SMARTWARE

USN-3D Product

From 3 to 6 US^{nano} in a rackable format

US nano®

Data Sheet V1R01d

Date: 14 November 2011

Versions:

- **USN3**
- **MX3-3I3P**
- **MX6-6I**
- **MX6-6I3P**

DOCUMENT HISTORY

Edition	Date	Author	Description of changes
V1R01a	Sep 2011	FA	Original Version
V1R01b	Nov 2011	FA	Remove USN1 from FCC / IC compliance
V1R01c	Nov 2011	FA	Remove all references to USN1
V1R01d	Nov 2011	FA	Remove FCC / IC to MX6-6I

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> **US-Nano - Datasheet v1r03c**
> **T70x45x2 – Datasheet v1r01b**
> **Application Note TP_200911_020**

ULTRASMART™ USN-3D

1 DESCRIPTION

The USN-3D product is declined in several versions: USN3, MX3-3I3P, MX6-6I and MX6-6I3P.

The standard Europe form factor (220 x 100 mm) makes it easy to integrate on standard format racks.

Features

- **Fully Integrated Gigabit Switch** :
    - o 10 / 100 / 1000 Mbps Ethernet on backplane

- **Configurable Hardware:**
    - o Multiple Hardware versions:
        - • 3 to 6 US^{nano}
        - • up to 6 contact & 3 contactless interfaces
    - o Configurable node (IP address)
    - o Safe mode functionality
    - o Serial port for debug or communication (USN3 only)

- **Integrated Protocols**:
    - o ISO 7816-3/4 (T=0 / T=1)
    - o ISO 14443 A / B up to 424 Kbps, FeliCa^{TM} 212 / 424, Mifare^{TM}, Mifare+, PayPass A / B
    - o USB Host Low / Full / High speed (up to 480 Mbps)
    - o Single Wire Protocol (SWP) up to 1.6 Mbps

USN3

MX3   **MX6**

Applications

- Production environment

ELECTROSTATIC DISCHARGE SENSITIVITY

The USN-3D can be damaged by ESD.
SMARTWARE recommends that USN-3D has to be handled with appropriate bracelet linked to earth. Failure to observe proper handling and installation procedures can cause damages.

SAFETY RECOMMENDATIONS

- Handling and connections should be done without power supply.

ABSOLUTE MAXIMUM RATINGS

Power Supply…………………………………………+14 Volts

- The product includes a hot Surface.

- A fire enclosure must be provided in the end product.

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2 USN-3D - FUNCTIONNALITIES

The USN-3D product is a solution for:

- **US^{nano} Integration** in a 220 x 100 format:

    o Contact interface:
        - ISO7816
        - SWP
        - USB
        - Open Short Test (Clamp Diode functional Test).
        - Continuity Test (Check the entire connection with smartcard: pins, cable, connectors…)

    o Contactless interface:
        - ISO 14443 Type A / B up to 424 Kbps
        - PayPass A / B
        - FeliCa^{TM} 212 / 424
        - Mifare^{TM}
        - Mifare +

Please refer to *US-NANO Datasheet v1r03c* for more detailed information about smartcard contact and contactless interfaces.

Some functionalities are under licenses. Please refer to specific documentation for more information.

2.1 DIFFERENCES BETWEEN VERSIONS

The definitions of the versions are USN**x** & MX**x-y**I**z**P:
- **-** Where **x** means the number of US^{nano} board in the assembly.
- **-** Where **y** means the number of contact interfaces (max: 6).
- **-** Where **z** means the number of contactless interfaces (max: 3).

Note: The MX versions are dedicated to specific customers.

2.1.1 Backplane connector

The main difference between USNx & MXx is the backplane connector pin out.

2.1.2 Ethernet

The USN3, MX3 includes a Gbps Ethernet switch.
The MX6 includes two Gbps Ethernet switches (1 on master board / 1 on slave board).
- **-** The two switches are connected using Ethernet Gbps connection

2.1.3 Bridge connector (MX6 only)

The MX6 uses a bridge connector to provide power supply, Ethernet connection, and configuration signals from master board (with backplane connector) to slave board (without backplane connector).

2.1.4 Versions in Photos

Below are shown the different versions (represented without shielding for understanding).
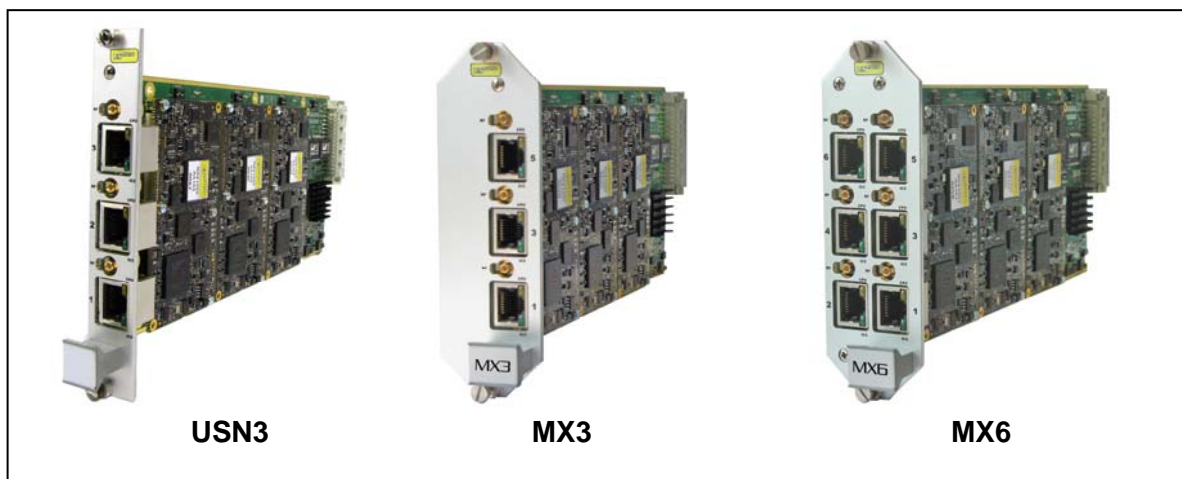
| USN3 | MX3 | MX6 |

Figure 1: USN3 / MX3 / MX6

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2.2 CONNECTIVITY

The USN-3D product can be managed by:
- o Ethernet 10 / 100 / 1000 Mbps (UDP / TCP Protocols).
- o RS232 serial port (only available for US^{nano} A of USN3 version)

2.3 ESD PROTECTIONS

The USN-3D provides ESD protections on contacts C1 to C8.

