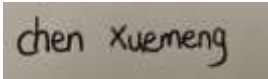


AUT Report

Product Model: Tapo C710

Manufacturer: TP-Link Systems Inc.

Test Date: 2025.05.09

Tested By: Chen Xuemeng 

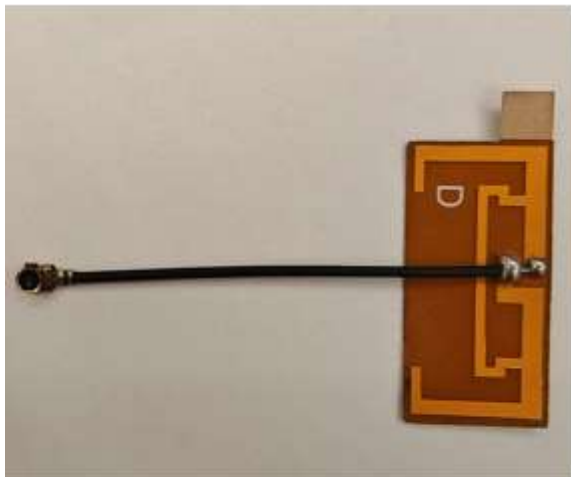
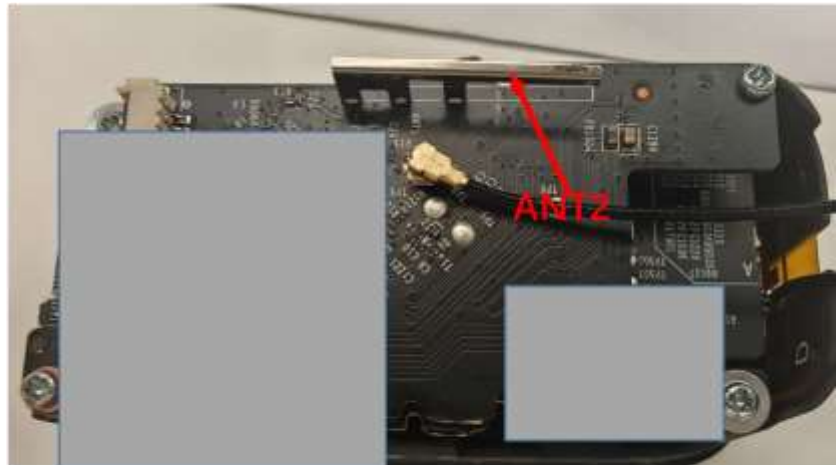
TP-Link Systems Inc.
10 Mauchly, Irvine, CA 92618

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1. Antenna Distribution

Tapo C710



ANT1



ANT2

2. Electrical Characteristics

Ant1(wifi 2.4G)

Frequency	2400~2500 MHz
Impedance	50Ohm
Antenna Type	Dipole
Antenna Gain	2.35 dBi@2400~2500MHz
Radiation pattern	Omni-Directional
P/N	Tapo C710+ANT1

Ant2 (wifi 2.4G)

Frequency	2400~2500 MHz
Impedance	50Ohm
Antenna Type	PIFA
Antenna Gain	1.90 dBi@2400~2500MHz
Radiation pattern	Omni-Directional
P/N	6035500079

3. Gain and Radiation Pattern

3.1 Measurement Procedure

This measurement experiment adopted an antenna near-field measurement system, and the diagram of the measurement system was shown in Figure 3-1. The excitation signal was generated by the Keysight E5071C (300kHz-20GHz). Under the control of the central computer, the probe rotated in the θ direction, and the EUT rotated in the ϕ direction with the turntable. The probe sampling frame received and collected signals in the near-field range of the EUT. The software system which was controlled by the central computer completed the processing, output and display of the test data.

