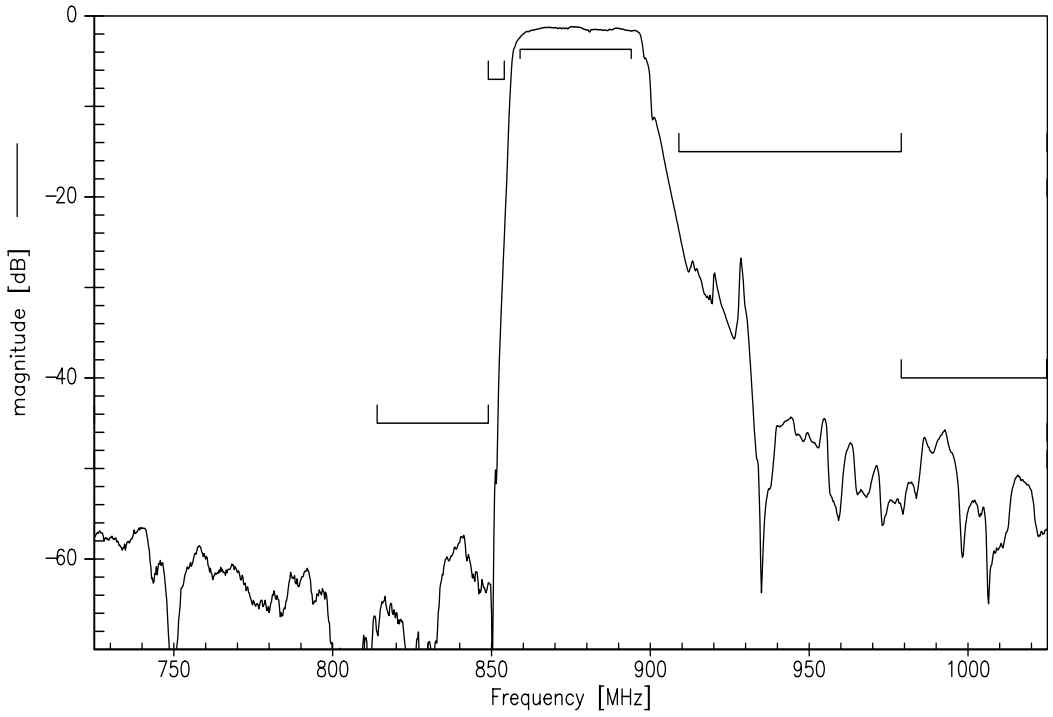
Frequency Response TX-ANT



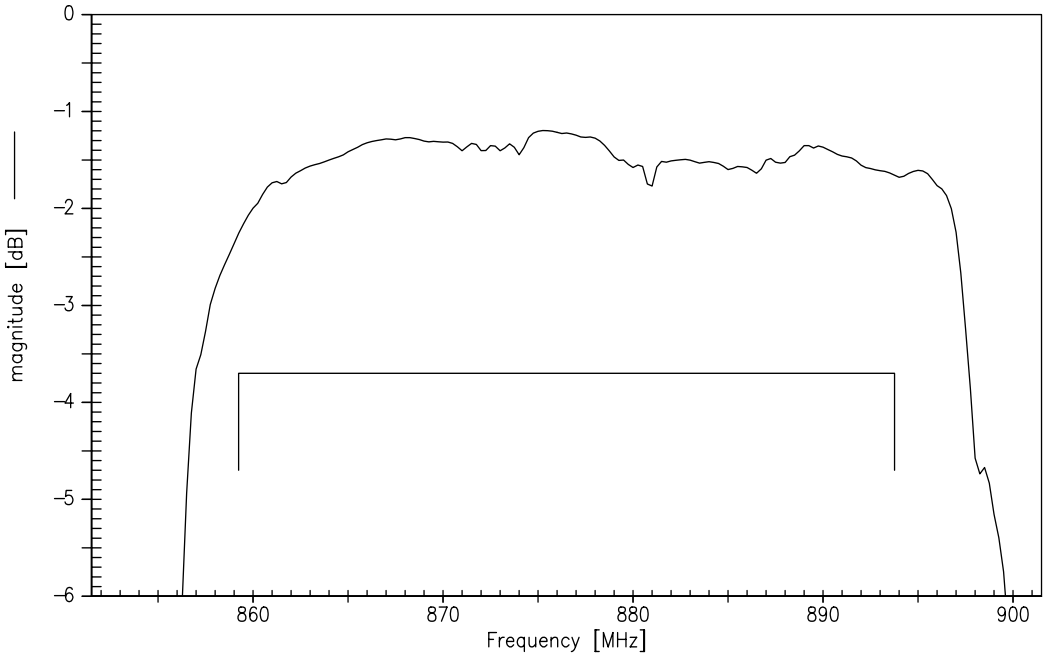
Frequency Response TX-ANT



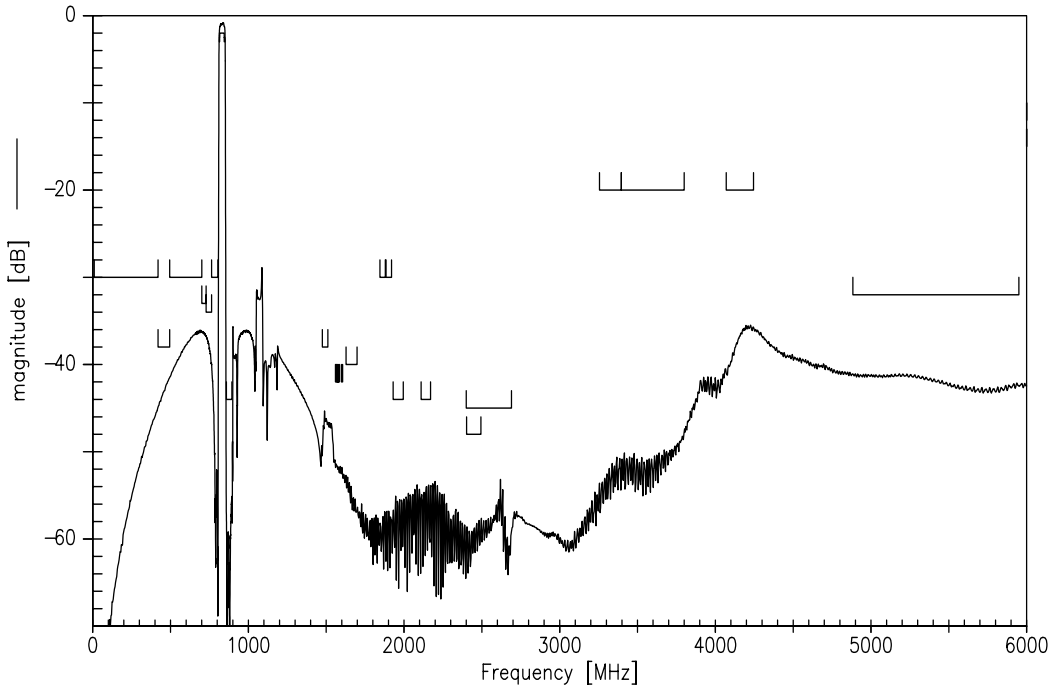
Frequency Response RX-ANT



