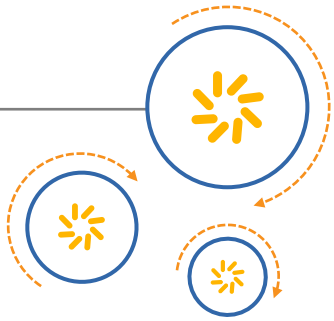
RF360 Europe GmbH

A Qualcomm – TDK Joint Venture



SAW Components

SAW Duplexer for smallcells and femto-cells

Band 20 (LTE)

Series/type:	B8030
Ordering code:	B39851B8030P810
Date:	November 18, 2015
Version:	2.1

RF360 products mentioned within this document are offered by RF360 Europe GmbH and other subsidiaries of RF360 Holdings Singapore Pte. Ltd. (collectively, the “RF360 Subsidiaries”). RF360 Holdings Singapore Pte. Ltd. is a joint venture of Qualcomm Global Trading Pte. Ltd. and EPCOS AG. References in this documentation to EPCOS AG should properly reference, and shall be read to reference, the RF360 Subsidiaries.

RF360 Europe GmbH, Anzinger Str. 13, München, Germany

SAW Components

SAW Duplexer for smallcells and femto-cells

Band 20 (LTE)

Series/type:	**B8030**
Ordering code:	**B39851B8030P810**
Date:	November 18, 2015
Version:	2.1

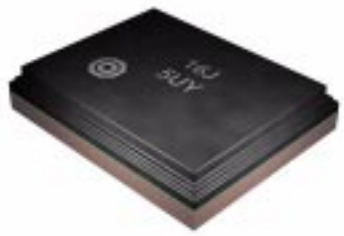
EPCOS AG is a TDK Group Company.

SAW Duplexer for smallcells and femtocells 847.0 / 806.0 MHz

Data sheet SMD

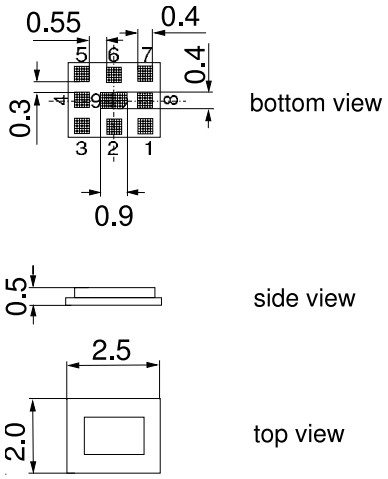
Application

- Low-loss SAW duplexer for LTE smallcells systems (Band 20)
- Usable passband 30MHz
- High power durability in downlink
- TX = DOWNLINK = 791-821MHz
- RX = UPLINK = 832-862MHz



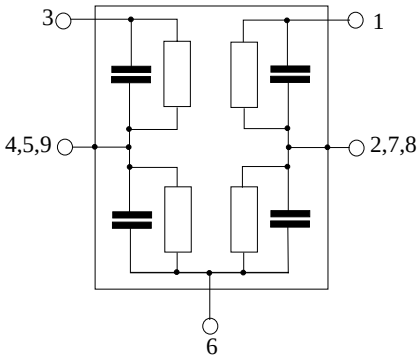
Features

- 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 2a



Pin configuration

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



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
RX teminating impedance: Z_{Rx} = 50 Ω

