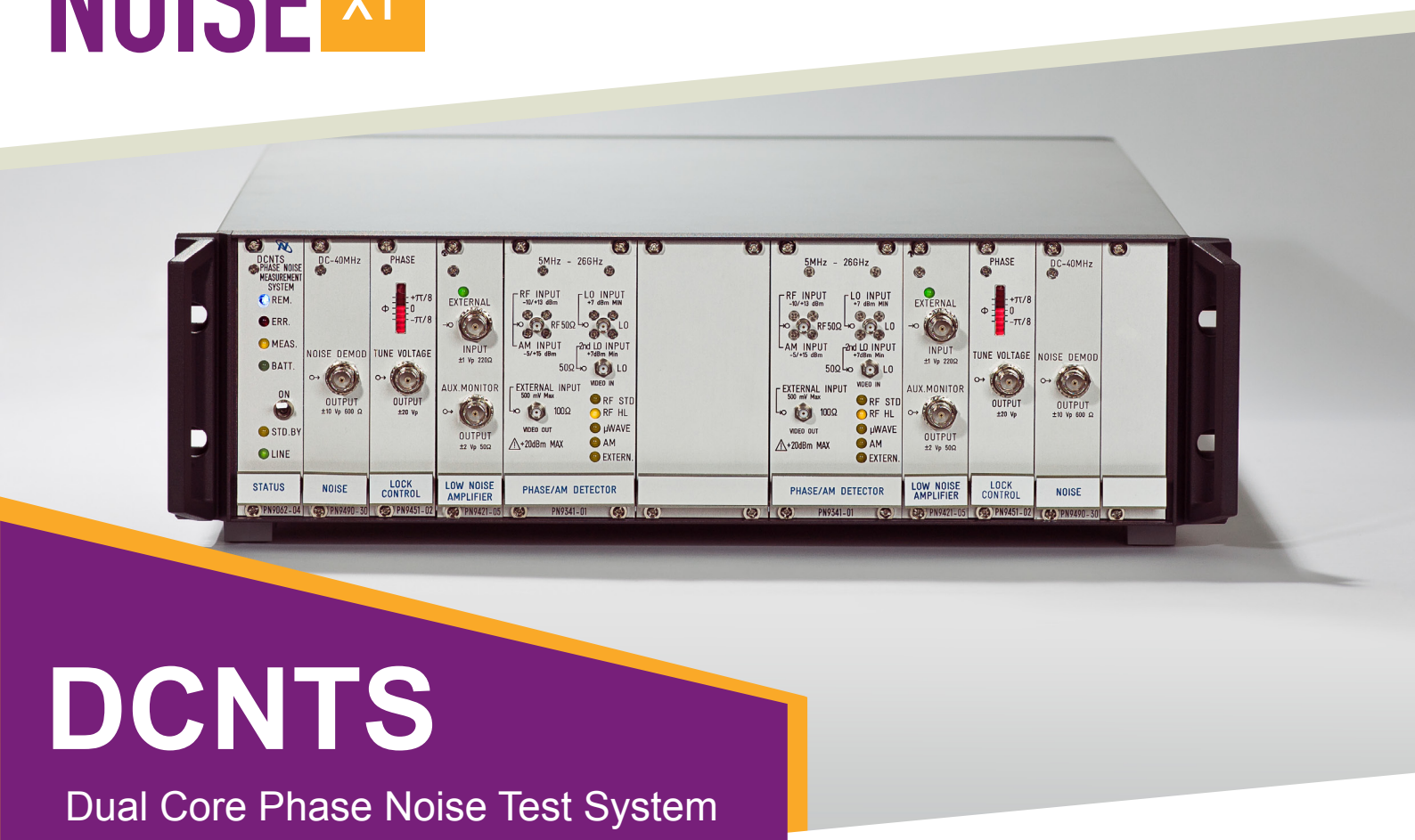
NOISE XT



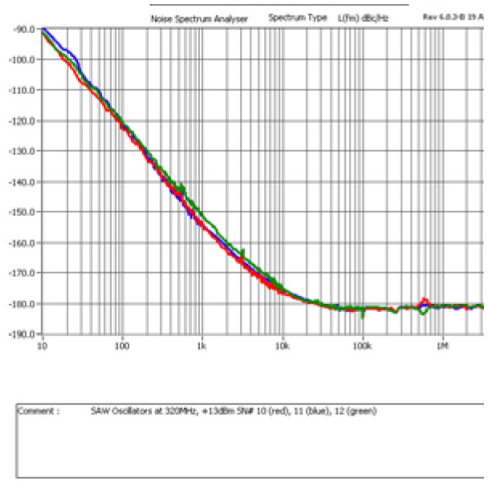

# DCNTS

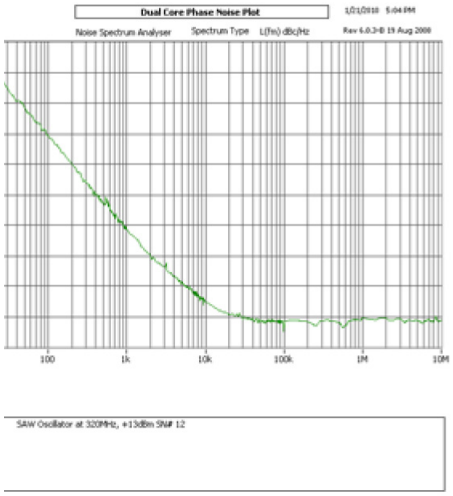
## Dual Core Phase Noise Test System

The DCNTS is a two channel Phase and Amplitude noise analyzer. Its dual demodulator architecture allows the system to use cross-correlation to cancel its internal noise and limitation; it is like comparing the outputs of 2 systems only displaying the similarities while rejecting differences.

