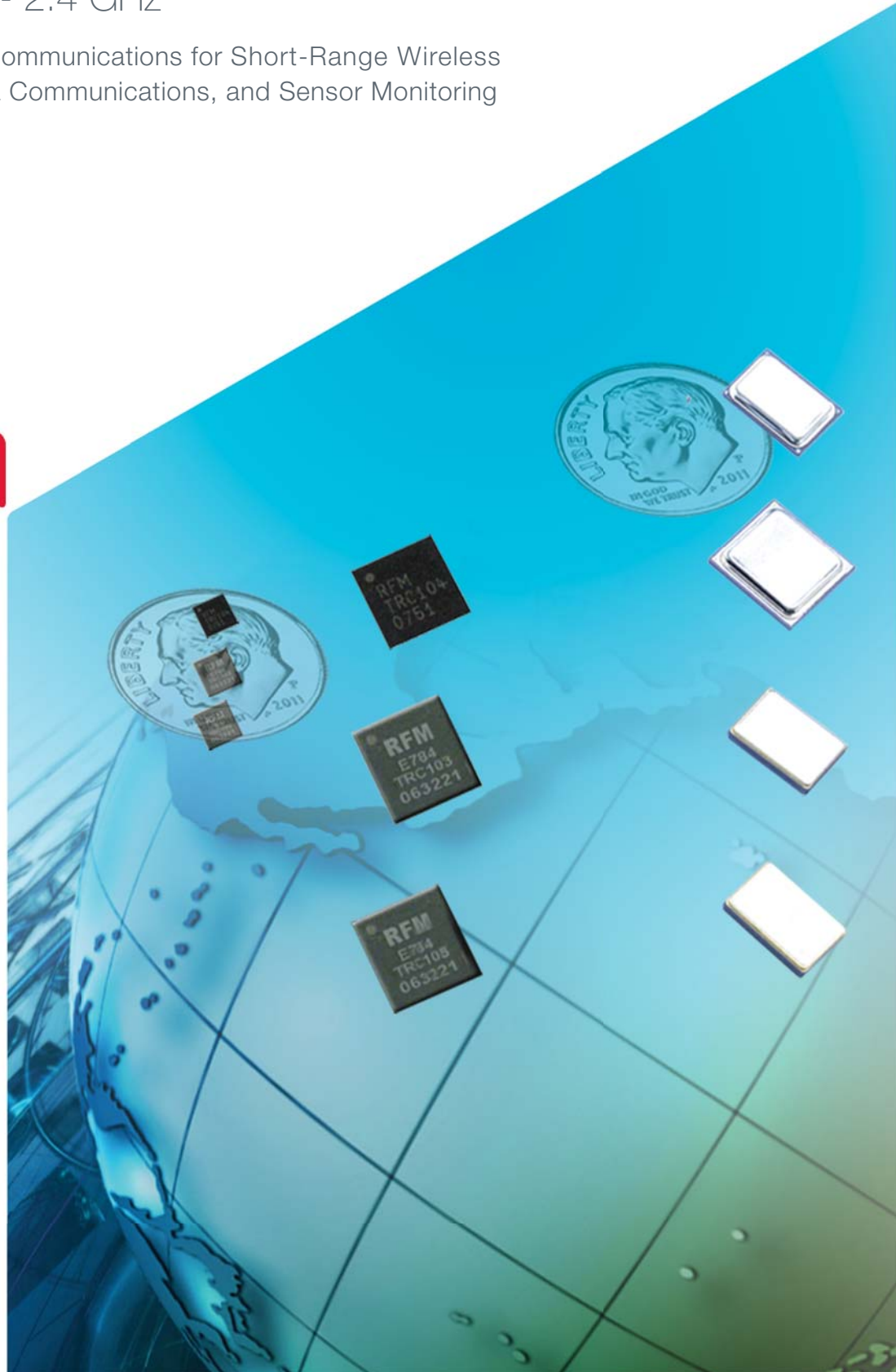


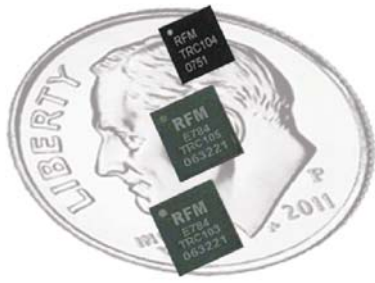
Murata Chip-Level

## Low-Power IC Radio Products

300 MHz - 2.4 GHz

Low-Power Communications for Short-Range Wireless Control, Data Communications, and Sensor Monitoring





Ultra-Low-Power  
Ultra-Small  
Ultra-Performance

## KEY BENEFITS

Wide range of frequencies

Ultra-low-power consumption with very long battery life

Field tested, proven proprietary technologies

Small form factor IC chipsets

Evaluation modules and developer kits with design assistant software

RoHS compliant

Murata has been offering short-range radios since the early 1990's when the company first introduced its patented amplifier sequenced hybrid (ASH) radio architecture. ASH technology integrates quartz SAW filtering plus frequency control components into a single custom integrated circuit (IC).

