SPECIFICATION USM Manual

VB-NFC-101

Model：VS20736

Product Type:NFC Module

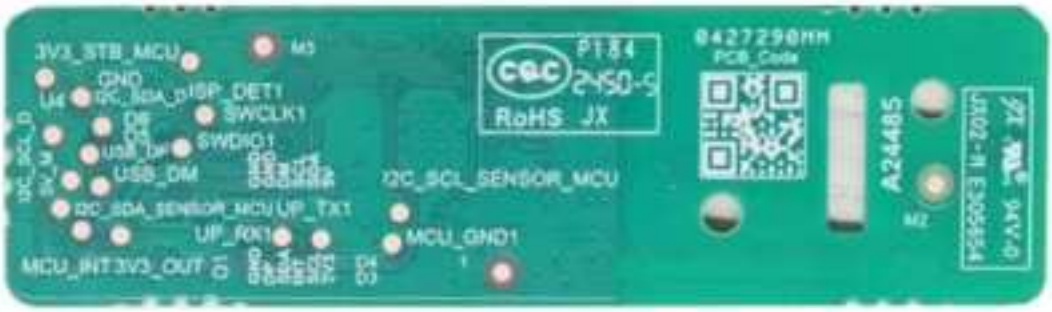
Content

1. BOARD PICTURE

3D Pictures are for reference only, specific to prevail in kind.

The optional connectors and functions are marked with "*".

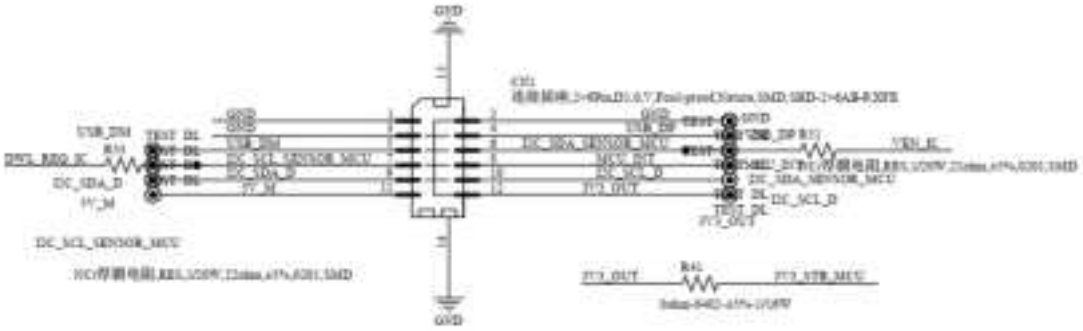
No.	Position	Description
1	CN1	CNT



2. INTERFACE DEFINITION

The optional connectors and terminals are marked with "*".

◆ CN1/(2x6Pin/1.0): CNT



3. CRITICAL MATERIALS of TV Part

The table is for reference only, specific to prevail in kind.

NAME	TYPE	BRAND	BACKUP	BACKUP
SPXO	Crystal,27.12MHz, ±10ppm, 20pF,SMD3225,SMD, CF271200201723	JWT	--	--
	Crystal,12MHz, ±20ppm, 20pF,SMD3225,SMD, CF271200201723	JWT	--	--

4. CONFIGURATION & GENERAL PRECAUTIONS

- Relative humidity: ≤ 80%.
- Storage temperature: -10~60°C.
- Operation temperature: 0~40°C.

5. Module integration instructions

This module will be installed in the lower left corner of the back of the commercial display. The RFID reader is connected to the motherboard in the commercial display, an d the motherboard module provides DC voltage power supply for the RFID reader.

This device is only used for integration in the following cases:
(i)The module has a PCB antenna and must be installed at a distance of 20 cm between the antenna and the user;
(ii)This module shall not work with or share with any other similar or identical NFC module with antenna;
(iii)This module can only be used with commercial displays originally tested and included in certified models;

Changes or modifications made to the equipment without our express approval may i nvalidate the authorization

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
The end user manual shall include FCC Part 15 /ISED RSS GEN compliance statements related to the transmitter as show in this manual(FCC/Canada statement).

