

Frequency Band Required by Customer for Antenna Design and Debugging

| Frequency | Frequency Band |
|--------------|------------------------|
| 2G | GSM 900 1800 1900 |
| 3G | WCDMA2100 1900 900 850 |
| 4G | LTE-B1/3/38/39/40/41 |
| Three-in-one | / |
| Other | / |

Antenna Image



External Main Antenna

SHENZHEN KINGHELM ELECTRONIC CO., LTD.

Active OTA TRP/TIS Data

| Standard | BAND | GSM900 | | | DCS1800 | | |
|------------|---------|---------|-------|---------|---------|-------|---------|
| Free Space | CHANNAL | 1 | 62 | 124 | 512 | 699 | 885 |
| | TRP | 29.12 | 29.59 | 29.24 | 23.48 | 22.92 | 22.28 |
| | TIS | -- | -- | -105.17 | -- | -- | -101.91 |
| | BAND | PCS1900 | | | | | |
| | CHANNAL | 512 | 661 | 810 | | | |
| | TRP | 22.47 | 22.84 | 24.03 | | | |
| | TIS | -- | -- | -104.83 | | | |

| Standard | BAND | WCDMA2100 | | | WCDMA900 | | |
|------------|---------|-----------|-------|---------|----------|-------|---------|
| Free Space | CHANNAL | 10562 | 10700 | 10838 | 2937 | 3012 | 3088 |
| | TRP | 18.05 | 18.32 | 19.29 | 21.31 | 21.25 | 21.84 |
| | TIS | -- | -- | -106.71 | -- | -- | -- |
| | BAND | WCDMA1900 | | | WCDMA850 | | |
| | CHANNAL | 9662 | 9800 | 9938 | 4357 | 4408 | 4458 |
| | TRP | 17.21 | 17.24 | 18.51 | 18.17 | 19.09 | 20.62 |
| | TIS | -- | -- | -106.67 | -- | -- | -107.54 |

| Standard | BAND | FDD-LTE-B1 | | | FDD-LTE-B3 | | |
|------------|---------|------------|-------|-------|------------|-------|--------|
| Free Space | CHANNAL | 18050 | 18300 | 18550 | 19250 | 19575 | 19900 |
| | TRP | 19.42 | 19.76 | 19.87 | 19.29 | 18.39 | 16.68 |
| | TIS | -- | -- | -94.6 | -- | -- | -90.55 |

| Standard | BAND | TDD-LTE-B38 | | | TDD-LTE-B39 | | |
|------------|---------|-------------|-------|--------|-------------|-------|--------|
| Free Space | CHANNAL | 37850 | 38000 | 38150 | 38350 | 38450 | 38550 |
| | TRP | 20.3 | 20.14 | 19.64 | 19.17 | 19.57 | 19.56 |
| | TIS | -- | -- | -90.22 | -- | -- | -90.96 |
| | BAND | TDD-LTE-B40 | | | TDD-LTE-B41 | | |
| | CHANNAL | 38750 | 39150 | 39550 | 40450 | 40620 | 40940 |
| | TRP | 19.86 | 19.12 | 18.34 | 20.48 | 20.23 | 19.55 |
| | TIS | -- | -- | -90.52 | -- | -- | -89.56 |