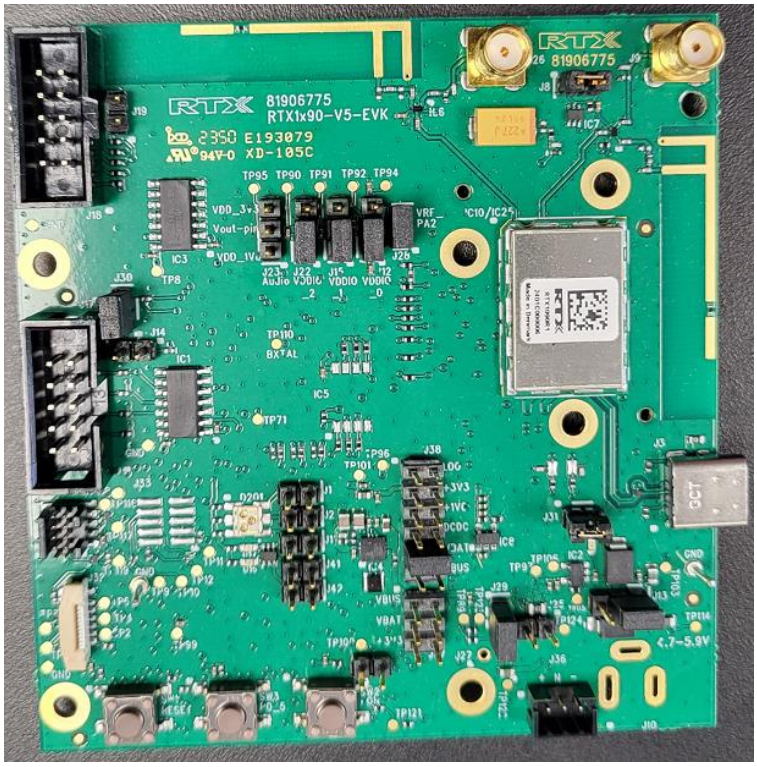
Inverted F antenna on RTX1090 EVK.

Summary information:

	A1(top)	A2(side)	Frequency band
Max. Antenna Gain EU	6.0 dBi	3,7 dBi	1881.792 – 1897.344 MHz
Max. Antenna Gain US	6.0 dBi	3,8 dBi	1921.536 – 1928.448 MHz
Max. Antenna Gain JP	6.0 dBi	3,9 dBi	1895.616 – 1904.256 MHz

A1 antenna



A2 Antenna

Figure 1. Antenna overview

Company address:
RTX A/S
Strømmen 6
9400 Nørresundby
Denmark

1 Antenna A1

Note: Antenna gain is the same for all regions (6,0 dBi) therefore only one plot is shown.

