

Test report No:  
 NIE:74608RAN.002A1

## Test report

IEEE Std C95.3-2021  
 FCC 47 CFR Part 2.1091.  
 FCC 47 CFR Part 2.1093.

(*) Identification of item tested	Receiver Control Unit
(*) Trademark	LID Technologies S.A.S.
(*) Model and /or type reference tested	21191
(*) Other identification of the product	FCC ID: T4521191 IC: 6450A-21191 HW version: 321-191-0090-C SW version: 1.2
(*) Features	433.92 MHz Receiver, 125 KHz Transceiver
(*) Manufacturer	LID Technologies S.A.S. 3 rue Giotto, Parc Technologique du Canal, 31520 Ramonville-Saint-Agne, FRANCE
Test method requested, standard	IEEE Std C95.3-2021. FCC 47 CFR Part 2.1091. FCC 47 CFR Part 2.1093.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Miguel Lacave Antennas Lab Manager
Date of issue	2024-05-13
Report template No	FAN39_02 (*) "Data provided by the client"



# Index

Competences and guarantees .....	3
General conditions .....	3
Uncertainty .....	3
Data provided by the client.....	3
Usage of samples .....	4
Test sample description .....	4
Identification of the client.....	4
Testing period and place.....	4
Document history .....	5
Environmental conditions .....	5
Remarks and comments .....	5
Testing verdicts.....	5
Summary .....	5
Appendix A: Test results .....	6
125 KHz LF Evaluation .....	7
Appendix B: FCC RF Exposure information .....	11
FCC RF Exposure evaluation for mobile devices .....	12
FCC RF Exposure evaluation for portable devices.....	13
Appendix C: Photographs .....	14

## Competences and guarantees

---

DEKRA Testing and Certification S.A.U. is a testing laboratory accredited by the National Accreditation Body (ENAC -Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

DEKRA Testing and Certification is a FCC-recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification S.A.U. has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification S.A.U. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification at the time of performance of the test.

DEKRA Testing and Certification S.A.U. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

**IMPORTANT:** No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA Testing and Certification S.A.U.

## General conditions

---

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification S.A.U.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification S.A.U. and the Accreditation Bodies.

## Uncertainty

---

Uncertainty (factor  $k=2$ ) was calculated according to the DEKRA Testing and Certification S.A.U. internal documents PODT000 and FAN040.

## Data provided by the client

---

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested", "Other identification of the product", "Features" and "Test sample description").
2. Normal device use conditions and minimum use distance information.

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

Samples undergoing test have been selected by: the client

Samples are composed of the following elements:

Sample	Control Nº	Description	Model	Serial Nº	Date of reception
S/01	74608B_1.1	Receiver Control Unit Radiated	21191	B96CBFFD	2023-04-10
S/01	74608B_1.1	Key and lock	--	--	2023-04-10
S/01	74608B_1.1	Harness	--	--	2023-04-10
S/01	74608B_1.1	Device electronic	--	--	2023-04-10

1. Sample S/01 has undergone the test(s) specified in subclause "Test method requested".

## Test sample description

Description of product .....	The RCU is designed to be located on passenger vehicles, and receives data supplied by Wheel Unit Sensors and Key for unlocking and immobilization. It is powered by the 12V vehicle battery.		
Software version.....	1.2		
Hardware version .....	321-191-0090-C		
Mounting position .....	<input type="checkbox"/>	Table top equipment	
	<input type="checkbox"/>	Wall/Ceiling mounted equipment	
	<input type="checkbox"/>	Equipment used next to the ear	
	<input type="checkbox"/>	Hand-held equipment	
	<input checked="" type="checkbox"/>	Other: mounted on vehicle	
Accessories (not part of the test item).....	Description	Type	Manufacturer
	Harness for Power and communication with DUT	EUT	LID Technologies

## Identification of the client

LID Technologies S.A.S.

3 rue Giotto, Parc Technologique du Canal, 31520 Ramonville-Saint-Agne,  
 FRANCE

## Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2024-02-06
Date (finish)	2024-05-09

## Document history

Report number	Date	Description
74608RAN.002	2024-05-03	First release
74608RAN.002A1	2024-05-13	Second release.Measurement at 0cm from the coil in the front position has been performed. Hand exposure has been evaluated.This modification test report cancels and replaces test report 74608RAN.002.

