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December 29, 2016

Subject: Antenna Kitting

Re: FCC ID: PWO460019

To Whom It May Concern:

The antenna kitting options for model 460019 signal booster were done for 52 Outside Antenna kit options. The order of the attached calculations is as follows:

Outside Antenna Kit Options:

Fixed

1. Kit 314411-40075
2. Kit 314411-5825
3. Kit 314475-0630
4. Kit 301111-0675
5. Kit 301111-5850
6. Kit 311203-40020
7. Kit 314453-5825
8. Kit 311203-5820
9. Kit 311201-0620
10. Kit 301126
11. Kit 301111-11140
12. Kit 311201-1120
13. Kit 314453-40075
14. Kit 314473-0640
15. Kit 311141-0620

16. Kit 311124-1180
17. Kit 311141-1120
18. Kit 314473-1175
19. Kit 314475-1175
20. Kit 301111-400170
21. Kit 304421-1120
22. Kit 304421-17410
23. Kit 304421-0610
24. Kit 304421-5810
25. Kit 304422-40020
26. Kit 304422-5810
27. Kit 304422-1120

Mobile

1. Kit 311703
2. Kits 311103, 311125,  
311128, 314202
3. Kit 311130-5810

4. Kit 311114
5. Kit 311102
6. Kit 311104-5810
7. Kit 311701
8. Kit 311119
9. Kit 311133
10. Kit 311104-17410
11. Kit 301113
12. Kit 311112-5810
13. Kit 314203-5810
14. Kit 311112-17410
15. Kit 314203-17410
16. Kit 311101
17. Kit 304414, 304415
18. Kit 304416
19. Kit 304420

All equivalent or lesser antennas and cables are suitable for use with 460019 signal booster.

Sincerely,

Patrick L. Cook  
Chief Technology Officer



## Fixed Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 1 Wide Band Directional Antenna With 75' LMR 400 314411-40075

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 7.3  | 7.2  | 7.8  | 7.9  | 9.1  |
| Coax Loss (dB)                          | 2.8  | 3.0  | 3.6  | 4.4  | 5.4  |
| Final Gain less Loss (dB)               | 4.5  | 4.2  | 4.2  | 3.5  | 3.7  |
| Output Power plus Final Gain (dBm EIRP) | 29.1 | 29.3 | 28.1 | 27.4 | 27.2 |

### 2 Wide Band Directional Antenna With 25' RG-58 314411-5825

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 7.3  | 7.2  | 7.8  | 7.9  | 9.1  |
| Coax Loss (dB)                          | 2.9  | 3.1  | 3.2  | 5.1  | 5.4  |
| Final Gain less Loss (dB)               | 4.4  | 4.1  | 4.6  | 2.8  | 3.7  |
| Output Power plus Final Gain (dBm EIRP) | 29.0 | 29.2 | 28.5 | 26.7 | 27.2 |

### 3 Wide Band Directional Antenna With 30' RG-6 314475-0630

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 7.3  | 7.2  | 7.8  | 7.9  | 9.1  |
| Coax Loss (dB)                          | 3.0  | 3.2  | 3.4  | 5.1  | 5.3  |
| Final Gain less Loss (dB)               | 4.3  | 4    | 4.4  | 2.8  | 3.8  |
| Output Power plus Final Gain (dBm EIRP) | 28.9 | 29.1 | 28.3 | 26.7 | 27.3 |

### 4 Yagi Antenna 301111 With 75' RG-6 301111-0675

|                                         |      |       |      |         |         |
|-----------------------------------------|------|-------|------|---------|---------|
| Antenna Gains (dBi)                     | 10.0 | 10.0  | 10.8 | -6.8    | -13.8   |
| Coax Loss (dB)                          | 5.7  | 6.075 | 6.3  | 9.525   | 9.975   |
| Final Gain less Loss (dB)               | 4.3  | 3.925 | 4.5  | -16.325 | -23.775 |
| Output Power plus Final Gain (dBm EIRP) | 28.9 | 29.0  | 28.4 | 7.6     | -0.3    |

