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GENERAL INFORMATION

FCCID: **XKB-D5000CLWIBT**

1.1. Product description

2_1 General hardware features.

2_1_1 Mechanical description

Dimensions and weight

Mechanical characteristics	**External dimensions**	187x82x68 mm
	Weight	340gr
	Casing material	PC/ABS

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2_1_4 Desk/5000 Technical description

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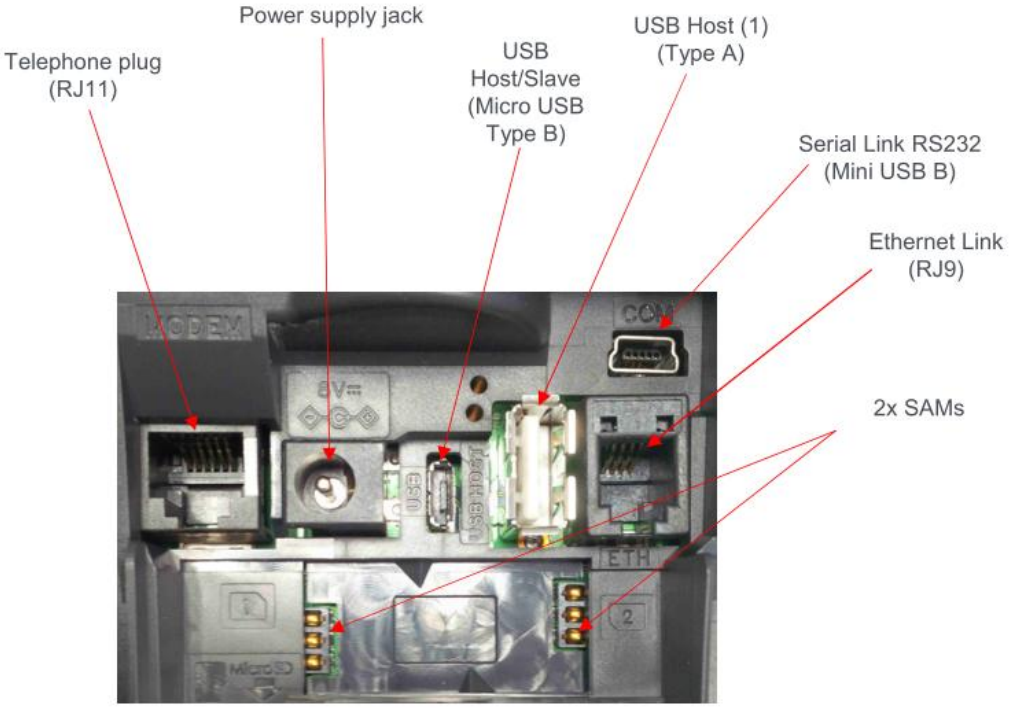
3_Connectivity.

3_1 Wired connectivity

Desk/series is equipped with a choice of interface and power connector situated under trap below terminal.



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3_2 Wireless connectivity

- **Desk**/5000 is also available with Bluetooth and/or Wifi

- Implementation of WiFi technology on a desktop product is a new feature and new trend following the setup box market. It brings together an efficient backup to the PSTN with high throughput and a technology which eases a lot the in shop implementation (no network cable needed)
- Implementation of Bluetooth technology on a desktop product is a new feature and allow any connection to external device such as tablets, cash register, bar code scanner….

3_2_1 Bluetooth

Bluetooth connection is optional in **Desk**/5000 (in Roadmap for **Desk**/3000).
This feature is useful to wirelessly connect any kind of Bluetooth peripheral such as cash register, bar code scanner, tablet, smartphone.
Bluetooth connection is directly established between 2 devices (unlike WiFi).