A dedicated earth path evacuates the ESD through sidebands & front panel.

The sidebands are 2 metal strip lines of 2 mm large on the USN-3D which slide into the guides.
The guides might have some earth connection to connect the USN-3D earth to the machine / rack's earth.

Please refer to ESD application note **TP_200911_020** for more information about ESD protection on test Head.

2.4 HARDWARE SETTINGS

2.4.1 Safe Mode

The safe Mode is common to all US^{nano} using micro switch SW1 (require a restart).
In safe Mode, each US^{nano} will also take its hardware specified node.

2.4.2 Node Definition

The "**Node Base**" is the node defined by the DIN connector (bit 0 to 7).
The bit 6 and 7 can also be set using SW1 switch.

The "**SubNode**" is defined by SW70 / SW71 / SW72 (bit 0 to 2).

=> *Computed Node = NodeBase + SubNode*

Important: The assembly's node base should be set using an 8 bits micro switch present on the backplane.

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2.4.3 Default Configuration

2.4.3.1 MX6 Version

Nano #	Boards	Node value	Example with NodeBase = 1	Example with NodeBase = 7
A	Master (with backplane connector)	Node Base + 0	1	7
B	Master	Node Base + 2	3	9
C	Master	Node Base + 4	5	11
A	Slave (without backplane connector)	Node Base + 1	2	8
B	Slave	Node Base + 3	4	10
C	Slave	Node Base + 5	6	12

Table 1 : MX6 Node Identifier Definition
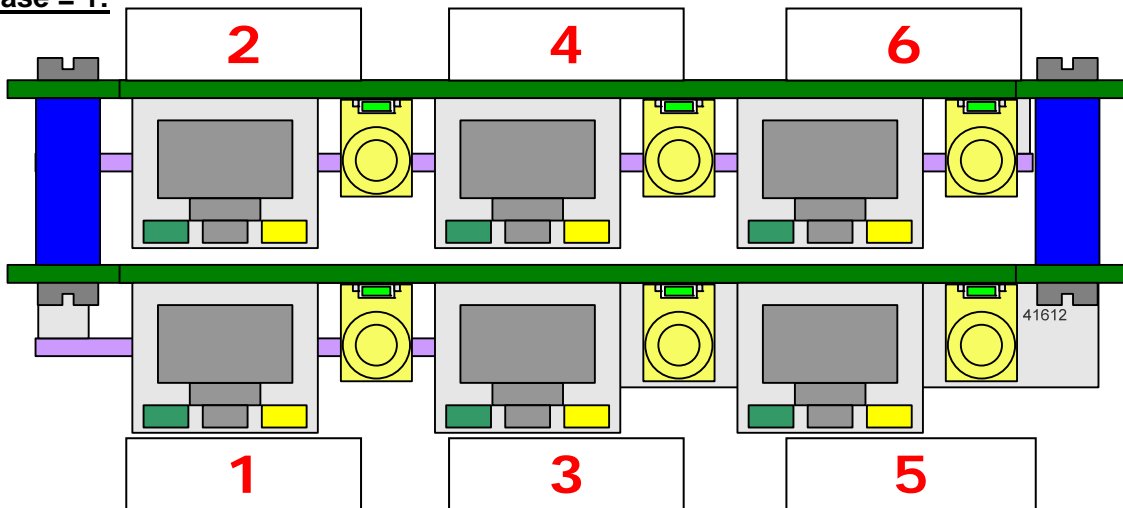
NodeBase = 1:

Figure 2: MX6 Node Identifier Default Configuration

2.4.3.2 MX3 Version

US^{nano} #	Node value	Example with NodeBase = 1	Example with NodeBase = 7
A	Node Base + 0	1	7
B	Node Base + 2	3	9
C	Node Base + 4	5	11

Table 2 : MX3 Node Identifier Definition
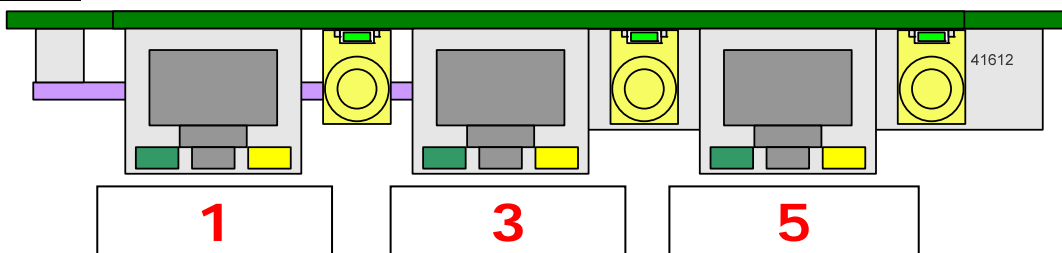
NodeBase = 1:

Figure 3: MX3 Node Identifier Default Configuration

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2.4.3.3 USN3 Version

US^{nano} #	Node value	Example with NodeBase = 1	Example with NodeBase = 7
A	Node Base + 0	1	7
B	Node Base + 1	2	8
C	Node Base + 2	3	9

