



**SHENZHEN HUAPTec CO., LTD**  
Add.:5th FL, E B10G, Sogood Science Park, Hangkong Road,  
Xixiang, Bao'an, Shenzhen, Guangdong, China 518102  
Tel: +86-0755-29921615 29921635 Fax: +86-755-29921165

8/3/2018

Subject: Antenna Kitting

The antenna kitting options for signal booster were done for 58 Outdoor Antenna kit options, 8 Outdoor Antenna kit options for Mobile Installation, 50 Outdoor Antenna kit options for Fixed Installation. Indoor Antenna is integrated into the signal booster. The order of the attached calculations is as follows:

| Outdoor Antenna Kit Options for Mobile Installations |                        |                        |
|------------------------------------------------------|------------------------|------------------------|
| 1. Kit numbers:5-10400                               | 4. Kit numbers:5-30400 | 7. Kit numbers:5-30200 |
| 2. Kit numbers:5-75400                               | 5. Kit numbers:5-50300 | 8. Kit numbers:5-01174 |
| 3. Kit numbers:5-50400                               | 6. Kit numbers:5-30300 |                        |

| Outdoor Antenna Kit Options for Fixed Installations |                           |                          |
|-----------------------------------------------------|---------------------------|--------------------------|
| 1. Kit numbers: 11-100400                           | 18. Kit numbers:10-50300  | 35. Kit numbers:9-30400  |
| 2. Kit numbers: 11-75400                            | 19. Kit numbers:10-30300  | 36. Kit numbers:9-100300 |
| 3. Kit numbers: 11-50400                            | 20. Kit numbers:10-50200  | 37. Kit numbers:9-75300  |
| 4. Kit numbers: 11-30400                            | 21. Kit numbers:10-30200  | 38. Kit numbers:9-50300  |
| 5. Kit numbers: 11-100300                           | 22. Kit numbers:10-100400 | 39. Kit numbers:9-30300  |
| 6. Kit numbers: 11-75300                            | 23. Kit numbers:10-75400  | 40. Kit numbers:9-50200  |
| 7. Kit numbers: 11-50300                            | 24. Kit numbers:10-50400  | 41. Kit numbers:9-30200  |
| 8. Kit numbers: 11-30300                            | 25. Kit numbers:10-30400  | 42. Kit numbers:7-100400 |
| 9. Kit numbers: 11-75200                            | 26. Kit numbers:10-100300 | 43. Kit numbers:7-75400  |
| 10. Kit numbers: 11-50200                           | 27. Kit numbers:10-75300  | 44. Kit numbers:7-50400  |
| 11. Kit numbers: 11-30200                           | 28. Kit numbers:10-50300  | 45. Kit numbers:7-30400  |
| 12. Kit numbers:10-100400                           | 29. Kit numbers:10-30300  | 46. Kit numbers:7-75300  |
| 13. Kit numbers:10-75400                            | 30. Kit numbers:10-50200  | 47. Kit numbers:7-50300  |
| 14. Kit numbers:10-50400                            | 31. Kit numbers:10-30200  | 48. Kit numbers:7-30300  |
| 15. Kit numbers:10-30400                            | 32. Kit numbers:9-100400  | 49. Kit numbers:7-50200  |
| 16. Kit numbers:10-100300                           | 33. Kit numbers:9-75400   | 50. Kit numbers:7-30200  |
| 17. Kit numbers:10-75300                            | 34. Kit numbers:9-50400   |                          |



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## Outdoor Antenna kit Options for Mobile Installations

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) | 19.3    | 17.5    | 19.1    | 17.9      | 18.9      |

### 1. Omni Directional Antenna with 100' 400 Kit numbers:5-10400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5    | 5    | 5    | 5    | 5    |
| Coax Cable Loss (dB)          | 4    | 4    | 4    | 6    | 6    |
| Final Gain Less Loss (dB)     | 1    | 1    | 1    | -1   | -1   |
| Final Output Power (dBm EIRP) | 20.3 | 18.5 | 20.1 | 16.9 | 17.9 |

