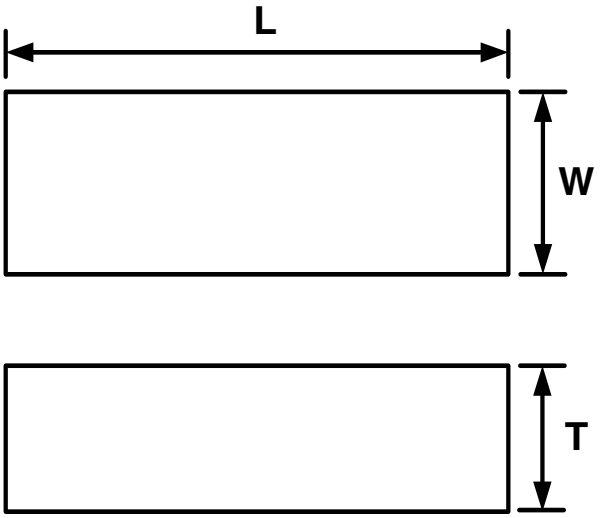
Original Design Chip Antenna Data Sheet

- P/N : ODBWPTR5020 -

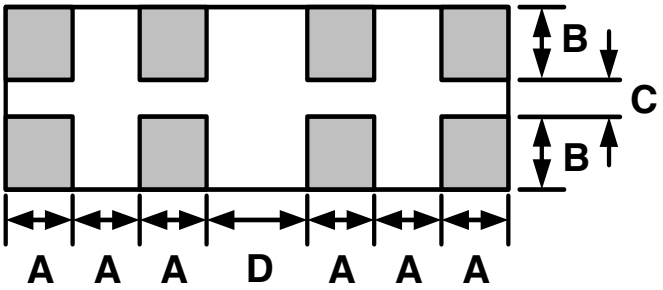
- Application Frequency	
	Band[MHz]
Bluetooth(2.4GHz WiFi) & 5GHz WiFi	Bluetooth : 2400 ~ 2485 & WiFi : 5150 ~ 5825

ODBWPTR5020 Dimension

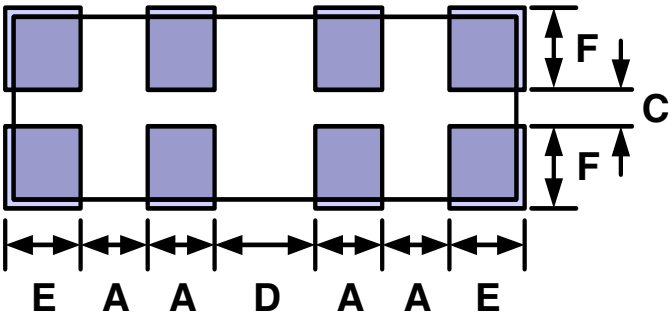
Chip Antenna Dimension



Chip Antenna Soldering Pad Dimension



PCB Soldering Land Dimension



Parameter	L	W	T	A	B	C	D	E	F
Value[mm]	5.0 ± 0.1	2.0 ± 0.1	1.2 ± 0.1	0.6	0.8	0.4	1.4	0.7	0.9

