

The antenna kitting options for model F20G-5S-LCD signal booster were done for 31 Outdoor Antenna kit options and 19 Indoor Antenna kit options. The order of the attached calculations is as follows:

Outdoor Antenna Kit Options	
1	Kit 11-100400
2	Kit 11-7550
3	Kit 11-10050
4	Kit10-3050
5	Kit10-50400
6	Kit10-5050
7	Kit10-75400
8	Kit10-100400
9	Kit10-7550
10	Kit10-10050
11	Kit 9-50400
12	Kit 9-5050
13	Kit 9-75400
14	Kit 9-100400
15	Kit 9-7550
16	Kit 9-10050
17	Kit7-3050
18	Kit7-50400
19	Kit7-5050
20	Kit7-75400
21	Kit7-100400
22	Kit7-7550
23	Kit7-10050
24	Kit5-30400
25	Kit5-3050
26	Kit5-50400
27	Kit5-5050
28	Kit5-75400
29	Kit5-10400
30	Kit5-7550
31	Kit5-10050

Indoor Antenna Kit Options	
1	Kit 52-5050-50
2	Kit 102-5050-50
3	Kit 103-7550-50
4	Kit 104-7550-50
5	Kit 72-5050-50
6	Kit 73-7550-50
7	Kit 74-7550-50
8	Kit 3-1550
9	Kit 3-30400
10	Kit 3-5050
11	Kit 3-7550
12	Kit 3-10050
13	Kit 3-30400
14	Kit 3-50400
15	Kit 3-75400
16	Kit 3-100400
17	Kit 32-50400-50
18	Kit 33-50400-50
19	Kit 34-50400-50

Outdoor Antenna kit Options

Final Output Power Limited to 30 dBm EIRP in all Frequency Bands

Uplink Frequency(MHz)	698-716	776-787	824-849	1710-1755	1850-1915
Uplink Output Power(dBm)	22.2	21.6	20.5	21	21.5

1. Yagi 11dbi Antenna with 100' 400 N male Kit numbers: 11-100400

Antenna Gain (dBi)	10	10	10	11	11
Coax Cable Loss (dB)	4.8	4.8	4.8	7	7
Final Gain Less Loss (dB)	5.2	5.2	5.2	4	4
Final Output Power (dBm EIRP)	27.4	26.8	25.7	25	25.5

2. Yagi 11dbi Antenna with 75' 5D N male Kit numbers: 11-7550

Antenna Gain (dBi)	10	10	10	11	11
Coax Cable Loss (dB)	4.6	4.6	4.6	6	6
Final Gain Less Loss (dB)	5.4	5.4	5.4	5	5
Final Output Power (dBm EIRP)	27.6	27	25.9	26	26.5

3. Yagi 11dbi Antenna with 100' 5D N male Kit numbers: 11-10050

Antenna Gain (dBi)	10	10	10	11	11
Coax Cable Loss (dB)	5	5	5	8	8
Final Gain Less Loss (dB)	5	5	5	3	3
Final Output Power (dBm EIRP)	27.2	26.6	25.5	24	24.5

4. Panel 10dbi Antenna with 30' 5D N male Kit numbers:11-3050

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	1.8	1.8	1.8	3.2	3.2
Final Gain Less Loss (dB)	4.7	4.7	4.7	6.2	6.2
Final Output Power (dBm EIRP)	26.9	26.3	25.2	27.2	27.7

5. Panel 10dbi Antenna with 50' 400 N male Kit numbers:11-50400

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	2.8	2.8	2.8	3.5	3.5
Final Gain Less Loss (dB)	3.7	3.7	3.7	5.9	5.9
Final Output Power (dBm EIRP)	25.9	25.3	24.2	26.9	27.4

6. Panel 10dbi Antenna with 50' 5D N male Kit numbers:11-5050

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	3.5	3.5	3.5	4.4	4.4
Final Output Power (dBm EIRP)	25.7	25.1	24	25.4	25.9