Murata's ASH architecture delivers up to 70% power savings over superheterodyne architecture. As a consequence, OEMs are able to extend the operating life of their products - particularly in medical implant and external medical devices where long operating life is essential. They are also embedded in many automotive, AMR, and consumer products.

Then in 2005, Murata introduced a line of RF ICs featuring an integrated PLL, IF and Baseband circuitry which significantly minimizes external component count and greatly simplifies and speeds up design cycles.

Murata has since expanded the company's line of RF ICs for applications in frequency ranges 300-510 MHz, 863-960 MHz, and 2.4 GHz; and in very small 5mm x 5mm, 4mm x 4mm, and even 3mmx 3mm packages.

As a result, Murata ICs are embedded in a variety of applications around the globe.

Smart Energy



RKE



ICDs / Glucose Monitors



White Goods



Blind / Drape Control



## FEATURES

- **Broad range of devices and technology.**

Murata offers a variety of technology options at the subsystem chip-level that includes transceivers, receivers and transmitters. Additionally, Murata offers a complementary range of SAW-based components.

- **Integrated design.** As a leader in RF technologies, Murata has developed a broad portfolio of short-range radios that deliver the largest link budget in the industry. System level functions in our SAW-based and RF IC short-range radios off-load functionality from the micro controller to reduce power and computation burden.
- **Broad data rates.** Murata SAW-based radios support data rates from 1 kb/s to 200 kb/s; RF ICs 1 kb/s to 1 Mb/s.
- **Broad frequency range support.** Our devices also support all license-free ISM frequency bands (2.4 GHz, 868 to 928 MHz, 300 MHz to 460 MHz) so you can design products that target a wide range of proprietary wireless industrial and consumer applications.
- **High sensitivity.** Depending upon the series of short-range radios, Murata has brought the latest in its proprietary technology or innovation to ensure best-in-class or highest in radio sensitivity for superior radio performance among all its radios.
- **Low current consumption.** Whether in operation, idle, and sleep mode, Murata short-range radios are engineered with key features to deliver long battery lifetime.
- **Variety of output power.** Transceiver devices support a power output range from 0 dBm to 10 dBm.
- **Variety of modulations and technologies.** Murata short-range radios feature OOK / ASK, Single-channel, FSK, multi-channel, FHSS, and DSSS.
- **Smallest short-range radio packages.** RF IC transceivers come in packages as small as 4 mm x 4 mm; RF IC transmitters come in 3 mm x 3 mm.

ASH RX & TR architecture

delivers up to

**70% Power Savings**

over superheterodyne

RX & TR architecture



## SAW-Based

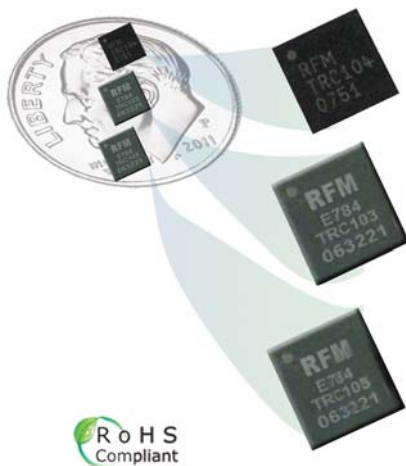
300 MHz - 1 GHz

OOK / ASK • Data Rates 1 kb/s - 1 Mb/s

- Provide robust operation for wireless control or data communication in applications where low power consumption, small size and low implementation costs are critical.
- Murata's patented Amplifier-Sequenced Hybrid (ASH) radio architecture called Virtual Wire™ integrates RF ICs with quartz SAW filtering plus frequency control components built with a custom integrated circuit.
- ASH architecture delivers ultra-low-power consumption and long range in a miniature-sized surface-mount package while also ensuring greater frequency stability, reliability and out-of-band rejection in a crowded frequency spectrum.
- ASH architecture also provides a low-cost radio by reducing external component count which also eases the RF engineering design task.
- The devices include provisions for both OOK and ASK modulation and can be configured to support a wide range of data rates and protocol requirements.

