

# 60 GHz Millimeter Wave Wireless Communications Module

## Overview

Fujikura provides compact embedded 60GHz mmWave wireless communications modules using a high gain phased array antenna. Their compact design combines a baseband wireless modem function and an antenna with an included RF front end function.



Phased array antenna  
with RF front end

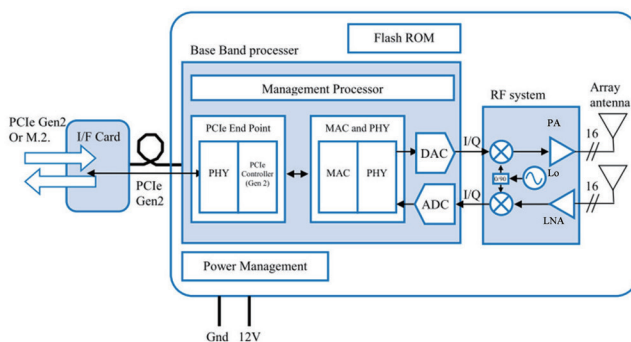
Baseband

size(mm): 62(W) x 113(H) x 17.4(D)

## Features

- Low loss LCP materials and high output RF-IC
- Long distance & high capacity transmission: > 1 Gbps at 500 m
- Stress-free installation: automatic beamforming over  $\pm 45$  degrees
- Wide band: full coverage of the 57 to 71 GHz frequency bands

## Block diagram



## Specifications

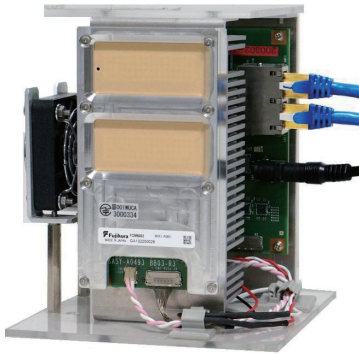
Parameter	Unit	Min	Max	Note
Frequency range	GHz	57	71	*1
Channel bandwidth	GHz	0.54 / 1.08 / 2.16		Quarter / Half / Full
EIRP	dBm	—	40	
Azimuth beamforming	deg	+/- 45		
Interface	—	PCIe Gen2		x2 lane
Power supply voltage	V	12 (Typ.)		
Size	mm	62 x 113 x 17.4		W x H x D

\*1 57-66GHz for Japan

This module can be independently certified for Technical Regulations Conformity Certification in Japan, which does not require a license. For commercial products, the similar certification required in other countries will be obtained, such as FCC (USA) and CE (EU).



# Development kits for customer evaluation

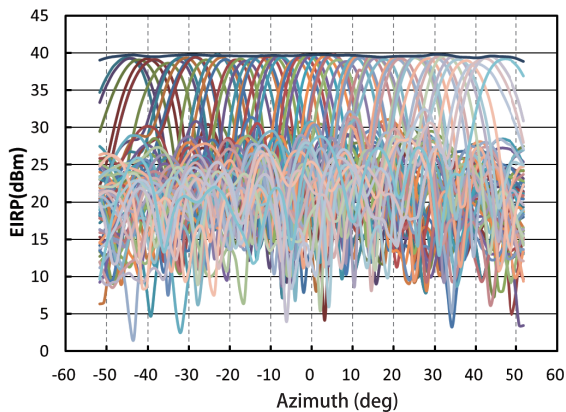


**Software development kit**  
 Consists of 60GHz Com. Module and NPU for indoor evaluation

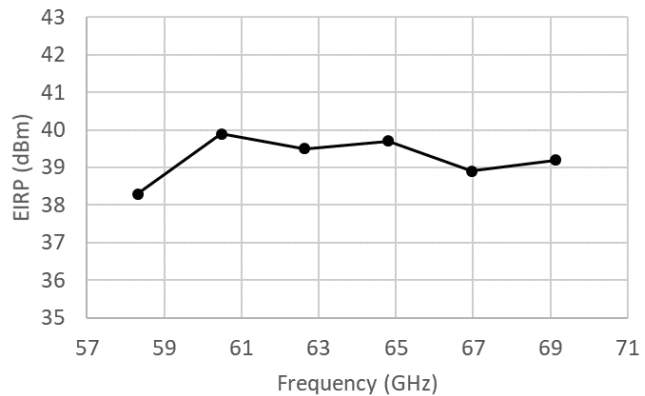


**Outdoor evaluation kit**  
 Consists of 60GHz Com. Module, NPU, and a waterproof and dustproof enclosure for outdoor evaluation (equivalent to IP53)

## Measurement data

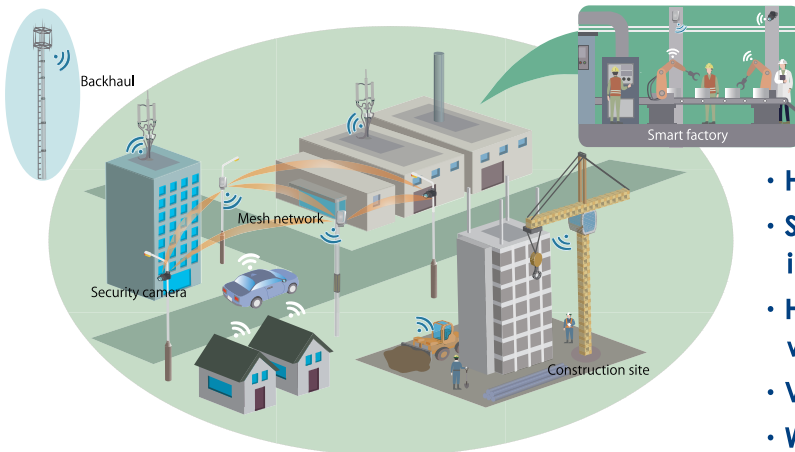


**Beamforming characteristics**



**Output power (EIRP) performance**

## Applications



- High-speed private networks
- Smartification in commercial & industrial facilities
- High-definition, low-latency wireless video networks
- V2X for commercial & industrial vehicles
- Wireless backhaul & wireless mesh networks

Caution : All contents in this paper are subject to change without notice.