

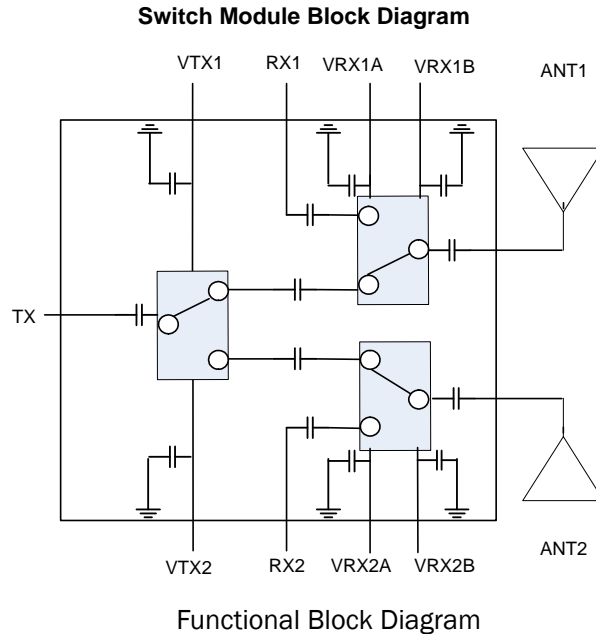


**Features**

- Single Voltage: 2.5 to 5.0V
- 40dBm P1dB at 3.0V
- Low Insertion Loss and High Isolation
- Antenna Diversity

**Applications**

- WiMAX, WiFi, and Cellular
- Commercial and Consumer Systems



**Product Description**

This module is a 1x2 switch module intended to address WiMAX, WiFi, and Cellular 700MHz to 2.7GHz, 3.3GHz to 3.8GHz applications. This switch is specified to be capable of supporting linear power levels over 1 watt. The small form factor and integrated DC blocking minimizes the layout size and reduces the number of external components. The device is provided in a 4 mm x 4 mm x 0.9mm LGA package. This module meets or exceeds the RF Front End needs of IEEE802.11b/g/n and IEEE802.16 systems.

**Ordering Information**

RF5620                      2.5V to 5.0V, 700MHz to 3.8GHz Integrated Switch Module  
RF5620PCBA-410        Fully Assembled Evaluation Board

**Optimum Technology Matching® Applied**

- |                                      |                                      |  |                                    |
|--------------------------------------|--------------------------------------|--|------------------------------------|
| <input type="checkbox"/> GaAs HBT    | <input type="checkbox"/> SiGe BiCMOS | <input checked="" type="checkbox"/> GaAs pHEMT | <input type="checkbox"/> GaN HEMT  |
| <input type="checkbox"/> GaAs MESFET | <input type="checkbox"/> Si BiCMOS   | <input type="checkbox"/> Si CMOS               | <input type="checkbox"/> BiFET HBT |
| <input type="checkbox"/> InGaP HBT   | <input type="checkbox"/> SiGe HBT    | <input type="checkbox"/> Si BJT                | <input type="checkbox"/> LD MOS    |

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## Absolute Maximum Ratings

Parameter	Rating	Unit
Supply Voltage	-0.5 to +5.25	V
Power Control Voltage ( $V_{REG}$ )	-0.5 to +6.0	V
DC Supply Current	TBD	mA
Input RF Power with 50Ω Output Load	TBD	dBm
Input RF Power with Non-50Ω Output Load	TBD	dBm
Operating Ambient Temperature	-30 to +85	°C
Storage Temperature	-40 to +150	°C



**Caution!** ESD sensitive device.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

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RFMD Green: RoHS compliant per EU Directive 2002/95/EC, halogen free per IEC 61249-2-21, < 1000ppm each of antimony trioxide in polymeric materials and red phosphorus as a flame retardant, and <2% antimony in solder.