Add a microcontroller, RF SAW filter, crystal and a few passive components to create a

**Complete, Robust Radio Function**



## RF ICs

300-510 MHz • 863-960 MHz • 2.4 GHz

FSK / OOK • GFSK • Data Rates 1 kb/s - 1 Mb/s

- Optimized for RF performance and features a high-level of integration in a small form factor.
- Single chip, multi-channel, low-power RF transceivers, receivers, and transmitters.
- Ideal for low cost, high-volume, two-way and one-way short-range wireless applications in the 300 - 510 MHz, 863 - 960 MHz and 2.4 GHz frequency ranges.
- Incorporates a set of low-power states to reduce current consumption and extend battery life.
- Small size with low power consumption making them ideal for a wide variety of short-range radio applications.
- All critical RF and baseband functions are integrated in the radios, minimizing external component count and simplifying and speeding design cycles.

# Short-Range Radio Selector Tool

Due to the broad selection of options in the Murata portfolio of RF ICs and SAW-based short-range radios, the following two-page selector tool is provided for catalog user convenience. The selector tool helps catalog users to quickly identify the RF IC and/or SAW-based radio(s) that meet initial criteria. Go to [www.Murata.com](http://www.Murata.com) to locate the radio by part number and download the data sheet.

## Seven Key Questions (Match Question Number to Product Selection Table at Right)

### 1 Frequency:

In North or South America, if the application is for remote control choose 303 MHz or 433 MHz frequencies. If the application is for transmitting data choose 900 MHz.

In Europe, choose 433 MHz or 868 MHz for all applications.

In Asia and Pan Pacific, choose from any offered frequency. The RF power output is software programmable to meet the rules / regulations of a wide range of countries.

**2 Data rate and range:** Choose the data rate and distance / line-of-sight range over which the remote control is to be activated or over which the data is to be transmitted.

**3 RF Power and RX / TX Current:** Is long battery life or transmission distance primarily important? The lower the power / current the longer the battery life. The longer the transmission range the higher the power / current required to transmit over extended ranges.

Also, is the application to be powered by main or by battery? If battery, then obtaining the lowest power / current is critical.

**4 Modulation and Technology:** Does the application require noise immunity or resistance to fading? Modulation enables transmission across a single channel (OOK/ASK) or multi-channel (FSK) to affect desired level of noise immunity. FSK and FHSS offers highest immunity to interference.

**5 Features:** All SAW-based and RFIC short-range radios include a sleep mode feature to reduce power consumption.

Duty Cycle: Is programmable duty-cycle important (helps to regulate RF power output)? Murata 3rd generation SAW-based and RFIC short-range radios include fast wake up for duty-cycling.

Clock Recovery: Is clock recovery needed within the RF device? Murata 3rd generation SAW-based and RFIC short-range radios have built-in clock recovery so that the microprocessor does not have to perform that function to minimize the processing overhead on the microprocessor. Murata 2nd generation short-range radios do not feature built-in clock recovery as they interface to encoders/decoders with built-in clock recovery.

Start Symbol: Murata's third generation SAW-based and RFIC short-range radios include a transmission start symbol option. The start symbol allows the receiver to automatically detect the start of a message, unloading this function from the host microprocessor. If automatic message detection by the radio is not mandatory, a second generation SAW-based radio can be used to achieve lowest receiver current.

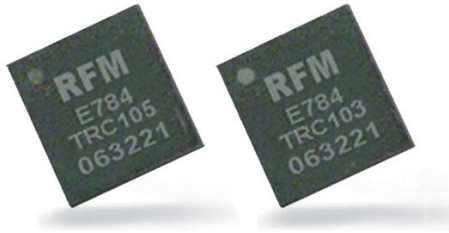
**6 Interface to microprocessor:** Does your microprocessor have limited I/O? If so choose a short-range radio with serial (SPI) interface.

**7 Package:** SAW-Based Short-range radios are encased in a rugged, self-shielding, metal / ceramic, hybrid package. RFIC Short-range radios are encased in smaller plastic packages.