Characteristics Tx-Antenna		min.	typ. @ 25 ˚C	max.	
Center frequency	f_c	—	806.0	—	MHz
Maximum insertion attenuation	α				
791.0 ... 821.0 MHz		—	2.8	3.8	dB
Amplitude ripple (p-p)	Δα				
791.0 ... 821.0 MHz		—	1.6	2.6	dB
Error Vector Magnitude					
@$f_{Carrier}$ 793.4 ... 818.6 MHz	EVM[1)]	—	3.5	6.0	%
VSWR (Tx port)					
791.0 ... 821.0 MHz		—	1.8	2.3	
VSWR (Ant port)					
791.0 ... 821.0 MHz		—	1.9	2.1	
Absolute attenuation	$α_{abs}$				
100.0 ... 750.0 MHz		30	39	—	dB
832.0 ... 862.0 MHz		39	50	—	dB
880.0 ... 915.0 MHz		30	42	—	dB
925.0 ... 960.0 MHz		30	41	—	dB
1574.0 ... 1785.0 MHz		40	49	—	dB
1805.0 ... 1980.0 MHz		40	55	—	dB
2110.0 ... 2170.0 MHz		40	52	—	dB
2373.0 ... 2484.0 MHz		30	39	—	dB
2496.0 ... 2570.0 MHz		40	46	—	dB
2620.0 ... 2690.0 MHz		40	45	—	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
RX teminating impedance: Z_{Rx} = 50 Ω

Characteristics Antenna-Rx		min.	typ. @ 25 ˚C	max.	
Center frequency	f_c	—	847.0	—	MHz
Maximum insertion attenuation	α				
832.0 ... 862.0 MHz		—	2.9	3.8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
832.0 ... 862.0 MHz		—	1.8	2.6	dB
Error Vector Magnitude					
@$f_{Carrier}$ 834.4 ... 859.6 MHz	EVM[1)]	—	4.5	6.0	%
VSWR (Ant port)					
832.0 ... 862.0 MHz		—	1.6	2.0	
VSWR (Rx port)					
832.0 ... 862.0 MHz		—	1.7	2.2	
Absolute attenuation	α_{abs}				
100.0 ... 791.0 MHz		35	37	—	dB
791.0 ... 821.0 MHz		44	46	—	dB
880.0 ... 915.0 MHz		20	42	—	dB
1000.0 ... 2200.0 MHz		30	37	—	dB
2200.0 ... 2700.0 MHz		30	39	—	dB
2700.0 ... 4000.0 MHz		30	46	—	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
RX teminating impedance: Z_{Rx} = 50 Ω

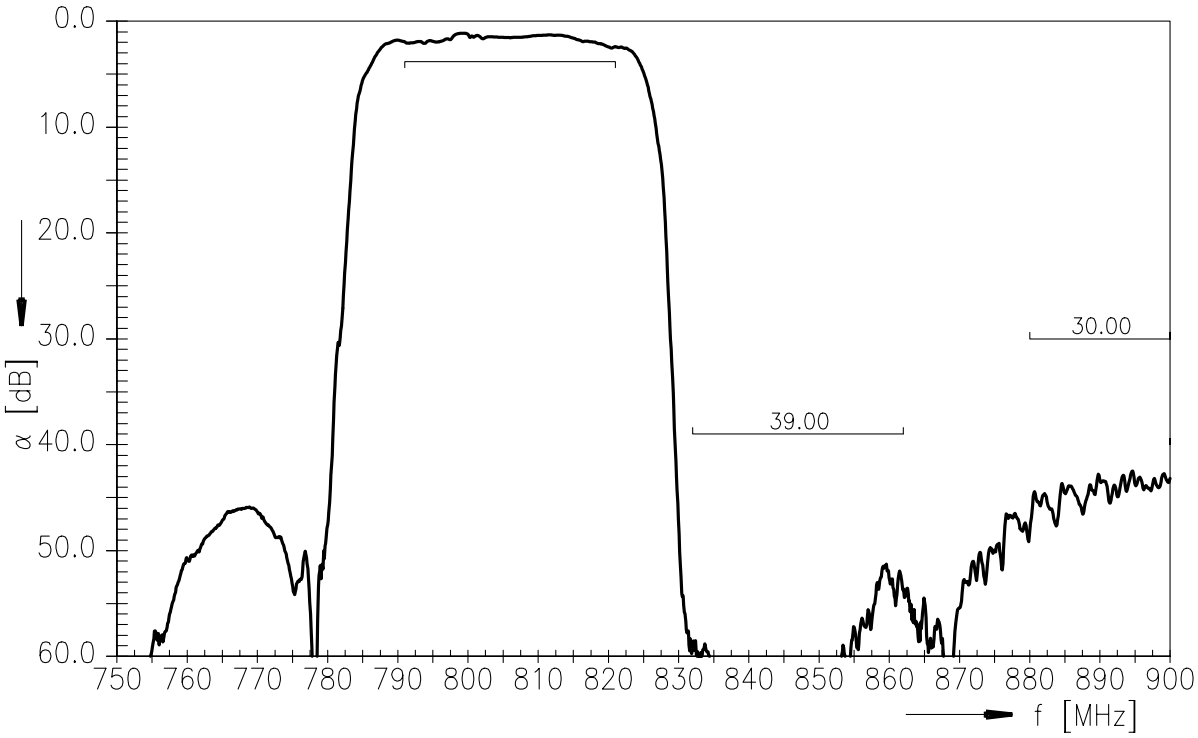
Characteristics Tx-Rx		min.	typ. @ 25 ˚C	max.	
Isolation	α				
791.0 ... 821.0 MHz		44	46	—	dB
832.0 ... 862.0 MHz		42	53	—	dB

