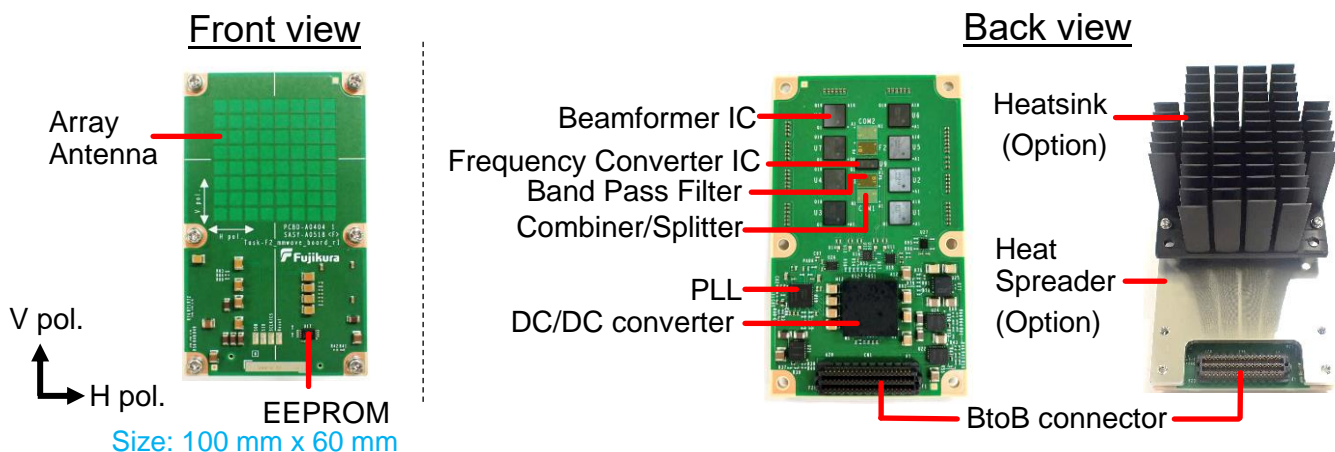


FutureAccess™ Type-C 28 GHz mmWave Antenna Board



Overview

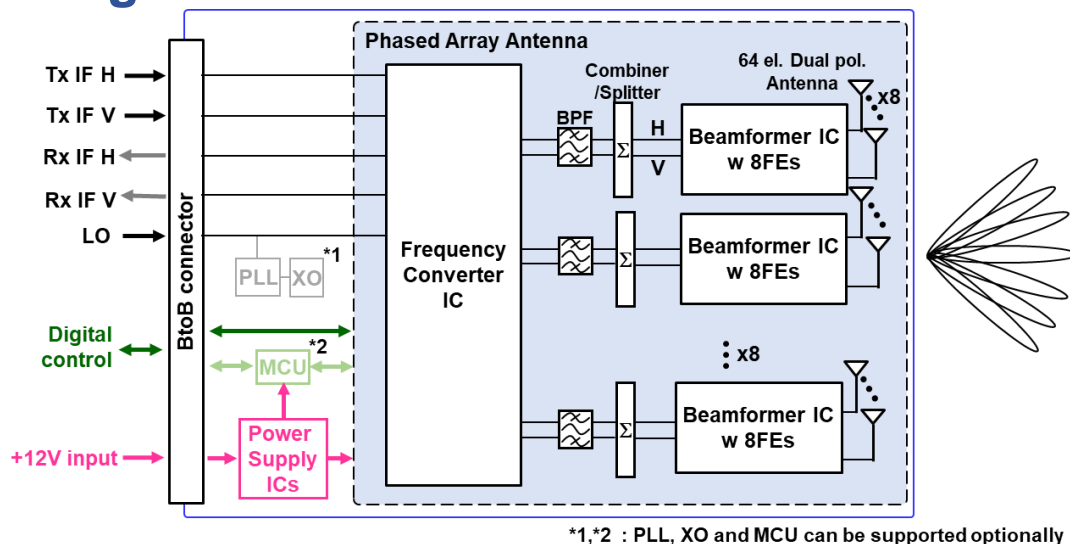
Fujikura's 28 GHz mmWave Antenna Board has transmitter and receiver functions with dual polarized phased 8x8 array antenna at 24.25-27.50 GHz or 26.50-29.50 GHz. This board is fully integrated subsystem with Board to Board (BtoB) connector, PLL (Phase Locked Loop), and DC/DC converter with single 12 V power supply. Beamformer ICs, Frequency Converter IC, Band Pass Filters, Combiner/Splitter and Array Antenna are integrated into this board, which benefits customers with optimal TCO and reduced development time.



