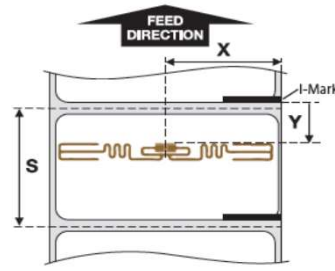


CL4NX UHF Inlay Configuration Guide

SATO recommends print speeds of 4 IPS or less for best results with RFID. The following recommendations have been tested successfully at SATO. Results may vary in the actual customer installation due to overall system tolerances. Validation of functionality in the actual system is therefore recommended.

- G** Placement and Configurations globally valid with minor variation.
- E** Placement and Configurations valid for European (ETSI) frequency range, 865-868MHz
- F** Valid for Frequencies that fall within the FCC range, 902-928MHz



Inlay Measurements:

- X: Liner Edge to Center of Chip
- Y: Rear of Imark (Imark sensor) or front of label (gap sensor) to front of inlay.
- S: Minimum Inlay Separation

Region	Inlay Manufacturer	Inlay [IC Chip]	Feed Orientation	Position(mm)			Power (dBm)		Antenna Selection	(Y=) Standard Antenna Position (mm)		
				X	Y	S	Write	Read		Blue	Yellow	Green
E	Alien Technology	ALN-9610 "Squig" [Alien Higgs3]		26-45	1-4	33	24	24	Short Pitch	-	-	-
				39-45	18-30	41	24	18	Standard	18-22	23-26	27-30
F		ALN-9610 "Squig" [Alien Higgs3]		22.5-42	2-5	21	24	13	Short Pitch	-	-	-
				22.5-62	15-24	85	24	15	Standard	15-18	19-24	-
G		ALN-9630 "Squiglette" [Alien Higgs3]		40-55	0-4	22	24	16	Short Pitch	-	-	-
				40-70	15-33	59	24	17	Standard	15-23	24-28	29-33
E		ALN-9634-FWRW [Alien Higgs3]		-	-	-	-	-	Short Pitch	-	-	-
				28-37	25-29	75	24	18	Standard	25-29	-	-
F		ALN-9634-FWRW [Alien Higgs3]		-	-	-	-	-	Short Pitch	-	-	-
				28-37	25-29	75	24	16	Standard	25-29	-	-
G		ALN-9640 "Squiggle" [Alien Higgs3]		47.5-57	3-5	21	24	14	Short Pitch	-	-	-
				47.5-57	18-36	33	16	7	Standard	18-23	24-29	30-36
