MWC2024報告

東京工業大学・マクセル株式会社

概要

●展示物
　→Beyond 5G/6G用
　　ミリ波/テラヘルツ波
　　パッシブデバイス

●展示場所
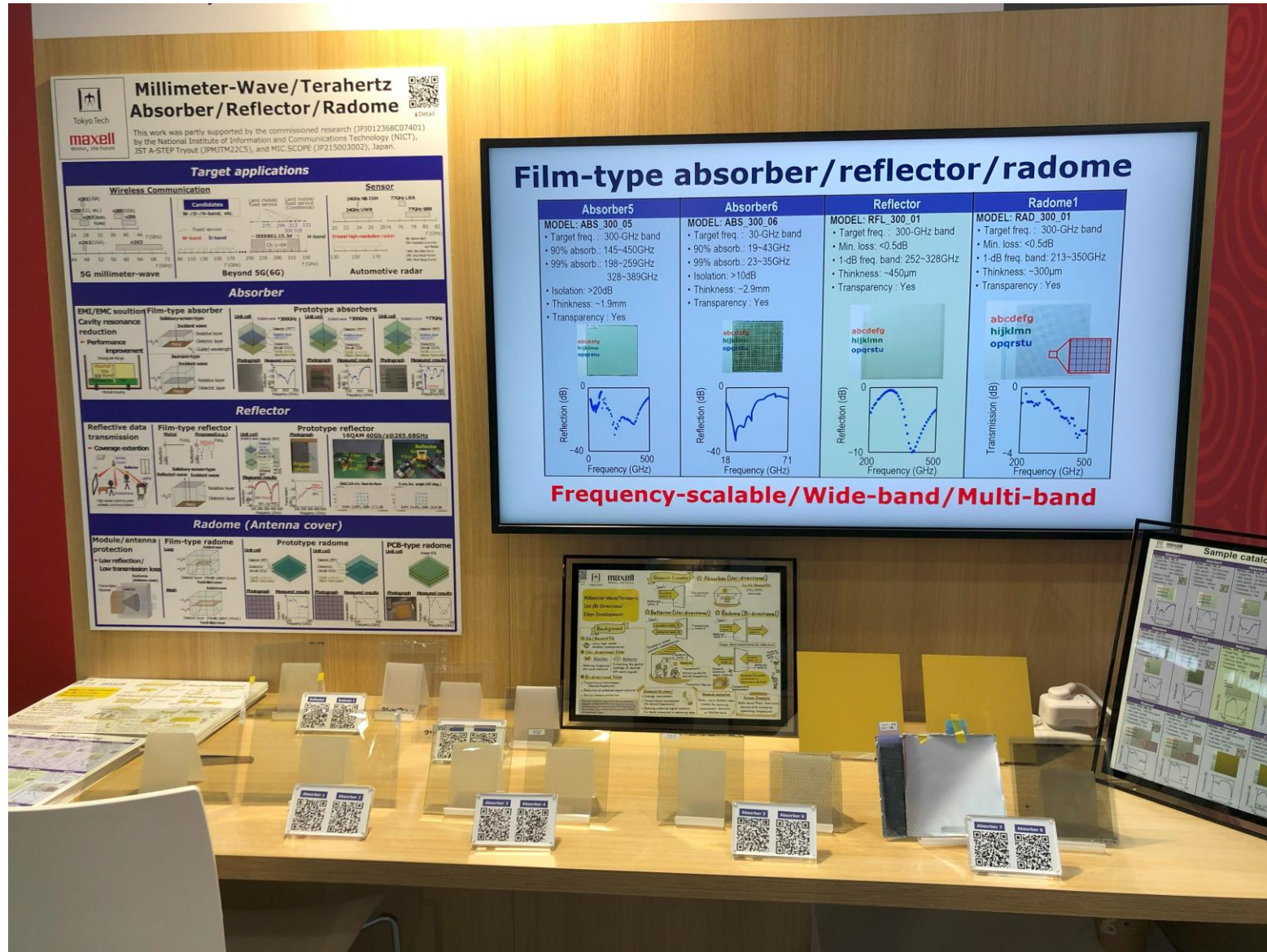　→D-6 (Japan Pavilion)
　　Hall6, Fira Gran Via

