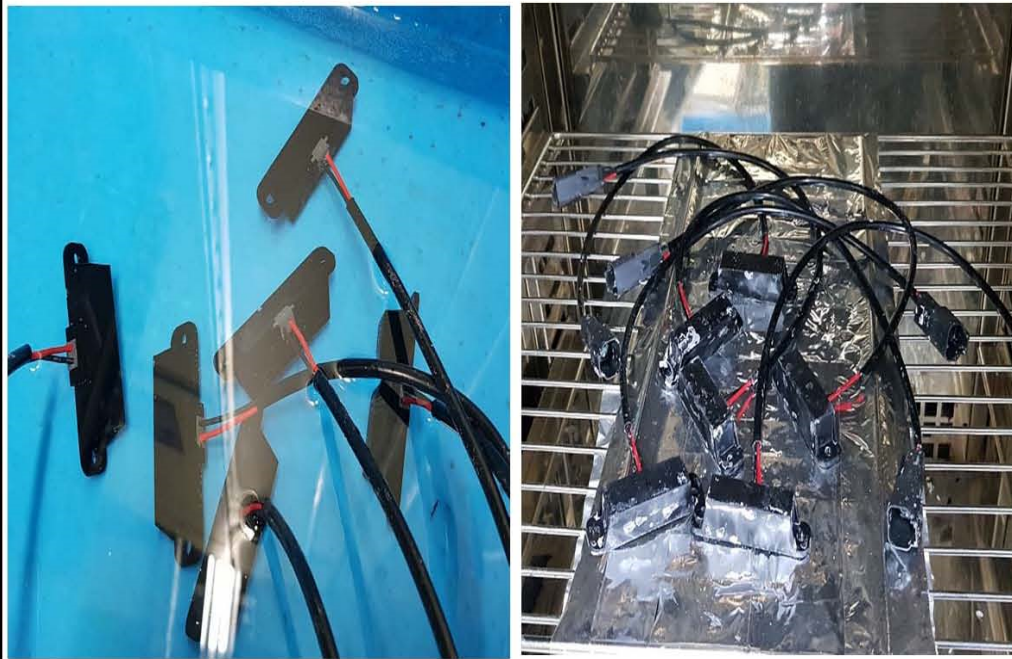


Salt Water Spray Test

Outdoor LF Antenna		3 : 1 or less @ 133KHz		
		Before Test	After Test	Rate of Change
	#13	1.62	1.56	-3.70%
	#14	1.36	1.28	-5.88%
	#15	1.39	1.33	-4.32%
	#16	1.47	1.37	-6.80%
	#17	1.41	1.38	-2.13%
	#18	1.34	1.31	-2.24%
	VSWR	OK		

Test Image



7. Packaging Specification

[illegible]

8. Precaution

8.1 Storage

Store products away from hot or humid places

Store the product away from corrosive gases such as hydrogen sulfide, sulfuric acid, chlorine, ammonia, etc

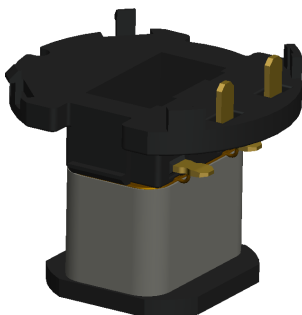
8.2 Storage Conditions

Temperature : 5 to 35°C

Humidity : 45 to 75% RH

Period : 4 Months from the date of Packaging

Product Approval Sheet

Product Name	ANTENNA,LF: ASSY SSB(133KHz)	Product Image
Model	SSB LF Antenna	
Part No.	1-3602-00009	
Manufacturer	RF Controls Co. Ltd	

DESIGN	CHECK	APPROVAL
		
2019.02.01.	2/1	

Contents

- 1. Revision History**
- 2. Product Description**
- 3. Rated Specifications**
- 4. Drawing**
- 5. Related Standards**
- 6. Reliability Test**
- 7. Packaging Specifications**
- 8. Precaution**

1. Revision History

Rev.	Contents	Description	Organization	Date
0	Production Release			
1	Resonance Frequency change (134KHz -> 133KHz)	Re-Approval	R&D Team	Immediately
2				
3				
4				

2. Product Descriptions

2.1 Outlines

2.1.1 Product Name

ANTENNA,LF: ASSY SSB(133KHz)

2.1.2 Goal

This product is mounted inside the heavy equipment of Doosan Infracore and is used to communicate with the smart key of the user inside the vehicle. It also functions to exchange authentication signals with adjacent smart keys when an emergency start is required when the battery of the smart key is discharged.

