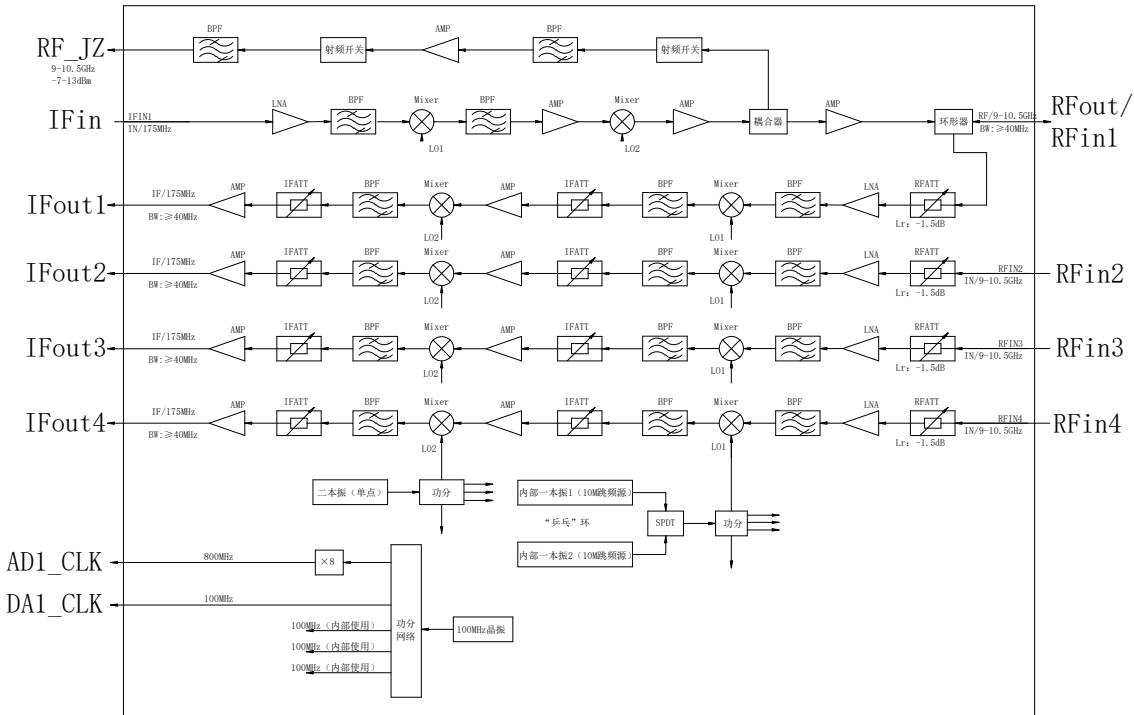


Features

This module features 1 transmit channel, 4 receive channels, 1 calibration channel, and 2 clock outputs. The built-in frequency synthesizer uses a ping-pong loop architecture to enable fast frequency hopping. It provides status monitoring functions including frequency synthesizer lock indication, transmit power amplifier detection indication, power consumption, and module temperature. Both non-domestic and domestic versions have been completed.

Function Block Diagram



Specifications

Test Item		Symbol	Unit	Specification
Transmit Branch	Frequency Hopping Time	t_p	us	≤ 100
	Dual-Loop Switching Time	t	ns	≤ 150
	Isolation Between Dual Loops	ISO_1	dB	≥ 60
	Output Power	P_o	dBm	≥ 30
	Out-of-band Rejection	R_{fs2}	dBc	≥ 65
	Phase Noise @ 1kHz	$\mathcal{L}(f)$	dBc/Hz	≤ -100
Calibration Signal	Output Power	P_{o2}	dBm	-13~-5
	Spurious Rejection	R_{fs3}	dBc	≥ 60
	Phase Noise @ 1kHz	$\mathcal{L}(f)_1$	dBc/Hz	≤ -100

Test Item		Symbol	Unit	Specification
Receive Channels	Maximum Gain	A_{max}	dB	≥ 50
	Channel Gain Consistency	ΔA	dB	≤ 3
	Maximum Attenuation	A_{max}	dB	≥ 60
	In-band/Out-of-band Rejection	R_{fs4}	dBc	≤ -60
	Image Rejection	R_{IM}	dBc	≥ 50
	Noise Figure	NF	dB	≤ 7
	Input P-1 (full attenuation state)	$P_{i(1dB)}$	dBm	≥ -10
	Output P-1	$P_{o(1dB)}$	dBm	≤ 8
	Isolation Between Receive Channels	ISO_1	dB	≥ 60
	Isolation Between Tx and Rx Channels	ISO_2	dB	≥ 60
	Output Power 1	$P_{\alpha 3}$	dBm	0~3
	Output Power 2	$P_{\alpha 3}$	dBm	0~3
	Phase Noise @ 1kHz	$\mathcal{L}(f_2)$	dBc/Hz	≤ -125
	Spurious Rejection	R_{fs6}	dBc	≤ -65
Other	Power Consumption	p	W	≤ 30
	Power Amplifier Detection Function	/	/	Yes
	Temperature Feedback Function	/	/	Yes
	Operating Current Feedback Function	/	/	Yes
	Operating Voltage Feedback Function	/	/	Yes
	Over-temperature Protection Function	/	/	Yes
	Over-voltage Protection Function	/	/	Yes
	Over-current Protection Function	/	/	Yes

Product Render

The dimensions are 250mm × 95mm × 21.5mm.