Unless Specified tolerances are ± 0.05 mm

Dielectric Chip Antenna

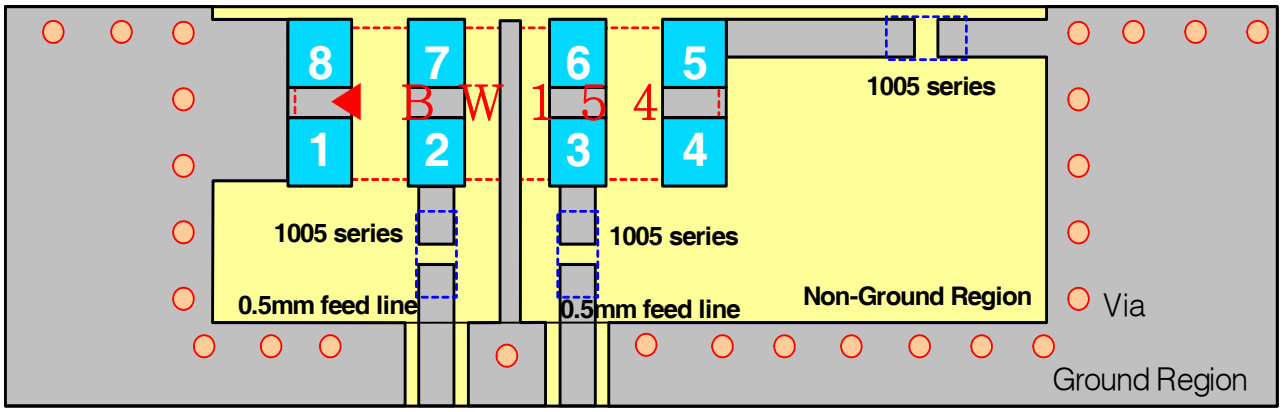
Antenna Marking System

◀ B W 1 5 4

① ② ③ ④ ⑤

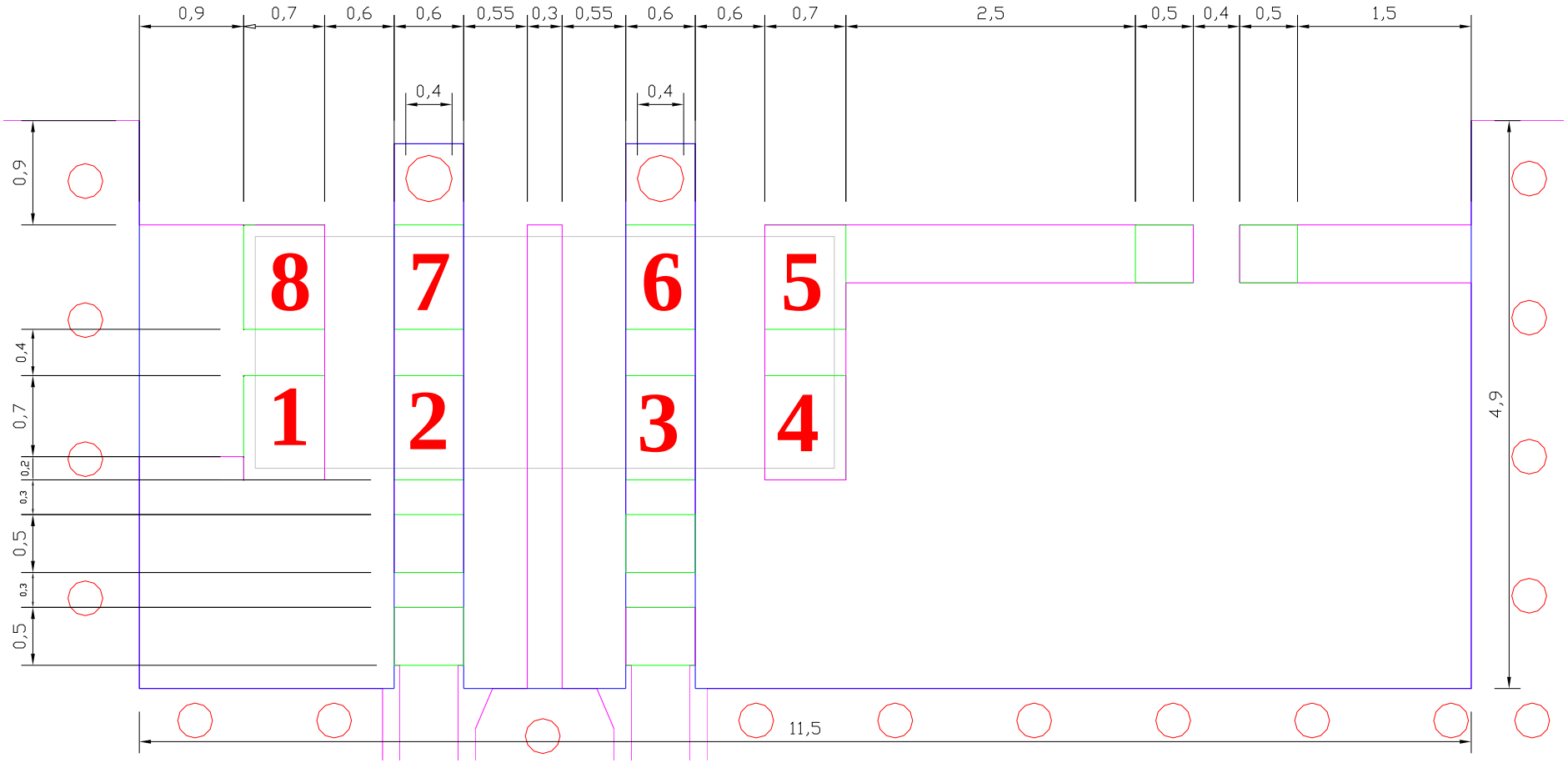
ITEM	DESCRIPTION
① Input Signal	Input Signal
② Serial	Bluetooth(2.4GHz WiFi) Band and 5GHz WiFi Band
③ Year	Ex) 1 - 2011, 2 - 2012, ···· , 9 - 2019, ····
④ Month	1 January, 2 February, 3 March, 4 April, 5 May, 6 June, 7 July, 8 August, 9 September, A October, B November, C December
⑤ Date	1 1st, 2 2nd, 3 3rd, 4 4th, 5 5th, 6 6th, 7 7th, 8 8th, 9 9th, A 10th, B 11th, C 12th, D 13th, E 14th, F 15th, G 16th, H 17th, I 18th, J 19th, K 20th, L 21th, M 22th, N 23th, O 24th, P 25th, Q 26th, R 27th, S 28th, T 29th, U 30th, V 31th

