

APPROVAL SHEET

MODEL : Wificom Trooper

Antenna layout

Review	Consent	Approval

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1. Revision History

NO.	Before	After	Reason	Date
1				
2				
3				
4				
5				
6				
7				
8				
9				
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12				
13				

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2. Product Information

2.1 General Features

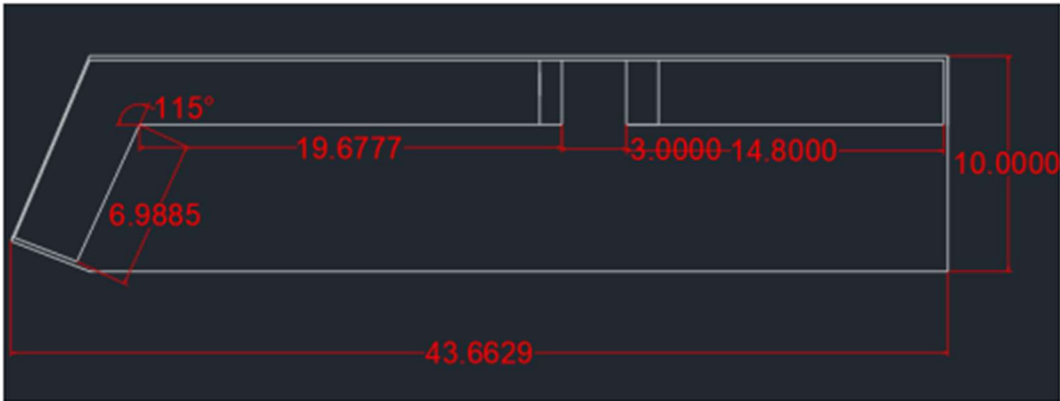
PART NUMBER	GradiANT
ANTENNA TYPE	PCB pattern Antenna
APPLICATIONS	Wi-Fi

2.2 Electrical Specifications

Frequency Rangel (TX)		2400MHz~2485MHz.5150MHz ~ 5850MHz	
Frequency Rangel (RX)		2400MHz~2485MHz.5150MHz ~ 5850MHz	
IMPEDANCE		50 Ω	
V.S.W.R	TX	2400MHz, 5150MHz	2485MHz, 5850MHz
		6↓	6↓
	RX	2400MHz, 5150MHz	2485MHz, 5850MHz
		6↓	6↓
RADIATION PATTERN		Omni-directional	
POLARIZATION		Linear	

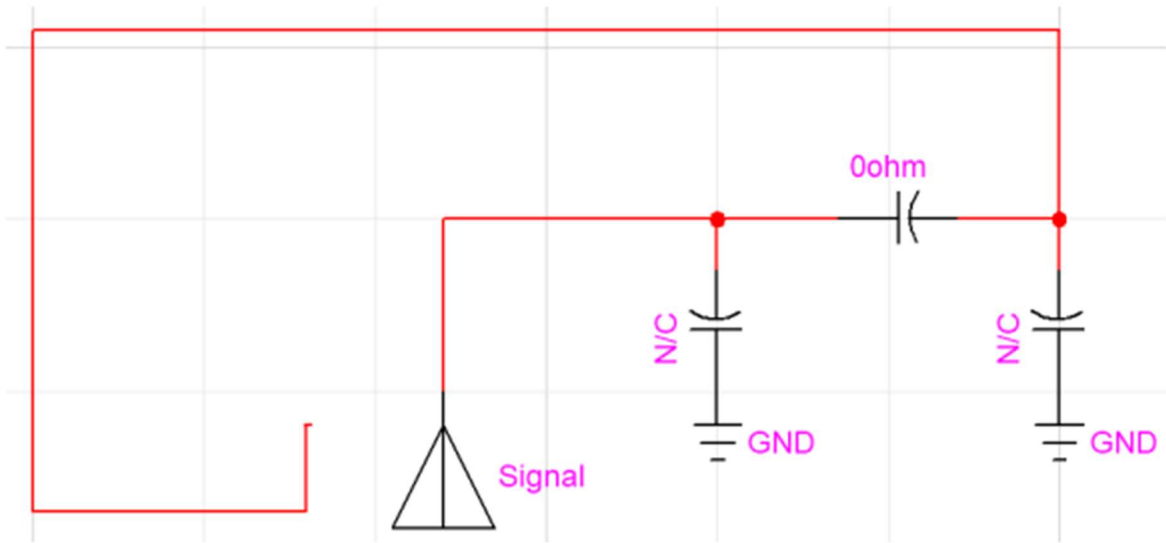
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3. Pattern Specifications