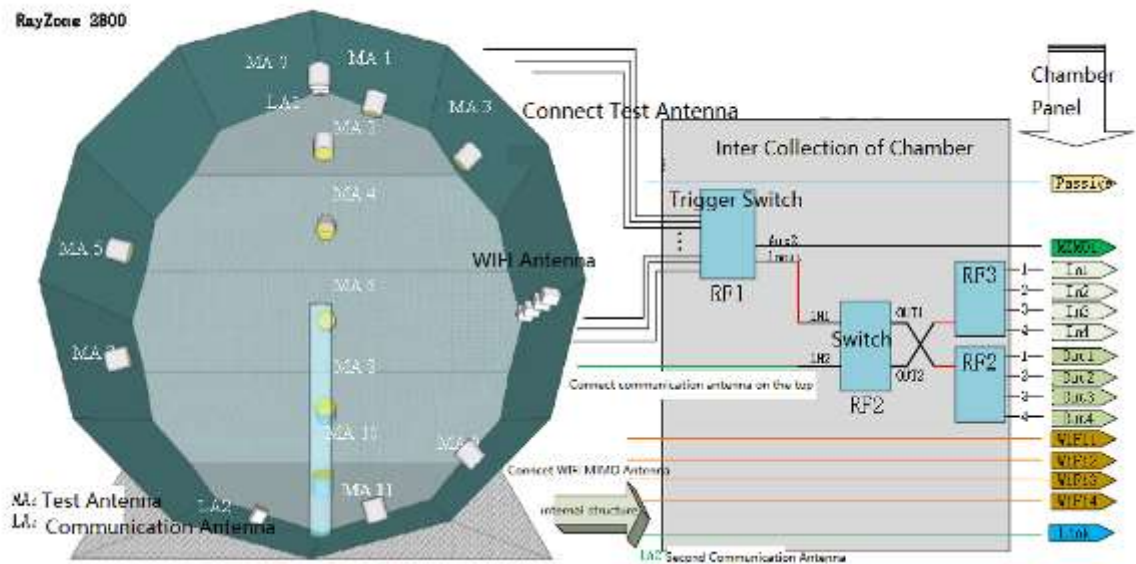


Figure 3-1

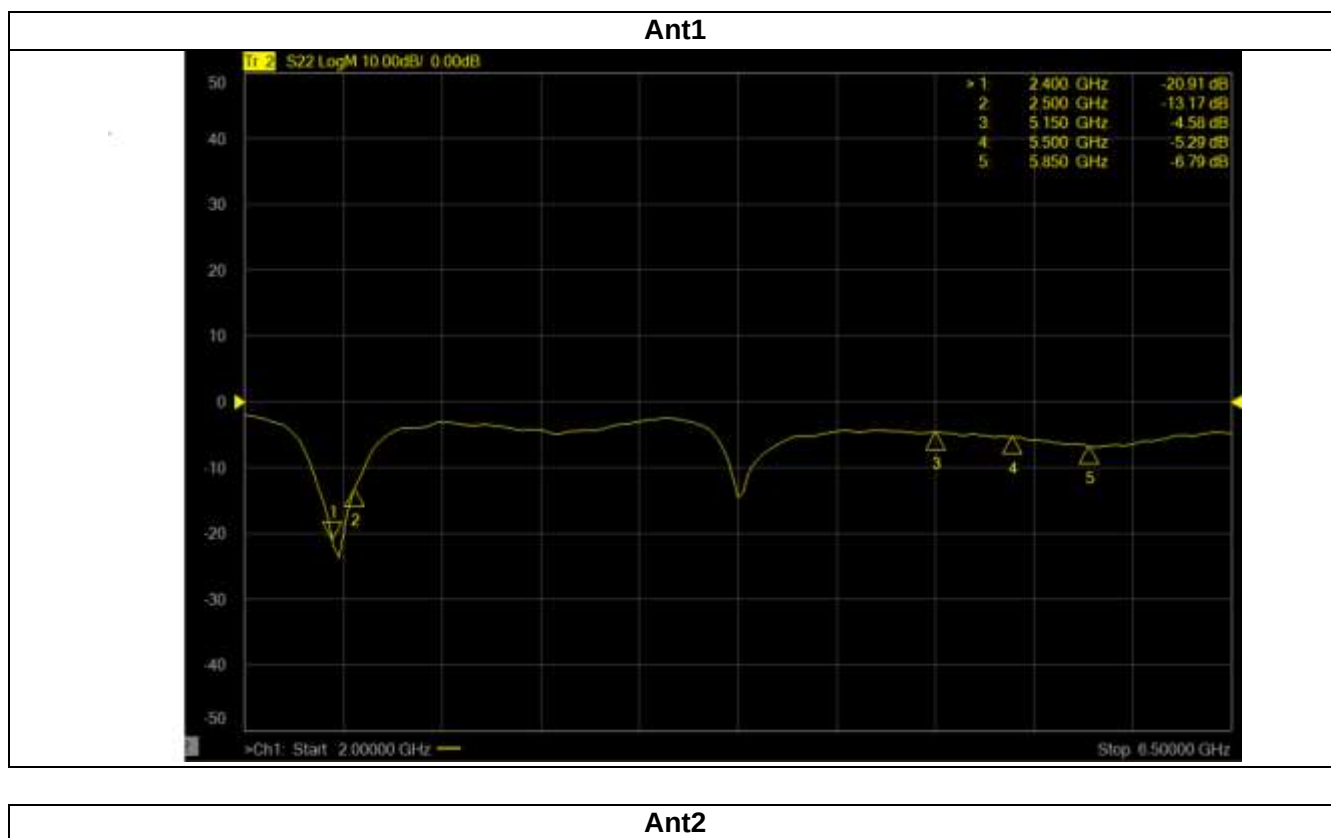
The test site was a full anechoic chamber with a size of 3.0m×3.1m×2.97m, which was built by GTS Rayzone2800. All six surfaces of the anechoic chamber were pasted with absorbing materials. And the chamber was calibrated by the authoritative third-party lab every year. The