



January 8, 2019

Subject: Antenna Kitting

Re: FCC ID: PWO460054

To Whom It May Concern:

The antenna kitting options for model 460054 signal booster were done for 19 Outside Antennas, and 1 Inside Antenna kit option:

Outside Antennas

1	Magnet Mount w/12.5' RG-174	311703
2	Magnet Mount w/12.5' RG-174	301103
3	Magnet Mount w/12.5' RG-174	311125
4	Magnet Mount w/12.5' RG-174	311128
5	Magnet Mount w/12.5' RG-174	314202
6	NMO Antenna w/10' RG-58	314203-5810
7	Marine Antenna w/10' RG-58	311130-5810
8	Glass Mount w/14' RG-58	311102
9	Trucker Antenna w/15' RG-58	304414
10	Trucker Antenna w/15' RG-58	304415
11	Mini-Mag Mount w/10' LMR-100	ANT000017
12	Trucker Antenna w/13.5' RG-58	311119
13	Trucker Antenna w/13.5' RG-58	311133
14	NMO Antenna 10' RG-174	314203-17410
15	NMO Antenna 10' RG-174	311104-17410
16	Mini-Mag Mount w/12.5' RG-174	301113
17	Mini-Mag Mount w/12.5' RG-174	301126
18	Marine Antenna w/20' RG-58	304420
19	NMO Antenna 10' RG-174	311112-17410

Inside Antenna

1	Low Profile Antenna w/10' LMR-100	ANT000006
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All equivalent or lesser antennas and cables are suitable for use with 460054 signal booster

Sincerely,

Erin Elder

IP & Regulatory Compliance Engineer



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Mobile Outside Antenna Kit Options

FCC ID: PWO460054

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)	28.3	29.1	29.5	28.5	28.3

Magnet Mount w/12.5' RG-174					311703
Antenna Gains (dBi)	-4.4	-3.7	0.8	-0.3	3.3
Coax Loss (dB)	3.4	3.5	3.8	6.2	6.9
Final Gain less Loss (dB)	-7.9	-7.2	-3.0	-6.5	-3.6
Output Power plus Final Gain (dBm EIRP)	20.4	21.9	26.5	22.0	24.7

Magnet Mount w/12.5' RG-174					301103	314202	311125	311128
Antenna Gains (dBi)	-4.2	0.6	2.1	-5.3	4.7			
Coax Loss (dB)	3.4	3.5	3.8	6.2	6.9			
Final Gain less Loss (dB)	-7.7	-2.9	-1.7	-11.5	-2.2			
Output Power plus Final Gain (dBm EIRP)	20.6	26.2	27.8	17.01	26.1			

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)	25.5	28.4	30.0	20.7	27.0

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)	26.2	26.2	28.9	24.8	29.7

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)	23.0	24.9	26.8	27.8	28.7

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)	29.4	28.5	29.2	28.1	29.9	

Mini-Mag Mount w/10' LMR-100					ANT000017
Antenna Gains (dBi)	-1.4	-1.7	-1.4	-0.6	0.4
Coax Loss (dB)	0.47	0.48	0.5	0.62	0.65
Final Gain less Loss (dB)	-1.9	-2.2	-1.9	-1.2	-0.3
Output Power plus Final Gain (dBm EIRP)	26.4	26.9	27.6	27.3	28.1



Mobile Outside Antenna Kit Options

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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)	28.3	29.1	29.5	28.5	28.3

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)	25.3	27.8	29.0	23.4	29.0

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)	23.5	27.6	29.0	21.0	29.6

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)	24.4	27.2	28.3	19.2	25.3

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)	21.9	25.8	29.0	21.4	26.3

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)	24.1	24.4	24.4	23.4	24.0	

Marine Antenna w/20' RG-58					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)	28.8	27.9	28.5	27.1	28.7

NMO Antenna 10' RG-174					311112-17410
Antenna Gains (dBi)	-3.2	-0.5	2.5	-2.6	-0.7
Coax Loss (dB)	2.8	2.8	3.1	5.0	5.5
Final Gain less Loss (dB)	-5.9	-3.2	-0.6	-7.56	-6.2
Output Power plus Final Gain (dBm EIRP)	22.4	25.9	28.9	20.9	22.1



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Inside Antenna Kit

Uplink Frequency Band (MHz)	698-716	777-787	824-849	1710-1755	1850-1915
Measured Uplink Gain (dB)	48.9	48.90	49.10	49.60	49.60
Measured RSSI Shutoff (dBm/MHz)	-56.8	-57.50	-58.00	-51.60	-51.40
MSCL Minimum (dB)	26.10	25.40	25.10	32.00	32.20
1.5' Separation Distance Path Loss (dB)	22.66	23.53	24.12	30.44	31.16
Polarity Loss (dB)	3.0	3.0	3.0	3.0	3.0
Max Antenna Gain Less Cable Loss (dB)	-0.44	1.13	2.02	1.44	1.96

Low Profile Antenna w/10' LMR-100	ANT000006				
Antenna Gain Less Cable Loss (dB)	-2.07	0.88	0.67	1.24	1.17
	okay	okay	okay	okay	okay
	-1.63	-0.25	-1.35	-0.20	-0.79