**Customize.** Don't see what you need? Contact the sales rep or distributor nearest you to discuss your specifications. For certain high volume applications, Murata will customize the company's proprietary RF IC and SAW-based short-range radios to meet custom specifications in a variety of markets, such as medical / healthcare, industrial, automotive, and consumer.







### WHY CHOOSE TRC103 / TRC105?

300-960 MHz with Data Rates of 200 kb/s

High Sensitivity of -112 mA

Current consumption in receive mode; receive current can be as low as 3.0 mA (TRC103) or 2.7 mA (TRC105)

Transmit at high data rate to reduce transmitter on time and save power

Utilizing the RSSI in receive mode, the transmit power can be adjusted to maintain the data link and minimize power consumption

5 mm X 5 mm Size



### WHY CHOOSE TRC104?

2.4 GHz with Data Rates of 250 kb/s and 1 Mb/s

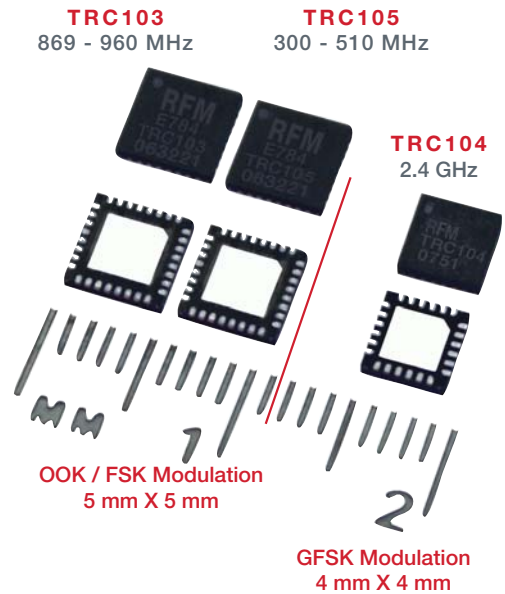
Transmit power up to 1 mW with receive current at 18 mA

GFSK with FHSS Capability

4 mm X 4 mm Size

Murata RF ICs include PLL-based, single- or multi-channel transceivers and transmitters, evaluation boards and RF Design Assistant Software, servicing varied wireless applications in the marketplace and providing the following features:

- Integrated PLL, IF and Baseband Circuitry to minimize external component count and simplify / speed design-ins
- Support for single- and multiple-channel applications
- Wide frequency range
- Wide operating supply voltage
- Frequency Hopping Spread Spectrum capability
- Very few external components required
- Small size plastic packages



Transmitters					
Part	Frequency	Data Rate	Output Power	Description	Case
<b>TXC100</b>	300 – 450 MHz	100 kb/s	10 dBm	ASK/FSK	3 mm x 3 mm
Transceivers					
Part	Frequency	Data Rate	Output Power	Description	Case
<b>TRC103</b>	863 – 960 MHz	200 kb/s	13 dBm	Multi-channel OOK/FSK	5 mm x 5 mm
<b>TRC104</b>	2.401 – 2.527 GHz	1 Mb/s	0 dBm	Multi-channel GFSK	4 mm x 4 mm
<b>TRC105</b>	300 – 510 MHz	200 kb/s	13 dBm	Multi-channel OOK/FSK	5 mm x 5 mm

### More Key Features

Duty Cycle. To help regulate RF power output and deliver ultra-lower-power performance.

Clock Recovery. The build-in clock recovery within Murata RF ICs minimizes processing overhead in the microprocessor. The microprocessor does not have to perform clock recovery function.

Start Symbol. The built-in transmission start symbol option is another function of the Murata RF ICs that minimizes processing overhead in the microprocessor. The start symbol allows the receiver to automatically detect the start of a message thus unloading this function from the host micro processor.



# RF ICs - Chip-Level Radios

Proprietary Transceivers and Transmitters

## TOP MARKETS

- Utilities (power, gas , water)
- Consumer Electronics and Residential
- Commercial and Retail
- Automotive
- Medical / Healthcare

## TOP APPLICATIONS

- Automated Meter Reading
- Building Automation
- Security Systems / Controlled Entry
- Two-Way RKE
- Industrial Controls
- Asset Tracking / RFID
- Sports & Recreation Equipment
- Low-Power Two-Way Telemetry Systems
- Patient Monitoring / Medial Alert Pendants