## Environmental conditions

Date	Max. Temp. °C	Min. Temp. °C	Max. Hum. %	Min. Hum. %	Limit
From 2024-02-06 to 2024-02-12	23.67	20.12	57.81	37.43	18-40 °C, 20-80%
2024-05-09	25.67	22.74	43.63	37.31	18-40 °C, 20-80%

## Remarks and comments

- The tests have been performed by the technical personnel: Ismael Gamarro.
- The instrumentation utilized to perform the tests covered in this test report is listed in the following table:

DEKRA Control Number	Equipment	S/N
8453	WaveControl WP400-3 E and H Field Probe	20WP120069
8454	WaveControl SMP2 E and H Field Meter	20SN1393
7546	HW Group HWg-STE PROBE	60038034574

## Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

## Summary

FCC 47CFR Part 2.1091 / FCC 47CFR Part 2.1093	VERDICT			
	N/A	P	F	NM
125 KHz LF		P		

## Appendix A: Test results

## 125 KHz LF Evaluation

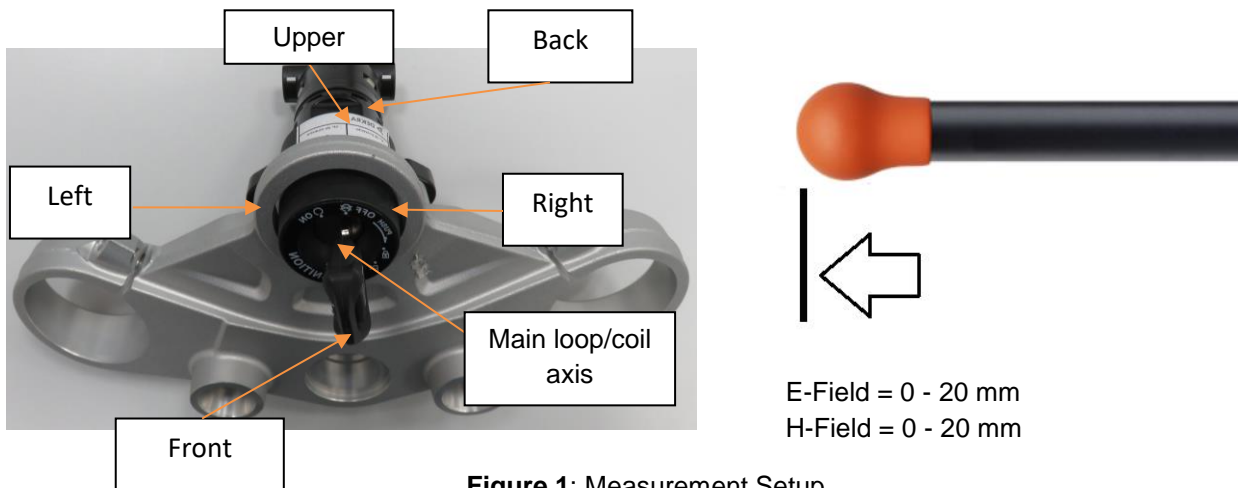
The device under tests is a Key locker, which will be installed in a motorbike. Once installed, only the front position, that is the position where the key is inserted, will be reachable for the user, and in normal use condition the distance between the user and the device will be more than 20 cm.

Measurements of external E and H field strengths using a commercial sample provided by the manufacturer have been performed from all sides of the device with a conservative separation distance of 0 cm measured from the tip probe to the edge of the device.

Additionally, measurements in 2 cm increments starting at 0 cm (1.65 cm from the probe centre) up to 20 cm have been performed for the main loop/coil axis in the front position with the key inserted, which was identified as the worst-case scenario, being the distance from the coil to the user’s fingers while handling the key around 2 cm.

These measurements assess compliance for the user's hand exposure condition while using the motorbike key and are also valid to assess compliance for the 20 cm exposure condition distance from the user's body.

According to 680106 D01 Wireless Power Transfer v04, emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. Measurements were performed using the equipment listed in the “Used Instrumentation” paragraph of this document:



**Figure 1:** Measurement Setup

All sides measured values are listed in the following tables:

Technology	Test Side	Distance to DUT (cm)	Testing distance from probe center (Distance to the DUT + distance from tip to probe center) (cm)	Freq. (MHz)	E-Field (V/m)	Limit (V/m)	% E-Limit	Verdict
125 KHz LF	Front (Key inserted)	0.0	1.65 (0.0 + 1.65)	0.125	178.0	614.00	28.99	Pass
	Back	0.0	1.65 (0.0 + 1.65)	0.125	41.00	614.00	6.68	Pass
	Left	0.0	1.65 (0.0 + 1.65)	0.125	87.15	614.00	14.19	Pass
	Right	0.0	1.65 (0.0 + 1.65)	0.125	63.24	614.00	10.30	Pass
	Top	0.0	1.65 (0.0 + 1.65)	0.125	72.10	614.00	11.74	Pass
	Bottom	0.0	1.65 (0.0 + 1.65)	0.125	91.61	614.00	14.92	Pass