### 2. Omni Directional Antenna with 75' 400 Kit numbers:5-75400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5    | 5    | 5    | 5    | 5    |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 2    | 2    | 2    | 0.5  | 0.5  |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 21.1 | 18.4 | 19.4 |

### 3. Omni Directional Antenna with 50' 400 Kit numbers:5-50400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5    | 5    | 5    | 5    | 5    |
| Coax Cable Loss (dB)          | 2    | 2    | 2    | 3    | 3    |
| Final Gain Less Loss (dB)     | 3    | 3    | 3    | 2    | 2    |
| Final Output Power (dBm EIRP) | 22.3 | 20.5 | 22.1 | 19.9 | 20.9 |

### 4. Omni Directional Antenna with 30' 400 Kit numbers:5-30400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5    | 5    | 5    | 5    | 5    |
| Coax Cable Loss (dB)          | 1.2  | 1.2  | 1.2  | 1.8  | 1.8  |
| Final Gain Less Loss (dB)     | 3.8  | 3.8  | 3.8  | 3.2  | 3.2  |
| Final Output Power (dBm EIRP) | 23.1 | 21.3 | 22.9 | 21.1 | 22.1 |

### 5. Omni Directional Antenna with 50' 300 Kit numbers:5-50300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5    | 5    | 5    | 5    | 5    |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.6  | 4.6  |
| Final Gain Less Loss (dB)     | 2    | 2    | 2    | 0.4  | 0.4  |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 21.1 | 18.3 | 19.3 |

### 6. Omni Directional Antenna with 30' 300 Kit numbers:5-30300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5    | 5    | 5    | 5    | 5    |
| Coax Cable Loss (dB)          | 1.8  | 1.8  | 1.8  | 2.8  | 2.8  |
| Final Gain Less Loss (dB)     | 3.2  | 3.2  | 3.2  | 2.2  | 2.2  |
| Final Output Power (dBm EIRP) | 22.5 | 20.7 | 22.3 | 20.1 | 21.1 |



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7. Omni Directional Antenna with 30' 200

Kit numbers:5-30200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 5.0  | 5.0  | 5.0  | 5.0  | 5.0  |
| Coax Cable Loss (dB)          | 3.0  | 3.0  | 4.3  | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 2.0  | 2.0  | 0.7  | 0.5  | 0.5  |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 19.8 | 18.4 | 19.4 |

8. Magnet Antenna with 10' RG174 SMB female

Kit numbers:5-01174

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 3    | 3    | 3    | 5    | 5    |
| Coax Cable Loss (dB)          | 2.4  | 2.4  | 3    | 3.6  | 3.8  |
| Final Gain Less Loss (dB)     | 0.6  | 0.6  | 0    | 1.4  | 1.2  |
| Final Output Power (dBm EIRP) | 19.9 | 18.1 | 19.1 | 19.3 | 20.1 |

## Outdoor Antenna kit Options for Fixed Installations

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) | 19.3    | 17.5    | 19.1    | 17.9      | 18.9      |

1. Wide Band Directional Antenna 11dbi Antenna with 100' 400

Kit numbers: 11-100400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 4    | 4    | 4    | 6    | 6    |
| Final Gain Less Loss (dB)     | 6    | 6    | 6    | 5    | 5    |
| Final Output Power (dBm EIRP) | 25.3 | 23.5 | 25.1 | 22.9 | 23.9 |

2. Wide Band Directional Antenna 11dbi Antenna with 75' 400

Kit numbers: 11-75400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 7    | 7    | 7    | 6.5  | 6.5  |
| Final Output Power (dBm EIRP) | 26.3 | 24.5 | 26.1 | 24.4 | 25.4 |

