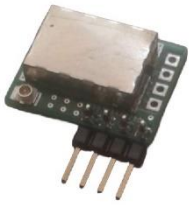
EGN Elektronik

RF Wireless Modules

NRX05CFS3 315MHz FSK/GFSK RF Receiver Module

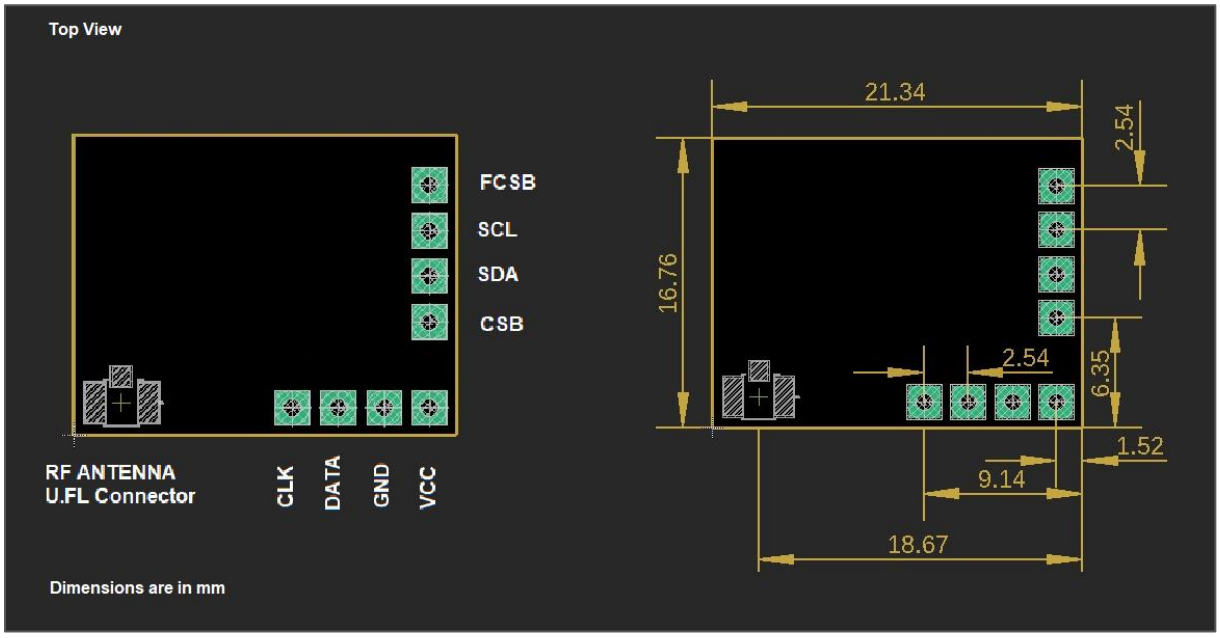
(with RF Frontend SAW Filter, RF Shield and U.FL RF Antenna Connector)



Brief

NRX05CFS3 is a small size, compact, low power and easy to use 315MHz FSK/GFSK RF Receiver module based on Cmostek Microelectronics CMT2219A RF IC. It has same technical specifications as NRX05CF3, only difference is additional interference immunity provided by the RF shield added.

Size and Pin Diagram



CONNECTORS		
Pin No	**Pin Name**	**Pin Function**
CA	ANT	RF Output/Antenna
For Standalone Plug&Play Receiver Use		
J1-4	CLK	Clock
J1-3	DATA	Data
J1-2	GND	0V/Ground
J1-1	VCC	Supply Input
Optional for Advanced Use with MCU/SPI Interface & Programming		
J2-4	FCSB	4-wire SPI chip select input
J2-3	SCL	4-wire SPI clock input
J2-2	SDA	4-wire SPI data input and output
J2-1	CSB	4-wire SPI FIFO select input

RF Radio Receiver Characteristics

Symbol	Parameter	Test Conditions	Min	Typical	Max	Unit
F_{op}	Operational Frequency/Band	-	-	315	-	MHz
$S_{RFIN-FSK}$	Sensitivity	$SR_{FSK} - 9.6ksps$ BER-0.1%	-	-112	-	dBm
P_{RF-sat}	Saturation Input Signal Level		-	10	-	dBm
P_{STEP}	Receiver Bandwidth		50	-	500	kHz
$t_{Startup}$	Receiver Starting Time		-	7.3	-	ms
F_{dev}	Frequency Deviation		1		200	kHz
BT	Bandwidth-Time Product		-	0.5	-	
SR_{FSK}	FSK Data Rate		0.1	-	100	ksps
BI_{CW}	Blocking Immunity	$SR_{OOK} - 1kbps$ @1MHz offset, CW	-	52	-	dB
		$SR_{OOK} - 1kbps$ @2MHz offset, CW	-	74	-	
		$SR_{OOK} - 1kbps$ @10MHz offset, CW	-	75	-	
IIP_3	Third Order Intercept Point	Two tone test	-	-25	-	dBm
IMR	Image Rejection Ratio	IF=280kHz	-	35	-	dB

Electrical Specifications

Symbol	Parameter	Test Conditions	Min	Typical	Max	Unit
V_{dd}	Supply Voltage	-	1.8	3.3	3.6	V
I_{dd-FSK}	Current–Normal mode		-	4.1	-	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) CMT2219A Datasheet – https://www.egn-elektronik.com.tr/EN/Datasheets/CMT2219A.pdf