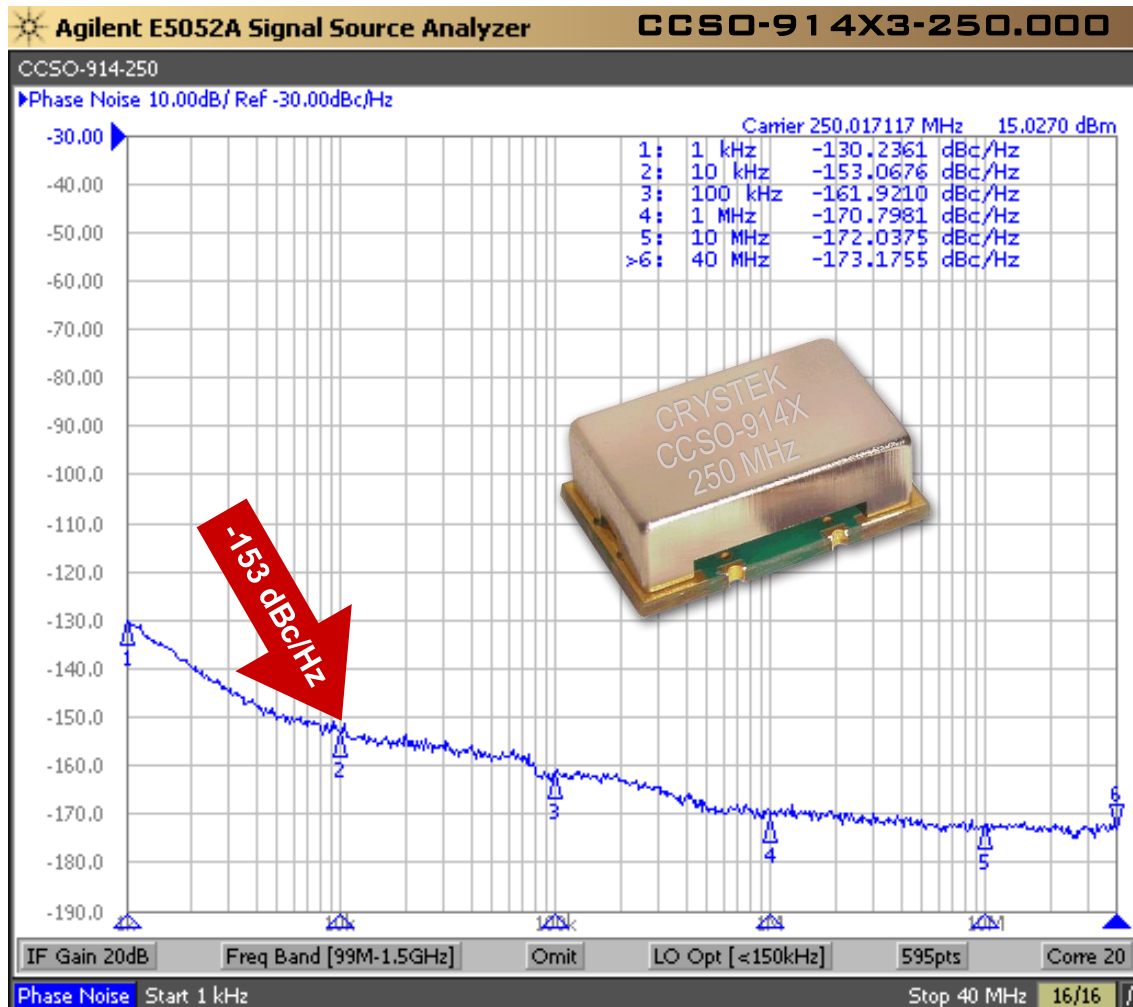


*Ultra-Low Phase Noise SAW Clock*

Frequency Range:

245.760 MHz to 1500 MHz



Model CCSO-914X is a SAW (surface acoustic wave) Clock Oscillator (CCSO). SAW crystal technology provides low-noise and low-jitter performance with true sinewave output. Features include -145 dBc/Hz phase noise at 10 kHz offset at 1 GHz, 3.3V & 5V input voltage available, -40°C to +85°C operating temperature, FR5 PCB and 9×14 mm SMT package. The oscillator has no sub-harmonic and the second harmonic is typically -20 dBc.

**Applications include:**

Analog to Digital Converters (A/D Converters), System Clock for Network Clock Generator/Synchronizer, Clock for DDS, Test and Measurement, Avionics, Point-to-Point Radios, and Multi-point Radios.