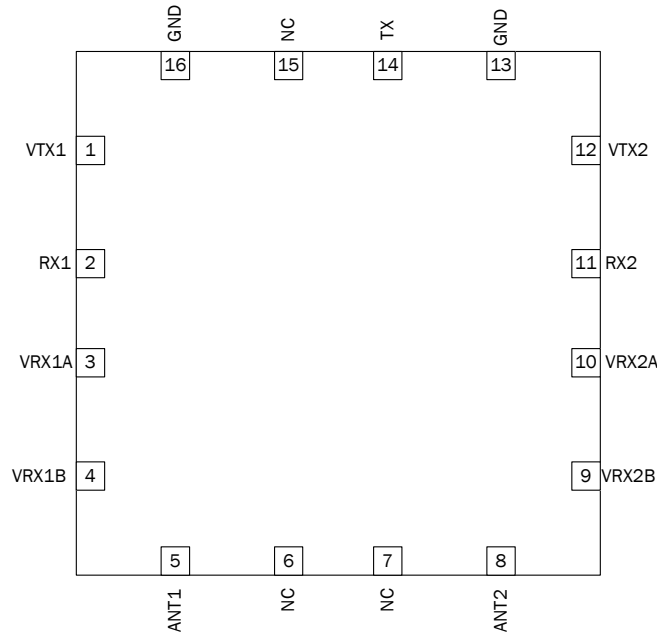
Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Frequency	700		2700	MHz	Compliance with 802.16e standard
Tx Insertion Loss - Tx to ANT1,2		1.2	1.5	dB	
Rx Insertion Loss - Rx to ANT1,2		0.7	1	dB	
Frequency	3300		3800	MHz	
Tx Insertion Loss - Tx to ANT1,2		1.5	1.8	dB	
Rx Insertion Loss - Rx to ANT1,2		0.9	1.2	dB	
Tx - ANT Isolation	25	28		dB	Tx - ANT 1 & 2
Rx - ANT Isolation	25	28		dB	Rx1,2 to ANT 1,2
Return Loss (ON State)	15	20		dB	Tx - ANT 1, 2
Return Loss (OFF State)	15	20		dB	Rx1,2 to ANT 1, 2
Input P1dB	38	40	28.5	dBm	AT Vcontrol=3.0V
IIP3		TBD		dBm	
Switching Speed		300	500	nsec	50% CTL to 90%/10% RF
Switching Speed		150	300	nsec	90%/10% RF to 10%/90% RF
Control Voltage High	2.5	3	5	V	
Control Voltage Low	0		0.2	V	
Control Current		5		μA	

**Truth Table**

Mode	VTX1	VTX2	VRX1A	VRX1B	VRX2A	VRX2B
RX Diversity	0	0	0	1	0	1
TX-ANT1	1	0	1	0	1	0
TX-ANT2	0	1	1	0	1	0
TX-ANT1, RX2-ANT2	1	0	1	0	0	1
TX-ANT2, RX1-ANT2	0	1	0	1	1	0

