


## Certification of Calibration

 <b>AfterDark.</b>	<b>Product Name:</b> AFTERDARK. PROJECT CLAYX GIESEMANN OCXO 10MHZ REFERENCE MASTER CLOCK  <b>Model:</b> King <b>Serial #:</b> A48 <b>Certification Date:</b> 2020/04/10
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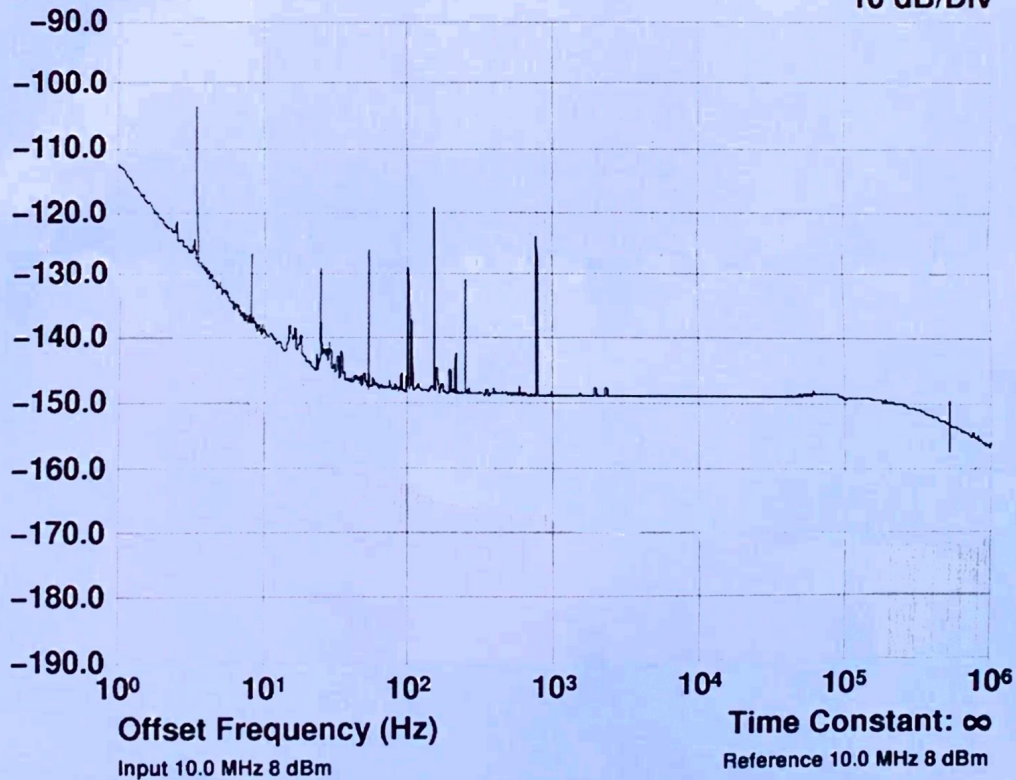
Phase Noise (x) :	
1Hz	-112
10Hz	-140

12/11/2020 03:17:47 PM  
1h 34m

### $\mathcal{L}(f)$ Phase Noise at 10.0 MHz (dBc/Hz)

Symmetricon 5125A

10 dB/Div





<b>Allan Derivation:</b>	<p>The Allan deviation (ADEV), also known as sigma-tau, is the square root of the Allan variance. The M-sample variance is a measure of frequency stability using M samples, time T between measurements and observation time.</p> <p>Allan Deviation is a unitless measure of stability, typically used to quantify the stability of clocks and other oscillators. By definition, Allan Deviation <math>\sigma_y</math> is calculated as a function of observation time <math>\tau</math> by the following equation:</p>
1s	4.17 x E-13

12/11/2020 03:16:33 PM  
1h 33m

## Allan Deviation $\sigma_y(\tau)$

Symmetricon 5125A

Avg. Time (s)	Allan Deviation $\sigma_y(\tau)$	Noise Floor
0.001	3.7948x10 <sup>-11</sup>	6.29596x10 <sup>-12</sup>
0.002	3.1992x10 <sup>-11</sup>	8.24056x10 <sup>-12</sup>
0.004	1.9931x10 <sup>-11</sup>	1.10899x10 <sup>-11</sup>
0.01	8.620x10 <sup>-12</sup>	5.47547x10 <sup>-12</sup>
0.02	1.9745x10 <sup>-12</sup>	3.16912x10 <sup>-12</sup>
0.04	1.0606x10 <sup>-12</sup>	5.93105x10 <sup>-13</sup>
0.1	6.764x10 <sup>-13</sup>	1.01020x10 <sup>-13</sup>
0.2	4.774x10 <sup>-13</sup>	8.70099x10 <sup>-14</sup>
0.4	4.299x10 <sup>-13</sup>	1.00614x10 <sup>-13</sup>
1	4.17x10 <sup>-13</sup>	3.55449x10 <sup>-14</sup>
2	4.46x10 <sup>-13</sup>	3.21475x10 <sup>-14</sup>
4	5.31x10 <sup>-13</sup>	2.01307x10 <sup>-14</sup>
10	7.88x10 <sup>-13</sup>	1.74800x10 <sup>-14</sup>
20	1.06x10 <sup>-12</sup>	1.81414x10 <sup>-14</sup>
40	1.28x10 <sup>-12</sup>	1.58855x10 <sup>-14</sup>
100	1.61x10 <sup>-12</sup>	1.13940x10 <sup>-14</sup>
200	1.72x10 <sup>-12</sup>	8.85664x10 <sup>-15</sup>
400	1.74x10 <sup>-12</sup>	
1000	2.8x10 <sup>-12</sup>	
2000	2.5x10 <sup>-12</sup>	

$\tau_0 = 1 \text{ ms}$     NEQ BW = 500 Hz

AfterDark. certified that the product meets or exceeds its published specification and has been proceed and calibrated in highest standard with Symmetricon 5125A and Agilent 53220A. The manufacturing of the products covered by this document declares that, except where otherwise clearly indicated, these products are of Hong Kong preferential origin.

I/We hereby certify that the information on this product is certified in true and correct and that the contents of this product are meet with the standard are as stated above.

Name: ADRIAN IP

Position in Company: Shop Owner

Signature: \_\_\_\_\_