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**CCSO-914X**  
True SineWave  
SAW Based Clock Oscillator  
9x14mm SMD  
3.3 & 5.0 Volt



<b>Frequency Range:</b>	<b>245.760 MHz to 1500 MHz</b>
<b>Temperature Range:</b>	<b>-40°C to +85°C</b>
<b>Storage:</b>	<b>-45°C to 90°C</b>
<b>Input Voltage:</b>	<b>3.3V ± 0.165V</b>
<b>(option 3)</b>	<b>5.0V ± 0.25V</b>
<b>(standard)</b>	
<b>Frequency vs Temperature (Typical):</b>	<b>±200ppm (-40/85)</b>
	<b>±150ppm (0/70)</b>
<b>Input Current:</b>	<b>25mA Typical, 35mA Max</b>
<b>Output:</b>	<b>True SineWave</b>
<b>Output Power:</b>	<b>+5dBm Min into 50 Ω Load</b>
<b>(3.3V)</b>	<b>+8dBm Min into 50 Ω Load</b>
<b>(5.0V)</b>	
<b>Start-Up Time:</b>	<b>2ms Typical, 10ms Max</b>
<b>2<sup>nd</sup> Harmonic:</b>	<b>-20dBc Typical, -15dBc Max</b>
<b>Sub-Harmonics:</b>	<b>None</b>

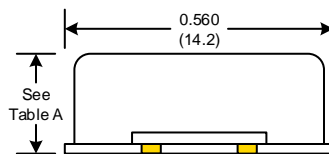
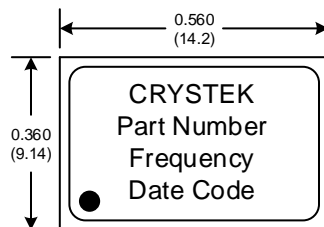


**Phase Noise Typical @ 1 GHz:**

<b>1kHz</b>	<b>-116 dBc/Hz</b>
<b>10kHz</b>	<b>-145 dBc/Hz</b>
<b>100kHz</b>	<b>-168 dBc/Hz</b>
<b>1MHz</b>	<b>-170 dBc/Hz</b>
<b>10MHz</b>	<b>-171 dBc/Hz</b>