### 5 Yagi Antenna 301111 With 50' RG-58 301111-5850

|                                         |      |      |      |       |       |
|-----------------------------------------|------|------|------|-------|-------|
| Antenna Gains (dBi)                     | 10.0 | 10.0 | 10.8 | -6.8  | -13.8 |
| Coax Loss (dB)                          | 5.8  | 6.2  | 6.5  | 10.3  | 10.7  |
| Final Gain less Loss (dB)               | 4.2  | 3.8  | 4.3  | -17.1 | -24.5 |
| Output Power plus Final Gain (dBm EIRP) | 28.8 | 28.9 | 28.2 | 6.8   | -1.0  |

### 6 Omni Directional Antenna (311203) With 20' LMR 400 311203-40020

|                                         |      |       |       |       |      |
|-----------------------------------------|------|-------|-------|-------|------|
| Antenna Gains (dBi)                     | -1.5 | -0.24 | 0.57  | -2.51 | 5.09 |
| Coax Loss (dB)                          | 0.7  | 0.7   | 0.7   | 1.1   | 1.1  |
| Final Gain less Loss (dB)               | -2.2 | -0.94 | -0.13 | -3.61 | 4.0  |
| Output Power plus Final Gain (dBm EIRP) | 22.4 | 24.2  | 23.8  | 20.3  | 27.5 |



## Fixed Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 7 Panel Antenna With 25' RG-58 314453-5825

|                                         |      |      |      |      |       |
|-----------------------------------------|------|------|------|------|-------|
| Antenna Gains (dBi)                     | 3.84 | 3.63 | 4.4  | 8.21 | 10.04 |
| Coax Loss (dB)                          | 2.9  | 3.1  | 3.2  | 5.1  | 5.4   |
| Final Gain less Loss (dB)               | 0.9  | 0.5  | 1.2  | 3.1  | 4.6   |
| Output Power plus Final Gain (dBm EIRP) | 25.5 | 25.6 | 25.1 | 27.0 | 28.1  |

### 8 Omni Directional Antenna (311203) With 20' RG-58 311203-5820

|                                         |      |       |       |       |      |
|-----------------------------------------|------|-------|-------|-------|------|
| Antenna Gains (dBi)                     | -1.5 | -0.24 | 0.57  | -2.51 | 5.09 |
| Coax Loss (dB)                          | 2.3  | 2.5   | 2.6   | 4.1   | 4.3  |
| Final Gain less Loss (dB)               | -3.8 | -2.74 | -2.03 | -6.61 | 0.79 |
| Output Power plus Final Gain (dBm EIRP) | 20.8 | 22.4  | 21.9  | 17.3  | 24.3 |

### 9 Omni Directional Antenna (311201) With 20' RG-6 311201-0620

|                                         |      |       |       |       |      |
|-----------------------------------------|------|-------|-------|-------|------|
| Antenna Gains (dBi)                     | -1.5 | -0.24 | 0.57  | -2.51 | 5.09 |
| Coax Loss (dB)                          | 1.5  | 1.6   | 1.7   | 2.5   | 2.7  |
| Final Gain less Loss (dB)               | -3   | -1.84 | -1.13 | -5.01 | 2.39 |
| Output Power plus Final Gain (dBm EIRP) | 21.6 | 23.3  | 22.8  | 18.9  | 25.9 |

### 10 Mini-Mag Antenna With 12.5' RG-174 301126

|                                         |       |       |      |       |       |
|-----------------------------------------|-------|-------|------|-------|-------|
| Antenna Gains (dBi)                     | -1.42 | -1.69 | -1.4 | -0.59 | 0.42  |
| Coax Loss (dB)                          | 2.8   | 3.0   | 3.7  | 4.5   | 4.7   |
| Final Gain less Loss (dB)               | -4.22 | -4.69 | -5.1 | -5.09 | -4.28 |
| Output Power plus Final Gain (dBm EIRP) | 20.4  | 20.4  | 18.8 | 18.8  | 19.2  |

### 11 Yagi 301111 With 140' RG-11 301111-11140

|                                         |      |      |      |        |        |
|-----------------------------------------|------|------|------|--------|--------|
| Antenna Gains (dBi)                     | 10   | 10   | 10.8 | -6.8   | -14.9  |
| Coax Loss (dB)                          | 5.76 | 6.17 | 6.43 | 10.36  | 10.94  |
| Final Gain less Loss (dB)               | 4.24 | 3.83 | 4.37 | -17.16 | -25.84 |
| Output Power plus Final Gain (dBm EIRP) | 28.8 | 28.9 | 28.3 | 6.7    | -2.3   |

