



# [RTK][8710ECF] module antenna test report

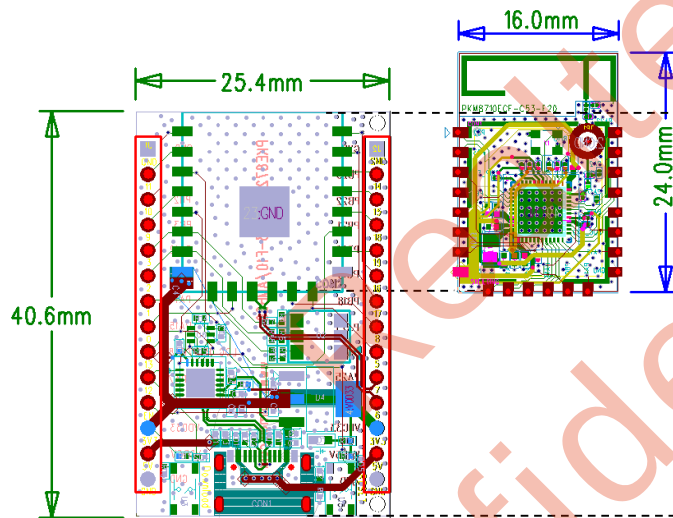
Jeany Ling  
Feb. 22, 2024



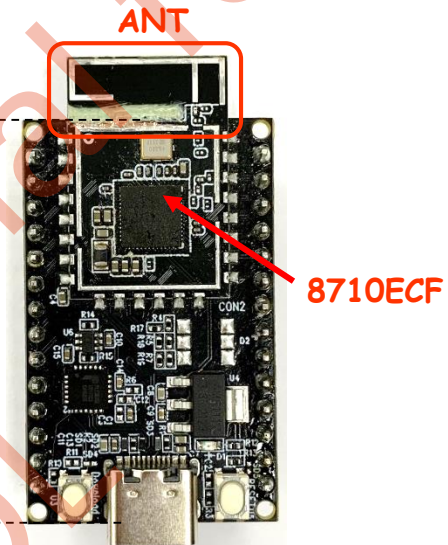


# [RTK][8710ECF] module antenna test report

- Antenna structure



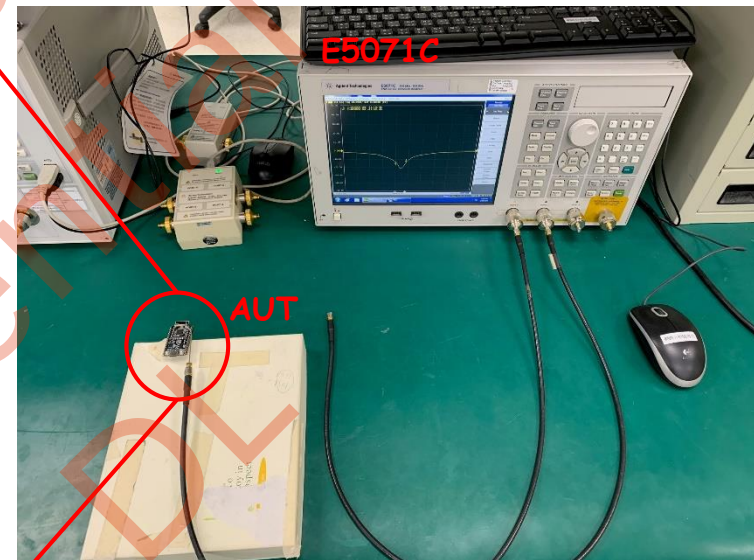
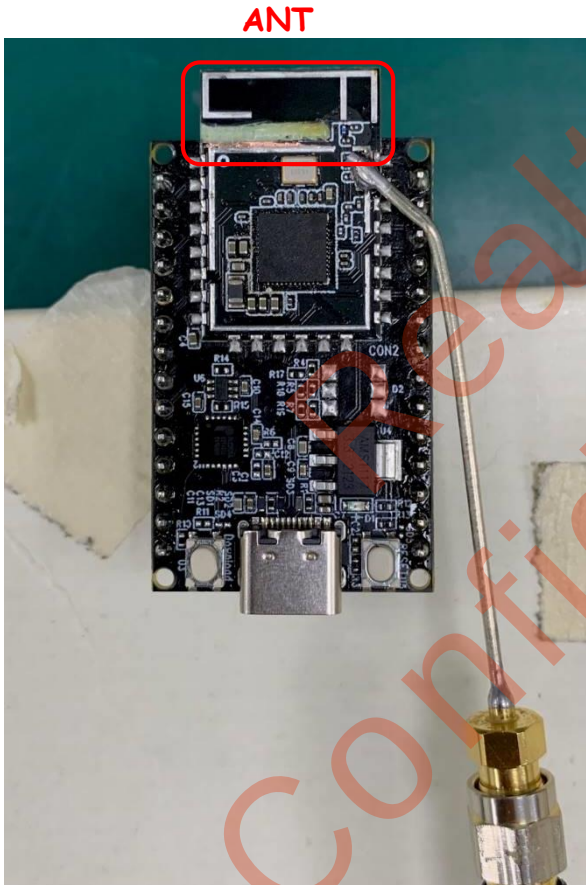
- Photo





