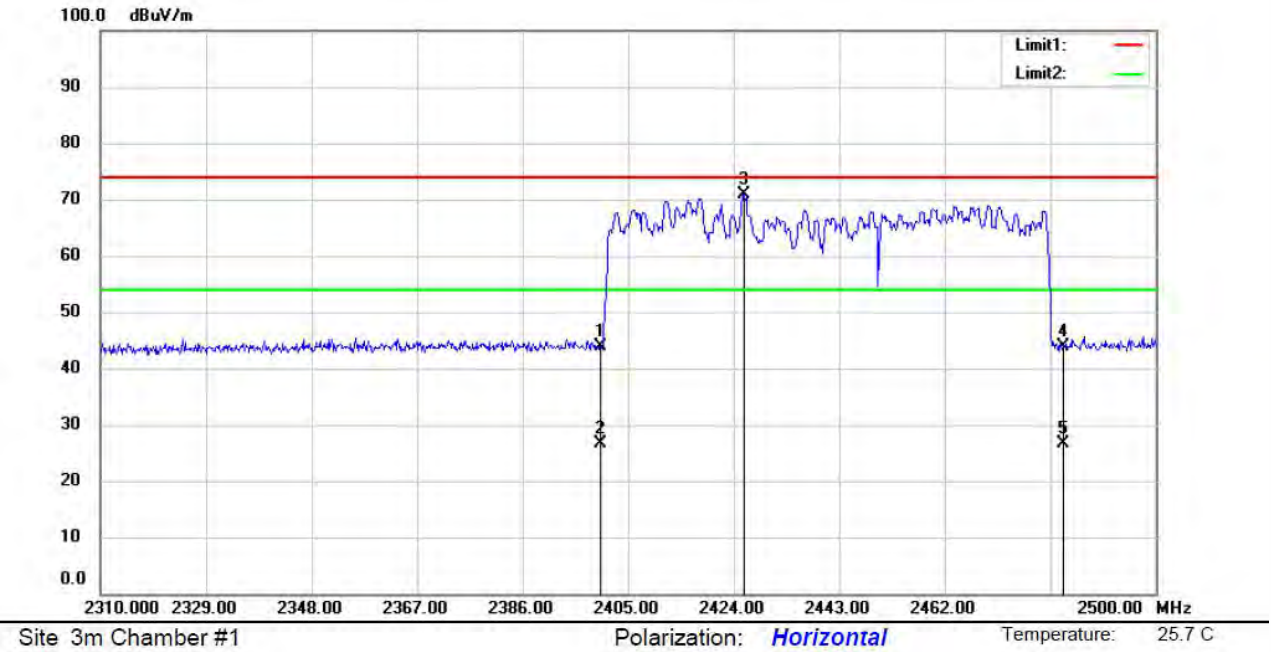
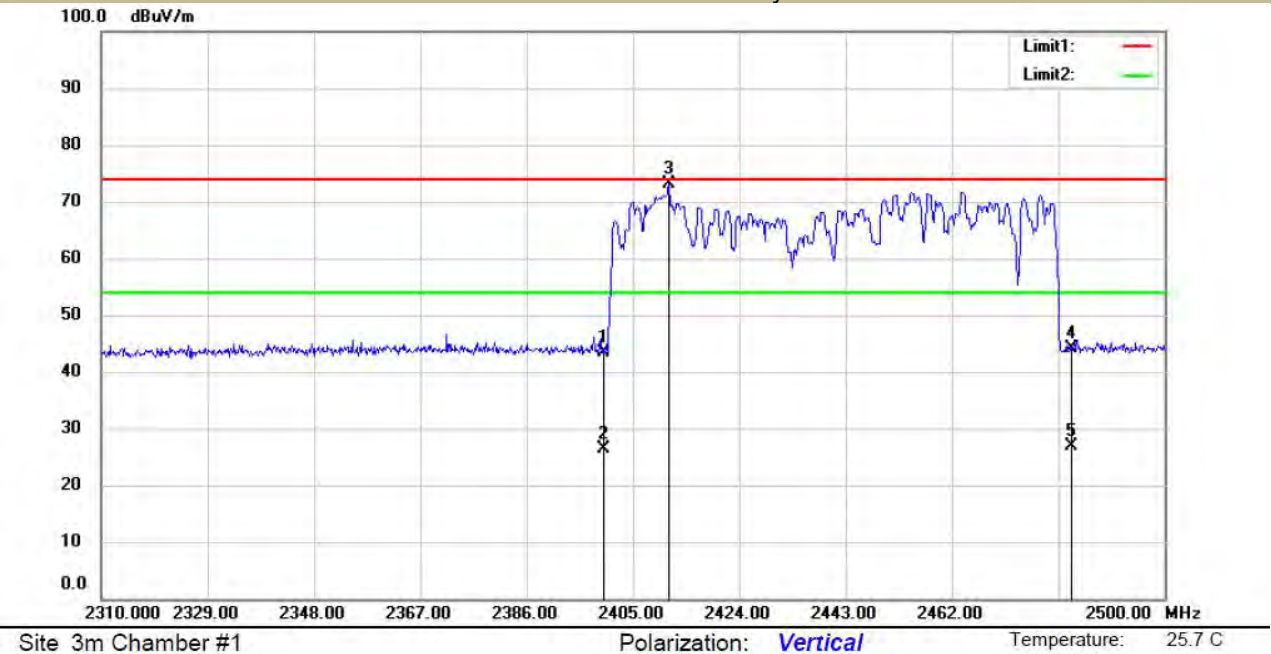