3. Wide Band Directional Antenna 11dbi Antenna with 50' 400

Kit numbers: 11-50400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 2    | 2    | 2    | 3    | 3    |
| Final Gain Less Loss (dB)     | 8    | 8    | 8    | 8    | 8    |
| Final Output Power (dBm EIRP) | 27.3 | 25.5 | 27.1 | 25.9 | 26.9 |



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4. Wide Band Directional Antenna 11dbi Antenna with 30' 400 Kit numbers: 11-30400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 1.2  | 1.2  | 1.2  | 1.8  | 1.8  |
| Final Gain Less Loss (dB)     | 8.8  | 8.8  | 8.8  | 9.2  | 9.2  |
| Final Output Power (dBm EIRP) | 28.1 | 26.3 | 27.9 | 27.1 | 28.1 |

5. Wide Band Directional Antenna 11dbi Antenna with 100' 300 Kit numbers: 11-100300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 6    | 6    | 6    | 9.2  | 9.2  |
| Final Gain Less Loss (dB)     | 4    | 4    | 4    | 1.8  | 1.8  |
| Final Output Power (dBm EIRP) | 23.3 | 21.5 | 23.1 | 19.7 | 20.7 |

6. Wide Band Directional Antenna 11dbi Antenna with 75' 300 Kit numbers: 11-75300

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 10   | 10  | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 4.5  | 4.5 | 4.5  | 7    | 7    |
| Final Gain Less Loss (dB)     | 5.5  | 5.5 | 5.5  | 4    | 4    |
| Final Output Power (dBm EIRP) | 24.8 | 23  | 24.6 | 21.9 | 22.9 |

7. Wide Band Directional Antenna 11dbi Antenna with 50' 300 Kit numbers: 11-50300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.6  | 4.6  |
| Final Gain Less Loss (dB)     | 7    | 7    | 7    | 6.4  | 6.4  |
| Final Output Power (dBm EIRP) | 26.3 | 24.5 | 26.1 | 24.3 | 25.3 |

8. Wide Band Directional Antenna 11dbi Antenna with 30' 300 Kit numbers: 11-30300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 1.8  | 1.8  | 1.8  | 2.8  | 2.8  |
| Final Gain Less Loss (dB)     | 8.2  | 8.2  | 8.2  | 8.2  | 8.2  |
| Final Output Power (dBm EIRP) | 27.5 | 25.7 | 27.3 | 26.1 | 27.1 |

9. Wide Band Directional Antenna 11dbi Antenna with 75' 200 Kit numbers: 11-75200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 7.5  | 7.5  | 10.7 | 11.3 | 11.3 |
| Final Gain Less Loss (dB)     | 2.5  | 2.5  | -0.7 | -0.3 | -0.3 |
| Final Output Power (dBm EIRP) | 21.8 | 20.0 | 18.4 | 17.6 | 18.6 |

10. Wide Band Directional Antenna 11dbi Antenna with 50' 200 Kit numbers: 11-50200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 5.0  | 5.0  | 7.1  | 7.5  | 7.5  |
| Final Gain Less Loss (dB)     | 5.0  | 5.0  | 2.9  | 3.5  | 3.5  |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 22.0 | 21.4 | 22.4 |



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11. Wide Band Directional Antenna 11dbi Antenna with 30' 200 Kit numbers: 11-30200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 10   | 10   | 10   | 11   | 11   |
| Coax Cable Loss (dB)          | 3.0  | 3.0  | 4.3  | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 7.0  | 7.0  | 5.7  | 6.5  | 6.5  |
| Final Output Power (dBm EIRP) | 26.3 | 24.5 | 24.8 | 24.4 | 25.4 |

12. Panel Antenna with 100' 400 Kit numbers:10-100400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 4    | 4    | 4    | 6    | 6    |
| Final Gain Less Loss (dB)     | 4    | 4    | 4    | 4    | 4    |
| Final Output Power (dBm EIRP) | 23.3 | 21.5 | 23.1 | 21.9 | 22.9 |

