



RFID Evaluation Kit

The DEMOKITCRX14 tools are designed to demonstrate the STMicroelectronics short range product range that includes the SR176, SR1X512 and SR1X4K products. The SR176 / SR1X512 / SR1X4K is contactless memory, powered by a transmitted carrier radio wave at 13.56MHz. It contains a 176-bit (SR176), 512-bit (SR1X512) or 4096-bit (SR1X4K) EEPROM, with memory mapping organized as blocks of 16 or 32 bits. It conforms to the ISO 14443-B recommendation for the transfer of power and signals via radio transmission. The DEMOKITCRX14 reader circuitry amplitude modulates (10% modulation) the data on the carrier using amplitude shift keying (ASK). The SR176 / SR1X512 / SR1X4K replies by load modulating the data on the carrier using the BPSK (Bit Phase Shift Keying) coding using the 847kHz sub-carrier. The data transfer rate in each direction is 106 Kbit/second. The purpose of the DEMOKITCRX14 program is to give an example of how the interfacing can be achieved. It does not allow the user to evaluate all of the different ISO 14443 modes. The DEMOKITCRX14 gives access to the full memory mapping. It is possible to read and write into the selected SR176 / SR1X512 / SR1X4K. This release of demonstration software, differentiated for each SR176 / SR1X512 / SR1X4K, allows all of the product features to be exercised.

Kit Includes:

- One CD-ROM
- One CRX14 board with I²C connector
- One USB Transceiver with USB cable
- Some SR176 and SR1X4K Samples
- Documentation

497-3704-ND RFID Evaluation Kit \$656.46

CR14 and CRX14 Coupler Chips



The CR14 and CR14X series are contactless couplers that are compliant with the short range ISO14443 type-B standard. They are controlled using the two wire I²C bus. They generate a 13.56MHz signal on an external antenna. Transmitted data is modulated using Amplitude Shift Keying (ASK). Received data is demodulated from the PICC (Proximity Integrated Coupling Card) load variation signal, induced on the antenna, using Bit Phase Shift Keying (BPSK) of a 847kHz sub-carrier. The Transmitted ASK wave is 10% modulated. The data transfer rate between the CR14/CRX14 and PICC is 106Kbit/second in both transmission and reception modes.

Type	Package	Digi-Key Part No.	Price Each			STMicroelectronics Part No.
			1	10	100	
Non-anti-clone	16-SOIC	497-5719-5-ND	7.13	6.37	5.22	CR14-MQP/1GE
Anti-clone	16-SOIC	497-5720-5-ND	9.93	8.94	7.35	CRX14-MQP/1GE

Bluetooth® Modules

GS-BT2416xx is the series of Bluetooth core embedded modules intended for audio Hi-Fi and Industrial applications based on the STLC2416 baseband controller with 4Mbit flash and the STLC2150 radio transceiver. The series supports protocol layers up to HCI and it represents a cost effective packaged solution for customers in need of a simple wireless link. The Bluetooth approach is facilitated by the Serial Port Profile (SPP) firmware embedded in GS-BT2416CX.AT1. This ready-to-go solution is simply managed by AT commands. The modules are also available in Class 1 and Class 2 for either long range or low power. Bluetooth v1.2 compliant. **Features:** • Class 1 (long) and Class 2 ranges • Bluetooth v1.2 compliant • Embedded SPP profile for cable replacement • AT commands set • HCI interface over UART and USB • Single 3.3V voltage supply with embedded voltage regulator

SPBT2532C2.AT is a surface-mount PCB module that provides fully embedded, ready-to-use Bluetooth wireless technology. It is designed for maximum performance in a minimal space and includes four general purpose and four A/D IO lines, several serial interface options, and up to 2 Mbps data throughput. The re-programmable Flash memory contains embedded firmware for serial cable replacement using the Bluetooth SPP profile.

This user manual describes the **STEVAL-SPBT2ATV1** demonstration board for the Bluetooth class 2 SPBT2532C2.AT module. The board includes the module under evaluation, an RF antenna, and a USB connector. The USB connector is used to connect the board with a PC, to access the Bluetooth module and to supply the board. The STEVAL-SPBT2ATV1 is a board with downloaded FW which enables the user to create a Bluetooth link with simple AT commands. It is an easy solution to test and operate with the SPBT2532C2.AT module. **Features:** • Bluetooth V2.1 board • USB connection • SMD antenna on board

