



Pulse Internal Antennas for NFC applications

Rev H.05 (April 2019)

App.	Type	Pulse Part number	RF Performance								Mechanical requirement		Note	Availability
			Frequency (MHz)	With matching network			Without matching network (Bare coil)				Package type	Dimension (in/mm)		
				Reading distance EMVCo (mm)	Reading Distance Grid Scan (Avg.,mm)	Impedance (ohm)	Self resonant frequency (MHz)	Inductance (uH)	Resistance (ohm)	Q-Factor				
NFC	Flex only	W7001	13.56	40	33	50/80	100	0.9	1.55	49	A	0.98 x 0.98 x 0.005 (25 x 25 x 0.12)	Without a ground plane near antenna	Stock
	Flex with Ferrite & coaxial cable	W3509	13.56	40	28	50/80	42	1.6	3.60	37.8	G	1.38 x 1.97 x 0.012 (35 x 50 x 0.30)	On ground plane solution. w/ 90mm 1.13OD coaxial cable and U.FL compatible connector	Stock
	Flex with Ferrite	W3579	13.56	40	28	50/80	42	1.6	3.60	37.8	B	1.38 x 1.97 x 0.012 (35 x 50 x 0.30)	On ground plane (metal objects like battery) solution	Stock
		W7013	13.56	20	25	50/80	71.5	1.05	2.70	33	C	1.18 x 0.98 x 0.014 (30 x 25 x 0.36)		Stock
	Flex with twisted pair cable + connector	W7000	13.56	-	36	50	75.5	1.27	2.20	49	F	1.69 x 1.34 x 0.005 (43x 34 x 0.11)	Adhesive tape under coil included	Stock
	Wire loop on plastic carrier	W7002	13.56	40	35	50/80	89	0.65	0.95	57	D	3.72 x 2.24 x 0.14 (94.6 x 56.8 x 3.65)	Optimized for metal proximity within the device	Stock
	Wire loop on ferrite core	W3102	13.56	-	17	50/80	-	4.7	0.25	-	H	0.3 x 0.27 x 0.2 (7.8 x 7 x 5)	Embedded on PCB surface	Stock
WiFi and NFC combo	Trace on PCB	W5100	13.56	-	-	50	65.9	0.95	-	44	E	1.57 x 1.57 x 0.05 (40 x 40 x 1.2)	Test setup over 80x80 mm metal GP	Stock
			2400-2483.5	RL Min. (dB): -8		Peak Gain in free space: -1dBi		Peak Gain on Metal: 1dBi		-				
		W5101	13.56	-	-	50	57.6	1.13	-	46	E	1.77 x 1.77 x 0.05 (45 x 45 x 1.2)	Test setup over 80x80 mm metal GP	Stock
			2400-2483.5	RL Min. (dB): -8		Peak Gain in free space: 0.5dBi		Peak Gain on Metal: 1.5dBi		-				

NOTE: 1. Wire assembly option: Picoblade connector with wire. 2. "Stock" Stocked parts are typically available from Pulse distribution partners immediately.