13. Panel Antenna with 75' 400 Kit numbers:10-75400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 5    | 5    | 5    | 5.5  | 5.5  |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 24.1 | 23.4 | 24.4 |

14. Panel Antenna with 50' 400 Kit numbers:10-50400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 2    | 2    | 2    | 3    | 3    |
| Final Gain Less Loss (dB)     | 6    | 6    | 6    | 7    | 7    |
| Final Output Power (dBm EIRP) | 25.3 | 23.5 | 25.1 | 24.9 | 25.9 |

15. Panel 10dbi Antenna with 30' 400 Kit numbers:10-30400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 1.2  | 1.2  | 1.2  | 1.8  | 1.8  |
| Final Gain Less Loss (dB)     | 6.8  | 6.8  | 6.8  | 8.2  | 8.2  |
| Final Output Power (dBm EIRP) | 26.1 | 24.3 | 25.9 | 26.1 | 27.1 |

16. Panel Antenna with 100' 300 Kit numbers:10-100300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 6    | 6    | 6    | 9.2  | 9.2  |
| Final Gain Less Loss (dB)     | 2    | 2    | 2    | 0.8  | 0.8  |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 21.1 | 18.7 | 19.7 |

17. Panel Antenna with 75' 300 Kit numbers:10-75300

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 8    | 8   | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 4.5  | 4.5 | 4.5  | 7    | 7    |
| Final Gain Less Loss (dB)     | 3.5  | 3.5 | 3.5  | 3    | 3    |
| Final Output Power (dBm EIRP) | 22.8 | 21  | 22.6 | 20.9 | 21.9 |



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18. Panel Antenna with 50' 300

Kit numbers:10-50300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.6  | 4.6  |
| Final Gain Less Loss (dB)     | 5    | 5    | 5    | 5.4  | 5.4  |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 24.1 | 23.3 | 24.3 |

19. Panel Antenna with 30' 300

Kit numbers:10-30300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 1.8  | 1.8  | 1.8  | 2.8  | 2.8  |
| Final Gain Less Loss (dB)     | 6.2  | 6.2  | 6.2  | 7.2  | 7.2  |
| Final Output Power (dBm EIRP) | 25.5 | 23.7 | 25.3 | 25.1 | 26.1 |

20. Panel Antenna with 50' 200

Kit numbers:10-50200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 5.0  | 5.0  | 7.1  | 7.5  | 7.5  |
| Final Gain Less Loss (dB)     | 3.0  | 3.0  | 0.9  | 2.5  | 2.5  |
| Final Output Power (dBm EIRP) | 22.3 | 20.5 | 20.0 | 20.4 | 21.4 |

21. Panel Antenna with 30' 200

Kit numbers:10-30200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 10   | 10   |
| Coax Cable Loss (dB)          | 3.0  | 3.0  | 4.3  | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 5.0  | 5.0  | 3.7  | 5.5  | 5.5  |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 22.8 | 23.4 | 24.4 |

22. Panel Antenna with 100' 400

Kit numbers:10-100400

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5 | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 4    | 4   | 4    | 6    | 6    |
| Final Gain Less Loss (dB)     | 2.5  | 2.5 | 2.5  | 3.4  | 3.4  |
| Final Output Power (dBm EIRP) | 21.8 | 20  | 21.6 | 21.3 | 22.3 |

23. Panel Antenna with 75' 400

Kit numbers:10-75400

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5 | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 3    | 3   | 3    | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 3.5  | 3.5 | 3.5  | 4.9  | 4.9  |
| Final Output Power (dBm EIRP) | 22.8 | 21  | 22.6 | 22.8 | 23.8 |

24. Panel Antenna with 50' 400

Kit numbers:10-50400

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5 | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 2    | 2   | 2    | 3    | 3    |
| Final Gain Less Loss (dB)     | 4.5  | 4.5 | 4.5  | 6.4  | 6.4  |
| Final Output Power (dBm EIRP) | 23.8 | 22  | 23.6 | 24.3 | 25.3 |