●参加者
　→東工大側４人
　　マクセル１人

展示会の様子

展示会の様子

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取材 (6Gworld)

Japan Comes Strong in 6G with Demos from THz to Taste Sharing

📅 March 15, 2024　　　　　　　　　　　👤 Written by Caio Castro

Tokyo Tech and Maxell

The educational institution and the manufacturer displayed radio-wave absorbers (unidirectional), reflectors (unidirectional), and radomes (bidirectional) developed for 6G.

They all work in the sub-Terahertz range:

- Two absorbers at 300 GHz
- One absorber at 150 GHz
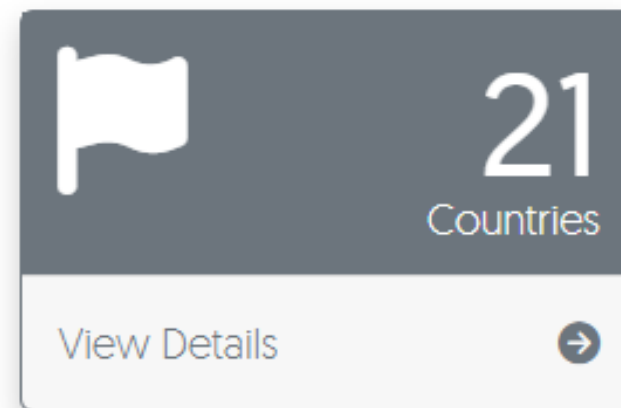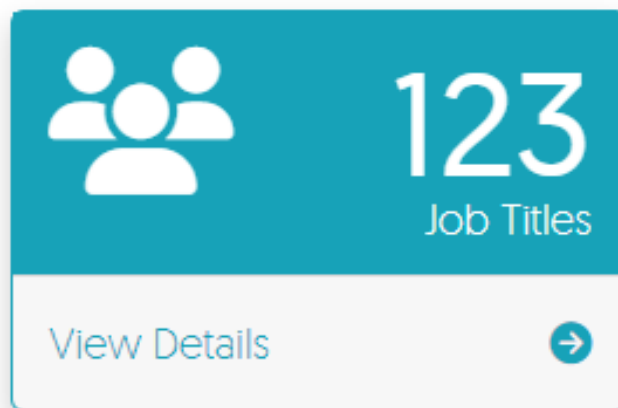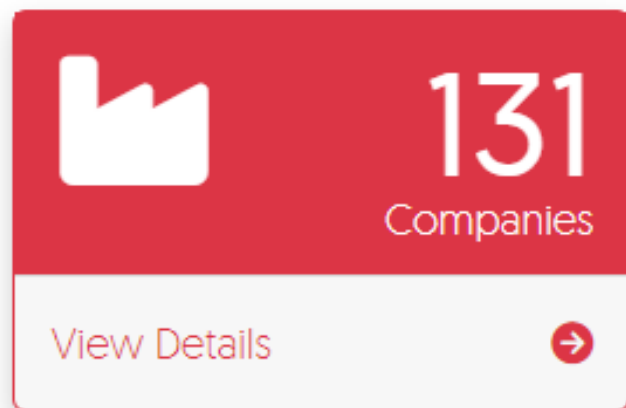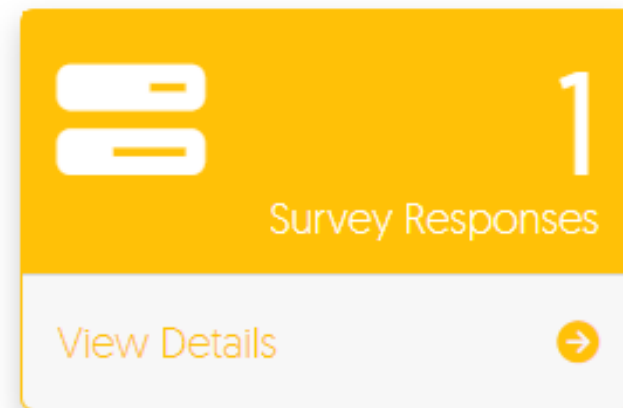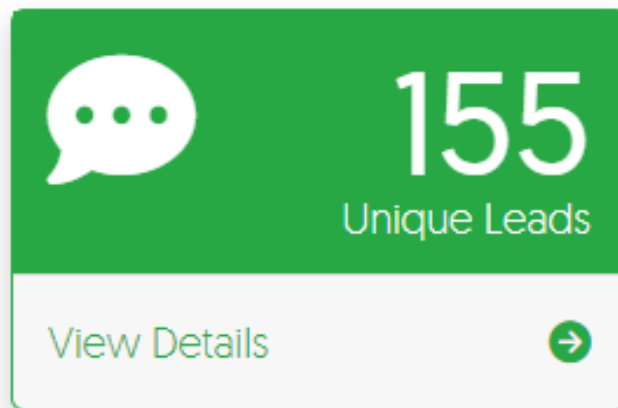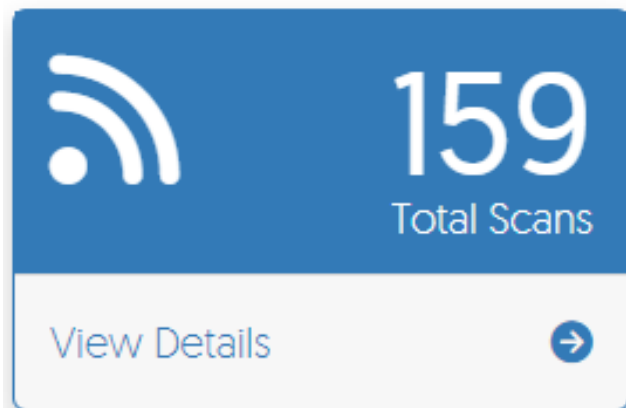- One reflector at 300 GHz
- Four radomes at 300 GHz.