Maximum Ratings

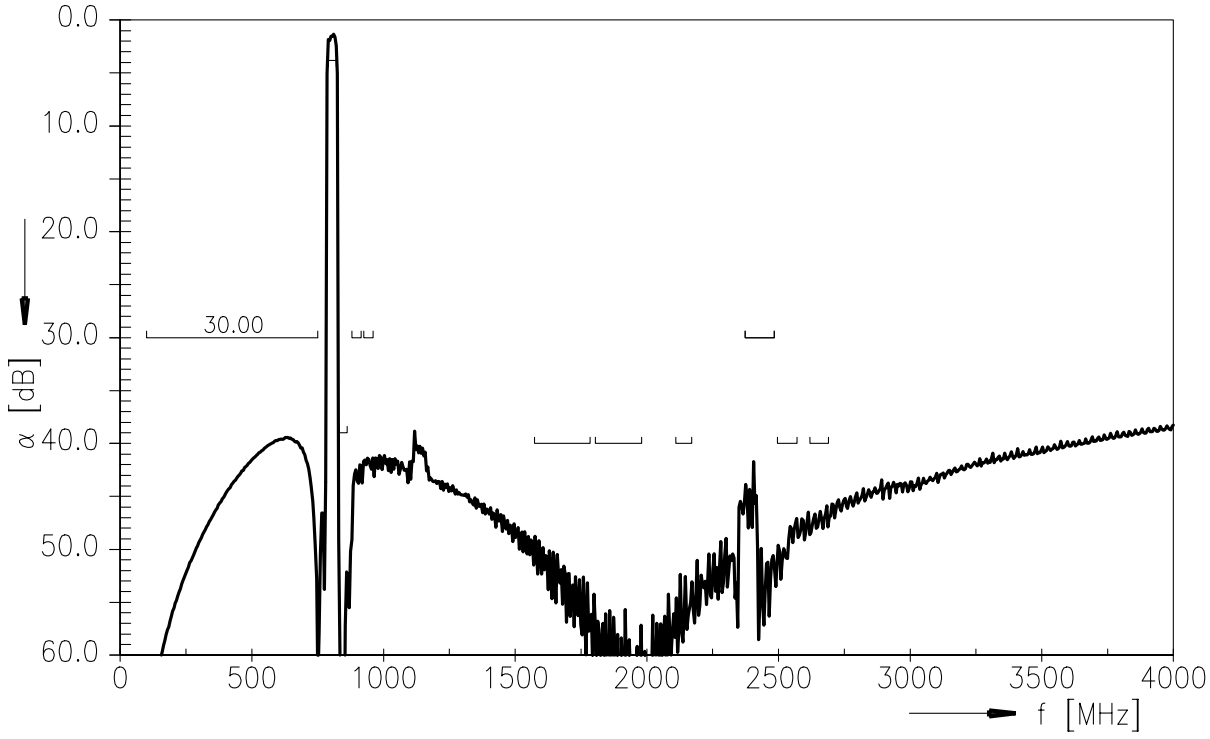
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	100[1)]	V	machine model, 1 pulse
Input power at pin 1				source and load impedance 50 Ω
791.0 ...821.0 MHz	P_{in}	28[2)]	dBm	} P_{in} 28dBm average - 39dBm peak, LTE 5 MHz dowlink, T = 55 ˚C, 100 000 hrs
elsewhere	P_{in}	10	dBm	
832.0 ...862.0 MHz	P_{in}	29[3)]	dBm	P_{in} 29dBm average, LTE 5 MHz Uplink, T = 55 ˚C, 5 000 hrs
Operating lifetime with Output power at antenna				source and load impedance 50 Ω
791.0 ...821.0 MHz		Tbc[4)]	dBm	Continuous wave, T = 55 ˚C, 100k hrs