### 12 Omni Directional Antenna 311201 With 20' RG-11 311201-1120

|                                         |       |       |       |       |      |
|-----------------------------------------|-------|-------|-------|-------|------|
| Antenna Gains (dBi)                     | -1.5  | -0.2  | 0.6   | -2.5  | 5.1  |
| Coax Loss (dB)                          | 0.8   | 0.9   | 0.9   | 1.5   | 1.6  |
| Final Gain less Loss (dB)               | -2.32 | -1.12 | -0.34 | -3.99 | 3.53 |
| Output Power plus Final Gain (dBm EIRP) | 22.3  | 24.0  | 23.6  | 19.9  | 27.0 |



## Fixed Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 13 Panel Antenna With 75' LMR 400

314453-40075

| Antenna Gains (dBi)                     | 3.84 | 3.63 | 4.4  | 8.21 | 10.04 |
|-----------------------------------------|------|------|------|------|-------|
| Coax Loss (dB)                          | 2.8  | 3.0  | 3.6  | 4.4  | 5.4   |
| Final Gain less Loss (dB)               | 1.04 | 0.63 | 0.8  | 3.81 | 4.64  |
| Output Power plus Final Gain (dBm EIRP) | 25.6 | 25.7 | 24.7 | 27.7 | 28.1  |

### 14 Panel Antenna With 40' RG-6

314473-0640

| Antenna Gains (dBi)                     | 3.84 | 3.63 | 4.4  | 8.21 | 10.04 |
|-----------------------------------------|------|------|------|------|-------|
| Coax Loss (dB)                          | 3.0  | 3.2  | 3.4  | 5.1  | 5.3   |
| Final Gain less Loss (dB)               | 0.84 | 0.43 | 1.0  | 3.11 | 4.74  |
| Output Power plus Final Gain (dBm EIRP) | 25.4 | 25.5 | 24.9 | 27.0 | 28.2  |

### 15 Grey Brick w/20' RG-6

311141-0620

| Antenna Gains (dBi)                     | -2.9 | -0.6 | 1.2  | -0.4 | 5.5  |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 1.5  | 1.6  | 1.7  | 2.5  | 2.7  |
| Final Gain less Loss (dB)               | -4.4 | -2.2 | -0.5 | -2.9 | 2.8  |
| Output Power plus Final Gain (dBm EIRP) | 20.2 | 22.9 | 23.4 | 21   | 26.3 |

### 16 Grey Panel With 20' RG-11

311141-1120

| Antenna Gains (dBi)                     | -2.9  | -0.6  | 1.2  | -0.4  | 5.5  |
|-----------------------------------------|-------|-------|------|-------|------|
| Coax Loss (dB)                          | 0.9   | 0.9   | 1.0  | 1.5   | 1.6  |
| Final Gain less Loss (dB)               | -3.75 | -1.48 | 0.25 | -1.88 | 3.94 |
| Output Power plus Final Gain (dBm EIRP) | 20.9  | 23.6  | 24.2 | 22.0  | 27.4 |

### 17 Panel Antenna With 75' RG-11

314473-1175

| Antenna Gains (dBi)                     | 3.8  | 3.6  | 4.4  | 8.2  | 10   |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 3.0  | 3.3  | 3.4  | 5.5  | 5.8  |
| Final Gain less Loss (dB)               | 0.77 | 0.34 | 0.98 | 2.66 | 4.18 |
| Output Power plus Final Gain (dBm EIRP) | 25.4 | 25.4 | 24.9 | 26.6 | 27.7 |

### 18 Wide Band Directional Antenna With 75' RG-11

314475-1175

| Antenna Gains (dBi)                     | 7.3  | 7.2  | 7.8  | 7.9  | 9.1  |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 3.07 | 3.3  | 3.42 | 5.55 | 5.9  |
| Final Gain less Loss (dB)               | 4.23 | 3.91 | 4.38 | 2.35 | 3.24 |
| Output Power plus Final Gain (dBm EIRP) | 28.8 | 29.0 | 28.3 | 26.3 | 26.7 |