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25. Panel 10dbi Antenna with 30' 400      Kit numbers:10-30400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5  | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 1.2  | 1.2  | 1.2  | 1.8  | 1.8  |
| Final Gain Less Loss (dB)     | 5.3  | 5.3  | 5.3  | 7.6  | 7.6  |
| Final Output Power (dBm EIRP) | 24.6 | 22.8 | 24.4 | 25.5 | 26.5 |

26. Panel Antenna with 100' 300      Kit numbers:10-100300

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5 | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 6    | 6   | 6    | 9.2  | 9.2  |
| Final Gain Less Loss (dB)     | 0.5  | 0.5 | 0.5  | 0.2  | 0.2  |
| Final Output Power (dBm EIRP) | 19.8 | 18  | 19.6 | 18.1 | 19.1 |

27. Panel Antenna with 75' 300      Kit numbers:10-75300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5  | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 4.5  | 4.5  | 4.5  | 7    | 7    |
| Final Gain Less Loss (dB)     | 2    | 2    | 2    | 2.4  | 2.4  |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 21.1 | 20.3 | 21.3 |

28. Panel Antenna with 50' 300      Kit numbers:10-50300

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5 | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 3    | 3   | 3    | 4.6  | 4.6  |
| Final Gain Less Loss (dB)     | 3.5  | 3.5 | 3.5  | 4.8  | 4.8  |
| Final Output Power (dBm EIRP) | 22.8 | 21  | 22.6 | 22.7 | 23.7 |

29. Panel Antenna with 30' 300      Kit numbers:10-30300

|                               |     |      |      |      |      |
|-------------------------------|-----|------|------|------|------|
| Antenna Gain (dBi)            | 6.5 | 6.5  | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 1.8 | 1.8  | 1.8  | 2.8  | 2.8  |
| Final Gain Less Loss (dB)     | 4.7 | 4.7  | 4.7  | 6.6  | 6.6  |
| Final Output Power (dBm EIRP) | 24  | 22.2 | 23.8 | 24.5 | 25.5 |

30. Panel Antenna with 50' 200      Kit numbers:10-50200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5  | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 5.0  | 5.0  | 7.1  | 7.5  | 7.5  |
| Final Gain Less Loss (dB)     | 1.5  | 1.5  | -0.6 | 1.9  | 1.9  |
| Final Output Power (dBm EIRP) | 20.8 | 19.0 | 18.5 | 19.8 | 20.8 |

31. Panel Antenna with 30' 200      Kit numbers:10-30200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 6.5  | 6.5  | 6.5  | 9.4  | 9.4  |
| Coax Cable Loss (dB)          | 3.0  | 3.0  | 4.3  | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 3.5  | 3.5  | 2.2  | 4.9  | 4.9  |
| Final Output Power (dBm EIRP) | 22.8 | 21.0 | 21.3 | 22.8 | 23.8 |



**SHENZHEN HUAAPTEC CO., LTD**  
 Add.:5th FL, E BIOG, Sogood Science Park, Hangkong Road,  
 Xixiang, Bao'an, Shenzhen, Guangdong, China 518102  
 Tel: +86-0755-29921615      29921635 Fax: +86-755-29921165

32. Wide Band Directional Antenna with 100' 400 Kit numbers:9-100400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 4    | 4    | 4    | 6    | 6    |
| Final Gain Less Loss (dB)     | 4    | 4    | 4    | 3.5  | 3.5  |
| Final Output Power (dBm EIRP) | 23.3 | 21.5 | 23.1 | 21.4 | 22.4 |

33. Wide Band Directional Antenna with 75' 400 Kit numbers:9-75400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 5    | 5    | 5    | 5    | 5    |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 24.1 | 22.9 | 23.9 |

