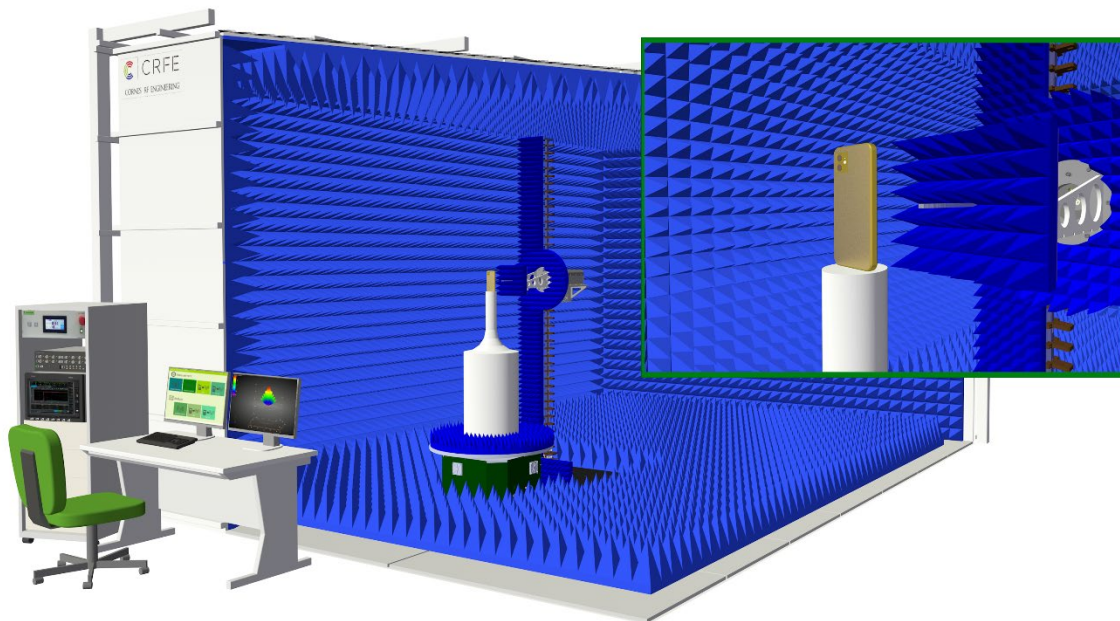




Near-Field Measurement System

Near-Field Measurement System ~ Cylindrical ~

Mobile devices are operated on higher frequency band, especially mm-wave recently. The measurement environment for higher frequency and bigger size DUT demands the space (to secure the enough distance between DUT and measurement antennas) for the accuracy measurement. Our Near-Field measurement system, which is compact solution, make you to measure the accurate electric-field of DUT near-field. Our MATEOS software can convert its measurement date to far-field data. Enable to install this into existing chamber room due to compact size.



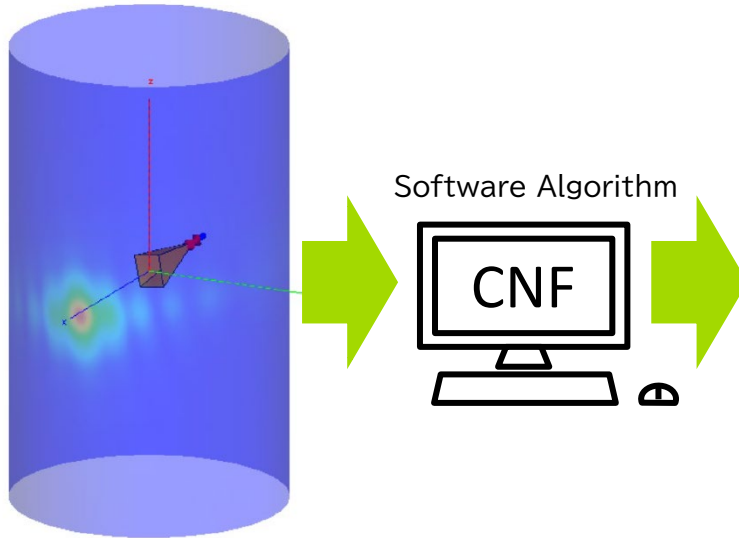
	NF system (example)
Frequency range	1G~110GHz
Rx antenna	Waveguide probe
Equipment	Vector Network Analyzer
Standard	IEEE STD 1720TM-2012
Coordinate system	Cylindrical
Antenna Tower	height 2 ~ 4m (0.1mm step)
AZ positioner	Infinity·Finity (0.01deg.)
Option	Coordinate : Planer, Spherical

*Customize available for size and specifications.
The above may change without advance notice.