**G-sensitivity:**

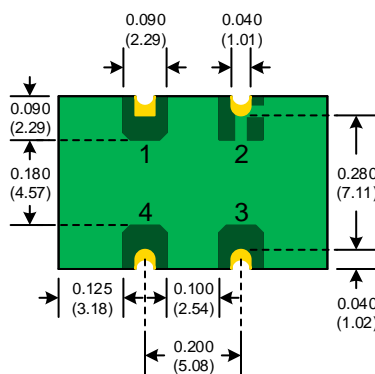
**0.9×10<sup>-9</sup> per g**



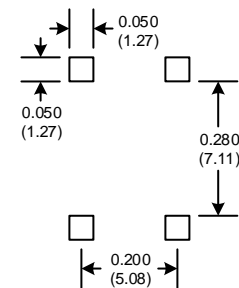
**Package Height Options**

	inches	mm
Standard	0.210	5.33
Option L	0.135	3.43

Table A



**SUGGESTED PAD LAYOUT**



**PAD FINISH:** Immersion Gold (ENIG); 5 micro inches maximum

Pad	Connection
1	N/C
2	GND
3	Output
4	Vdd

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9×14mm SMD  
3.3 & 5.0 Volt

**Crystek Part Number Guide**

CCSO - 914X 3 L - 1000.000  
#1 #2 #3 #4 #5

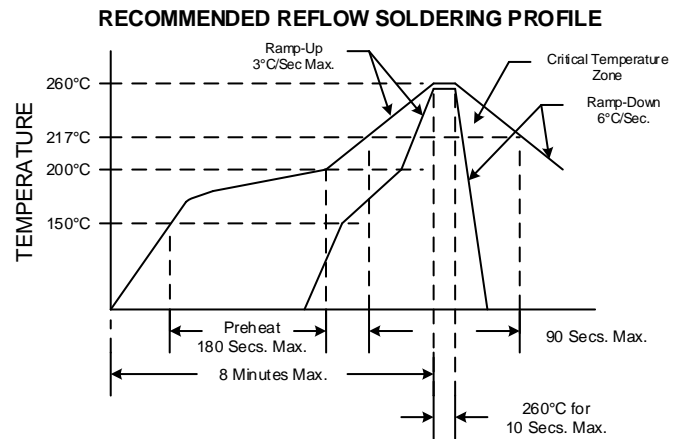
