atlasRFIDstore

Antenna Cable Loss Chart

CABLE	195-SERIES	240-SERIES	400-SERIES
Loss per 100 ft in dB At 900 MHz	11.1	7.6	3.9
Cable Diameter	0.195"	0.242"	0.405"
Cable Bend Radius	2.5"	3.0"	4.0"
Cable Length (ft)			
5	0.6	0.4	0.2
10	1.1	0.8	0.4
15	1.7	1.1	0.6
20	2.2	1.5	0.8
25	2.8	1.9	1
30	3.3	2.3	1.2
35	3.9	2.7	1.4
40	4.4	3	1.6
45	5.0	3.4	1.8
50	5.6	3.8	2
55	6.1	4.2	2.1
60	6.7	4.6	2.3
65	7.2	4.9	2.5
70	7.8	5.3	2.7
75	8.3	5.7	2.9
80	8.9	6.1	3.1
85	9.4	6.5	3.3
90	10.0	6.8	3.5
95	10.5	7.2	3.7
100	11.1	7.6	3.9
105	11.7	8	4.1
110	12.2	8.4	4.3
115	12.8	8.7	4.5
120	13.3	9.1	4.7
125	13.9	9.5	4.9
130	14.4	9.9	5.1
135	15.0	10.3	5.3
140	15.5	10.6	5.5
145	16.1	11	5.7
150	16.7	11.4	5.9
155	17.2	11.8	6
160	17.8	12.2	6.2
165	18.3	12.5	6.4
170	18.9	12.9	6.6
175	19.4	13.3	6.8
180	20.0	13.7	7

Power from the RFID Reader can escape through an Antenna Cable, which affects read range and read rates, which ultimately could determine the level of success of an RFID system. To calculate the amount of RF energy loss to expect from your antenna cables, find the cable length you are considering in the left column and use its insulation rating (195, 240, 400) in order to determine the best cable for your RFID application.

Here are a few important things to consider when choosing the ideal cable for a system:

> The higher the insulation rating, the less power will be lost between the RFID Reader and RFID Antenna.

> The higher the insulation rating, the less flexible the cable will be. This could be an issue in applications that require the antenna cable to bend around corners or make a right-angle turn to connect to a reader or antenna.

> Because of the direct correlation between cable length and power loss, if an RFID system needs a longer cable, a higher insulation rating should be used to offset the increase in length.

For more information about RFID Antenna Cables and Insulation Ratings or to learn about Cable Connectors, Adapters, and Rules of Connecting, checkout our guide:

A Guide to Cables, Connectors, and Adapters