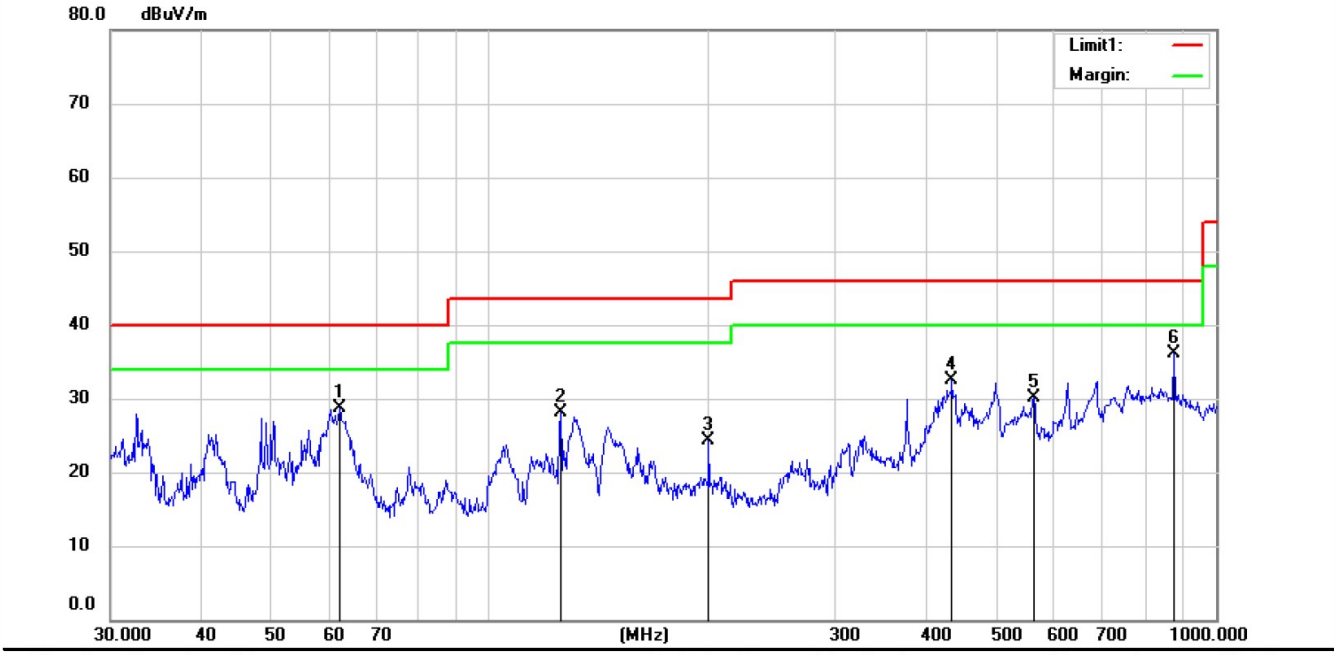
■ Spurious Emission below 1GHz (30MHz to 1GHz)

All modes 2.4G 802.11b/g/n have been tested, and the worst result 802.11b was recorded as below:



Site 3m Chamber #1 Polarization: *Vertical* Temperature: 28.1 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 230V/50Hz Humidity: 43 %

Mode:WIFI 2412

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		62.0766	40.70	-12.03	28.67	40.00	-11.33	QP			
2		125.0066	42.44	-14.39	28.05	43.50	-15.45	QP			
3		199.9856	37.86	-13.63	24.23	43.50	-19.27	QP			
4		433.4947	38.19	-5.72	32.47	46.00	-13.53	QP			
5		562.1694	33.86	-3.75	30.11	46.00	-15.89	QP			
6	*	875.2470	34.39	1.76	36.15	46.00	-9.85	QP			

Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 28.1 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 230V/50Hz Humidity: 43 %

Mode:WIFI 2412

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		57.7203	30.37	-12.09	18.28	40.00	-21.72	QP			
2		150.7360	33.59	-13.78	19.81	43.50	-23.69	QP			
3		330.0502	34.00	-8.27	25.73	46.00	-20.27	QP			
4		429.1464	32.16	-5.67	26.49	46.00	-19.51	QP			
5		681.1532	32.59	-1.20	31.39	46.00	-14.61	QP			
6	*	875.2470	35.70	1.76	37.46	46.00	-8.54	QP			