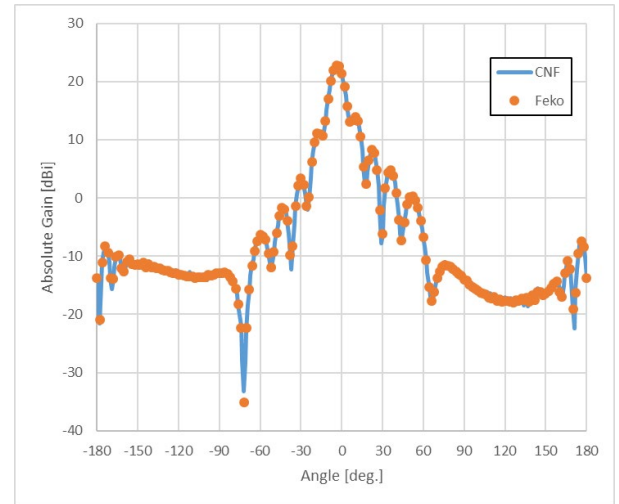


Conversion from Near Field to Far Field

This is result sample of Electromagnetic Simulation and conversion from NF to FF under CNF (Cylindrical Near Far). Those response are almost matched into graph in below.



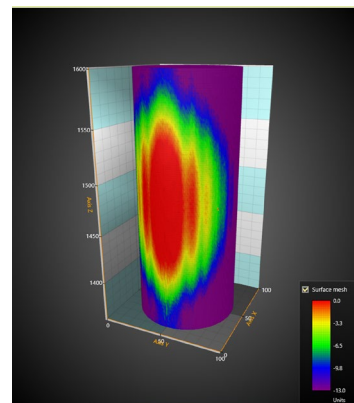
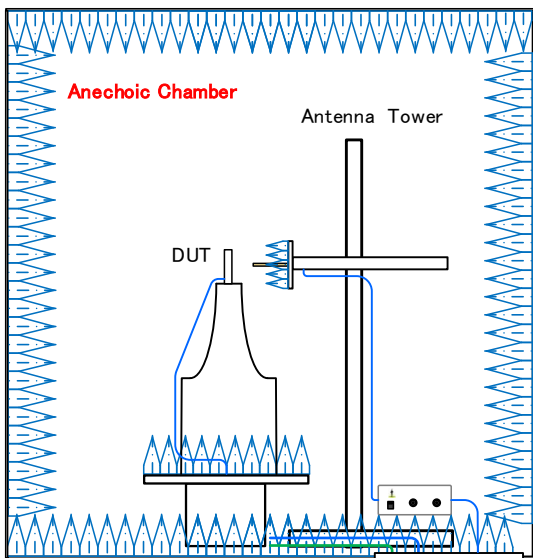
Near Field distribution by Feko



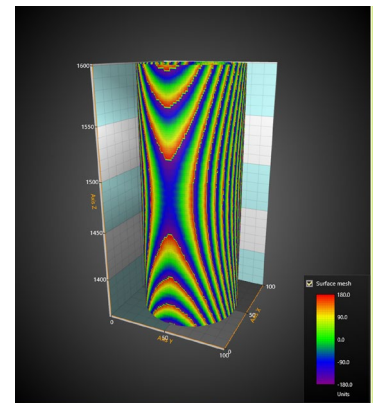
Comparison of Radiation pattern between Feko and CNF@28GHz

Passive Conversion from Near Field to Far Field

The result of conversion antenna NF measurement by VNA to FF.