## Fixed Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 19 Yagi Antenna 301111 With 170' LMR 400

301111-400170

| Antenna Gains (dBi)                     | 10.0 | 10.0 | 10.8 | -6.8  | -13.8 |
|-----------------------------------------|------|------|------|-------|-------|
| Coax Loss (dB)                          | 5.8  | 6.1  | 6.3  | 9.4   | 9.8   |
| Final Gain less Loss (dB)               | 4.2  | 3.9  | 4.5  | -16.2 | -23.6 |
| Output Power plus Final Gain (dBm EIRP) | 28.8 | 29.0 | 28.4 | 7.7   | -0.1  |

### 20 Yagi Antenna 311124 With 30' RG-58

311124-5830

| Antenna Gains (dBi)                     | -18.7 | -18.7 | -23.4 | 9.1 | 10.9 |
|-----------------------------------------|-------|-------|-------|-----|------|
| Coax Loss (dB)                          | 3.5   | 3.7   | 3.9   | 6.2 | 6.4  |
| Final Gain less Loss (dB)               | -22.2 | -22.4 | -27.3 | 2.9 | 4.5  |
| Output Power plus Final Gain (dBm EIRP) | -22.2 | -22.4 | -27.3 | 2.9 | 4.5  |

### 21 Omni Consumer 304421 With 20' RG-11

304421-1120

| Antenna Gains (dBi)                     | 1.9  | 0.0  | 1.16 | 5.11 | 3.81 |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 0    | 0    | 0.0  | 1.3  | 0    |
| Final Gain less Loss (dB)               | 1.9  | 0.02 | 1.16 | 3.81 | 3.81 |
| Output Power plus Final Gain (dBm EIRP) | 26.5 | 25.1 | 25.1 | 27.7 | 27.3 |

### 22 Omni Consumer 304421 With 10' RG-174

304421-17410

| Antenna Gains (dBi)                     | 1.9  | 0.0  | 1.16 | 5.11 | 3.81 |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 0    | 0    | 0.0  | 1.3  | 0    |
| Final Gain less Loss (dB)               | 1.9  | 0.02 | 1.16 | 3.81 | 3.81 |
| Output Power plus Final Gain (dBm EIRP) | 26.5 | 25.1 | 25.1 | 27.7 | 27.3 |

### 23 Omni Consumer 304421 With 10' RG-6

304421-0610

| Antenna Gains (dBi)                     | 1.9  | 0.0  | 1.16 | 5.11 | 3.81 |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 0    | 0    | 0.0  | 1.3  | 0    |
| Final Gain less Loss (dB)               | 1.9  | 0.02 | 1.16 | 3.81 | 3.81 |
| Output Power plus Final Gain (dBm EIRP) | 26.5 | 25.1 | 25.1 | 27.7 | 27.3 |

### 24 Omni Consumer 304421 With 10' RG-58

304421-5810

| Antenna Gains (dBi)                     | 1.9  | 0.0  | 1.16 | 5.11 | 3.81 |
|-----------------------------------------|------|------|------|------|------|
| Coax Loss (dB)                          | 0    | 0    | 0.0  | 1.3  | 0    |
| Final Gain less Loss (dB)               | 1.9  | 0.02 | 1.16 | 3.81 | 3.81 |
| Output Power plus Final Gain (dBm EIRP) | 26.5 | 25.1 | 25.1 | 27.7 | 27.3 |



## Fixed Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 25 Omni Enterprise 304422 With 20' LMR 400

304422-40020

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 1.33 | 1.02 | 1.34 | 4.76 | 4.65 |
| Coax Loss (dB)                          | 0.0  | 0.0  | 0.0  | 1.0  | 0.0  |
| Final Gain less Loss (dB)               | 1.3  | 1.0  | 1.3  | 3.81 | 4.7  |
| Output Power plus Final Gain (dBm EIRP) | 25.9 | 26.1 | 25.2 | 27.7 | 28.2 |

### Omni Enterprise 304422 With 10' RG-58

304422-5810

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| 26 Antenna Gains (dBi)                  | 1.33 | 1.02 | 1.34 | 4.76 | 4.65 |
| Coax Loss (dB)                          | 0.0  | 0.0  | 0.0  | 1.0  | 0.0  |
| Final Gain less Loss (dB)               | 1.3  | 1.0  | 1.3  | 3.81 | 4.7  |
| Output Power plus Final Gain (dBm EIRP) | 25.9 | 26.1 | 25.2 | 27.7 | 28.2 |