1) According to JESD22-A115B (machine model), 1 negative and 1 postive pulse.
2) Time to failure (TTF) according to accelerated power durabilty tests, and wear out models.
3) Time to failure (TTF) according to accelerated power durability simulations acc. to wear out models.
4) values to be confirm from High Temperature Operating Life (HTOL) test.

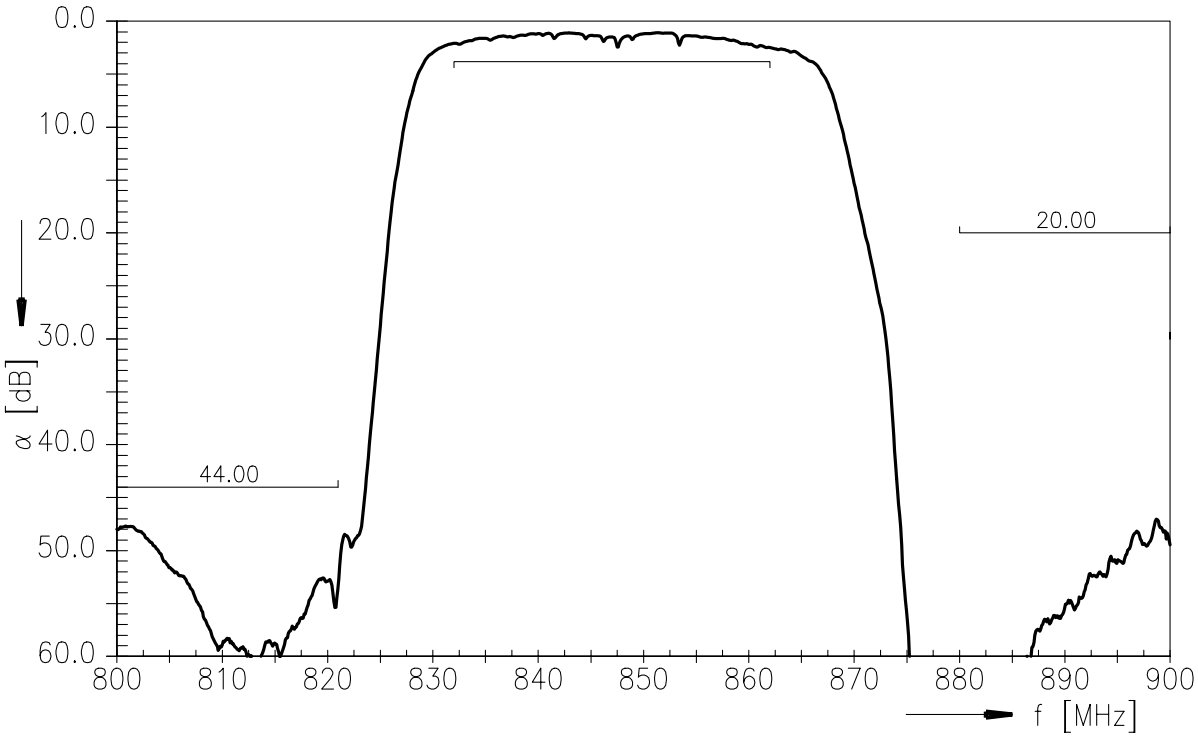
Frequency response TX-ANT



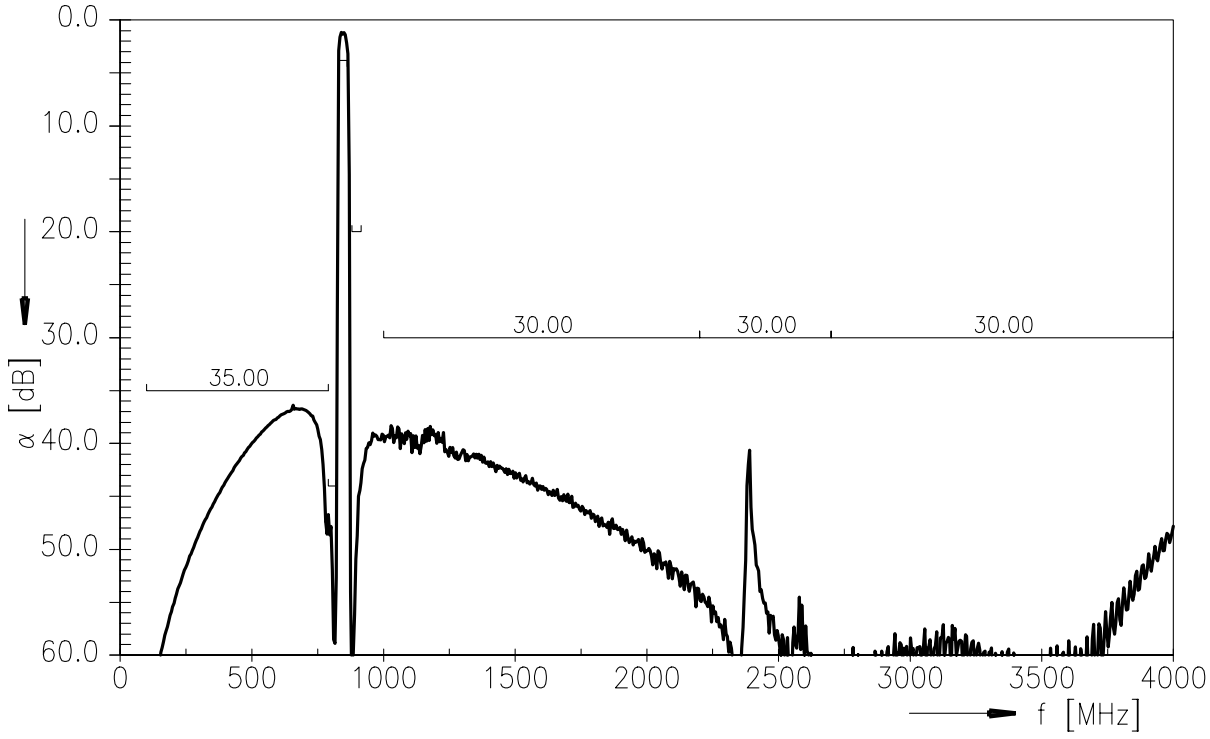
Frequency response TX-ANT (wideband)



