

Pulse Embedded (SMT) Antennas for WiFi/BT/Zigbee applications

Rev H.02 (JAN 2018)

App.	Type	Pulse Part Number	RF Performance						ME requirement			Note
			Operating Frequency (MHz)	RL Min. (dB)	Peak Gain (dBi)		Efficiency (%)		Antenna DIM. (LxWxH,mm)	GC-area (L x W,mm)	Evaluation Board Size (L x W,mm)	
					Peak	Band edges	Peak	Band edges				
Single WiFi, BT, Zigbee	Ceramic chip	W3000	2400-2483.5	-18	2.5	2.1	65	55	7 x 1.6 x 1.6	6.00 x 11.00	40 x 11	3 Matching components Horiz. mount
		W3001		-12	2.2	1.5	53	45		6.00 x 20.00	30 x 20	
		W3008		-6	1.5	0.5	75	60	10 x 3.2 x 4.0	10.80 x 6.25	80 x 37	On Ground solution
		W3008C		-8	1.7	0.7	70	55	3.2 x 1.6 x 1.1	4.00 x 4.25	80 x 37	
		W3043		-11	2.2	1.9	75	70	3.2 x 1.6 x 1.1	4.00 x 6.25	80 x 37	
		W3092		-12	4	-	70	-	3.2 x 1.6 x 1.1	5.60 x 20	37 x 20	Small PCB size
		W3108		-6	2	0	60	43	2 x 1.2 x 0.55	8 x 2.5	110 x 55	small antenna size
	Helical	W3108	-8	1.5	-	50	-	5.0 x 2.5 x 5.5	7.50 x 5.50	100 x 40	Vertical SMD @ Corner	
	Direct PCB	W3716	-14	4.9	4	79	71	21.5 x 9.5 x 1.6	25 x 3.2	100 x 40	@ edge near corner Two suggested antenna locations	
	Stamp Metal	W3317	2400-2500	-13	4.3	3.6	81	75	22.2 x 2 x 6.25	5.8 x 6.24	100 x 100	
W3613		-13		4.1	3.7	70	59	10 x 10 x 3.20 (14.2 x 13.3 x 3.2)	No need	80 x 50	Corner, on ground solution	
W3713		4900-6000	-10	4.6	2.6	88	43	9 x 2.4 x 0.2 (10.5 x 3.2 x 2.4)	16.50 x 2.90	76.20 x 76.20	Corner W3714 is a mirrored design of W3713	
W3714			-10	4.6	2.6	88	43					
Dual WiFi	Ceramic chip	W3006	2400-2483.5	-8	3.2	2.7	70	65	10 x 3.2 x 1.5	11.60 x 6.00	80 x 37	
			5150-5850	-10	4.2	3.0	80	70				
		W3078	2400-2483.5	-10	1.7	1.0	65	55	3.2 x 1.6 x 1.1	11.15 x 6.40	80 x 37	@ Corner
			4950-5850	-6	4.3	3.7	80	55				
		W3079	2400-2483.5	-13	2.5	1.3	72	60	3.2 x 1.6 x 1.1	11 x 6	80 x 37	Center
		4950-5850	-8	5.7	3.3	78	55					
	Direct PCB	W3712	2400-2500	-10	5.2	4.4	73	66	19.8 x 18 x 1.6	15 x 3.5	179 x 119	@ edge near corner Two suggested antenna locations
		4900-5950	-10	7.5	5.8	88	74					
Stamp Metal	W3715	2400-2500	-13	3.5	5.5	88	75	11 x 4.5 x 16	No need	180 x 120	Center, SMT capable No requirement of GC-area on the bottom layer	
		4900-6000	-11	5.2	2.7	95	65					
Combo GPS + WiFi or ISM 868/915 + WiFi	Ceramic chip	W3056	2400-2483.5	-8	3.2	2.5	80	70	10 x 3.2 x 1.5	10.80 x 6.25 (Notch)	100 x 40	Single feed and 2.4GHz WiFi
			1575.42 + 1.023	-10	2.5	1.5	75	65				
		W3064C	2400-2483.5	-11	-0.7	-1.7	80	70	10 x 3.2 x 1.5	10.80 x 6.40 (Divided)	96 x 45	Dual feed and 2.4GHz WiFi
			1575.42 + 1.023	-15	-1	-2.0	70	60				
		W3095	2400-2483.5	-11	2.5	1.5	85	80	10 x 3.2 x 1.5	17.80 x 6.45	70 x 35	Dual feed and Dual WiFi + GPS/Glonass/Beidou
			4950-5850	-6	3.5	1.0	70	50				
			1575-1610	-10	1.5	0.8	75	60				
		W3320	863-928	-8	1.5	0.8	67	55	10 x 3.2 x 2	12 x 9.5	120 x 50	Center, Dual feed
		2400-2500	-6	3.4	1.4	61	45	4.6 x 3.95				
	Composite	W3330	824-928	-6	0.9	0.2	67	52	25.1 x 5 x 3	40 x 8.65	128.64 x 40	Top center, Dual feed
		2400-2483.5	-8	2.5	1.8	66	60					

* NOTE: 1. Recommended minimum GND dimensions of PIFA type and Monopole's are roughly 40x20mm and 30x20mm (or 40x11mm), respectively. Need to construct matching values to optimize antenna performance on surrounding mechanics and materials. 2. Pulse offers very unique GPS+WiFi combo antennas on single ceramic chip (10x3.2x1.5mm). There are three different types of combo antennas. W3056 (2.4G Wifi +GPS, single feed), W3064C (2.4G WiFi+GPS, dual feed), and W3095 (2.4G and 5G Wifi +GPS/Glonass/Beidou, dual feed). 3. "Stock" Stocked parts are typically available from Pulse distribution partners immediately.