Each product has a different thickness depending on the use case (the absorbers, for instance, vary between 470 micrometres and 2.9 millimetres).

https://www.6gworld.com/exclusives/japan-comes-strong-in-6g-with-demos-from-thz-to-taste-sharing/

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来場者データ
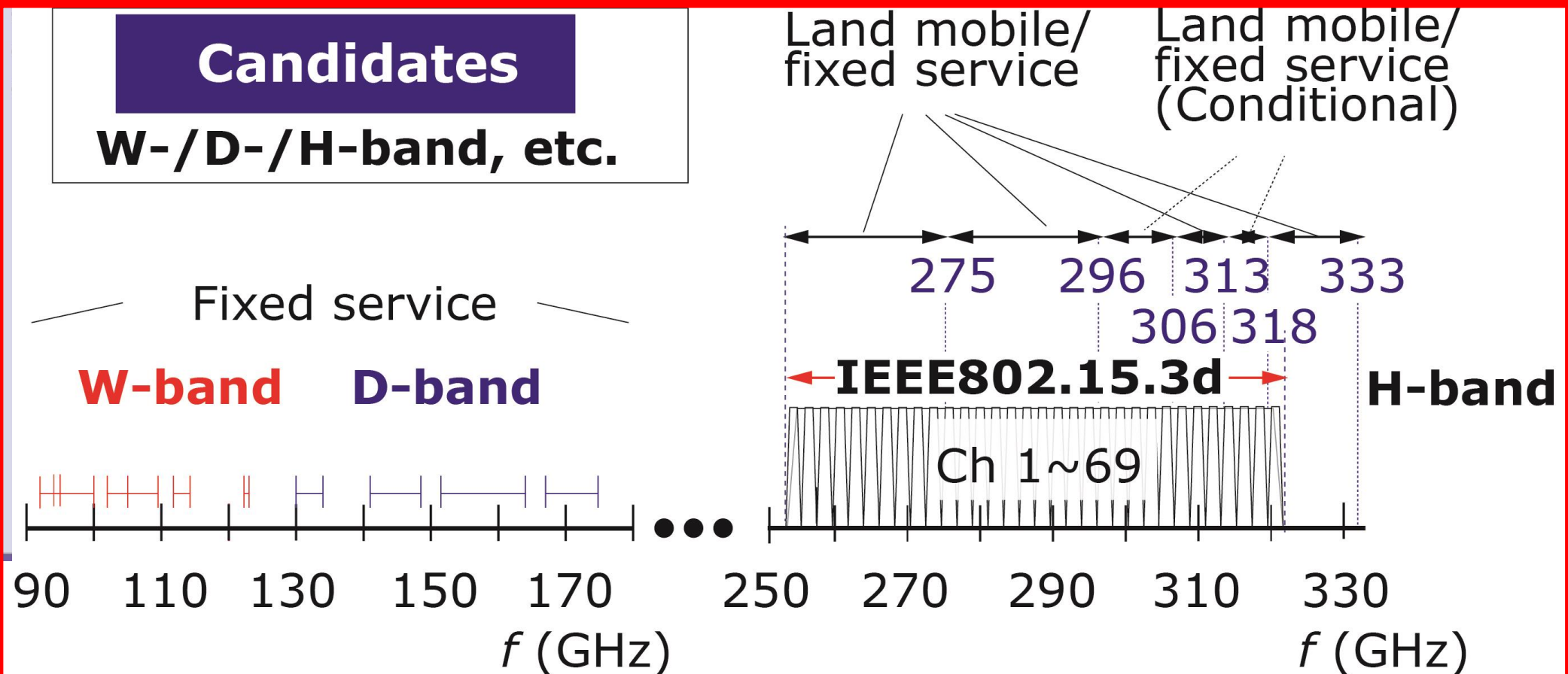
● 合計来場者数(D-6のみ)：１８０人程度

展示物紹介
【ミリ波・テラヘルツ帯パッシブデバイス】

フィルム型電波吸収体

Absorber1	Absorber2
MODEL: ABS_300_01	MODEL: ABS_150_01
●Target freq. : 300-GHz band	●Target freq. : 150-GHz band
●90% absorb.: 114~336GHz	●90% absorb.: 114~229GHz
●99% absorb.: 144~183GHz	●99% absorb.: 175~198GHz
244~290GHz	●Isolation: >20dB

6G(Beyond 5G)

Candidates

W-/D-/H-band, etc.

Land mobile/ fixed service

Land mobile/ fixed service (Conditional)

Fixed service

W-band   **D-band**

275   296   313   333
306 318

← **IEEE802.15.3d** →   **H-band**

Ch 1~69

90 110 130 150 170   250 270 290 310 330

f (GHz) f (GHz)

フィルム型電波吸収体

5G mmW

Absorber3
MODEL: ABS_030_01
- Target freq. : 30-GHz band
- 90% absorb.: 18~56GHz
- 99% absorb.: 24~49GHz
- Isolation: >20dB
- Thickness: ~2.7mm

フィルム型電波吸収体

フィルム型電波吸収体

Absorber1	Absorber2	Absorber3	Absorber4
MODEL: ABS_300_01	MODEL: ABS_150_01	MODEL: ABS_030_01	MODEL: ABS_077_01

Absorber1
MODEL: ABS_300_01
- Target freq. : 300-GHz band
- 90% absorb.: 114~336GHz
- 99% absorb.: 144~183GHz
                244~290GHz
- Isolation: >20dB
- Thickness: ~470μm
- Transparency : Yes