G		ALN-9654 "G Tag" [Alien Higgs3]		46.5-56.5	1-10	25	20	17	Short Pitch	-	-	-
				46.5-61.5	14-30	58	14	10	Standard	14-18	19-24	25-30
G		ALN-9662 "Short" [Alien Higgs3]		35-45	0-5	23	24	18	Short Pitch	-	-	-
				35-65	10-24	50	24	16	Standard	10-14	15-20	21-24
G		ALN-9662-FWRWA Short [Alien Higgs3]		-	-	-	-	-	Short Pitch	-	-	-
				42-48	16-39	40	24	16	Standard	16-23	24-31	32-39
E		ALN-9710 "Squig" [Alien Higgs4]		26-45	2-5	33	24	23	Short Pitch	-	-	-
				39-45	18-30	43	24	24	Standard	18-21	22-25	26-30
F	ALN-9710 "Squig" [Alien Higgs4]		22.5-62	3-6	21	24	15	Short Pitch	-	-	-	
			22.5-37	14-28	80	23	20	Standard	14-18	19-24	25-28	
F	ALN-9714-WRW "Bio" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-	
			7.5-21.5	26-33	34	24	24	Standard	26-29	30-33	-	
E	ALN-9715-WRW [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-	
			36-37	17-26	30	24	23	Standard	17-22	23-26	-	
F	ALN-9715-WRW [Alien Higgs4]		36-37	3-5	25	24	24	Short Pitch	-	-	-	
			36-37	20-21	40	24	23	Standard	20-21	-	-	
F	ALN-9716-WRW "Pearl" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-	
			38-49	17-31	34	24	24	Standard	17-21	22-26	27-31	
E	ALN-9720 "HiScan" [Alien Higgs4]		23-42	0-2	29	24	24	Short Pitch	-	-	-	
			31-42	14-32	45	24	23	Standard	14-20	21-26	27-32	
F	ALN-9720 "HiScan" [Alien Higgs4]		19.5-59	0-3	31	24	18	Short Pitch	-	-	-	
			34.5-59	14-32	80	24	17	Standard	14-17	18-24	25-32	
G	ALN-9726-PF P33xW53 [Alien Higgs4]		28	1.5	35	24	17	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
E	ALN-9726-WRW [Alien Higgs4]		29-48	7-11	44	24	24	Short Pitch	-	-	-	
			29-48	28-32	45	24	20	Standard	28-32	-	-	
E	ALN-9728 "Garment Tag" [Alien Higgs4]		26.5-35.5	0-5	35	24	17	Short Pitch	-	-	-	
			39.5-45.5	18-36	43	24	15	Standard	18-24	25-30	31-36	

