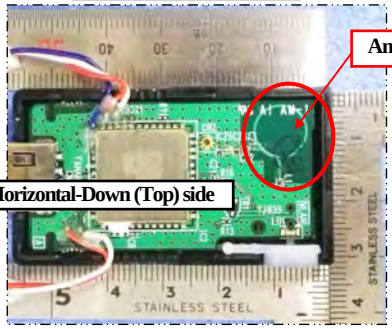
APPENDIX 1: Photographs of test setup

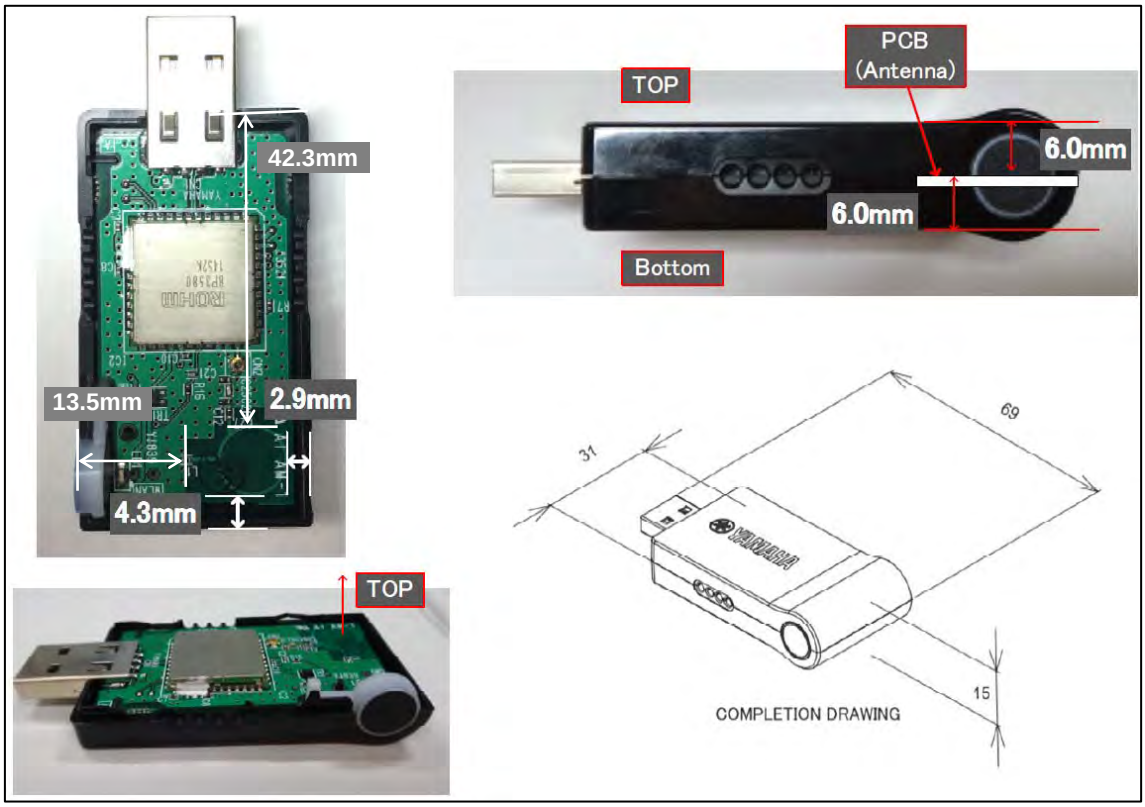
Appendix 1-1: Photograph of EUT and antenna position

Horizontal-Down (Top)

