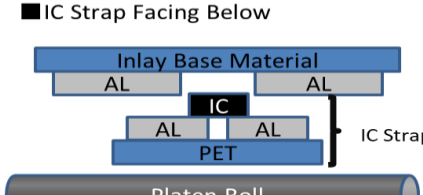
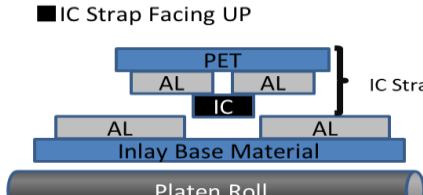
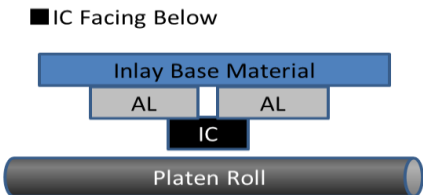
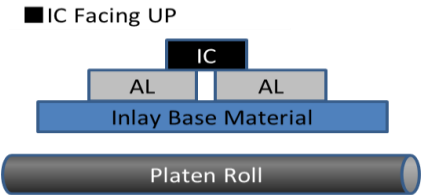
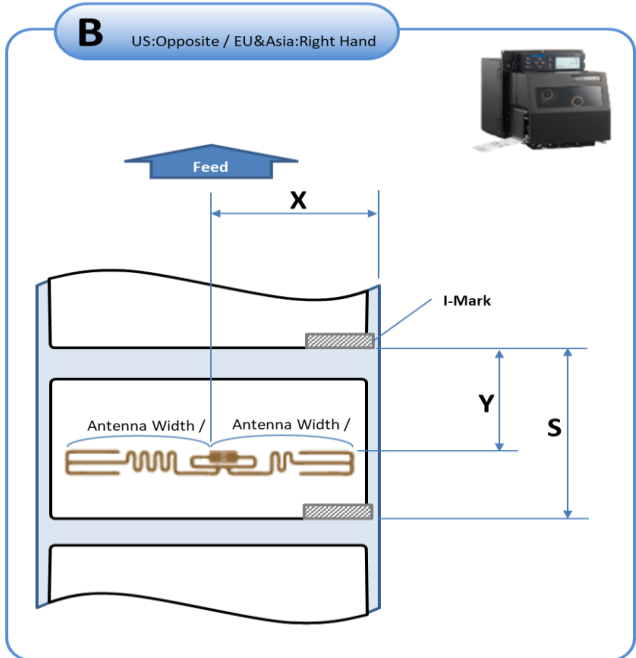
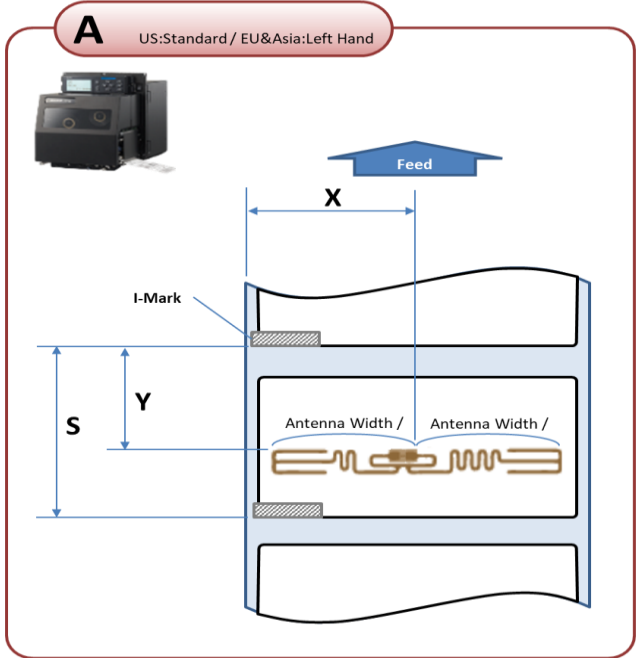


# S84-ex Inlay Configuration Guide

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.


**X:** Liner Edge to Center of Inlay  
**Y:** Optimum Encoding Position  
 Measured from tail edge of I-mark to lead edge of inlay when I-mark sensor is used.  
 Measured from lead edge of label to lead edge of inlay when gap sensor is used.