**Table 1:** E-field measurements values

Technology	Test Side	Distance to DUT (cm)	Testing distance from probe center (key length + distance to the DUT + distance from tip to probe center) (cm)	Freq. (MHz)	H-Field (A/m)	Limit (A/m)	% H-Limit	Verdict
125 KHz LF	Front (Key inserted)	0.0	1.65 (0.0 + 1.65)	0.125	1.25	1.63	76.69	Pass
	Back	0.0	1.65 (0.0 + 1.65)	0.125	0.11	1.63	6.81	Pass
	Left	0.0	1.65 (0.0 + 1.65)	0.125	0.30	1.63	18.22	Pass
	Right	0.0	1.65 (0.0 + 1.65)	0.125	0.41	1.63	25.15	Pass
	Top	0.0	1.65 (0.0 + 1.65)	0.125	0.31	1.63	18.77	Pass
	Bottom	0.0	1.65 (0.0 + 1.65)	0.125	0.15	1.63	9.45	Pass

**Table 2:** H-field measurement values

- **Hand exposure condition assessment**

Measurements were performed in continuous mode for 30 minutes but this is not a real-case scenario of the exposure time of the user hand while touching the key.

The hand of the user will be near the device at a distance closer to 20 cm only when starting-up the motorbike, so to assess a very conservative worst-case use scenario, for the final calculation it has been supposed that the device will be used to start-up the motorbike 18 times in 30 minutes during 20 seconds. Therefore, in a 30-minute period, the hand of the user will be exposed for a total time of 360 seconds as a conservative worst-case scenario. Applying this exposure time to the measured values, the assessment results are listed in the following table:

Technology	Test Side	Distance to DUT (Key inserted) (cm)	Testing distance from probe center (key length + distance to the DUT + distance from tip to probe center) (cm)	Freq. (MHz)	E-Field for 360 seconds hand exposure (V/m)	Limit (V/m)	E-Limit %	Verdict
125 KHz LF	Front	0.0	1.65 (0.0 + 0.0 + 1.65)	0.125	35.60	614.00	5.80	Pass
		0.0	4.65 (3.0 + 0.0 + 1.65)	0.125	18.32	614.00	2.98	Pass
		2.0	6.65 (3.0 + 2.0 + 1.65)	0.125	2.86	614.00	0.47	Pass
		4.0	8.65 (3.0 + 4.0 + 1.65)	0.125	2.30	614.00	0.37	Pass
		6.0	10.65 (3.0 + 6.0 + 1.65)	0.125	2.08	614.00	0.34	Pass
		8.0	12.65 (3.0 + 8.0 + 1.65)	0.125	1.93	614.00	0.31	Pass
		10.0	14.65 (3.0 + 10.0 + 1.65)	0.125	1.78	614.00	0.29	Pass
		12.0	16.65 (3.0 + 12.0 + 1.65)	0.125	1.42	614.00	0.23	Pass
		14.0	18.65 (3.0 + 14.0 + 1.65)	0.125	1.43	614.00	0.23	Pass
		16.0	20.65 (3.0 + 16.0 + 1.65)	0.125	1.43	614.00	0.23	Pass
		18.0	22.65 (3.0 + 18.0 + 1.65)	0.125	1.65	614.00	0.27	Pass
		20.0	24.65 (3.0 + 20.0 + 1.65)	0.125	1.65	614.00	0.27	Pass