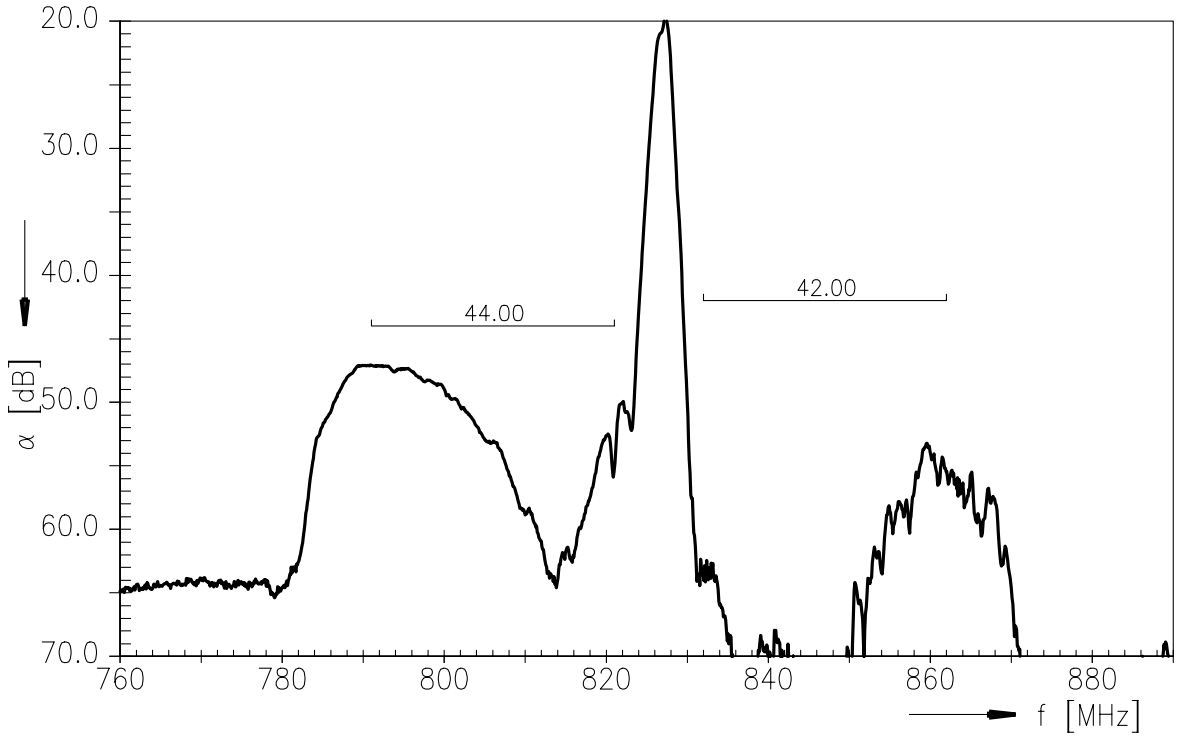
Frequency response ANT-RX



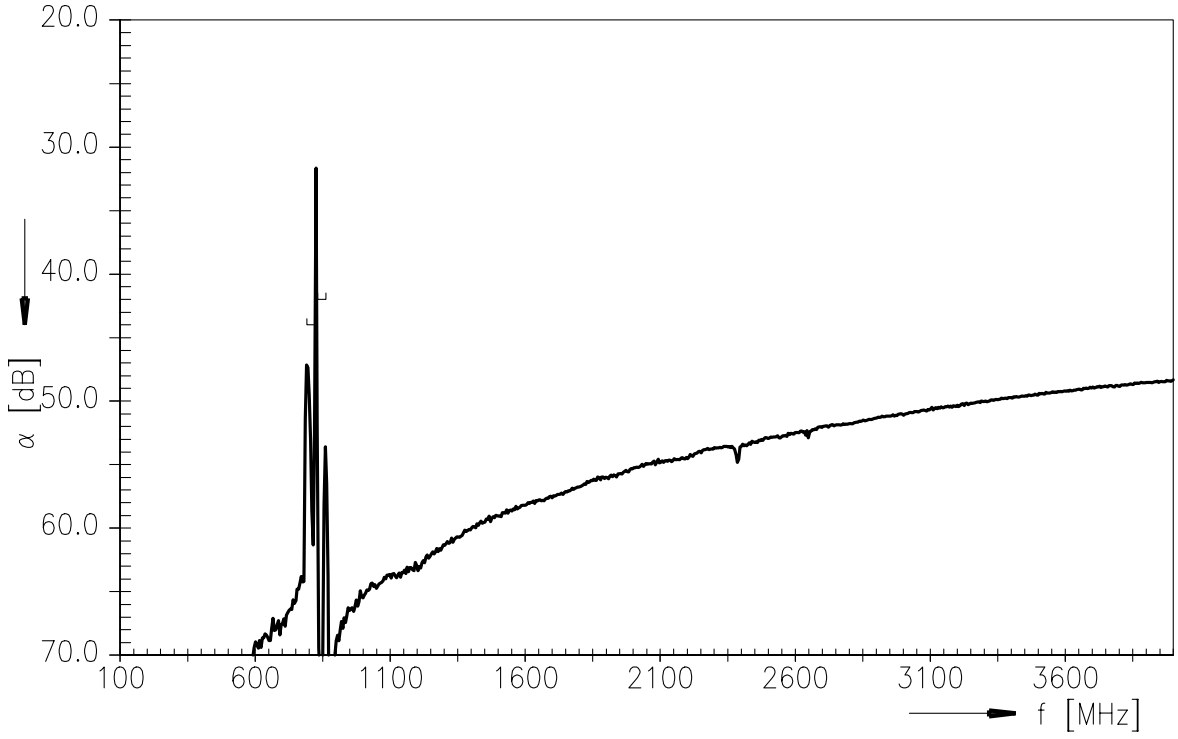
Frequency response ANT-RX (wideband)



