SAW Components

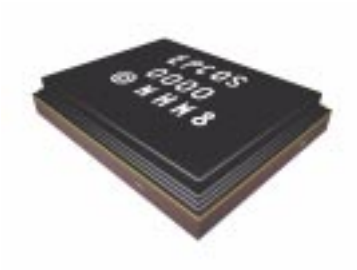
SAW Duplexer for smallcells

Band 4

Series/type:	**B8026**
Ordering code:	**B39212B8026P810**
Date:	January 26, 2015
Version:	2.0

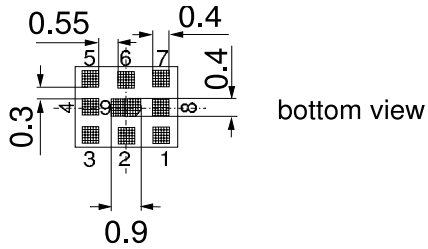
Application

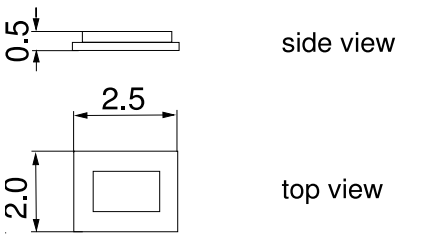
- Low-loss RF SAW Duplexer for smallcells and small-cell systems (Band 4)
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 45 MHz
- Tx = DOWNLINK = 2110-2155 MHz
- Rx = UPLINK = 1710-1755 MHz



Features

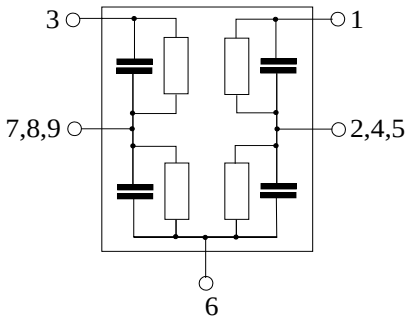
- Package size 2.5 x 2.0 mm²
- Max. Package height 0.5mm
- RoHS compatible
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel 3





Pin configuration

- 1 Tx Input
- 3 Rx output
- 6 Antenna
- 2,4,5,7,8,9 To be grounded



Data sheet SMD

Characteristics

Temperature range for specification: T = –10 ˚C to +85 ˚C
TX terminating impedance: Z_{Tx} = 50 Ω
ANT terminating impedance: Z_{Ant} = 50 Ω || 3.3 nH
RX teminating impedance: Z_{Rx} = 50 Ω

Characteristics ANT-Rx				min.	typ. @ 25 ˚C	max.	
Center frequency		f_C		—	1732.5	—	MHz
Maximum insertion attenuation							
1710.0 ... 1755.0	MHz	α_{max}		—	2.0	3.1	dB
Amplitude ripple (p-p)							
1710.0 ... 1755.0	MHz	$\Delta\alpha$		—	0.6	1.7	dB
Error Vector Magnitude							
@$f_{carrier}$1712.4 ... 1752.6	MHz	EVM[1)]		—	1.2	3.0	%
VSWR (Rx port)							
1710.0 ... 1755.0	MHz			—	1.6	2.1	
VSWR (Ant port)							
1710.0 ... 1755.0	MHz			—	1.6	2.2	
Absolute Attenuation		α					
50.0 ... 1500.0	MHz			45	57	—	dB
1670.0 ... 1675.0	MHz			21	26	—	dB
1805.0 ... 1830.0	MHz			20	37	—	dB
1830.0 ... 1875.0	MHz			35	47	—	dB
1875.0 ... 1910.0	MHz			20	46	—	dB
1920.0 ... 1980.0	MHz			40	49	—	dB
2110.0 ... 2155.0	MHz			50	54	—	dB
2400.0 ... 2500.0	MHz			38	49	—	dB
3420.0 ... 3510.0	MHz			40	45	—	dB
4220.0 ... 4310.0	MHz			35	46	—	dB
5130.0 ... 5265.0	MHz			29	42	—	dB

