

# Clarify<sup>®</sup> NGx | Interference Management Scanner

## Comprehensive Interference Detection for Multi-Technology Wireless Networks

### CHALLENGE:

Smartphones and tablets are driving unprecedented growth in mobile cellular network data traffic. Yet, most mobile subscribers around the world will continue to use UMTS [WCDMA/HSPA(+)] and GSM networks for years to come. These networks must provide high Quality of Service (QoS) to handle the combined demand for voice and data. That means reducing interference to improve connectivity and spectral efficiency while increasing the number of cell sites to add capacity. However, the addition of small cells, both outdoor and in-building, has resulted in more interference issues between cells. Operators need accurate, efficient methods to reduce interference on UMTS and GSM networks in order to meet growing demand for data while continuing to satisfy the demand for traditional voice services.

### SOLUTION:

#### The Clarify NGx Scanner for Interference Management

PCTEL's Clarify NGx Interference Management Scanner is an ideal tool for operators looking to improve the performance of their 2G and 3G networks with minimal costs and resources. The NGx is designed to help operators quickly detect and pinpoint sources of interference. Its next-generation hardware design focuses on delivering performance, accuracy, and high speed data collection in a sleek, affordable package. When used with other Clarify components, the NGx features deep dynamic range for UMTS and GSM. NGx provides the detailed interference detection capabilities operators need to manage voice and data services in rapidly evolving mobile networks.

### FEATURES

- High speed data collection across UMTS and GSM technologies
- Deep dynamic range for GSM and UMTS when combined with other Clarify components
- Support for other measurement types including RSSI, Spectrum Analysis and Blind Scan
- Upgrade path for support of LTE, CDMA and EV-DO technologies
- Compact collection platform



UMTS [WCDMA/HSPA(+)]  
GSM

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## APPLICATIONS

- Near neighbor list audit and analysis to optimize neighbor lists for handovers
- Identification and containment of excessive RF propagation
- Calibration of propagation models
- Replacement for CW measurements for Propagation Model Optimization (PMO)
- Precise coverage and propagation verification of individual sites for commissioning and optimization

## BENEFITS

- Enhance network quality by detecting and resolving interference and pilot pollution issues
- Increase network capacity through improved utilization of resources
- Maximize efficiency of dual UMTS and GSM networks
- Improve effectiveness of AFP and ACP tools for network deployment and evolution through comprehensive data collection with deep dynamic range

## SPECIFICATIONS

UMTS [WCDMA/ HSPA(+)]	Measurement Modes	Clarify Pilot, Top N, Top N BCH	
	Data Modes	Io, Ec/Io, Aggregate Ec/Io, SIR, Rake Finger Count, Time Offset, Delay Spread	
	Measurement Rate	100/sec	
	Clarify Pilot Dynamic Range, Ec/Io	-33 dB (when Combined with Clarify Analyzer Processing)	
	Min. Detection Level	-127 dBm*	
	Relative Accuracy	± 1 dB	
GSM	Measurement Modes	Clarify BCCH, Color Code	
	Data Modes	BSIC, C/I, RSSI	
	Measurement Rate	Up to 135 (Single Band), 270 (Dual Band) BCCH Measurements/sec	
	Dynamic Range, C/I	-18 dB (when Combined with Clarify Analyzer Processing)	
	Min. BSIC Decode Detection Level	-110 dBm	
	Min. Detection Level	-120 dBm (when Combined with Clarify Analyzer Processing)	
Power Measurements	<b>RSSI MEASUREMENTS</b>		
	Measurement Rate	>6,500 ch/sec (Typical)	
	Absolute Accuracy	± 1 dB	
	<b>SPECTRUM ANALYSIS MEASUREMENTS</b>		
	Measurement Range	>90 dB	
	Measurement Rate (Single Sweep)	>270 MHz/sec	
	Sensitivity	-110 dBm ± 1dB @ 80 kHz; -120 dBm Min. Discernable Signal	
	Accuracy	± 1 dB (across Basic RF Input Power Range)	
	GPS	Type	50 Channel Internal Receiver
		Position Accuracy	±2.5 meter
Acquisition Time		Cold Start: <30 sec; Hot Start: <2 sec	
Sensitivity (Tracking)		>-150 dBm	
Physical	Input Power	+8 to +16 VDC (70W Nominal; 80W (Max.))	
	Size	9.68" D x 8.63" W x 5.34" H (246 mm D x 219 mm W x 136 mm H)	
	Weight	5.0 lbs (2.27 kg)	
	Temperature Range	Operating: 0°C to +50°C; Storage: -40°C to +85°C	
	Host Data Communications Interface	USB 2.0	
	RF Input	RF: SMA Female (50Ω); GPS: Male (50Ω) SMB	
	Safety (CE)	EN 60950-1	
	EMC	EN 301 489-1	
	Shock and Vibration	MIL-STD-810G, SAE J1455	
	RoHS	Compliant (6/6)	

\* @ 90% Signal Detection with <0.1% False Detection Rate



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Specifications subject to change without notice.

PCTEL RF Solutions products are protected under the following U.S. patents:  
7,272,126; 7,236,746; 7,050,755; 7,013,113; 6,950,665; 6,931,235; 6,917,609; 6,816,709; 6,609,001; 5,819,177; 6,091,715; 7,639,985; 7,019,691; 7,301,920.