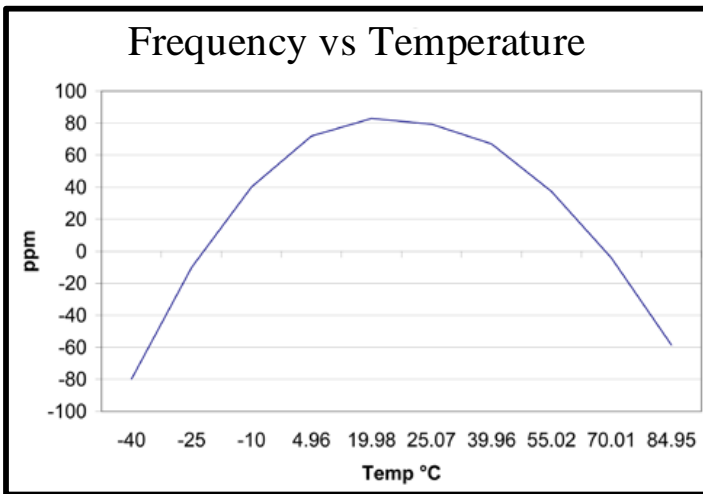
- #1 Crystek Saw Osc.
- #2 Model 914 with -40/85°C Temperature Range
- #3 (3 = 3.3Volts) (Blank = 5 Volts)
- #4 Height (L = 0.135") (Blank = 0.210")
- #5 Frequency in MHz: 3 or 6 decimal places

Available Frequencies (MHz):

245.760	500.000	916.000
250.000	622.080	1000.000
433.920	800.000	1500.000

Custom Frequencies Available with NRE Fee

Similar Product in 5×7.5mm Package  
[Click Here](#)

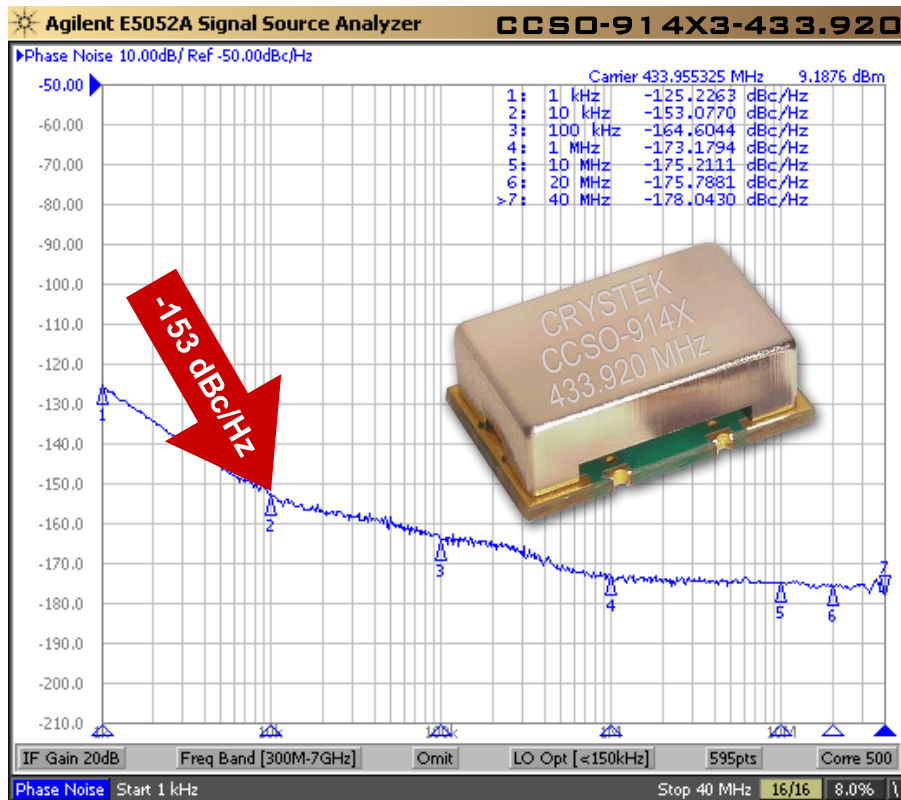
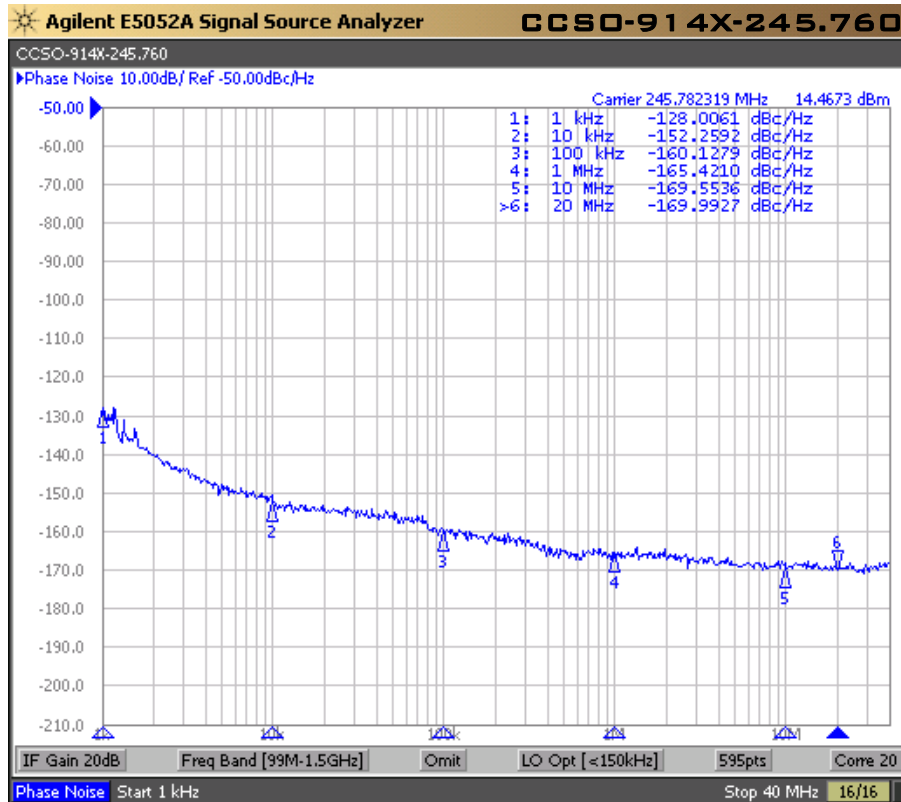