antenna anechoic chamber measurement system adopted a 13-probe multi-probe system. The probe antennas were evenly distributed on the spherical surface surrounding the EUT, and their operating frequency was 600MHz~8.5GHz.

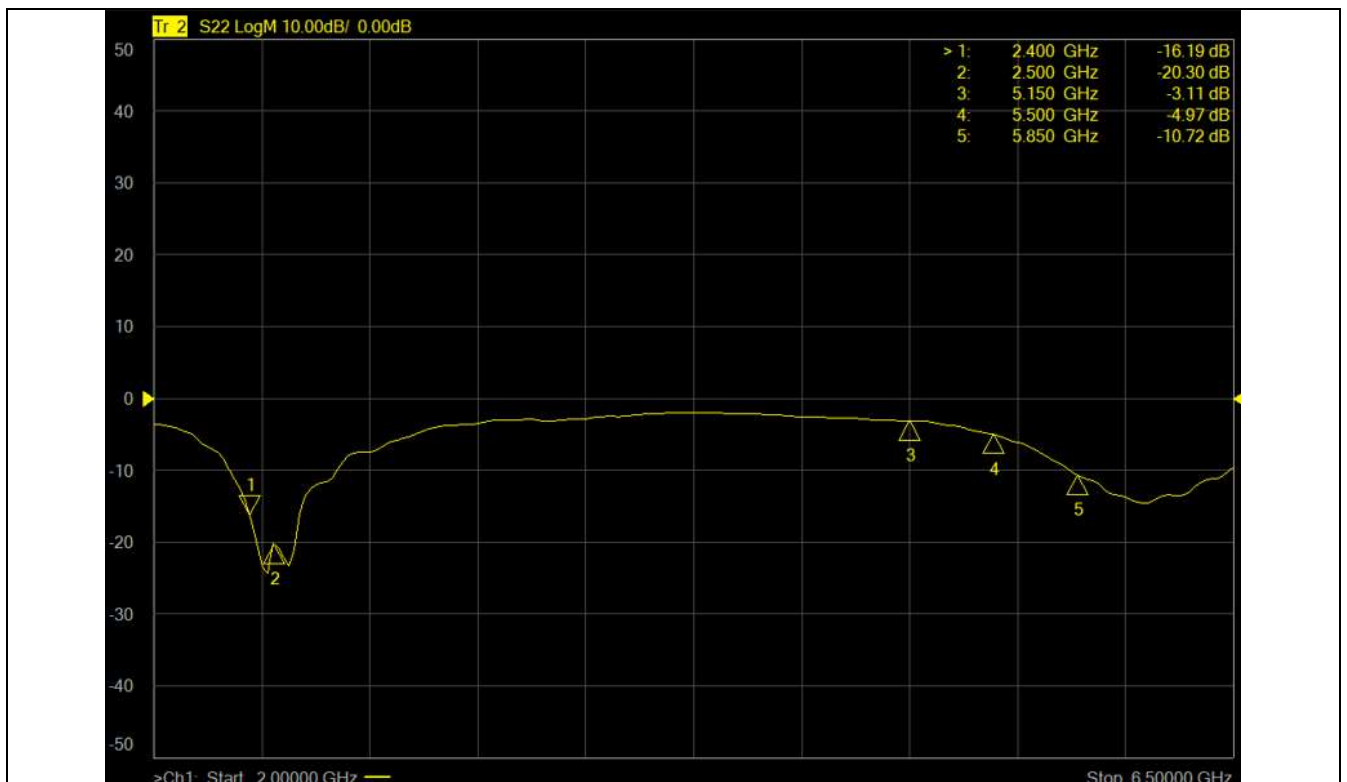
During the measurement, the probe antennas were rotated in the θ direction under the control of the probe holder to sample the near-field data at the θ angle. At the same time, the EUT rotated with the turntable in the ϕ direction to sample the near field data at the ϕ angle. The sampling accuracy was 15°. The system diagram was shown in Figure 3-2. From the sampling results, the EUT's near-field test data of θ component, ϕ component and total component could be obtained.