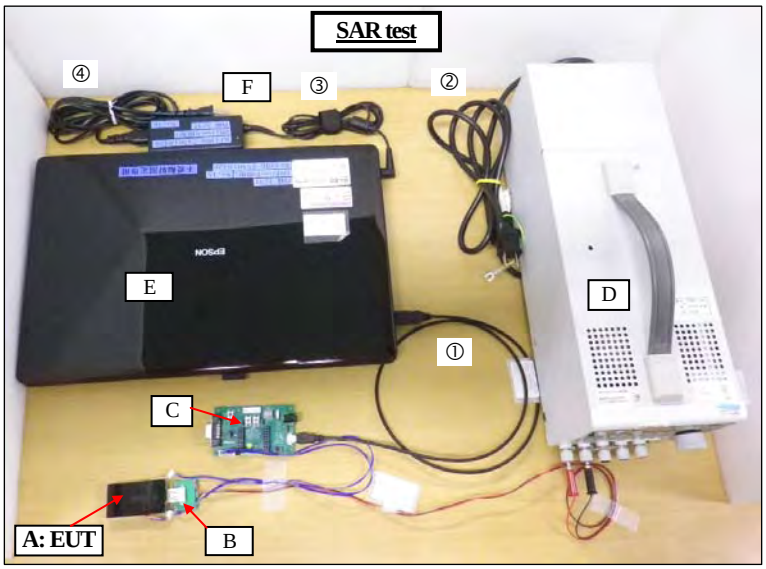
Tip

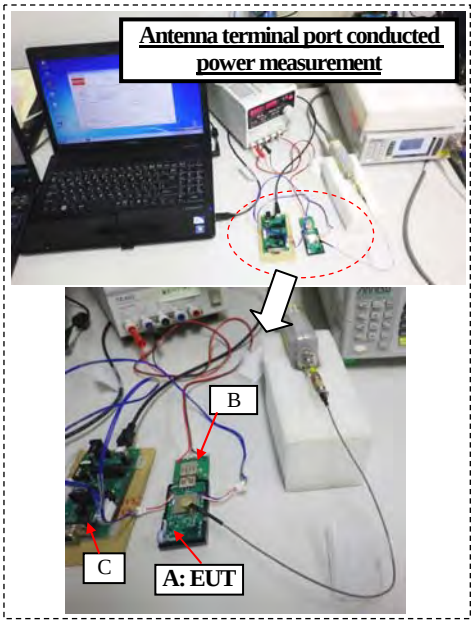
Horizontal-Up (Bottom)





