

### Typical Applications

The TRFS-203 is a Transmitter VCO Chip for use in such applications as:

- WCDMA, UMTS Systems
- GSM, CDMA, EDGE Systems

### Product Overview

TRFS-203 WCDMA TX VCO is a fully integrated voltage controlled oscillator operating at a frequency of 3.35GHz for wireless communication applications. The differential architecture of the oscillator, along with local bias generation, improves the rejection of common mode interference and provides noise immunity. The VCO output buffer provides high isolation with a pulling sensitivity of 2.5MHz. The low phase noise of the circuit over a nominal tuning range of 81MHz/Volt makes it suitable for transceiver applications. The digital band select allows selection of 16 frequency bands in 68 MHz steps. The core circuitry can be easily integrated with other circuits as well as packaged alone into a leadless chip carrier.

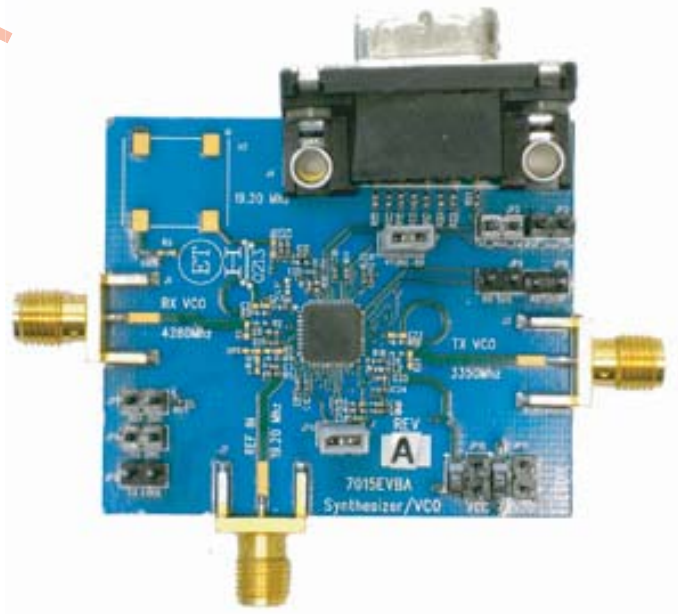
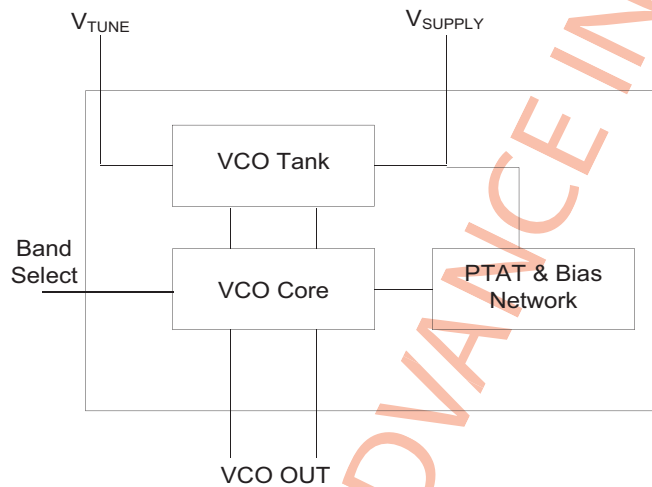
### Key Features

- Compatible with WCDMA standard
- Fully integrated with internal output buffer
- Fully differential design
- Low phase noise of -84dBc/Hz @10kHz offset
- Tuning range of 81MHz/Volt
- Digital band select - 16bands, in 60MHz steps

### Performance Summary

Item	Unit	Min	Typical	Max	Notes
Operating Frequency	MHz	3290	3350	3410	
Supply Voltage (Vcc)	V	2.7	2.85	3.3	
Phase Noise					
10kHz offset	dBc/Hz		-84.8		
1 MHz offset	dBc/Hz		-127.1		
20 MHz offset	dBc/Hz		-145		
Tuning Sensitivity	MHz/Volt		81.4		
Frequency Bands			16		Four bit digital input,
Frequency Range/Band	MHz		60		Over operating frequency
Pulling Sensitivity	MHz		2.5		50% change in load impedance
Pushing Sensitivity	MHz/0.2 Volt	3	7	10	0.2 Volt change in Vcc
Vtune Bandwidth	MHz	28.4	38.9	55.9	-3dB bandwidth
Vtune Input Range	Volts	0.5		2.8	
Supply Current	mA	3.1	4.8	8.7	

### Block Diagram



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