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B, ICES 003.
Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host.

The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual.

Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host.
Must have on the host device a label showing Contains FCC ID: GSS-VS20736 or IC: 4280A-VS20736
Both FCC ID and IC ID are not to be placed on the host at the same time and only hosts going into the US can use the FCC ID and only hosts going into Canada can use the IC ID.
Ce transmetteur ne doit pas être co-localisé ni fonctionner en conjonction avec d'autres antennes ou transmetteurs.
Le manuel de l'utilisateur final doit inclure des déclarations de conformité aux normes FCC Partie 15 / ISED RSS GEN liées au transmetteur, comme indiqué dans ce manuel (déclaration FCC/Canada).

Le fabricant de l'hôte est responsable de la conformité du système hôte avec le module installé, ainsi que de toutes les autres exigences applicables au système, telles que la Partie 15 B, ICES 003.
Il est fortement recommandé au fabricant de l'hôte de confirmer la conformité aux exigences FCC/ISED pour le transmetteur lorsque le module est installé dans l'hôte.
Les limitations d'utilisation s'étendent aux utilisateurs professionnels ; les instructions doivent indiquer que ces informations s'appliquent également au manuel d'instructions du fabricant de l'hôte.
Le fabricant de l'hôte est fortement recommandé de confirmer la conformité aux exigences FCC/ISED pour le transmetteur lorsque le module est installé dans l'hôte.
L'appareil hôte doit comporter une étiquette indiquant "Contient FCC ID : GSS-VS20736 " ou "IC : 4280A-VS20736".

Les identifiants FCC et IC ne doivent pas être placés sur l'hôte en même temps et seuls les hôtes destinés aux États-Unis peuvent utiliser l'identifiant FCC, tandis que seuls les hôtes destinés au Canada peuvent utiliser l'identifiant IC.

6. DESCRIPTION

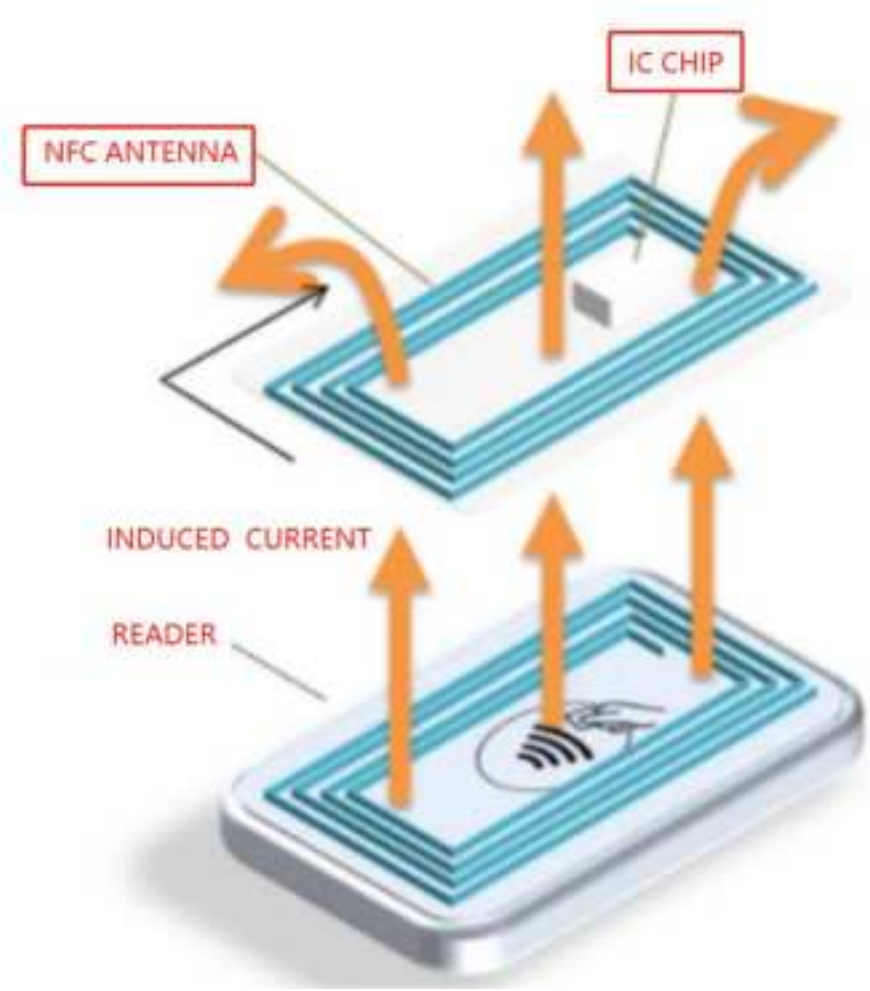
（1）The following describes the NFC module：