Test Model	Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz BT Hopping	GFSK	H
		Test By: HYD	



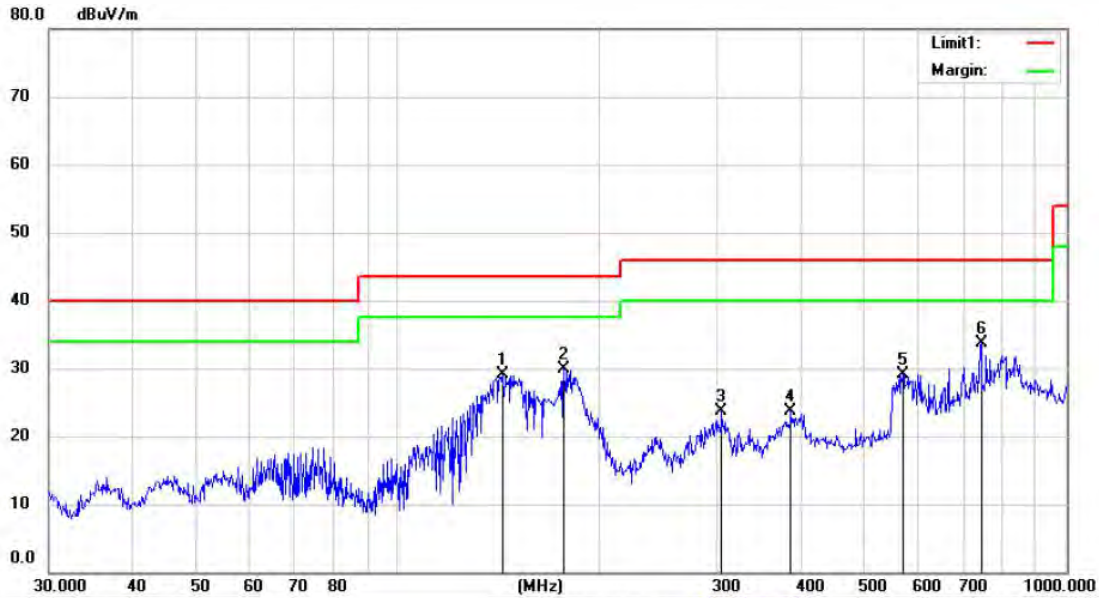
Test Model	Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz BT Hopping	GFSK	V
		Test By: HYD	



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

Bluetooth (GFSK, $\pi/4$ -DQPSK, 8DPSK) mode have been tested, and the worst result(GFSK) was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz



Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 25.7 C

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		143.7035	46.68	-17.54	29.14	43.50	-14.36	QP		
2		177.1206	47.21	-17.32	29.89	43.50	-13.61	QP		
3		304.8771	36.63	-12.92	23.71	46.00	-22.29	QP		
4		387.6520	33.56	-9.89	23.67	46.00	-22.33	QP		
5		569.6105	35.09	-5.96	29.13	46.00	-16.87	QP		
6	*	744.8661	35.38	-1.68	33.70	46.00	-12.30	QP		



Site 3m Chamber #1 Polarization: *Vertical* Temperature: 25.7 C

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		42.5253	36.30	-15.58	20.72	40.00	-19.28	QP		
2		65.3432	39.26	-14.93	24.33	40.00	-15.67	QP		
3	*	132.9761	47.18	-17.44	29.74	43.50	-13.76	QP		
4		301.8190	31.46	-12.86	18.60	46.00	-27.40	QP		
5		404.3120	31.22	-9.32	21.90	46.00	-24.10	QP		
6		848.4281	27.18	1.08	28.26	46.00	-17.74	QP		

Test mode: GFSK Frequency: Channel 39: 2441MHz



Site 3m Chamber #1 Polarization: Vertical Temperature: 25.7 C

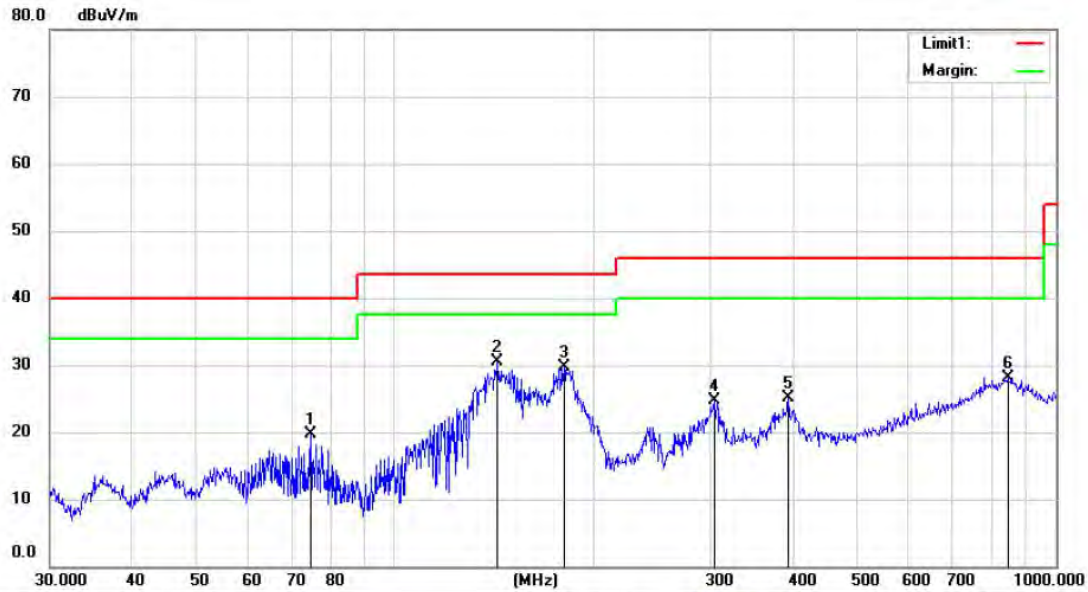
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		42.6000	36.70	-15.57	21.13	40.00	-18.87	QP			
2		65.3432	40.14	-14.93	25.21	40.00	-14.79	AVG			
3	*	140.5884	47.81	-17.70	30.11	43.50	-13.39	QP			
4		216.0240	35.95	-16.73	19.22	46.00	-26.78	QP			
5		404.3120	31.22	-9.32	21.90	46.00	-24.10	QP			
6		845.0878	27.37	1.07	28.44	46.00	-17.56	QP			



Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 25.7 C

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1		75.9773	35.50	-17.15	18.35	40.00	-21.65	QP			
2	*	142.8870	48.02	-17.58	30.44	43.50	-13.06	QP			
3		178.6018	46.86	-17.40	29.46	43.50	-14.04	QP			
4		303.9431	37.56	-12.89	24.67	46.00	-21.33	QP			
5		394.5085	33.76	-9.63	24.13	46.00	-21.87	QP			
6		846.5708	27.13	1.07	28.20	46.00	-17.80	QP			