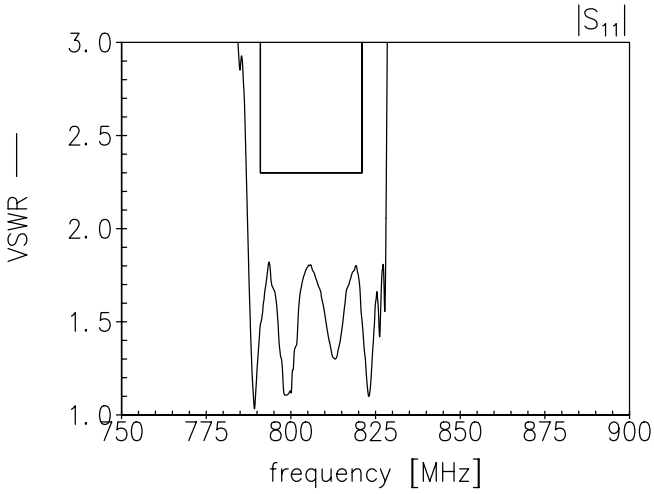
Frequency response TX-RX

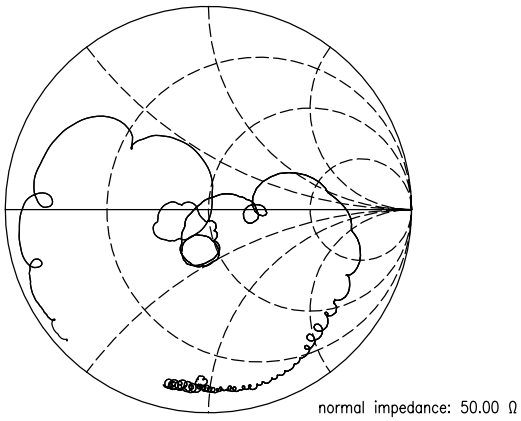


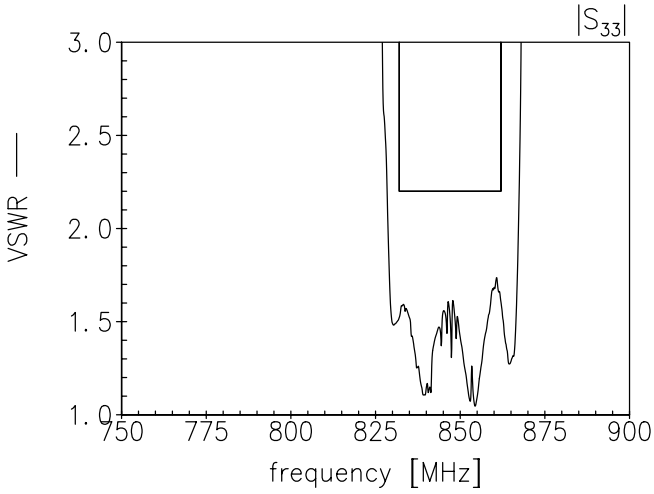
Frequency response TX-RX (wideband)