**Table 3:** E-field measurements values up to 20 cm for hand exposure condition



Technology	Test Side	Distance to DUT (Key inserted) (cm)	Testing distance from probe center (key length + distance to the DUT + distance from tip to probe center) (cm)	Freq. (MHz)	H-Field for 360 seconds hand exposure (A/m)	Limit (A/m)	% E-Limit ponderate	Verdict
125 KHz LF	Front	0.0	1.65 (0.0 + 0.0 + 1.65)	0.125	0.25	1.63	15.34	Pass
		0.0	4.65 (3.0 + 0.0 + 1.65)	0.125	0.17	1.63	10.67	Pass
		2.0	6.65 (3.0 + 2.0 + 1.65)	0.125	0.06	1.63	3.68	Pass
		4.0	8.65 (3.0 + 4.0 + 1.65)	0.125	0.04	1.63	2.21	Pass
		6.0	10.65 (3.0 + 6.0 + 1.65)	0.125	0.03	1.63	1.60	Pass
		8.0	12.65 (3.0 + 8.0 + 1.65)	0.125	0.02	1.63	1.47	Pass
		10.0	14.65 (3.0 + 10.0 + 1.65)	0.125	0.02	1.63	1.35	Pass
		12.0	16.65 (3.0 + 12.0 + 1.65)	0.125	0.02	1.63	1.35	Pass
		14.0	18.65 (3.0 + 14.0 + 1.65)	0.125	0.02	1.63	1.35	Pass
		16.0	20.65 (3.0 + 16.0 + 1.65)	0.125	0.02	1.63	1.35	Pass
		18.0	22.65 (3.0 + 18.0 + 1.65)	0.125	0.02	1.63	1.35	Pass
		20.0	24.65 (3.0 + 20.0 + 1.65)	0.125	0.02	1.63	1.35	Pass

**Table 4:** H-field measurement values up to 20 cm for hand exposure condition

- **Body exposure condition assessment**

Once the motorbike is started, the separation distance from the device to the user will be more than 20 cm. The measurement results to assess this normal use conditions are listed in the following table:

Technology	Test Side	Distance to DUT (Key inserted) (cm)	Testing distance from probe center (key length + distance to the DUT + distance from tip to probe center) (cm)	Freq. (MHz)	E-Field (V/m)	Limit (V/m)	% E-Limit	Verdict
125 KHz LF	Front	14.0	18.65 (3.0 + 14.0 + 1.65)	0.125	7.16	614.00	1.17	Pass
		16.0	20.65 (3.0 + 16.0 + 1.65)	0.125	7.14	614.00	1.16	Pass
		18.0	22.65 (3.0 + 18.0 + 1.65)	0.125	8.23	614.00	1.34	Pass
		20.0	24.65 (3.0 + 20.0 + 1.65)	0.125	8.23	614.00	1.35	Pass

**Table 5:** E-field measurements values for body exposure condition

Technology	Test Side	Distance to DUT (Key inserted) (cm)	Testing distance from probe center (key length + distance to the DUT + distance from tip to probe center) (cm)	Freq. (MHz)	H-Field (A/m)	Limit (A/m)	% H-Limit	Verdict
125 KHz LF	Front	14.0	18.65 (3.0 + 14.0 + 1.65)	0.125	0.11	1.63	6.63	Pass
		16.0	20.65 (3.0 + 16.0 + 1.65)	0.125	0.11	1.63	6.69	Pass
		18.0	22.65 (3.0 + 18.0 + 1.65)	0.125	0.11	1.63	6.63	Pass
		20.0	24.65 (3.0 + 20.0 + 1.65)	0.125	0.11	1.63	6.69	Pass

**Table 6:** H-field measurement values for body exposure condition

Taking into account KDB 680106 D01 Wireless Power Transfer considerations, the device complies with the criteria of section 5.2:

- (1) The power transfer frequency is below 1 MHz.
- (2) The output power of the transmitting element (e.g., coil) is less than or equal to 15 watts.
- (3) The key is placed in physical contact with the transmitter.
- (4) It is used in mobile exposure during its normal use conditions.
- (5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device, are less than 50% of the applicable MPE limit shown into §1.1310, paragraph (e), "Table 1: limits for Maximum Permissible Exposure (MPE)".
- (6) Only has one radiating structure.

## Appendix B: FCC RF Exposure information

## FCC RF Exposure evaluation for mobile devices

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the RF source's radiating structure(s) and the body of the user or nearby persons. In this context, the term “fixed location” means that the device is physically secured at one location and is not able to be easily moved to another location while transmitting. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal desktop computer, are considered to be mobile devices if they meet the 20-centimeter separation requirement.

Evaluation of compliance with the exposure limits in § 1.1310, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is not exempt by the formulas and tables stated into § 1.1310, paragraphs (3), (i), (B) and (C).