34. Wide Band Directional Antenna with 50' 400 Kit numbers:9-50400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 2    | 2    | 2    | 3    | 3    |
| Final Gain Less Loss (dB)     | 6    | 6    | 6    | 6.5  | 6.5  |
| Final Output Power (dBm EIRP) | 25.3 | 23.5 | 25.1 | 24.4 | 25.4 |

35. Wide Band Directional Antenna with 30' 400 Kit numbers:9-30400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 1.2  | 1.2  | 1.2  | 1.8  | 1.8  |
| Final Gain Less Loss (dB)     | 6.8  | 6.8  | 6.8  | 7.7  | 7.7  |
| Final Output Power (dBm EIRP) | 26.1 | 24.3 | 25.9 | 25.6 | 26.6 |

36. Wide Band Directional Antenna with 100' 300 Kit numbers:9-100300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 6    | 6    | 6    | 9.2  | 9.2  |
| Final Gain Less Loss (dB)     | 2    | 2    | 2    | 0.3  | 0.3  |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 21.1 | 18.2 | 19.2 |

37. Wide Band Directional Antenna with 75' 300 Kit numbers:9-75300

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 8    | 8   | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 4.5  | 4.5 | 4.5  | 7    | 7    |
| Final Gain Less Loss (dB)     | 3.5  | 3.5 | 3.5  | 2.5  | 2.5  |
| Final Output Power (dBm EIRP) | 22.8 | 21  | 22.6 | 20.4 | 21.4 |

38. Wide Band Directional Antenna with 50' 300 Kit numbers:9-50300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.6  | 4.6  |
| Final Gain Less Loss (dB)     | 5    | 5    | 5    | 4.9  | 4.9  |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 24.1 | 22.8 | 23.8 |



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 Add.: 5th FL, E BIOG, Sogood Science Park, Hangkong Road,  
 Xixiang, Bao'an, Shenzhen, Guangdong, China 518102  
 Tel: +86-0755-29921615      29921635 Fax: +86-755-29921165

39. Wide Band Directional Antenna with 30' 300      Kit numbers: 9-30300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8    | 8    | 8    | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 1.8  | 1.8  | 1.8  | 2.8  | 2.8  |
| Final Gain Less Loss (dB)     | 6.2  | 6.2  | 6.2  | 6.7  | 6.7  |
| Final Output Power (dBm EIRP) | 25.5 | 23.7 | 25.3 | 24.6 | 25.6 |

40. Wide Band Directional Antenna with 50' 200      Kit numbers: 9-50200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8.0  | 8.0  | 8.0  | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 5.0  | 5.0  | 7.1  | 7.5  | 7.5  |
| Final Gain Less Loss (dB)     | 3.0  | 3.0  | 0.9  | 2.0  | 2.0  |
| Final Output Power (dBm EIRP) | 22.3 | 20.5 | 20.0 | 19.9 | 20.9 |

41. Wide Band Directional Antenna with 30' 200      Kit numbers: 9-30200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 8.0  | 8.0  | 8.0  | 9.5  | 9.5  |
| Coax Cable Loss (dB)          | 3.0  | 3.0  | 4.3  | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 5.0  | 5.0  | 3.7  | 5.0  | 5.0  |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 22.8 | 22.9 | 23.9 |

42. Panel Antenna with 100' 400      Kit numbers: 7-100400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7    | 7    | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 4    | 4    | 4    | 6    | 6    |
| Final Gain Less Loss (dB)     | 3    | 3    | 3    | 1    | 1    |
| Final Output Power (dBm EIRP) | 22.3 | 20.5 | 22.1 | 18.9 | 19.9 |

43. Panel Antenna with 75' 400      Kit numbers: 7-75400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7    | 7    | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 4    | 4    | 4    | 2.5  | 2.5  |
| Final Output Power (dBm EIRP) | 23.3 | 21.5 | 23.1 | 20.4 | 21.4 |