Table 3 : USN3 Node Identifier Definition

NodeBase = 1:
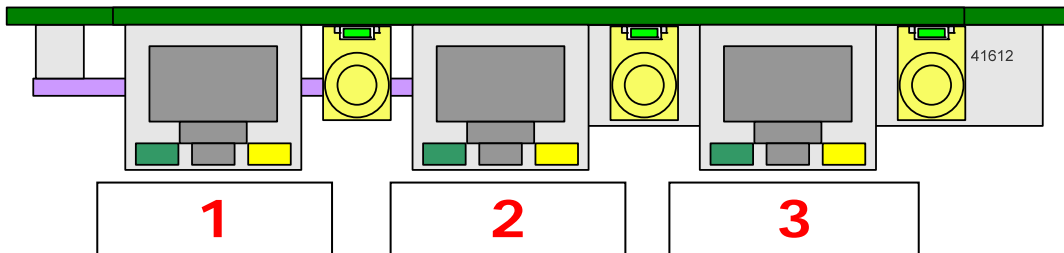
Figure 4: USN3 Node Identifier Default Configuration

3 USN-3D – INPUTS/OUTPUTS DESCRIPTION

3.1 NOTATION

The notation for pin type is as following:

I	Input (default)
O	Output
L	Active low
H	Active high (default)
T	Tri-state
C	Open Collector
G	Ground
P	Power supply
N	Not connected
U	A pull up is connected
D	A pull down is connected
x	Undefined

The types can be mixed. Example: IL = Active Low Input

3.2 BACKPLANE CONNECTOR (J30)

GigaBit Ethernet using transformer connection will be connected as below.

Description	This connector is only mounted on master board
Number of PINs	3 * 16 (2 mm X 2 mm X 2 mm)
Location	Top side
Reference	FCI 86093487313755ELF (DIN41612 C/2 male 48)

Table 4 : J30 Reference

Note for NodeBase:
INi lines give <u>the negation</u> of the Network Node ID of the board during Boot phase.
The value 0xFF represents the default node (Node Id = 0x01, or is defined by software).
Another value has priority over the software definitions (ex: value 0xFC represents Node 3).
When at least one of the micro-switches is ON, the node-ID defined by micro-switch has priority on the software definitions.

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3.2.1 USN3 Version

PIN	Name	Type	Voltage Domain	DESCRIPTION
A1	GND	G	0V	Common Ground
B1	L1Tx	O	+- 5V	Line1 RS232 Transmit (US^{nano} A only)
C1	L1Rx	I	+- 5V	Line1 RS232 Receive (US^{nano} A only)
A2	RFU			
B2	RFU			
C2	RFU			
A3	RFU			
B3	RFU			
C3	RFU			
A4	GND	G	0V	Common Ground
B4	IN0	ILU	0 / 3V3	NodeBase 0
C4	IN1	ILU	0 / 3V3	NodeBase 1
A5	IN2	ILU	0 / 3V3	NodeBase 2
B5	IN3	ILU	0 / 3V3	NodeBase 3
C5	IN4	ILU	0 / 3V3	NodeBase 4
A6	IN5	ILU	0 / 3V3	NodeBase 5
B6	IN6	ILU	0 / 3V3	NodeBase 6
C6	IN7	ILU	0 / 3V3	NodeBase 7
A7	RFU			
B7	RFU			
C7	Safe_Mode	ILU	0 / 3V3	Safe Mode
A8	RFU			
B8	RFU			
C8	RFU			
A9	RFU			
B9	+3V3	PO	+3V3	Internal Logic Power Supply (since v1r02)
C9	LILED	OL	0 / 3V3	Ethernet Led Link (since v1r02)
A10	RFU			
B10	RFU			
C10	RFU			
A11	ETH_BP_3P	IO	-	Ethernet Pair 3+
B11	ETH_BP_3M	IO	-	Ethernet Pair 3-
C11	RFU			
A12	ETH_BP_1P	IO	-	Ethernet Pair 1+ (RX+)
B12	ETH_BP_2P	IO	-	Ethernet Pair 2+
C12	ETH_BP_0P	IO	-	Ethernet Pair 0+ (TX+)
A13	ETH_BP_1M	IO	-	Ethernet Pair 1- (RX-)

B13	ETH_BP_2M	IO	-	Ethernet Pair 2-
C13	ETH_BP_0M	IO	-	Ethernet Pair 0- (TX-)
A14	RFU			
B14	RFU			
C14	RFU			
A15	Vaa	P	+12V	Main power supply
B15	GND	G	0V	Common Ground
C15	GND	G	0V	Common Ground
A16	Vaa	P	+12V	Main power supply
B16	GND	G	0V	Common Ground
C16	GND	G	0V	Common Ground

Table 5 : USN3 - J30 Connector Pinout

3.2.2 MX3 / MX6 Version

PIN	Name	Type	Voltage Domain	DESCRIPTION
A1	GND	G	0V	Common Ground
B1	GND	G	0V	Common Ground
C1	GND	G	0V	Common Ground
A2	RFU			
B2	RFU			
C2	RFU			
A3	Vaa	P	+12V	Main power supply
B3	Vaa	P	+12V	Main power supply
C3	Vaa	P	+12V	Main power supply
A4	IN2	ILU	0 / 3V3	NodeBase 2
B4	IN3	ILU	0 / 3V3	NodeBase 3
C4	RFU			
A5	IN0	ILU	0 / 3V3	NodeBase 0
B5	IN1	ILU	0 / 3V3	NodeBase 1
C5	RFU			
A6	ETH_BP_1P	IO	-	Ethernet Pair 1+ (RX+)
B6	ETH_BP_1M	IO	-	Ethernet Pair 1- (RX-)
C6	RFU			
A7	ETH_BP_0P	IO	-	Ethernet Pair 0+ (TX+)
B7	ETH_BP_0M	IO	-	Ethernet Pair 0- (TX-)
C7	RFU			
A8	IN4	ILU	0 / 3V3	NodeBase 4
B8	IN5	ILU	0 / 3V3	NodeBase 5
C8	RFU			
A9	RFU			
B9	RFU			
C9	RFU			
A10	RFU			
B10	RFU			
C10	RFU			
A11	RFU			
B11	RFU			
C11	RFU			
A12	IN6	ILU	0 / 3V3	NodeBase 6
B12	IN7	ILU	0 / 3V3	NodeBase 7
C12	RFU			