1) Error Vector Magnitude (EVM) based on definition given in 3GPP TS 25.141

Characteristics

Temperature range for specification: T = –10 ˚C to +85 ˚C
TX terminating impedance: Z_{Tx} = 50 Ω
ANT terminating impedance: Z_{Ant} = 50 Ω || 3.3 nH
RX teminating impedance: Z_{Rx} = 50 Ω

Characteristics Tx-ANT		min.	typ. @ 25 ˚C	max.	
Center frequency	f_c	—	2132.5	—	MHz
Maximum insertion attenuation	α				
2110.0 ... 2155.0 MHz		—	2.0	2.4	dB
Amplitude ripple (p-p)	Δα				
2110.0 ... 2155.0 MHz		—	0.6	1.1	dB
Error Vector Magnitude					
@$f_{carrier}$2112.4 ... 2152.6 MHz	EVM[1)]	—	1.3	3.0	%
VSWR (Tx port)					
2110.0 ... 2155.0 MHz		—	1.7	2.1	
VSWR (Ant Port)					
2110.0 ... 2155.0 MHz		—	1.7	2.2	
Attenuation	α				
50.0 ... 1574.0 MHz		30	36	—	dB
1574.0 ... 1606.0 MHz		35	40	—	dB
1606.0 ... 1710.0 MHz		35	42	—	dB
1710.0 ... 1755.0 MHz		38	50	—	dB
1830.0 ... 1875.0 MHz		28	36	—	dB
1875.0 ... 1910.0 MHz		20	33	—	dB
1920.0 ... 2025.0 MHz		15	30	—	dB
2200.0 ... 2300.0 MHz		5	12	—	dB
2300.0 ... 2400.0 MHz		30	36	—	dB
2400.0 ... 2500.0 MHz		30	34	—	dB
2500.0 ... 3000.0 MHz		20	29	—	dB
4220.0 ... 4310.0 MHz		6	31	—	dB

[1)] Error Vector Magnitude (EVM) based on definition given in 3GPP TS 25.141

Characteristics

Data sheet SMD

Temperature range for specification: T = –10 ˚C to +85 ˚C
TX terminating impedance: Z_{Tx} = 50 Ω
ANT terminating impedance: Z_{Ant} = 50 Ω || 3.3 nH
RX teminating impedance: Z_{Rx} = 50 Ω