Figure 3-4

3.3 S Parameter Test Data



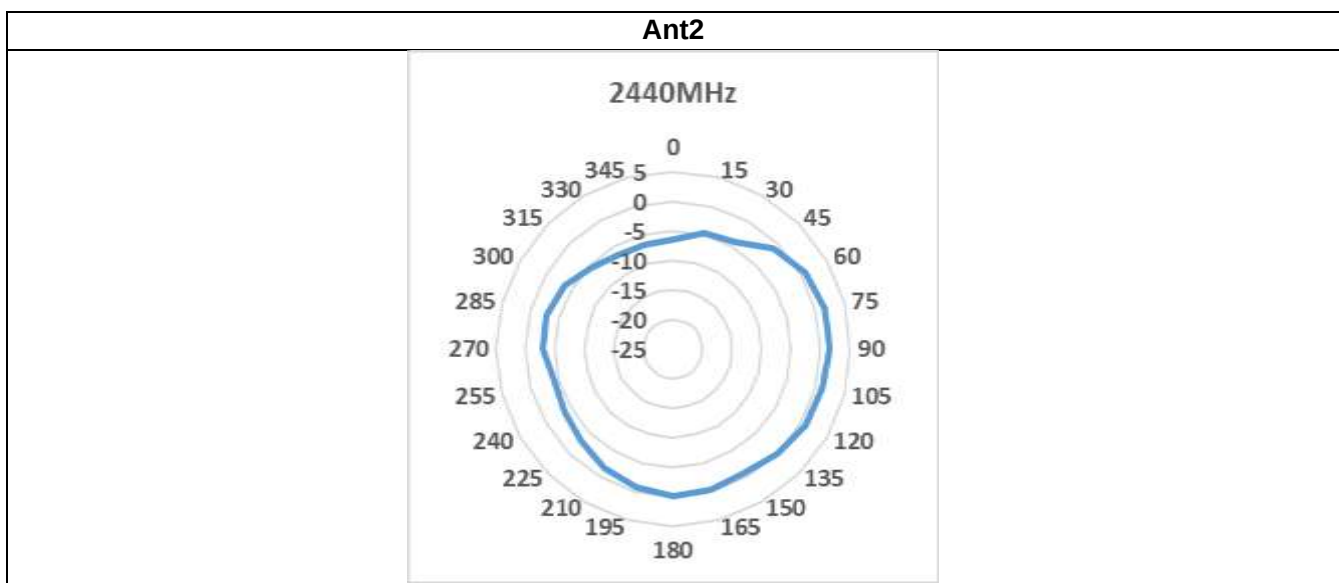
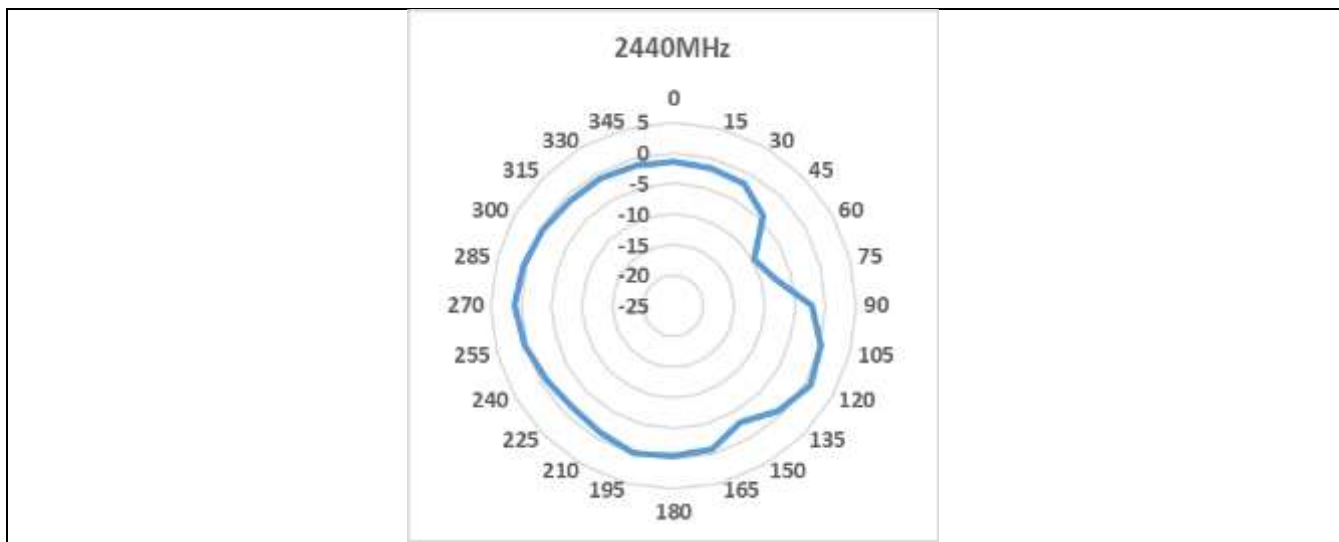


3.4 Antenna Peak Gain

Frequency	2.45GHz 2400~2500MHz
Ant1 MaxGain(dBi)	2.35
Ant2 MaxGain(dBi)	1.90
Ant1 Polarization/ Φ (°) / θ (°)	Theta/270/60
Ant2 Polarization/ Φ (°) / θ (°)	Theta/75/90
Max Gain(dBi)	2.35

