



**NGS20-C170-RBL**

UHF Broadband Slot Antennas with Increased Front to Back Ratio for NextGen Single Frequency Networks. Low Wind-load, Elliptically or Circularly Polarized.

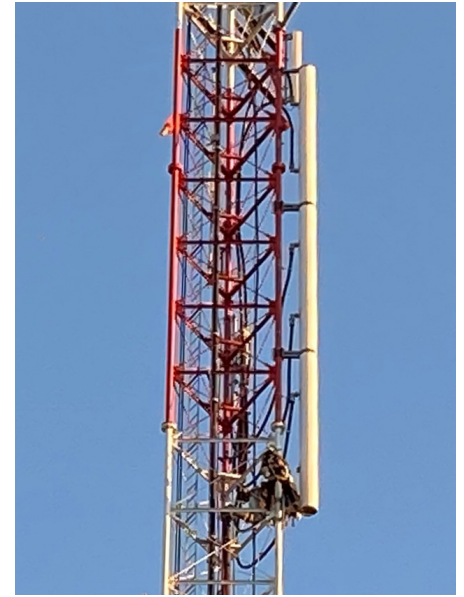
**PRODUCT DESCRIPTION**

The NGS-RBL (Reduced Back Lobe) series antennas are ideal for multi-channel Next Generation TV networks. These antennas are designed to reduce radiation in the rear direction to minimize interference to adjacent services. For difficult network planning scenarios, these antennas will enable the network designer to meet the FCC requirements without resorting to large reductions in radiated power.

The high-power rating and broadband performance allow multiple channels to be transmitted from an SFN site, thus reducing capital costs and providing consistent coverage across channels. Elliptical or circular polarization is available for improved transmission to portable and indoor devices.

The NGS-RBL family of antennas provide both top-mounted and side-mounted solutions in a low wind load format.

A wide range of radiation patterns are available. The RFS Antenna Selection Tool contains pattern data for all NGS antenna models and works alongside modern SFN planning tools to help you choose the right NextGen antenna for each SFN site. To download, click [Here](#)



**FEATURES / BENEFITS**

- Reduced rear radiation (reduced back-lobe design) simplifies network planning for difficult sites reducing the need for large ERP reductions to mitigate interference.
- Broadband performance for multi-channel SFN networks allows SFN infrastructure sharing and reduces overall CAPEX.
- Low wind-load reduces tower loads thus simplifying SFN site acquisition.
- Large range of azimuth radiation patterns – simplifies the SFN planning process to provide optimum network coverage.
- Broadband elliptical or circular polarization performance – improves signal penetration and network performance.
- Supplied with brackets for side mounting to a wide range of tower leg sizes.

**TECHNICAL FEATURES**

**DETAILS**

<b>Product Type</b>		NextGen-TV Broadcast Antenna
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**ELECTRICAL SPECIFICATIONS**

<b>Antenna Type</b>		Broadband Slot Antenna with increased Front/Back Ratio
<b>Operating Frequency Range</b>	MHz	470-608
<b>Polarization</b>		Elliptical
<b>Azimuth Radiation Pattern</b>		Cardioid C170-RBL
<b>VSWR</b>		<1.1:1
<b>Impedance</b>	Ohms	50 (for 1-5/8" to 6-1/8" Inputs) 75 (for 7-3/16" Input)

**MECHANICAL SPECIFICATIONS**

<b>Radome Diameter</b>	mm (in)	381 (15)
<b>Pressurization Operational</b>	kPa (psi)	10 to 25 (1.4-3.6)
<b>Pressurization Test</b>	kPa (psi)	100 (15)



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**MATERIAL**

Material - Radome		UV Resistant Fibre Glass
Material - Insulators		Virgin PTFE
Material - Support Pole / Mounting		Hot Dipped Galvanized Steel
Material - Feedline & Radiators		Copper
Material - Reflecting System		Aluminum
Color		White, others on request

**MODEL NUMBER SPECIFICATIONS**

Antenna Model		NGS08-C170-RBL	NGS12-C170-RBL	NGS16-C170-RBL	NGS20-C170-RBL	NGS24-C170-RBL
Number of Bays		8	12	16	20	24
Elevation Gain at 539 MHz	Numerical	8.4	12.1	16.0	20.1	24.0
Azimuth Pattern Directivity	Numerical	2.0				
Peak Gain at 539 MHz	Numerical	16.7	24.2	31.9	40.2	48.0
Peak Gain at 539 MHz	dBd	12.2	13.8	15.0	16.0	16.8
Standard Beam-Tilt	[note 1]	1.0	1.0	0.75	0.75	0.75
Power Rating: High Power Model	kW	34	50	60	70	80
Connector: High Power Model		4-1/16"	6-1/8" EIA	6-1/8" EIA	6-1/8" EIA	7-3/16"
Power Rating: Low power Model	kW	10	15	20	25	30
Connector: Low Power Model		3-1/8" EIA	3-1/8" EIA	3-1/8" EIA	4-1/16"	4-1/16"
Mounting Type		Top or Side	Top or Side	Side	Side	Side
Height	m (ft) [note2]	4.30 (14.1)	6.49 (21.3)	8.69 (28.5)	10.91 (35.8)	13.11 (43.0)
Weight	kg (lb) [note2]	238 (525)	445 (981)	621 (1370)	804 (1773)	1050 (2315)
Effective Area Front (No Ice)	m <sup>2</sup> (ft <sup>2</sup> ) [note 2,3,4]	1.00 (10.8)	1.51 (16.2)	2.01 (21.7)	2.52 (27.1)	3.02 (32.5)

**External Document Links**

Antenna Selection Tool: [Download](#)