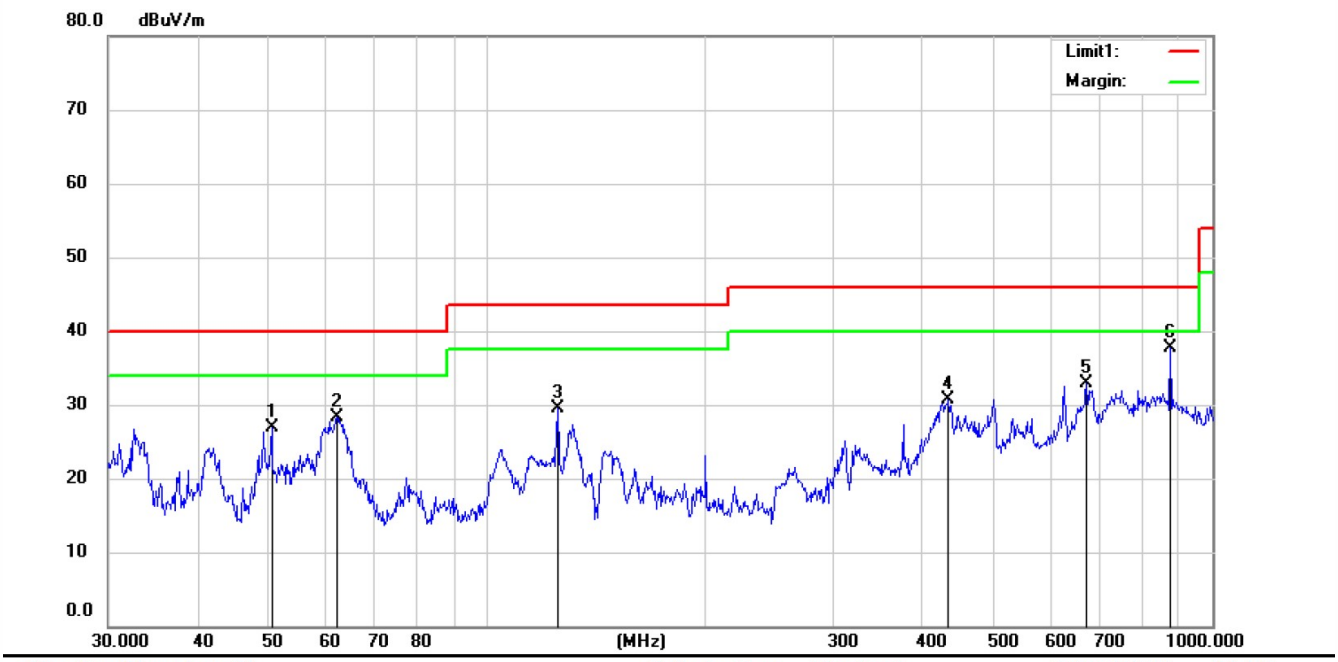
Site 3m Chamber #1 Polarization: ***Horizontal*** Temperature: 28.1 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 230V/50Hz Humidity: 43 %

Mode:WIFI 2437

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		61.8051	30.11	-12.02	18.09	40.00	-21.91	QP			
2		147.9214	31.60	-13.94	17.66	43.50	-25.84	QP			
3		326.5963	33.93	-8.43	25.50	46.00	-20.50	QP			
4		420.3960	32.45	-6.06	26.39	46.00	-19.61	QP			
5		724.5786	32.52	-0.29	32.23	46.00	-13.77	QP			
6	*	875.2470	35.44	1.76	37.20	46.00	-8.80	QP			