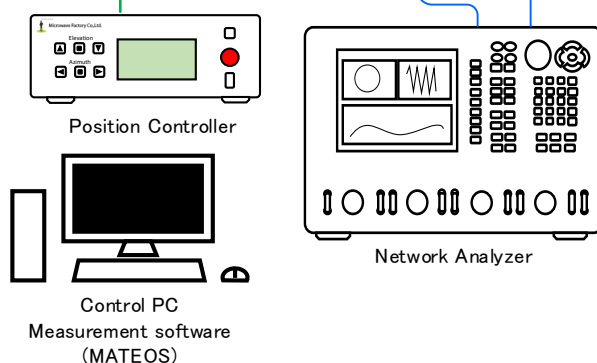


Amplitude

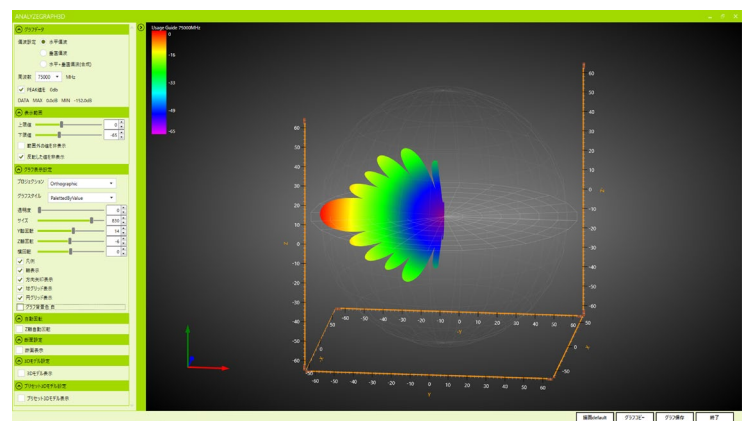


Phase

CNF Transfer



Enable to measure using extender

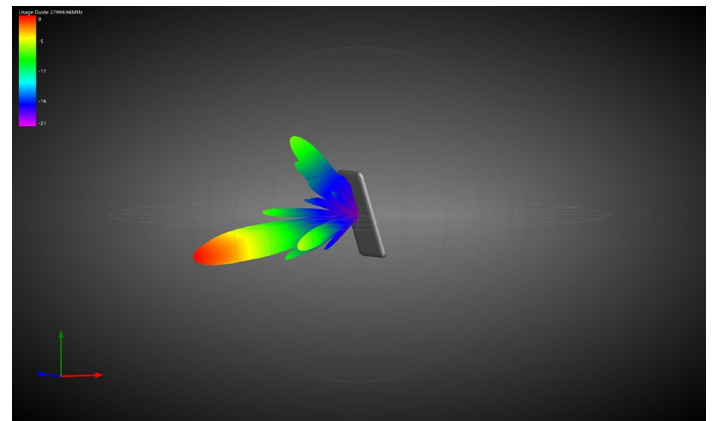
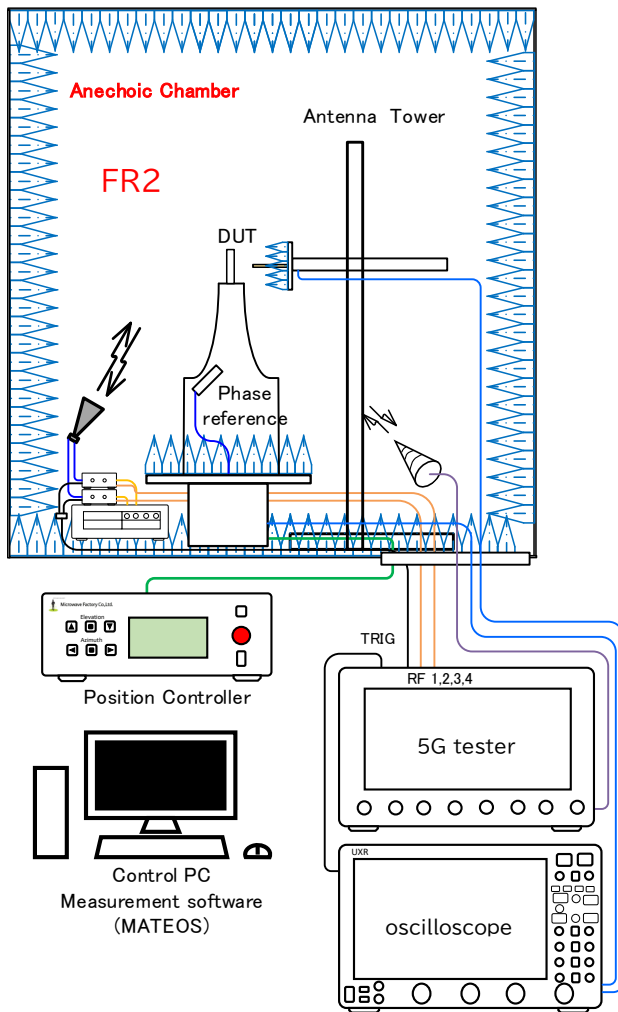