A13	RFU			
B13	ETH_BP_2P	IO	-	Ethernet Pair 2+
C13	RFU			
A14	RFU			
B14	ETH_BP_2M	IO	-	Ethernet Pair 2-
C14	RFU			
A15	RFU			
B15	ETH_BP_3P	IO	-	Ethernet Pair 3+
C15	RFU			
A16	RFU			
B16	ETH_BP_3M	IO	-	Ethernet Pair 3-
C16	RFU			

Table 6 : MX3/MX6 J30 Connector Pinout

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3.3 CONTACT INTERFACE CONNECTOR

A standard RJ45 is used for contact interface.
The connector is shielded to PCB main Ground.
The yellow led indicate the CPU activity.
The green led indicate the contact interface power status.

PIN	Name	Type	DESCRIPTION
1	CC3	IO	Card Contact 3 (CLK)
2	CC5	IO	Card Contact 5 (GND)
3	CC4	IO	Card Contact 4 (SPU & USB)
4	CC8	IO	Card Contact 8 (SPU & USB)
5	CC1	IO	Card Contact 1 (Vcc)
6	CC6	IO	Card Contact 6 (SPU & SWP)
7	CC2	IO	Card Contact 2 (RST)
8	CC7	IO	Card Contact 7 (DATA)
Led1	MCU Led	O	CPU activity
Led2	Contact Led	O	Contact interface status
Shielding	Sh1,Sh2	SHIELD	PCB main Ground

Table 7 : Contact Connector Pinout

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3.4 CONTACTLESS CONNECTOR

The SMB is used for contactless interface.
A green side led is present in front of the SMB to indicate the RF status.

PIN	Name	Type	DESCRIPTION
1	RF_ANT	O	13.56 MHz RF Signal
2,3,4,5	Gnd	G	GND

Table 8 : Contactless Connector Pinout

3.5 SW1 MICROSWITCH

Sw	DESCRIPTION
1	NodeBase / bit 6
2	NodeBase / bit 7
3	**RFU**
4	**Safe Mode** ON: Boot in safe Mode OFF: Normal Operation

Table 9 : SW1 Definition

This switch is common to all US^{nano} of the assembly.

For MX6 Only: As this switch is available on master and slave boards, the ON status is the prioritary state.
Then, a "OR" is done between the 2 switches (on the master and on the slave board).

For example, if "Master.SW1.SafeMode" is ON, the 6 US^{nano} of an MX6 assembly will start in safe mode whatever the state of "Slave.SW1.SafeMode"

3.6 SW70 / SW71 / SW72 MICROSWITCHES

Those switches define the SubNode for respectively US^{nano} A, B, & C.

Sw	DESCRIPTION
1	SubNode / bit 0
2	SubNode / bit 1
3	SubNode / bit 2
4	RFU

Table 10 : SW70/71/72 Definition

4 USN-3D - CABLE RECOMMENDATIONS

4.1 CONTACT INTERFACE CABLE

4.1.1 Cable model

CAT.5e UTP 24AWG(7/0.195)*4 PAIR INS: HD-PE ID:0.97±0.08mm
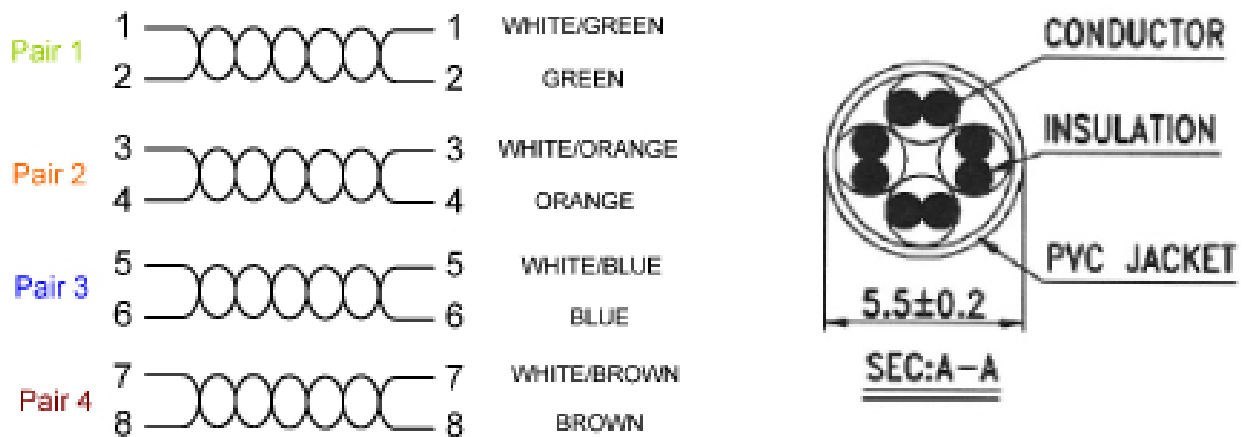Outer PVC Jacket, OD:5.5±0.2mm