4. Matching Network

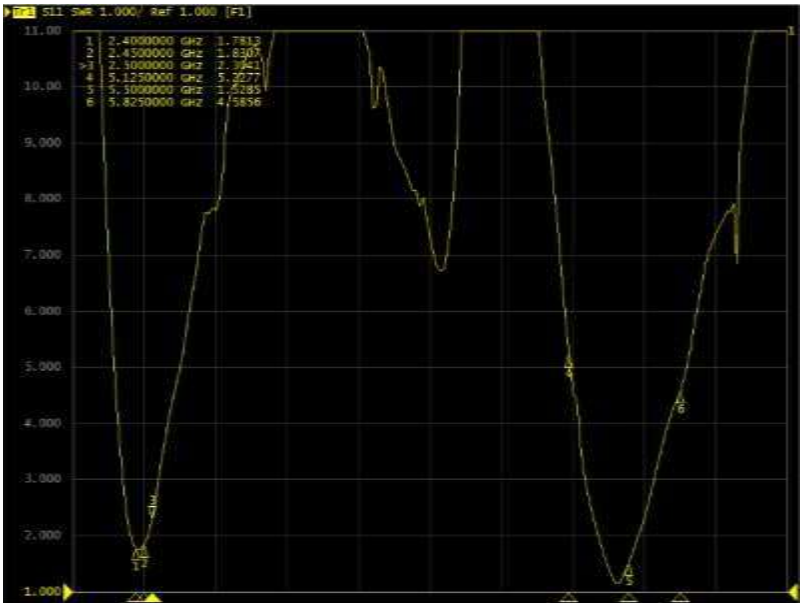
Capacitor value can be changed depending on different situation



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5. Electrical Characterristics

5.1 VSWR



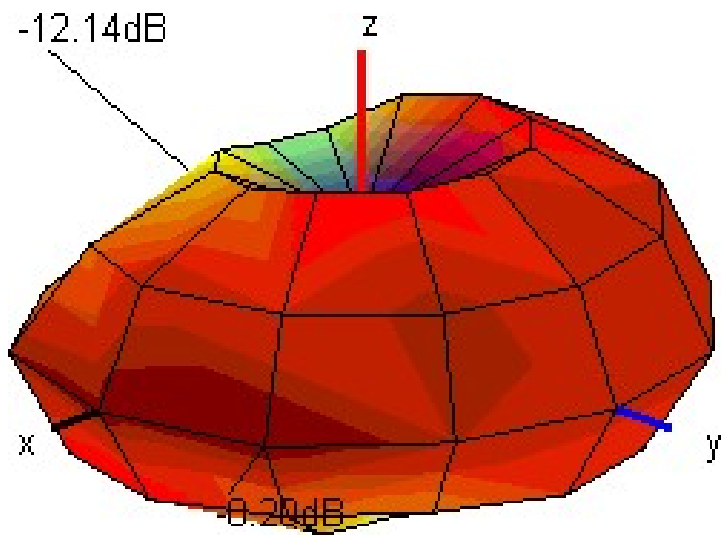
5.2 SMITH CHART



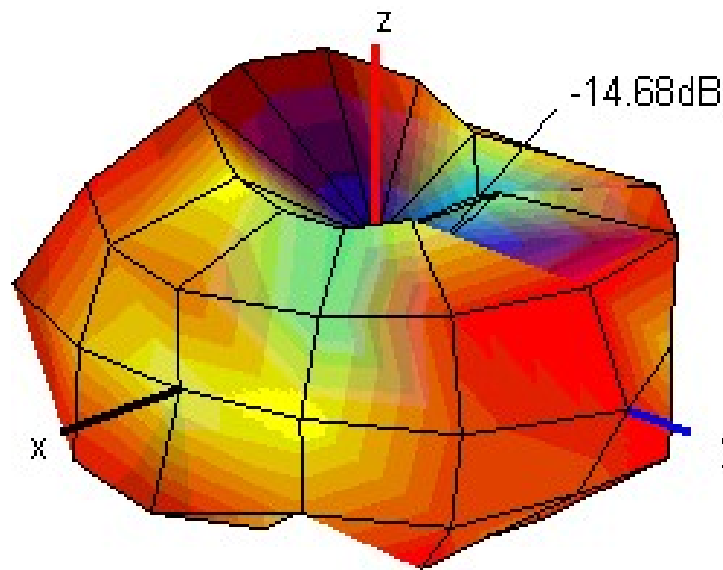
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5.3 3D-PLOTs