According to §1.1310 Radiofrequency radiation exposure limits, paragraph (e), the limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields are:

**TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3–3.0	614	1.63	* 100	6
3.0–30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30–300	61.4	0.163	1.0	6
300–1,500			f/300	6
1,500–100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34	614	1.63	* 100	30
1.34–30	824/f	2.19/f	* 180/f <sup>2</sup>	30
30–300	27.5	0.073	0.2	30
300–1,500			f/1500	30
1,500–100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

According to TCB Workshop “Part 18 and WPT Updates”, April 27, 2022:

- Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.
- For all RF devices operating below 100 kHz, the provision in KDB 680106 apply, i.e. field strengths not to exceed 83 V/m and 90 A/m, for E and H fields, respectively.

## FCC RF Exposure evaluation for portable devices

A portable device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that the RF source's radiating structure(s) is/are within 20 centimeters of the body of the user.

Evaluation of compliance with the exposure limits in § 1.1310, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is not exempt by the formulas and tables stated into § 1.1310, paragraphs (3), (i), (B) and (C).

According to §1.1310 Radiofrequency radiation exposure limits, paragraph (e), the limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields are:

**TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3–3.0 .....	614	1.63	* 100	6
3.0–30 .....	1842/f	4.89/f	*900/f <sup>2</sup>	6
30–300 .....	61.4	0.163	1.0	6
300–1,500 .....	.....	.....	f/300	6
1,500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	* 100	30
1.34–30 .....	824/f	2.19/f	* 180/f <sup>2</sup>	30
30–300 .....	27.5	0.073	0.2	30
300–1,500 .....	.....	.....	f/1500	30
1,500–100,000 .....	.....	.....	1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

According to TCB Workshop “Part 18 and WPT Updates”, April 27, 2022:

- Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.
- For all RF devices operating below 100 kHz, the provision in KDB 680106 apply, i.e. field strengths not to exceed 83 V/m and 90 A/m, for E and H fields, respectively.

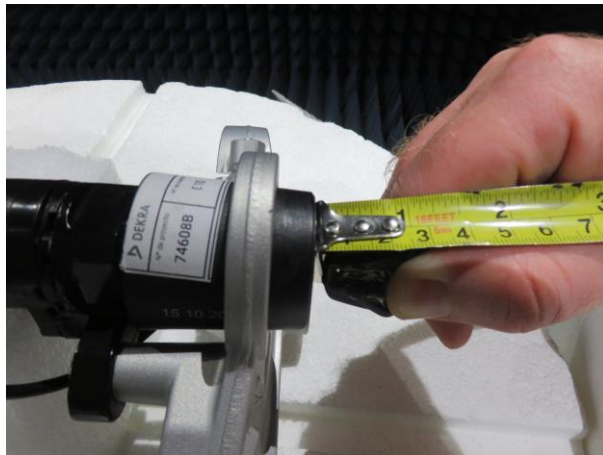
## Appendix C: Photographs

### Equipment view



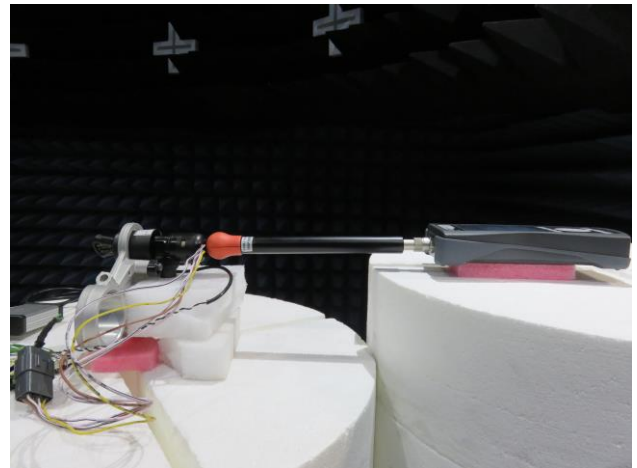
### E-Field and H-Field worst-case search measurement setup views

#### Distance to fingers



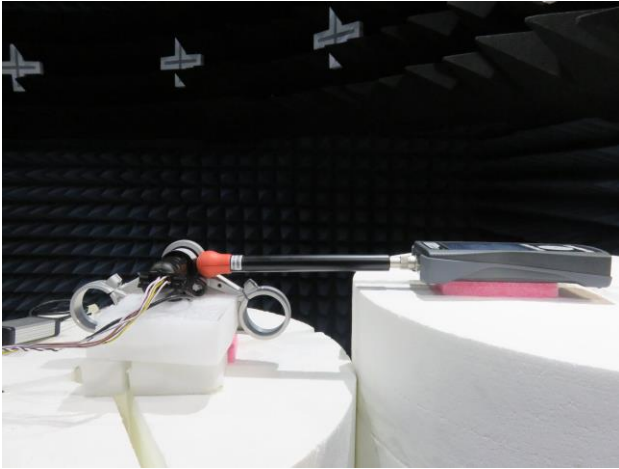
Front (Key distance)