### 27 Omni Enterprise 304422 With 20' RG-11

304422-1120

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 1.33 | 1.02 | 1.34 | 4.76 | 4.65 |
| Coax Loss (dB)                          | 0.0  | 0.0  | 0.0  | 1.0  | 0.0  |
| Final Gain less Loss (dB)               | 1.3  | 1.0  | 1.3  | 3.81 | 4.7  |
| Output Power plus Final Gain (dBm EIRP) | 25.9 | 26.1 | 25.2 | 27.7 | 28.2 |



## Mobile Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 1 Magnet Mount w/12.5' RG-174

311703

|                                         |        |       |      |       |      |
|-----------------------------------------|--------|-------|------|-------|------|
| Antenna Gains (dBi)                     | -15.07 | -4.23 | 0.69 | -1.99 | 1.13 |
| Coax Loss (dB)                          | 2.8    | 3.0   | 3.7  | 4.5   | 4.7  |
| Final Gain less Loss (dB)               | -17.9  | -7.2  | -3.0 | -6.5  | -3.6 |
| Output Power plus Final Gain (dBm EIRP) | 6.7    | 17.9  | 20.9 | 17.4  | 19.9 |

### 2 Magnet Mount w/12.5' RG-174

314202 311125 311128

|                                         |       |      |      |       |      |
|-----------------------------------------|-------|------|------|-------|------|
| Antenna Gains (dBi)                     | -4.88 | 0.09 | 1.97 | -6.99 | 2.51 |
| Coax Loss (dB)                          | 2.8   | 3.0  | 3.7  | 4.5   | 4.7  |
| Final Gain less Loss (dB)               | -7.7  | -2.9 | -1.7 | -11.5 | -2.2 |
| Output Power plus Final Gain (dBm EIRP) | 16.9  | 22.2 | 22.2 | 12.41 | 21.3 |

### 3 Marine Antenna w/10' RG-58

311130-5810

|                                         |      |      |      |       |      |
|-----------------------------------------|------|------|------|-------|------|
| Antenna Gains (dBi)                     | -1.0 | -1.6 | 0.65 | -1.68 | 3.57 |
| Coax Loss (dB)                          | 1.2  | 1.2  | 1.3  | 2.1   | 2.1  |
| Final Gain less Loss (dB)               | -2.2 | -2.9 | -0.6 | -3.7  | 1.4  |
| Output Power plus Final Gain (dBm EIRP) | 22.5 | 22.2 | 23.3 | 20.2  | 24.9 |

### 4 Glass Mount w/14' RG-58

311102

|                                         |       |       |       |      |      |
|-----------------------------------------|-------|-------|-------|------|------|
| Antenna Gains (dBi)                     | -3.68 | -2.54 | -0.86 | 2.19 | 3.39 |
| Coax Loss (dB)                          | 1.6   | 1.7   | 1.8   | 2.9  | 3.0  |
| Final Gain less Loss (dB)               | -5.3  | -4.2  | -2.7  | -0.7 | 0.4  |
| Output Power plus Final Gain (dBm EIRP) | 19.3  | 20.9  | 21.2  | 23.2 | 23.9 |

### 5 NMO Antenna w/10' RG-58

311104-5810

|                                         |      |      |      |       |      |
|-----------------------------------------|------|------|------|-------|------|
| Antenna Gains (dBi)                     | -4.1 | -0.9 | 2.48 | -3.51 | 1.8  |
| Coax Loss (dB)                          | 1.2  | 1.2  | 1.3  | 2.1   | 2.1  |
| Final Gain less Loss (dB)               | -5.3 | -2.1 | 1.2  | -5.6  | -0.3 |
| Output Power plus Final Gain (dBm EIRP) | 19.3 | 23.0 | 25.1 | 18.3  | 23.2 |

### 6 Trucker Antenna w/10.5' RG-58

311701

|                                         |        |       |      |       |      |
|-----------------------------------------|--------|-------|------|-------|------|
| Antenna Gains (dBi)                     | -14.11 | -0.71 | 2.18 | -0.15 | 2.66 |
| Coax Loss (dB)                          | 1.2    | 1.3   | 1.4  | 2.2   | 2.3  |
| Final Gain less Loss (dB)               | -15.3  | -2.0  | 0.8  | -2.4  | 0.4  |
| Output Power plus Final Gain (dBm EIRP) | 9.3    | 23.1  | 24.7 | 21.6  | 23.9 |