Class	Profile	Digi-Key Part No.	Price Each			STMicroelectronics Part No.
			1	10	100	
1	HCI	497-6845-ND◆	38.15	35.30	30.05	GS-BT2416C1.H
	SPP	497-5789-ND◆	42.64	39.45	33.59	GS-BT2416C1.AT1
2	HCI	497-6846-ND◆	31.44	29.09	24.76	GS-BT2416C2.H
		497-5792-ND◆	70.70	—	—	GS-BT2416C1.DB
Board Demo for Class 1 Mod.		497-5792-ND◆	70.70	—	—	GS-BT2416C1.DB
Board Demo for Class 2 Mod.		497-10539-ND◆ NEW!	35.26	32.62	27.77	SPBT2532C2.AT
Board Demo for Class 2 Mod. SPBT2532C2.AT		497-10656-ND NEW!	42.08	—	—	STEVAL-SPBT2ATV1

◆ RoHS Compliant

TAIYO YUDEN Antennas



These SMD chip antennas provide a high performance solution in a compact, low profile design. Different sizes are available based on design needs, but each device has a wide bandwidth and high gain for an increased link budget for your application.

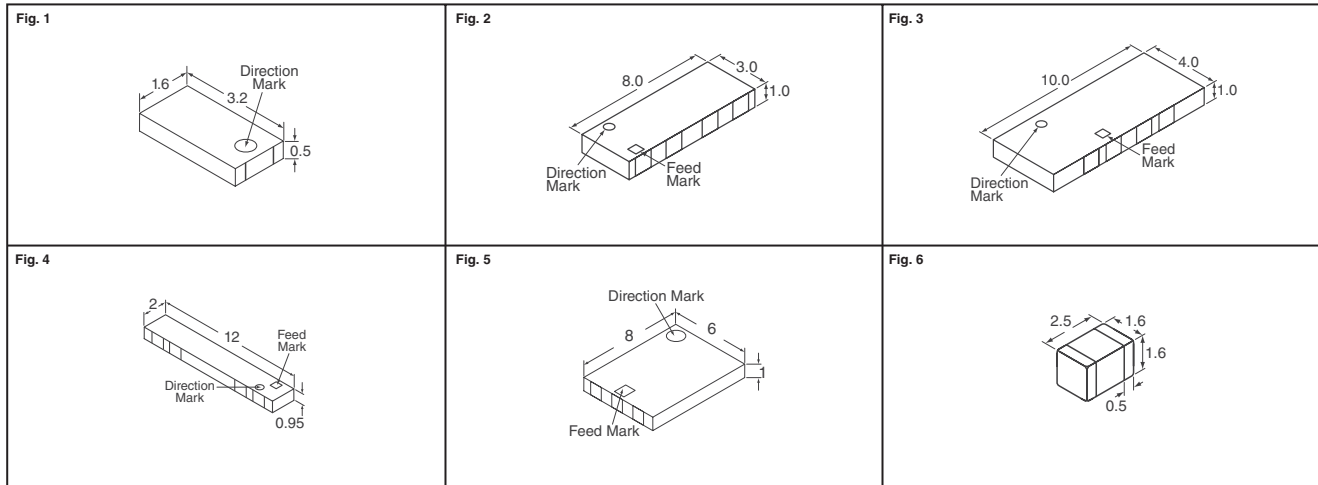


Fig.	Frequency (GHz)	Bandwidth (MHz)	Gain (dBi)	Type	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Taiyo Yuden Part No.
						1	10	100		Qty.	Pricing	
1	2.45	170	-2	Multilayer	587-2200-1-ND	2.19	1.80	1.45	587-2200-2-ND	3,000	612.70/M	AH316M245001-T
2	2.45	210	2	Multilayer	587-1725-1-ND	2.90	2.41	2.13	587-1725-2-ND	1,000	989.75	AH083F245001-T
3	2.45	300	2	Multilayer	587-1726-1-ND	3.09	2.56	2.26	587-1726-2-ND	2,000	1015.56/M	AH104F2450S1-T
	2.65	—	0	Multilayer	587-2246-1-ND	3.09	2.56	2.26	587-2246-2-ND	2,000	1015.56/M	AH104F2650S1-T
	2.45 / 5.4	100 / 950	-5 / -6	Multilayer	587-2203-1-ND	3.09	2.56	2.26	587-2203-2-ND	2,000	1015.56/M	AH104N2450D1-T
4	2.45	230	-1	Multilayer	587-2201-1-ND	3.09	2.56	2.26	587-2201-2-ND	2,000	1015.56/M	AH122F245001-T
5	5.55	4,900	-6.4	Multilayer	587-2204-1-ND	2.90	2.41	2.13	587-2204-2-ND	1,000	989.75	AH086M555003-T
6	2.45	300	1	Helical	587-1727-1-ND	1.96	1.61	1.30	587-1727-2-ND	2,000	549.86/M	AF216M245001-T

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

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