1.1 Radiation pattern

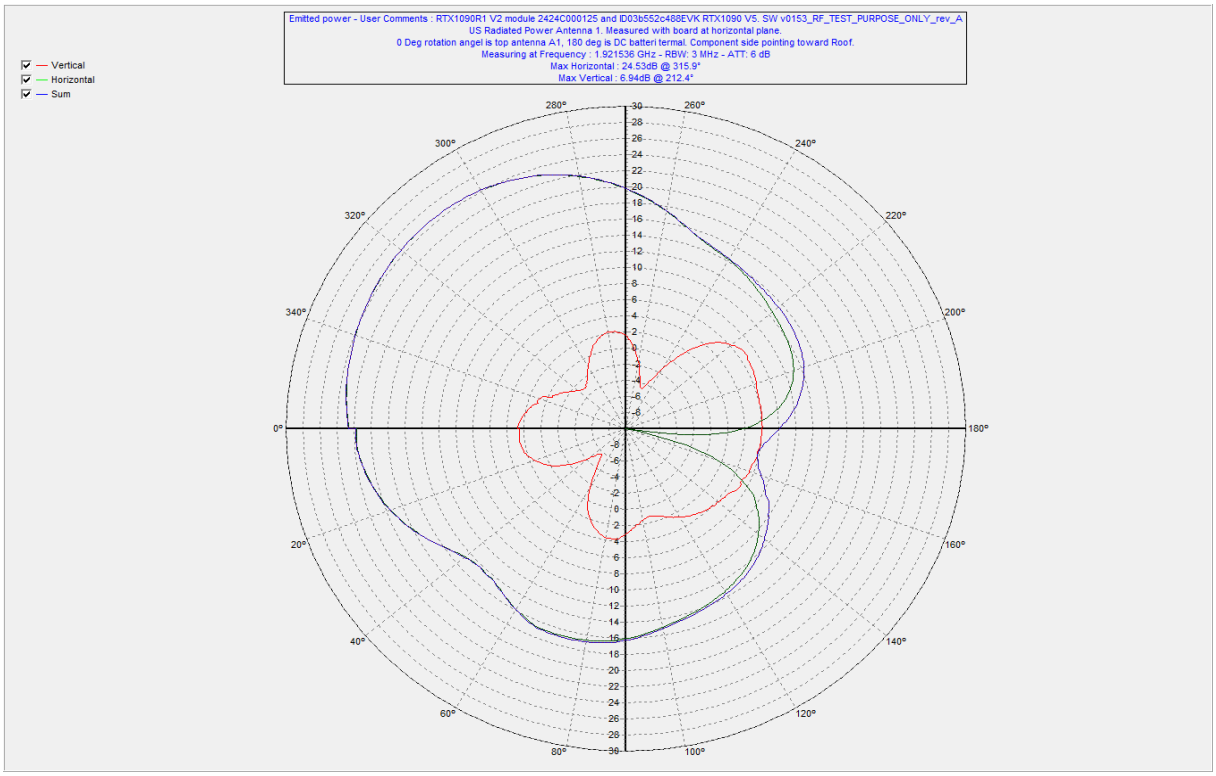


Figure 2. antenna A1

1.2 Gain & Beamwidth

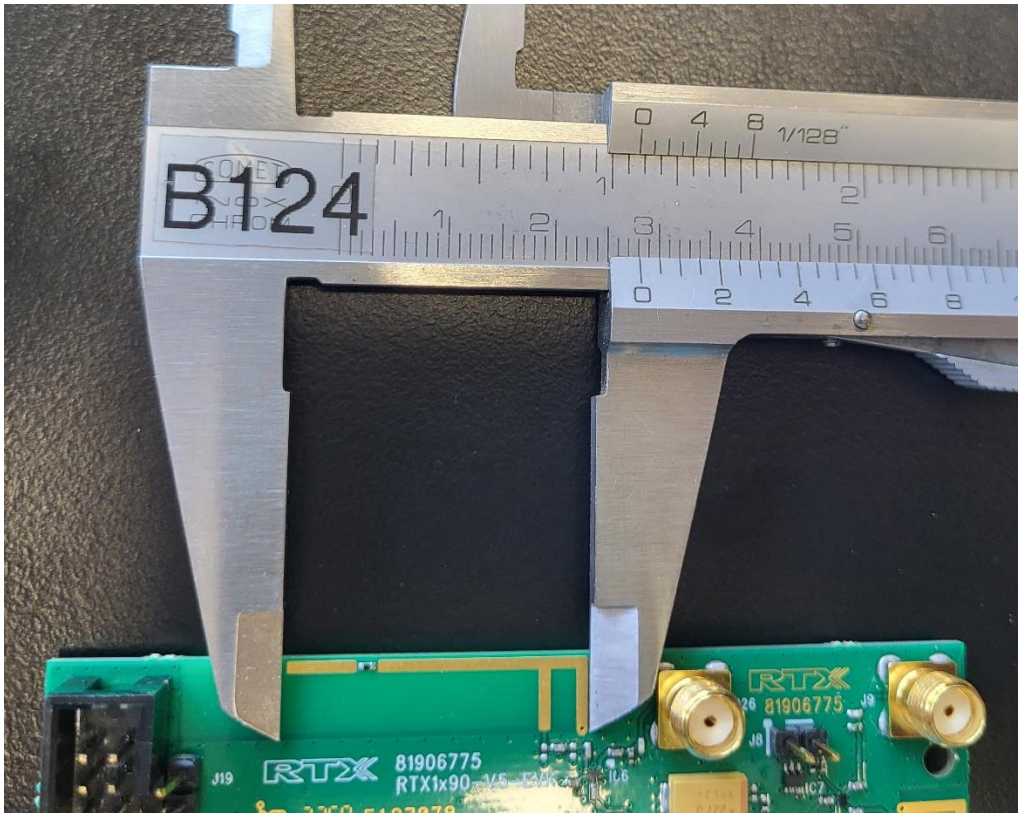
Antenna gain= Measured radiated power-Measured conducted power