## Mobile Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 7 Trucker Antenna w/13.5' RG-58

311119

|                                         |       |      |      |      |      |
|-----------------------------------------|-------|------|------|------|------|
| Antenna Gains (dBi)                     | -1.36 | 0.36 | 1.21 | -2.3 | 3.57 |
| Coax Loss (dB)                          | 1.6   | 1.7  | 1.7  | 2.8  | 2.9  |
| Final Gain less Loss (dB)               | -3.0  | -1.3 | -0.5 | -5.1 | 0.7  |
| Output Power plus Final Gain (dBm EIRP) | 21.6  | 23.8 | 23.4 | 18.8 | 24.2 |

### 8 Trucker Antenna w/13.5' RG-58

311133

|                                         |      |      |      |       |      |
|-----------------------------------------|------|------|------|-------|------|
| Antenna Gains (dBi)                     | -3.3 | 0.2  | 1.15 | -4.75 | 4.22 |
| Coax Loss (dB)                          | 1.6  | 1.7  | 1.7  | 2.8   | 2.9  |
| Final Gain less Loss (dB)               | -4.9 | -1.6 | -0.6 | -7.6  | 1.3  |
| Output Power plus Final Gain (dBm EIRP) | 19.8 | 23.6 | 23.4 | 16.4  | 24.8 |

### 9 NMO Antenna 10' RG-174

311104-17410

|                                         |      |      |      |       |      |
|-----------------------------------------|------|------|------|-------|------|
| Antenna Gains (dBi)                     | -4.1 | -0.9 | 2.48 | -3.51 | 1.8  |
| Coax Loss (dB)                          | 2.3  | 2.4  | 3.0  | 3.6   | 3.8  |
| Final Gain less Loss (dB)               | -6.4 | -3.3 | -0.5 | -7.1  | -2.0 |
| Output Power plus Final Gain (dBm EIRP) | 18.2 | 21.8 | 23.4 | 16.8  | 21.5 |

### 10 Mini-Mag Mount w/12.5' RG-174

301126 301113

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | -1.4 | -1.7 | -1.4 | -0.6 | 0.4  |
| Coax Loss (dB)                          | 2.8  | 3    | 3.7  | 4.5  | 4.7  |
| Final Gain less Loss (dB)               | -4.2 | -4.7 | -5.1 | -5.1 | -4.3 |
| Output Power plus Final Gain (dBm EIRP) | 20.4 | 20.4 | 18.8 | 18.8 | 19.2 |

### 11 Marine Antenna w/20' RG-58

304415 304420

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 2.86 | 1.2  | 1.69 | 2.78 | 5.01 |
| Coax Loss (dB)                          | 2.4  | 2.4  | 2.7  | 4.2  | 4.6  |
| Final Gain less Loss (dB)               | 0.5  | -1.2 | -1.0 | -1.4 | 0.4  |
| Output Power plus Final Gain (dBm EIRP) | 25.1 | 23.9 | 22.9 | 22.5 | 23.9 |

### 12 NMO Antenna w/10' RG-58

311112-5810

|                                         |       |       |      |      |       |
|-----------------------------------------|-------|-------|------|------|-------|
| Antenna Gains (dBi)                     | -3.16 | -0.45 | 2.47 | -2.6 | -0.65 |
| Coax Loss (dB)                          | 1.2   | 1.2   | 1.3  | 2.1  | 2.1   |
| Final Gain less Loss (dB)               | -4.4  | -1.7  | 1.2  | -4.7 | -2.8  |
| Output Power plus Final Gain (dBm EIRP) | 20.2  | 23.5  | 25.1 | 19.2 | 20.8  |



## Mobile Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 13 NMO Antenna w/10' RG-58

314203-5810

|                                         |       |      |      |       |      |
|-----------------------------------------|-------|------|------|-------|------|
| Antenna Gains (dBi)                     | -1.57 | 0.48 | 1.82 | -5.74 | 0.75 |
| Coax Loss (dB)                          | 1.2   | 1.2  | 1.3  | 2.1   | 2.1  |
| Final Gain less Loss (dB)               | -2.8  | -0.7 | 0.5  | -7.8  | -1.4 |
| Output Power plus Final Gain (dBm EIRP) | 21.8  | 24.4 | 24.4 | 16.1  | 22.2 |

