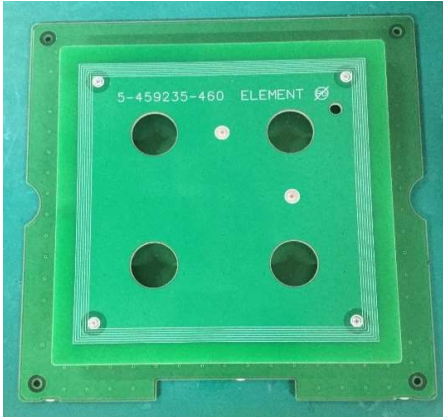
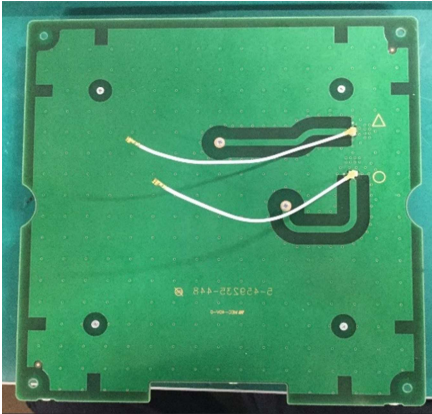
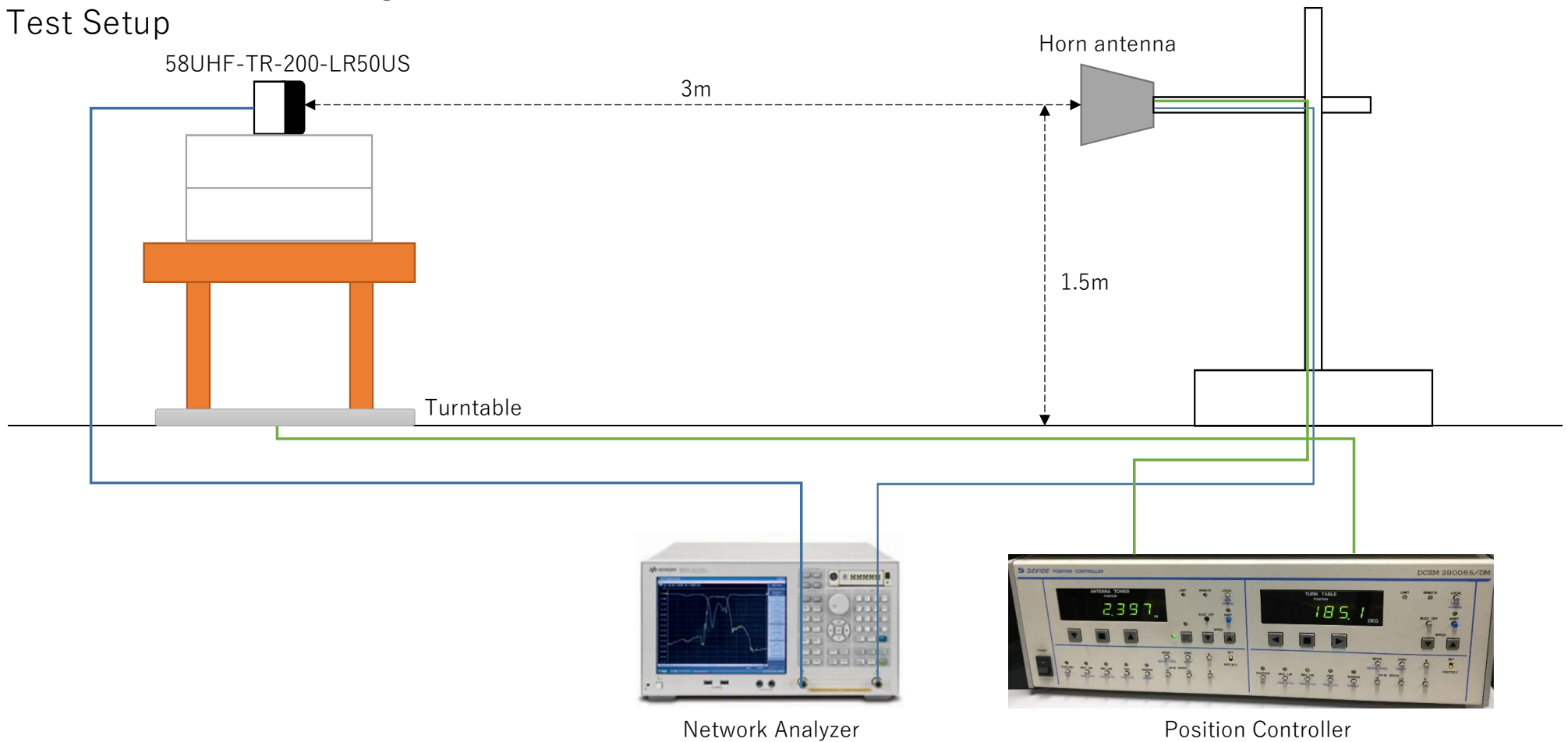