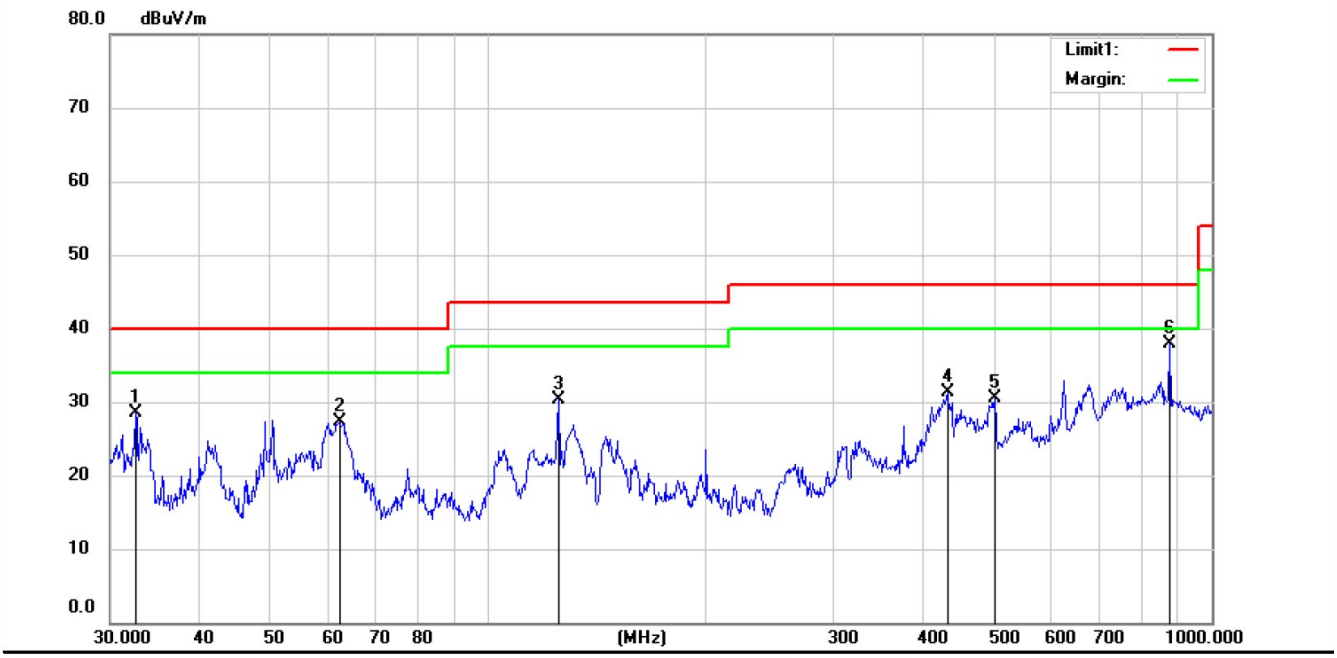
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 28.1 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 230V/50Hz Humidity: 43 %

Mode:WIFI 2437

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		50.4531	38.86	-11.95	26.91	40.00	-13.09	QP			
2		62.1583	40.25	-12.04	28.21	40.00	-11.79	QP			
3		125.0066	43.98	-14.39	29.59	43.50	-13.91	QP			
4		432.9250	36.38	-5.71	30.67	46.00	-15.33	QP			
5		670.4893	34.21	-1.40	32.81	46.00	-13.19	QP			
6	*	875.2470	35.85	1.76	37.61	46.00	-8.39	QP			



Site 3m Chamber #1 Polarization: *Vertical* Temperature: 28.1 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 230V/50Hz Humidity: 43 %

Mode:WIFI 2462

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		32.5768	42.80	-14.37	28.43	40.00	-11.57	QP			
2		62.2128	39.37	-12.04	27.33	40.00	-12.67	QP			
3		125.0066	44.61	-14.39	30.22	43.50	-13.28	QP			
4		431.4096	37.00	-5.68	31.32	46.00	-14.68	QP			
5		502.2786	35.49	-4.97	30.52	46.00	-15.48	QP			
6	*	875.2470	36.07	1.76	37.83	46.00	-8.17	QP			

Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 28.1 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 230V/50Hz Humidity: 43 %

Mode:WIFI 2462

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		62.8432	29.23	-12.05	17.18	40.00	-22.82	QP			
2		144.9688	32.66	-14.20	18.46	43.50	-25.04	QP			
3		321.0608	34.43	-8.69	25.74	46.00	-20.26	QP			
4		425.2144	32.63	-5.84	26.79	46.00	-19.21	QP			
5		679.9600	33.16	-1.21	31.95	46.00	-14.05	QP			
6	*	875.2470	34.62	1.76	36.38	46.00	-9.62	QP			

8.6 CONDUCTED EMISSIONS TEST

8.6.1 Applicable Standard

According to FCC Part 15.207(a)