### 14 NMO Antenna 10' RG-174

311112-17410

|                                         |       |       |      |      |       |
|-----------------------------------------|-------|-------|------|------|-------|
| Antenna Gains (dBi)                     | -3.16 | -0.45 | 2.47 | -2.6 | -0.65 |
| Coax Loss (dB)                          | 2.3   | 2.4   | 3.0  | 3.6  | 3.8   |
| Final Gain less Loss (dB)               | -5.5  | -2.9  | -0.5 | -6.2 | -4.5  |
| Output Power plus Final Gain (dBm EIRP) | 19.1  | 22.3  | 23.4 | 17.7 | 19.1  |

### 15 NMO Antenna 10' RG-174

314203-17410

|                                         |       |      |      |       |      |
|-----------------------------------------|-------|------|------|-------|------|
| Antenna Gains (dBi)                     | -1.57 | 0.48 | 1.82 | -5.74 | 0.75 |
| Coax Loss (dB)                          | 2.3   | 2.4  | 3.0  | 3.6   | 3.8  |
| Final Gain less Loss (dB)               | -3.9  | -1.9 | -1.2 | -9.3  | -3.1 |
| Output Power plus Final Gain (dBm EIRP) | 20.7  | 23.2 | 22.7 | 14.6  | 20.5 |

### 16 Trucker Antenna w/10.5' RG-58

311101

|                                         |       |      |      |       |      |
|-----------------------------------------|-------|------|------|-------|------|
| Antenna Gains (dBi)                     | -4.51 | 0.4  | 1.72 | -3.62 | 6.12 |
| Coax Loss (dB)                          | 1.2   | 1.3  | 1.4  | 2.2   | 2.3  |
| Final Gain less Loss (dB)               | -5.7  | -0.9 | 0.3  | -5.8  | 3.8  |
| Output Power plus Final Gain (dBm EIRP) | 18.9  | 24.2 | 24.2 | 18.1  | 27.3 |



## Mobile Outside Antenna Kit Options

FCC ID:

PWO460019

Final Output Power Limited to 30 dBm EIRP in all frequency bands

|                           |         |         |         |           |           |
|---------------------------|---------|---------|---------|-----------|-----------|
| Uplink Frequency (MHz)    | 698-716 | 777-787 | 824-849 | 1710-1755 | 1850-1915 |
| Uplink Output Power (dBm) | 24.6    | 25.1    | 23.9    | 23.9      | 23.5      |

### 17 Trucker Antenna w/15' RG-58

304414 304415

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 2.86 | 1.2  | 1.69 | 2.78 | 5.01 |
| Coax Loss (dB)                          | 1.8  | 1.8  | 2.0  | 3.2  | 3.5  |
| Final Gain less Loss (dB)               | 1.1  | -0.6 | -0.3 | -0.4 | 1.6  |
| Output Power plus Final Gain (dBm EIRP) | 25.7 | 24.5 | 23.6 | 23.5 | 25.1 |

### 18 Marine Antenna 304416 w/20' L-195

304416

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 2.9  | 1.2  | 1.7  | 2.8  | 5    |
| Coax Loss (dB)                          | 2.4  | 2.4  | 2.7  | 4.2  | 4.6  |
| Final Gain less Loss (dB)               | 0.5  | -1.2 | -1.0 | -1.4 | 0.4  |
| Output Power plus Final Gain (dBm EIRP) | 24.6 | 25.1 | 23.9 | 23.9 | 23.5 |

### 19 Marine Antenna 304420 w/20' L-195

304420

|                                         |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Antenna Gains (dBi)                     | 2.9  | 1.2  | 1.7  | 2.8  | 5    |
| Coax Loss (dB)                          | 2.4  | 2.4  | 2.7  | 4.2  | 4.6  |
| Final Gain less Loss (dB)               | 0.5  | -1.2 | -1.0 | -1.4 | 0.4  |
| Output Power plus Final Gain (dBm EIRP) | 25.7 | 24.5 | 23.6 | 23.5 | 25.1 |