Back

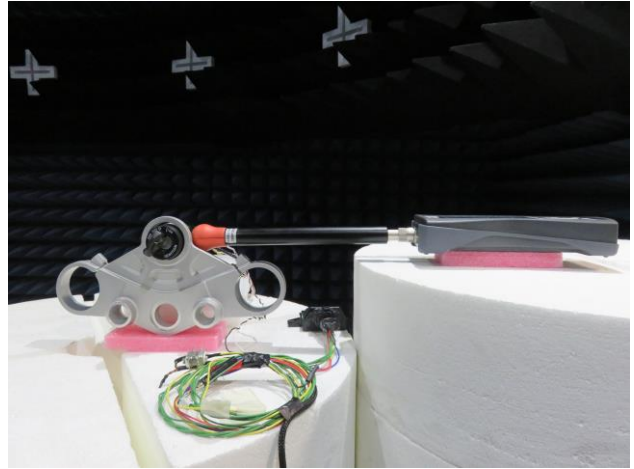




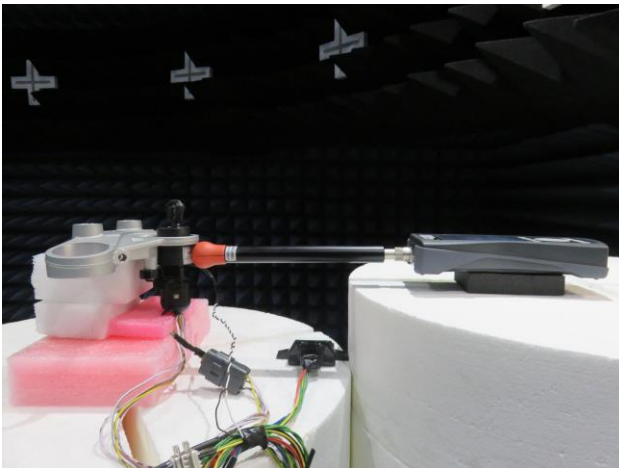
Left



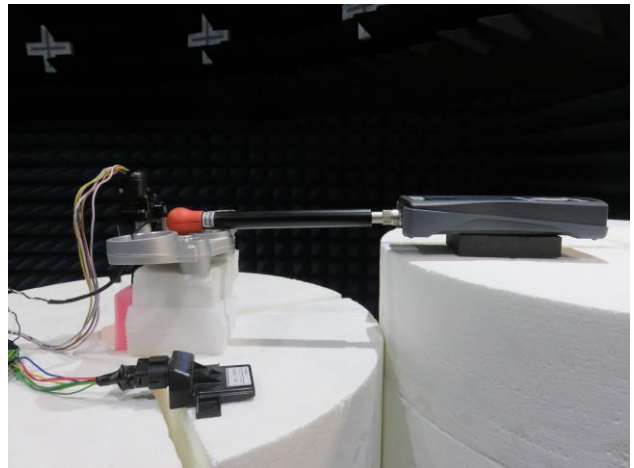
Right



Top

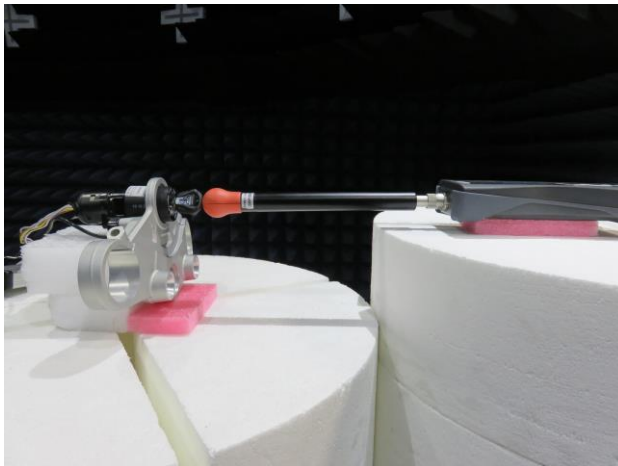


Bottom

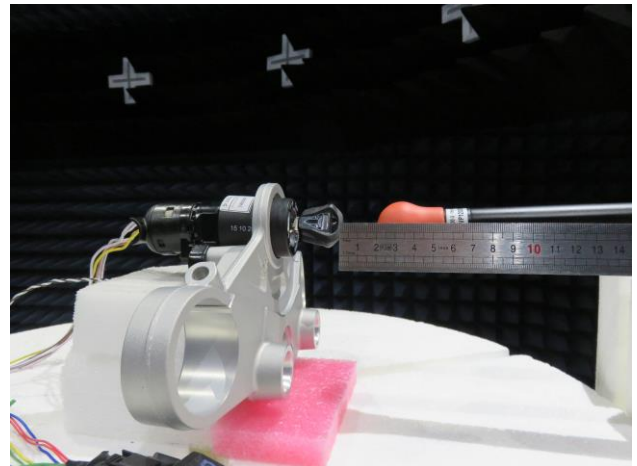