8.6.2 Conformance Limit

Conducted Emission Limit

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

8.6.3 Test Configuration

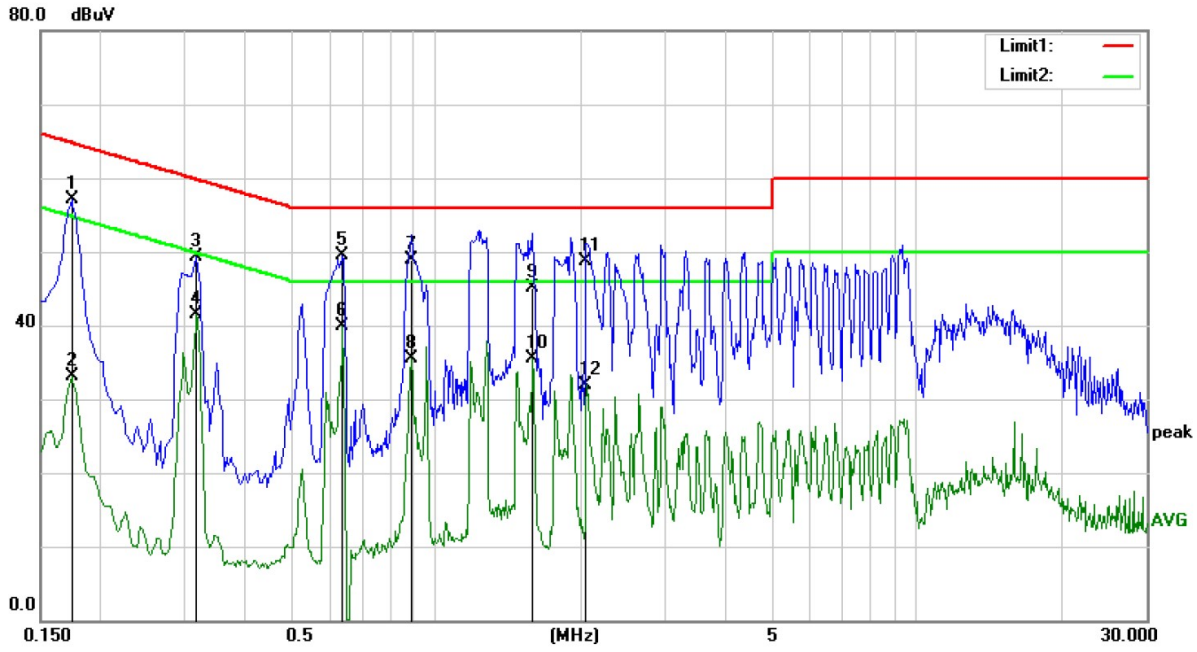
Test according to clause 7.3conducted emission test setup

8.6.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

8.6.5 Test Results

Pass



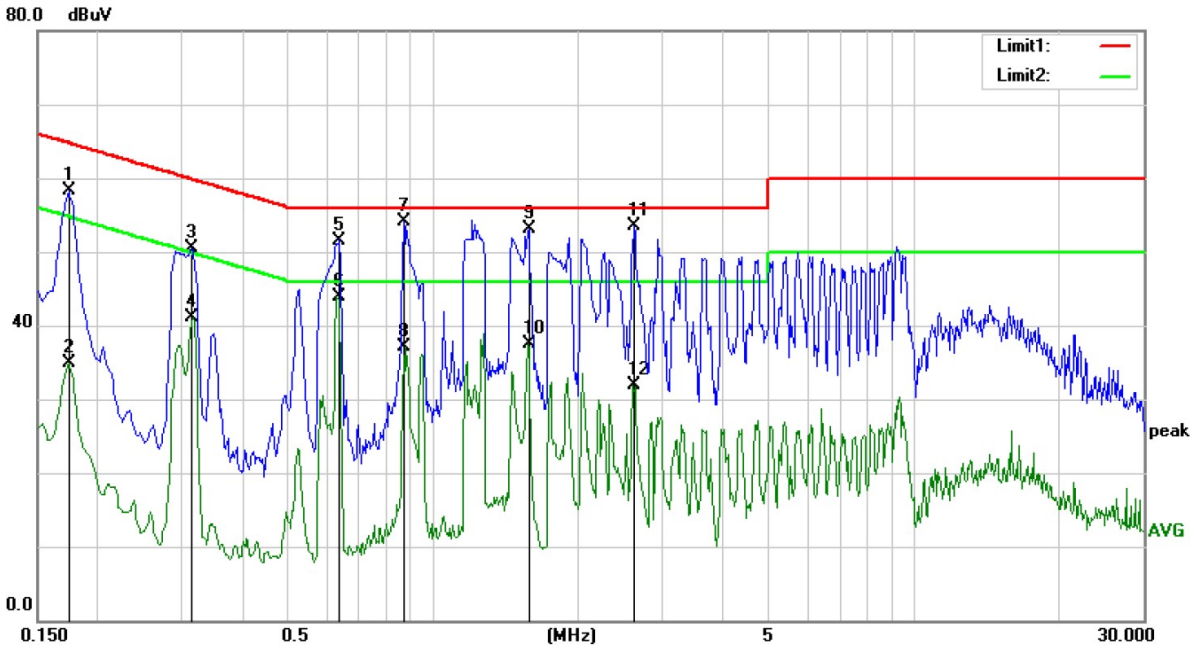
Site Conduction #2 Phase: *L1* Temperature: 25.1