Updated March, 2023









**E** Placement and Configurations valid for European (ETSI ) frequency range, 865–868MHz





**F** Valid for Frequencies that fall within the FCC

**Feed Direction**  
 The arrow in the header of table indicates the direction in which labels

<b>A</b>					<b>B</b>				
Americas: Standard/Right Hand Europe/Asia: Left Hand					Americas: Opposite/Left Hand Europe/Asia:Right Hand				
Position(mm)			Power (dBm)		Position(mm)			Power (dBm)	
X	Y	S	Write	Read	X	Y	S	Write	Read

NO.	Manufacturer	Inley [IC Chip]	Feed Direction	Region	Antenna Selection	X	Y	S	Write	Read	X	Y	S	Write	Read	
1	Alien Technology	ALN-9640 "Squiggle" [Alien Higgs3]		<b>E</b>	Short Pitch	50.7–55.4	1–5	19	22	9	–	–	–	–	–	–
					Standard	55.4–70.4	2–16	54	22	13	50.4–60.4	17–24	30	20	7	
					<b>F</b>	Short Pitch	50.4–55.4	2–6	19	22	9	60.4–65.4	1–7	19	24	12
						Standard	55.4–75.4	1–10	59	24	16	50.4–65.4	16–23	37	22	9
2	Alien Technology	ALN-9762 "Short" [Alien Higgs4]		<b>E</b>	Short Pitch	–	–	–	–	–	51–54	1–3	38	24	18	
					Standard	–	–	–	–	–	–	–	–	–	–	
				<b>F</b>	Short Pitch	52–54	0–3	23	24	17	36–39	1–3	20	24	12	
					Standard	–	–	–	–	–	–	–	–	–	–	
3	Alien Technology	ALN-9662 "Short" [Alien Higgs3]		<b>E</b>	Short Pitch	36–39	0–4	16	23	14	57–63	1–4	43	24	23	
					Standard	38–62	0–3	60	24	18	48–58	15–24	60	24	17	
				<b>F</b>	Short Pitch	38–48	0–4	40	24	16	58–63	1–4	20	24	13	
					Standard	38–58	0–4	60	24	18	43–58	19–23	60	24	17	
4	Alien Technology	ALN-9730 "Squiglette" [Alien Higgs 4]		<b>E</b>	Short Pitch	–	–	–	–	–	51–54	1–4	36	24	19	
					Standard	–	–	–	–	–	–	–	–	–	–	
				<b>F</b>	Short Pitch	–	–	–	–	–	41–59	2–4	20	24	12	
					Standard	–	–	–	–	–	–	–	–	–	–	
5	Alien Technology	ALN-9630 "Squiglette" [Alien Higgs 3]		<b>E</b>	Short Pitch	48–53	2–4	19	24	17	41–44	0–1	19	24	10	
					Standard	43–53	13–16	54	24	16	43–63	15–25	55	24	15	
				<b>F</b>	Short Pitch	47–53	0–7	21	24	18	41–44	0–1	20	24	14	
					Standard	42–48	1–5	57	24	18	43–63	15–23	56	24	14	
6	Avery Dennison	AD-226iL [NXP UCODE G2iL]		<b>E</b>	Short Pitch	48.5–51.5	3–7	19	23	14	50.5–60.5	0–3	38	24	19	
					Standard	48.5–65.5	13–17	50	24	15	50.5–65.5	20–30	60	22	14	
				<b>F</b>	Short Pitch	55.5–65.5	4–6	20	23	11	50.5–55.5	0–4	38	23	17	
					Standard	55.5–70.5	13–17	55	23	18	50.5–65.5	20–25	57	24	14	