**E-Field and H-Field up to 20 cm measurement, Front position setup view**

Front 0 cm

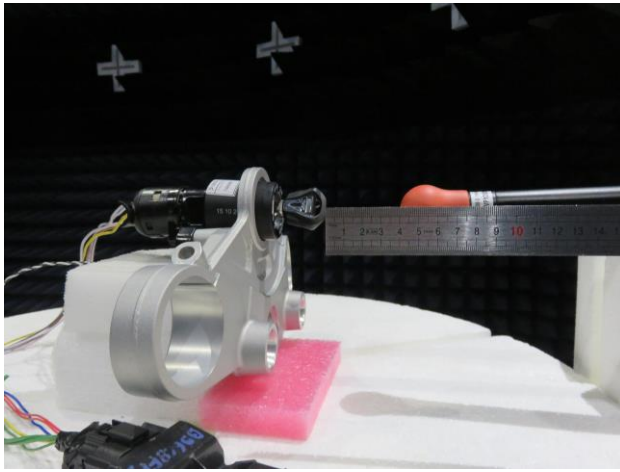


Front 2 cm

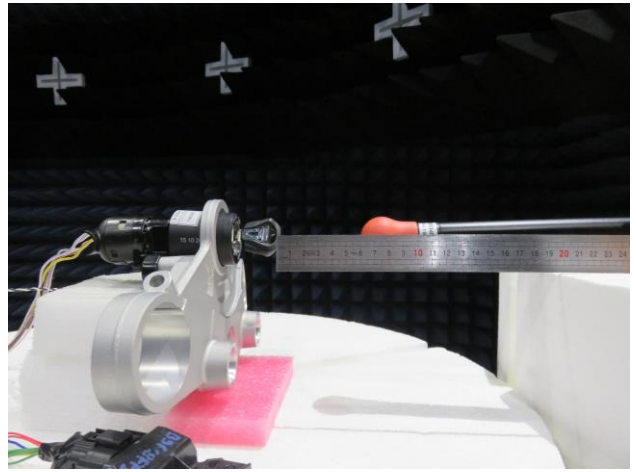




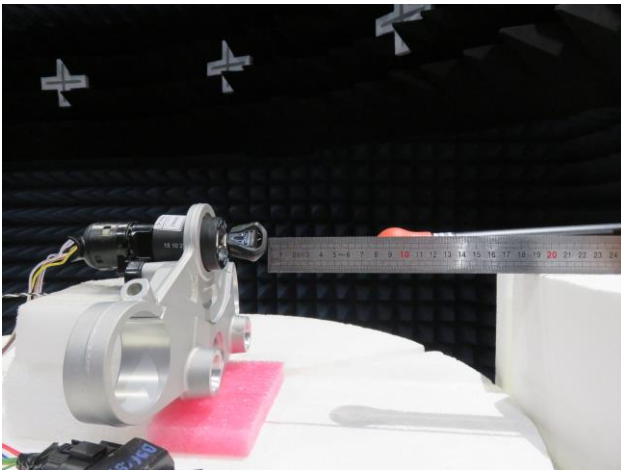
Front 4 cm



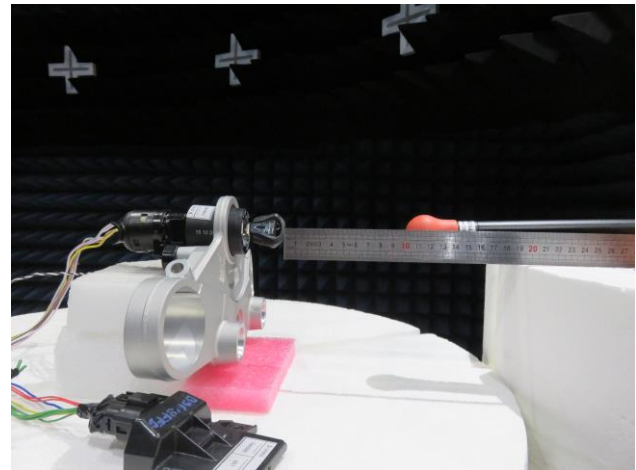
Front 6 cm



