



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



"High Frequency Ceramic Solutions"

433 MHz Impedance Matched Balun + LPF Integrated Front-End SMD Passive Component for SiLabs Si4455, Si4460, Si4461, Si4463, and Si4464 Chipsets

P/N 0433BM41A0019

Detail Specification: 5/30/2017

Page 1 of 5

General Specifications	
Part Number	0433BM41A0019
Frequency Range(MHz)	424-444
Balanced Impedance	Si4455, Si4460, Si4461, Si4463, Si4464
Unbalanced impedance	50Ω (single ended)
Average Insertion Loss when connected to Si44XX chipset (Active OP Tx/Rx)	0.9dB Typ@25C 1.5dB max. (-45 to +85C)
Insertion Loss when component measured by itself(passive insertion loss)	1.6dB Typ in Rx, 1.4dB Typ in Tx @25C 2.2dB max. in Rx, 1.9dB max. in Tx (-45 to +85C)
Attenuation dB (min.)	35 min. @ 2xfo MHz
	35 min. @ 3xfo MHz
	35 min. @ 4xfo MHz
	35 min. @ 5xfo MHz
Phase Diff. (deg.)	180° ± 10
VSWR @ BW	2.0 max.
Amplitude Difference (dB)	2.0 max.
Reel Quantity	4,000
Operating Temperature	-40 to +85°C
Recommended Storage Conditions for Unused product on T&R	+5 ~ +35 °C, Humidity 45~75%RH, 18 months.
Input Power	500mW max. (CW)



Download the gerber files at: <https://www.johansontechnology.com/silabs>

Part Number Explanation			
P/N Suffix	Packing Style	Bulk	Suffix = S eg. 0433BM41A0019S
		T & R	Suffix = E eg. 0433BM41A0019E
	Termination style	Ni/Sn	Suffix = None eg. 0433BM41A0019(E or S)

Mechanical Dimensions		
	In	mm
L	0.126 ± 0.008	3.20 ± 0.20
W	0.098 ± 0.008	2.50 ± 0.20
T	0.059 ± 0.006	1.50 ± 0.15
a1	0.022 ± 0.006	0.55 ± 0.15
a2	0.028 ± 0.008	0.70 ± 0.20
b	0.004 min.	0.1 min.
c	0.012 + 0.008	0.30 + 0.20
g	0.018 + 0.006	0.45 + 0.15
p	0.039 + 0.008	1.00 + 0.20

Unit :mm

Terminal Configuration			
No.	Function	No.	Function
1	GND	5	GND
2	Ant	6	TX
3	GND	7	RXN
4	GND	8	RXP

DC Connection for Pins	
(1)	Pin1 – Pin3 – Pin4 – Pin5
(2)	Pin2 – Pin7 – Pin8

Do you need to download the reference design/layout files? Go to: <https://www.johansontechnology.com/silabs>



4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.3

2017 Johanson Technology, Inc. All Rights Reserved

www.johansontechnology.com

"High Frequency Ceramic Solutions"

433 MHz Impedance Matched Balun + LPF Integrated Front-End SMD Passive
Component for SiLabs Si4455, Si4460, Si4461, Si4463, and Si4464 Chipsets

P/N 0433BM41A0019

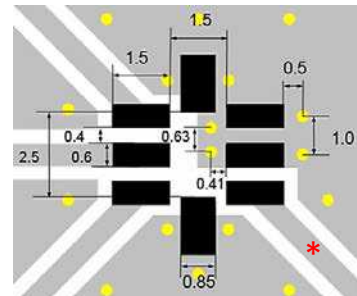
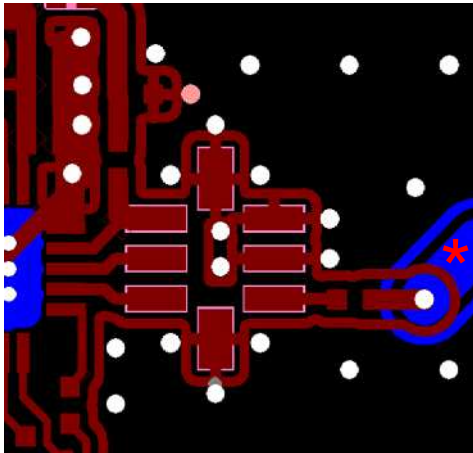
Detail Specification: 5/30/2017

Page 2 of 5

Mounting Considerations

* Line/Via width should be designed to match 50Ohm characteristic impedance, depending on PCB material and thickness.