Test mode: GFSK Frequency: Channel 78: 2480MHz



Site 3m Chamber #1 Polarization: **Horizontal** Temperature: 25.7 C

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		74.4934	36.60	-16.89	19.71	40.00	-20.29	QP		
2	*	142.8870	48.02	-17.58	30.44	43.50	-13.06	QP		
3		180.1744	47.16	-17.47	29.69	43.50	-13.81	QP		
4		303.9431	37.56	-12.89	24.67	46.00	-21.33	QP		
5		394.5085	34.66	-9.63	25.03	46.00	-20.97	QP		
6		846.5708	27.13	1.07	28.20	46.00	-17.80	QP		



Site 3m Chamber #1 Polarization: *Vertical* Temperature: 25.7 C

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		36.4932	38.16	-16.18	21.98	40.00	-18.02	QP		
2		44.1010	36.71	-15.42	21.29	40.00	-18.71	QP		
3		65.3718	38.75	-14.93	23.82	40.00	-16.18	QP		
4		138.3267	46.74	-17.62	29.12	43.50	-14.38	QP		
5		395.8943	31.17	-9.57	21.60	46.00	-24.40	QP		
6	*	912.4620	33.18	-0.76	32.42	46.00	-13.58	QP		

9.8 CONDUCTED EMISSION TEST

9.8.1 Applicable Standard

According to FCC Part 15.207(a)

9.8.2 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.

9.8.3 Test Configuration

Test according to clause 7.3 conducted emission test setup

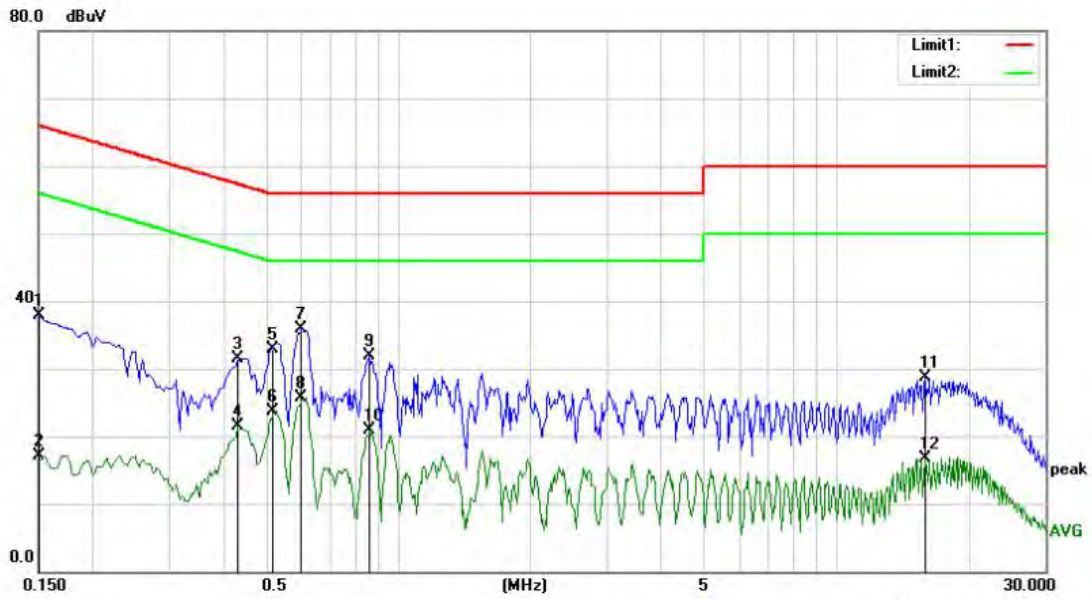
9.8.4 Test Procedure

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.