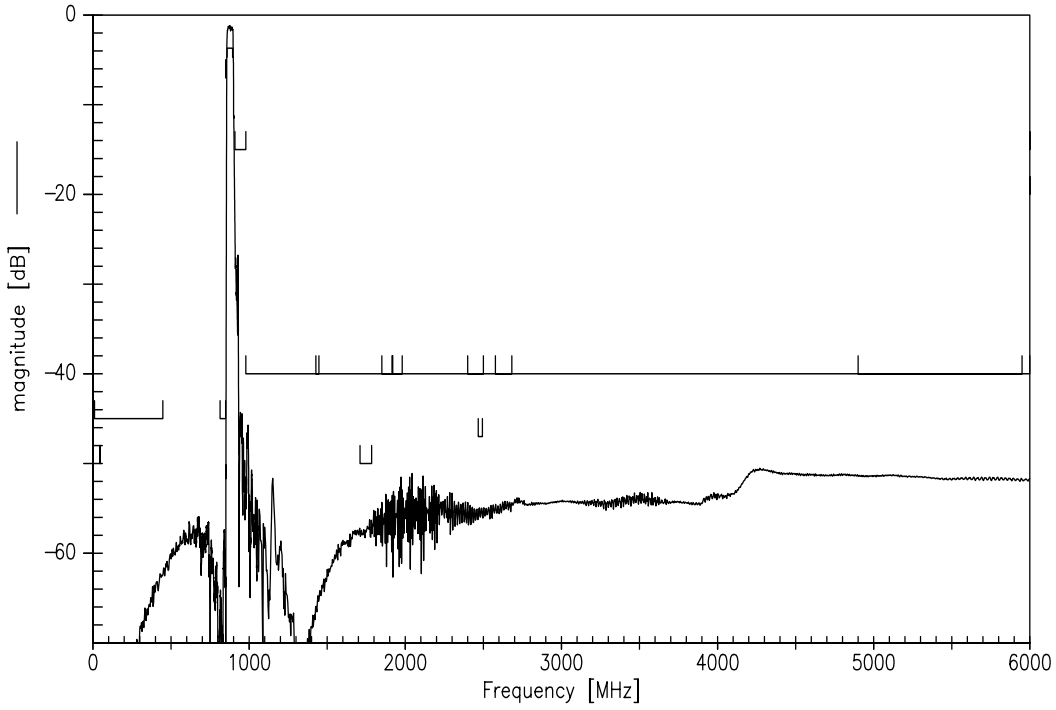
Frequency Response RX-ANT



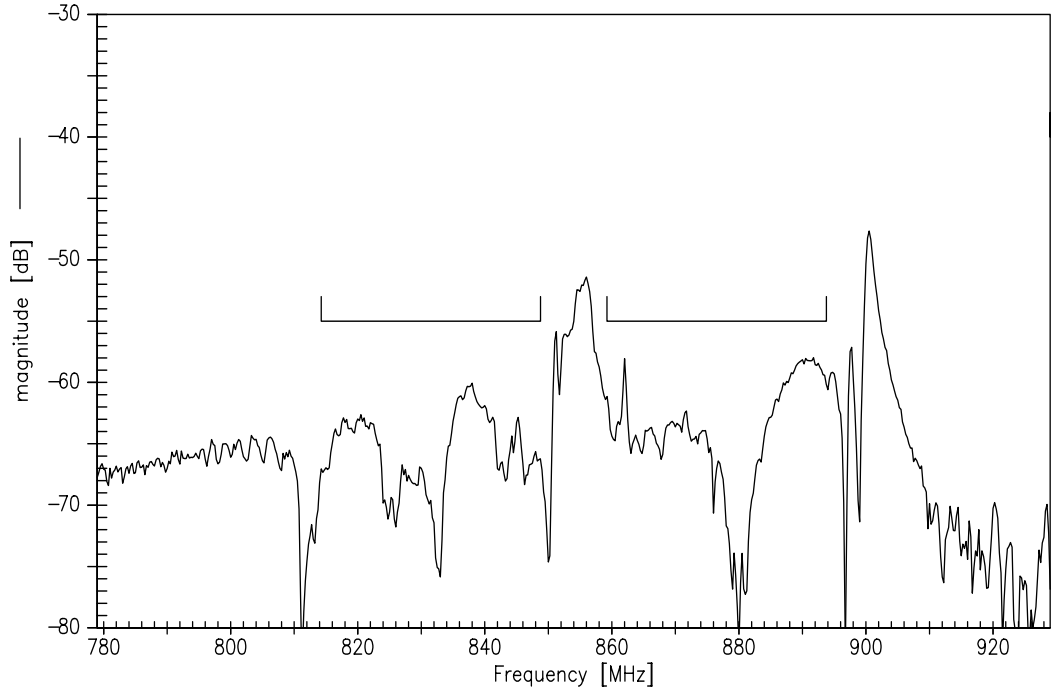
Frequency Response TX-ANT



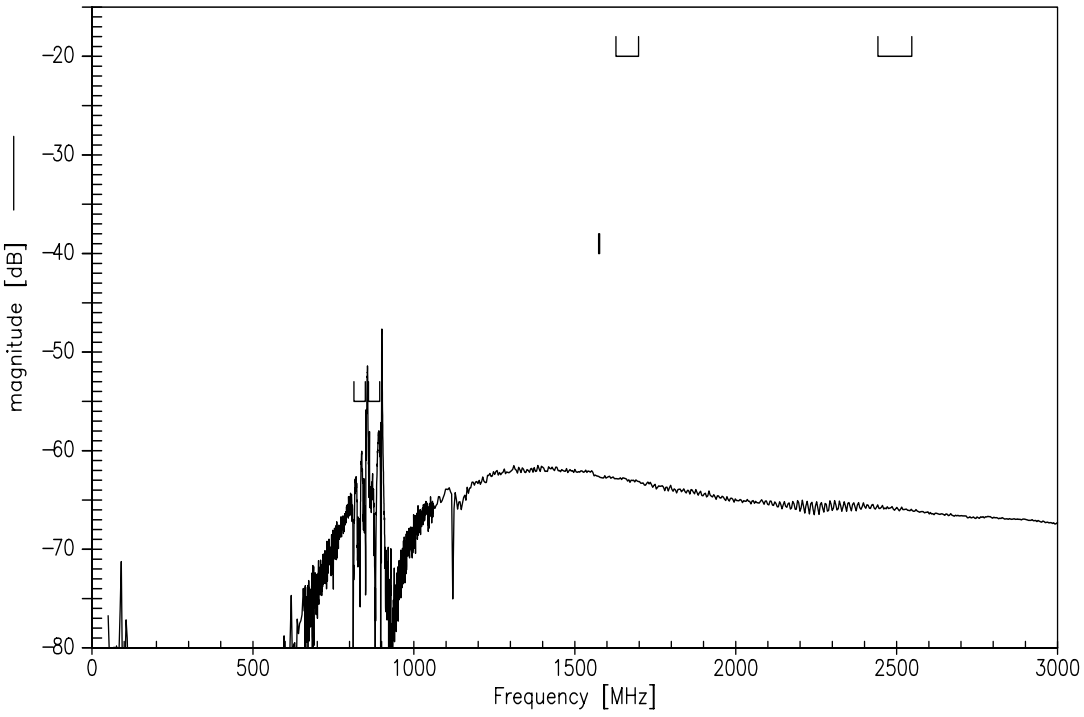
Frequency Response ANT-RX



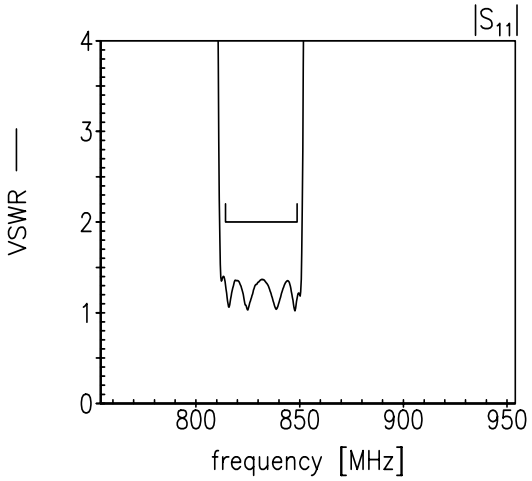