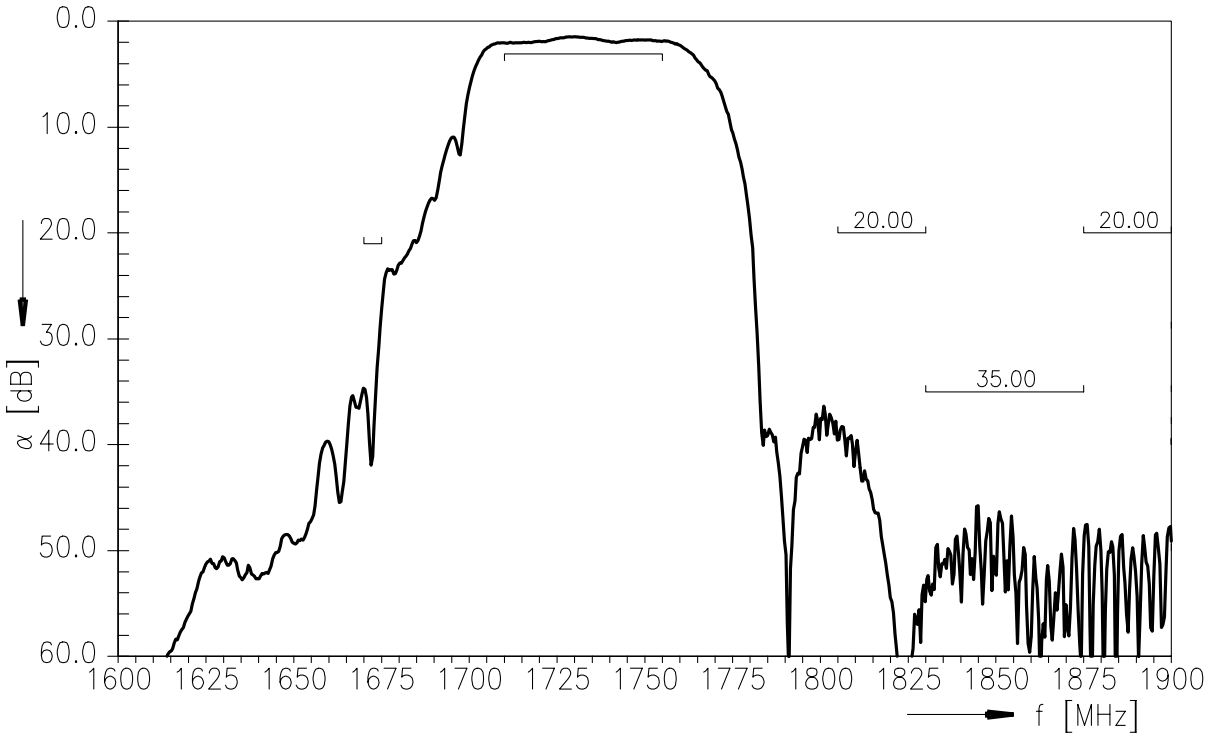
Characteristics Tx-Rx		min.	typ. @ 25 ˚C	max.	
Attenuation	α				
1710.0 ... 1755.0 MHz		40	53	—	dB
2110.0 ... 2155.0 MHz		45	53	—	dB

Maximum Ratings

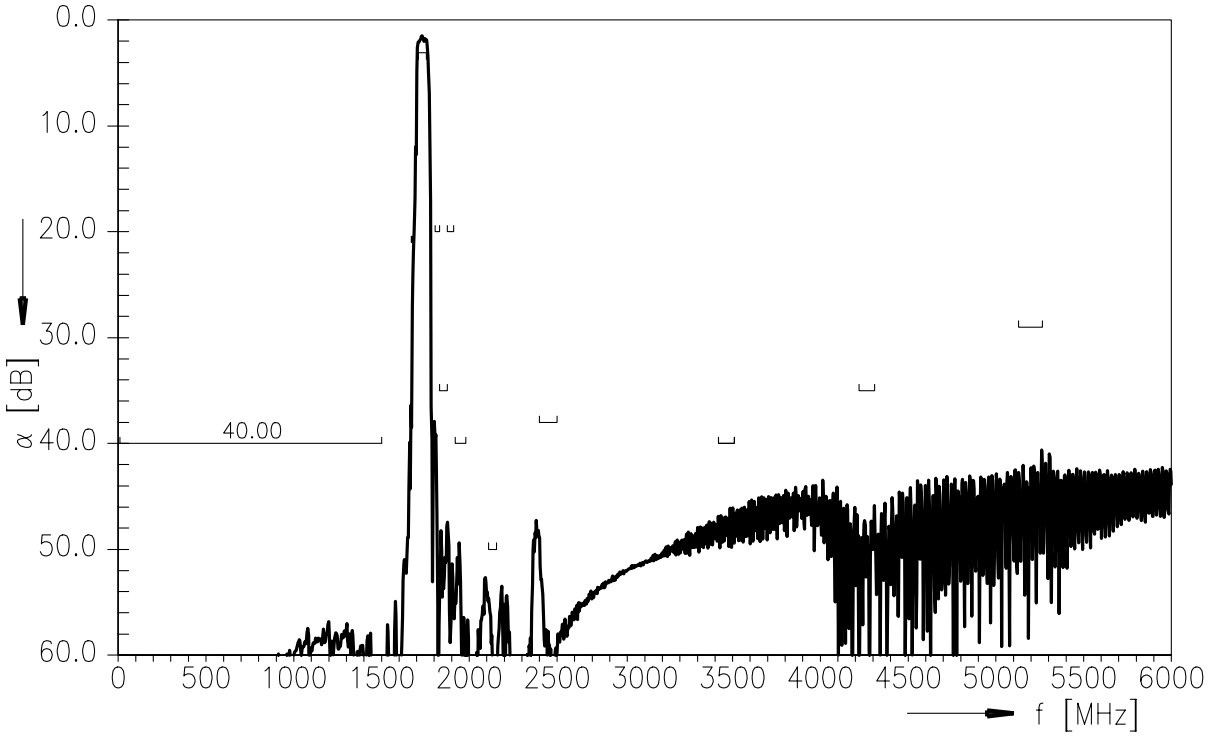
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	tbd[1)]	V	machine model, 10 pulses
Input power at pin 1				source and load impedance 50 Ω
2110.0 ... 2155.0 MHz	P_{in}	tbd	dBm	LTE 5 MHz downlink
				T = 55˚C, 50.000 h
elsewhere	P_{in}	tbd	dBm	
Operating lifetime with Output power at antenna		24Tbc[2)]	dBm	Continuous wave T = 55˚C, 100khrs
2110.0 ... 2155.0 MHz				