Appendix 1-2: EUT and support equipment





Description of EUT and Support Equipment

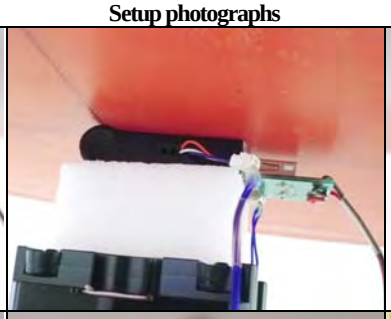
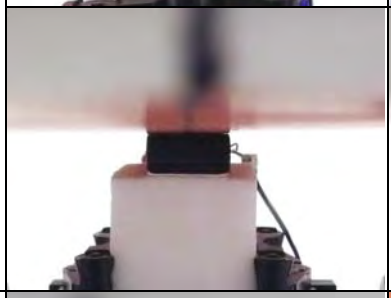
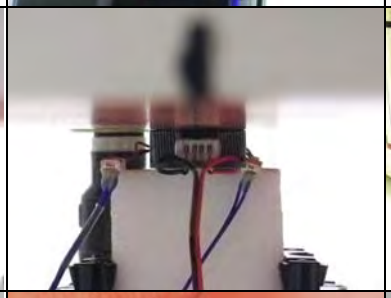
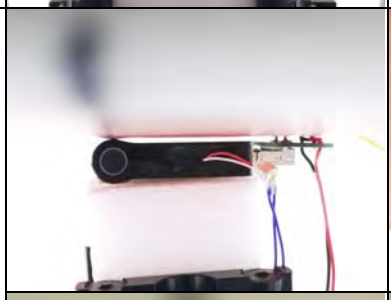
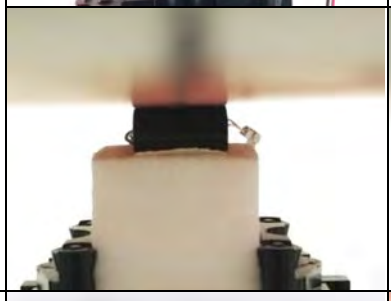
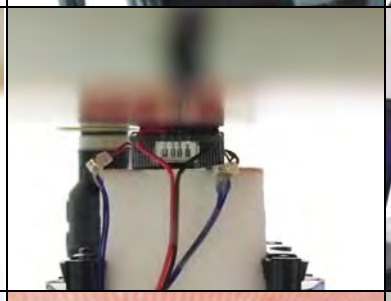
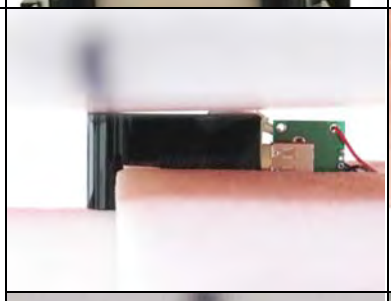
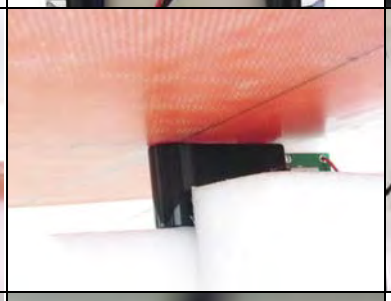
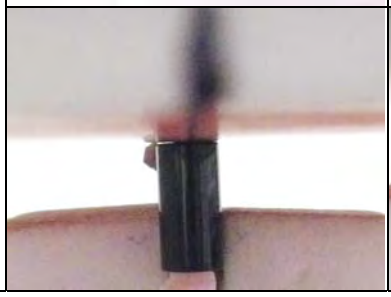
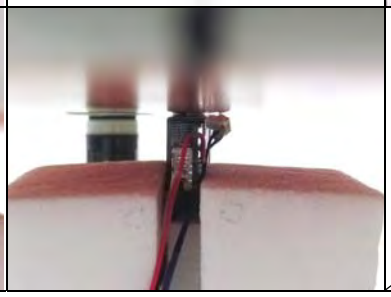
No.	Item	Model number	Serial number	Manufacturer	Remark
A	USB WIRELESS LAN ADAPTOR	UD-WL01	Engineering prototype No.1	YAMAHA CORPORATION	EUT.
B	Power I/F PCB Jig	-	-	YAMAHA CORPORATION	Support equipment. With DC cable: 0.8m, Unshielded.
C	I/F PCB Jig	BP3591-T01	2	ROHM	Support equipment. With I/F cable: 0.4m × 2 pcs, Unshielded.
D	Power Supply (ULJ Ctrl.No: SDPA-04)	PW8-5ADPS	14086035	TEXIO	Support equipment. (DC 5V)
E	Laptop PC	NJ3300	10APE2024265	EPSON DIRECT CORPORATION	Support equipment.
F	AC Adaptor	ADP-65JH CB	67IW0AS0248		