Region	Inlay Manufacturer	Inlay [IC Chip]	Feed Orientation	Position(mm)			Power (dBm)		Antenna Selection	(Y=) Standard Antenna Position (mm)		
				X	Y	S	Write	Read		Blue	Yellow	Green
F	Alien Technology	ALN-9728 "Garment Tag" [Alien Higgs4]		22.5-37.5	0-5	36	23	15	Short Pitch	-	-	-
				22.5-62.5	6-19	105	24	18	Standard	6-9	10-14	15-19
G		ALN-9728-35-PF P33xW53 [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				26	1.5	35	24	16	Standard	1.5	-	-
E		ALN-9728-90 "Garment Tag" [Alien Higgs4]		19-28	7-10	61	20	15	Short Pitch	-	-	-
				19-33	22-45	75	20	13	Standard	22-30	31-38	39-45
F		ALN-9728-90 "Garment Tag" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				15-35	24-37	85	18	10	Standard	-	24-30	31-37
E		ALN-9730 "Squiglette" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				52-58	21-26	27	24	13	Standard	21-23	24-26	-
F		ALN-9730 "Squiglette" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				55	17-24	26	24	11	Standard	17-20	21-24	-
E		ALN-9740 "Squiggle" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				51.5-55	20-34	31	24	15	Standard	20-24	25-29	30-34
F		ALN-9741-WRW "Doc" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				51.5-60.5	24-38	27	17	17	Standard	24-28	29-33	34-38
F		ALN-9745-WRW "SlimLine" [Alien Higgs4]		51-60	12-15	21	20	20	Short Pitch	-	-	-
				51-60	25-39	28	9	9	Standard	25-29	30-34	35-39
E		ALN-9762 "Short" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-
				42-58	16-32	35	24	17	Standard	16-21	22-27	28-32
F	ALN-9762 "Short" [Alien Higgs4]		50-60	0-5	20	24	13	Short Pitch	-	-	-	
			50-60	15-22	43	24	10	Standard	15-18	19-22	-	
G	ALN-9768 WRW "Wonder Dog" [Alien Higgs4]		-	-	-	-	-	Short Pitch	-	-	-	
			47-61	17-33	46	6	6	Standard	17-22	23-28	29-33	
F	ALN-9768 WRW "Wonder Dog" [Alien Higgs4]		65-66	7-10	31	24	24	Short Pitch	-	-	-	
			47-66	18-32	61	12	12	Standard	18-22	23-27	28-32	
G	Avery Dennison	AD-110m5 [Impinj Monza5]		21.5-46.5	4-11	22	24	16	Short Pitch	-	-	-
				36.5-46.5	11-32	65	24	20	Standard	11-17	18-25	26-32
E		AD-171m5 [Impinj Monza5]		20.5-36.5	11-14	37	24	24	Short Pitch	-	-	-
				17.5-21.5	10-35	50	24	24	Standard	10-21	22-28	29-35
F		AD-171m5 [Impinj Monza5]		13.5-53.5	7-10	18	24	16	Short Pitch	-	-	-
				13.5-23.5	11-35	60	24	19	Standard	11-18	19-27	28-35
E		AD-172u7 [NXP UCODE 7]		15-24	10-11	35	24	16	Short Pitch	-	-	-
				14-18	25-40	50	24	13	Standard	25-29	30-35	36-40
F		AD-172u7 [NXP UCODE 7]		15-24	11-12	30	24	18	Short Pitch	-	-	-
				14-19	24-37	65	24	15	Standard	24-28	29-32	34-37
E		AD-226iL [NXP UCODE G2iL]		51.5-55.5	5-14	23	23	17	Short Pitch	-	-	-
				51.5-55.5	17-32	39	20	17	Standard	17-24	25-32	-
F		AD-226iL [NXP UCODE G2iL]		47.5-57.5	0-10	24	24	19	Short Pitch	-	-	-
				47.5-62.5	16-37	41	24	15	Standard	16-22	23-29	30-37
G		AD-227m5 [Impinj Monza5]		47.5-57.5	0-10	31	24	19	Short Pitch	-	-	-
				47.5-57.5	13-36	38	16	11	Standard	13-20	21-28	29-36
G		AD-232iL [NXP UCODE G2iL]		-	-	-	-	-	Short Pitch	-	-	-
				45-70	12-35	62	24	16	Standard	12-19	20-27	28-35
E		AD-233m5 [Impinj Monza5]		42-58	6-8	38	24	24	Short Pitch	-	-	-
				42-58	17-39	40	24	24	Standard	17-24	25-31	32-39
F	AD-233m5 [Impinj Monza5]		40-55	0-4	24	24	19	Short Pitch	-	-	-	
			40-70	15-37	63	23	17	Standard	15-21	22-29	30-37	
G	AD-235u7 [NXP UCODE 7]		35-50	0-5	20	24	12	Short Pitch	-	-	-	
			35-65	10-40	59	19	12	Standard	10-20	21-30	31-40	