Characteristic	Bluetooth 4.x
Chipset	Bluecore 8 from CSR
Standard compliance	Bluetooth 4.x – Class 2
Profile	SPP Other profile to be analysed on request

Radio transfer rate	1 Mbit/s 2Mbit/s
Number of supported links	2 open link to PCL and 3 reserved for peripherals
Range	Class 2; Indoor: 10m typical

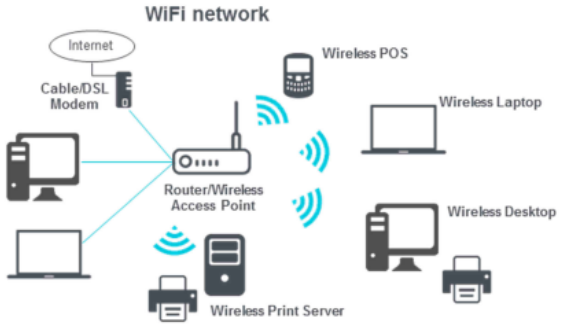
Bluetooth supported on **Desk**/series is technically able to support :

- Evolutions of the existing Bluetooth protocol (Classic Bluetooth)
- Bluetooth Low Energy specifications and evolutions

Anyway, at the moment PCI is not allowing the use of the LE mode at the moment.

3_2_2 Wifi

WiFi connection is optional in **Desk**/5000 (in Roadmap for **Desk**/3000).
This feature is useful to wirelessly connect your terminal to the IP network avoiding the cabling task :



Characteristic	**Dualband :2.4 GHz and 5 GHz Wi-Fi**
Chipset	Marvell 88W8782
Standard compliance	802.11 a,b,g,n / SISO
Radio transfer rate	From 1 Mbit/s to 135 Mbit/s
Range	Indoor: 70m typical, mini 100m in free sight
Home security	WPA, WPA2
Enterprise security	EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAPv0, EAP-SIM

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1.2. Tested System Details

The EUT can be used with different configuration:

- ✓ **Initial functionnalities**
  - Cless Interface (RFID)
  - Bluetooth chipset: CSR8811 (CSR)
  - SAM1 & SAM2 readers
  - Host or slave (µUSB connector)
  - USB Host (Type A connector)
  - RS232 (COM1)
  - Modem RTC
  - Ethernet
- ✓ **With option card (internal)**
  - RS232-COM2
  - Jack Audio
  - SAM3
  - Bluetooth chipset: CSR8811 (CSR)
  - Chipset Marvell 88W8782
- ✓ **1 power supply**
  - PSM32W-080L6IN-R-

Equipment under test (EUT):
Erreur ! Source du renvoi introuvable.
Serial Number: Erreur ! Source du renvoi introuvable.

Photography of EUT

Power supply:
During all the tests, EUT is supplied by V_{nom}: 8VDC
For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply_Phihong	☑ AC ☐ DC ☐ Battery	100-240V 50/60Hz	PHIHONG : PSM32W-080L6IN-R-	-

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Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply_Phihong	Input AC, 2 wires	1.8	☑	☐	☑	
	Output DC, Jack	1.8	☑	☐	☑	
Twist cable to Magicbox	Power supply Jack	2	☑	☐	☑	Supply Terminal
	RJ11					COM0
	RJ45					Ethernet line
	RJ11					Modem line
SAM1	SAM card	/	/	/	☑	/
SAM2	SAM card	/	/	/	☑	/
SAM3	SAM card	/	/	/	☑	/
CAM0	SAM card	/	/	/	☑	/
USB	USB port (Micro-B)	1	☑	☑	☑	/
USB HOST	USB port (Type A)	1	☑	☑	☑	/
MicroSD	Micro SD port	/	/	/	☑	/
COM2	Mini USB	1	☐	☑	☑	/
Audio	Audio Jack 3.5mm	1	☐	☑	☑	/

Inputs/outputs & Cable: Magicbox 51/2014 CUST P/N: 296165425 INGELEC P/N : MUL0885C						
Access	**Type**	**Length used (m)**	**Declared <3m**	**Shielded**	**Under test**	**Comments**
Supply Magicbox	Power supply Jack	1.5	☑	☐	☑	/
COM0	RJ11	3	☐	☐	☑	/
Ethernet	RJ45	5	☐	☐	☑	/
Modem	RJ11	5	☐	☐	☑	/
Magicbox cable twisted	Twist cable	2	☑	☐	☑	/