44. Panel Antenna with 50' 400      Kit numbers: 7-50400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7    | 7    | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 2    | 2    | 2    | 3    | 3    |
| Final Gain Less Loss (dB)     | 5    | 5    | 5    | 4    | 4    |
| Final Output Power (dBm EIRP) | 24.3 | 22.5 | 24.1 | 21.9 | 22.9 |

45. Panel Antenna with 30' 400      Kit numbers: 7-30400

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7    | 7    | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 1.2  | 1.2  | 1.2  | 1.8  | 1.8  |
| Final Gain Less Loss (dB)     | 5.8  | 5.8  | 5.8  | 5.2  | 5.2  |
| Final Output Power (dBm EIRP) | 25.1 | 23.3 | 24.9 | 23.1 | 24.1 |



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 Tel: +86-0755-29921615 29921635 Fax: +86-755-29921165

46. Panel Antenna with 75' 300

Kit numbers:7-75300

|                               |      |     |      |      |      |
|-------------------------------|------|-----|------|------|------|
| Antenna Gain (dBi)            | 7    | 7   | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 4.5  | 4.5 | 4.5  | 7    | 7    |
| Final Gain Less Loss (dB)     | 2.5  | 2.5 | 2.5  | 0    | 0    |
| Final Output Power (dBm EIRP) | 21.8 | 20  | 21.6 | 17.9 | 18.9 |

47. Panel Antenna with 50' 300

Kit numbers:7-50300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7    | 7    | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 3    | 3    | 3    | 4.6  | 4.6  |
| Final Gain Less Loss (dB)     | 4    | 4    | 4    | 2.4  | 2.4  |
| Final Output Power (dBm EIRP) | 23.3 | 21.5 | 23.1 | 20.3 | 21.3 |

48. Panel Antenna with 30' 300

Kit numbers:7-30300

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7    | 7    | 7    | 7    | 7    |
| Coax Cable Loss (dB)          | 1.8  | 1.8  | 1.8  | 2.8  | 2.8  |
| Final Gain Less Loss (dB)     | 5.2  | 5.2  | 5.2  | 4.2  | 4.2  |
| Final Output Power (dBm EIRP) | 24.5 | 22.7 | 24.3 | 22.1 | 23.1 |

49. Panel Antenna with 50' 200

Kit numbers:7-50200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7.0  | 7.0  | 7.0  | 7.0  | 7.0  |
| Coax Cable Loss (dB)          | 5.0  | 5.0  | 7.1  | 7.5  | 7.5  |
| Final Gain Less Loss (dB)     | 2.0  | 2.0  | -0.1 | -0.5 | -0.5 |
| Final Output Power (dBm EIRP) | 21.3 | 19.5 | 19.0 | 17.4 | 18.4 |

50. Panel Antenna with 30' 200

Kit numbers:7-30200

|                               |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|
| Antenna Gain (dBi)            | 7.0  | 7.0  | 7.0  | 7.0  | 7.0  |
| Coax Cable Loss (dB)          | 3.0  | 3.0  | 4.3  | 4.5  | 4.5  |
| Final Gain Less Loss (dB)     | 4.0  | 4.0  | 2.7  | 2.5  | 2.5  |
| Final Output Power (dBm EIRP) | 23.3 | 21.5 | 21.8 | 20.4 | 21.4 |

## Indoor Antenna is integrated into the signal booster

|                                         |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|
| Antenna Gain (dBi)                      | -3     | -3     | -3     | -2     | -2     |
| Splitter/Coax Loss (dB)                 | 0      | 0      | 0      | 0      | 0      |
| Final Gain Less Splitter/Coax Loss (dB) | -3     | -3     | -3     | -2     | -2     |
| Antenna Gain with Coax Loss Margin (dB) | -29.91 | -29.21 | -31.91 | -28.91 | -29.30 |
| Final Output Power (dBm EIRP)           | -12.90 | -12.20 | -14.90 | -11.90 | -12.30 |