3.5 Antenna Radiation Pattern

Ant1



4. Test Pattern

ANT1													
Freq	2450												
Phi\Theta	0	15	30	45	60	75	90	105	120	135	150	165	180
0	-5.23	-2.84	-1.56	-1.86	-1.37	-1.35	-1.44	-4.12	-2.64	-9.42	-15.43	-12.07	-15.92
15	-5.23	-2.86	-1.62	-2.53	-2.45	-1.75	-1.72	-2.04	-3.9	-6.16	-11.43	-8.24	-15.92
30	-5.23	-2.95	-1.93	-3.02	-3.32	-2.4	-1.84	-2.36	-4.16	-6.27	-7.49	-5.99	-15.92
45	-5.23	-3.03	-2.17	-4.26	-5.52	-4.04	-4.43	-4.49	-4.96	-7.04	-6.72	-5.09	-15.92
60	-5.23	-3.25	-2.53	-5.91	-8.54	-6.82	-9.85	-7.57	-12.14	-7.25	-7.83	-5.03	-15.92
75	-5.23	-3.54	-3.21	-7.32	-9.03	-8.49	-7.33	-9.97	-9.16	-10	-8.44	-5.51	-15.92
90	-5.23	-3.95	-4.34	-9.57	-8.34	-4.13	-2.03	-3.18	-4.23	-10.29	-8.05	-6	-15.92
105	-5.23	-4.25	-5.34	-10.5	-8.11	-1.58	0.16	0.03	-1.13	-7.57	-7.85	-6.37	-15.92
120	-5.23	-4.43	-5.5	-7.3	-8.41	-2.56	0.97	0.91	0.89	-5.07	-8.28	-6.69	-15.92
135	-5.23	-4.61	-4.59	-5.2	-4.65	-3.22	-0.98	-0.48	0.88	-2.96	-7.24	-6.42	-15.92
150	-5.23	-4.71	-4.03	-3.36	-2.43	-2.62	-3	-0.86	-2.66	-2.65	-6.41	-6.36	-15.92
165	-5.23	-4.71	-4.34	-2.42	-1.81	-1.73	-0.72	-1.7	-4.8	-4.36	-7.34	-7.14	-15.92
180	-5.23	-4.6	-4.76	-3.33	-1.34	-0.67	-0.51	-1.95	-4.82	-7.66	-8.94	-9.87	-15.92

195	-5.23	-4.36	-4.83	-4.28	-2.08	-0.89	-0.03	-2.36	-5.89	-12.22	-9.43	-13.5	-15.92
210	-5.23	-3.91	-4.59	-3.86	-3.08	-1.19	-1.04	-3.17	-8.76	-11.4	-10.43	-12.53	-15.92
225	-5.23	-3.49	-3.65	-3.05	-2.26	-1.66	-1.49	-4.9	-9.99	-9.76	-10.5	-9	-15.92
240	-5.23	-3.03	-2.18	-1.8	-0.3	-0.91	-0.91	-4.08	-7.12	-7.37	-8.35	-7.25	-15.92
255	-5.23	-2.45	-0.72	-0.09	1.01	0.61	0.24	-1.6	-3.65	-4.89	-7.06	-8.52	-15.92
270	-5.23	-1.94	0.2	1.07	1.33	1.19	0.97	-0.02	-1.28	-4.2	-7.35	-10.92	-15.92
285	-5.23	-1.8	0.44	1.05	0.9	0.6	0.32	0.37	-0.94	-2.43	-6.42	-12.23	-15.92
300	-5.23	-2	-0.04	0.06	0.04	-1	-0.11	0.31	-1.62	-2.33	-4.82	-13.11	-15.92
315	-5.23	-2.39	-0.77	-0.65	-1.38	-0.91	-0.79	-0.34	-1.26	-3.53	-6.39	-13.8	-15.92
330	-5.23	-2.7	-1.14	-1.45	-1.16	-1.02	-1	-0.8	-3.65	-5.25	-10.25	-14.46	-15.92
345	-5.23	-2.8	-1.47	-1.36	-1.33	-1.28	-1.16	-2.21	-4.67	-9.36	-11.97	-15.92	-15.92
360	-5.23	-2.84	-1.56	-1.86	-1.37	-1.35	-1.44	-4.12	-2.64	-9.42	-15.43	-12.07	-15.92