$$Antenna\ gain = 24{,}5\ dBm - 18{,}5\ dBm = 6{,}0\ dBi$$

Beamwidth = 100°

RTX A/S
Strømmen 6
9400 Nørresundby
Denmark

1.3 Photographs and dimensions



Antenna length: 28 mm, width 6,5 mm

2 Antenna A2

pattern, gain, beamwidths, photographs and dimensions

2.1 Radiation pattern - EU

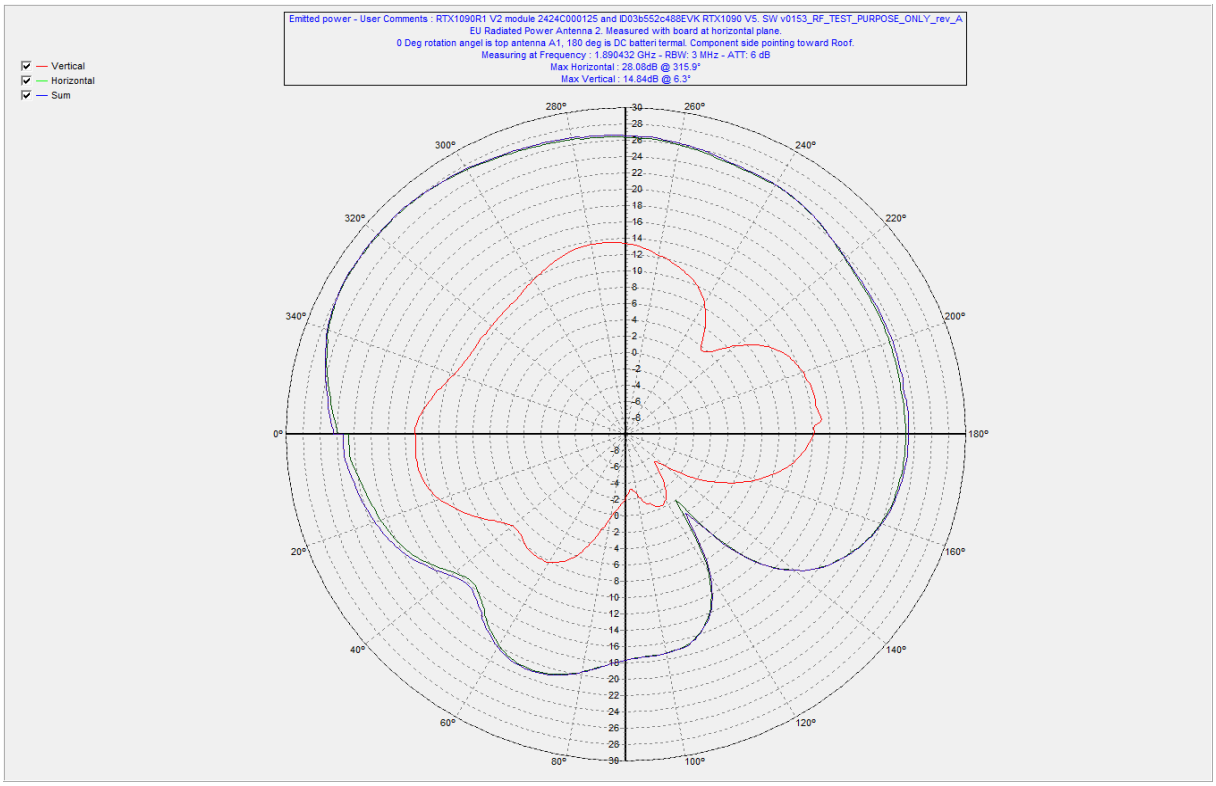


Figure 3. Antenna A2

2.1.1 Gain & beamwidth (EU calculation)

Antenna gain= Measured radiated power-Measured conducted power