Its main extension is the Residual Noise measurement front-end which includes all necessary hardware to automatically measure residual noise on 2-ports devices either in RF frequencies or microwave. It could be a frequency multiplier or divider, an amplifier or any other phase coherent input to output device.

Pulse compatible, the system is perfect for very demanding Defense and Aerospace applications. It can measure Residual and Absolute phase noise from RF to millimeter wave ranges. In order to maximize dynamic range and optimize the cross-correlation process, a unique feature is embedded to reject AM noise while measuring residual phase noise.



# DCNTS Dual Core Phase Noise Test System

## General Specifications*

**Input Frequency:** 2 MHz to 1.8/26.5/40/50 GHz (Absolute Phase Noise)
50MHz to 1.8/18GHz (Residual Phase Noise)
**Offset analysis:** 0.01 Hz to 40 MHz

**Accuracy:** +/- 2dB up to 1MHz offset, +/-3 dB above
**Operating mode:** Manual or Remote scripting control (Ethernet)
**Cross-correlation:** 1 to 100,000

## Amplitude Noise Specifications*

**AM Offset Span:** 100 Hz to 10 MHz

**RF Input Power:** 0 to +20 dBm
**Nominal Conditions:** Ka= 0.300 V/V (+15dBm Input Power at 1 GHz)

| Typ. dBc/Hz vs Offset (Hz) | 100 | 1K | 10K | 100K | 1M | 10M |
|---|---|---|---|---|---|---|
| 100 cross correlation | -145 | -155 | -165 | -170 | -170 | -170 |
| 1.000 cross correlation | -150 | -160 | -170 | -175 | -175 | -175 |
| 10.000 cross correlation | | -165 | -175 | -180 | -180 | -180 |

## Absolute Phase Noise Specifications*

**PM Offset Span:** 0.01 Hz to 40 MHz

**Standard RF Detector:**
**Input Frequency**: 2 MHz to 1.8 GHz
**RF Input Level:** 0 to +13 dBm

**LO Input Level:** +7 to +13 dBm
**Nominal Conditions:** Kphi=0.300 V/rd (+13dBm Input Power at 100 MHz)

| Typ. dBc/Hz vs Offset (Hz) | 1 | 10 | 100 | 1K | 10K | 100K | 1M | 10M |
|---|---|---|---|---|---|---|---|---|
| 100 cross correlation | -140 | -150 | -160 | -170 | -178 | -178 | -178 | -178 |
| 1.000 cross correlation | | | -165 | -175 | -183 | -183 | -183 | -183 |
| 10.000 cross correlation | | | | -180 | -188 | -188 | -188 | -188 |

**High Level RF Detector :**
**Input Frequency:** 2 MHz to 1.6 GHz
**RF Input Level:** 0 to +23 dBm

**LO Input Level:** +15 to +20 dBm
**Nominal Conditions:** Kphi=0.500 V/rd (+18dBm Input Power at 100 MHz)

| Typ. dBc/Hz vs Offset (Hz) | 1 | 10 | 100 | 1K | 10K | 100K | 1M | 10M |
|---|---|---|---|---|---|---|---|---|
| 100 cross correlation | -150 | -160 | -170 | -180 | -185 | -185 | -185 | -185 |
| 1.000 cross correlation | | | -175 | -185 | -190 | -190 | -190 | -190 |
| 10.000 cross correlation | | | | -190 | -195 | -195 | -195 | -195 |

**Standard Microwave Detector :**
**Input Frequency:** 1.8 GHz to 26.5 GHz
**RF Input Level:** 0 to +15 dBm

**LO Input Level:** +7 to +15 dBm
**Nominal Conditions:** Kphi=0.300 V/rd (+13dBm Input Power at 2 GHz)

| Typ. dBc/Hz vs Offset (Hz) | 1 | 10 | 100 | 1K | 10K | 100K | 1M | 10M |
|---|---|---|---|---|---|---|---|---|
| 100 cross correlation | -130 | -140 | -150 | -160 | -170 | -178 | -178 | -178 |
| 1.000 cross correlation | | | -155 | -165 | -175 | -183 | -183 | -183 |
| 10.000 cross correlation | | | | -170 | -180 | -188 | -188 | -188 |

**High Level Microwave Detector:**
**Input Frequency:** 1.8 GHz to 26.5 GHz
**RF Input Level:** 0 to +23 dBm

**LO Input Level:** +15 to +20 dBm
**Nominal Conditions:** Kphi=0.600 V/rd (+17dBm Input Power at 2 GHz)

| Typ. dBc/Hz vs Offset (Hz) | 1 | 10 | 100 | 1K | 10K | 100K | 1M | 10M |
|---|---|---|---|---|---|---|---|---|
| 100 cross correlation | -138 | -148 | -158 | -168 | -178 | -184 | -184 | -184 |
| 1.000 cross correlation | | | -163 | -173 | -183 | -189 | -189 | -189 |
| 10.000 cross correlation | | | -188 | -188 | -195 | -194 | -194 | -194 |