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- Setup Environment



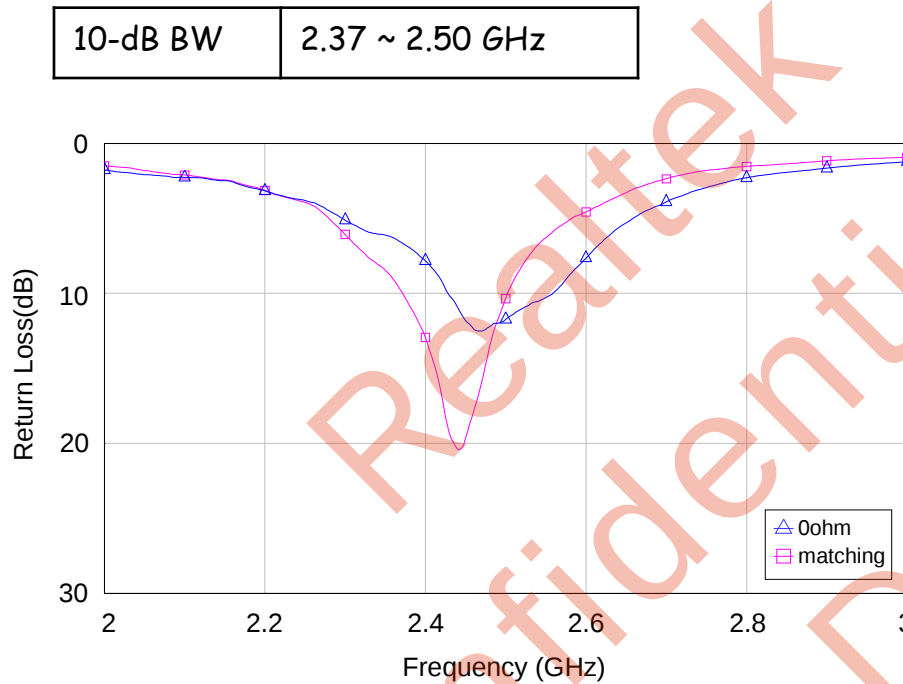
@RTK Lab





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- Return Loss

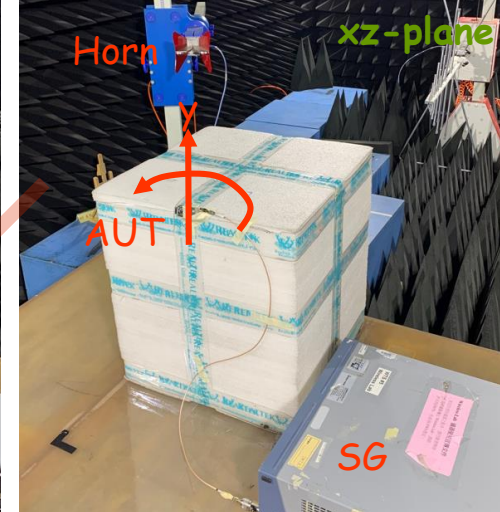
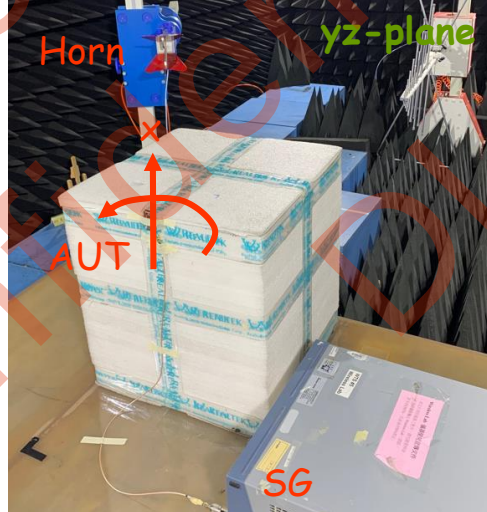