1) acc. to JESD22-A115B (machine model), +/-10 pulses.values to be verified by hardware test.
2) values to be confirm from High Temperature Operating Life (HTOL) test.

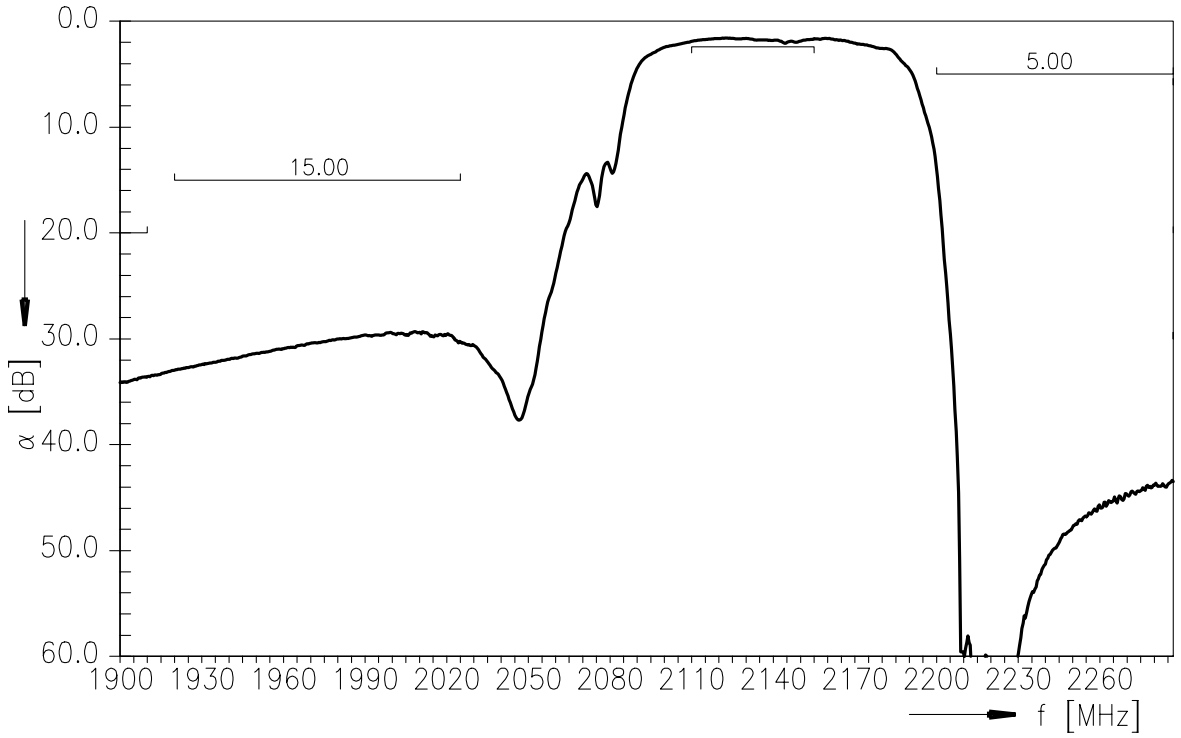
Frequency response RX-ANT



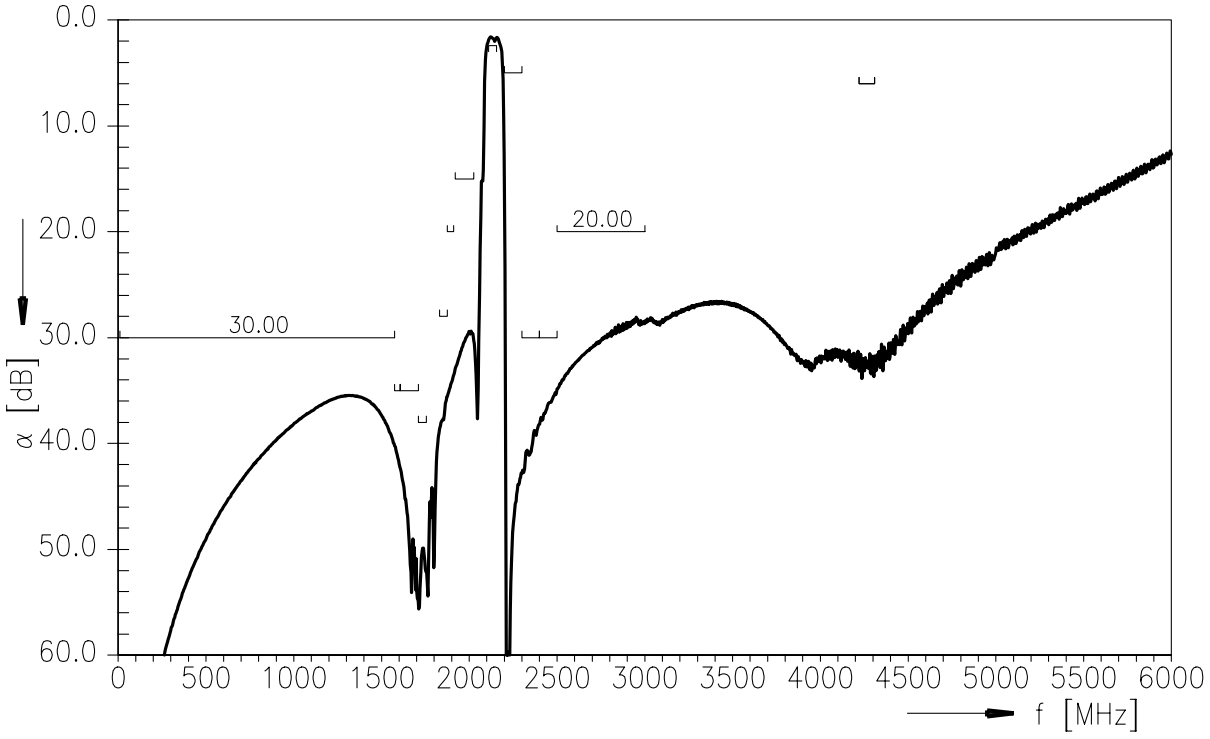
Frequency response RX-ANT (wideband)