Antenna specification	
Model number	58UHF-TR-200-LR50US
Frequency Range	902.75MHz to 927.25MHz
Antenna Type	$\lambda / 2$ Patch antenna
Connector Type	UFL
Antenna Gain	6.14dBi max(902MHz to 928MHz)
Impedance	50 $\Omega$
Cable length	105mm
Cable loss	902MHz : -0.2544 dB 915MHz : -0.2549 dB 928MHz : -0.2444 dB
Does the value of antenna gain include cable loss?	Not included

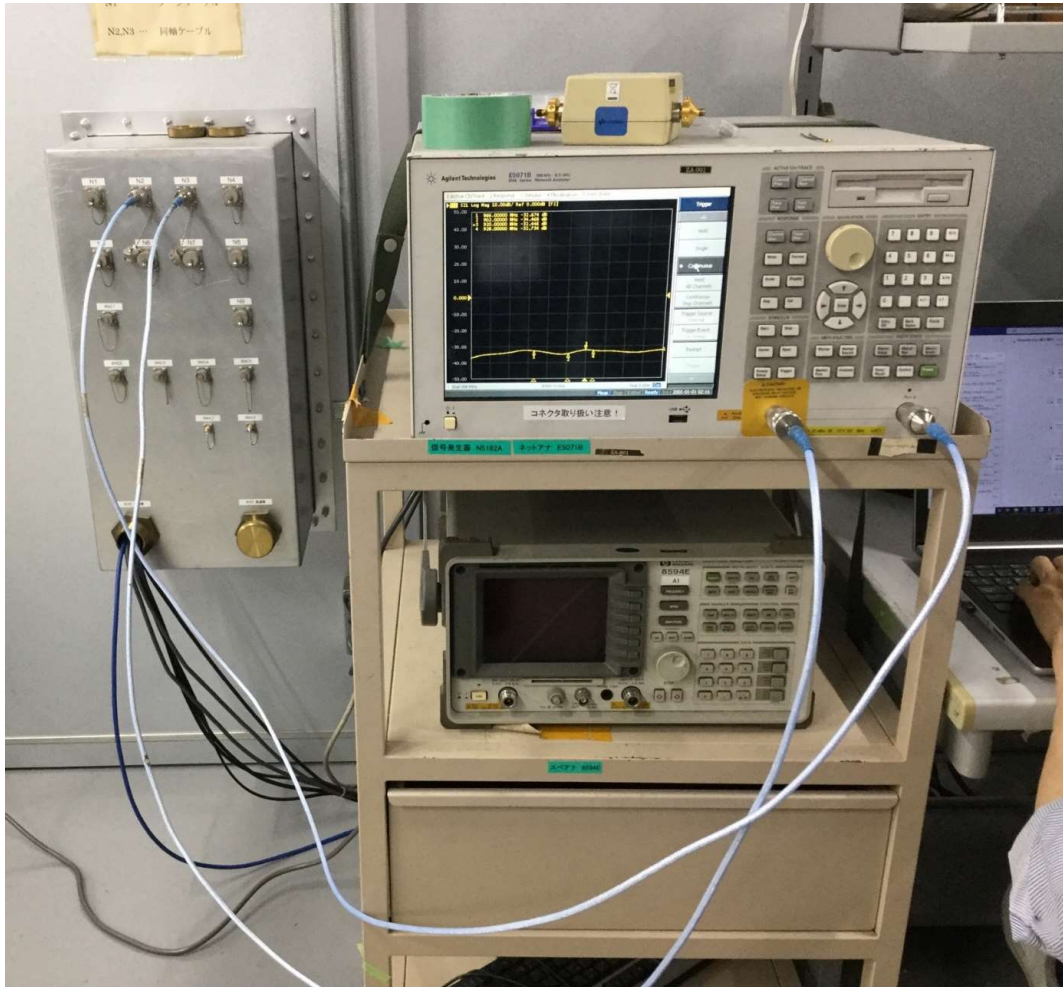
Photographs of antenna	Front	Back
		

Company Name	DENSO WAVE INCORPORATED
Company Address	1 Yoshiike Kusagi Agui-cho, Chita-gun, Aichi 470-2297, Japan
date	2022/9/15
Engineer	Tatsuya Terashima

