

Enhancing Zigbee Wireless Signal Strength and Quality

ICP DAS USA's ZigBee wireless products are compatible with IEEE 802.15.4 standard products. Its environmental and atmospheric conditions affect its communication quality. Factors such as: rain, snow, high/low level terrain, slopes, swales, or obstacles (such as buildings, metal objects or other), can compromise the wireless communication quality or shortened the communication distance; in serious cases, it may even not be able to communicate at all.

For prevention, it's important to conduct a communication test for the on-site environment. For each on-site environment may not have the same problem, the following solutions are provided to enhance the signal strength and quality:

Solution #1:

Add a Zigbee Repeater

ZT-2510 https://icpdas-usa.com/zt_2510.html	ZigBee Repeater (Slave, ZigBee Router)
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Solution #2:

Change the External Antenna

ANT-15 (Omni-Directional) https://icpdas-usa.com/ant_15.html	15 dBi 2.4GHz External Antenna
ANT-18 (Directional) https://icpdas-usa.com/ant_18.html	18 dBi 2.4GHz External Antenna
ANT-21 (Directional) https://icpdas-usa.com/ant_21.html	21 dBi 2.4GHz External Antenna

Solution #3:

Add an Antenna Extension Cable (Changing the installation Location of the Antenna)

3S001-1 https://icpdas-usa.com/3s001_1.html	RG58A/U 1 Meter Long RP-SMA male to RP-SMA Female
3S003-1 https://icpdas-usa.com/3s003_1.html	RG58A/U 3 Meter Long RP-SMA male to RP-SMA Female
3S005-1 https://icpdas-usa.com/3s005_1.html	RG58A/U 5 Meter Long RP-SMA male to RP-SMA Female
3S008-1 https://icpdas-usa.com/3s008_1.html	RG58A/U 8 Meter Long RP-SMA male to RP-SMA Female

Solution #4:

Add Amplifier

Pairs		ZT-IOP Series	ZT-IO Series
Two-Ways	4	ZT-2060-IOP https://icpdas-usa.com/zt_2060_iop.html	ZT-2060 https://icpdas-usa.com/zt_2060.html
Two-Ways	8	ZT-2052-IOP https://icpdas-usa.com/zt_2052_iop.html	ZT-2042 https://icpdas-usa.com/zt_2042.html
Two-Ways	8	ZT-2055-IOP https://icpdas-usa.com/zt_2055_iop.html	ZT-2055 https://icpdas-usa.com/zt_2055.html

To learn more about the variety of ideas and real projects integrated with ICP DAS hardware, visit our website at <http://www.icpdas-usa.com>, or give us a call, toll free, at 1-888-971-9888 and one of our engineers would be happy to assist in reviewing the project requirements, ensuring that the highest quality solution is presented in your final application.