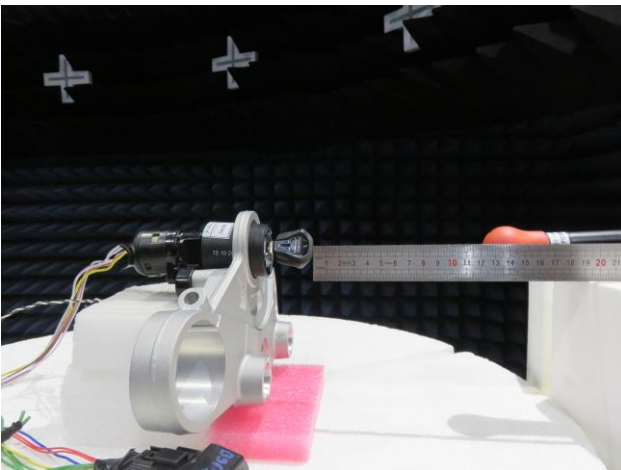
Front 8 cm



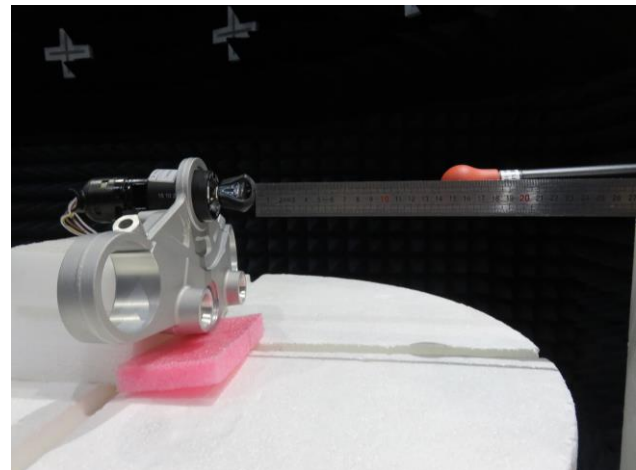
Front 10 cm



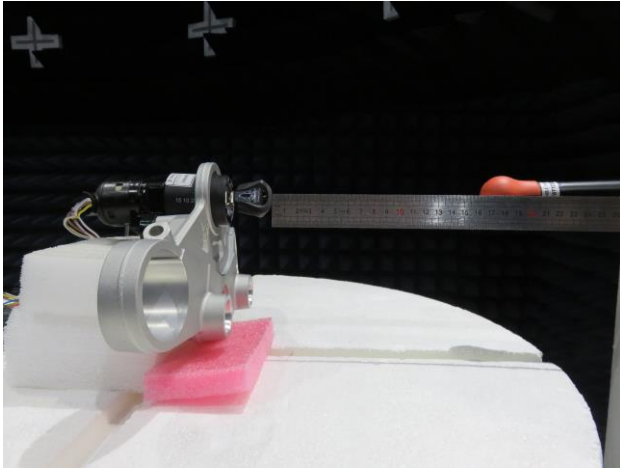
Front 12 cm



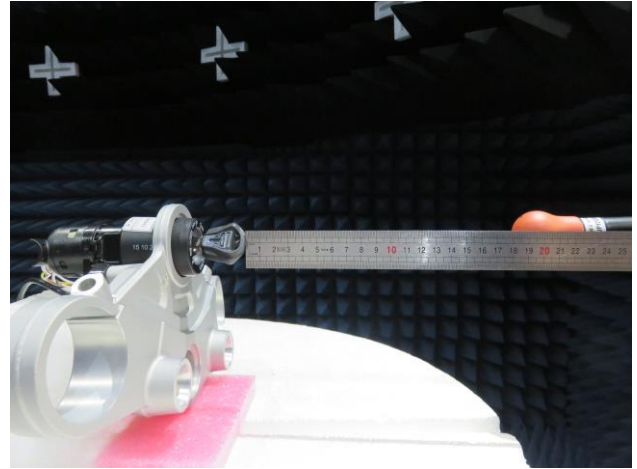
Front 14 cm



Front 16 cm



Front 18 cm



Front 20 cm