Far Field 3D view Result@75GHz

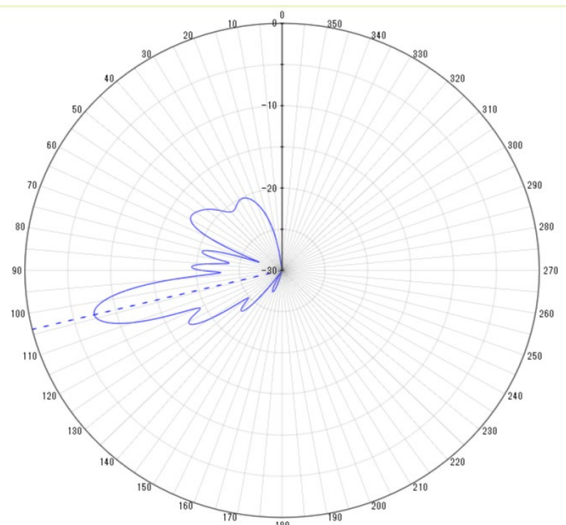


Conversion Near Field to Far Field (Active for 5G)

This is Near Field conversion to support the active measurement of the call connection between 5G device and Base station simulator. Enable to measure NF amplitude and relative phase distribution of DUT by using Phase Reference & Rx antennas, which data makes to support the NF-FF conversion.



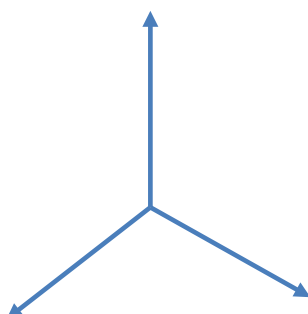
Far Field 3D view Result@28GHz



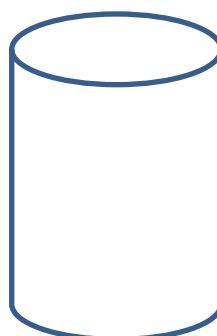
Far Field 2D view Result@28GHz

3-Coordinates

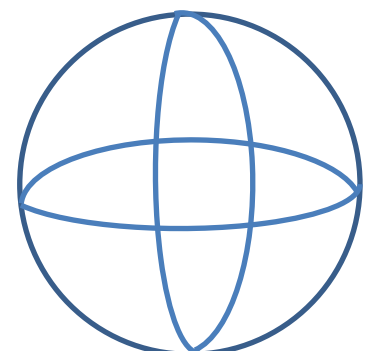
Enable to NF conversion for all of Planar, Cylindrical and Spherical coordinates near field measurement systems.



Planer



Cylindrical

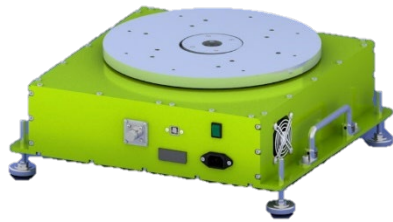


Spherical

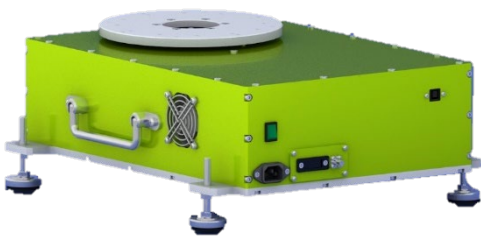


This NF measurement system demands AZ positioner and Antenna tower with suitable DUT size into chamber room. MWF can support the several types of positioners and towers as customer request.

AZ positioner



Smartphone type



BS type

TYPE	Middle load MTP101A1M	Low load MTP101A1S
Allowable load	50kg	10kg
Mobile range	0~360°(infinity)	
Plate size	φ200mm	φ300mm
Rolling Speed	0.01~3.0 rpm	
Accuracy of repeated positioning	±0.03 deg.	
Communication	OPT	
Control	GP-IB/LAN	
Size (WxDxH mm)	300x420x135	350x350x118
Weight	< 20kg	< 15kg

Antenna Tower



TYPE	MTP201P140M
Allowable weight of antenna	12kg (less than 1m from center of post)
Mobile range	Max. 4m
Moving speed	TW :10~40 mm/s POL :0.1~0.3 rpm
Accuracy of repeated positioning	TW :±0.1 mm POL :±0.2 deg.
Communication	OPT
Control	GP-IB/LAN
Power Supply	AC100V 7A
Size	W1000 x D1000 x H4300mm
Weight	300kg