## ① Test method of antenna gain Test Setup



## Setting of Network Analyzer

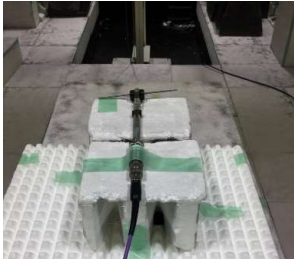


- Frequency range
  - 800MHz to 1000MHz
- Number of measurement points
  - 1000

## Antenna measurement

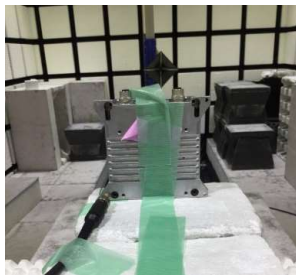
### Standard Dipole Antenna

1. Adjust the scale of the standard dipole antenna to 900 MHz.
2. Measure S21 characteristics.



### UHF Antenna(58UHF-TR-200-LR50US )

1. Measure the S21 characteristics of horizontal polarization and linear polarization.  
( Rotate the turntable within  $\pm 90^\circ$  . )



## Antenna gain calculation

- S21 characteristics of Standard dipole antenna

G1 : Horn antenna Gain + Standard dipole antenna Gain + Free Space Path Loss

Standard dipole antenna Gain : 2.15dBi

- S21 characteristics of UHF antenna

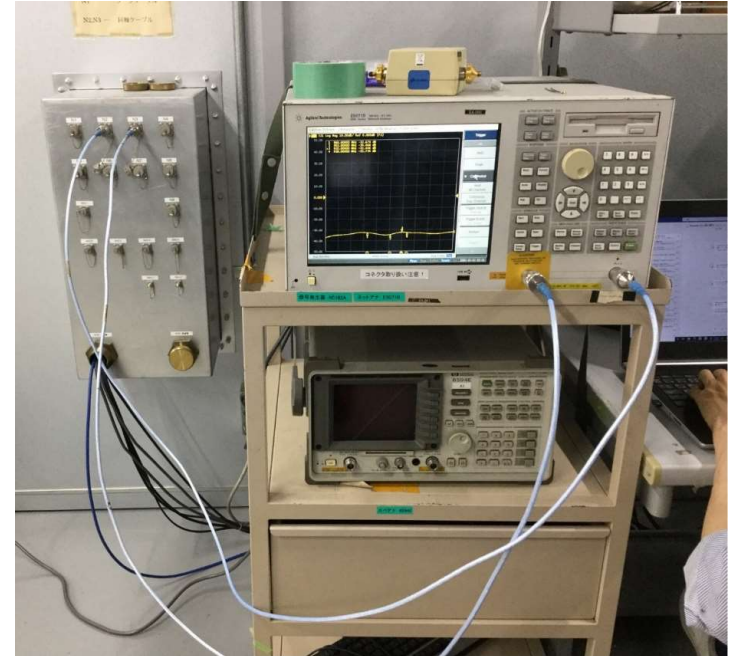
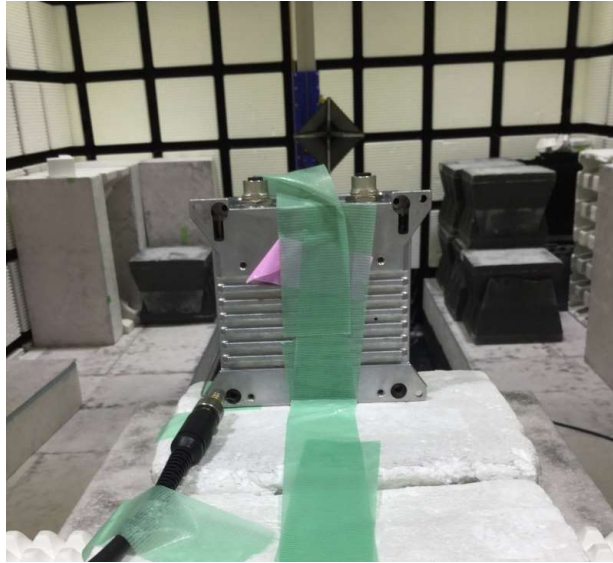
G2 : Horn antenna Gain + UHF antenna Gain + Free Space Path Loss

UHF antenna Gain [dBi] = G2 – G1 + Standard dipole antenna Gain

## ② Test Equipment

Description	Manufacturer	Model	Serial
Network Analyzer	Agilent Technologies	E5071B	E5071B-AO-16984 MY42404382
Horn antenna	-	-	-
Standard Dipole Antenna	ANRITSU CORP.	-	-
Antenna tower	DEVICE CO.,LTD	DW3259AV2/O	
Position Controller	DEVICE CO.,LTD	-	-
Turntable	-	-	-

③ Photographs of test setup



***DENSO***

**DENSO WAVE**