Antenna PAD Information

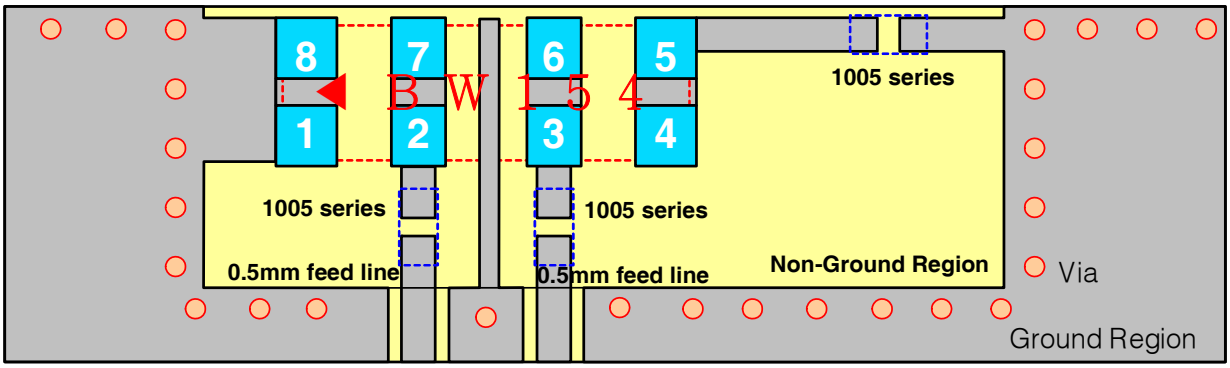


Dielectric Chip Antenna

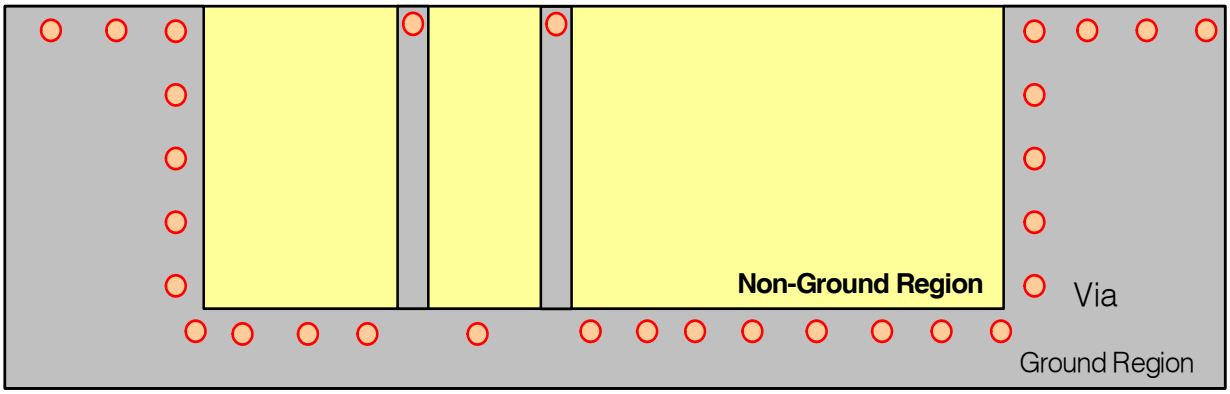
AutoCAD Drawing of Reference PCB Design for ODBWPTR5020 Product



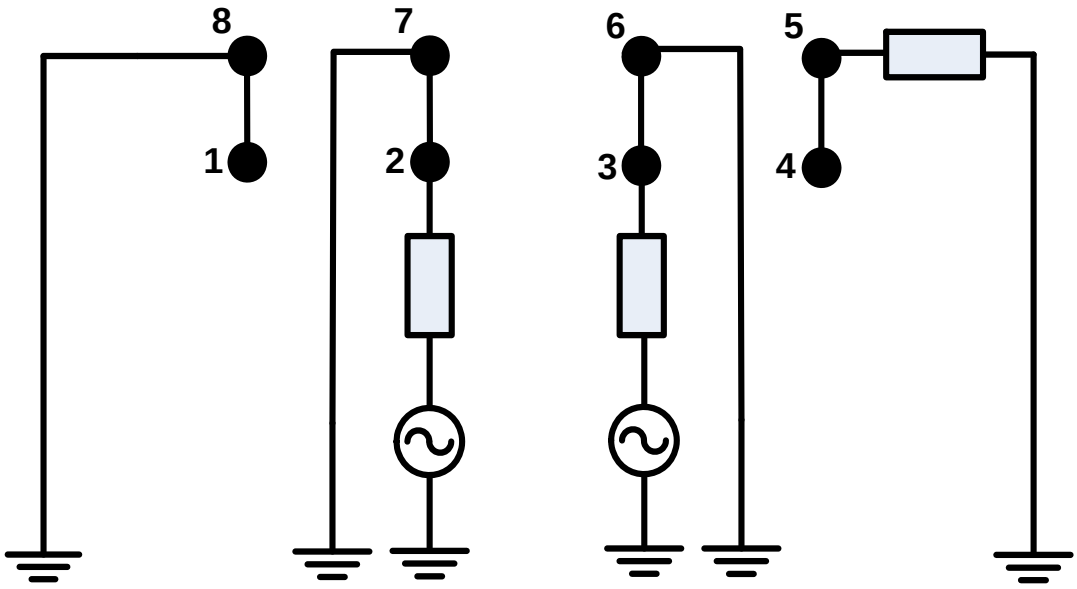
FEEDING METHOD (unit : mm, tolerance : ± 0.05)