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
Contactless Card	-	-	-

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Equipment information: RFID

Frequency band:	☑ [13.553–13.567]MHz	☐ [125]kHz	☐ [-] MHz	
Sub-band REC7003:	☑ Annex 9 (j)	☐ Annex 9 (a3)	☐ Annex ( )	
RF mode:	☐ Transmitter	☑ Transceiver	☐ Receiver	☐ Standby
Type:	☑ RFID	☐ EAS	☐ WPT	☐ Other:
Bandwidth:	☑ Narrowband (ISO15693, ISO18000-3…)		☐ Wideband (ISO14443, NFC…)	
Product class § 7.1.4	☐ 1	☑ 2	☐ 3	☐ 4
Receiver classification § 4.1.1:	☐ 1	☑ 2	☐ 3	
Equipment intended for use as a	☑ Fixed station		☐ Mobile station	
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Antenna Type:	☐ External		☑ Internal	
Antenna connector:	☐ Permanent external	☐ Permanent internal	☑ None	☐ Temporary (only for tests)
Antenna Gain:	NC dBi			
Duty cycle:	☐ Continuous duty	☐ Intermittent duty	☑ Continuous operation	
Equipment type:	☑ Production model		☐ Prototype	
Temperature range:	Tmin:	☑ -20°C	☐ 0°C	☐ °C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☑ 55°C	☐ °C
Type of power source:	☑ AC power supply	☐ DC power supply	☐ Battery (Select type)	
Test source voltage:	Vmin:	☑ 207V/50Hz	☐ VDC	
	Vnom:	☑ 230V/50Hz	☐ VDC	
	Vmax	☑ 253V/50Hz	☐ VDC	

NC : not communicated.

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Equipment information: Bluetooth

Bluetooth Classic Type:	☐ **v1.2**	☐ **v2.0**	☐ **v2.1+EDR**	☐ **v3.0+HS**
	☐ **v4.0**	☑ **v4.1**		☐ **v4.2**
Frequency band:	[2400 – 2483.5] MHz			
Sub-band REC7003:	Annex 3 (a)			
Spectrum Modulation:	☑ FHSS			
Number of Channel:	Maximum:	79	Minimum:	20
Spacing channel:	1 MHz			
Channel bandwidth:	1 MHz			
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☐ Yes	☑ No	☑ Temporary for test	
Transmit chains:	☑ 1			
	Single antenna			
	Gain: 0 dBi			
Beam forming gain:	No			
Receiver chains	1			
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Ad-Hoc mode:	☐ Yes	☑ No		
Dwell time:	400ms			
Duty cycle:	☑ Continuous duty	☐ Intermittent duty	☐ 100% duty	
Equipment type:	☑ Production model	☐ Pre-production model		
Operating temperature range:	Tmin:	☑ -20°C	☐ 0°C	☐ X°C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☑ 55°C	☐ X°C
Type of power source:	☐ AC power supply	☐ DC power supply	☐ Battery	
Operating voltage range:	Vnom:	☑ 230V/50Hz	☐ XVdc	
Geo-location capability:	☐ Yes (The geographical location determined by the equipment is not accessible to the end user as defined in section 4.3.1.13.2 of ETSI EN 300 328 V1.9.1 standard)		☑ No	

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CHANNEL PLAN					
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
Cmin: 0	**2402**	27	2429	54	2456
1	2403	28	2430	55	2457
2	2404	29	2431	56	2458
3	2405	30	2432	57	2459
4	2406	31	2433	58	2460
5	2407	32	2434	59	2461
6	2408	33	2435	60	2462
7	2409	34	2436	61	2463
8	2410	35	2437	62	2464
9	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	**Cmid:** 39	**2441**	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	**Cmax: 78**	**2480**
25	2427	52	2454		
26	2428	53	2455		