7. Panel 10dbi Antenna with 75' 400 N male Kit numbers:11-75400

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	3.5	3.5	3.5	4.4	4.4
Final Output Power (dBm EIRP)	25.7	25.1	24	25.4	25.9

8. Panel 10dbi Antenna with 100' 400 N male Kit numbers:11-100400

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	4.8	4.8	4.8	7	7
Final Gain Less Loss (dB)	1.7	1.7	1.7	2.4	2.4
Final Output Power (dBm EIRP)	23.9	23.3	22.2	23.4	23.9

9. Panel 10dbi Antenna with 75' 5D N male Kit numbers:11-7550

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	4.6	4.6	4.6	6	6
Final Gain Less Loss (dB)	1.9	1.9	1.9	3.4	3.4
Final Output Power (dBm EIRP)	24.1	23.5	22.4	24.4	24.9

10. Panel 10dbi Antenna with 100' 5D N male Kit numbers:11-10050

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Coax Cable Loss (dB)	5	5	5	8	8
Final Gain Less Loss (dB)	1.5	1.5	1.5	1.4	1.4
Final Output Power (dBm EIRP)	23.7	23.1	22	22.4	22.9

11. Yagi 9dbi Antenna with 50' 400 N male Kit numbers:9-50400

Antenna Gain (dBi)	8	8	8	9.5	9.5
Coax Cable Loss (dB)	2.8	2.8	2.8	3.5	3.5
Final Gain Less Loss (dB)	5.2	5.2	5.2	6	6
Final Output Power (dBm EIRP)	27.4	26.8	25.7	27	27.5

12. Yagi 9dbi Antenna with 50' 5D N male Kit numbers:9-5050

Antenna Gain (dBi)	8	8	8	9.5	9.5
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	5	5	5	4.5	4.5
Final Output Power (dBm EIRP)	27.2	26.6	25.5	25.5	26

13. Yagi 9dbi Antenna with 75' 400 N male Kit numbers:9-75400

Antenna Gain (dBi)	8	8	8	9.5	9.5
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	5	5	5	4.5	4.5
Final Output Power (dBm EIRP)	27.2	26.6	25.5	25.5	26

14. Yagi 9dbi Antenna with 100' 400 N male Kit numbers:9-100400

Antenna Gain (dBi)	8	8	8	9.5	9.5
Coax Cable Loss (dB)	4.8	4.8	4.8	7	7
Final Gain Less Loss (dB)	3.2	3.2	3.2	2.5	2.5
Final Output Power (dBm EIRP)	25.4	24.8	23.7	23.5	24

15. Yagi 9dbi Antenna with 75' 5D N male Kit numbers:9-7550

Antenna Gain (dBi)	8	8	8	9.5	9.5
Coax Cable Loss (dB)	4.6	4.6	4.6	6	6
Final Gain Less Loss (dB)	3.4	3.4	3.4	3.5	3.5
Final Output Power (dBm EIRP)	25.6	25	23.9	24.5	25

16. Yagi 9dbi Antenna with 100' 5D N male Kit numbers:9-10050

Antenna Gain (dBi)	8	8	8	9.5	9.5
Coax Cable Loss (dB)	5	5	5	8	8
Final Gain Less Loss (dB)	3	3	3	1.5	1.5
Final Output Power (dBm EIRP)	25.2	24.6	23.5	22.5	23

17. Panel 7dbi Antenna with 30' 5D N male Kit numbers:7-3050

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	1.8	1.8	1.8	3.2	3.2
Final Gain Less Loss (dB)	5.2	5.2	5.2	3.8	3.8
Final Output Power (dBm EIRP)	27.4	26.8	25.7	24.8	25.3

18. Panel 7dbi Antenna with 50' 400 N male Kit numbers:7-50400

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	2.8	2.8	2.8	3.5	3.5
Final Gain Less Loss (dB)	4.2	4.2	4.2	3.5	3.5
Final Output Power (dBm EIRP)	26.4	25.8	24.7	24.5	25