Region	Inlay Manufacturer	Inlay [IC Chip]	Feed Orientation	Position(mm)			Power (dBm)		Antenna Selection	(Y=) Standard Antenna Position (mm)		
				X	Y	S	Write	Read		Blue	Yellow	Green
E	Avery Dennison	AD-236u7 [NXP UCODE 7]		39-48	8-10	45	24	24	Short Pitch	-	-	-
				39-48	12-40	47	24	20	Standard	12-21	22-30	31-40
F		AD-236u7 [NXP UCODE 7]		40-70	0-7	24	24	16	Short Pitch	-	-	-
				40-50	8-31	37	18	8	Standard	8-15	16-23	24-31
G		AD-317iL [NXP UCODE G2iL]		-	-	-	-	-	Short Pitch	-	-	-
				35.5-60.5	10-33	50	24	16	Standard	10-17	18-25	26-33
E		AD-318m5 [Impinj Monza5]		25-44	13-16	45	24	24	Short Pitch	-	-	-
				28-44	16-34	63	24	20	Standard	16-22	23-29	30-34
F		AD-318m5 [Impinj Monza5]		21-46	0-3	31	24	19	Short Pitch	-	-	-
				31-61	11-31	52	23	19	Standard	11-17	18-24	25-31
E		AD-370u7 [NXP UCODE 7]		12.5-21.5	9-11	41	20	10	Short Pitch	-	-	-
				12.5-26.5	0-13	60	20	9	Standard	0-3	4-9	10-13
F		AD-370u7 [NXP UCODE 7]		-	-	-	-	-	Short Pitch	-	-	-
				18.5-48.5	67-90	86	17	14	Standard	67-79	80-90	-
E		AD-380iL [NXP UCODE G2iL]		-	-	-	-	-	Short Pitch	-	-	-
				42-48	16-26	55	24	15	Standard	16-19	20-23	24-26
G		DogBone [NXP UCODE G2iL/iM]		-	-	-	-	-	Short Pitch	-	-	-
				44-59	1-30	50	24	9	Standard	1-10	11-20	21-30
G		Dogbone [Impinj Monza4QT]		-	-	-	-	-	Short Pitch	-	-	-
				43-58	13-31	36	8	8	Standard	13-19	20-25	26-31
G	Short Dipole [NXP UCODE G2iL/iM]		-	-	-	-	-	Short Pitch	-	-	-	
			46.5-56.5	14-34	45	24	11	Standard	14-20	21-27	28-34	
G	Short Dipole [Impinj Monza4 (E/D/QT)]		46.5-56.5	0-1	16	24	13	Short Pitch	-	-	-	
			46.5-56.5	12-36	48	24	15	Standard	12-20	21-28	29-36	
G	ShortDipole [Impinj Monza5]		46-56	0-3	19	20	18	Short Pitch	-	-	-	
			46-61	20-34	31	10	9	Standard	20-24	25-29	30-34	
E	ShortDipole [Impinj MonzaR6]		50.4-54.4	0-2	25	22	22	Short Pitch	-	-	-	
			50.4-54.4	22-36	32	12	12	Standard	22-26	27-31	32-36	
F	ShortDipole [Impinj MonzaR6]		50.4-54.4	0-2	25	20	20	Short Pitch	-	-	-	
			50.4-54.4	22-36	35	12	12	Standard	22-26	27-31	32-36	
G	Belt [Impinj Monza5]		35-40	0-3	23	24	16	Short Pitch	-	-	-	
			40-70	11-35	60	24	13	Standard	11-18	19-26	27-35	
G	Belt-PF P39xW93 [Impinj Monza5]		48.5	4.5	39	24	16	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
G	Belt [Impinj Monza R6]		39.5	2-3	20	18	18	Short Pitch	-	-	-	
			39.5	16-30	45	17	15	Standard	16-20	21-25	26-30	
G	Belt-PF P13xW73 [NXP UCODE 7]		40	1.5	20	20	17	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
G	Belt-PF P39xW93 [NXP UCODE 7]		48.5	3	39	20	17	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
E	Belt [NXP UCODE 7]		40.5-54.5	1-4	26	24	23	Short Pitch	-	-	-	
			40.5-59.5	15-37	50	23	20	Standard	15-22	23-30	31-37	
G	Belt [NXP UCODE G2iL]		-	-	-	-	-	Short Pitch	-	-	-	
			50-55	16-36	41	24	15	Standard	16-22	23-29	30-36	
E	Web [NXP UCODE G2iL]		16.5-35.5	10-15	67	24	16	Short Pitch	-	-	-	
			16.5-25.5	18-47	86	24	15	Standard	18-28	29-38	39-47	
F	Web [NXP UCODE G2iL]		17.5-22.5	9-11	60	24	11	Short Pitch	-	-	-	
			12.5-27.5	34-49	93	24	12	Standard	-	34-41	42-49	
E	Web [NXP G2iM]		-	-	-	-	-	Short Pitch	-	-	-	
			24.5-30.5	26-37	71	24	16	Standard	-	26-31	32-37	