<Top View>

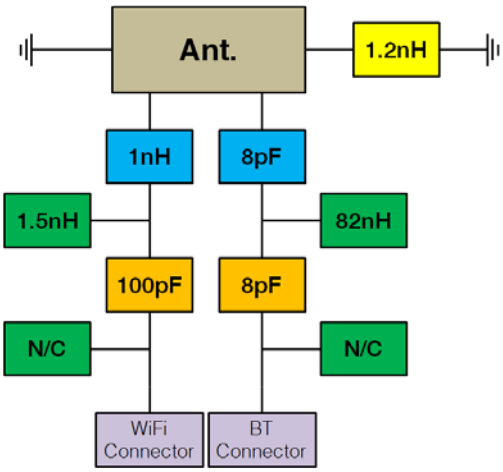
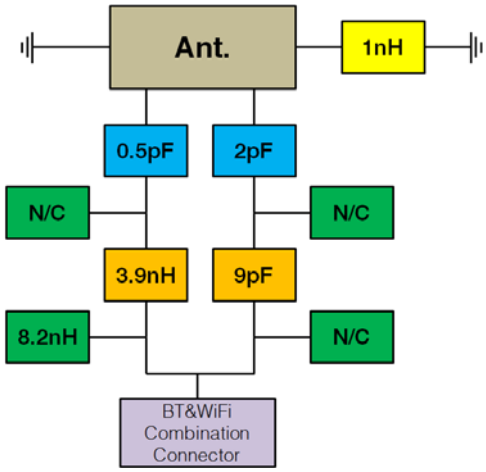
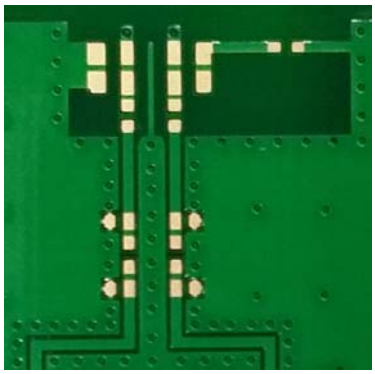
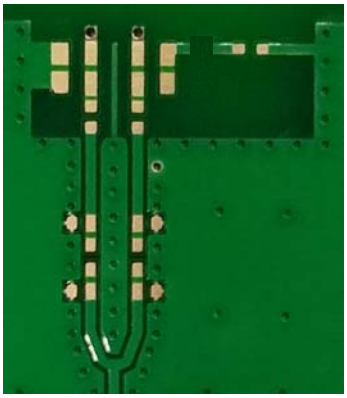


<Bottom View>



< Equivalent Circuit >

Matching Value

Band (MHz)	Dual Feeding	Single Feeding
Matching Value (Default)		
PCB Artwork (Example)		

Temperature condition

	온도범위	단위
사용온도	-40 ~ +110	℃
보관온도	-40 ~ + 70	℃

- 온도조건 Test 조건

	항목	온도범위
사용온도	저온	-75 ℃에서 24시간 정상동작
	고온	+150 ℃에서 24시간 정상동작
보관온도	저온	-75 ℃에서 1000 hr 방치 시 정상동작
	고온	+85 ℃에서 1000 hr 방치 시 정상동작

* 고온 방치 시 포장재 보관온도 문제로 85 ℃ 이상 불가함.