Download gerber files at: <https://www.johansontechnology.com/silabs>

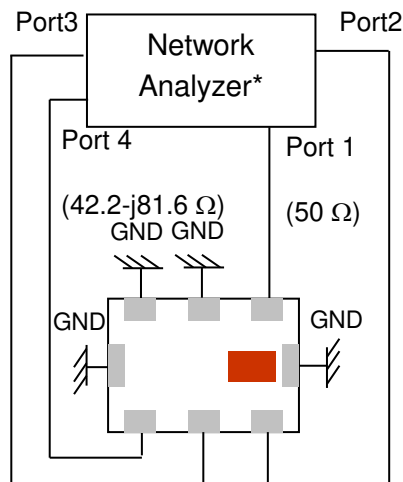


- Solder Resist
- Land
- Through-hole (ϕ 0.3)

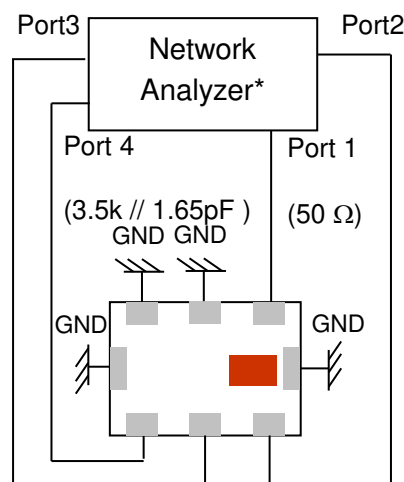
Do you need the layout/gerber files of the above? Go to: <https://www.johansontechnology.com/silabs> or send us a message at: <https://www.johansontechnology.com/ask-a-question>

Measuring Diagram

Tx Mode



Rx Mode



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.3

2017 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz Impedance Matched Balun + LPF Integrated Front-End SMD Passive Component for SiLabs Si4455, Si4460, Si4461, Si4463, and Si4464 Chipsets

P/N 0433BM41A0019

Detail Specification: 5/30/2017

Page 3 of 5

Measuring Diagram (cont.)

Tx Mode:

Port1: Antenna Port
Port1 Terminate impedance: 50ohm
Ports 2 and 3: Rx Balanced Port
Port 2 and 3 Terminate impedance:
1/2 x (the loading impedance ZIC,RX
off of Si4455)
Port4: Tx Port
Port4 Terminate impedance:
Complex conjugate to ZIC,TX on of
Si4455

IL = S41
RL = S11 / S44

RXMode:

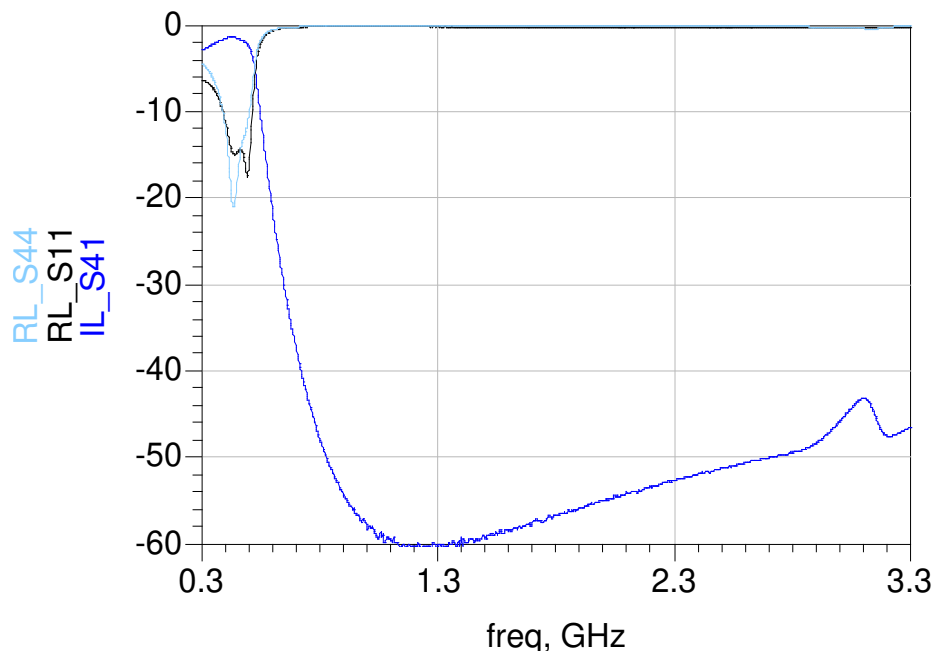
Port 1: Antenna Port
Port1 Terminate impedance: 50ohm
Ports 2 and 3: Rx Balanced Port
Port 2 and 3 Terminate impedance:
Complex conjugate to 1/2 x (Balance
impedance of ZIC,RX on of Si4455)
Port4: Tx Port
Port4 Terminate impedance: The loading
impedance ZIC,TX off of Si4455

IL=Sds21
RL=Sss11 / Sdd22
Amp_balance = dB(S(3,1)/S(2,1))

Typical Electrical Characteristics (T=25oC)

TX mode:

Insertion and Return Loss



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.3

2017 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz Impedance Matched Balun + LPF Integrated Front-End SMD Passive Component for SiLabs Si4455, Si4460, Si4461, Si4463, and Si4464 Chipsets

