GPS Power Control Re-radiating Worksheet Antenna A1		
	L1 (1575.42 MHz)	
Site Information		
Antenna ID	A1	
Location Description	South Position, King Air Production Line	
Coordinates, NAD 83, ddd-mm-ss.s	37-41-16.1 N; 97-12-37.1 W	
Antenna - Receiving (RX)		
Make and Model	GPS Source L1A Active Antenna	
Gain (dBi) @ L1 (LNA included)	36	
Coax		
Type or Description	C-240	
Antenna - Re-radiating (TX)		
Make and Model	GPS Source L1P Passive Antenna	
Antenna Height AGL (ft)	25	
Gain (dBi) @ L1	3.0	Used in calculations below
Distance to nearest outer wall (meters)	24.4	Used in calculations below
Free Space Loss @ L1	71.10	=20*LOG10(1575.42)+20*(LOG10((B17+30)/1000))+32.44
Amplifier - Gain Control		
Make and Model	GPS Source Metro-M-P110/6.8-NF (L1, Oscillation Detect, Antenna Alarm Monitor)	
Max Permissible EIRP Level P_{Tmax} (dBm)	-68.89	=-140+20*LOG10(1575.42)+20*LOG10(30+B17)-27.55
Max Permissible ERP Level P_{Tmax} (with antenna gain) (dBm)	-71.04	=B21-2.15
Controller Programmed ERP Setting (includes antenna gain) (dBm) Must be less than Max Permissible ERP Level	-72	Value is programmed into the controller and is the ERP level radiated from the antenna connected to the amplifier
Controller Programmed ERP Setting (includes antenna gain) converted to pW	18.00	=10*(B23/10+9)
Controller Programmed Setting (includes antenna gain) converted to EIRP dBm	-69.85	=B23+2.15
Transmitter Power at Controller Terminals (dBm) ahead of antenna	-72.85	=B25-B16
Transmit Power at Controller Terminals (pW)	17.15	=10*(B26/10+9)
Calculated Signal Strength 30 meters Outside Building (dBm EIRP)	**-140.96**	=B25-20*LOG10(1575.42)-20*LOG10(30+B17)+27.55

GPS Power Control Re-radiating Worksheet Antenna A2		
	L1 (1575.42 MHz)	
Site Information		
Antenna ID	A2	
Location Description	South Position, Piston Production Line	
Coordinates, NAD 83, ddd-mm-ss.s	37-41-16.1 N; 97-12-36.3 W	
Antenna - Receiving (RX)		
Make and Model	GPS Source L1A Active Antenna	
Gain (dBi) @ L1 (LNA included)	36	
Coax		
Type or Description	C-240	
Antenna - Re-radiating (TX)		
Make and Model	GPS Source L1P Passive Antenna	
Antenna Height AGL (ft)	25	
Gain (dBi) @ L1	3.0	Used in calculations below
Distance to nearest outer wall (meters)	44.2	Used in calculations below
Free Space Loss @ L1	73.80	=20*LOG10(1575.42)+20*(LOG10((B17+30)/1000))+32.44
Amplifier - Gain Control		
Make and Model	GPS Source Metro-M-P110/6.8-NF (L1, Oscillation Detect, Antenna Alarm Monitor)	
Max Permissible EIRP Level P_{Tmax} (dBm)	-66.19	=-140+20*LOG10(1575.42)+20*LOG10(30+B17)-27.55
Max Permissible ERP Level P_{Tmax} (with antenna gain) (dBm)	-68.34	=B21-2.15
Controller Programmed ERP Setting (includes antenna gain) (dBm) Must be less than Max Permissible ERP Level	-69	Value is programmed into the controller and is the ERP level radiated from the antenna connected to the amplifier
Controller Programmed ERP Setting (includes antenna gain) converted to pW	21.00	=10*(B23/10+9)
Controller Programmed Setting (includes antenna gain) converted to EIRP dBm	-66.85	=B23+2.15
Transmitter Power at Controller Terminals (dBm) ahead of antenna	-69.85	=B25-B16
Transmit Power at Controller Terminals (pW)	20.15	=10*(B26/10+9)
Calculated Signal Strength 30 meters Outside Building (dBm EIRP)	**-140.66**	=B25-20*LOG10(1575.42)-20*LOG10(30+B17)+27.55