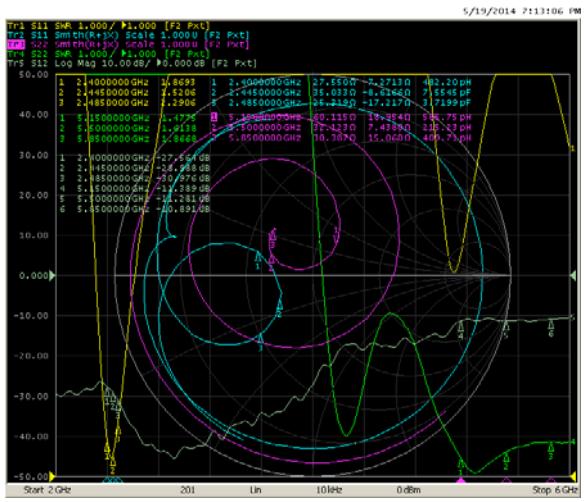
Dielectric Chip Antenna

- Dual Feeding 3D Passive Gain For BT&WiFi

Gain & VSWR

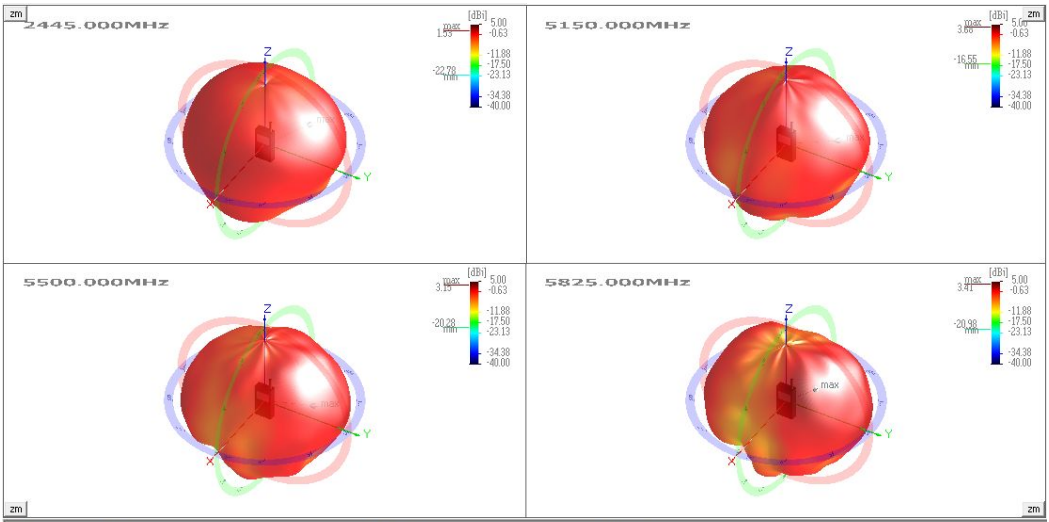
	Peak [dBi]	Average [dBi]	Efficiency [%]
2400MHz	1.38	-0.96	80.09
2445MHz	1.47	-0.84	82.43
2485MHz	0.86	-1.60	69.26
5150MHz	2.35	-1.40	72.50
5500MHz	2.54	-1.41	72.30
5825MHz	3.36	-1.46	71.47