19. Panel 7dbi Antenna with 50' 5D N male Kit numbers:7-5050

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	4	4	4	2	2
Final Output Power (dBm EIRP)	26.2	25.6	24.5	23	23.5

20. Panel 7dbi Antenna with 75' 400 N male Kit numbers:7-75400

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	4	4	4	2	2
Final Output Power (dBm EIRP)	26.2	25.6	24.5	23	23.5

21. Panel 7dbi Antenna with 100' 400 N male Kit numbers:7-100400

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	4.8	4.8	4.8	7	7
Final Gain Less Loss (dB)	2.2	2.2	2.2	0	0
Final Output Power (dBm EIRP)	24.4	23.8	22.7	21	21.5

22. Panel 7dbi Antenna with 75' 5D N male Kit numbers:7-7550

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	4.6	4.6	4.6	6	6
Final Gain Less Loss (dB)	2.4	2.4	2.4	1	1
Final Output Power (dBm EIRP)	24.6	24	22.9	22	22.5

23. Panel 7dbi Antenna with 100' 5D N male Kit numbers:7-10050

Antenna Gain (dBi)	7	7	7	7	7
Coax Cable Loss (dB)	5	5	5	8	8
Final Gain Less Loss (dB)	2	2	2	-1	-1
Final Output Power (dBm EIRP)	24.2	23.6	22.5	20	20.5

24. Omni 5dbi Antenna with 30' 400 N male Kit numbers:5-30400

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	1.1	1.1	1.1	1.8	1.8
Final Gain Less Loss (dB)	3.9	3.9	3.9	3.2	3.2
Final Output Power (dBm EIRP)	26.1	25.5	24.4	24.2	24.7

25. Omni 5dbi Antenna with 30' 5D N male Kit numbers:5-3050

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	1.8	1.8	1.8	3.2	3.2
Final Gain Less Loss (dB)	3.2	3.2	3.2	1.8	1.8
Final Output Power (dBm EIRP)	25.4	24.8	23.7	22.8	23.3

26. Omni 5dbi Antenna with 50' 400 N male Kit numbers:5-50400

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	2.8	2.8	2.8	3.5	3.5
Final Gain Less Loss (dB)	2.2	2.2	2.2	1.5	1.5
Final Output Power (dBm EIRP)	24.4	23.8	22.7	22.5	23

27. Omni 5dbi Antenna with 50' 5D N male Kit numbers:5-5050

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	2	2	2	0	0
Final Output Power (dBm EIRP)	24.2	23.6	22.5	21	21.5

28. Omni 5dbi Antenna with 75' 400 N male

Kit numbers:5-75400

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	2	2	2	0	0
Final Output Power (dBm EIRP)	24.2	23.6	22.5	21	21.5

29. Omni 5dbi Antenna with 100' 400 N male

Kit numbers:5-10400

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	4.8	4.8	4.8	7	7
Final Gain Less Loss (dB)	0.2	0.2	0.2	-2	-2
Final Output Power (dBm EIRP)	22.4	21.8	20.7	19	19.5

30. Omni 5dbi Antenna with 75' 5D N male

Kit numbers:5-7550

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	4.6	4.6	4.6	6	6
Final Gain Less Loss (dB)	0.4	0.4	0.4	-1	-1
Final Output Power (dBm EIRP)	22.6	22	20.9	20	20.5

31. Omni 5dbi Antenna with 100' 5D N male

Kit numbers:5-10050

Antenna Gain (dBi)	5	5	5	5	5
Coax Cable Loss (dB)	5	5	5	8	8
Final Gain Less Loss (dB)	0	0	0	-3	-3
Final Output Power (dBm EIRP)	22.2	21.6	20.5	18	18.5