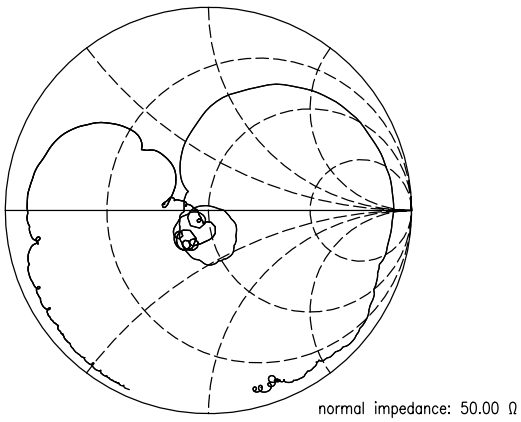


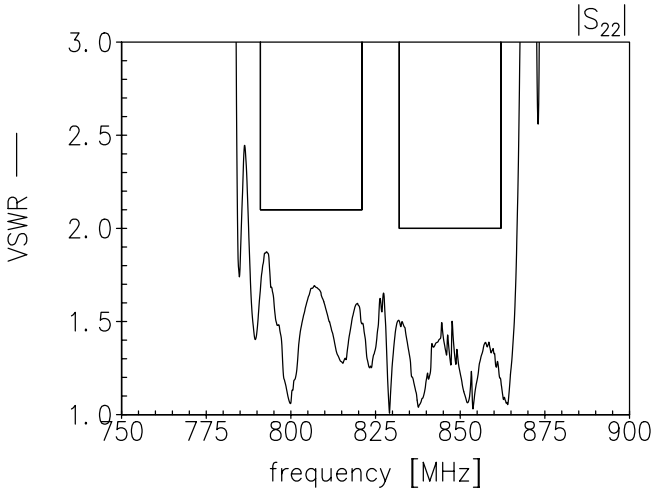
Return Loss **S_{11} TX- port** **S_{22} ANT-port** **S_{33} RX-port**

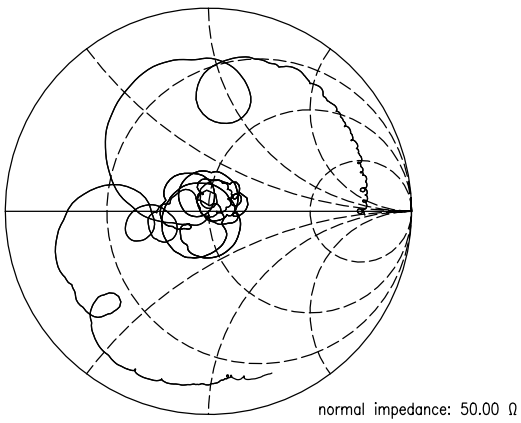












References

Type	B8030
Ordering code	B39851B8030P810
Marking and package	C61157-A3-A27
Packaging	F61074-V8232-Z000
Date codes	L_1126
S-parameters	B8030_NB.s3p , B8030_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.
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 for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

Published by EPCOS AG
Systems, Acoustics, Waves Business Group
P.O. Box 80 17 09, 81617 Munich, GERMANY

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.
   We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, Alu-X, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CSSP, CTVS, DeltaCap, DigiSiMic, DSSP, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PQSine, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SIP5D, SIP5K, TFAP, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Qualcomm RF360:

B39851B8030P810

OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».

AVIC JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).

FORSTAR®

Телефон: 8 (812) 309-75-97 (многоканальный)
Факс: 8 (812) 320-03-32
Электронная почта: ocean@oceanchips.ru
Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А