### Developer Kits

#### “Out-of-the-box” Operation Between Two Windows-based PCs

Part	Frequency	Data Rate	Output Power	Filter Part #
<b>DR-TRC103-868-DK</b>	863–870 MHz	200 kb/s	13 dBm	RF3501E
<b>DR-TRC103-915-DK</b>	902–928 MHz	200 kb/s	13 dBm	RF2040E or SF2093E
<b>DR-TRC103-950-DK</b>	950–960 MHz	200 kb/s	13 dBm	RF3601E
<b>DR-TRC104-2400-DK</b>	2.401–2.527 MHz	1 Mb/s	0 dBm	Not Needed
<b>DR-TRC105-304-DK</b>	303.325–307.3 MHz	200 kb/s	13 dBm	RF3602D
<b>DR-TRC105-315-DK</b>	310.0–319.5 MHz	200 kb/s	13 dBm	RF3603D
<b>DR-TRC105-345-DK</b>	342.0–348.0 MHz	200 kb/s	13 dBm	RF3607D
<b>DR-TRC105-372-DK</b>	365.0–381.0 MHz	200 kb/s	13 dBm	RF3608D
<b>DR-TRC105-390-DK</b>	382.0–398.0 MHz	200 kb/s	13 dBm	RF3604D
<b>DR-TRC105-403-DK</b>	402.0–407.3 MHz	200 kb/s	13 dBm	RF3605D
<b>DR-TRC105-434-DK</b>	416.395–436.395 MHz	200 kb/s	13 dBm	RF3606D
<b>DR-TRC105-450-DK</b>	447.0–451.0 MHz	200 kb/s	13 dBm	RF3609D

Murata Filters are designed for the correct frequency in the associated developer kits.

Refer to this table when ordering production parts.

#### Each Developer Kit Contains:

- (2) DR Radio Boards
- (2) DR Interface Boards
- (2) Dipole Antennas
- (2) USB 2.0 A/B Cables
- (2) Universal Wall-plug Power Supplies
- (2) AA Battery Packs
- (4) AA Batteries
- CD Containing: RF IC Design Assistant Software, KIT Firmware Source Code, User Guide



DR-TRC104-2400-DK



DR-TRC103-DK  
DR-TRC105-DK Series

**BUY YOUR  
DEV KIT NOW**

### Evaluations Kits

Part	Frequency	Data Rate	Output Power	Filter Part #
<b>DR-TRC103-868-EV</b>	863–870 MHz	200 kb/s	13 dBm	RF3501E
<b>DR-TRC103-915-EV</b>	902–928 MHz	200 kb/s	13 dBm	RF2040E or SF2093E
<b>DR-TRC103-950-EV</b>	950–960 MHz	200 kb/s	13 dBm	RF3601E
<b>DR-TRC104-2400-EV</b>	2.401–2.527 MHz	1 Mb/s	0 dBm	Not Needed
<b>DR-TRC105-304-EV</b>	303.325–307.3 MHz	200 kb/s	13 dBm	RF3602D
<b>DR-TRC105-315-EV</b>	310.0–319.5 MHz	200 kb/s	13 dBm	RF3603D
<b>DR-TRC105-345-EV</b>	342.0–348.0 MHz	200 kb/s	13 dBm	RF3607D
<b>DR-TRC105-372-EV</b>	365.0–381.0 MHz	200 kb/s	13 dBm	RF3608D
<b>DR-TRC105-390-EV</b>	382.0–398.0 MHz	200 kb/s	13 dBm	RF3604D
<b>DR-TRC105-403-EV</b>	402.0–407.3 MHz	200 kb/s	13 dBm	RF3605D
<b>DR-TRC105-434-EV</b>	416.395–436.395 MHz	200 kb/s	13 dBm	RF3606D
<b>DR-TRC105-450-EV</b>	447.0–451.0 MHz	200 kb/s	13 dBm	RF3609D
<b>DR-TXC100-315</b>	315 MHz	100 kb/s	10 dBm	
<b>DR-TXC100-433</b>	433.92 MHz	200 kb/s	10 dBm	

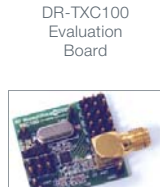
Use for initial evaluation of Murata RF IC radio technology. Prototype applications that will be using Murata RF IC radios.