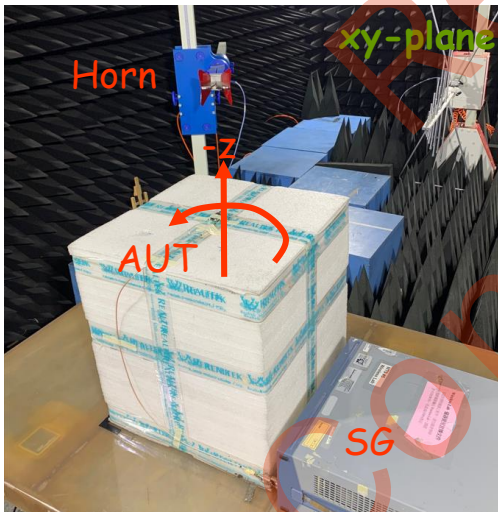


\* C19=C20=NC, L2=2.4nH





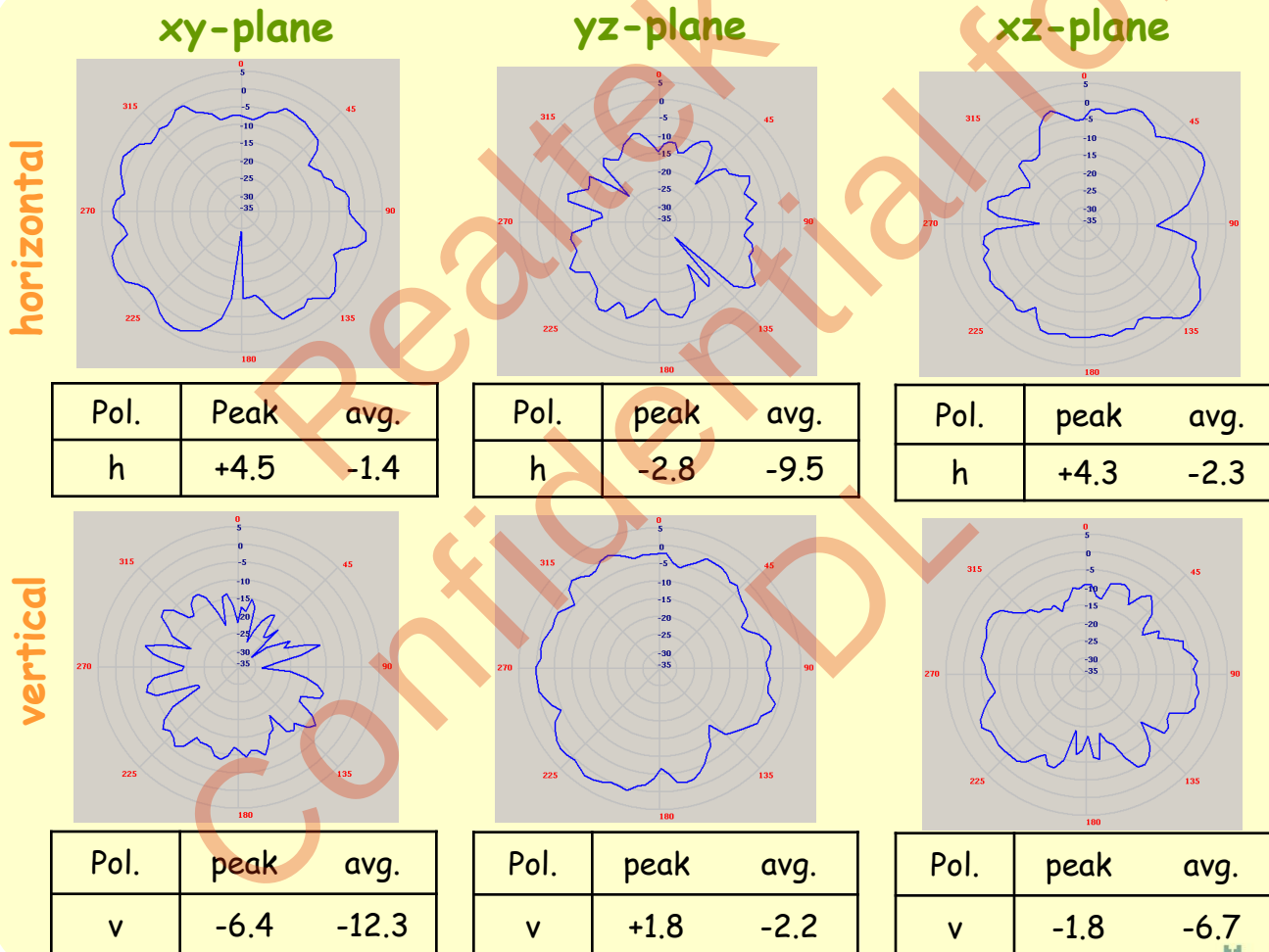
- Frequency : 2400MHz, 2450MHz and 2480MHz
- Test plane : xy-plane, xz-plane and yz-plane
- Input power : SG 0dBm
- Place: RTK 4F chamber
- Horn h: horizontal polarization
- Horn v: vertical polarization





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- Radiation Patterns — 2400MHz



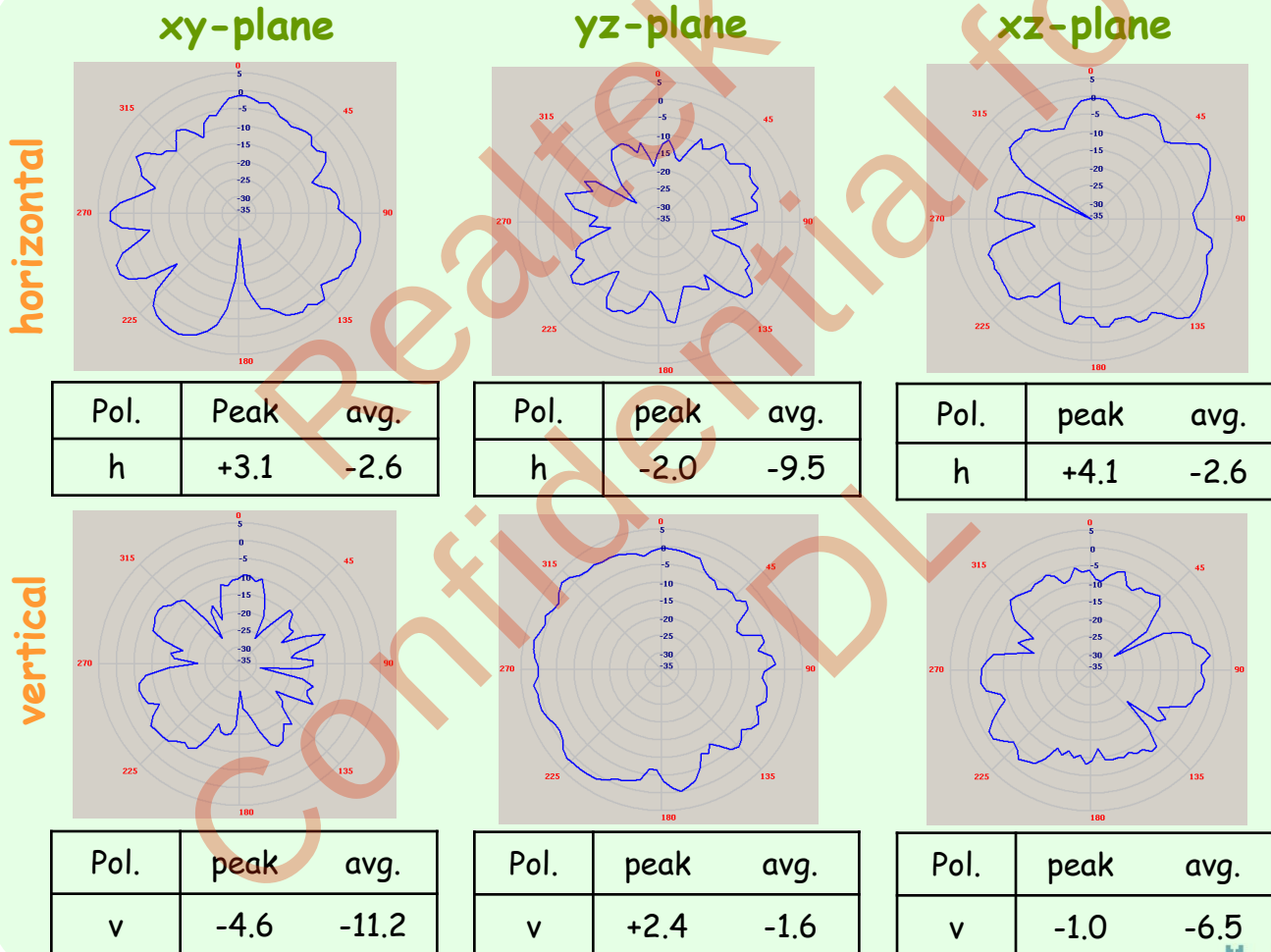
REALTEK

High Performance · Low Power



# [RTK][8710ECF] module antenna test report

- Radiation Patterns — 2450MHz



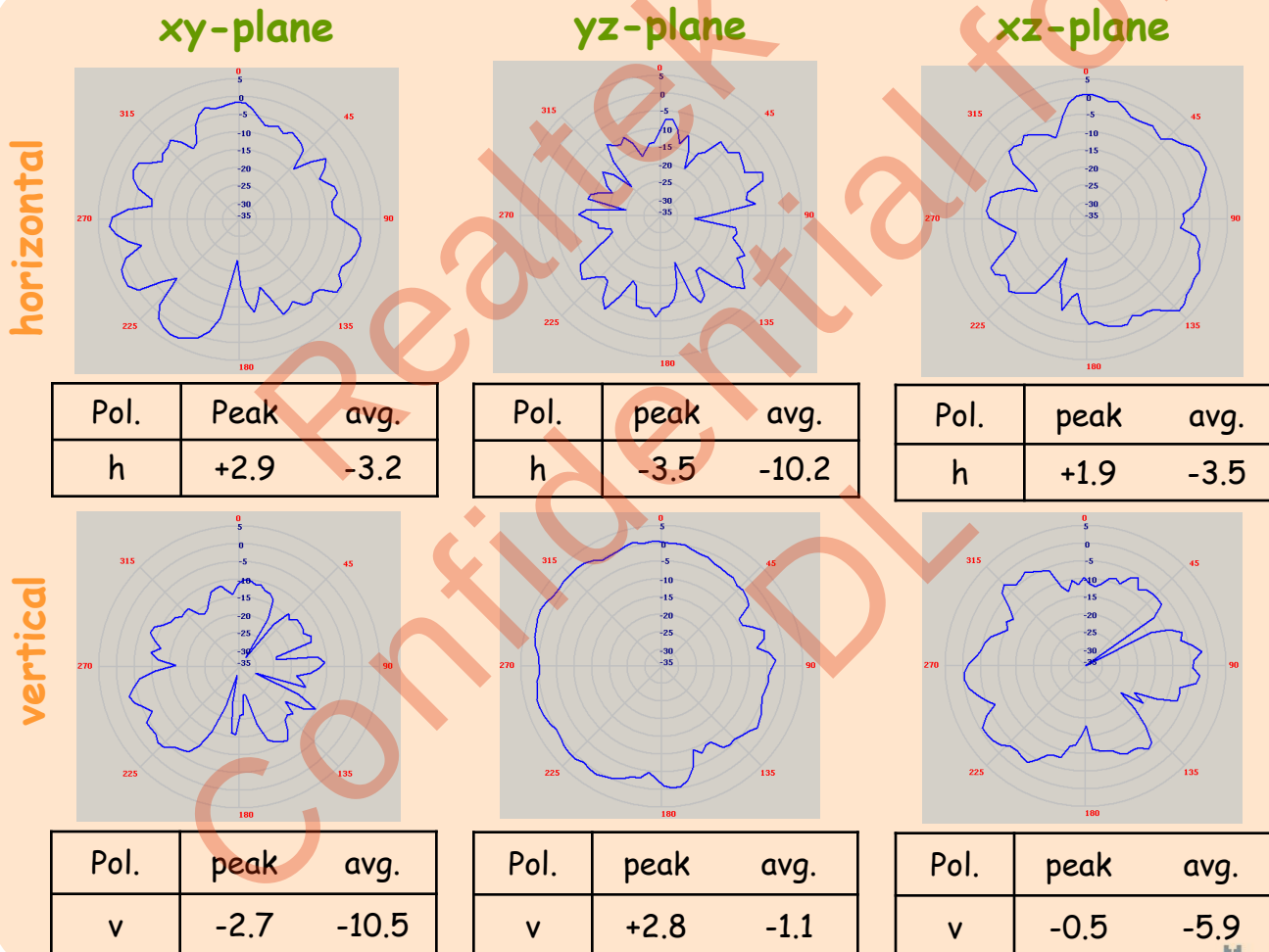
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# [RTK][8710ECF] module antenna test report