2.2 Application Range

Excavator / Wheel Loader

2.3 Warranty

1 Year

3. Rated Specifications

3.1 Environment and Operation

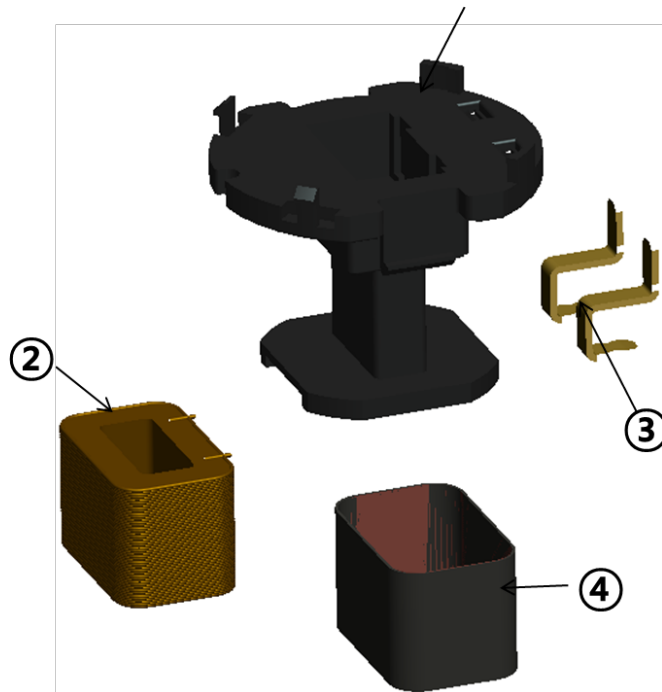
Environmental & Operation Specification		
No	Parameter	Specification
1	Storage Temperature	-40°C to 105°C
2	Operation Temperature	-30°C to 85°C

3.2 Electrical

Electrical Specification		
No	Parameter	Specification
1	Resonance Frequency	133KHz $\pm$ 5%
2	Inductance	172uH $\pm$ 5%
3	VSWR	3 : 1 or less @ 133KHz

3.3 Components

3.4.1 Body Antenna Assembly



PART DESCRIPTION				
No	P/No	P/Name	Q'ty	Remark
1	0000525	SSB HOUSING	1	
2	0000521	COIL	1	
3	0000526	TERMINAL B	2	
4	0000561	INSULATED TAPE	1	

5. Related Standards

5.1 Environmental Test

Item	Division	Test Title	Q'ty	Test Condition	Requirement
Common	Performance Test	Basic Function Test	12	Performance Test after connecting test Jig	Check Specification
SSB LF Antenna	Environmental Test	Low Temp. Test	6	Proceed at $-40\pm 2^{\circ}\text{C}$ for 100 hours and leave at room temperature for 2hrs	After completion of the test, the change in the performance value of the DUT is within 10%
	Environmental Test	High Temp. Test	6	Proceed at $+85\pm 2^{\circ}\text{C}$ for 100 hours and leave at room temperature for 2hrs	After completion of the test, the change in the performance value of the DUT is within 10%

6. Reliability Test

6.1 Environmental Test Results

Low Temperature Test		S i g n	Design	Check	Check	Approval
			J.H. Ko			W.K. Kim
Report No.	RFC-0104-005	Date		2019.01.04		
Test Date	2018.12.27~2018.12.31	Organization/Tester		R&D Team / J.H. Ko		
1. General Status						
Request Team	RFC Co. Ltd R&D Team	Purpose		Reliability Test		
Requester	J.H. Ko	Test Item		low Temperature Test		
2. Test Target						
Car	Wheel Loader/ Excavator	Part No.		1-3602-00009		
Model	ANTENNA,LF:ASSY SSB (133KHz)	LOT NO.		#1 ~ #6		
3. Test Status						
Management No.	RFC-0104-005	Test Equipment		Constant Temp. Chamber		
Test Site	RF Controls Co. Ltd	Number of Samples		6 EA		
4. Test Methods and Criteria						
Test Method	Proceed at -40±2°C for 100 hours and leave at room temperature for 2hours					
Criteria	▶ After completion of the test, the change in the performance value of the DUT is within 10%					
5. Test Results : " PASS " (Refer: Attached DATA)						
6. Remarks - Reliability Test						
※ This is a test report only for samples submitted by the above request team and cannot be used for propaganda, litigation, or other legal requirements						