ANT2													
Freq	2450												
Phi\Theta	0	15	30	45	60	75	90	105	120	135	150	165	180
0	-0.24	-1.09	-1.26	-2.57	-2.87	-6.16	-6.85	-9.55	-8.64	-4.15	-3.33	-3.63	-12.16
15	-0.24	-0.96	-1	-1.34	-1.95	-4.17	-5.04	-7.18	-9.09	-3.14	-2.83	-2.17	-12.16
30	-0.24	-0.96	-1.08	-0.37	-0.42	-1.71	-3.97	-6.83	-4.44	-4.37	-2.95	-1.8	-12.16
45	-0.24	-1.09	-1.01	-0.64	0.72	0.43	-0.66	-2.69	-5.34	-4.39	-4.68	-2.36	-12.16
60	-0.24	-1.13	-1.03	-1.01	0.41	1.49	1.07	-0.85	-2.76	-6.29	-7.15	-3.57	-12.16
75	-0.24	-1.08	-1.09	-1.1	-0.08	0.89	1.86	0.2	-1.84	-10.33	-8.72	-4.79	-12.16
90	-0.24	-0.97	-1.03	-1.49	-0.92	0.41	1.72	0.62	-0.45	-8.33	-9.17	-5.65	-12.16
105	-0.24	-0.82	-1.03	-2.04	-2.37	-0.58	1.09	0.74	0.57	-5.92	-8.48	-6.32	-12.16
120	-0.24	-0.66	-1.06	-2.29	-3.89	-2.76	0.75	1.25	0.83	-4.46	-9.07	-6.7	-12.16
135	-0.24	-0.53	-0.84	-2.39	-3.94	-3.86	-0.05	0.32	1.51	-3.03	-8.11	-6.14	-12.16
150	-0.24	-0.62	-0.63	-2.22	-4.02	-3.3	-0.98	-0.76	0.17	-1.48	-4.58	-5.02	-12.16
165	-0.24	-0.93	-0.84	-1.89	-4.28	-3.01	-0.23	-0.2	-3.19	-0.73	-2.86	-3.66	-12.16
180	-0.24	-1.39	-1.61	-2.46	-3.19	-2.12	0.02	-1.26	-3.82	-1.23	-2.55	-3.59	-12.16
195	-0.24	-1.83	-2.71	-3.34	-2.55	-2.11	-0.35	-2.08	-3.11	-1.73	-2.3	-4.8	-12.16
210	-0.24	-2.28	-3.93	-3.37	-4.25	-1.49	-1.3	-2.68	-2.49	-3.12	-1.96	-4.76	-12.16
225	-0.24	-2.6	-5.46	-3.91	-3.51	-2.44	-2.41	-4.64	-3.71	-3.74	-3.16	-3.38	-12.16
240	-0.24	-2.84	-6.8	-5.35	-2.25	-3.88	-3.37	-5.77	-6.33	-4.81	-5.65	-3.61	-12.16
255	-0.24	-2.99	-7.58	-6.23	-2.63	-2.64	-3.92	-5.52	-7.58	-7.41	-7.88	-6.08	-12.16
270	-0.24	-3.22	-7.92	-6.41	-3.01	-1.92	-2.67	-4.2	-6.73	-9.44	-11.74	-9.5	-12.16
285	-0.24	-3.15	-7.73	-6.39	-3.71	-2.14	-2.76	-3.88	-7.95	-7.64	-11.21	-12.16	-12.16
300	-0.24	-2.88	-6.67	-7.09	-5.55	-4.05	-3.53	-5.26	-8.06	-6.93	-9	-11.64	-12.16
315	-0.24	-2.38	-4.79	-8.08	-8.97	-6.85	-5.27	-7.17	-9.26	-4.54	-9.51	-9.68	-12.16
330	-0.24	-1.82	-3.19	-6.66	-8.14	-8.47	-6.62	-12.24	-9.35	-6.38	-6.47	-7.87	-12.16
345	-0.24	-1.37	-2.06	-3.84	-5.95	-7.54	-6.96	-17.9	-16.17	-6.13	-4.08	-5.77	-12.16
360	-0.24	-1.09	-1.26	-2.57	-2.87	-6.16	-6.85	-9.55	-8.64	-4.15	-3.33	-3.63	-12.16