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Equipment information: 2.4GHz Wifi

Type:	**WIFI**			
Frequency band:	[2400 – 2483.5] MHz			
Sub-band REC7003:	Annex 3 (a)			
Standard:	☑ 802.11b	☑ 802.11g	☑ 802.11n HT20	☑ 802.11n HT40
Spectrum Modulation:	☑ DSSS		☑ OFDM	
Number of Channel:	13			
Spacing channel:	5 MHz			
Channel bandwidth:	☑ 20MHz		☑ 40MHz	
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☐ Yes	☑ No	☑ Temporary for test	
Transmit chains:	☑ 1	☐ 2	☐ 3	☐ 4
	☑ Single antenna	☐ Symmetrical	☐ Asymmetrical	
	Gain 1: 0.8 dBi	Gain 2: dBi	Gain 3: dBi	Gain 4: dBi	Accumuled Gain: dBi
Beam forming gain:	☐ Yes: dB		☑ No	
Receiver chains	☑ 1	☐ 2	☐ 3	☐ 4
Type of equipment:	☐ Stand-alone	☑ Plug-in	☐ Combined	
Ad-Hoc mode:	☐ Yes		☑ No	
Adaptivity mode:	☑ Yes (Load Based)	☐ Off mode	☐ No	
	Clear Channel Assessment Time		20 µs or more	
Duty cycle:	☑ Continuous duty	☐ Intermittent duty	☐ 100% duty	
Equipment type:	☑ Production model		☐ Pre-production model	
Operating temperature range:	Tmin:	☑ -20°C	☐ 0°C	☐ X°C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☑ 55°C	☐ X°C
Type of power source:	☑ AC power supply	☐ DC power supply	☐ Battery	
Operating voltage range:	Vnom:	☑ 230V/50Hz	☐ Vdc	
Geo-location capability:	☐ Yes (The geographical location determined by the equipment is not accessible to the end user as defined in section 4.3.2.12.2 of ETSI EN 300 328 V1.9.1 standard)		☑ No	

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CHANNEL PLAN	
802.11b / 802.11g / 802.11n HT20	
Channel	Frequency (MHz)
Cmin: 1	**2412**
2	2417
3	2422
4	2427
5	2432
Cmid: 6	**2437**
7	2442
8	2447
9	2452
10	2457
Cmax: 11	**2462**

CHANNEL PLAN	
802.11n HT40	
Channel	Frequency (MHz)
Cmin: 3	**2422**
4	2427
5	2432
Cmid: 6	**2437**
7	2442
8	2447
Cmax: 9	**2452**

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Equipment information: 5GHz Wifi

