Link Commissioning Procedures

The following are recommended for proper commissioning of all Trango Systems microwave links.

1. Site Validation
   This process will ensure that the site at each side of the link is properly reviewed to meet all installation requirements.

2. Link Commissioning Checklist
   This checklist will ensure that the link is properly configured and there is a record which validates the correct installation of the link.

Site Validation

Site Information	
Customer:	
Site Name:	
Site Address:	
Site Coordinate:	
Radio Model:	
Radio Serial #	
Site Access notes:	

Antenna Installation		
Antenna model		
Antenna size		
Height		
Does it meet Fresnel zone requirement?	Yes	No
Antenna Mount is properly secure	Yes	No
Is the Antenna properly secure	Yes	No
Is the Mount Properly grounded?	Yes	No
Is the Antenna Properly grounded?	Yes	No
Is the Antenna side strut installed?	Yes	No
Is the Antenna weather proof?	Yes	No
Was the O-Ring installed?	Yes	No
Is the range of motion on the mount properly working?	Yes	No

INDOOR UNIT (IDU)		
Is it properly mounted on the rack	Yes	No
Does it have sufficient space between other devices on the rack for proper ventilation?	Yes	No
Is it properly grounded to the Rack?	Yes	No
Are all cables properly label and secure?	Yes	No
Is the fan working?	Yes	No
Is the fan running?	Yes	No
Is the Ferrite correctly installed?	Yes	No
Is the rack properly secure to the floor?	Yes	No
Is the rack properly grounded?	Yes	No
Power Supply		
Type of power Supply:		
Redundant power to the IDU?	Yes	No
Measure input voltage at IDU		(-VDC)
Properly grounded?	Yes	No
Is the DC connector secure via the fasten screws?	Yes	No
For redundant power, is the + ground on both power supplies connected to the center pin of the DC connector in the IDU? (GigaPro/Plus)	Yes	No
Are the leads properly connected to the power supply's terminal block	Yes	No

IF Cable	
Cable Type:	
Cable Length:	

Proper connection to the IDU?	
Proper connection to the ODU?	
Proper weather proofing at all necessary Points?	Yes No Remarks:
Point of shelter entry weatherproofed?	Yes No
Point of entry properly grounded?	Yes No
Is there a drip loop at the ODU?	Yes No
Is cable properly secure?	Yes No
Is cable damaged? (bends, kinks, etc)	Yes No Remarks:
Grounding straps install per specifications?	Yes No
How many inline surge arresters installed?	

OUT DOOR UNIT (ODU)	
Type of ODU (SP/HP/ Apex):	
Are all four latches properly closed?	Yes No
Is the Waveguide transition properly oriented to the ODU waveguide opening (SP and Apex)	Yes No
Does the polarization match on both ends?	Yes No
What is the polarization?	H V
Is the ODU LED ON (SP/Apex only)?	Yes No
Is the LED functioning properly?	Yes No
Does the ODU look damaged?	Yes No
Is the Gore pressure vent cap damaged?	Yes No

Other Notes:

Link validation perform by:	
Name:	Date:
Title:	Contact Number:
Company:	Signature:

Link approved by:	
Name:	Date:
Title:	Contact Number:
Company:	Signature:

Link Commisioning

Step 1: Collect Product Setup Information for each link:

NOTES:

A. Link is broken down into side A and side B, the geographical endpoints of the link..
B. For TrangoLINK GigaPro™ Dual Modem, ODU A1 and A2 are attached to IDU "A" on Side "A" of the link and ODU B1 and ODU B2 are attached to IDU "B" on side "B" of the link. Use a second sheet for 4+0 configurations.
C. For GigaPro single modem, Giga or GigaPlus models, do not populate ODU A2 and B2 information fields.
D. For Apex only use ODU A1 and ODU A2 and do not populate IDU and IF cable information fields.

1) Equipment:
   - Site A Name_____
   - IDU "A" Model _____ SN_____ Firmware _____
     - ODU A1 Model _____ SN_____ Firmware_____
     - ODU A2 Model _____ SN_____ Firmware_____
     - ODU Combiner Model_____ SN_____
   - Site B Name_____
   - IDU"B" Model _____ SN_____ Firmware _____
     - ODU B1 Model _____ SN_____ Firmware_____
     - ODU B2 Model _____ SN_____ Firmware_____
     - ODU Combiner Model_____ SN_____
   - Power supplies model IDU "A"_____ IDU "B"_____
   - IF Cable Type IDU A to ODUA 1 _____ IF Cable length _____ ft
     - Cable Loss(dB): 140 MHz____ 350 MHz_____ 915 MHz_____
   - IF Cable Type IDU A to ODUA2 _____ IF Cable length _____ ft
     - Cable Loss(dB): 140 MHz____ 350 MHz_____ 915 MHz_____
   - IF Cable Type IDU B to ODU B1 _____ IF Cable length _____ ft
     - Cable Loss(dB): 140 MHz____ 350 MHz_____ 915 MHz_____
   - IF Cable Type IDU B to ODUB2 _____ IF Cable length _____ ft
     - Cable Loss(dB): 140 MHz____ 350 MHz_____ 915 MHz_____

2) Record System Configuration

Sysconfig: 1+0____1+1 HSB___ 1+1 SD____ 1+1 FD___ 2+0____ 2+2 _____ 4+0 _____

	IDU"A"	**IDU"B"**
Link Distance:	_____miles	
TX:		
ODU 1 TX Freq	_____ GHz	_____ GHz
ODU1 TX Power	_____ dBm	_____ dBm
ODU1 Speed/Mod	_____	_____
ODU1 ACM ON?	_____	_____
ODU1 ATPC ON?	_____	_____
RX:		
ODU 1 Expected RSSI :	_____ dBm	_____ dBm
ODU 1 Current RSSI:	_____ dBm	_____ dBm
ODU1 Current MSE:	_____	_____
ODU1 Lock Status:	_____	_____

	IDU"A"	**IDU"B"**
TX		
ODU2 TX Freq	_____ GHz	_____ GHz
ODU2 TX Power	_____ dBm	_____ dBm
ODU1 Speed/Mod	_____	_____
ODU1 ACM ON?	_____	_____
ODU1 ATPC ON?	_____	_____
RX		
ODU 1 Expected RSSI :	_____ dBm	_____ dBm
ODU 1 Current RSSI:	_____ dBm	_____ dBm
ODU1 Current MSE:	_____	_____
ODU1 Lock Status:	_____	_____

EMC

Grounding Every 75 ft on IF cables?

_____ _____

Ferrites on -48 VDC input to IDUs?

_____ _____

Step 2: Record Link Test Results (10 cycles):

Lock:_____
RSSI_____
MSE: _____
BER: _____

Notes:

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Link commisioning performed by:	
Name:	Date:
Title:	Contact Number:
Company:	Signature: