



## General-purpose Pyramidal Standard Gain Horns

### Specifications

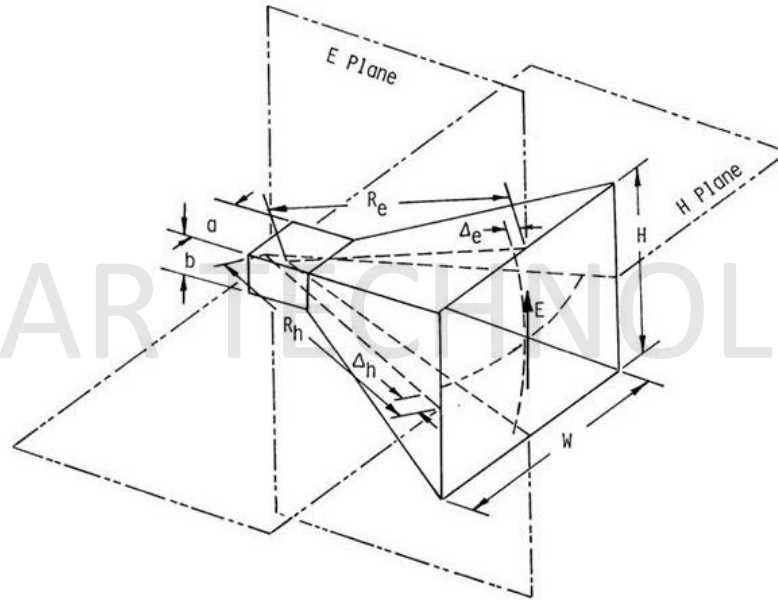
| PYRAMIDAL HORNS WITH RECTANGULAR WAVEGUIDE INPUT |                |                 |                |                |                        |          |
|--------------------------------------------------|----------------|-----------------|----------------|----------------|------------------------|----------|
| Product Number                                   | Frequency Band | Frequency (GHz) | Waveguide Size | Flange Pattern | Mid-Band Gain (dB typ) | VSWR max |
| QGH-APRS00                                       | Ka             | 26.5 - 40       | WR-28          | UG-599         | 24                     | 1.10:1   |
| QGH-QPRR00                                       | Q              | 33 - 50         | WR-22          | UG-383         | 24                     | 1.10:1   |
| QGH-UPRR00                                       | U              | 40 - 60         | WR-19          | UG-383         | 24                     | 1.10:1   |
| QGH-VPRR00                                       | V              | 50 - 70         | WR-15          | UG-385         | 24                     | 1.15:1   |
| QGH-EPRR00                                       | E              | 60 - 90         | WR-12          | UG-385         | 24                     | 1.15:1   |
| QGH-WPRR00                                       | W              | 75 - 110        | WR-10          | UG-387         | 24                     | 1.15:1   |



### Mechanical Specifications

| PYRAMIDAL HORNS WITH RECTANGULAR WAVEGUIDE INPUT |                |                |                               |           |            |
|--------------------------------------------------|----------------|----------------|-------------------------------|-----------|------------|
| Frequency Band                                   | Waveguide Size | Flange Pattern | Outline Dimensions, inches/mm |           |            |
|                                                  |                |                | W                             | H         | L1         |
| Ka                                               | WR-28          | UG-599/U       | 2.80/71.1                     | 2.16/54.9 | 5.0/127.0  |
| Q                                                | WR-22          | UG-383/U       | 2.26/57.4                     | 1.75/44.5 | 4.07/103.4 |
| U                                                | WR-19          | UG-383/U       | 1.91/48.5                     | 1.48/37.6 | 3.49/88.6  |
| V                                                | WR-15          | UG-385/U       | 1.51/38.4                     | 1.17/29.7 | 2.72/69.1  |
| E                                                | WR-12          | UG-387/U       | 1.27/32.3                     | 0.99/25.1 | 2.35/59.7  |
| W                                                | WR-10          | UG-387/U       | 1.02/25.7                     | 0.79/20.1 | 1.95/49.5  |

Definition of Plane

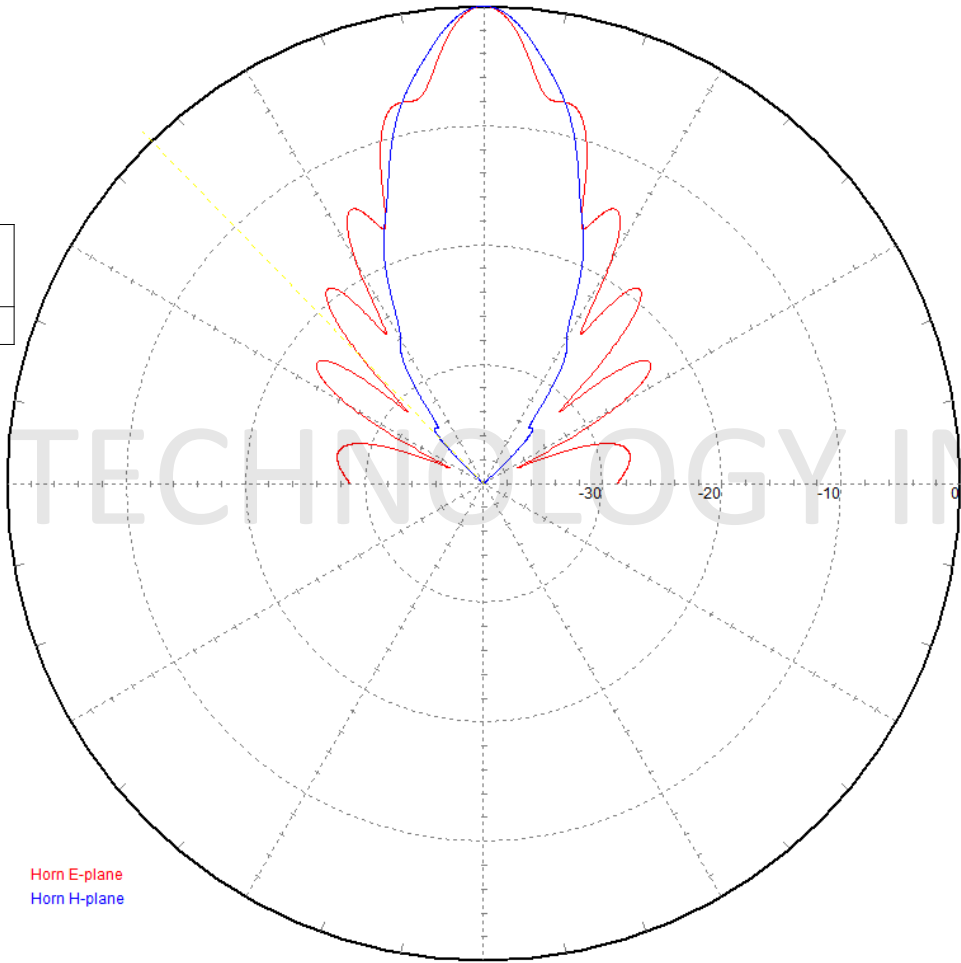


E-band QWH  
At 72 GHz  
Directivity: 22.5 dB

| Frequency (GHz) | Directivity (dB) | E-plan 3 dB beamwidth | H-plan 3 dB beamwidth |
|-----------------|------------------|-----------------------|-----------------------|
| 72              | 22.5             | 10.2                  | 13.1                  |

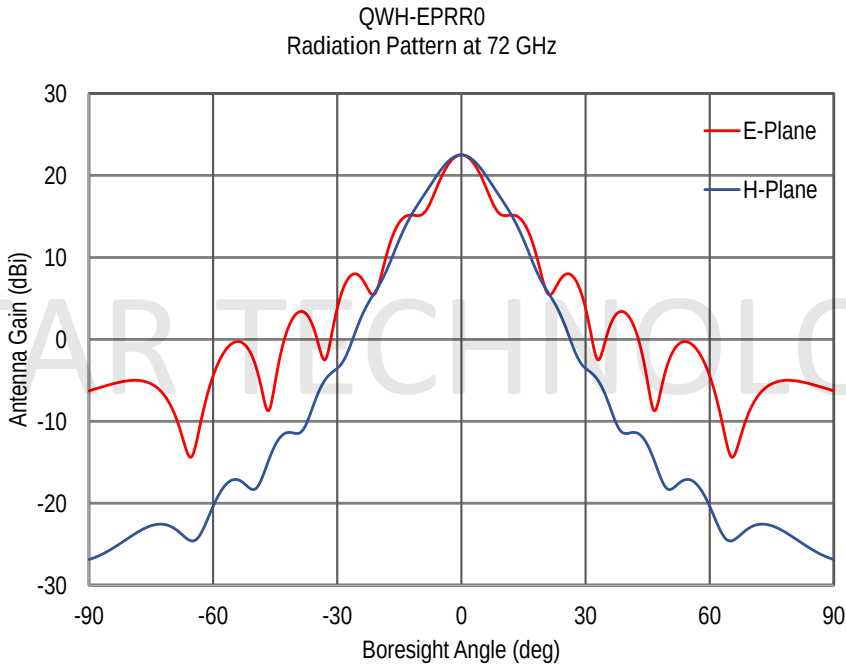
| Pattern Data . . .         |  |
|----------------------------|--|
| Horn E-plane               |  |
| Main beam angle = 0.0°     |  |
| 3 dB beamwidth = 10.2°     |  |
| Value at -44.1° = -25.3 dB |  |
| Offset = 0 dB              |  |
| Horn H-plane               |  |
| Main beam angle = 0.0°     |  |
| 3 dB beamwidth = 13.1°     |  |
| Value at -44.1° = -34.7 dB |  |
| Offset = 0 dB              |  |

|                                     |       |
|-------------------------------------|-------|
| Directivity (dB) . . . . .          | 22.5  |
| E-plane phase center (cm) . . . . . | 3.530 |
| H-plane phase center (cm) . . . . . | 4.174 |

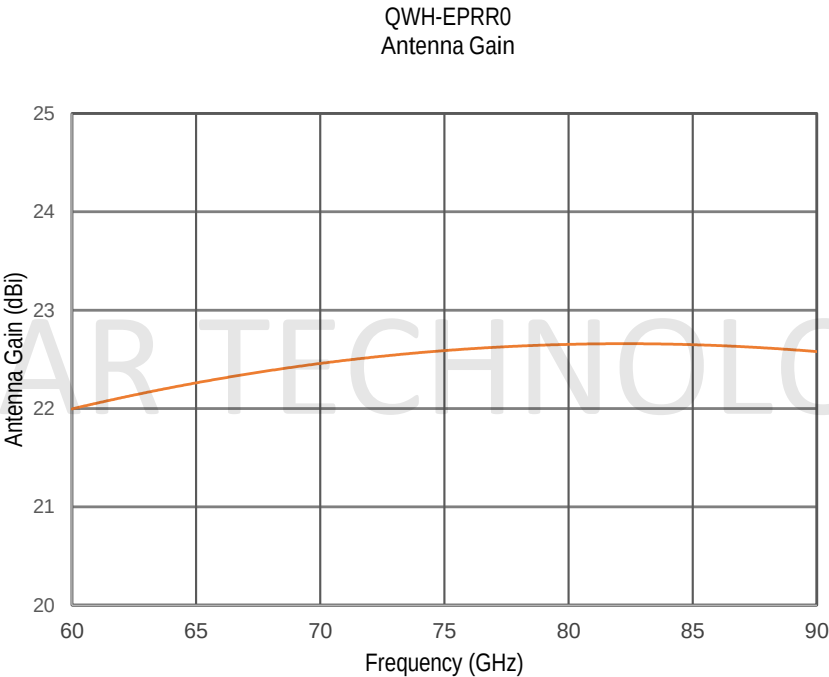


Horn E-plane  
Horn H-plane

E-band QWH  
At 72 GHz  
Directivity: 22.5 dB



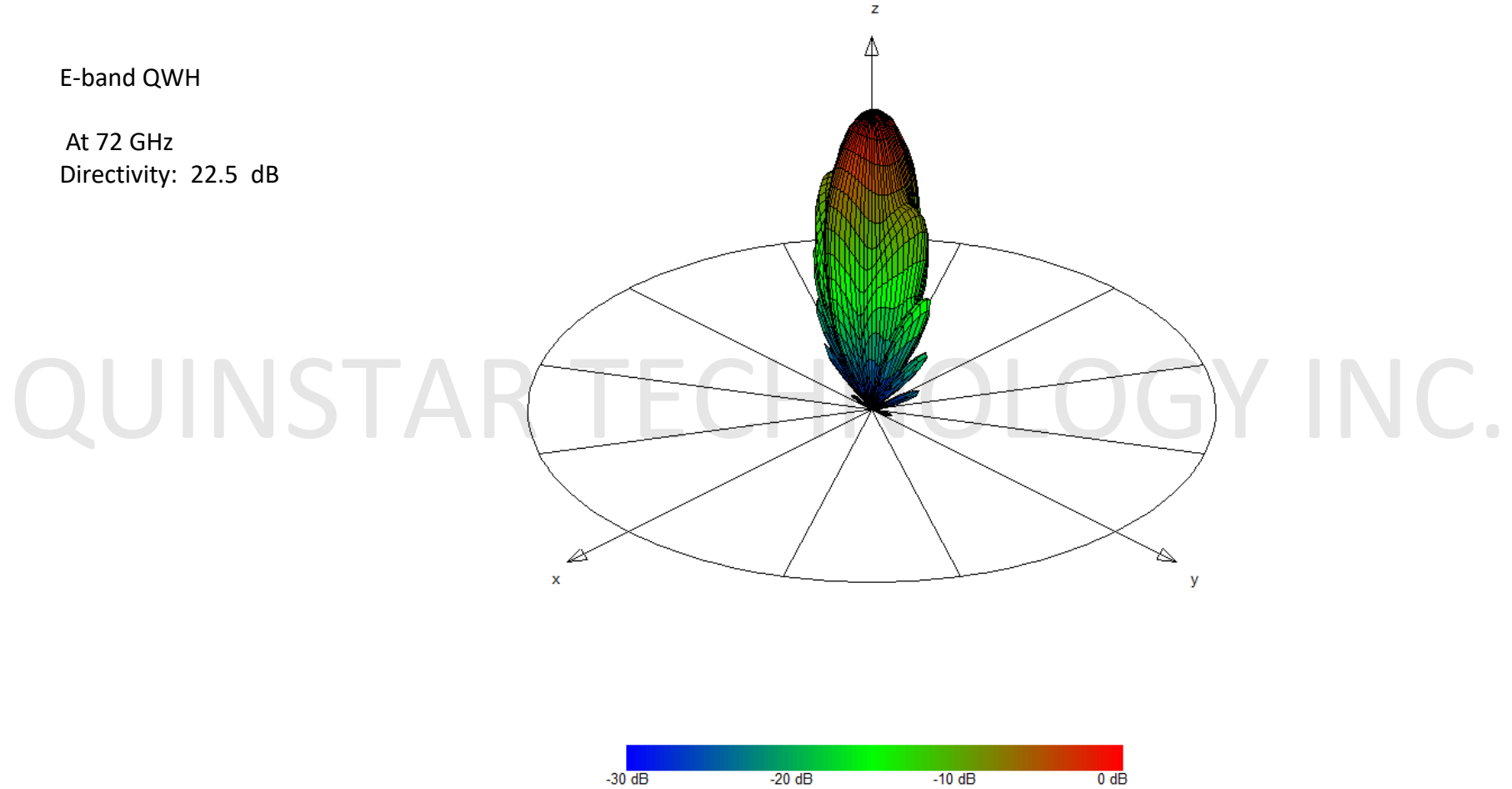
E-band QWH  
At 72 GHz  
Directivity: 22.5 dB



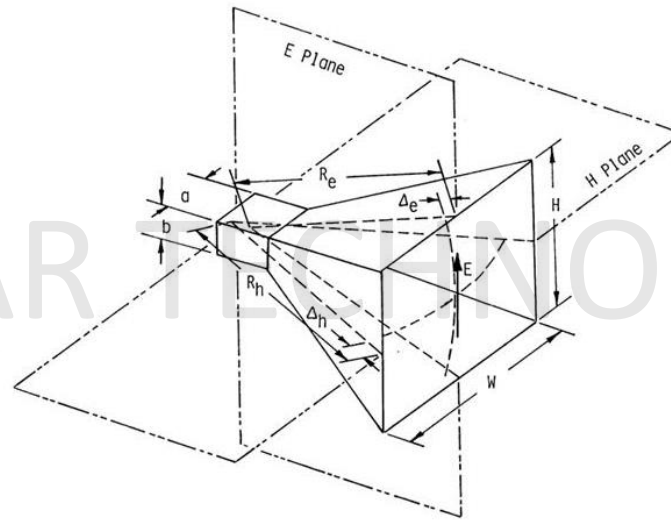
E-band QWH

At 72 GHz

Directivity: 22.5 dB



Definition of Plane





Ka-band QWH

At 33 GHz  
Directivity: 22.6 dB

| Frequency (GHz) | Directivity (dB) | E-plan 3 dB beamwidth | H-plan 3 dB beamwidth |
|-----------------|------------------|-----------------------|-----------------------|
| 35              | 22.6             | 9.5                   | 13.3                  |

Pattern Data . . .

Horn E-plane

Main beam angle = 0.0°

3 dB beamwidth = 9.9°

Value at 0.0° = 0.0 dB

Offset = 0 dB

Horn H-plane

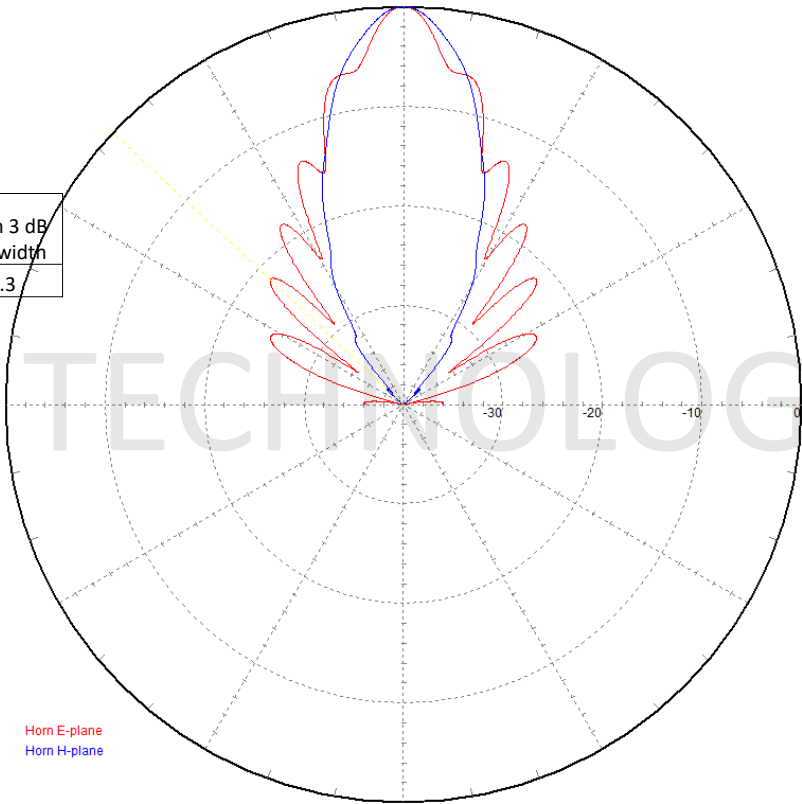
Main beam angle = 0.0°

3 dB beamwidth = 13.2°

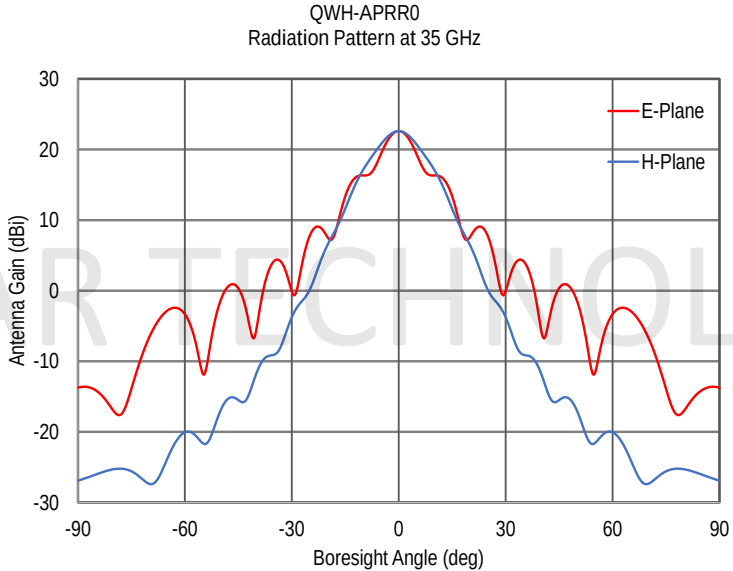
Value at 0.0° = 0.0 dB

Offset = 0 dB

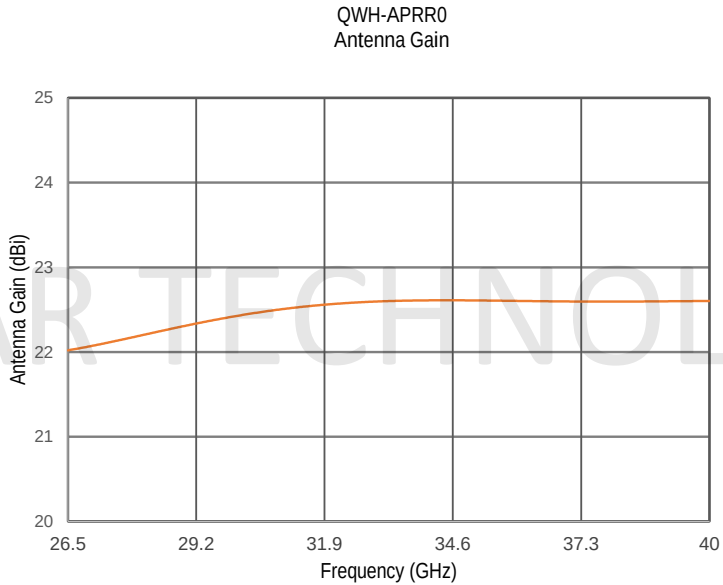
|                                     |        |
|-------------------------------------|--------|
| Directivity (dB) . . . . .          | 22.6   |
| E-plane phase center (cm) . . . . . | 8.998  |
| H-plane phase center (cm) . . . . . | 10.407 |



Ka-band QWH  
At 33 GHz  
Directivity: 22.6 dB

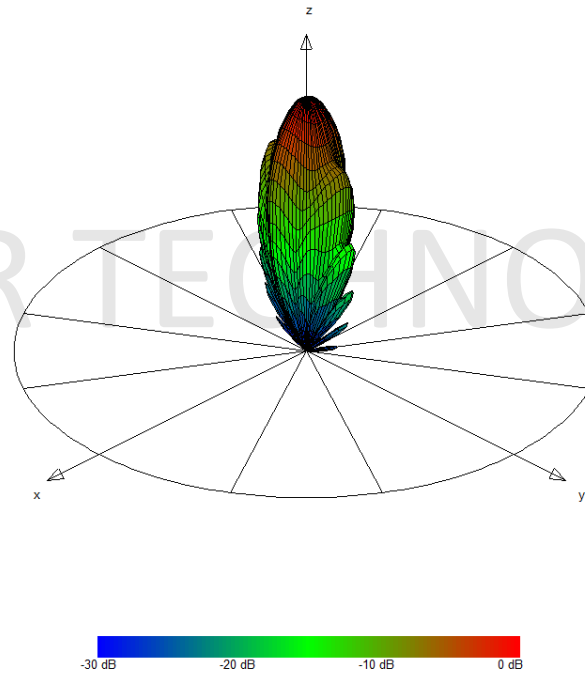


Ka-band QWH  
  
At 33 GHz  
Directivity: 22.6 dB

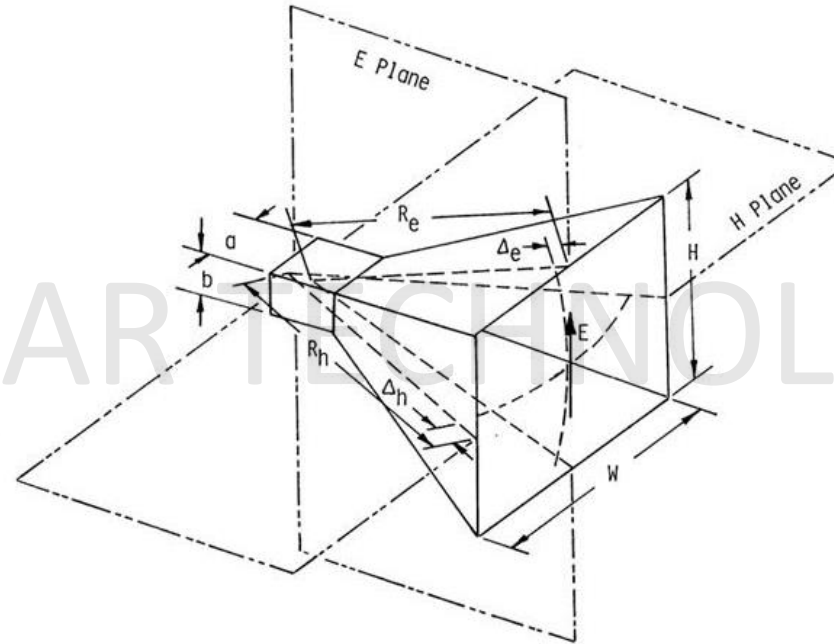


Ka-band QWH

At 33 GHz  
Directivity: 22.6 dB



Definition of Plane



Q-band QWH

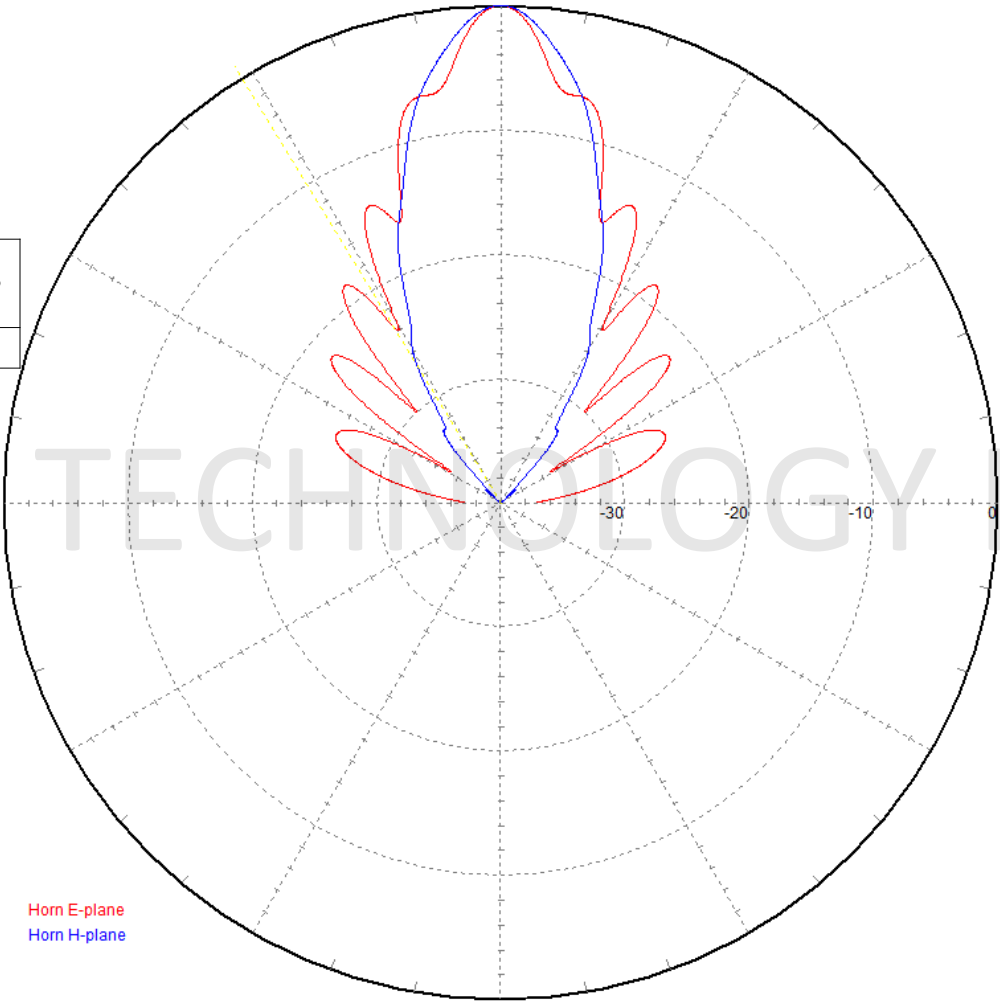
At 42 GHz

Directivity: 22.6 dB

| Frequency (GHz) | Directivity (dB) | E-plan 3 dB beamwidth | H-plan 3 dB beamwidth |
|-----------------|------------------|-----------------------|-----------------------|
| 42              | 22.6             | 9.8                   | 13.2                  |

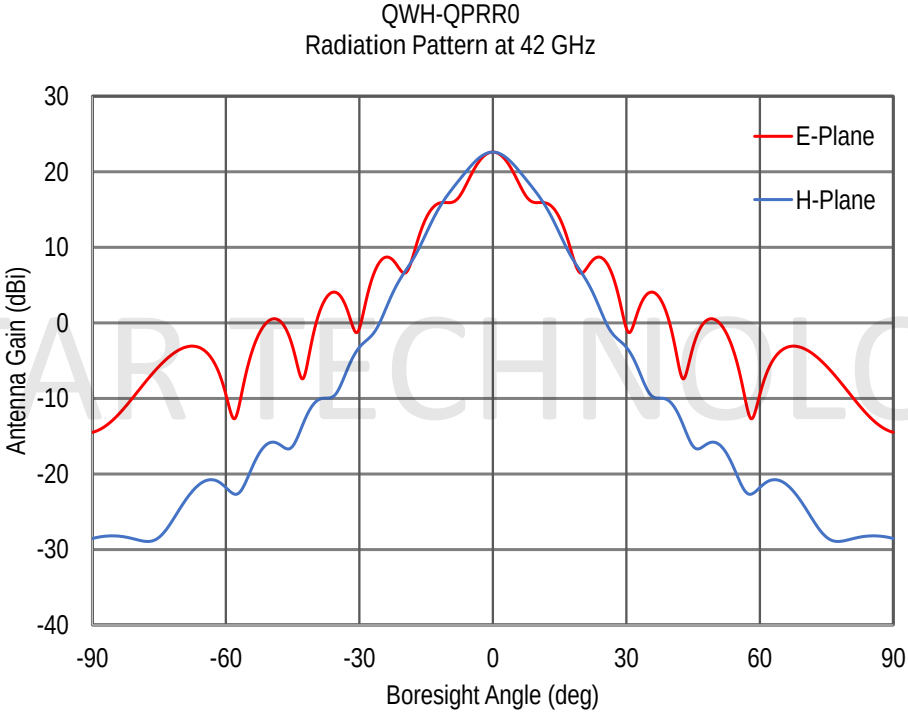
|                        |  |
|------------------------|--|
| Pattern Data . . .     |  |
| Horn E-plane           |  |
| Main beam angle = 0.0° |  |
| 3 dB beamwidth = 9.9°  |  |
| Value at 0.0° = 0.0 dB |  |
| Offset = 0 dB          |  |
| Horn H-plane           |  |
| Main beam angle = 0.0° |  |
| 3 dB beamwidth = 13.2° |  |
| Value at 0.0° = 0.0 dB |  |
| Offset = 0 dB          |  |

|                                     |       |
|-------------------------------------|-------|
| Directivity (dB) . . . . .          | 22.6  |
| E-plane phase center (cm) . . . . . | 7.487 |
| H-plane phase center (cm) . . . . . | 8.575 |



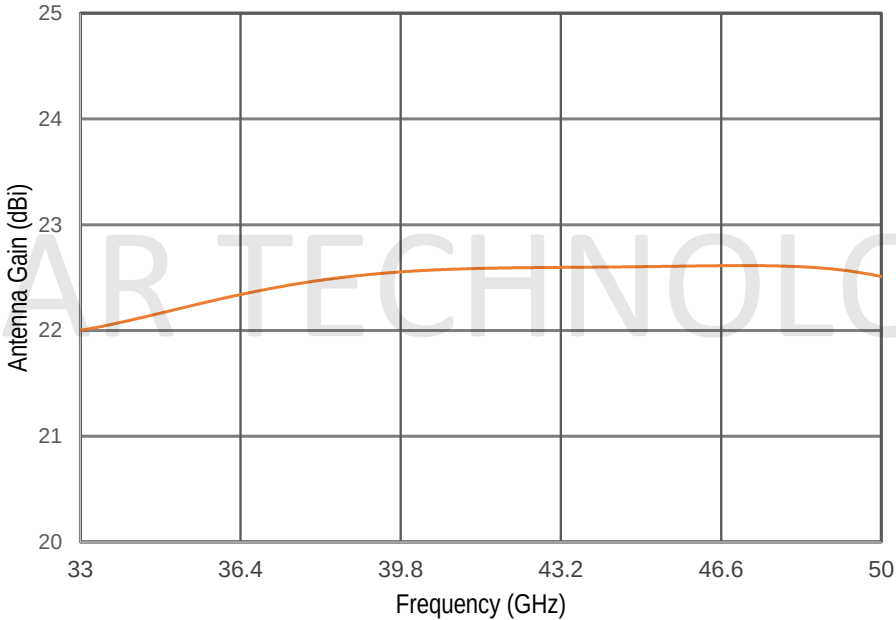
Horn E-plane  
Horn H-plane

Q-band QWH  
At 42GHz  
Directivity: 22.6 dB



Q-band QWH  
At 42GHz  
Directivity: 22.6 dB

QWH-QPRR0  
Antenna Gain

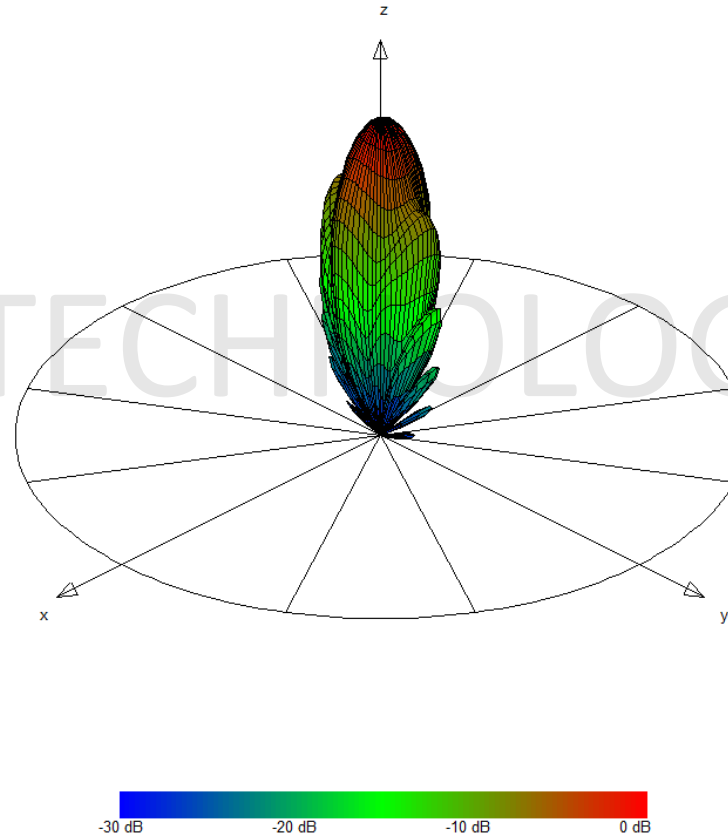




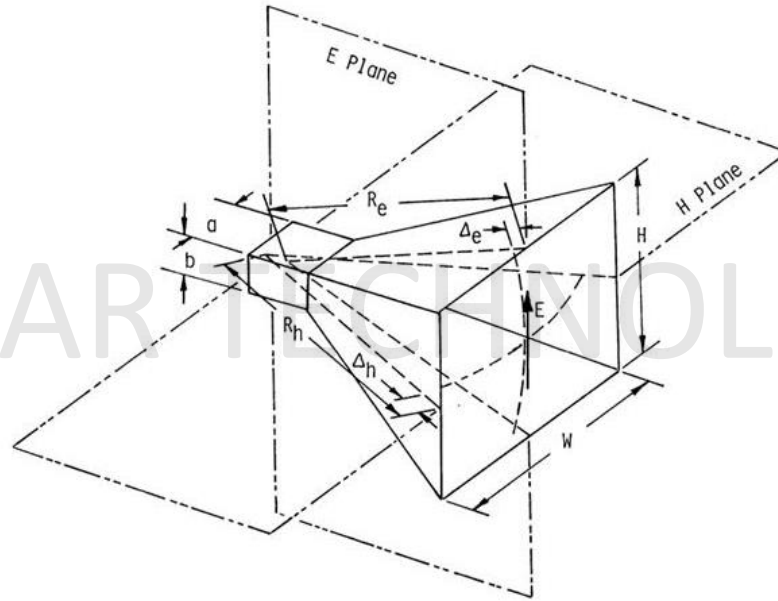
Q-band QWH

At 42GHz

Directivity: 22.6 dB



Definition of Plane

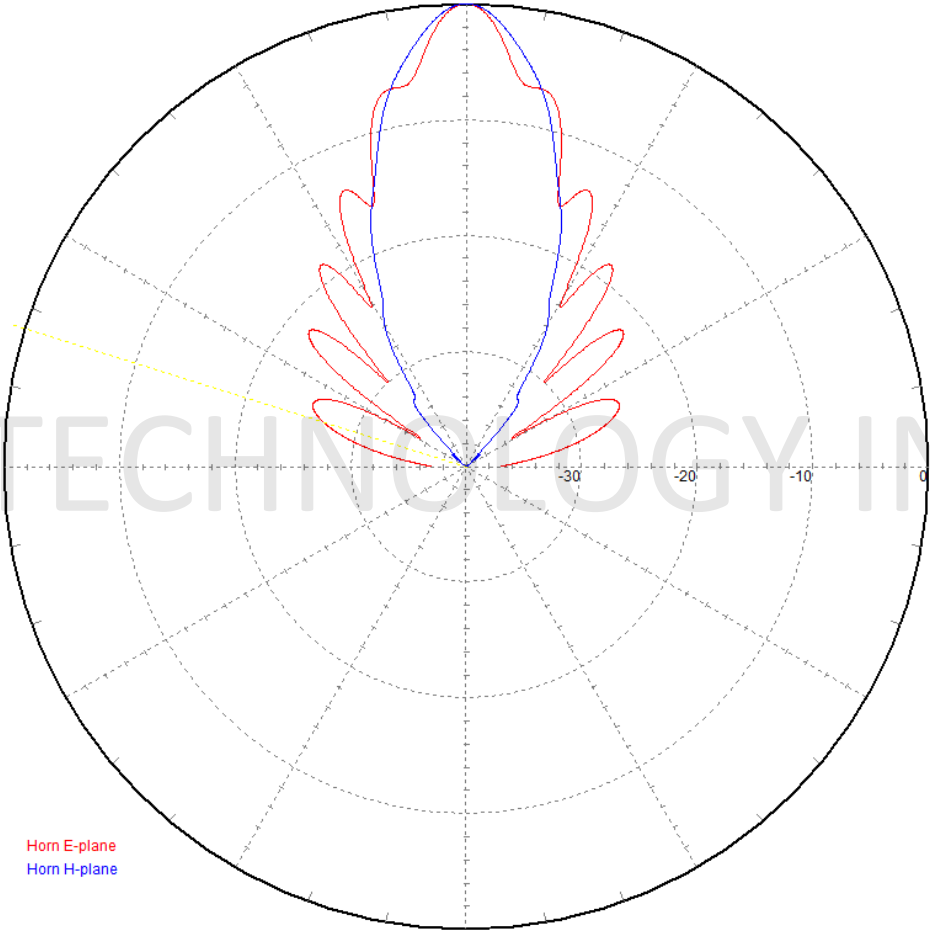


U-band QWH  
At 50 GHz  
Directivity: 22.6 dB

| Frequency (GHz) | Directivity (dB) | E-plan 3 dB beamwidth | H-plan 3 dB beamwidth |
|-----------------|------------------|-----------------------|-----------------------|
| 50              | 22.6             | 9.8                   | 13.1                  |

| Pattern Data . . .         |  |
|----------------------------|--|
| Horn E-plane               |  |
| Main beam angle = 0.0°     |  |
| 3 dB beamwidth = 9.8°      |  |
| Value at -72.7° = -27.0 dB |  |
| Offset = 0 dB              |  |
| Horn H-plane               |  |
| Main beam angle = 0.0°     |  |
| 3 dB beamwidth = 13.1°     |  |
| Value at -72.7° = -49.3 dB |  |
| Offset = 0 dB              |  |

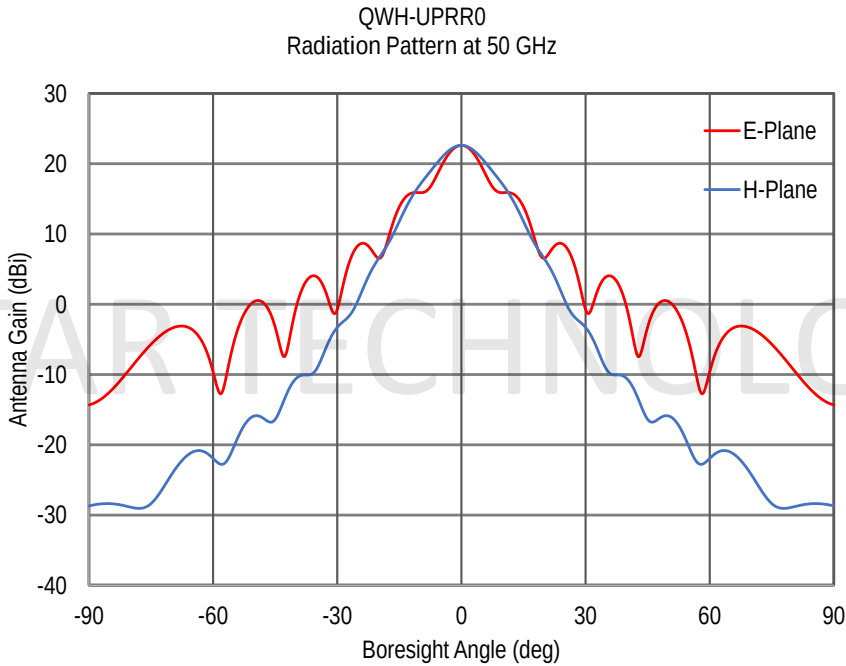
|                                     |       |
|-------------------------------------|-------|
| Directivity (dB) . . . . .          | 22.6  |
| E-plane phase center (cm) . . . . . | 6.259 |
| H-plane phase center (cm) . . . . . | 7.169 |



U-band QWH

At 50 GHz

Directivity: 22.6 dB

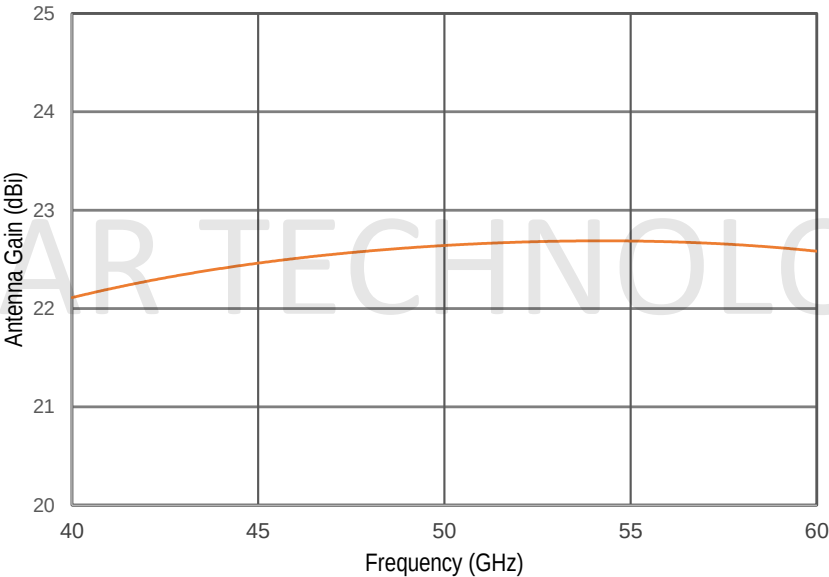


U-band QWH

At 50 GHz

Directivity: 22.6 dB

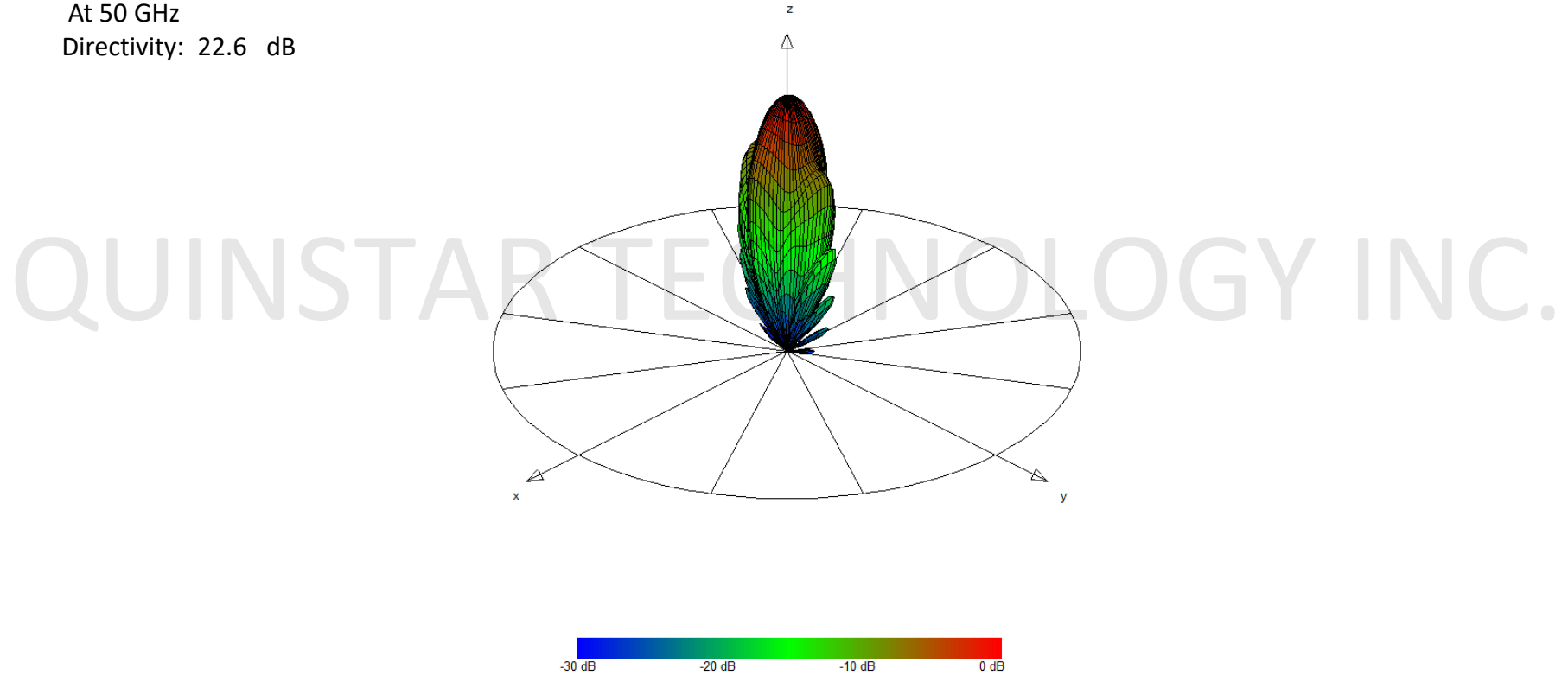
QWH-UPRR0  
Antenna Gain



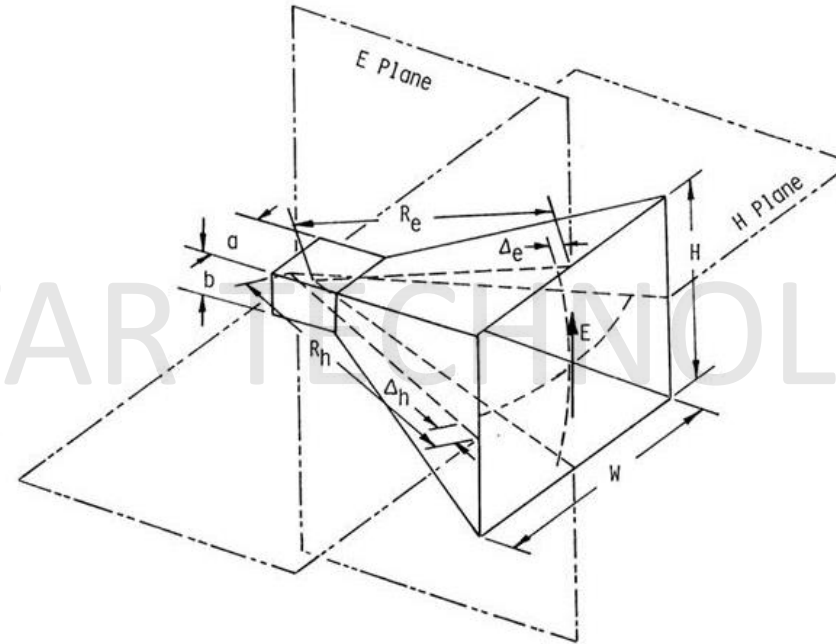
U-band QWH

At 50 GHz

Directivity: 22.6 dB



Definition of Plane

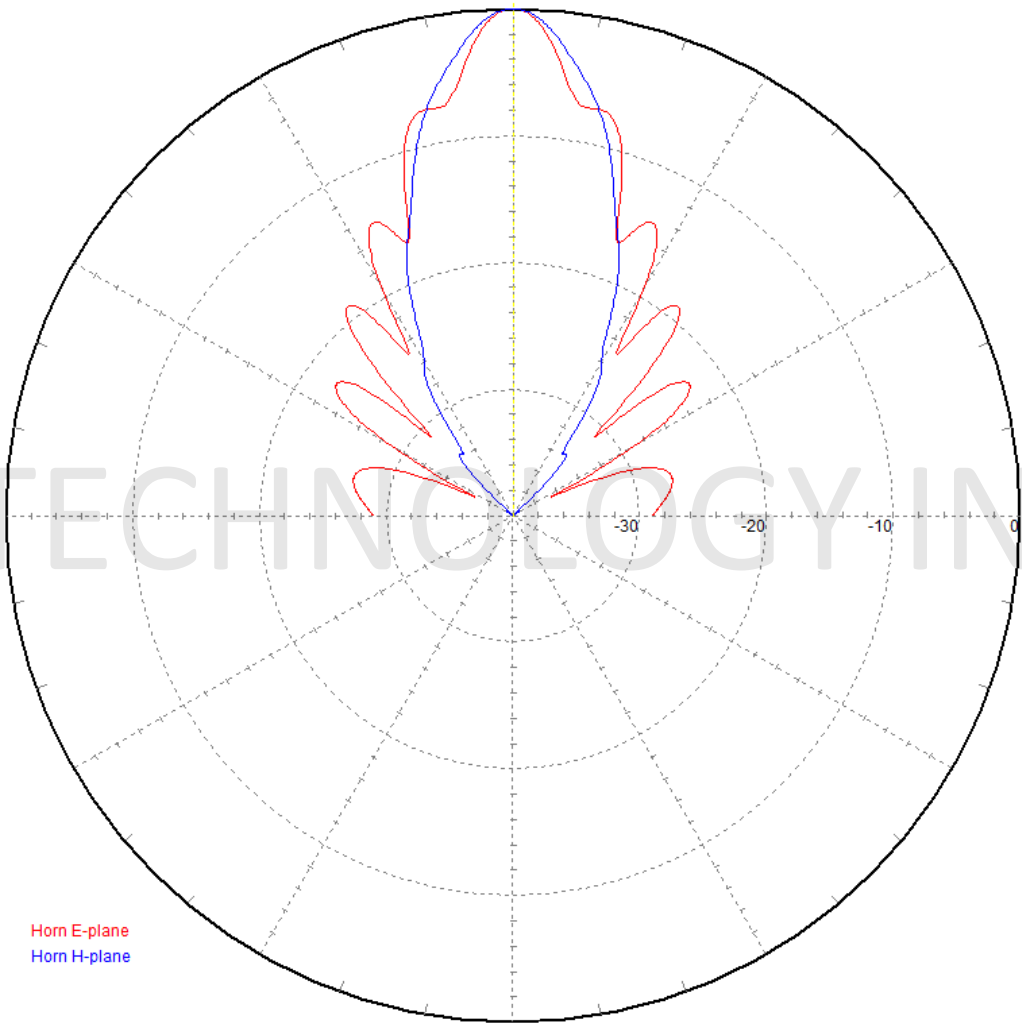


V-band QWH  
At 60 GHz  
Directivity: 22.5 dB

| Frequency (GHz) | Directivity (dB) | E-plan 3 dB beamwidth | H-plan 3 dB beamwidth |
|-----------------|------------------|-----------------------|-----------------------|
| 60              | 22.5             | 10.1                  | 13.1                  |

|                        |  |
|------------------------|--|
| Pattern Data . . .     |  |
| Horn E-plane           |  |
| Main beam angle = 0.0° |  |
| 3 dB beamwidth = 10.1° |  |
| Value at 0.0° = 0.0 dB |  |
| Offset = 0 dB          |  |
| Horn H-plane           |  |
| Main beam angle = 0.0° |  |
| 3 dB beamwidth = 13.1° |  |
| Value at 0.0° = 0.0 dB |  |
| Offset = 0 dB          |  |

|                                     |       |
|-------------------------------------|-------|
| Directivity (dB) . . . . .          | 22.5  |
| E-plane phase center (cm) . . . . . | 4.383 |
| H-plane phase center (cm) . . . . . | 5.159 |

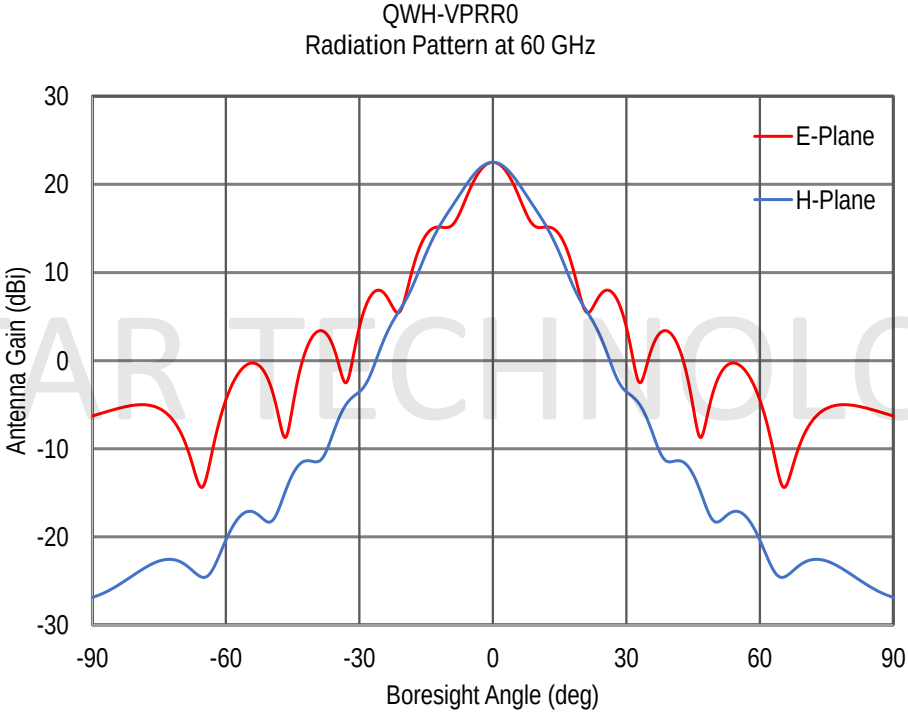




V-band QWH

At 60 GHz

Directivity: 22.5 dB

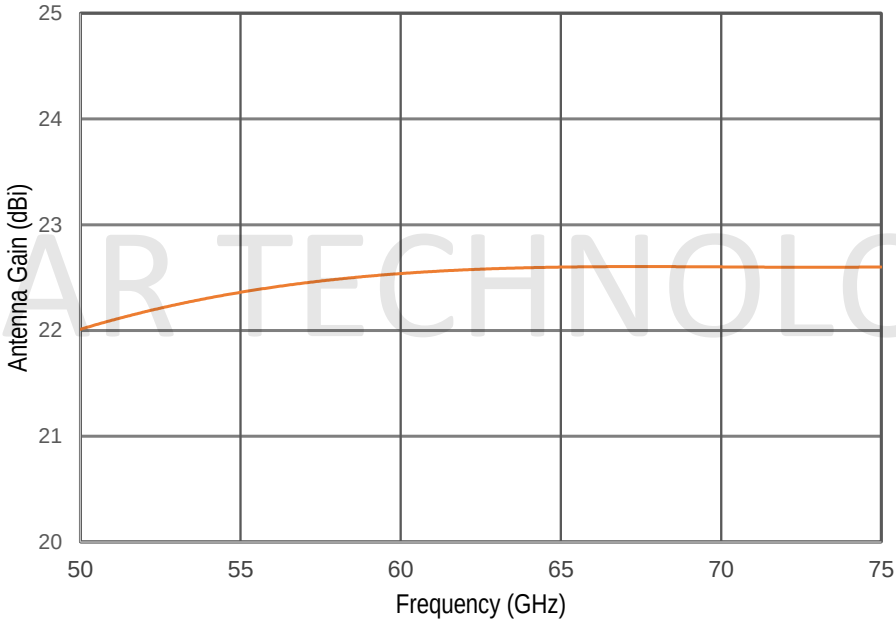


V-band QWH

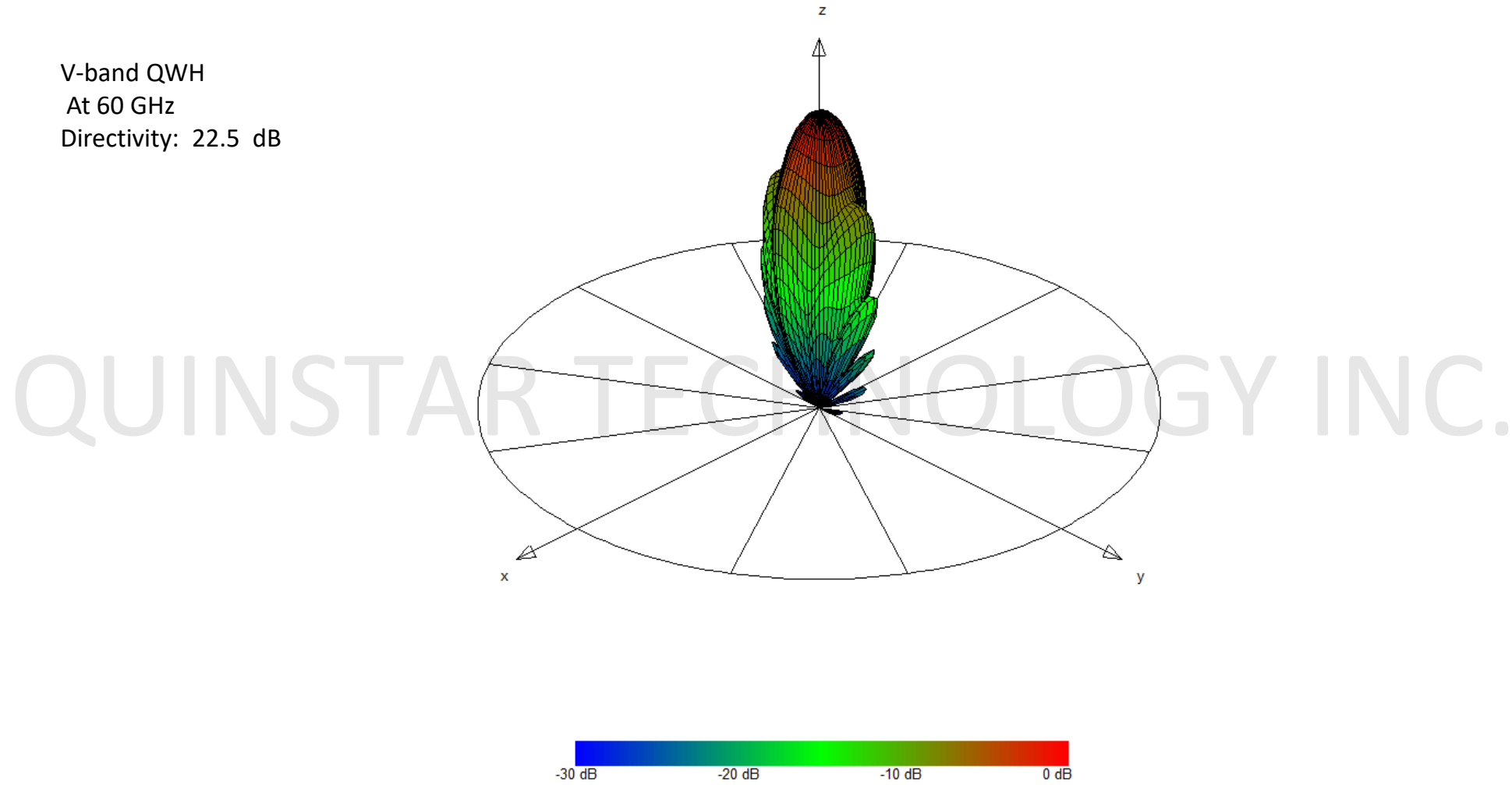
At 60 GHz

Directivity: 22.5 dB

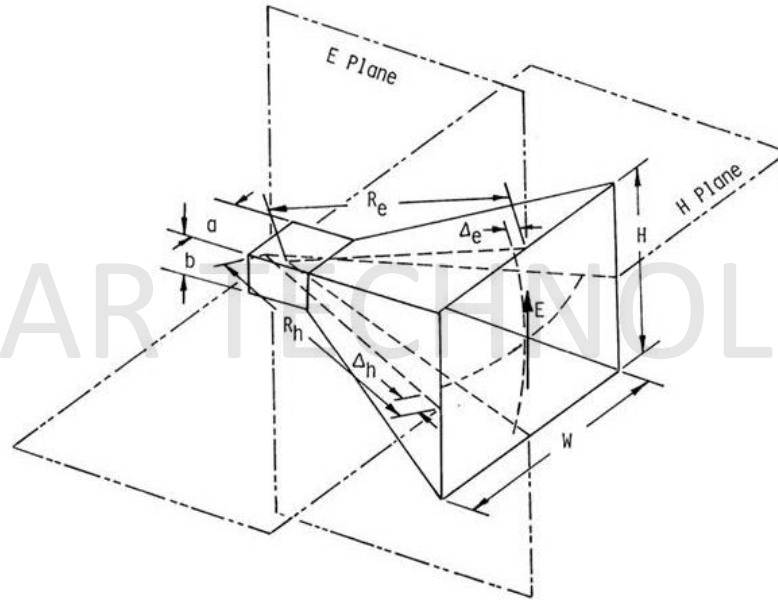
QWH-VP RR0  
Antenna Gain



V-band QWH  
At 60 GHz  
Directivity: 22.5 dB



Definition of Plane

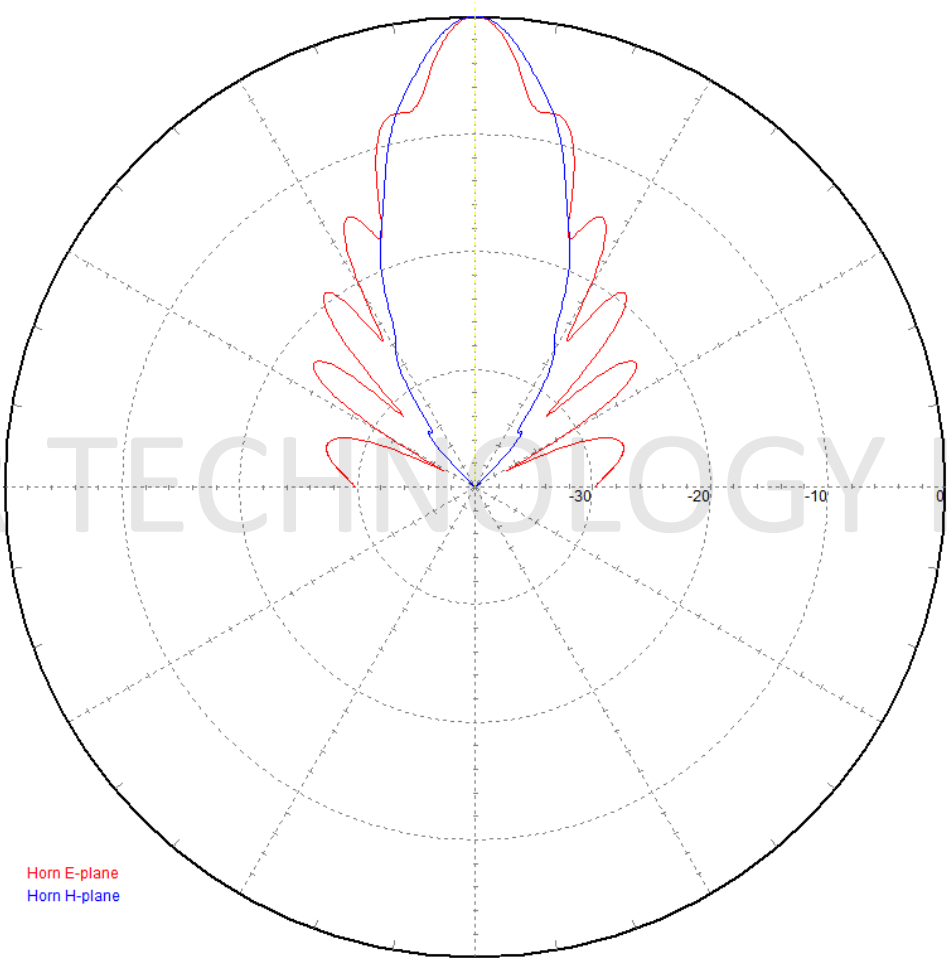


W-band QWH

At 94 GHz  
Directivity: 22.9 dB

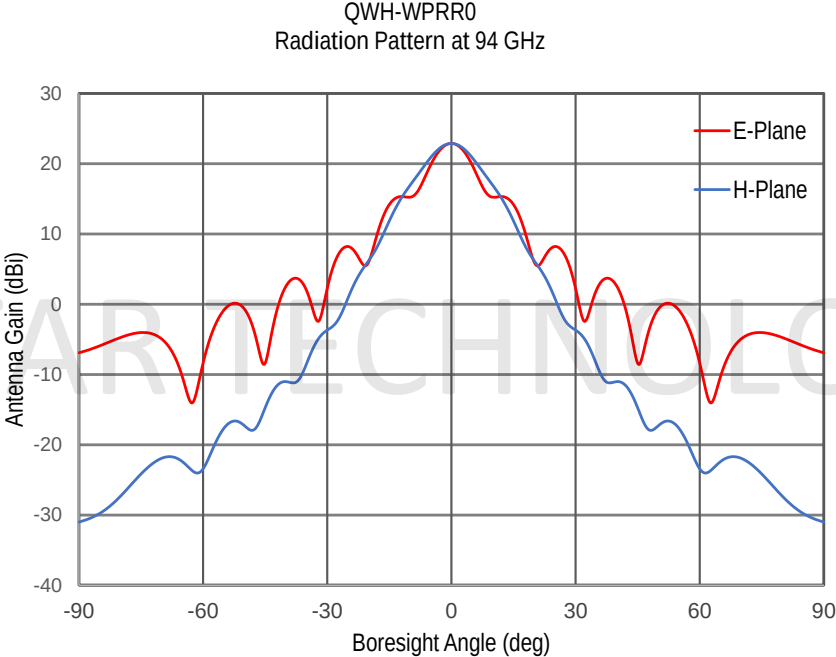
| Pattern Data . . .     |  |
|------------------------|--|
| Horn E-plane           |  |
| Main beam angle = 0.0° |  |
| 3 dB beamwidth = 9.9°  |  |
| Value at 0.0° = 0.0 dB |  |
| Offset = 0 dB          |  |
| Horn H-plane           |  |
| Main beam angle = 0.0° |  |
| 3 dB beamwidth = 12.6° |  |
| Value at 0.0° = 0.0 dB |  |
| Offset = 0 dB          |  |

|                                     |       |
|-------------------------------------|-------|
| Directivity [dB] . . . . .          | 22.9  |
| E-plane phase center (cm) . . . . . | 2.762 |
| H-plane phase center (cm) . . . . . | 3.387 |

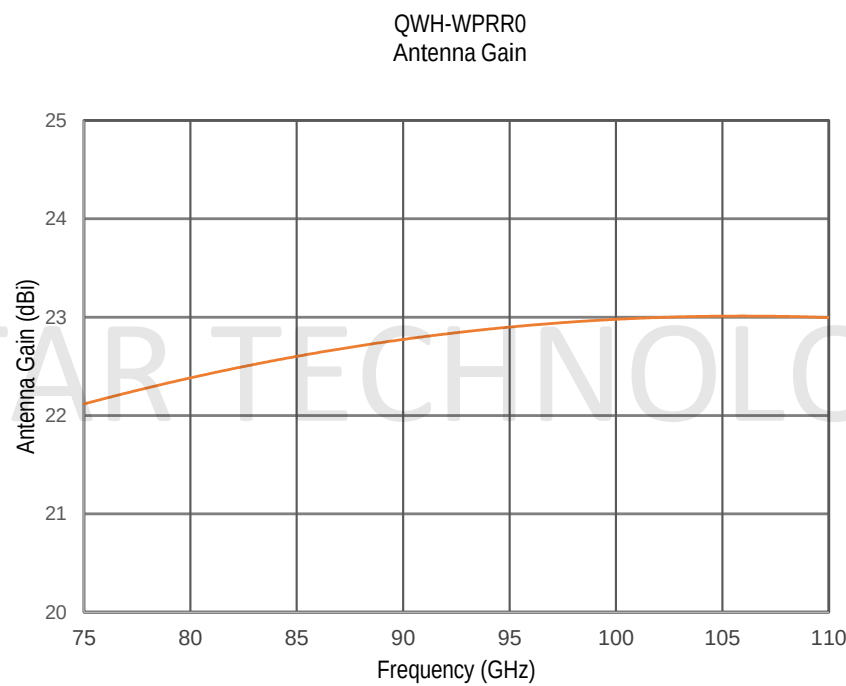


W-band QWH

At 94 GHz  
Directivity: 21.7 dB



W-band QWH  
At 94 GHz  
Directivity: 21.7 dB



W-band QWH

At 94 GHz

Directivity: 21.7 dB