Dual Feeding VSWR



3D Radiation Pattern

Dual Feeding 3D Passive BT/WiFi



No.	Freq.	PwrSum Eff.[%]	Avg.[dBi]	Peak[dBi]	Theta[	Phi[deg	H(Theta=0 Avg.[dBi]	Peak[dBi]	Phi[deg	BW[deg]	E1(Phi=0) Avg.[dBi]	Peak[dBi]	Theta[	BW[deg]	E2(Phi=90 Avg.[dBi]	Peak[dBi]	Theta[	BW[deg]
1	2400.000	80.09	-0.96	1.38	90.00	195.00	0.14	1.38	195.00	999.00	-0.72	1.24	-90.00	143.98	-1.64	1.12	-60.00	203.58
2	2425.000	88.53	-0.53	1.86	75.00	240.00	0.55	1.59	180.00	999.00	-0.33	1.59	-90.00	134.37	-1.20	1.51	-60.00	204.47
3	2445.000	82.43	-0.84	1.47	75.00	240.00	0.32	1.15	180.00	999.00	-0.68	1.27	-120.00	128.88	-1.53	1.22	-60.00	205.19
4	2465.000	73.01	-1.37	0.98	75.00	240.00	-0.15	0.49	240.00	999.00	-1.22	0.72	-120.00	91.01	-2.03	0.69	-60.00	208.11
5	2485.000	69.26	-1.60	0.86	75.00	255.00	-0.33	0.40	240.00	999.00	-1.44	0.60	75.00	116.55	-2.26	0.52	-75.00	107.93
6	5150.000	72.50	-1.40	2.35	120.00	180.00	-0.92	1.10	120.00	999.00	-0.32	2.35	-120.00	65.69	-1.69	0.95	75.00	111.86
7	5250.000	80.74	-0.93	2.78	135.00	180.00	-0.23	1.87	120.00	999.00	-0.14	2.78	-135.00	55.84	-1.08	1.31	75.00	123.49
8	5350.000	64.30	-1.92	1.46	120.00	165.00	-1.26	0.99	105.00	123.20	-1.61	1.38	-135.00	53.52	-1.92	0.97	75.00	102.74
9	5500.000	72.30	-1.41	2.54	90.00	105.00	-0.47	2.54	105.00	99.35	-1.59	1.69	-135.00	50.79	-1.26	1.72	90.00	103.53
10	5725.000	54.60	-2.63	1.79	45.00	75.00	-1.49	1.77	105.00	100.79	-4.02	-0.99	-135.00	50.97	-2.23	1.52	45.00	86.72
11	5775.000	45.05	-3.46	1.04	90.00	105.00	-2.23	1.04	105.00	101.50	-5.48	-1.96	-150.00	48.72	-2.99	0.79	45.00	88.51
12	5825.000	71.47	-1.46	3.36	45.00	60.00	-0.51	2.61	105.00	101.17	-3.85	-0.68	-135.00	47.98	-0.92	2.87	45.00	87.70

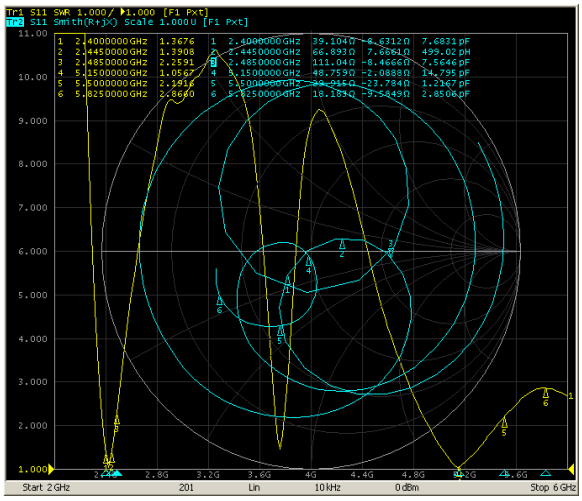
Dielectric Chip Antenna

- Single Feeding 3D Passive Gain For BT&WiFi

Gain & VSWR

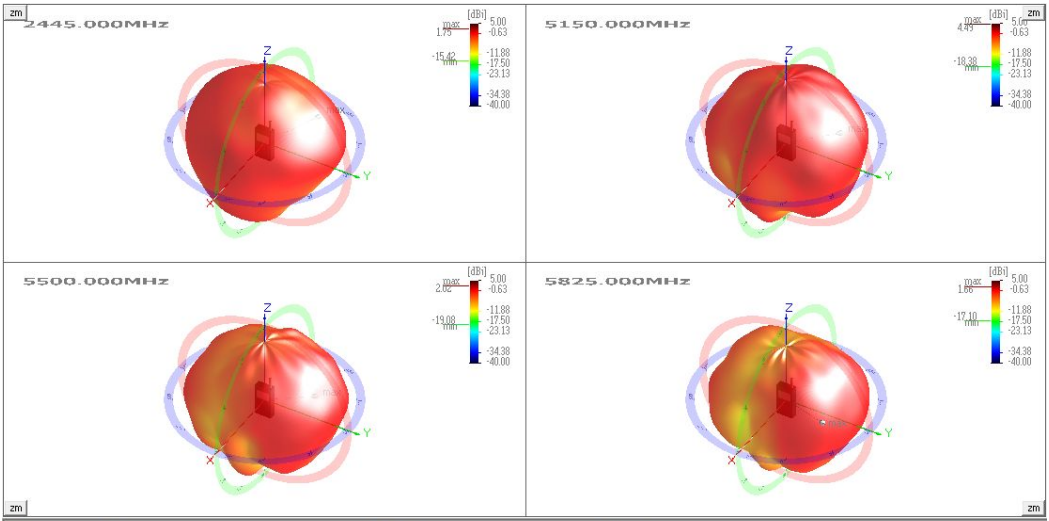
	Peak [dBi]	Average [dBi]	Efficiency [%]
2400MHz	2.19	-1.01	79.20
2445MHz	1.69	-1.40	72.49
2485MHz	1.58	-1.55	70.02
5150MHz	3.20	-0.91	81.04
5500MHz	1.55	-2.37	57.96
5825MHz	1.52	-3.23	47.54