Region	Inlay Manufacturer	Inlay [IC Chip]	Feed Orientation	Position(mm)			Power (dBm)		Antenna Selection	(Y=) Standard Antenna Position (mm)		
				X	Y	S	Write	Read		Blue	Yellow	Green
G	SMARTRAC	Web P34xW54 Label [NXP UCODE 7]		30	1.5	40	24	16	Short Pitch	-	-	-
				-	-	-	-	-	Standard	-	-	-
E		Web [NXP UCODE 7]		29-48	0-3	30	24	19	Short Pitch	-	-	-
				32-48	1-30	55	23	20	Standard	1-11	12-21	22-30
E		Web [NXP UCODE 7]		29-48	4-7	43	24	24	Short Pitch	-	-	-
				29-48	2-17	53	20	19	Standard	2-6	7-12	13-17
F		Web [NXP UCODE 7]		29-45	2-8	35	17	17	Short Pitch	-	-	-
				29-38	0-5	42	16	10	Standard	0-5	-	-
E		WebLite [Impinj Monza5]		26-27	0-2	20	23	23	Short Pitch	-	-	-
				26-27	10-17	30	24	24	Standard	10-13	14-17	-
F		WebLite [Impinj Monza5]		23-33	0-5	36	24	23	Short Pitch	-	-	-
				33-63	14-37	45	23	18	Standard	14-21	22-29	30-37
G		WebLite-PF P18xW49 [Impinj Monza5]		26.5	2	20	24	20	Short Pitch	-	-	-
				-	-	-	-	-	Standard	-	-	-
G		WebLite-PF P39xW93 [Impinj Monza5]		36.5	6.5	39	24	23	Short Pitch	-	-	-
				-	-	-	-	-	Standard	-	-	-
G		MiniWeb [NXP UCODE G2iL/iM]		-	-	-	-	-	Short Pitch	-	-	-
				45-60	18-35	47	24	12	Standard	18-23	24-29	30-35
G		MiniWeb [NXP U-CODE 7]		27-46	9-12	45	24	24	Short Pitch	-	-	-
				35-46	14-37	65	17	17	Standard	14-21	22-29	30-37
E		MiniWeb-PF P18xW49 [NXP U-CODE 7]		27	1	20	20	20	Short Pitch	-	-	-
				-	-	-	-	-	Standard	-	-	-
F		MiniWeb-PF P18xW49 [NXP U-CODE 7]		27	1	20	17	17	Short Pitch	-	-	-
				-	-	-	-	-	Standard	-	-	-
G	MiniWeb [Impinj MonzaR6]		25-39	3-5	25	24	24	Short Pitch	-	-	-	
			33-39	14-33	40	20	20	Standard	14-20	21-27	28-33	
F	Viper [Impinj Monza4D]		59-68	12-15	27	20	20	Short Pitch	-	-	-	
			59-68	22-36	30	12	12	Standard	22-26	27-31	32-36	
G	Frog 3D [Impinj Monza4 (E/D/QT)]		25-30	3-6	60	24	19	Short Pitch	-	-	-	
			25-40	7-36	82	20	17	Standard	7-16	17-26	27-36	
E	Trap NF [Impinj Monza5]		-	-	-	-	-	Short Pitch	-	-	-	
			16-27	20-27	41	24	23	Standard	20-22	23-27	-	
F	Trap NF [Impinj Monza5]		15-20	4-6	30	24	19	Short Pitch	-	-	-	
			14-19	16-19	33	24	20	Standard	16-19	-	-	
G	WhitePET [Impinj MonzaR6]		40.5-45.5	12-15	35	24	24	Short Pitch	-	-	-	
			40.5-45.5	18-44	54	20	20	Standard	18-26	27-35	36-44	
F	WhitePET [Impinj MonzaR6]		34	1.5	24	19	19	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
G	Great Wall [Impinj Monza5]		47-62	0-2	30	24	20	Short Pitch	-	-	-	
			47-57	11-37	36	18	15	Standard	11-19	20-28	29-37	
G	xWing [Impinj Monza5]		34.5-49.5	2-4	25	24	18	Short Pitch	-	-	-	
			39.5-64.5	7-34	54	20	19	Standard	7-15	16-24	25-34	
E	xWing [Impinj Monza5]		-	-	-	-	-	Short Pitch	-	-	-	
			38.5-57.5	15-32	45	20	17	Standard	15-20	21-26	27-32	
F	xWing-PF P20xW76 [Impinj Monza5]		40.5	1	23.5	24	24	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
F	xWing-PF P21xW77 [Impinj Monza5]		39.5	3.5	30	24	24	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	
F	xWing-PF P21xW77 [Impinj Monza5]		41	0.5	30	24	24	Short Pitch	-	-	-	
			-	-	-	-	-	Standard	-	-	-	