2440Mhz



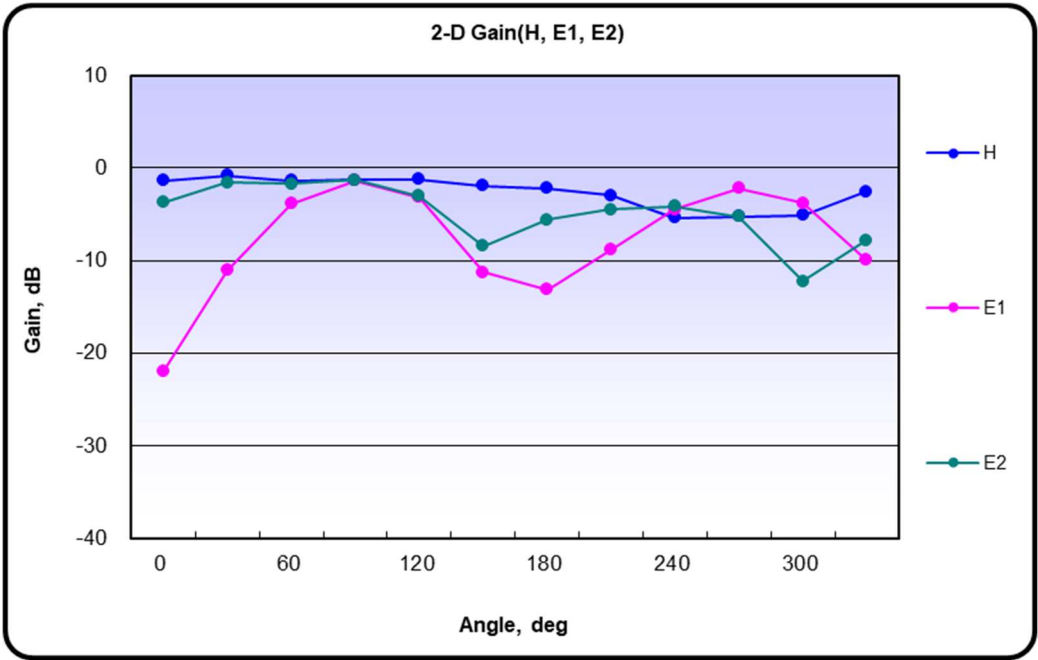
5550Mhz



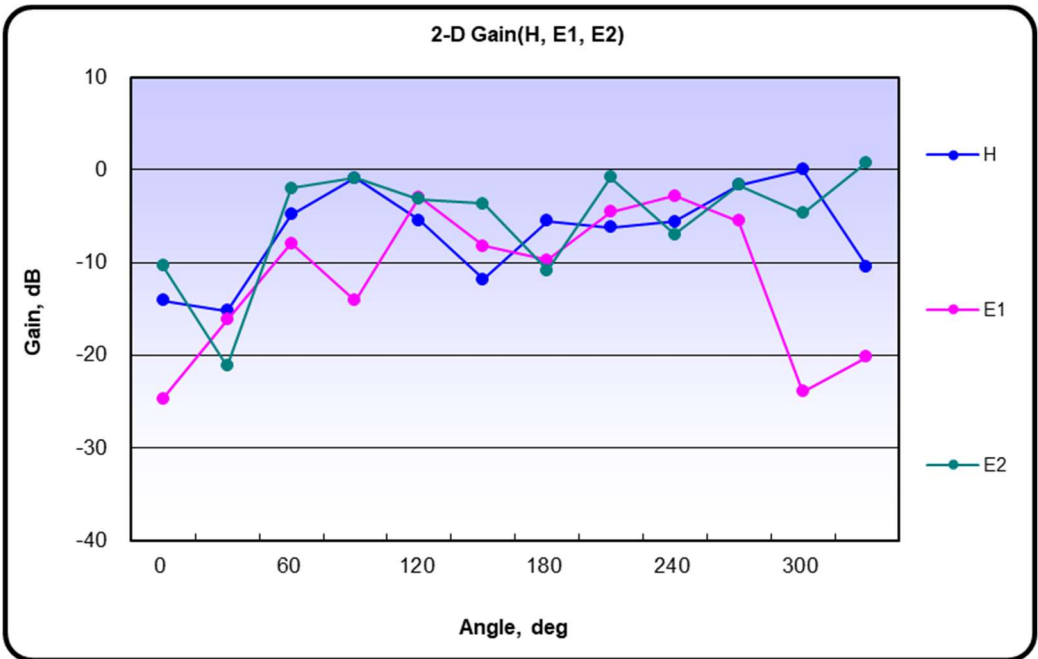
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5.4 2D-GAIN