#### Each Evaluation Kit Contains:

- (2) DR Evaluation Radio Boards
- (2) Dipole Antennas
- (2) AA Battery Packs
- (4) AA Batteries
- User Guides



DR-TRC103 / DR-TRC105  
Series Evaluation Kit

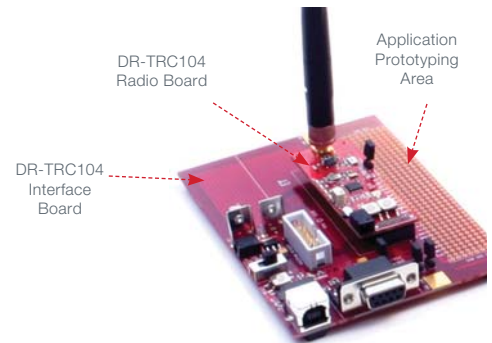


DR-TXC100  
Evaluation Board



Evaluation Board  
in the  
DR-TRC104-2400-EV

### RF IC Development Boards



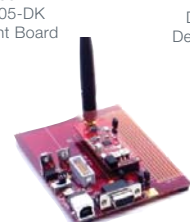
DR-TRC104  
Interface Board

DR-TRC104  
Radio Board

Application  
Prototyping  
Area



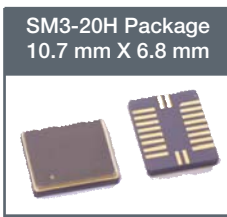
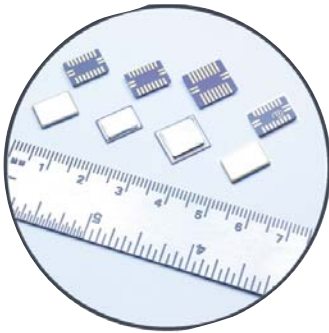
DR-TRC103-DK  
DR-TRC105-DK  
Development Board



DR-TRC104-DK  
Development Board

# SAW-Based Short-Range Radios: Chip-Level Radios

Proprietary ASH Technology; Transceivers, Transmitters and Receivers



## WHY CHOOSE THIRD GEN?

Long range at 600 meter line-of-sight transmission

Sleep mode current 200 nA extends battery life

SPI interface

## WHY CHOOSE SECOND GEN?

Lowest power consumption in industry / smaller battery and overall footprint (TX current of 6 mA and RX current of 1.8 mA)

Adjustable data rates from 115.2 kb/s to 1 Mb/s

THIRD GENERATION	SECOND GENERATION
<ul style="list-style-type: none"> <li>Longer range: 600 meters line-of-sight</li> <li>Very low power with excellent receiver sensitivity                             <ul style="list-style-type: none"> <li>- TX current of 32 mA</li> <li>- RX current of 4.3 mA</li> </ul> </li> <li>Data rates: 115.2 kb/s</li> <li>Adjustable Transmit Power up to 10 mW</li> <li>Sleep Mode Current 200 nA</li> <li>SPI Interface</li> <li>Additional features include DSSS, Clock Recovery, and Start Symbol</li> </ul>	<ul style="list-style-type: none"> <li>Short range: 200 meters line-of-sight</li> <li>Ultra low-power consumption with very long batter life                             <ul style="list-style-type: none"> <li>- TX current of 6 mA</li> <li>- RX current of 1.8 mA</li> </ul> </li> <li>Data rates: 115.2 kb/s to 1 Mb/s</li> <li>Adjustable Transmit Power up to 0 dBm</li> <li>Sleep Mode Current 700 nA</li> <li>Digital Interface</li> </ul>

THIRD GENERATION						
TRANSCIVERS	Part	Frequency	Max Data Rate	Output Power	Case	Dev Kit Part #
		<b>TR7000</b>	433.92 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm
	<b>TR7001</b>	315 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm	DR7001-DK
	<b>TR7002</b>	418 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm	DR7002-DK
	<b>TR7003</b>	303.825 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm	DR7003-DK
	<b>TR8000</b>	916.5 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm	DR8000-DK
	<b>TR8001</b>	868.35 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm	DR8001-DK
	<b>TR8100</b>	916.5 MHz	115.2 kb/s	10 mW	10.7 mm X 6.8 mm	DR8100-DK