Indoor Antenna kit Options

Uplink Frequency(MHz)	698-716	776-787	824-849	1710-1755	1850-1915
Measured Uplink Gain(dB)	57.80	59.70	60.80	64.60	64.50
MSCL Minimum (dB)	36.2	37.1	37.7	43.0	43.7
6' Separation Distance Path Loss (dB)	34.7	35.6	36.2	42.5	43.2
Polarity Loss (dB)	3.0	3.0	3.0	3.0	3.0
Max Antenna Gain with Coax Loss (dB)	1.5	1.5	1.5	2.5	2.5

1. 2 Whip 5dbi Antenna with 50' 5D N male & a 50 Ohm 2-Way Splitter Kit numbers: 52-5050-50

Antenna Gain (dBi)	5.0	5.0	5.0	5.0	5.0
Splitter/Coax Loss (dB)	6.5	6.5	4.2	8	8
Final Gain Less Splitter/Coax Loss (dB)	-1.5	-1.5	0.8	-3.0	-3.0
Margin (dB)	-3.0	-3.0	-0.7	-5.5	-5.5

2. 2 Panel 10dbi Antenna with 50' 5D N male & a 50 Ohm 2-Way Splitter Kit numbers:102-5050-50

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Splitter/Coax Loss (dB)	6.5	6.5	6.5	8.5	8.5
Final Gain Less Splitter/Coax Loss (dB)	0	0	0	0.9	0.9
Margin (dB)	-1.50	-1.47	-1.46	-1.58	-1.59

3. 3 Panel 10dbi Antenna with 75' 5D N male & a 50Ohm 3-Way Splitter Kit numbers:103-7550-50

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Splitter/Coax Loss (dB)	9.6	9.6	9.6	11	11
Final Gain Less Splitter/Coax Loss (dB)	-3.1	-3.1	-3.1	-1.6	-1.6
Margin (dB)	-4.60	-4.57	-4.56	-4.08	-4.09

4. 4 Panel 10dbi Antenna with 75' 5D N male & three 50 Ohm 2-Way Splitter k it numbers:104-7550-50

Antenna Gain (dBi)	6.5	6.5	6.5	9.4	9.4
Splitter/Coax Loss (dB)	10.6	10.6	10.6	12	12
Final Gain Less Splitter/Coax Loss (dB)	-4.1	-4.1	-4.1	-2.6	-2.6
Margin (dB)	-5.60	-5.57	-5.56	-5.08	-5.09

5. 2 Panel 7dbi Antenna with 50' 5D N male & a 50 Ohm 2-Way Splitter Kit numbers:72-5050-50

Antenna Gain (dBi)	7	7	7	7	7
Splitter/Coax Loss (dB)	6.5	6.5	6.5	8.5	8.5
Final Gain Less Splitter/Coax Loss (dB)	0.5	0.5	0.5	-1.5	-1.5
Margin (dB)	-0.20	-0.67	-0.96	-3.98	-3.99

6. 3 Panel 7dbi Antenna with 75' 5D N male & a 50Ohm 3-Way Splitter Kit numbers:73-7550-50

Antenna Gain (dBi)	7	7	7	7	7
Splitter/Coax Loss (dB)	9.6	9.6	9.6	11	11
Final Gain Less Splitter/Coax Loss (dB)	-2.6	-2.6	-2.6	-4	-4
Margin (dB)	-3.30	-3.77	-4.06	-6.48	-6.49

7. 4 Panel 7dbi Antenna with 75' 5D N male & three 50 Ohm 2-Way Splitter k it numbers:74-7550-50

Antenna Gain (dBi)	7	7	7	7	7
Splitter/Coax Loss (dB)	10.6	10.6	10.6	12	12
Final Gain Less Splitter/Coax Loss (dB)	-3.6	-3.6	-3.6	-5	-5
Margin (dB)	-4.30	-4.77	-5.06	-7.48	-7.49

8. Omni 3dBi Antenna with 15' 5D N Male Kit numbers:3-1550

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	1.6	1.6	1.6	2	2
Final Gain Less Loss (dB)	1.4	1.4	1.4	1	1
Margin (dB)	-0.10	-0.07	-0.06	-1.48	-1.49