Region	Inlay Manufacturer	Inlay [IC Chip]	Feed Orientation	Position(mm)			Power (dBm)		Antenna Selection	(Y=) Standard Antenna Position (mm)			
				X	Y	S	Write	Read		Blue	Yellow	Green	
F	Invengo	xWing-PF P35xW76 [Impinj Monza5]		40.5	13	38	24	24	Short Pitch	-	-	-	
				40.5	13	38	12	12	Standard	13	-	-	
E		xWing [NXP U-CODE 7]		38.5-42.5	8-13	40	24	24	Short Pitch	-	-	-	
				38.5-42.5	17-37	45	24	13	Standard	17-23	24-30	31-37	
F		xWing [NXP U-CODE 7]		38.5-42.5	0-8	35	24	24	Short Pitch	-	-	-	
				38.5-42.5	17-37	45	24	13	Standard	17-23	24-30	31-37	
E		Arizon	AZ-C6 [Impinj MonzaR6]		23-24	9-12	16	24	24	Short Pitch	-	-	-
					14-19	25-38	30	24	18	Standard	25-29	30-34	35-38
F			AZ-C6 [Impinj MonzaR6]		28-29	9-12	20	24	24	Short Pitch	-	-	-
					14-15	26-38	25	24	19	Standard	26-29	30-33	34-38
F	AZ-H7 [NXP U-CODE 7]			38-42	4-8	32	24	24	Short Pitch	-	-	-	
				-	-	-	-	-	Standard	-	-	-	
E	AZ-H7-with Paper [NXP U-CODE 7]			41-47	3-5	35	24	24	Short Pitch	-	-	-	
				41-47	18-32	35	17	17	Standard	18-22	23-27	28-32	
F	AZ-H7-with Paper [NXP U-CODE 7]			41-47	3-5	40	24	24	Short Pitch	-	-	-	
				41-47	18-32	70	17	17	Standard	18-22	23-27	28-32	
E	AZ-F7 [NXP U-CODE 7]			-	-	-	-	-	Short Pitch	-	-	-	
				35-36	15-24	34	21	21	Standard	15-19	17-21	20-24	
F	AZ-F7 [NXP U-CODE 7]			-	-	-	-	-	Short Pitch	-	-	-	
				17-18	22-36	42	23	23	Standard	22-26	26-30	32-36	
G	AZ-9762 [Alien Higgs4]		35-50	0-3	25	24	19	Short Pitch	-	-	-		
			40-65	11-36	48	24	17	Standard	11-19	20-28	29-36		
G	CHECKPOINT	Champion [Impinj Monza5]		40-45	0-2	27	24	19	Short Pitch	-	-	-	
				40-70	8-35	58	20	20	Standard	8-16	17-25	26-35	
E		WindAparrel [Impinj Monza5]		37-38	10-13	53	24	23	Short Pitch	-	-	-	
				29-38	0-13	75	23	18	Standard	0-4	5-8	9-13	
F		WindAparrel [Impinj Monza5]		30-45	8-11	46	23	20	Short Pitch	-	-	-	
				30-65	20-41	82	16	13	Standard	20-26	27-34	35-41	
E	SML	GB2U-M5 [Impinj Monza5]		-	-	-	-	-	Short Pitch	-	-	-	
				32-43	16-32	60	23	23	Standard	16-21	22-27	29-32	

For inlays not included on this list, please contact your local SATO dealer or sales office.

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