Absorber2
MODEL: ABS_150_01
- Target freq. : 150-GHz band
- 90% absorb.: 114~229GHz
- 99% absorb.: 175~198GHz
- Isolation: >20dB
- Thickness: ~690μm
- Transparency : Yes

Absorber3
MODEL: ABS_030_01
- Target freq. : 30-GHz band
- 90% absorb.: 18~56GHz
- 99% absorb.: 24~49GHz
- Isolation: >20dB
- Thickness: ~2.7mm
- Transparency : Yes

Absorber4
MODEL: ABS_077_01
- Target freq. : 77-GHz band
- 90% absorb.: 39~110GHz
- 99% absorb.: 48 ~108GHz
- Isolation: >20dB
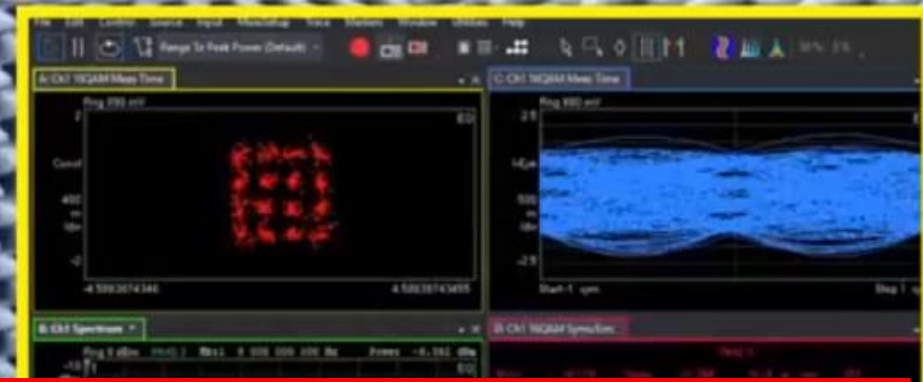- Thickness: ~1.3mm
- Transparency : Yes