Type:	**WIFI**			
Frequency band:	☑ 5150MHz-5250MHz	☑ 5250MHz-5350MHz	☑ 5470MHz-5725MHz	
Standard:	☑ 802.11a	☑ 802.11n HT20	☑ 802.11n HT40	
	☐ 802.11ac VHT20	☐ 802.11ac VHT40	☐ 802.11ac VHT80	
	☐ 802.11ac VHT160			
Spectrum Modulation:	☑ OFDM			
Channel bandwidth:	☑ 20MHz	☑ 40MHz	☐ 80MHz	☐ 160MHz
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☐ Yes	☑ No	☑ Temporary for test	
Transmit chains:	☑ 1	☐ 2	☐ 3	☐ 4
	☐ 5	☐ 6	☐ 7	☐ 8
	☑ Single antenna	☐ Symmetrical	☐ Asymmetrical	
	Gain 1: 1.5dBi	Gain 2: X dBi	Gain 3: X dBi	Gain 4: X dBi
	Gain 5: X dBi	Gain 6: X dBi	Gain 7: X dBi	Gain 8: X dBi
	Accumuled Gain: 1.5 dBi			
Beam forming gain:	☐ Yes: X dB		☑ No	
TPC:	☐ Yes		☑ No	
Receiver chains	☑ 1	☐ 2	☐ 3	☐ 4
	☐ 5	☐ 6	☐ 7	☐ 8
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Ad-Hoc mode:	☐ Yes		☑ No	
Duty cycle:	☑ Continuous duty	☐ Intermittent duty	☐ 100% duty	
Unmodulated mode:	☐ Yes		☑ No	
Equipment type:	☑ Production model		☐ Pre-production model	
Operating temperature range:	Tmin:	☑ -20°C	☐ 0°C	☐ X °C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☑ 55°C	☐ X °C
Type of power source:	☑ AC power supply	☐ DC power supply	☑ Battery Battery Type	
Operating voltage range:	Vmin:	☑ 207V/50Hz	☐ 3.2 Vdc	
	Vnom:	☑ 230V/50Hz	☐ 3.7 Vdc	
	Vmax	☑ 253V/50Hz	☐ 4.2 Vdc	
Mode:	☐ Master	☐ Slave with radar detection	☑ Slave without radar detection	
Fixed outdoor P to P/M application:	☐ Yes		☑ No	
System architectures:	☑ IP based		☐ Frame based	
Off-channel CAC function:	☐ Yes (Off-Channel CAC Time: X hours)		☑ No	
Fixed outdoor P to P/M application:	☐ Yes		☑ No	
User access restriction:	☐ Yes (The DFS settings are not accessible to the end user if changing those settings result in no longer being compliant with DFS requirement in clause 4.7 of ETSI EN 301 893 V1.8.1)		☑ No	
Geo-location capability:	☐ Yes (The geographical location determined by the equipment is not accessible to the end user as defined in section 4.10.2 of ETSI EN 301 893 V1.8.1 standard)		☑ No	

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CHANNEL PLAN		
802.11a / 802.11n HT20/ 802.11ac VHT20		
Channel	**Frequency (MHz)**	**Available Channel**
C1=36	5180	☑
C2=40	5200	☑
44	5220	☑
C3=48	5240	☑
C4=52	5260	☑
56	5280	☑
C5=60	5300	☑
C6=64	5320	☑
C7=100	5500	☑
104	5520	☑
108	5540	☑
112	5560	☑
C8=116	5580	☑
120	5600	☐
124	5620	☐
128	5640	☐
132	5660	☑
136	5680	☑
C9=140	5700	☑
C10=144	5720	☐
C11=149	5745	☐
153	5765	☐
C12=157	5785	☐
161	5805	☐
C13=165	5825	☐

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CHANNEL PLAN		
802.11n HT40/ 802.11ac VHT40		
Channel	**Frequency (MHz)**	**Available Channel**
C14=36+40	5190	☑
C15=44+48	5230	☑
C16=52+56	5270	☑
C17=60+64	5310	☑
C18=100+104	5510	☑
C19=108+112	5550	☑
116+120	5590	☐
124+128	5630	☐
C20=132+136	5670	☑
C21=140+144	5710	☐
C22=149+153	5755	☐
C23=157+161	5795	☐

CHANNEL PLAN		
802.11ac VHT80		
Channel	**Frequency (MHz)**	**Available Channel**
C24=36+40+44+48	5210	☐
C25=52+56+60+64	5290	☐
C26=100+104+108+112	5530	☐
C27=116+120+124+128	5610	☐
C28=132+136+140+144	5690	☐
C29=149+153+157+161	5775	☐

CHANNEL PLAN		
802.11ac VHT160		
Channel	**Frequency (MHz)**	**Available Channel**
C30=36+40+44+48+52+56+60+64	5250	☐
C31=100+104+108+112+116+120+124+128	5570	☐

No DFS Channel
DFS Channel
Weather DFS Channel (Not Authorised for RSS-247)

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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or ANSI C63.10, FCC Part 15 Subpart C.
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 from **August 01st to November 17th, 2016**.

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 and ANSI C63.10 (registration number 94821).
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, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.