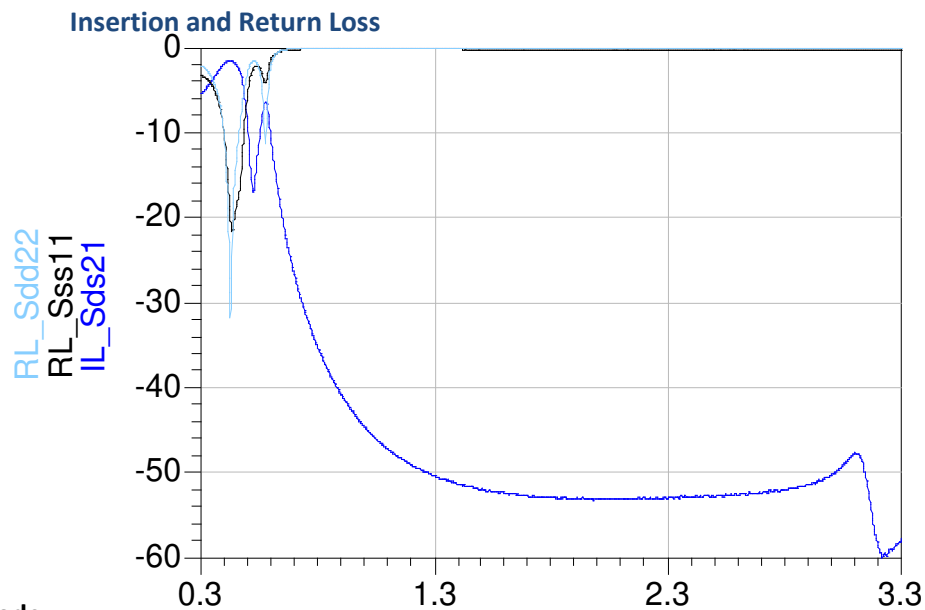
P/N 0433BM41A0019

Detail Specification: 5/30/2017

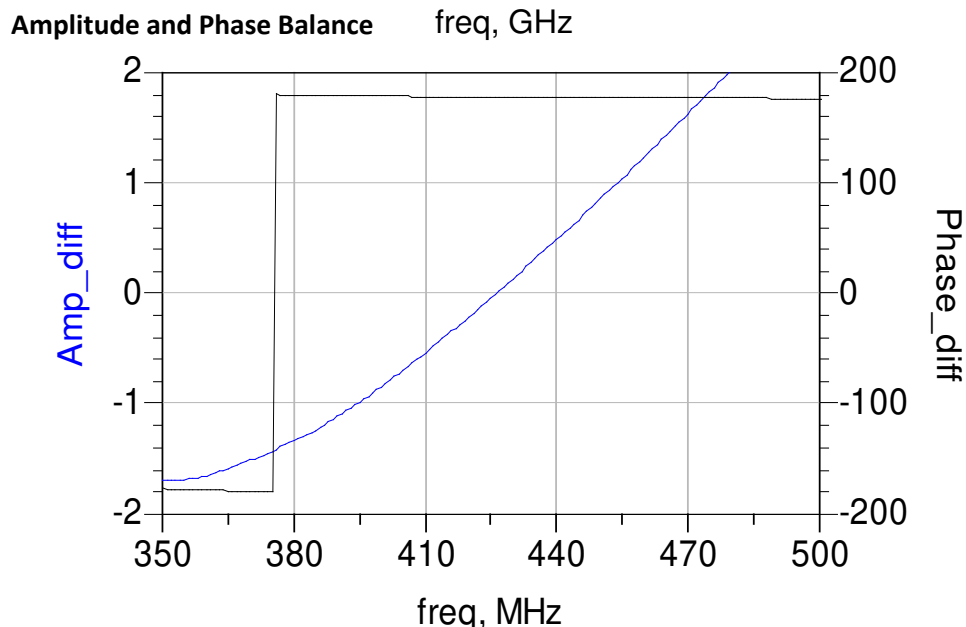
Page 4 of 5

Typical Electrical Characteristics (T=25oC)

RX mode:



RX mode:



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.3

2017 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz Impedance Matched Balun + LPF Integrated Front-End SMD Passive
Component for SiLabs Si4455, Si4460, Si4461, Si4463, and Si4464 Chipsets

P/N 0433BM41A0019

Detail Specification: 5/30/2017

Page 5 of 5

Application Notes, Layout Files, and more

www.johansontechnology.com/silabs

RoHS Compliance

www.johansontechnology.com/technical-notes/rohs-compliance.html

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

Antenna layout and tuning techniques

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

www.johansontechnology.com/ipcantennaservices

MSL Info

www.johansontechnology.com/technical-notes/msl-rating

Recommended Storage Condition and Max Shelf Life

www.johansontechnology.com/recommended-storage-conditions

Packaging information

www.johansontechnology.com/tape-reel-packaging

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 1.3 2017 Johanson Technology, Inc. All Rights Reserved