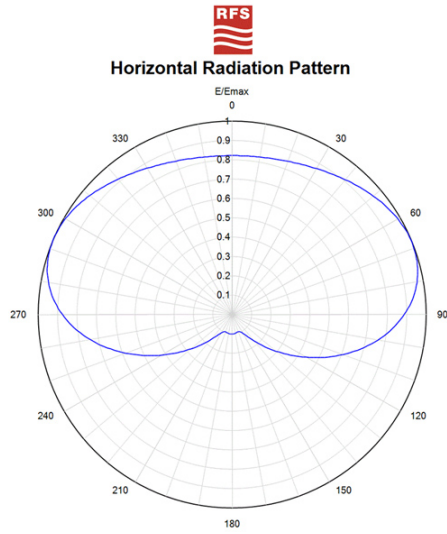
**Notes**

- Note 1:** Other Beam-tilts available on request
- Note 2:** Data shown is for side mounted antennas
- Note 3:** Design Parameters in accordance with TIA-222-G are:
  - 160 kmh (100 mph) Basic Wind Speed with no ice
  - Structure Class II
  - Topographic category 1, Exposure category C
  - Interface steelwork to tower not included in calculations.
- Note 4:** Moment of arm from mounting pole to centre of antenna = 0.65m (2.1ft).

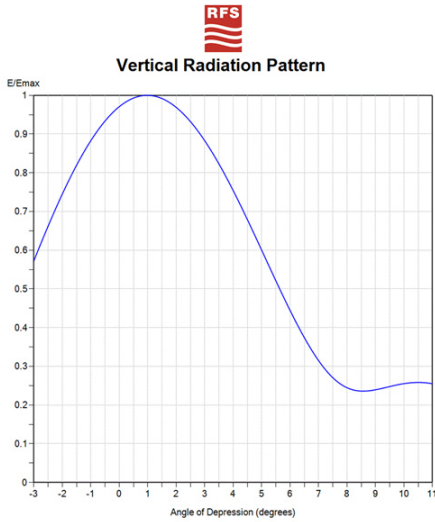


**PRODUCT DATASHEET**  
**NGS20-C170-RBL**

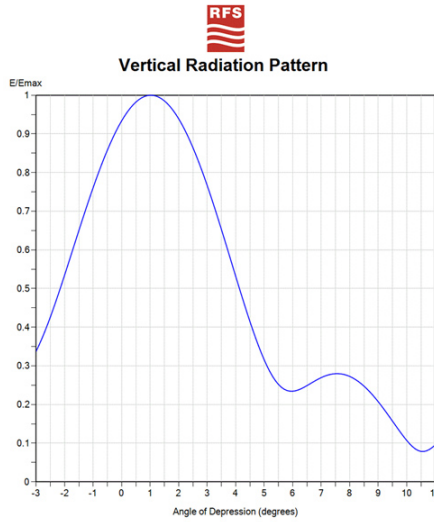
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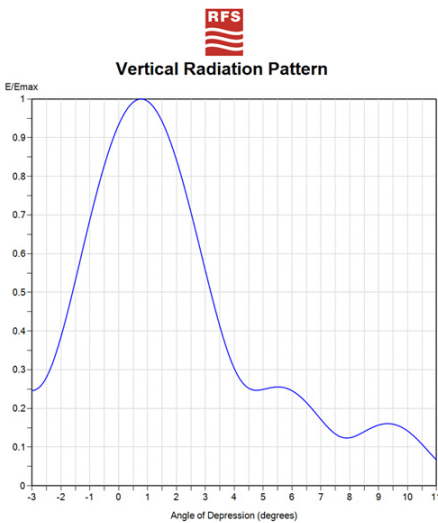
Azimuth Pattern: NGS-C170-RBL Antennas



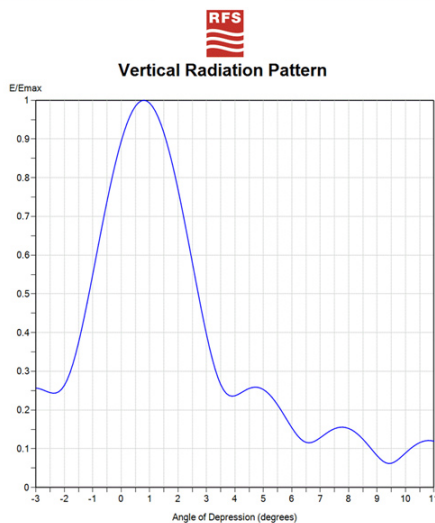
Elevation Pattern: NGS-RBL 8 Bay Antennas



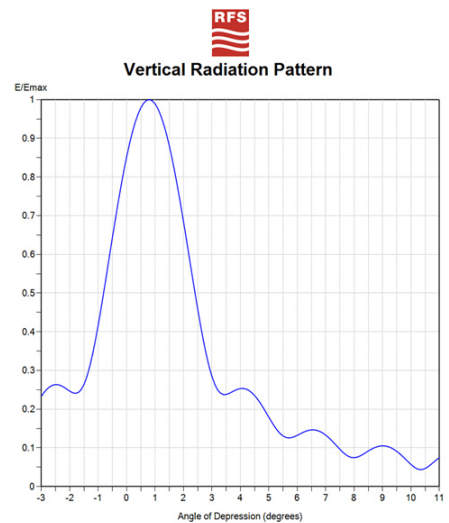
Elevation Pattern: NGS-RBL 12 Bay Antennas



Elevation Pattern: NGS-RBL 16 Bay Antennas



Elevation Pattern: NGS-RBL 20 Bay Antennas



Elevation Pattern: NGS-RBL 24 Bay Antennas