NFC is a near-field wireless communication technology that enables near-field communication, allowing the rapid exchange of a small amount of data between two objects. NFC mainly consists of three components: NFC sensor, NFC controller, and NFC protocol.

The NFC sensor is used to detect the signal of another NFC device. When the NFC

device is detected, it will pass the signal to the NFC controller, which will control the communication and data exchange of the NFC device and pass the data to the NFC protocol stack, which is responsible for processing and encrypting the data.

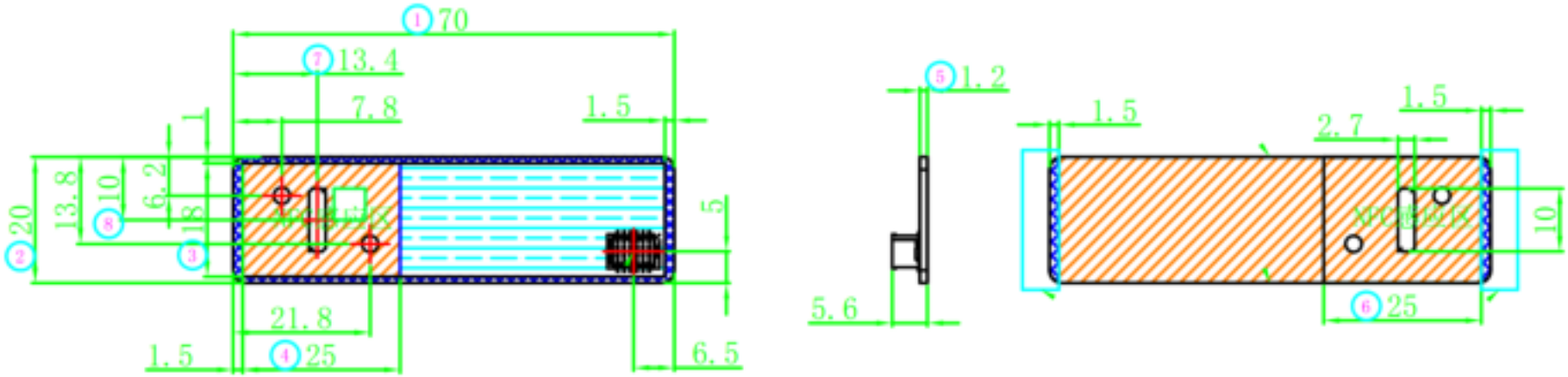
Our NFC device mainly exists as a card reader, which recognizes external devices such as NFC cards and then performs some customized operations.



（2）Installation instructions and follow the location below：

The NFC module is installed in the lower left corner of the back of the whole machine by the factory operator during the production process. After assembly, the NFC module is built-in in the whole machine, which is not removable and will not be used alone, and does not require additional operation by users and other personnel.

7. MECHANICAL DIMENSION



8. satety warning

❖ **Federal Communication Commission Interference Statement**

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.

