

**RF Transmitter Module**  
**AEC-Q100 compliant**  
**SR3225SAA**

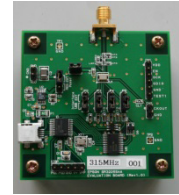
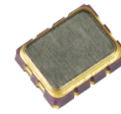


Product Number  
**SR3225SAA: X1G00479xxxx00**

SR3225SAA is a wireless transmitter module for UHF range. Crystal resonator, oscillator, PLL and Power Amp are integrated in 3.2 mm x 2.5 mm ceramic package. The wireless transmission function can be configured by connect to the external control devices. It is suitable for small wireless transmitter. The evaluation kit is available.

**Application**

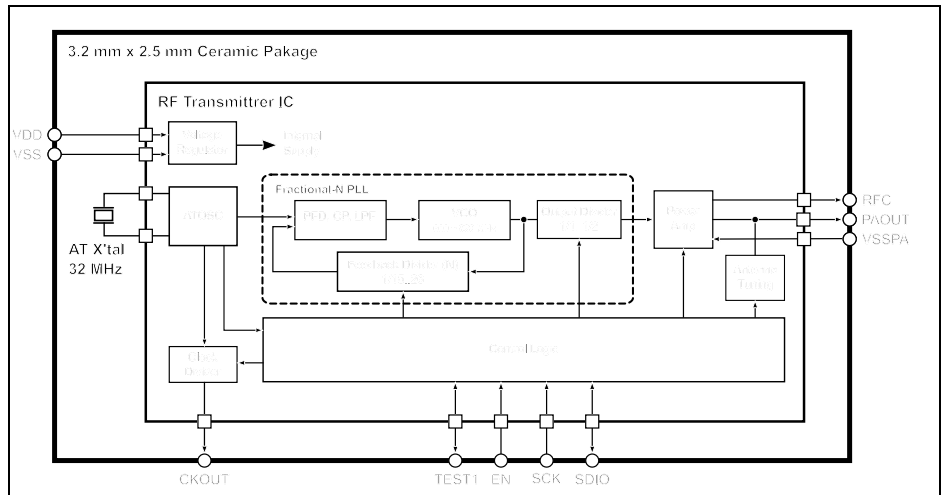
- Remote Keyless Entry, Passive Entry
- Short range radio data transmitter
- Garage door opener
- Transmitter for RFID tag



**Overview**

- Carrier frequency bands:  
 300 MHz ~ 465 MHz (0.25 kHz Step),  
 600 MHz ~ 930 MHz (0.49 kHz Step)
- $\Delta\Sigma$  fractional-N based PLL
- Programmable Power Amp output power:  
 -15 ~ 11 dBm, 128 steps
- Modulation types: ASK/OOK/FSK with Soft-ASK and/or Soft FSK shaping
- 3-wire/4-wire SPI interface
- SFR (Special Function Register)
- Embedded 32 MHz crystal resonator and oscillation circuit
- Programmable clock output via CKOUT
- Programmable voltage threshold of Under Voltage Detection: 4 steps (1.8 V ~ 2.4 V)
- Fail-Safe mechanism (PLL Loss of Lock, VCO auto-calibration error, Under Voltage Detection)

**Block diagram**

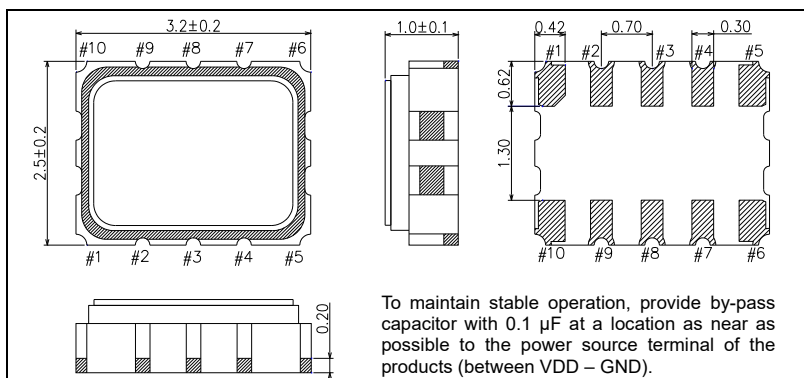


**Specification (characteristics)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	VDD	-	1.8	3.0	3.6	V
Operation temperature	Ta	-	-40	-	+85	°C
Storage temperature	Tstg	-	-40	-	+125	°C
Supply current Powerdown Mode	I <sub>DDPD</sub>	VDD = 3.0 V, Ta = +25 °C	-	20	100	nA
Supply current Transmitter-Active Mode	I <sub>DDTMA</sub>	F <sub>TX</sub> = 315 MHz, P <sub>out</sub> = 5 dBm,	-	10.0	11.0	mA
		F <sub>TX</sub> = 315 MHz, P <sub>out</sub> = 8 dBm,	-	12.7	13.7	
		F <sub>TX</sub> = 315 MHz, P <sub>out</sub> = 10 dBm,	-	15.0	16.0	
Carrier frequency bands	F <sub>TX</sub>	-	300	-	465	MHz
			600	-	930	
ASK Bit rate	R <sub>ASK</sub>	NRZ	-	-	100	kbps
FSK Bit rate	R <sub>FSK</sub>	NRZ	-	-	50	kbps
Crystal frequency tolerance	F <sub>TOL</sub>	Ta = +25 °C, without aging	-2	-	2	ppm
Crystal temperature variation	F <sub>TC</sub>	-40 °C ~ +85 °C	-20	-	20	ppm
Nominal output power	P <sub>OUT</sub>	Ta = +25 °C, VDD = 3.0 V, F <sub>TX</sub> = 315 MHz, HPWR = 1, AM* = 0x3F	10	11	12	dBm
		Ta = +25 °C, VDD = 3.0 V, F <sub>TX</sub> = 315 MHz, HPWR = 0, AM* = 0x01	-16	-15	-14	

**External dimensions**

(Unit: mm)



**Pin descriptions**

Pin No.	Pin Name	Function
1	TEST1	Test, Transmission data input or SPI interface data output
2	EN	Enable inp or SPI interface chip select
3	SCK	SPI interface clock input
4	SDIO	SPI data input / output or Transmission data input
5	CKOUT	Clock output
6	VSSPA	GND for Power Amp
7	PAOUT	Power Amp output
8	RFC	RF choke coil connect pin
9	VDD	Positive power supply
10	VSS	GND

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IATF 16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

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	► Pb free.
	► Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc ).

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