Features

- Calibration-free : Easy operation without gain/phase calibration
- Accurate beam control : $\geq 20,000$ beam directions in ± 60 deg. range
- Fast beam-switching : ≤ 220 ns switching time including control
- EIRP 48 dBm per pol. at EVM 4.5% using BW = 100 MHz, 256QAM
- Fast parallel interface for digital control

Block Diagram



*1,*2 : PLL, XO and MCU can be supported optionally



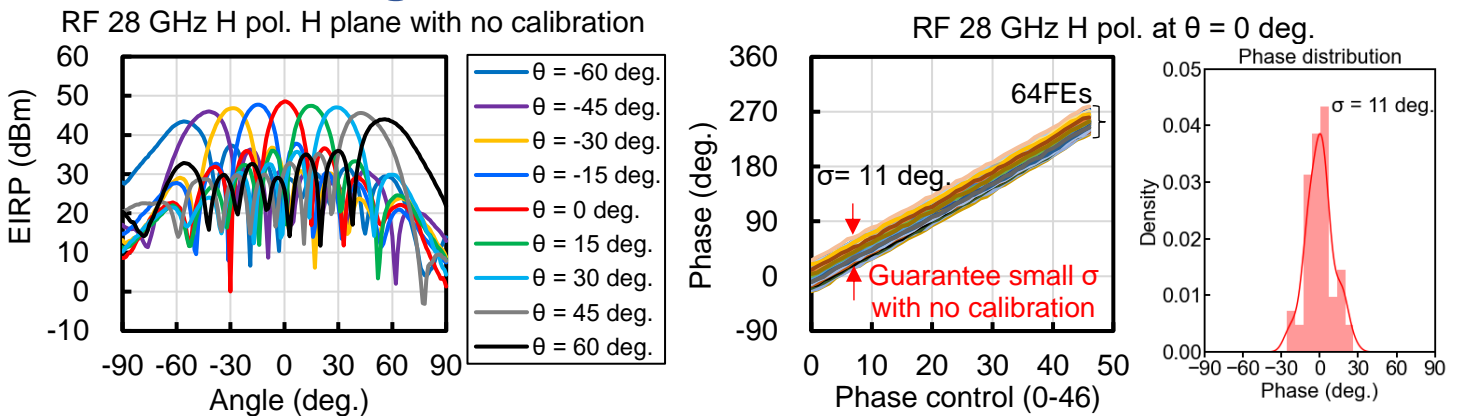
FutureAccess™ Type-C 28 GHz mmWave Antenna Board



Specification

Parameter		Typical values	Notes
Frequency range (GHz)	RF	24.25 to 27.50	n258 supported
		26.50 to 29.50	n257, n261 supported
	IF	4.3 to 5.5	4.9±0.6 GHz
	LO	7.1 to 8.3	for n258
		7.7 to 8.8	for n257
Number of elements		64	8x8
Polarization (Pol.)		H pol., V pol.	
Number of TRx per unit		2T2R	
Beam steering range (deg.)		±60	Horizontal/Vertical
Beam states	Beam table	2,048	
	On-Chip Calculation	≥ 20,000	
Beam switching periodicity (ns)		≤ 220	including control
Supply voltage (V)		12	
EIRP (dBm) per pol.		48	with EVM = 4.5%, BW = 100 MHz, 256QAM
Estimated EIS _{REFSENS_50M} (dBm) per pol.		-112	with BW = 100 MHz, QPSK
Power consumption (W)	Tx	48	at dual pol. enabled
	Rx	12	

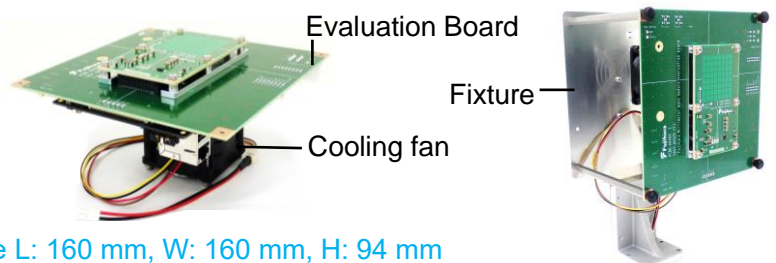
Beamforming Performance and Accurate Phase Control



Applications

- 5G NR Mobile Base Station
- Local 5G / Private 5G
- Fixed Wireless Access / Wireless Backhaul
- Repeater

Evaluation Board



Part number

Part number	Description
FA28MAB88C-B1	26.50 to 29.50 GHz (n257, n261) supported
FA28MAB88C-B2	24.25 to 27.50 GHz (n258) supported

Note :

- The values on the table shown above are preliminary, not guaranteed.
- Please refer to the PRODUCT WARRANTY (MW96-11-22-0044) for more detail.
- All contents in this brief are subject to change without any notice.

MW96-11-25-0006(2)



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