requency Response TX-RX

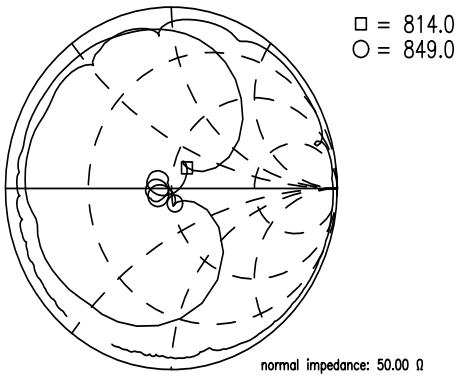


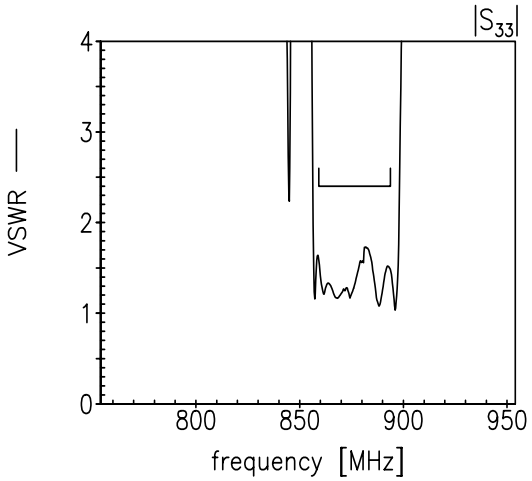
Frequency Response TX-RX

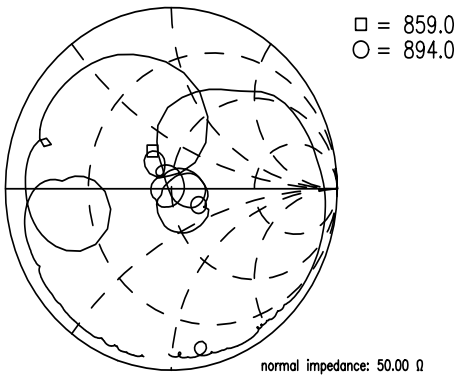


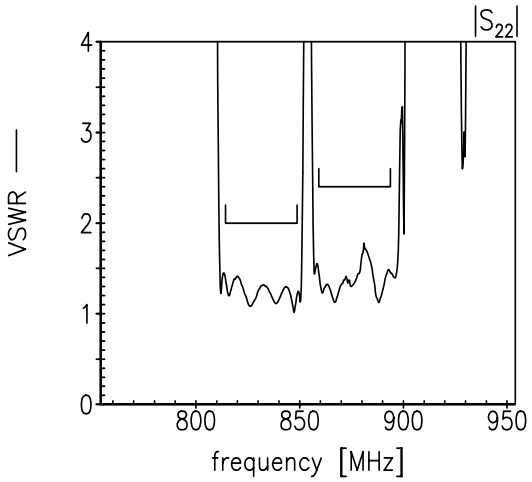
Return Loss **S_{11} TX- port** **S_{22} ANT-port** **S_{33} RX-port**

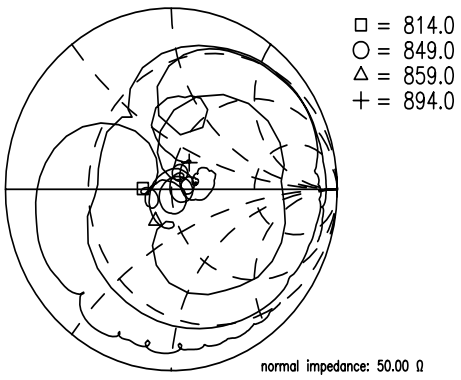












References

Type	B8546
Ordering code	B39871B8546P810
Marking and package	C61157-A8-A95-1-27
Packaging	F61074-V8259-Z000-2-27
Date codes	L_1126
S-parameters	B8546_NB.s3p, B8546_WB.s3p
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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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