300GHz帯反射体（透明）

Coverage extension

300GHz帯反射体（透明）

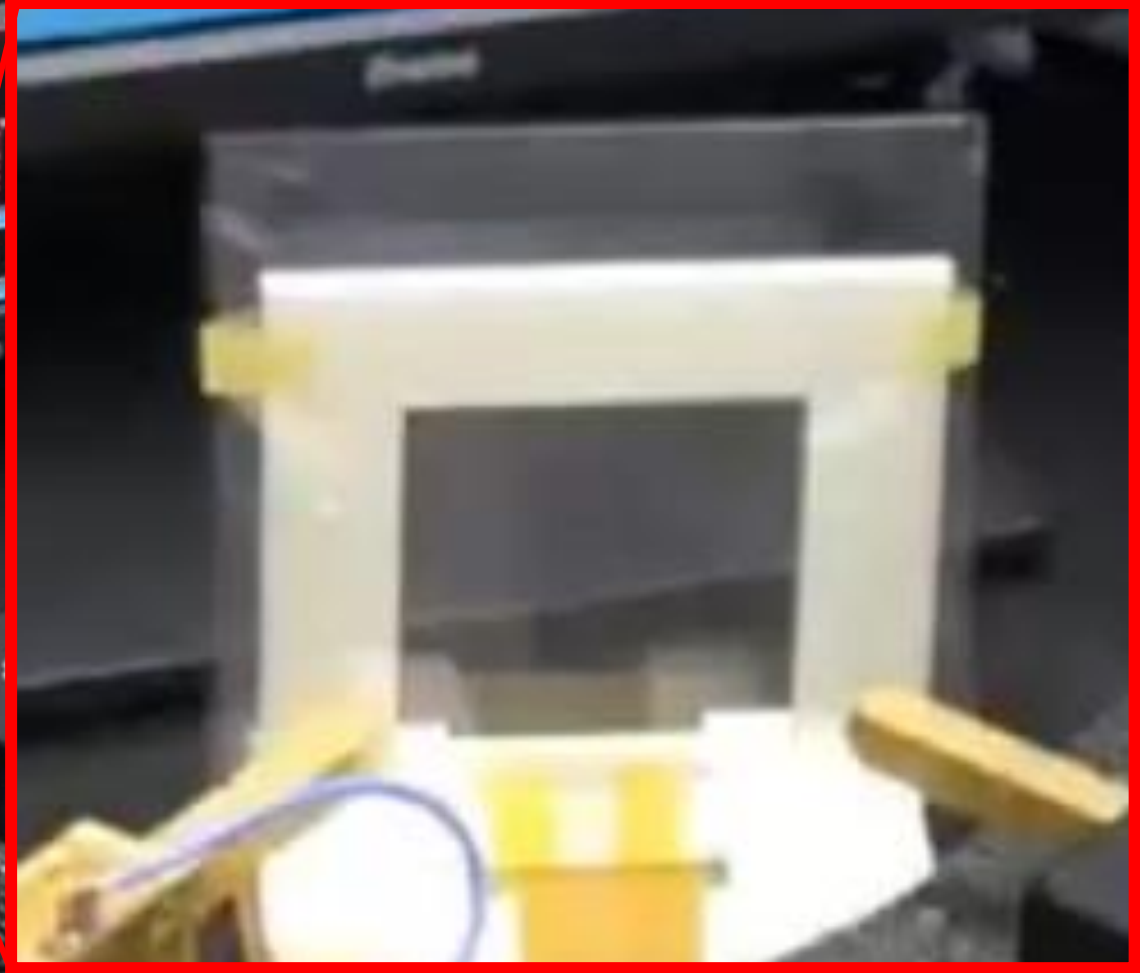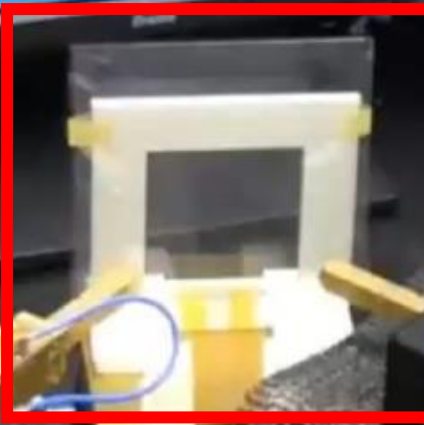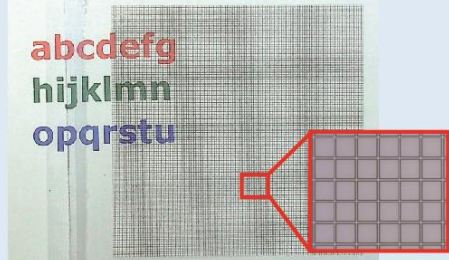**1-dB bandwidth: 214GHz-305GHz**

Reflector (modified)

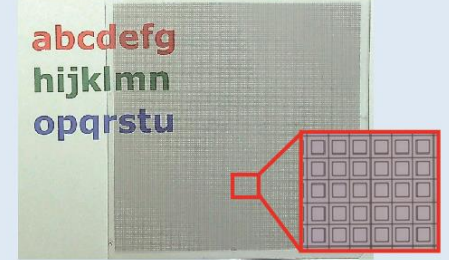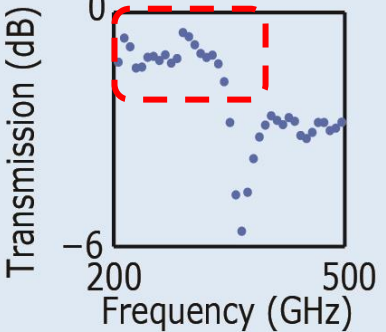**16QAM 80Gb/s @265.68GHz**

@NICT, Japan

300GHz帯レドーム（アンテナカバー）

Low-transmission loss, low reflection

ご清聴ありがとうございました