

K1SIX ATLANTA RADIO METEOR COUNTING TEST RESULTS

ATLANTA 67.250 Spectrum Lab Test Results- COUNTS PER HOUR in 25 Hz BW, CW Mode.  
230° at 1,496 km (929 mi.) +60 Hz from assigned offset- 20 dB Threshold for final tests.

CODED <sup>0</sup> UTC Hour	Overall Average	Initial <sup>1</sup> 01/06/14	TEST 2 <sup>2</sup> 01/11/14	TEST 3 <sup>3</sup> 01/12/14	TEST 4 <sup>4</sup> 01/13/14	TEST 5 <sup>5</sup> 01/14/14	TEST 6 <sup>6</sup> 01/15/14	TEST 7 <sup>7</sup> 01/16/14
00	31.2	16	20	34	39	27	31	36
01	37.5	19	31	47	39	23	37	48
02	50.0	21	43	69	52	21	49	66
03	59.0	45	56	46	75	45	57	75
04	67.2	49	60	58	83	39	69	94
05	65.3	69	43	54	61	51	90	93
06	74.0	61	61	88	65	59	80	91
07	82.5	70	60	97	84	62	87	105
08	89.7	123	72	123	84	61	96	102
09	107.5	11	119	90	122	67	99	148
10	108.2	72	129	117	121	61	84	137
11	102.7	34	117	121	93	61	101	123
12	92.8	47	99	129	74	64	88	103
13	91.2	39	109	95	90	53	88	112
14	104.2	47	130	114	79	103	85	114
15	102.0	36	124	89	100	75	91	133
16	102.5	47	132	93	80	98	87	125
17	101.7	40	111	82	76	123	85	133
18	82.7	14	81	65	70	102	77	101
19	62.5	15	64	52	59	79	58	63
20	43.3	5	34	43	44	49	43	47
21	28.2	7	31	18	35	28	32	25
22	25.0	7	26	24	14	22	37	27
23	23.8	8	23	25	15	15	44	21
TOTALS:	1,735	902	1,775	1,773	1,654	1,388	1,695	2,122
Minimums:	23.8	5	20	18	14	15	31	21
=< 2x MIN:	47.7	10	40	36	28	30	62	42
Maximums:	108.2	123	132	129	122	123	101	148
> 75% of MAX:	81.1	92	99	97	92	92	76	111
DIUR. RATIO <sup>0</sup> :	4.54	24.60	6.60	7.17	8.71	8.20	3.26	7.05

NOTES (results are color coded for visual diurnal correlation)



= Counting is off or an Interferer/ Es, etc. caused elevated and invalid counts.

<sup>0</sup> UTC HOUR is Color Coded by averaging tests 2-7 for diurnal variation correlation purposes. The DIURNal RATIO is = MAX /MIN Counts as a figure of merit for proof of diurnal detection. All color coding is automatic and dynamic except orange which is manually added only at the end of a complete 24 hour run OR until such time that all averaging has been completed.

<sup>1</sup> Initial tests with threshold set at 15 dB. Missed many meteors, especially overdense ones.

<sup>2,3,4,5,6,7</sup> Diurnal correlation tests with color coded results for mostly "sporadics". These tests utilize optimized Conditional Actions File: Atlanta\_2014-01-10. The latest parameters are a 20 dB threshold and a 25 Hz detection bandwidth (745 - 770 Hz). These values ensure the lowest probability of Doppler shifted 60 Hz sidebands from an interferer 90 Hz lower in frequency of causing false counts and also protect against false counts from a birdie that occasionally wanders through the detection bandwidth sometimes reaching up to 15 dB above the average noise floor, etc. The latest file also removes the "& Test A & B" secondary meteor confirmation tests for a significant improvement in detection sensitivity. The goal is accurately measuring the meteor reflections from 2.5 kW ERP Atlanta analog TV4 only- if possible.

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**KNOWN ACTIVE SHOWERS DURING TEST PERIOD**

Possible activity that may have influenced the data with higher counts above the background are shown with celestial coordinates, general info and SW path efficiency estimates based upon data supplied by VHFPAK's METEOR module written by Mike Owen, W9IP.

Remnant of Quadrantids (*QUA*) through January 12<sup>th</sup> with Sharp Max on January 3<sup>rd</sup>:  
1/10/14: 15:36 + 48° Path Best 70%+ Effectivity: 0030 - 0500 UTC

December Leonis Minorids (*DLM*) through February 4<sup>th</sup> with Max on December 19<sup>th</sup>:  
1/10/14: 12:00 + 21° Path Best 70%+ Effectivity: 18:00 - 20:30 UTC  
1/15/14: 12:20 + 19° Path Best 70%+ Effectivity: 18:00 - 21:00 UTC

Antihelion Source (*ANT*) Area of several radiants of general interest:  
1/10/14: 08:08 + 19° Path Best 70%+ Effectivity: 18:00 - 21:00 UTC  
1/15/14: 08:28 + 17° Path Best 70%+ Effectivity: 18:00 - 21:00 UTC

Cancun Veneticids (*CVN*) January 11th through January 17<sup>th</sup> with Max on January 11<sup>th</sup>:  
1/11/14: 14:08 + 36° Path Best 70%+ Effectivity: 00:30 - 03:30 UTC

Remnant of Comet C/2012 S1 (*ISON*) Possible activity on January 14<sup>th</sup> - January 16<sup>th</sup> ???:  
**Turquoise Fill indicates => 50% deviation from previous running averages for further scrutiny.**  
Estimated ~ 10:05 +13° Path Best 70%+ Effectivity: 17:00 - 21:00 UTC  
Secondary Minor Peak 30 - 55% Radiant Effectivity: 00:30 - 03:00 UTC

*NOTE: Conditional Actions Scripts and USR configurations must be customized for each unique environment and application. The choice of detection bandwidth, threshold and secondary meteor tests depends upon potential interferers and the frequency stability over the temperature range experienced by the receiving equipment. Please download and maintain the original Script by Simon Dawes if the custom one by K1SIX does not work properly for your application. Attempting to obtain maximum raw counts without regard to controlling false counts will result in inaccuracy. Finding the correct balance of settings for accurate results should always be the goal!*

[Click here to download the latest version of Spectrum Lab](#)

[Click here for \*\*REQUIRED READING\*\* and to download the original counting Script](#)

[Click here to view development notes](#)

[Right Click here \(Save As\) for the most recent USR file for the above tests](#)

[Right Click here \(Save As\) to download the most recent SCRIPT for the above tests](#)

[Web File: Atlanta\\_Meteors.pdf](#)