

Millimeter- and Terahertz-wave Application Technology



- Ultra-high-speed wireless data transmission and millimeter- and terahertz-wave imaging -



Motivation

Millimeter and terahertz waves are promising for ultrahigh-speed wireless transmission and see-through imaging with millimeter-order spatial resolution and good penetration in dry nonmetallic materials.



Originality

To enable practical use of millimeter-wave and terahertzwave applications, we are developing devices and systems that use photonics and electronics technologies.



Impact

120-GHz-band wireless link can handle 10-Gbit/s-class transmission for protocols, such as 10Gb Ethernet, and multiplexed uncompressed HDTV signals.

Millimeter/terahertz imaging technology is suitable for non-destructive testing and security surveillance to provide our social safety.



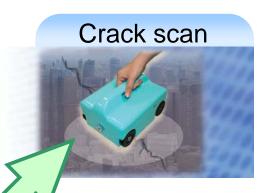
Microwave	Millimeter-v	vave Tera	hertz-wave	Infrared ray	Visible light
1GHz	30GHz	300GHz	3THz		300THz 1PHz
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120-GHz-band Wireless Link

Real-time millimeterwave imaging system





sensors

Our technologies

Electronics

High-speed MMIC Reactive-near-field radar

Terahertz

EO probe

Photonics

spectroscopy

Hiroyuki Takahashi t-hiro@aecl.ntt.co.jp Contact: Jun Takeuchi jun.take@aecl.ntt.co.jp Shoji Mochizuki mochi@aecl.ntt.co.jp