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 45 %

Mode: charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1740	46.64	10.46	57.10	64.77	-7.67	QP	
2		0.1740	22.59	10.46	33.05	54.77	-21.72	AVG	
3		0.3180	38.83	10.39	49.22	59.76	-10.54	QP	
4		0.3180	31.07	10.39	41.46	49.76	-8.30	AVG	
5		0.6380	39.10	10.35	49.45	56.00	-6.55	QP	
6	*	0.6380	29.47	10.35	39.82	46.00	-6.18	AVG	
7		0.8860	38.61	10.39	49.00	56.00	-7.00	QP	
8		0.8860	25.15	10.39	35.54	46.00	-10.46	AVG	
9		1.5820	34.83	10.37	45.20	56.00	-10.80	QP	
10		1.5820	25.04	10.37	35.41	46.00	-10.59	AVG	
11		2.0540	38.47	10.33	48.80	56.00	-7.20	QP	
12		2.0540	21.52	10.33	31.85	46.00	-14.15	AVG	



Site Conduction #2 Phase: *N* Temperature: 25.1

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 45 %

Mode: charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1740	47.85	10.46	58.31	64.77	-6.46	QP	
2		0.1740	24.51	10.46	34.97	54.77	-19.80	AVG	
3		0.3140	40.14	10.39	50.53	59.86	-9.33	QP	
4		0.3140	30.73	10.39	41.12	49.86	-8.74	AVG	
5		0.6380	41.25	10.35	51.60	56.00	-4.40	QP	
6		0.6380	33.46	10.35	43.81	46.00	-2.19	AVG	
7	*	0.8700	43.79	10.38	54.17	56.00	-1.83	QP	
8		0.8700	26.72	10.38	37.10	46.00	-8.90	AVG	
9		1.5820	42.73	10.37	53.10	56.00	-2.90	QP	
10		1.5820	27.08	10.37	37.45	46.00	-8.55	AVG	
11		2.6100	43.08	10.36	53.44	56.00	-2.56	QP	
12		2.6100	21.58	10.36	31.94	46.00	-14.06	AVG	

8.7 ANTENNA APPLICATION

8.7.1 Antenna Requirement

Standard	Requirement
FCC CRF Part15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217,§15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.7.2 Result

PASS.

- The EUT has 2 Internal Antennas: The two antennas are 0.8 dBi (with cable loss).

Note: ☒ Antenna uses a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

Which in accordance to section 15.203, please refer to the internal photos

Detail of factor for radiated emission

Frequency(MHz)	Ant_F(dB)	Cab_L(dB)	Preamp(dB)	Correct Factor(dB)
0.009	20.6	0.03	\	20.63
0.15	20.7	0.1	\	20.8
1	20.9	0.15	\	21.05
10	20.1	0.28	\	20.38
30	18.8	0.45	\	19.25
30	11.7	0.62	27.9	-15.58
100	12.5	1.02	27.8	-14.28
300	12.9	1.91	27.5	-12.69
600	19.2	2.92	27	-4.88
800	21.1	3.54	26.6	-1.96
1000	22.3	4.17	26.2	0.27
1000	25.6	1.76	41.4	-14.04
3000	28.9	3.27	43.2	-11.03
5000	31.1	4.2	44.6	-9.3
8000	36.2	5.95	44.7	-2.55
10000	38.4	6.3	43.9	0.8
12000	38.5	7.14	42.3	3.34
15000	40.2	8.15	41.4	6.95
18000	45.4	9.02	41.3	13.12
18000	37.9	1.81	47.9	-8.19
21000	37.9	1.95	48.7	-8.85
25000	39.3	2.01	42.8	-1.49
28000	39.6	2.16	46.0	-4.24
31000	41.2	2.24	44.5	-1.06
34000	41.5	2.29	46.6	-2.81
37000	43.8	2.30	46.4	-0.3
40000	43.2	2.50	42.2	3.5

*** End of Report ***