❖ **FCC Caution:**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

❖ **Non-modification Statement:**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

❖ **IC Radiation Exposure Statement for Canada**

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.

2.This device must accept any interference, including interference that may cause undesired operation of the device.
L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
2.L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled
environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.
Cet équipement est conforme aux limites d'exposition aux rayonnements ISED RSS-102 établies pour un environnement non contrôlé.
Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et toute partie de votre corps.

2.2

This module has been assessed against the following FCC rule parts: CFR 47 FCC Part 15 C (15.225 DXX) .It is applicable to the modular transmitter.

2.3

This radio transmitter GSS-VS20736 has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

The concrete contents to check are the following three points.

1) Maximum antenna gains are shown in item 2.7 below.
2) Should be installed so that the end user cannot modify the antenna
3) Feed line should be designed in 50ohm

Fine-tuning of return loss etc. can be performed using a matching network.
The antenna shall not be accessible for modification or change by the end user.

2.4

The module complies with FCC Part 15.225 and apply for Single module approval.

2.5

Trace antenna designs: Not applicable, the antenna conector for this module are integrated into the module. Use of external antennas or antennas

integrated into the host circuit board are not an option.

2.6

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2.7

The following antennas have been certified for use with this module.

Only antennas of the same type with equal or lower gain may also be used with this module.

Other types of antennas and/or higher gain antennas may require the additional authorization for operation. The installer should use unique antenna connector and Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device. The manufacturer of module will inform installer to meet with the FCC part 15.203 in the warning part.

Antenna Specification list below:

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	13.56	Coil	0

2.8

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as “Contains FCC ID: GSS-VS20736”; any similar wording that expresses the same meaning may be used.

2.9

Testing of the host product with all the transmitters installed – referred to as the composite investigation test- is recommended, to verify that the host product meets all the applicable FCC rules. The radio spectrum is to be investigated with all the transmitters in the final host product functioning to determine that no emissions exceed the highest limit permitted for any one individual transmitter as required by Section 2.947(f).

The host manufacturer is responsible to ensure that when their product operates as intended it does not have any emissions present that are out of compliance that were not present when the transmitters were tested individually.

If the modular transmitter has been fully tested by the module grantee on the required number of channels, modulation types, and modes, it should not be necessary for the host installer to re-test all the available transmitter modes or settings. It is recommended that the host product manufacturer, installing the modular transmitter, perform some investigative measurements to confirm that the resulting composite system does not exceed the spurious emissions limits or band edge limits (e.g., where a different antenna may be causing additional emissions).
The testing should check for emissions that may occur due to the intermixing of emissions with the other transmitters, digital circuitry, or due to physical properties of the host product (enclosure). This investigation is especially important when integrating multiple modular transmitters where the certification is based on testing each of them in a stand-alone configuration.

2.10
Any company of the host device which install this modular should perform the test of radiated & conducted emission and spurious emission etc. according to FCC Part 15C: 15.225 and 15.209 & 15.207,15B class B requirement, only if the test result comply with FCC part 15C: 15.225 and 15.209 & 15.207,15B class B requirement. Then the host can be sold legally.
The host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuity), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

2.11
The host manufacturer is recommended to use FCC KDB 996369 D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

2.12
This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different

operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

Please notice that if the ISED certification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains IC: 4280A-VS20736” any similar wording that expresses the same meaning may be used.

l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie Canada, précédé des mots « Contient un module d'émission », du mot « IC: 4280A-VS20736» ou d'une formulation similaire exprimant le même sens, comme suit

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.
Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 etla conformité à l'exposition de RSS-102 RF, utilisateurs peut obtenir l'information canadienne surl'exposition et la conformité de rf.

製品に搭載する場合は、組み込み製品上、あるいは組み込み製品の取扱説明書に以下の記載を行う。(※は型式指定番号を記載する。)
”本製品には、総務省指定第※号のRFID(誘導式読み書き通信設備)が内蔵されています”