GPS Power Control Re-radiating Worksheet Antenna A3		
	L1 (1575.42 MHz)	
Site Information		
Antenna ID	A3	
Location Description	North Position, King Air Production Line	
Coordinates, NAD 83, ddd-mm-ss.s	37-41-17.0 N; 97-12-37.1 W	
Antenna - Receiving (RX)		
Make and Model	GPS Source L1A Active Antenna	
Gain (dBi) @ L1 (LNA included)	36	
Coax		
Type or Description	C-240	
Antenna - Re-radiating (TX)		
Make and Model	GPS Source L1P Passive Antenna	
Antenna Height AGL (ft)	25	
Gain (dBi) @ L1	3.0	Used in calculations below
Distance to nearest outer wall (meters)	22.9	Used in calculations below
Free Space Loss @ L1	70.86	=20*LOG10(1575.42)+20*(LOG10((B17+30)/1000))+32.44
Amplifier - Gain Control		
Make and Model	GPS Source Metro-M-P110/6.8-NF (L1, Oscillation Detect, Antenna Alarm Monitor)	
Max Permissible EIRP Level P_{Tmax} (dBm)	-69.13	=-140+20*LOG10(1575.42)+20*LOG10(30+B17)-27.55
Max Permissible ERP Level P_{Tmax} (with antenna gain) (dBm)	-71.28	=B21-2.15
Controller Programmed ERP Setting (includes antenna gain) (dBm) Must be less than Max Permissible ERP Level	-72	Value is programmed into the controller and is the ERP level radiated from the antenna connected to the amplifier
Controller Programmed ERP Setting (includes antenna gain) converted to pW	18.00	=10*(B23/10+9)
Controller Programmed Setting (includes antenna gain) converted to EIRP dBm	-69.85	=B23+2.15
Transmitter Power at Controller Terminals (dBm) ahead of antenna	-72.85	=B25-B16
Transmit Power at Controller Terminals (pW)	17.15	=10*(B26/10+9)
Calculated Signal Strength 30 meters Outside Building (dBm EIRP)	**-140.72**	=B25-20*LOG10(1575.42)-20*LOG10(30+B17)+27.55

GPS Power Control Re-radiating Worksheet Antenna A4		
	L1 (1575.42 MHz)	
Site Information		
Antenna ID	A4	
Location Description	North Position, Piston Production Line	
Coordinates, NAD 83, ddd-mm-ss.s	37-41-17.0 N; 97-12-36.3 W	
Antenna - Receiving (RX)		
Make and Model	GPS Source L1A Active Antenna	
Gain (dBi) @ L1 (LNA included)	36	
Coax		
Type or Description	C-240	
Antenna - Re-radiating (TX)		
Make and Model	GPS Source L1P Passive Antenna	
Antenna Height AGL (ft)	25	
Gain (dBi) @ L1	3.0	Used in calculations below
Distance to nearest outer wall (meters)	22.9	Used in calculations below
Free Space Loss @ L1	70.86	=20*LOG10(1575.42)+20*(LOG10((B17+30)/1000))+32.44
Amplifier - Gain Control		
Make and Model	GPS Source Metro-M-P110/6.8-NF (L1, Oscillation Detect, Antenna Alarm Monitor)	
Max Permissible EIRP Level P_{Tmax} (dBm)	-69.13	=-140+20*LOG10(1575.42)+20*LOG10(30+B17)-27.55
Max Permissible ERP Level P_{Tmax} (with antenna gain) (dBm)	-71.28	=B21-2.15
Controller Programmed ERP Setting (includes antenna gain) (dBm) Must be less than Max Permissible ERP Level	-72	Value is programmed into the controller and is the ERP level radiated from the antenna connected to the amplifier
Controller Programmed ERP Setting (includes antenna gain) converted to pW	18.00	=10*(B23/10+9)
Controller Programmed Setting (includes antenna gain) converted to EIRP dBm	-69.85	=B23+2.15
Transmitter Power at Controller Terminals (dBm) ahead of antenna	-72.85	=B25-B16
Transmit Power at Controller Terminals (pW)	17.15	=10*(B26/10+9)
Calculated Signal Strength 30 meters Outside Building (dBm EIRP)	**-140.72**	=B25-20*LOG10(1575.42)-20*LOG10(30+B17)+27.55