Figure 5: Cable recommendation

4.1.2 Output connector

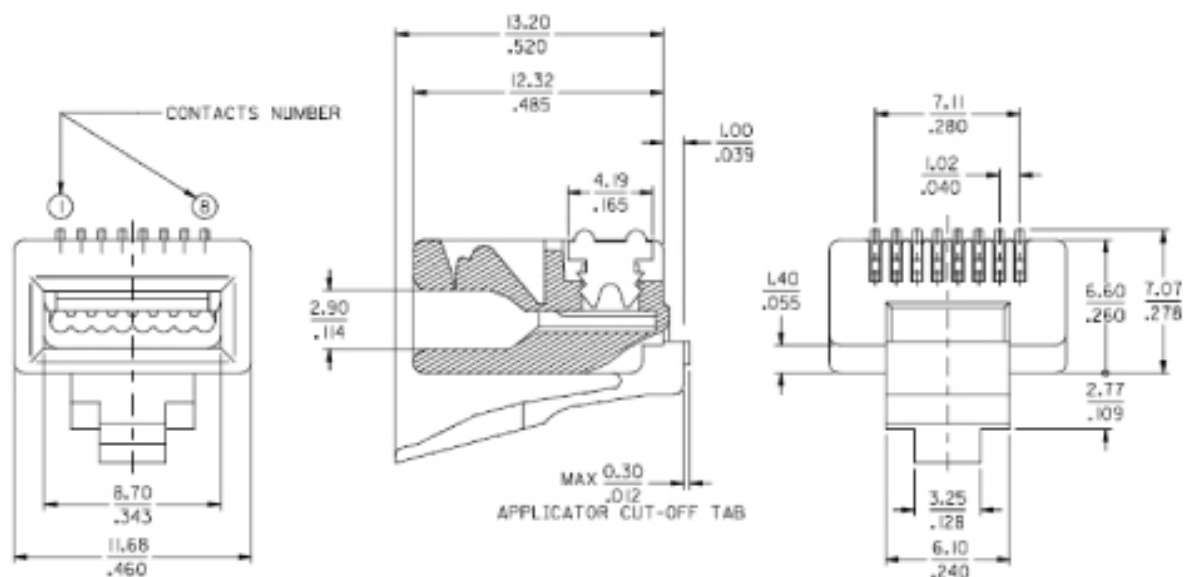Connector: RJ45 8P8C Plug Male, PinGold Plated 50μ

Figure 6: RJ45 Cable Connector

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	RJ45 Connector Pinout	Chip Signal
PAIR 1	1 (WHITE GREEN)	C3
	2 (GREEN)	C5
PAIR 2	3 (WHITE ORANGE)	C4
	4 (ORANGE)	C8
PAIR 3	5 (WHITE BLUE)	C1
	6 (BLUE)	C6
PAIR 4	7 (WHITE BROWN)	C2
	8 (BROWN)	C7

Table 11 : Contact Cable Definition

The other side of the cable should be defined depending of your configuration. Please check that the cable is suitable for your specific connector.

4.2 CONTACTLESS INTERFACE CABLE

The defined cable is SMB on USN-3D side.
The other side of the cable should be defined depending of your configuration.

A 50 ohms coaxial cable should be used.

4.3 CONTACTLESS ANTENNA

The USN-3D product should be used with T70x45x2 v1r01 antenna.

Please refer to **T70x45x2 Datasheet v1r01b** for more information about the antenna.

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5 USN-3D – CHARACTERISTICS

5.1 ELECTRICAL CHARACTERISTICS

PARAMETER				CONDITIONS	MIN	TYP	MAX	UNITS
USN-3D General Parameters								
MAIN POWER SUPPLY (must be SELV, no energy Hazard)								
	Voltage				10,2	12	13,8	V
	Current			Config MX6 : V = 12 V / (Typ: Idle state)	-	1800	3000	mA
	Current			Config MX3 : V = 12 V / (Typ: Idle state)	-	820	1420	mA
	Current			Config USN3 : V = 12 V / (Typ: Idle state)	-	820	1420	mA
DIMENSIONS								
	Length				221,3	221,5	221,7	mm
	Width				99,8	100	100,2	mm
	Thickness			PCB Thickness	-	1,6	-	mm
WEIGHT				Config MX6	-	624	-	g
				Config MX3	-	384	-	g
				Config USN3	-	370	-	g
AMBIANT TEMPERATURE RANGE					0	-	40	°C
ESD HARDWARE IMMUNITY				Discharges on Smartcard Contact	-	± 4	-	kV
				External ESD Suppressor				

Table 12 : General Characteristics

 Note: All Tests were performed in a laboratory environment with 40 cm cable (except if specified), within an ambient temperature of +25°C.