Single Feeding #1 VSWR



3D Radiation Pattern

Single Feeding 3D Passive BT/WiFi



No.	Freq.	PwrSum Eff.[%]	Avg.[dBi]	Peak[dBi]	Theta[	Phi[deg	H(Theta=! Avg.[dBi]	Peak[dBi]	Phi[deg	BW[deg]	E1(Phi=0) Avg.[dBi]	Peak[dBi]	Theta[	BW[deg]	E2(Phi=90 Avg.[dBi]	Peak[dBi]	Theta[	BW[deg]
1	2400.000	79.20	-1.01	2.19	105.00	180.00	-0.15	1.92	240.00	189.69	-0.57	2.19	-105.00	77.50	-1.49	1.40	-60.00	194.57
2	2425.000	80.98	-0.92	2.24	105.00	180.00	-0.10	1.63	240.00	223.72	-0.53	2.24	-105.00	74.59	-1.52	1.14	-60.00	198.82
3	2445.000	72.49	-1.40	1.69	105.00	180.00	-0.50	1.14	240.00	999.00	-1.08	1.69	-105.00	64.54	-2.07	0.75	-75.00	197.91
4	2465.000	67.65	-1.70	1.36	75.00	255.00	-0.68	0.82	240.00	999.00	-1.47	1.24	-105.00	62.12	-2.41	0.59	-75.00	93.83
5	2485.000	70.02	-1.55	1.58	75.00	255.00	-0.35	1.32	240.00	999.00	-1.37	1.42	-105.00	59.26	-2.27	0.82	-180.00	999.00
6	5150.000	81.04	-0.91	3.20	120.00	180.00	-0.76	1.11	60.00	117.54	0.09	3.20	-120.00	70.98	-1.41	1.20	60.00	116.30
7	5250.000	73.36	-1.35	2.79	120.00	180.00	-0.90	1.17	60.00	123.21	-0.59	2.79	-120.00	58.49	-1.63	1.48	75.00	107.01
8	5350.000	62.64	-2.03	1.75	75.00	75.00	-1.29	0.78	45.00	157.58	-1.91	0.92	-120.00	64.73	-2.17	1.22	75.00	103.50
9	5500.000	57.96	-2.37	1.55	75.00	75.00	-1.29	1.31	120.00	115.72	-2.79	0.56	-150.00	52.92	-2.77	0.78	75.00	91.31
10	5725.000	54.85	-2.61	1.93	90.00	45.00	-1.34	1.93	45.00	112.48	-4.13	-1.06	-120.00	57.76	-2.70	0.99	75.00	89.48
11	5775.000	41.50	-3.82	1.16	90.00	45.00	-2.48	1.16	45.00	112.05	-5.64	-2.10	-120.00	53.75	-3.96	-0.36	90.00	90.67
12	5825.000	47.54	-3.23	1.52	75.00	45.00	-1.94	1.17	45.00	120.32	-5.47	-1.96	-120.00	49.70	-3.43	0.28	45.00	99.36