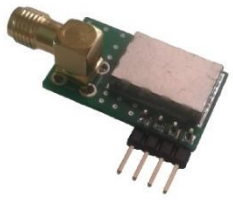
EGN Elektronik

RF Wireless Modules

NTX05RSA3 315MHz FSK/GFSK RF Transmitter Module

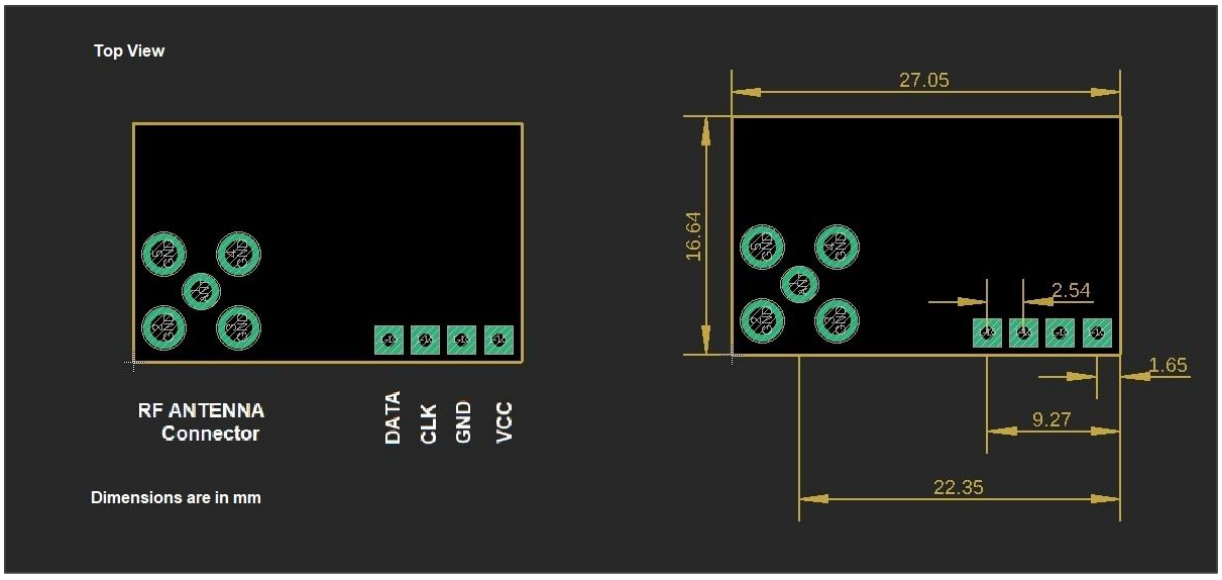
(with RF Shield and Right Angle-90º SMA RF Antenna Connector)



Brief

NTX05RSA3 is a small size, compact, low power and easy to use 315MHz FSK/GFSK RF Transmitter module based on Cmostek Microelectronics CMT2119AW RF IC. It has same technical specifications as NTX05CS3, only difference is the SMA RF Antenna connector instead of U.FL RF antenna connector used in NTX05CS3.

Size and Pin Diagram



CONNECTOR – J1		
Pin No	**Pin Name**	**Pin Function**
CA	ANT	RF Output/Antenna
J1-4	DATA	Data
J1-3	CLK	Clock (for Programming or MCU Control)
J1-2	GND	0V/Ground
J1-1	VCC	Supply Input

CLK and DATA pins can be used for programming via offline programmer or via MCU, only DATA pin is sufficient for plug and play preprogrammed standalone use without MCU.

RF Radio Transmitter Characteristics

Symbol	Parameter	Test Conditions	Min	Typical	Max	Unit
F_{op}	Operational Frequency/Band	-	-	315	-	MHz
$P_{RFOUT(max)}$	Maximum Output Power		-	13	-	dBm
$P_{RFOUT(min)}$	Minimum Output Power		-	-10	-	dBm
P_{STEP}	Output Power Step Size		-	1	-	dB
t_{RAMP}	PA Ramping Time		0	-	1024	us
SR_{FSK}	FSK Symbol Rate		0.5	-	100	ksps
F_{dev}	(G)FSK Deviation Range		1	-	200	kHz
BT	Bandwidth-Time Product	GFSK Modulation	-	0.5	-	
P_{noise}	Phase Noise	@100kHz offset		-81		dBc/Hz
		@600kHz offset		-98		
		@1.2MHz offset		-107		
H_2	2nd Harmonic Level	P_{RFOUT}@13dBm		-52		dBm
H_3	3rd Harmonic Level	P_{RFOUT}@13dBm		-60		dBm

Electrical Specifications

Symbol	Parameter	Test Conditions	Min	Typical	Max	Unit
V_{dd}	Supply Voltage	-	2.8	3.3	3.6	V
I_{dd-S}	Current – SLEEP mode		-	30	-	nA
I_{dd-PL}	Current – TX@0dBm		-	10.9	-	mA
I_{dd-PH}	Current – TX@10dBm		-	23.8	-	mA
T_{op}	Operational Temperature	-	-40	-	+85	ºC

Absolute Maximum Ratings

"Absolute maximum ratings" may cause permanent damage to the device and is a stress rating only, functional operation of the device under these conditions for extended periods may affect device reliability.

Symbol	Parameter	Max	Unit
VDD	Supply voltage	3.6	V
T_{op}	Operational Temperature	-40~+85	ºC
T_{stg}	Storage Temperature	-50~+150	ºC
ESD	ESD Rating	2(HBM)	kV

References

1) CMT2119AW Datasheet - https://www.egn-elektronik.com.tr/EN/Datasheets/CMT2119AW.pdf