Precautions should be taken in the end Product to obtain a good thermal dissipation.
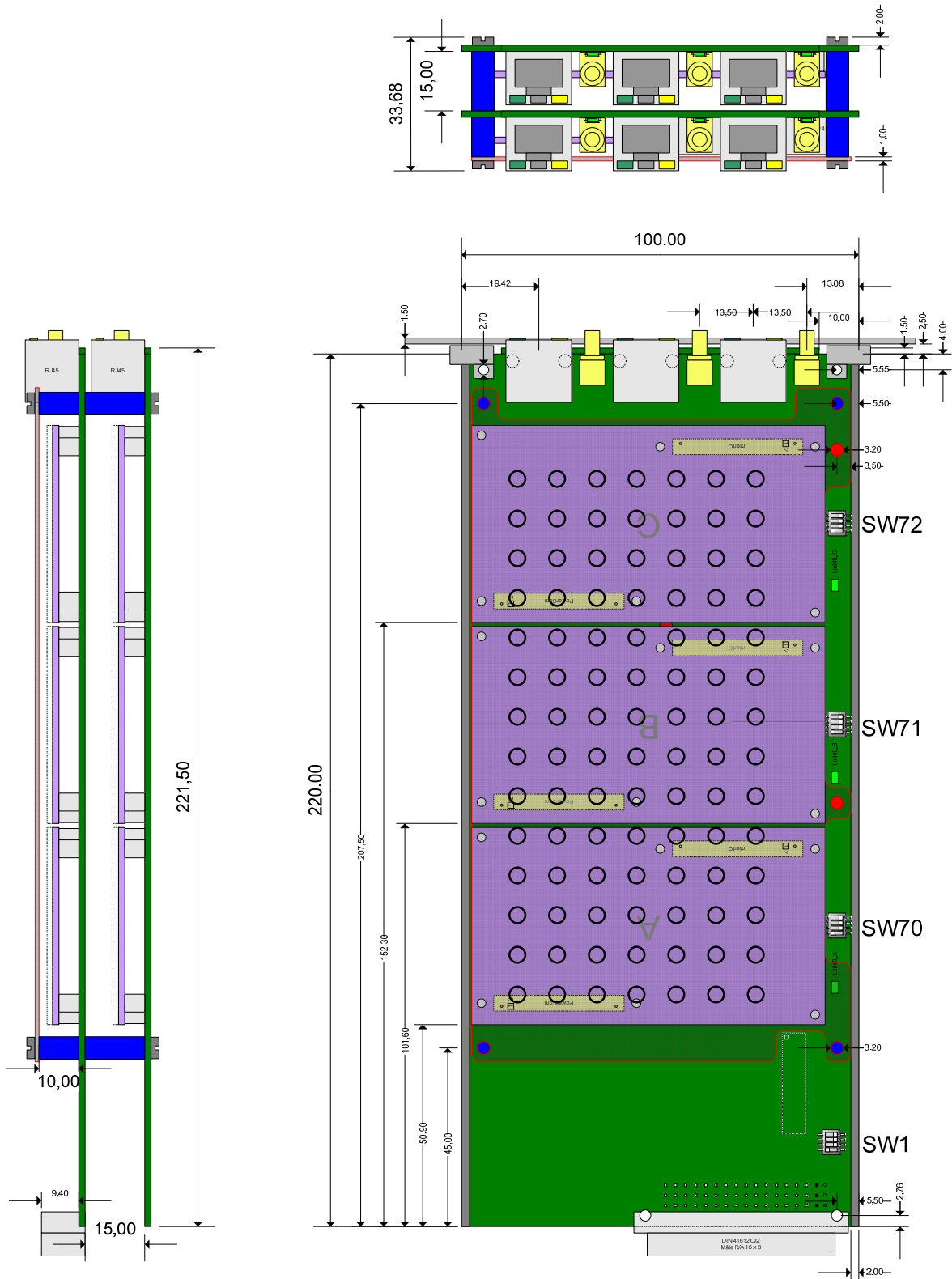
5.2 MECHANICAL CHARACTERISTICS

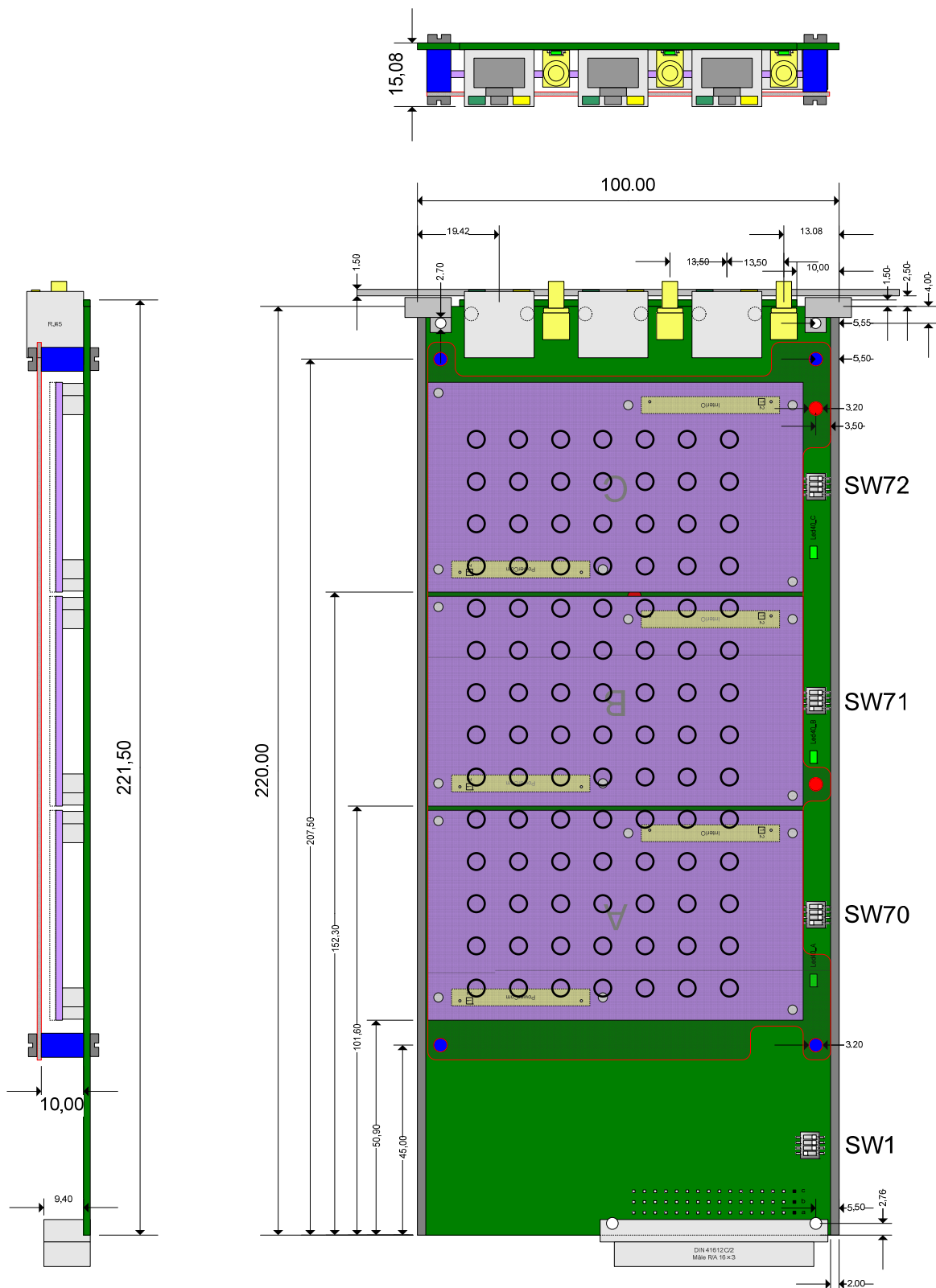### 5.2.1 MX6 Version

Figure 7: MX6 Mechanical Schematic

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5.2.2 MX3 / USN3 Version

Figure 8: MX3/USN3 Mechanical Schematic

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5.3 FRONT PANEL

5.3.1 MX6 Version
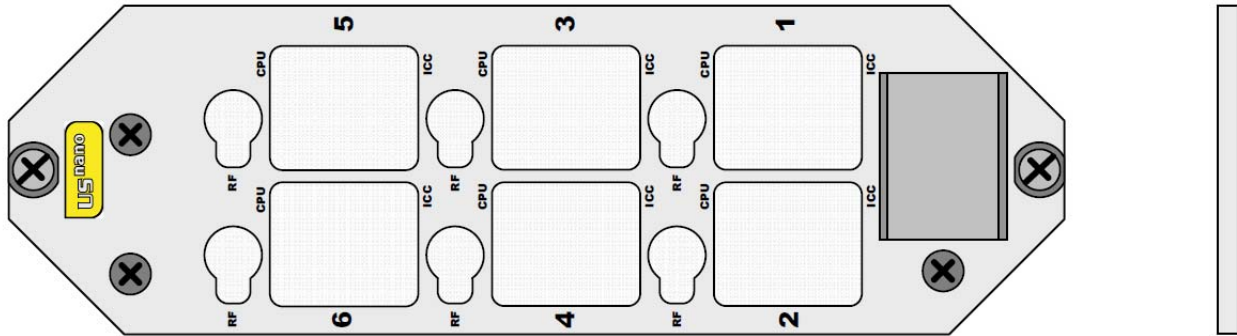
Figure 9: MX6 Front Panel Mechanical Schematic

5.3.2 MX3 Version
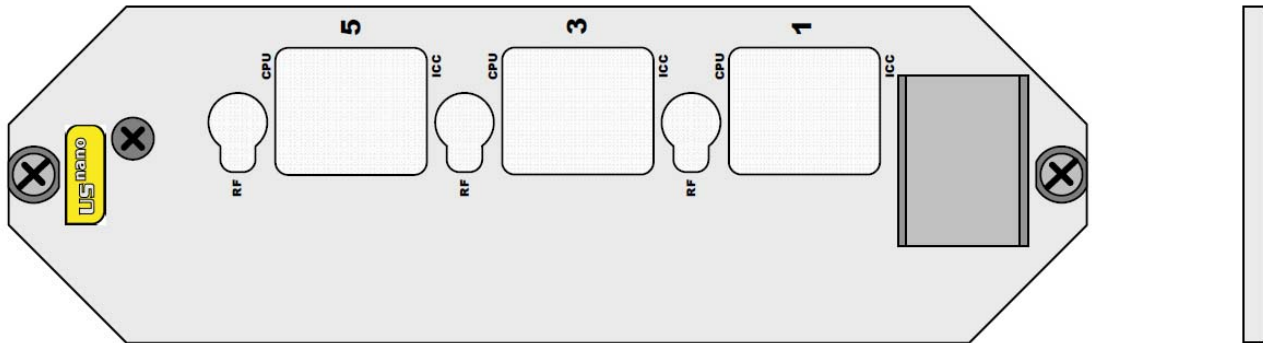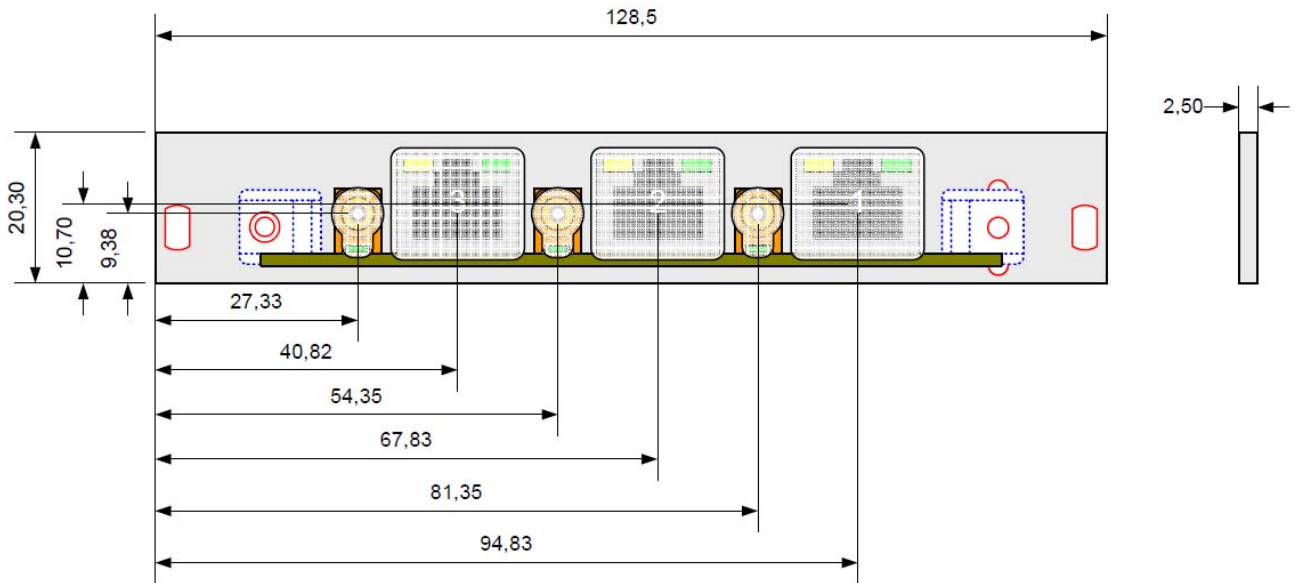

Figure 10: MX3 Front Panel Mechanical Schematic

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5.3.3 USN3 Version

Figure 11: USN3 4f Front Panel Mechanical Schematic

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6 USN-3D – REGULATORY

The Models USN3, MX3-3I3P, and MX6-6I3P are CE, FCC /IC modular approval, and RoHS compliant.
The Model MX6-6I is CE and RoHS compliant as no emitter is available in this model.