9. Omni 3dBi Antenna with 30' 400 N Male Kit numbers:3-30400

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	1.8	1.8	1.8	2.5	2.5
Final Gain Less Loss (dB)	1.2	1.2	1.2	0.5	0.5
Margin (dB)	-0.30	-0.27	-0.26	-1.98	-1.99

10. Omni 3dBi Antenna with 50' 5D N Male Kit numbers:3-5050

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	0	0	0	-2	-2
Margin (dB)	-1.50	-1.47	-1.46	-4.48	-4.49

11. Omni 3dBi Antenna with 75' 5D N Male Kit numbers:3-7550

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	4.6	4.6	4.6	6	6
Final Gain Less Loss (dB)	-1.6	-1.6	-1.6	-3	-3
Margin (dB)	-3.10	-3.07	-3.06	-5.48	-5.49

12. Omni 3dBi Antenna with 100' 5D N Male Kit numbers:3-10050

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	5	5	5	8	8
Final Gain Less Loss (dB)	-2	-2	-2	-5	-5
Margin (dB)	-3.50	-3.47	-3.46	-7.48	-7.49

13. Omni 3dBi Antenna with 30' 400 N Male

Kit numbers:3-30400

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	1.8	1.8	1.8	2.5	2.5
Final Gain Less Loss (dB)	1.2	1.2	1.2	0.5	0.5
Margin (dB)	-0.30	-0.27	-0.26	-1.98	-1.99

14. Omni 3dBi Antenna with 50' 400 N Male

Kit numbers:3-50400

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	2.8	2.8	2.8	3.5	3.5
Final Gain Less Loss (dB)	0.2	0.2	0.2	-0.5	-0.5
Margin (dB)	-1.30	-1.27	-1.26	-2.98	-2.99

15. Omni 3dBi Antenna with 75' 400 N Male

Kit numbers:3-75400

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	3	3	3	5	5
Final Gain Less Loss (dB)	0	0	0	-2	-2
Margin (dB)	-1.50	-1.47	-1.46	-4.48	-4.49

16. Omni 3dBi Antenna with 100' 400 N Male

Kit numbers:3-100400

Antenna Gain (dBi)	3	3	3	3	3
Coax Cable Loss (dB)	4.8	4.8	4.8	7	7
Final Gain Less Coax /Splitter Loss(dB)	-1.8	-1.8	-1.8	-4	-4
Margin (dB)	-3.30	-3.27	-3.26	-6.48	-6.49

17. 2 Omni 3dBi Antenna with 50' 400 N male & a 50 Ohm 2-Way Splitter

Kit numbers:32-50400-50

Antenna Gain (dBi)	3	3	3	3	3
Splitter/Coax Loss (dB)	5.8	5.8	5.8	6.5	6.5
Final Gain Less Splitter/Coax Loss (dB)	-2.8	-2.8	-2.8	-3.5	-3.5
Margin (dB)	-4.30	-4.27	-4.26	-5.98	-5.99

18. 3 Omni 3dBi Antenna with 50' 400 N male & a 50 Ohm 3-Way Splitter

Kit numbers:33-50400-50

Antenna Gain (dBi)	3	3	3	3	3
Splitter/Coax Loss (dB)	7.8	7.8	7.8	8.5	8.5
Final Gain Less Splitter/Coax Loss (dB)	-4.8	-4.8	-4.8	-5.5	-5.5
Margin (dB)	-6.30	-6.27	-6.26	-7.98	-7.99

19. 4 Omni 3dBi Antenna with 50' 400 N male & three 50 Ohm 2-Way Splitter

Kit numbers:34-50400-50

Antenna Gain (dBi)	3	3	3	3	3
Splitter/Coax Loss (dB)	8.8	8.8	8.8	9.5	9.5
Final Gain Less Splitter/Coax Loss (dB)	-5.8	-5.8	-5.8	-6.5	-6.5
Margin (dB)	-7.30	-7.27	-7.26	-8.98	-8.99