

## Communication Technology Laboratory

### Main Research

- Massive MIMO & Terminal device MIMO testbed
- Deep learning for wireless physical layer
- Compressed sensing
- Secrecy
- Smart grid

### 12x12 MIMO-OFDM System

2020.09.02



### Highlight

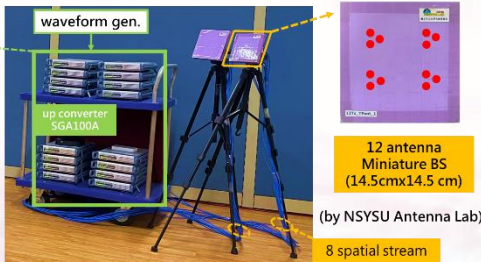
#### 16x16 MIMO-OFDM System

2021.09.07

##### 16 Tx MIMO-OFDM Configuration

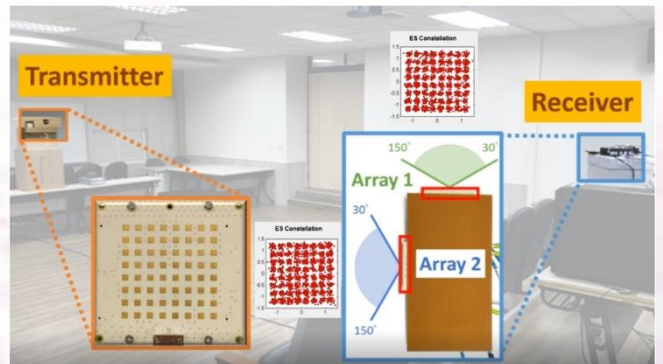
##### Waveform Parameters

Parameter	Value
Carrier frequency	3.5 GHz
System bandwidth	100 MHz
Sampling Frequency	122.88 MHz
Subcarrier spacing	60 kHz
Frame duration	10 ms
Sub-frame duration	1 ms
OFDM symbol duration (without CP)	16.87 $\mu$ s
Resource block	100
No. FFT	2048
No. of OFDM symbol in a frame	156



#### 5G mmWave System Fast Antenna and Beam Switching

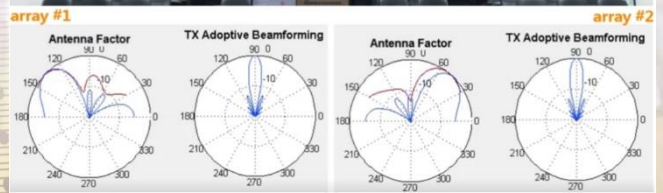
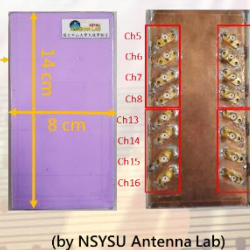
2020.01.14



##### Software Receiver (PC)



##### 16-antenna Mobile Phone



All results are jointly developed with NSYSU Antenna Lab