NO.	Manufacturer	Inlay [IC Chip]		Region	Antenna Selection	Position(mm)			Power (dBm)		Position(mm)			Power (dBm)			
						X	Y	S	Write	Read	X	Y	S	Write	Read		
7	Avery Dennison	AD-233m5 [Impinj Monza5]		E	Short Pitch	47-49	2-3	19	24	15	38-48	4-6	38	24	17		
					Standard	37-48	15-22	60	23	16	43-63	15-26	64	22	18		
					F	Short Pitch	42-44	2-3	19	24	12	38-48	4-6	38	24	16	
						Standard	37-53	0-26	60	23	21	38-58	15-25	60	21	17	
8	Avery Dennison	AD-227m5 [Impinj Monza5]		E	Short Pitch	65.5-75.5	0-4	18	23	12	50.5-75.5	1-7	37	24	20		
					Standard	50.5-60.5	12-19	59	20	15	50.5-70.5	20-29	58	18	12		
					F	Short Pitch	55.5-70.5	1-3	23	24	13	55.5-70.5	0-3	19	24	10	
						Standard	50.5-60.5	13-19	52	20	14	50.5-55.5	20-25	20	15	8	
9	Avery Dennison	AD-232iL [NXP UCODE G2iL]		E	Short Pitch	38-57	1-4	37	24	16	41-44	0-6	38	23	14		
					Standard	43-62	2-5	60	24	15	43-53	17-24	65	24	18		
					F	Short Pitch	46-49	1-2	40	24	18	43-58	1-6	20	23	11	
						Standard	38-57	1-5	60	24	19	-	-	-	-	-	
10	Avery Dennison	AD-318m5 [Impinj Monza5]		E	Short Pitch	-	-	-	-	-	-	-	-	-	-		
					Standard	35-50	16-25	62	24	21	40-55	14-25	42	24	16		
					F	Short Pitch	-	-	-	-	-	-	-	-	-	-	-
						Standard	40-50	12-16	54	24	19	33-53	10-21	58	24	18	
11	SMARTRAC	Belt M5 [Impinj Monza5]		E	Short Pitch	-	-	-	-	-	-	-	-	-	-		
					Standard	40-57	13-21	56	23	19	48-63	20-25	59	23	16		
					F	Short Pitch	-	-	-	-	-	-	-	-	-	-	-
						Standard	38-57	13-20	59	23	18	43-63	20-24	63	23	18	
12	SMARTRAC	Belt [NXP UCODE G2iL]		E	Short Pitch	-	-	-	-	-	-	-	-	-	-		
					Standard	38-52	2-6	58	23	17	-	-	-	-	-		
					F	Short Pitch	-	-	-	-	-	-	-	-	-	-	-
						Standard	38-52	2-6	60	24	18	-	-	-	-	-	
13	SMARTRAC	Short Dipole i [NXP UCODE G2iL/iM]		E	Short Pitch	52.5-55.5	1-3	18	24	16	55.5-65.5	0-2	20	24	15		
					Standard	48.5-53.5	12-23	58	24	19	47.5-50.5	16-22	25	24	12		
					F	Short Pitch	52.5-55.5	2-4	19	24	15	47.5-55.5	0-2	20	24	14	
						Standard	50.5-70.5	1-5	59	24	20	47.5-55.5	16-21	36	24	12	

NO.	Manufacturer	Inlay [IC Chip]	↑ Feed Direction ↑	Region	Antenna Selection	Position(mm)			Power (dBm)		Position(mm)			Power (dBm)		
						X	Y	S	Write	Read	X	Y	S	Write	Read	
14	SMARTRAC	ShortDipole [Impinj Monza 5]		E	Short Pitch	47-50	1-3	20	24	16	53-58	0-2	19	24	12	
					Standard	47-70	5-14	58	20	16	48-58	18-26	60	22	17	
				F	Short Pitch	47-60	2-4	35	24	15	48-53	0-2	20	24	12	
					Standard	47-70	7-18	59	20	16	48-58	16-26	61	22	16	
15	SMARTRAC	DogBone i [NXP UCODE G2iL/iM]		E	Short Pitch	-	-	-	-	-	-	-	-	-	-	
					Standard	46-76	2-14	66	23	15	52-62	15-22	37	20	8	
				F	Short Pitch	-	-	-	-	-	-	-	-	-	-	-
					Standard	46-66	0-16	66	23	13	52-62	12-21	38	23	9	
16	SMARTRAC	DogBone i [Impinj Monza4 QT]		E	Short Pitch	-	-	-	-	-	-	-	-	-	-	
					Standard	51-77	3-17	65	16	13	52-67	15-21	29	16	7	
				F	Short Pitch	-	-	-	-	-	-	-	-	-	-	-
					Standard	51-57	2-13	29	13	10	52-57	11-20	33	16	7	
17	SMARTRAC	Viper [Impinj Monza4D]		E	Short Pitch	62-73	2-7	19	24	10	-	-	-	-	-	
					Standard	57-68	10-20	53	22	16	62-68	18-25	25	13	7	
				F	Short Pitch	57-68	0-5	23	24	18	-	-	-	-	-	
					Standard	57-68	8-16	25	23	16	57-68	17-23	22	13	7	
18	SMARTRAC	DogBone i [Impinj Monza4 QT]		E	Short Pitch	-	-	-	-	-	-	-	-	-	-	
					Standard	39-53	13-18	24	12	9	39-53	24-29	56	11	9	
				F	Short Pitch	-	-	-	-	-	39-53	11-16	53	14	11	
					Standard	13-53	12-17	23	9	5	39-53	22-27	61	9	6	