- Radiation Patterns — 2480MHz



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High Performance · Low Power



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- Antenna gain table

|            |          |      |      |       |          |      |      |      |          |      |      |      |                |
|------------|----------|------|------|-------|----------|------|------|------|----------|------|------|------|----------------|
| Freq.      | 2400MHz  |      |      |       |          |      |      |      |          |      |      |      |                |
| Plane      | xy-plane |      |      |       | yz-plane |      |      |      | xz-plane |      |      |      | Efficiency (%) |
| Pol.       | h        |      | v    |       | h        |      | v    |      | h        |      | v    |      |                |
| Gain (dBi) | peak     | avg. | peak | avg.  | peak     | avg. | peak | avg. | peak     | avg. | peak | avg. |                |
|            | +4.5     | -1.4 | -6.4 | -12.3 | -2.8     | -9.5 | +1.8 | -2.2 | +4.3     | -2.3 | -1.8 | -6.7 | 76.5           |

|            |          |      |      |       |          |      |      |      |          |      |      |      |                |
|------------|----------|------|------|-------|----------|------|------|------|----------|------|------|------|----------------|
| Freq.      | 2450MHz  |      |      |       |          |      |      |      |          |      |      |      |                |
| Plane      | xy-plane |      |      |       | yz-plane |      |      |      | xz-plane |      |      |      | Efficiency (%) |
| Pol.       | h        |      | v    |       | h        |      | v    |      | h        |      | v    |      |                |
| Gain (dBi) | peak     | avg. | peak | avg.  | peak     | avg. | peak | avg. | peak     | avg. | peak | avg. |                |
|            | +3.1     | -2.6 | -4.6 | -11.2 | -2.0     | -9.5 | +2.4 | -1.6 | +4.1     | -2.6 | -1.0 | -6.5 | 73.4           |

|            |          |      |      |       |          |       |      |      |          |      |      |      |                |
|------------|----------|------|------|-------|----------|-------|------|------|----------|------|------|------|----------------|
| Freq.      | 2480MHz  |      |      |       |          |       |      |      |          |      |      |      |                |
| Plane      | xy-plane |      |      |       | yz-plane |       |      |      | xz-plane |      |      |      | Efficiency (%) |
| Pol.       | h        |      | v    |       | h        |       | v    |      | h        |      | v    |      |                |
| Gain (dBi) | peak     | avg. | peak | avg.  | peak     | avg.  | peak | avg. | peak     | avg. | peak | avg. |                |
|            | +2.9     | -3.2 | -2.7 | -10.5 | -3.5     | -10.2 | +2.8 | -1.1 | +1.9     | -3.5 | -0.5 | -5.9 | 71.4           |

