



L C I E

LCIE SUD EST
Laboratoire de Moirans
Z.I. Centr'Alp
170, Rue de Chatagnon
38430 MOIRANS - FRANCE

GENERAL INFORMATION

FCCID: 2ARX6-PAL20

1.1. Product description



HIKOB

Technical Description

The HIKOB LION is one of the elements that constitutes the HIKOB wireless sensor radio network. This system is a set of wireless sensors doing multi-point distributed measures in various domains. These sensors radio transmit their acquired data to the HIKOB GATEWAY, possibly via HIKOB LION routers, depending on environment constraints for radio transmission. This local radio network operates in the 2.4GHz ISM bandwidth and implements the standardized IEEE 802.15.4e protocol. The HIKOB GATEWAY provides the user with these acquisitions through its embedded software: HIKOB NETPULSE, which makes the interface to any TCP/IP network.

HIKOB systems cover data acquisitions such as vehicle detection for controlled traffic or parking management, various measurements in civil engineering structures from stress gauges to crack/inclinometers, and vibrations from industrial machines for diagnostic purpose, providing tools for predictive maintenance for example

Data sheet of equipment



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1.2. Tested System Details

Equipment information:

Type:	ZIGBEE		
Frequency band:	[2400 – 2483.5] MHz		
Sub-band REC7003:	Annex 3 (a)		
Spectrum Modulation:	<input checked="" type="checkbox"/> DSSS		
Number of Channel:	16		
Spacing channel:	5MHz		
Channel bandwidth:	2MHz		
Antenna Type:	<input checked="" type="checkbox"/> Integral	<input type="checkbox"/> External	<input type="checkbox"/> Dedicated
Antenna connector:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Temporary for test
Transmit chains:	1 Single antenna Gain 1: 3dBi		
Beam forming gain:	No		
Receiver chains	1		
Type of equipment:	<input checked="" type="checkbox"/> Stand-alone	<input type="checkbox"/> Plug-in	<input type="checkbox"/> Combined
Ad-Hoc mode:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No
Duty cycle:	<input checked="" type="checkbox"/> Continuous duty	<input type="checkbox"/> Intermittent duty	<input type="checkbox"/> 100% duty
Equipment type:	<input checked="" type="checkbox"/> Production model		<input type="checkbox"/> Pre-production model
Type of power source:	<input type="checkbox"/> AC power supply	<input type="checkbox"/> DC power supply	<input checked="" type="checkbox"/> Battery (Lithium)
Operating voltage range:	Vmin:	<input type="checkbox"/> 207V/50Hz	<input checked="" type="checkbox"/> 2.9Vdc
	Vnom:	<input type="checkbox"/> 230V/50Hz	<input checked="" type="checkbox"/> 3.6Vdc
	Vmax	<input type="checkbox"/> 253V/50Hz	<input checked="" type="checkbox"/> 4.2Vdc

NC: Not communicated by customer

CHANNEL PLAN	
Channel	Frequency (MHz)
Cmin: 11	2405
12	2410
13	2415
14	2420
15	2425
16	2430
17	2435
Cmid: 18	2440
19	2445
20	2450
21	2455
22	2460
23	2465
24	2470
Cmax : 25	2475

DATA RATE		
Data Rate (Mbps)	Modulation Type	Worst Case Modulation
0.25	O-QPSK	<input checked="" type="checkbox"/>

TAG Part – 13.56MHz

Frequency band:	<input checked="" type="checkbox"/> [13.553–13.567]MHz	<input type="checkbox"/> [125]kHz	<input type="checkbox"/> [-] MHz
RF mode:	<input type="checkbox"/> Transmitter	<input type="checkbox"/> Transceiver	<input checked="" type="checkbox"/> TAG <input type="checkbox"/> Standby
Type:	<input checked="" type="checkbox"/> RFID	<input type="checkbox"/> EAS	<input type="checkbox"/> Other:



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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or/and ANSI C63.10, FCC Part 15 SubPart 15C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed: **January 28, 2019 to June 3, 2019**

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 or/and ANSI C63.10.

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55032/CISPR32 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.