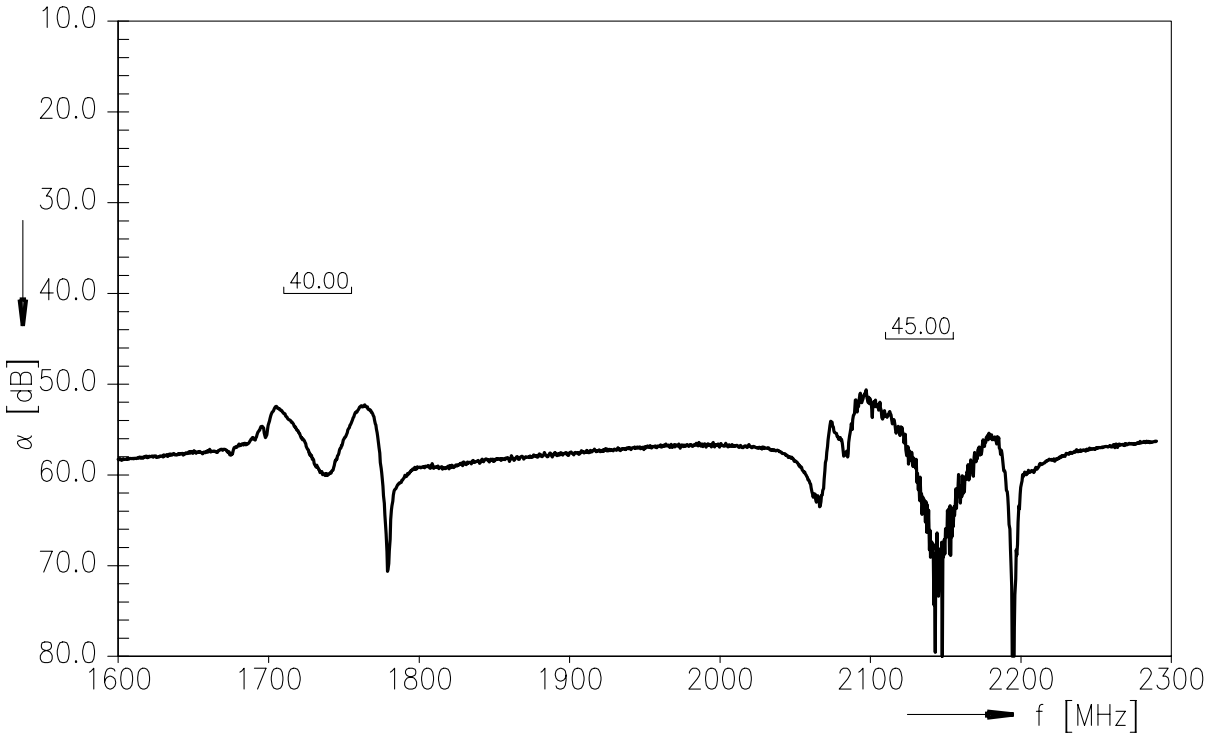
Frequency response TX-ANT



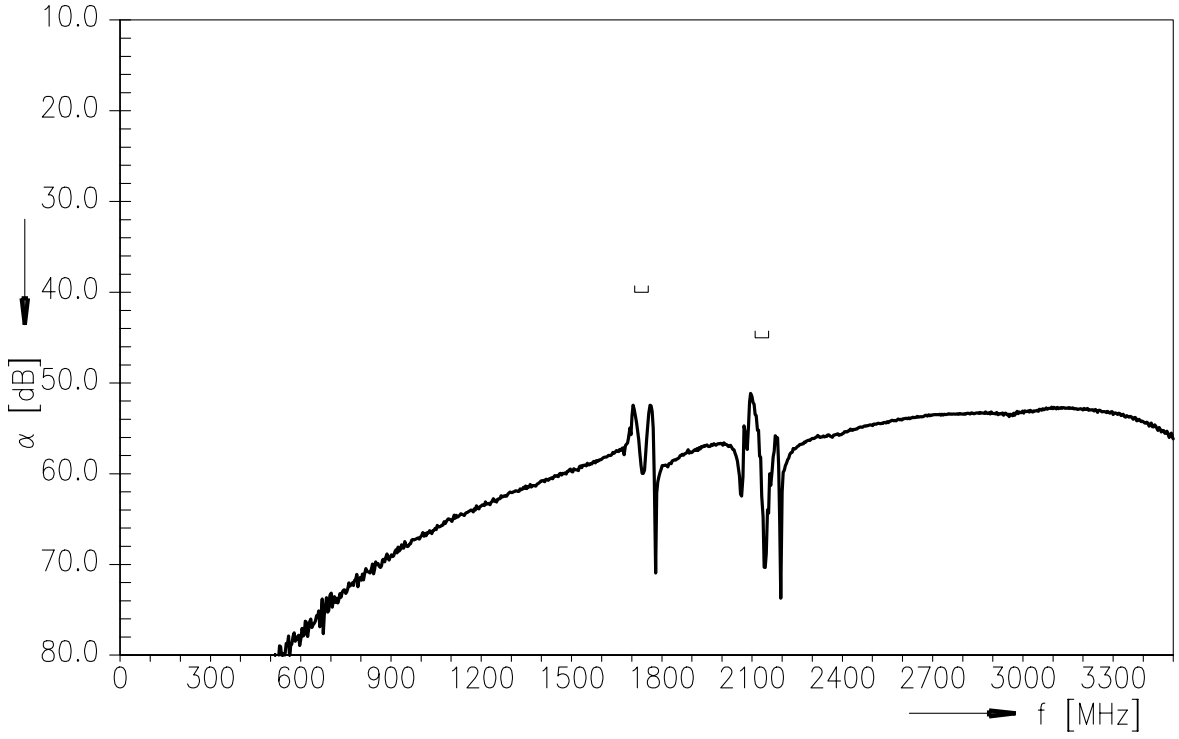
Frequency response TX-ANT (wideband)