**Note: Any other control voltage combination will place into an undefined state, but will not damage the device**

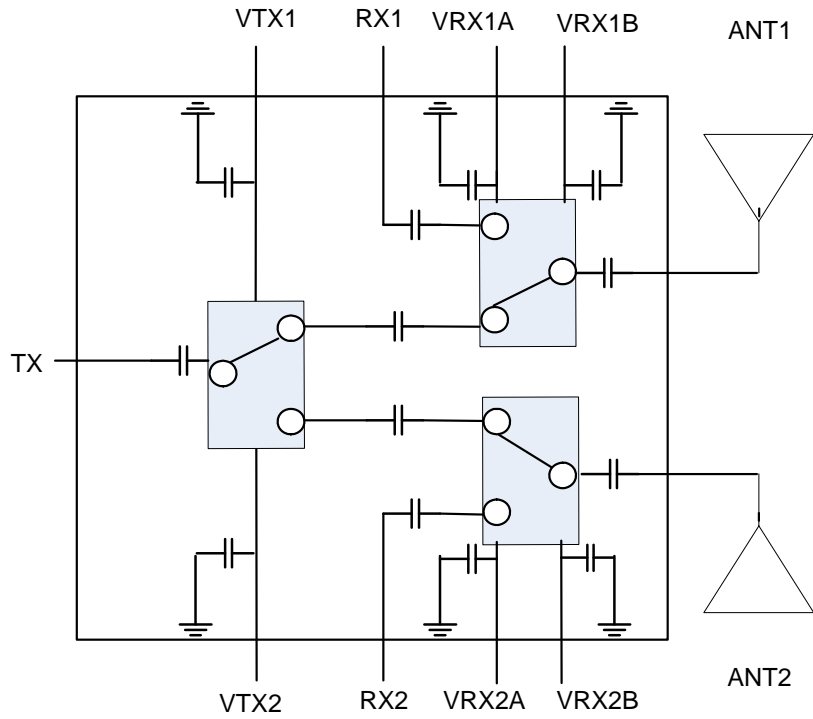
## Pin Out



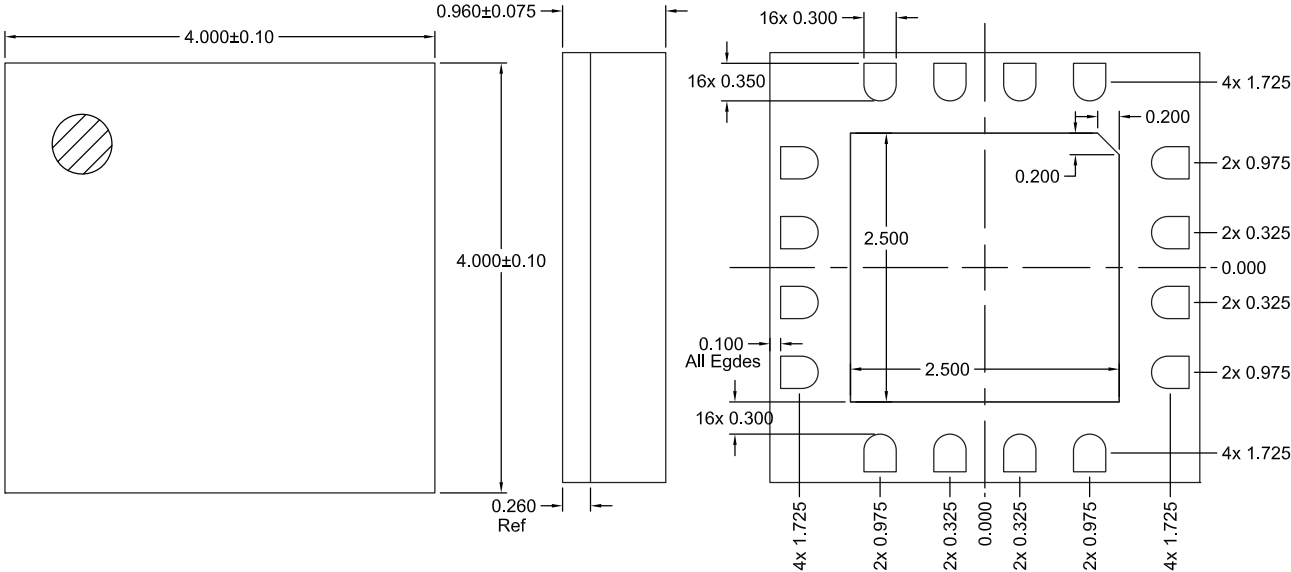
Pin	Function	Description
1	VTX1	Logic controller for TX
2	RX1	RF RX port 1 - internally matched to 50Ω and DC blocked
3	VRX1A	Logic control for RX
4	VRX1B	Logic control for RX
5	ANT1	RF output port 1 - internally matched to 50Ω and DC blocked
6	NC	No internal connection (connect to GND recommended)
7	NC	No internal connection (connect to GND recommended)
8	ANT2	RF output port 2 - internally matched to 50Ω and DC blocked
9	VRX2B	Logic control for RX
10	VRX2A	Logic control for RX
11	RX2	RF RX port 2 - internally matched to 50Ω and DC blocked
12	VTX2	Logic control for TX
13	GND	Ground connection
14	TX	RF TX port - internally matched to 50Ω and DC blocked
15	NC	No internal connection (connect to GND recommended)
16	GND	Ground connection
Pkg Base	GND	Ground connection - the backside of the package should be connected to the ground plane through as short a connection as possible (PCB vias under the device are recommended)