List of cables used

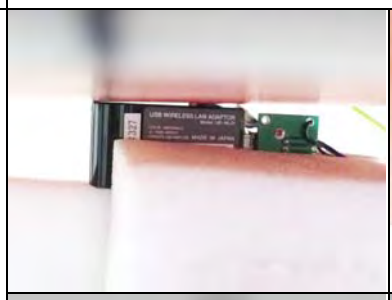
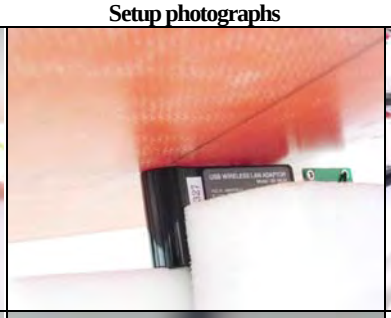
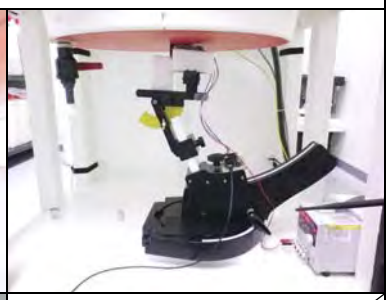
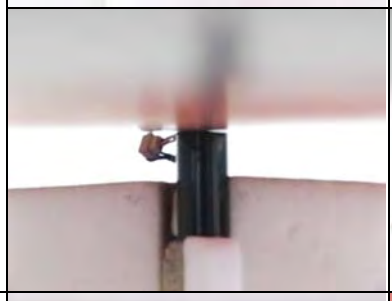
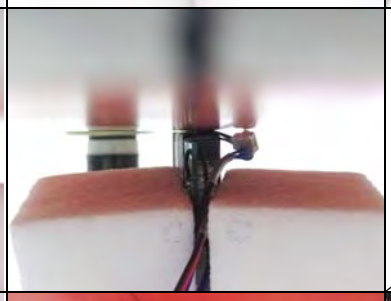
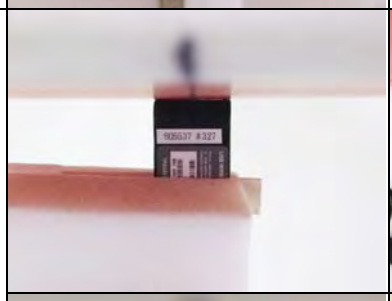
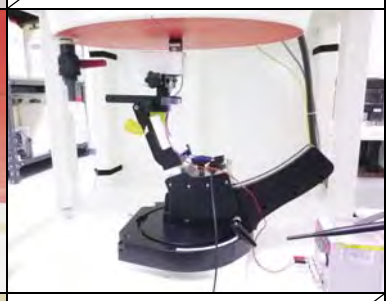
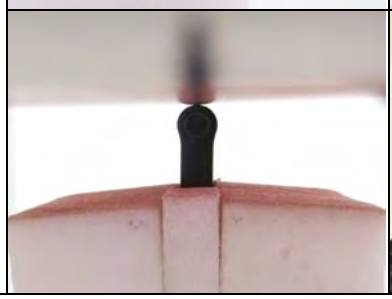
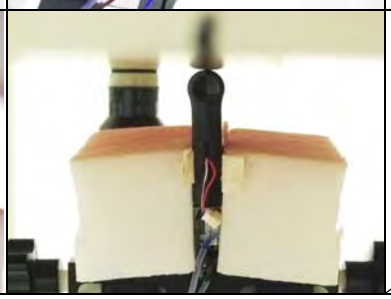
No.	Name	Length (m)	Shield
①	USB cable	0.95	Shielded
②	AC cable	1.7	Unshielded

No.	Name	Length (m)	Shield
③	DC cable (AC adaptor)	1.7	Unshielded
④	AC cable (AC adaptor)	2	Unshielded

Appendix 1-3: Photograph of test setup

Position	Setup photographs		
Horizontal -Down (Top) (Touch)			
			
Horizontal -Up (Bottom) (Touch)			
			
Vertical -Front (Left) (Touch)			
			*(no photograph in here)*

Appendix 1-3: Photograph of test setup (cont'd)

Position	Setup photographs		
Vertical -Back (Right) (Touch)			
			*(no photograph in here)*
Tip (Touch)			
			*(no photograph in here)*

APPENDIX 2: SAR Measurement data

Appendix 2-1: Evaluation procedure

The SAR evaluation was performed with the following procedure:

Step 1: Measurement of the E-field at a fixed location above the central position of flat phantom was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of head or body position was measured at a distance of each device from the inner surface of the shell. The area covered the entire dimension of the antenna of EUT and suitable horizontal grid spacing of EUT. Based on these data, the area of the maximum absorption was determined by splines interpolation.

Step 3: Around this point found in the Step 2 (area scan), a volume of 30mm(X axis)×30mm(Y axis)×30mm(Z axis) (or more) was assessed by measuring 7×7×7 points (or more) under 3GHz.
And for any secondary peaks found in the Step2 which are within 2dB of the SAR limit (1.6W/kg), this Step3 (Zoom scan) is repeated.
On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

(1) The data at the surface were extrapolated, since the center of the dipoles is 1mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 2mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

(2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one-dimensional splines with the “Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10×10×10) were interpolated to calculate the average.

(3) All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the E-field at the same location as in Step 1 for the assessment of the power drift.

Step 5: Repeat Step 1-Step 4 with other condition or/and setup of EUT.