9.8.5 Test Results

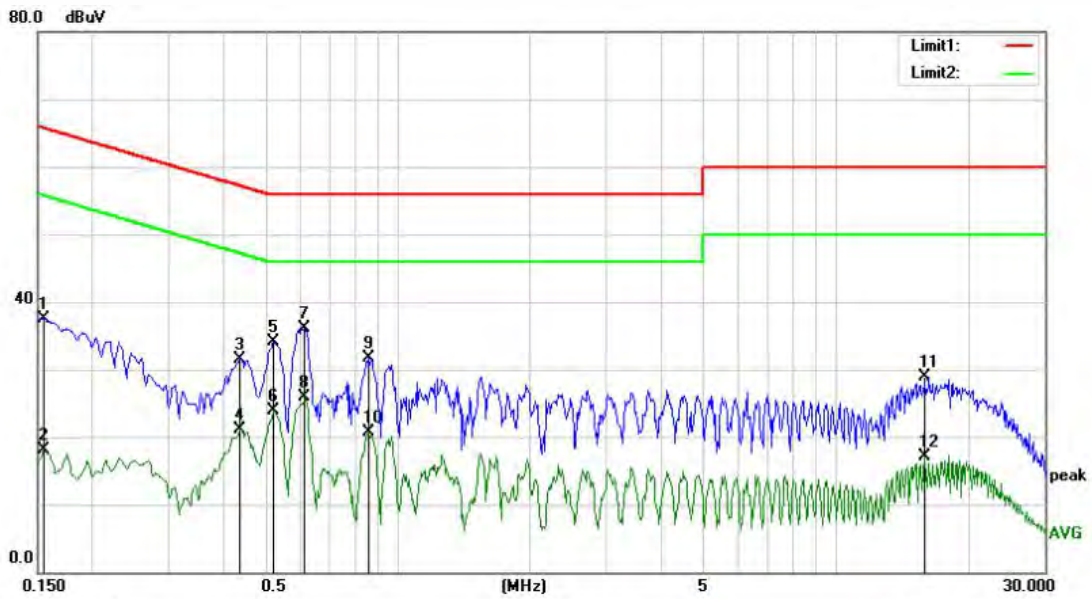
Pass

The 120V &240V voltage have been tested, and the worst result recorded was report as below:



Site Conduction #1 Phase: **L1** Temperature: 22.4

No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1500	28.24	9.58	37.82	66.00	-28.18	QP	
2	0.1500	7.54	9.58	17.12	56.00	-38.88	AVG	
3	0.4300	22.26	9.31	31.57	57.25	-25.68	QP	
4	0.4300	12.16	9.31	21.47	47.25	-25.78	AVG	
5	0.5101	23.65	9.25	32.90	56.00	-23.10	QP	
6	0.5101	14.36	9.25	23.61	46.00	-22.39	AVG	
7 *	0.6000	26.73	9.27	36.00	56.00	-20.00	QP	
8	0.6000	16.49	9.27	25.76	46.00	-20.24	AVG	
9	0.8600	22.23	9.61	31.84	56.00	-24.16	QP	
10	0.8600	11.29	9.61	20.90	46.00	-25.10	AVG	
11	15.9300	18.62	10.17	28.79	60.00	-31.21	QP	
12	15.9300	6.56	10.17	16.73	50.00	-33.27	AVG	



Site: Conduction #1 Phase: **N** Temperature: 22.4

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1550	28.02	9.56	37.58	65.73	-28.15	QP	
2		0.1550	8.55	9.56	18.11	55.73	-37.62	AVG	
3		0.4350	22.20	9.30	31.50	57.16	-25.66	QP	
4		0.4350	11.90	9.30	21.20	47.16	-25.96	AVG	
5		0.5200	24.86	9.25	34.11	56.00	-21.89	QP	
6		0.5200	14.66	9.25	23.91	46.00	-22.09	AVG	
7	*	0.6100	26.92	9.27	36.19	56.00	-19.81	QP	
8		0.6100	16.61	9.27	25.88	46.00	-20.12	AVG	
9		0.8550	22.04	9.60	31.64	56.00	-24.36	QP	
10		0.8550	11.10	9.60	20.70	46.00	-25.30	AVG	
11		15.9550	18.73	10.17	28.90	60.00	-31.10	QP	
12		15.9550	6.92	10.17	17.09	50.00	-32.91	AVG	

9.9 ANTENNA APPLICATION

9.9.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 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. 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.

9.9.2 Result

PASS

The EUT is integrated antenna, the antenna gain is -0.42dBi.

- Antenna use 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 ---