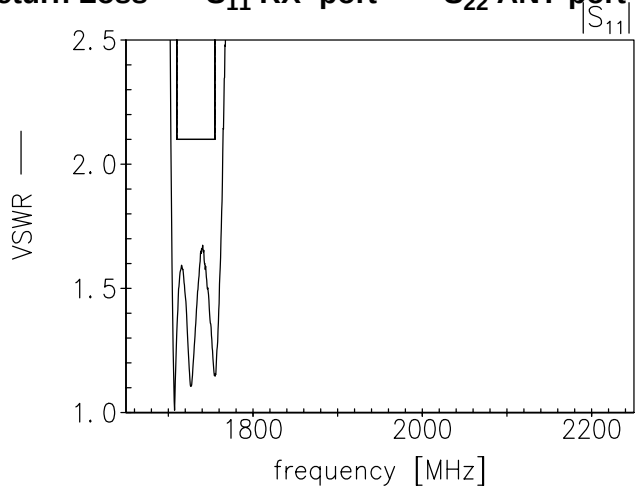
Frequency response TX-RX

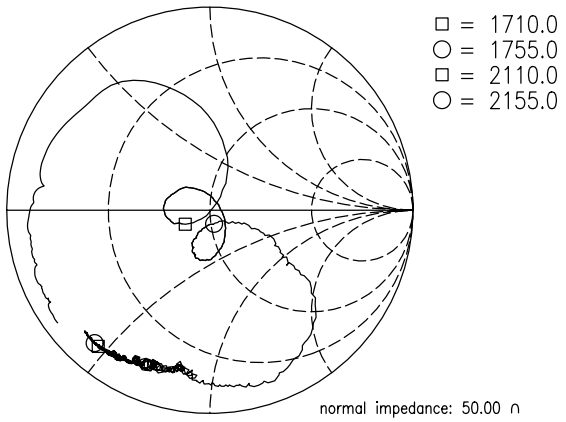


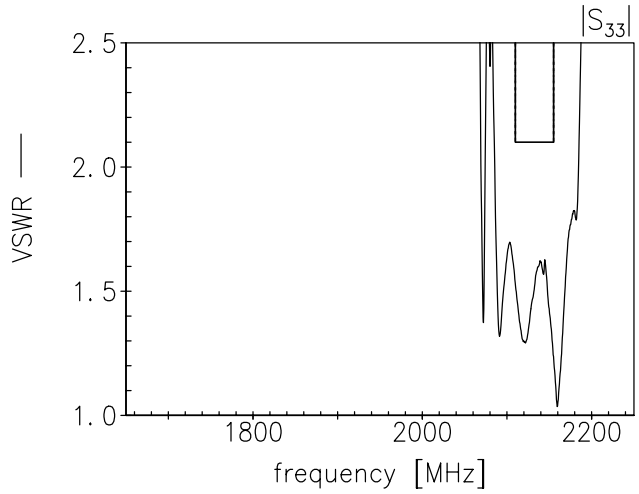
Frequency response TX-RX (wideband)

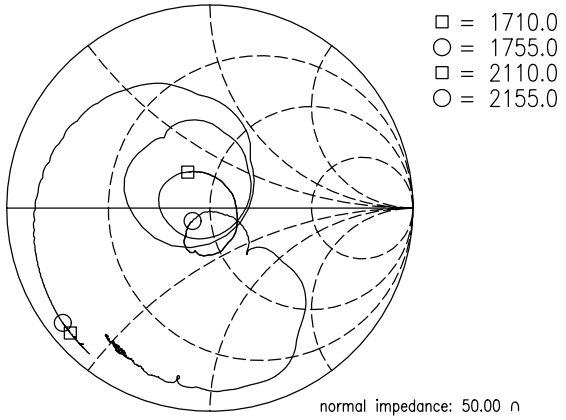


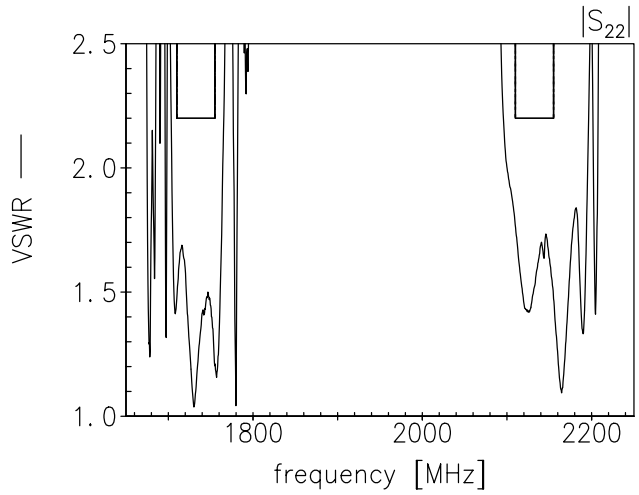
Return Loss **S_{11} RX- port** **S_{22} ANT-port** **S_{33} TX-port**

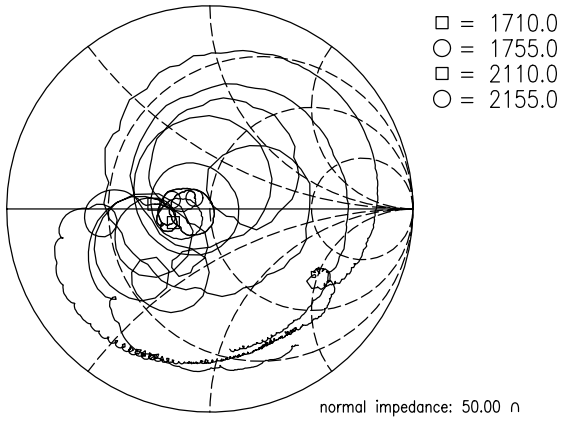












References

Type	B8026
Ordering code	B39212B8026P810
Marking and package	C61157-A3-A27
Packaging	F61074-V8232-Z000
Date codes	L_1126
S-parameters	B8026_UN_NB.s3p , B8026_UN_WB.s3p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
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