Les modèles USN3, MX3-3I3P, et MX6-6I3P sont certifiés CE, FCC / IC approbation modulaire, et RoHS.
Le modèle MX6-6I, est certifié CE et RoHS, car il n'y a pas d'émetteur sur ce modèle.

Warning 1: The USN-3D product is considered as a component that will be operated in combination with the final equipment. Then, the final equipment (including power supply system) still needs to re-confirm that the whole system complies with the local EMC directives.

Le produit USN-3D est considéré comme un composant qui sera intégré dans un équipement hôte. Le fabricant de l'équipement hôte (système d'alimentation inclus) devra alors reconfirmer que le système complet répond toujours aux différentes normes locales.

Warning 2: The USN-3D product is a low power radiofrequency emitter, and then specific precaution should be taken to restrict the human presence near the antennas.
-      We recommend that persons should be at least at 20 cm far from the emitting antennas. This information also has to be mentioned in the end product.
Access should only be authorized to qualified personal.
If the product is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications.

Le produit USN-3D intègre plusieurs émetteurs radiofréquence. Des précautions particulières doivent être prises pour contrôler la présence humaine près des antennes.
-      *Nous recommandons qu'aucune personne ne puisse se situer à une distance inférieure à 20 cm des antennes. Cette information doit également être mentionnée sur l'équipement hôte.*
L'accès doit être restreint au personnel qualifié.
Si le produit n'est pas installé et utilisé tel que décrit dans la notice, il peut engendrer des perturbations radioélectriques.

Warning 3: To reduce the risk of fire or injury to persons, follow these instructions:
-      All maintenance and servicing of this device must be performed in a safe area away from hazardous locations. Disconnect all power before servicing.
-      Use an earthed bracelet to avoid ESD damages.

Afin de réduire les risques de feu ou blessure aux personnes, suivez les instructions suivantes :
-      *Toutes les opérations de service et de maintenance doivent être réalisées dans un endroit sécurisé. Déconnectez toutes les alimentations avant manipulation.*
-      *Utilisez un bracelet relié à la terre pour éviter les dommages liés aux ESD.*

Warning 4: To comply with directives, the backplane Ethernet cable length should be less than 3 meters.

Pour être en conformité avec les normes, le câble du connecteur Ethernet du fond de panier doit avoir une longueur inférieure à 3m.

Warning 5: The product has been certified with the antenna named T70x45x2 provided by Smartware. The use of this antenna is mandatory to comply with standards.

Le produit a été certifié avec l'antenne T70x45x2 fournies par Smartware. L'utilisation de cette antenne est obligatoire pour être en conformité avec les normes.

Warning 6: In case of collocated transmitters, the max number of transmitters in a small place should be maximum of 48.

Dans le cas de plusieurs émetteurs, le nombre maximum d'émetteurs dans un petit espace est de 48.

Warning 7: The product shall not be modified without written authorisation of Smartware. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le produit ne doit pas être modifié sans l'autorisation écrite de Smartware. Changements et modifications non approuvés par l'entité responsable de la conformité peut annuler l'autorité de l'utilisateur à opérer cet équipement.

Warning 8: The end product's sticker should mention that it "contains a FCCID: RPM-UN3D and IC: 4783A-UN3D" product.

L'étiquette du produit hôte doit mentionner « Contient un FCCID: RPM-UN3D et IC: 4783A-UN3D ».

Warning 9:
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded contact cable (with ferrite ref RICHOH RKCF-06-A5) is mandatory to comply with Class B limits of Part 15 of the FCC Rules.

NOTE: Cet équipement a été testé et trouvé conforme aux limites d'un appareil de classe B, conformément à la section 15 de la notice FCC relative aux interférences radioélectriques. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Ce matériel génère, utilise et peut émettre de l'énergie haute fréquence. S'il n'est pas installé et utilisé en accord avec les instructions, il peut provoquer des interférences et perturber les communications radio. L'absence d'interférences n'est toutefois pas garantie dans une installation particulière. Si ce matériel provoque des interférences et perturbe la réception radio ou télévisée, ce qui peut être vérifié en mettant le matériel sous et hors tension, nous encourageons l'utilisateur à y remédier en appliquant l'une des mesures suivantes :
Modifier l'orientation de l'antenne de réception ou la déplacer.
Augmenter la distance séparant le matériel du récepteur.
Brancher le matériel sur une prise située sur un circuit différent de celui où se trouve le récepteur.
Contacter votre revendeur ou un technicien radio/TV expérimenté.

L'utilisation d'un câble d'interface contact blindé (accompagné d'une ferrite RICHOH RKCF-06-A5) est nécessaire pour se conformer aux limites de la classe B de la section 15 de la notice FCC relative aux interférences radioélectriques.

Warning 10: This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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7   USN-3D – ORDERING INFORMATION

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Part Number	Version	J30 Format	Contact Interfaces (ISO7816)	Contactless Interfaces (ISO14443/Mifare)	Description
19B00-00060	MX6-6I	MX	6	0	6 Contact heads 6 Contactless heads (Hardware ready) Adapt Board + Mounting + Alu Front Panel
19B00-00063	MX6-6I3P	MX	6	3	6 Contact heads 3 Contactless heads (Licences on Main Board) Adapt Board + Mounting + Alu Front Panel
19B00-00033	MX3-3I3P	MX	3	3	3 Contact heads 3 Contactless heads Adapt Board + Mounting + Alu Front Panel
19B10-00003	USN3	USN3	3	3	3 Contact heads 3 Contactless heads Adapt Board + Mounting + Alu Front Panel 4f

Table 13 : Ordering Information