2440Mhz



5550Mhz



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6. Passive Measurement

	1	2	3	4	5	6	7	8	9	10
Frequency [MHz]	2400	2420	2440	2460	2480	5150	5200	5250	5300	5350
Efficiency [dB]	-2.96	-2.84	-2.77	-2.81	-2.52	-3.41	-4.23	-4.07	-3.72	-4.03
Efficiency [%]	50.5	51.9	52.8	52.4	56.0	45.6	37.8	39.1	42.4	39.5
TRG _θ [dB]	-4.21	-4.05	-3.99	-4.03	-3.69	-5.53	-6.75	-6.02	-5.63	-6.05
Gain _{θ Peak} [dB]	-1.23	-0.86	-0.82	-0.98	-0.73	2.09	0.09	0.37	-0.78	-0.97
Gain _{θ Min} [dB]	-27.74	-21.29	-25.05	-18.54	-17.80	-22.07	-27.35	-40.30	-22.11	-20.01
TRG _φ [dB]	-9.00	-9.01	-8.89	-8.91	-8.79	-7.53	-7.79	-8.49	-8.21	-8.33
Gain _{φ Peak} [dB]	-4.30	-3.94	-3.64	-3.51	-3.73	-2.08	-0.32	-2.98	-1.25	-2.65
Gain _{φ Min} [dB]	-46.95	-35.23	-27.64	-28.94	-23.90	-32.20	-31.29	-29.53	-33.17	-48.07
UHRG [dB]	-5.83	-5.67	-5.64	-5.66	-5.45	-7.19	-7.78	-7.63	-7.40	-7.45
UHRG/TRG [%]	51.7	52.2	51.6	51.9	50.9	41.9	44.1	44.1	42.9	45.5
H-Plane	-2.78	-2.54	-2.35	-2.19	-2.06	-5.53	-5.70	-6.15	-5.17	-5.91
E1-Plane, AVG [dB]	-5.64	-5.67	-5.43	-5.39	-5.13	-7.75	-11.73	-10.05	-9.39	-8.18
E2-Plane, AVG [dB]	-4.38	-4.25	-4.04	-4.24	-4.03	-4.59	-5.48	-3.99	-3.53	-4.61
Peak Gain [dB]	-0.70	-0.47	-0.20	-0.24	-0.26	0.64	0.02	0.03	-0.16	-0.57
Directivity [dB]	2.26	2.38	2.58	2.57	2.26	4.04	4.25	4.10	3.56	3.47
Minimum Gain [dB]	-11.04	-12.09	-12.14	-10.57	-10.84	-15.79	-10.97	-12.52	-11.14	-9.43
	11	12	13	14	15	16	17	18	19	20
Frequency [MHz]	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
Efficiency [dB]	-3.45	-3.08	-3.49	-2.73	-3.70	-4.57	-5.45	-5.31	-6.56	-7.77
Efficiency [%]	45.2	49.2	44.8	53.3	42.7	35.0	28.5	29.4	22.1	16.7
TRG _θ [dB]	-5.52	-4.91	-5.40	-4.89	-5.53	-6.63	-7.72	-7.09	-8.88	-10.01
Gain _{θ Peak} [dB]	0.17	0.02	-0.21	0.77	-0.32	-1.03	-1.31	-1.38	-4.48	-3.56
Gain _{θ Min} [dB]	-26.29	-15.75	-21.27	-24.80	-29.12	-22.11	-28.63	-24.86	-26.98	-29.47
TRG _φ [dB]	-7.67	-7.70	-7.98	-6.81	-8.33	-8.78	-9.34	-10.04	-10.40	-11.71
Gain _{φ Peak} [dB]	0.40	-2.25	-2.91	-1.58	-1.15	-1.99	-3.17	-3.73	-3.65	-3.42
Gain _{φ Min} [dB]	-27.61	-32.60	-35.04	-21.03	-36.26	-31.65	-28.38	-24.92	-30.81	-45.62
UHRG [dB]	-7.30	-6.51	-6.98	-6.07	-6.99	-7.87	-8.78	-8.66	-9.57	-9.97
UHRG/TRG [%]	41.2	45.4	44.7	46.4	46.9	46.7	46.4	46.2	50.0	60.3
H-Plane	-6.04	-4.38	-4.82	-4.63	-4.19	-5.29	-6.68	-6.62	-8.48	-9.41
E1-Plane, AVG [dB]	-8.66	-7.93	-6.67	-7.45	-9.09	-9.07	-11.00	-10.44	-11.26	-12.22
E2-Plane, AVG [dB]	-4.44	-3.88	-4.16	-3.17	-4.32	-5.20	-6.55	-4.95	-7.70	-7.67
Peak Gain [dB]	0.58	0.56	0.48	0.31	-0.15	-0.76	-0.94	-0.66	-2.25	-3.32
Directivity [dB]	4.03	3.63	3.97	3.04	3.54	3.81	4.50	4.66	4.31	4.45
Minimum Gain [dB]	-19.02	-10.85	-10.53	-14.68	-9.19	-20.97	-13.26	-14.55	-24.61	-15.65

Average Efficiency	-3.79dBi	41.75%
Peak Gain	0.64dBi	