SECOND GENERATION						
TRANSCIVERS	Part	Frequency	Max Data Rate	Output Power	Case	Dev Kit Part #
		<b>TR1000</b>	916.5 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm
	<b>TR1001</b>	868.35 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm	DR1201-DK
	<b>TR1004</b>	914 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm	
	<b>TR1100</b>	916.5 MHz	1 Mb/s	1 mW	10.2 mm X 7.06 mm	DR3300
	<b>TR3000</b>	433.92 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	DR1300-DK
	<b>TR3001</b>	315 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	DR3101
	<b>TR3002</b>	418 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	
	<b>TR3003</b>	303.825 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	
	<b>TR3005</b>	403.5 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm	
	<b>TR3006HS</b>	314 MHz	115.2 kb/s	1 mW	10.7 mm X 6.8 mm	
	<b>TR3100</b>	433.92 MHz	576 kb/s	1 mW	10.8 mm X 9.52 mm	
	<b>TX5000</b>	433.92 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	DR4100
	<b>TX5001</b>	315 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	DR4101
	<b>TX5002</b>	418 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	
	<b>TX5003</b>	303.825 MHz	115.2 kb/s	1 mW	10.8 mm X 9.52 mm	DR4103
	<b>TX6000</b>	916.5 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm	DR4000
	<b>TX6001</b>	868.35 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm	DR4001
	<b>TX6004</b>	914 MHz	115.2 kb/s	1 mW	10.2 mm X 7.06 mm	
	<b>RX5000</b>	433.92 MHz	115.2 kb/s		10.8 mm X 9.52 mm	DR5100
	<b>RX5000H</b>	433.92 MHz	115.2 kb/s		10.2 mm X 7.06 mm	
	<b>RX5001</b>	315 MHz	115.2 kb/s		10.8 mm X 9.52 mm	DR5101
	<b>RX5002</b>	418 MHz	115.2 kb/s		10.8 mm X 9.52 mm	
	<b>RX5003</b>	303.825 MHz	115.2 kb/s		10.8 mm X 9.52 mm	DR5103
	<b>RX5005H</b>	433.42 MHz	115.2 kb/s		10.2 mm X 7.06 mm	
	<b>RX5500</b>	433.92 MHz	19.2 kb/s		10.8 mm X 9.52 mm	
	<b>RX5501</b>	315 MHz	19.2 kb/s		10.8 mm X 9.52 mm	
	<b>RX5502H</b>	434.52 MHz	115.2 kb/s		10.2 mm X 7.06 mm	
	<b>RX6000</b>	916.5 MHz	115.2 kb/s		10.2 mm X 7.06 mm	DR5000
	<b>RX6001</b>	868.35 MHz	115.2 kb/s		10.2 mm X 7.06 mm	DR5001
	<b>RX6004</b>	914 MHz	115.2 kb/s		10.2 mm X 7.06 mm	
	<b>RX6501</b>	868.35 MHz	19.2 kb/s		10.2 mm X 7.06 mm	

RF UART Integrated Circuits			
	Part		
	<b>IC1000</b>	Data / Clock Extraction	k04-057
	<b>IC1003</b>	RF UART IC	vq65

# SAW-Based Short-Range Radios: Chip-Level Radios

Proprietary ASH Technology; Transceivers, Transmitters and Receivers


The Murata SAW-based short-range radios feature Murata's proprietary amplifier sequenced hybrid (ASH) architecture; integrated RF ICs with quartz SAW filtering plus frequency control components built with a single custom integrated circuit.

The ASH architecture delivers ultra-low-power consumption and long range in a miniature sized surface-mount package while also ensuring greater frequency stability, reliability and out-of-band rejection in a crowded frequency spectrum.

SAW-Based Developer Kits "Out-of-the-box" Operation Between Two Windows-based PCs			
Part	Frequency	Data Rate	Output Power
DR1200A-DK	916.5 MHz	2 kb/s	1 mW
DR1200-DK	916.5 MHz	22.5 kb/s	1 mW
DR1201A-DK	868.35 MHz	2 kb/s	1 mW
DR1201-DK	868.35 MHz	22.5 kb/s	1 mW
DR1300A-DK	433.92 MHz	2 kb/s	1 mW
DR1300-DK	433.92 MHz	22.5 kb/s	1 mW
DR2000-DK	916.5 MHz	115.2 kb/s	1 mW
DR7000-DK	433.82 MHz	115.2 kb/s	10 mW
DR7001-DK	315 MHz	115.2 kb/s	10 mW
DR7002-DK	418 MHz	115.2 kb/s	10 mW
DR7003-DK	303.825 MHz	115.2 kb/s	10 mW
DR8000-DK	916.5 MHz	115.2 kb/s	10 mW
DR8001-DK	868.35 MHz	115.2 kb/s	10 mW
DR8100-DK	916.5 MHz	115.2 kb/s	10 mW

Each Developer Kit Contains:

- (2) DR Development Boards
- (2) USB 2.0 Cables
- (2) 9 V Batteries
- (2) tuned, SMA Antennas
- Program CD with Documentation
- Configuration Software




SAW-Based Transceiver Evaluation Kits - Third Generation ASH Technology ONLY			
Part	Frequency	Data Rate	Output Power
DR7000-EV	433.92 MHz	115.2 kb/s	10 mW
DR7001-EV	315 MHz	115.2 kb/s	10 mW
DR7003-EV	303.825 MHz	115.2 kb/s	10 mW
DR8000-EV	916.5 MHz	115.2 kb/s	10 mW
DR8001-EV	868.35 MHz	115.2 kb/s	10 mW
DR8100-EV	916.5 MHz	115.2 kb/s	10 mW

Each Developer Kit Contains:

- (1) DR Module
- (1) Interface Board w/ Microprocessor

SAW Radio Development Module Installed on an Evaluation Board with Microprocessor



SAW-Based Radio Development Modules for Selected TR, TX, RX			
Part	Frequency	Data Rate	Output Power
DR3000	916.5 MHz	2.4 kb/s	1 mW
DR3000-1	916.5 MHz	115.2 kb/s	1 mW
DR3001	868.35 MHz	2.4 kb/s	1 mW
DR3100	433.92 MHz	2.4 kb/s	1 mW
DR3100-1	433.92 MHz	115.2 kb/s	1 mW
DR3101	315 MHz	2.4 kb/s	1 mW
DR3300	916.5 MHz	1 Mb/s	1 mW
DR4000	916.5 MHz	115.2 kb/s	1 mW
DR4001	868.35 MHz	115.2 kb/s	1 mW
DR4100	433.92 MHz	115.2 kb/s	1 mW
DR4101	315 MHz	115.2 kb/s	1 mW
DR4103	303.825 MHz	115.2 kb/s	1 mW
DR5000	916.5 MHz	19.2 kb/s	1 mW
DR5001	868.35 MHz	19.2 kb/s	1 mW
DR5100	433.92 MHz	19.2 kb/s	1 mW
DR5101	315 MHz	19.2 kb/s	1 mW
DR5103	303.825 MHz	19.2 kb/s	1 mW
DR7000	433.92 MHz	115.2 kb/s	10 mW
DR7001	315 MHz	115.2 kb/s	10 mW
DR7003	303.825 MHz	115.2 kb/s	10 mW
DR8000	916.5 MHz	115.2 kb/s	10 mW
DR8001	868.35 MHz	115.2 kb/s	10 mW
DR8100	916.5 MHz	115.2 kb/s	10 mW

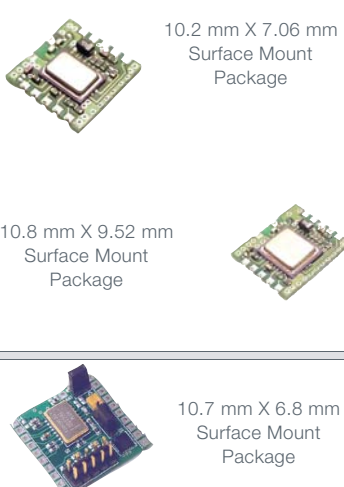
Each Developer Kit Contains:

- (1) DR Module
- (1) Interface Board w/Microprocessor

10.2 mm X 7.06 mm Surface Mount Package

10.8 mm X 9.52 mm Surface Mount Package

10.7 mm X 6.8 mm Surface Mount Package



## TOP MARKETS

Medical / Healthcare (Implants)

Automotive

Utilities (Power, Gas and Water)

Consumer Electronics and Residential

Commercial and Retail

## TOP APPLICATIONS

Pacemakers and Defibrillators

Insulin Pumps, Monitors

Patient Monitoring / Medial Alert Pendants

Security Systems / Controlled Entry

Wireless Thermostats / Metering

Window Controls (Blinds / Drapes)

Auto Theft Deterrent Systems

Two-Way RKE

Asset Tracking / RFID

Sports & Recreation Equipment

Low-Power Two-Way Telemetry Systems

ASH RX & TR architecture delivers up to

# 70% Power Savings

over superheterodyne RX & TR

architecture

Murata SAW-based short-range radios feature excellent suppression of output harmonics and generate virtually no RF emissions ...

...thus making them easy to certify to short-range (unlicensed) radio regulations.

## Global locations



## Note