$$Antenna\ gain = \ 28{,}1\ dBm - 24{,}4\ dBm = 3{,}7\ dBi$$

Beamwidth = 120°

RTX A/S
Strømmen 6
9400 Nørresundby
Denmark

2.2 Radiation pattern - US

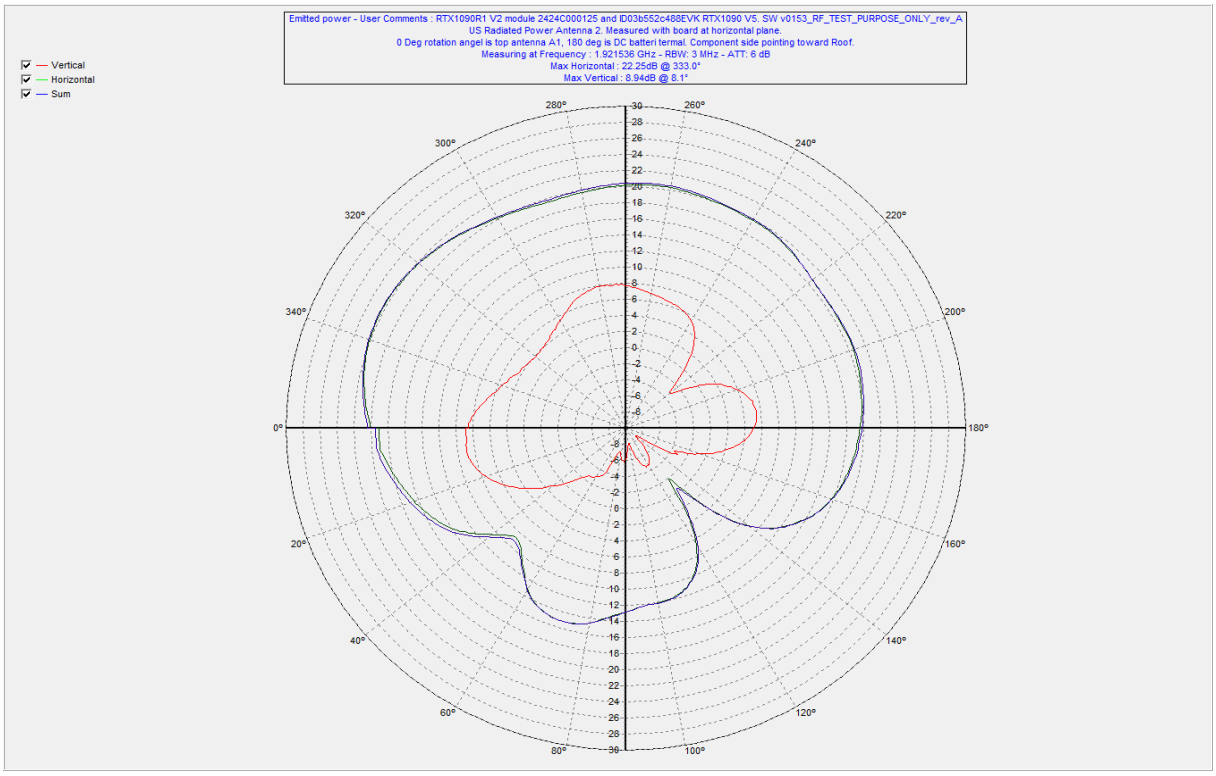


Figure 4. Antenna A2

2.2.1 Gain & beamwidth (US calculation)

Antenna gain= Measured radiated power-Measured conducted power

$$Antenna\ gain = 22{,}3\ dBm - 18{,}5\ dBm = 3{,}8\ dBi$$

Beamwidth = 150°

RTX A/S
Strømmen 6
9400 Nørresundby