NOTE: Reflow Profile with 240°C peak also acceptable.

Parameter	Conditions
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Mechanical Vibration	MIL-STD-883, Method 2007, Condition A
Solderability	MIL-STD-883, Method 2003
Solvent Resistance	MIL-STD-202, Method 215
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition I or J
Thermal Shock	MIL-STD-883, Method 1011, Condition A
Moisture Resistance	MIL-STD-883, Method 1004

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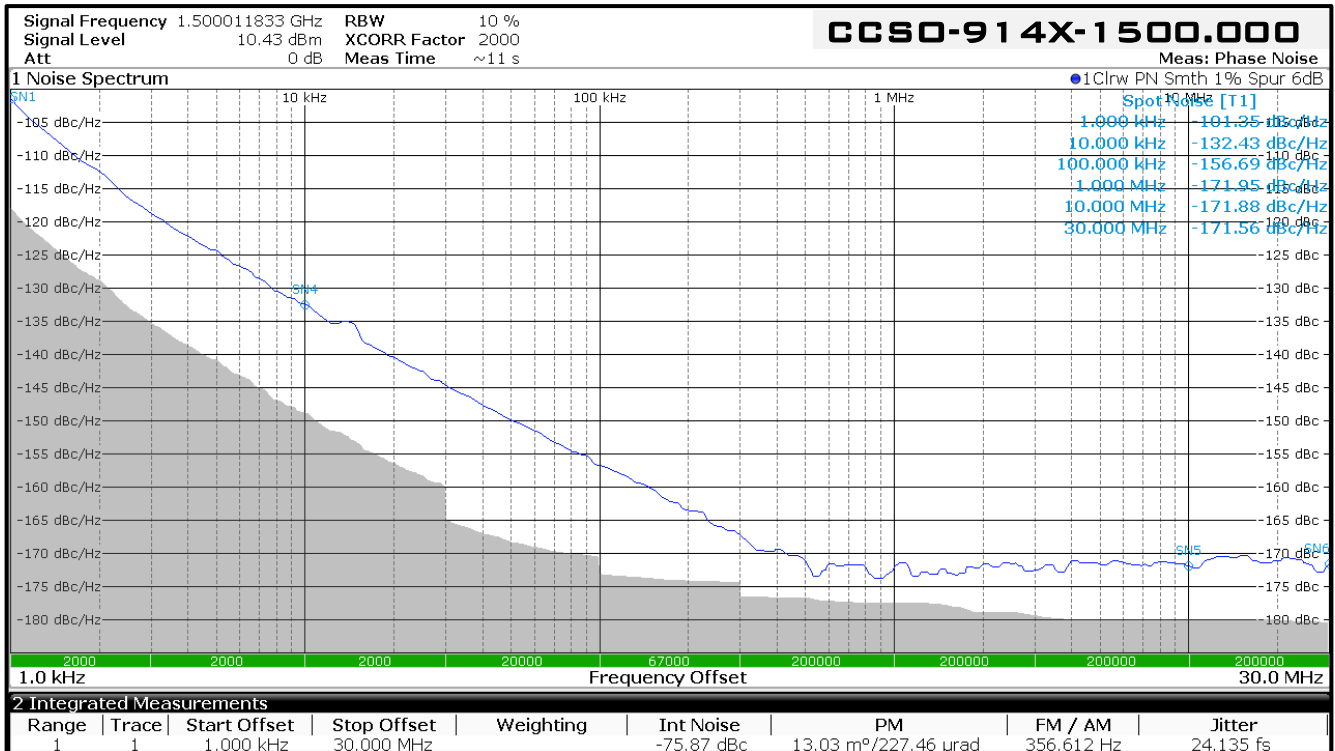
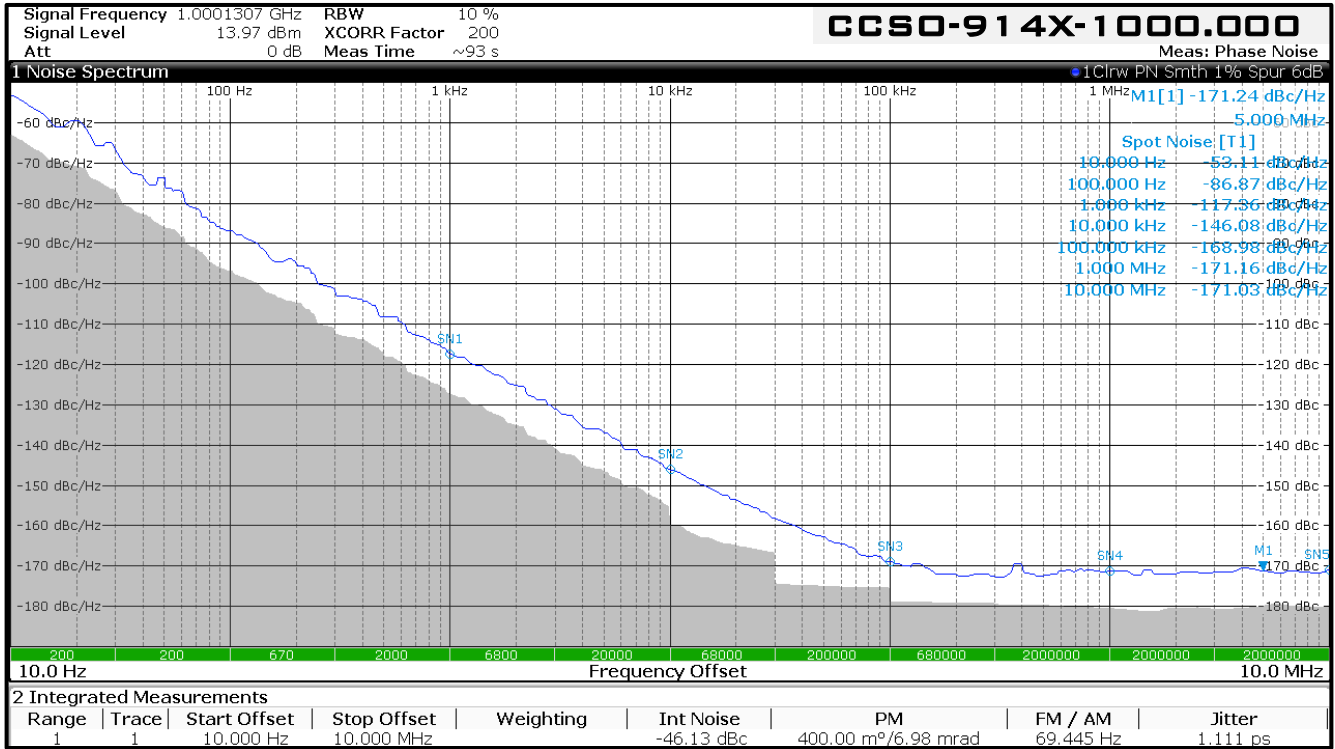
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