EndRun
TECHNOLOGIES

:]MYf`CdhWY4]o_

THY 5: @(' $ hfUbga]hhYf`WUb`VY`WbZ][ifYX`hc`k cf_`k]h\`cbZ`hk cz`h\fYY cf`dcgg]Vm`ci fYWY]jYfgZ`h\ig gJ]o[`mci `h\YYI cMog]Z`a i `h]d`Y hfUbga]hhYfg'` The ability of the transmitter to work with multiple receivers depends on the cable configuration. This Product Note details factors you need to know to successfully implement the link with one or more receivers.

FYei]fYaYdhg]Zcf`G]WWYgg[]`@]o_

Referring to the diagram on the next page, there are three constraining factors to implement the AFL3430 link successfully:

1. The net RF gain applied to the GPS signal seen at the AFL3430 transmitter input must be greater than 31 + (2 * OpticalLoss) dB, i.e.:

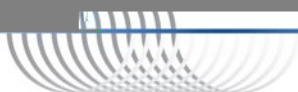   5dh`U]o`7cdbYf@cgg%Z`;!@35&`U]o`7cdbYf@cgg&`2`' %X6`Z`f&h`CdhYWU@cggh`X6

2. The net Optical Loss, which includes the Fiber Loss and and installed Splitter Loss, between the AFL3430 transmitter and receiver must be less than 12 dB, i.e.:

    CdhYWU:]Myf@cgg`Z`CdhYWUGd]hhYf@cgg`O`%&`X6

3. The net RF gain applied to the GPS signal seen at the GPS receiver input must be greater than +15 dB, i.e.:

    5dh`U]o`7cdbYf@cgg%Z`;!@35&`U]o`7cdbYf@cgg&`Z`@]o_`U]o`f&h`CdhYWU@ccggh`Z`;!@35&`U]o`!dhYf7cdbYWUhY7cdbYf@cgg`2`%) `X6

Example Configuration

This example meets the requirements listed above. The configuration includes a G-LNA2 pre-amp in the antenna downlead path, with 1-foot and 100-foot Belden 9104 downlead cables, along with 5 km of fiber and a 2:1 optical splitter. There is also a 3-foot Belden 9104 interconnect cable between the AFL3430 receiver output and the GPS receiver:

Gain Settings

Antenna Gain	=	+40 dB,
AFL3430 Link Gain	=	+22 dB
First G-LNA2 Gain	=	+26 dB
Second G-LNA2 Not Installed		

Loss Settings

DownLead Copper1 Loss	=	1 ft.	=	-0.1 dB
DownLead Copper2 Loss	=	100 ft.	=	-10 dB
Optical Fiber Loss	=	5 km	=	-3 dB
Optical Splitter Loss	=	2:1	=	-4 dB
InterConnect Copper Loss	=	3 ft.	=	-0.3 dB

Rule 1: $40 - 0.1 + 26 - 10 = 55.9$ dB, which is $> 31 + (2 * (3 + 4)) = 55$ dB ✓

Rule 2: $3 + 4 < 12$ dB ✓

Rule 3: $40 - 0.1 + 26 - 10 + 22 - (2 * (3 + 4)) - 0.3 = 63.6$ dB which is > 15 dB ✓