Denmark

2.3 Radiation pattern - Japan

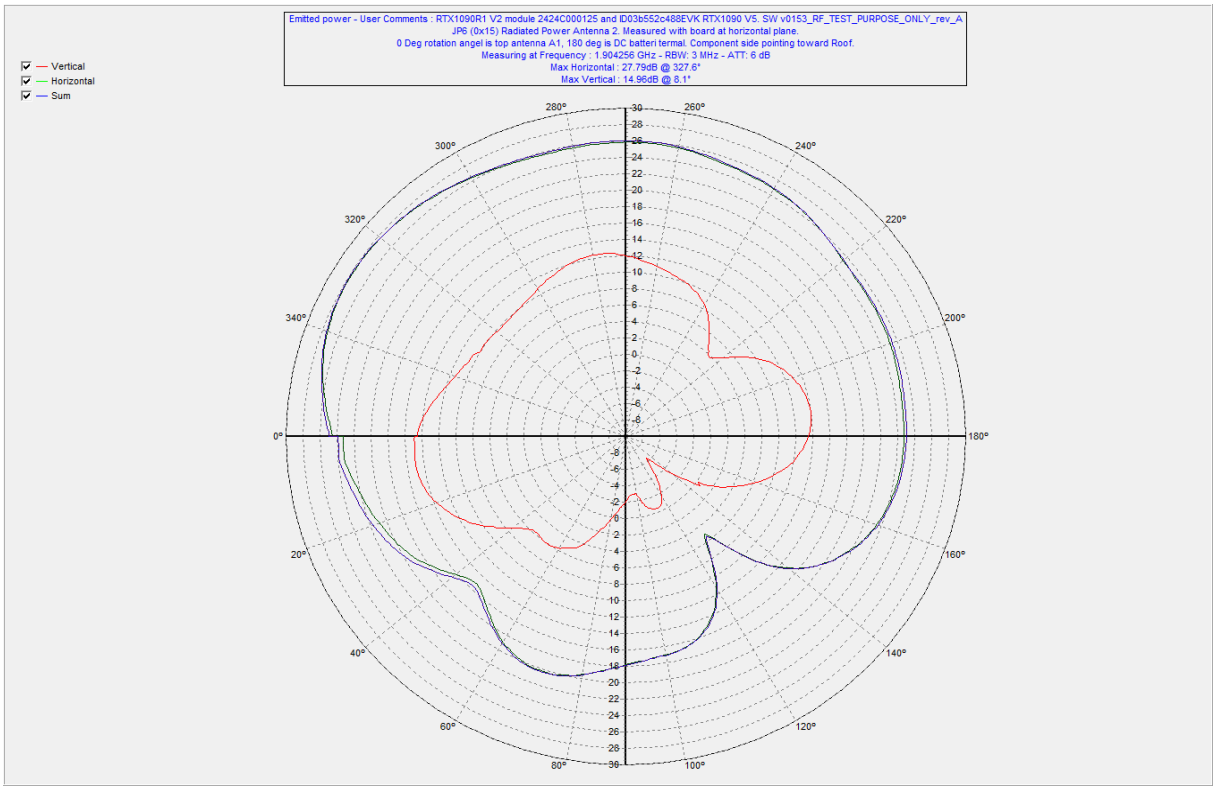


Figure 5. Antenna A2

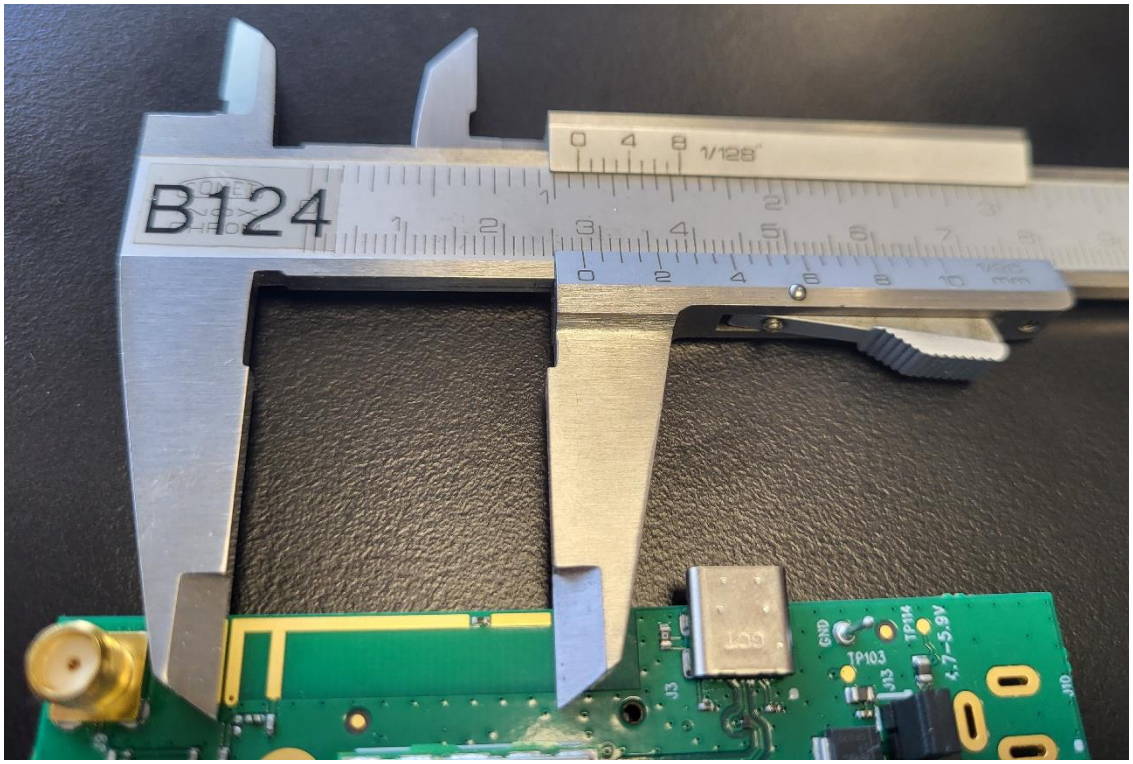
2.3.1 Gain & beamwidth (US region calculation)

Antenna gain= Measured radiated power-Measured conducted power

$$Antenna\ gain = 27{,}8\ dBm - 23{,}9\ dBm = 3{,}9\ dBi$$

Beamwidth = 120°

2.4 Photographs and dimensions



Antenna length: 28 mm, width 6,5 mm

RTX A/S
Strømmen 6
9400 Nørresundby
Denmark