**Detailed Functional Block Diagram**

**Switch Module Block Diagram**

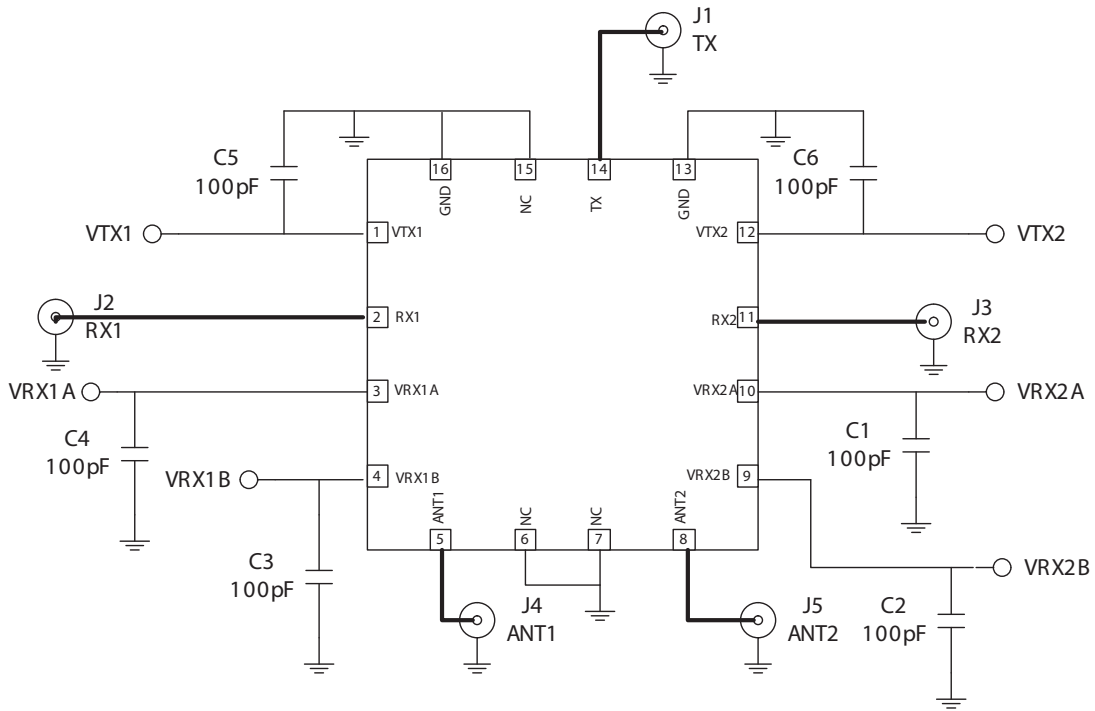


## Package Drawing

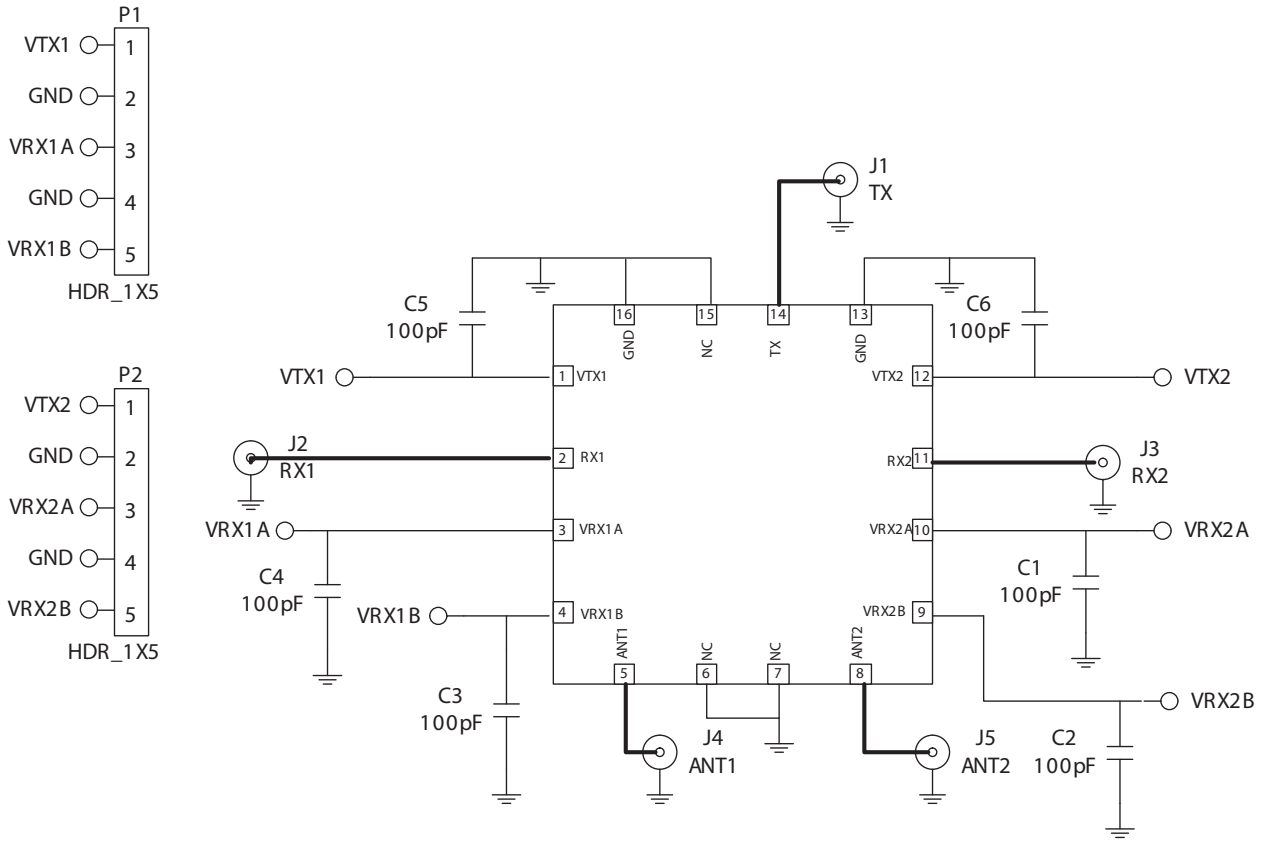


Notes:  
1. Shaded area represents Pin 1 location

**Application Schematic**



## Evaluation Board Layout







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

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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