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2GIG-SMKT100-345

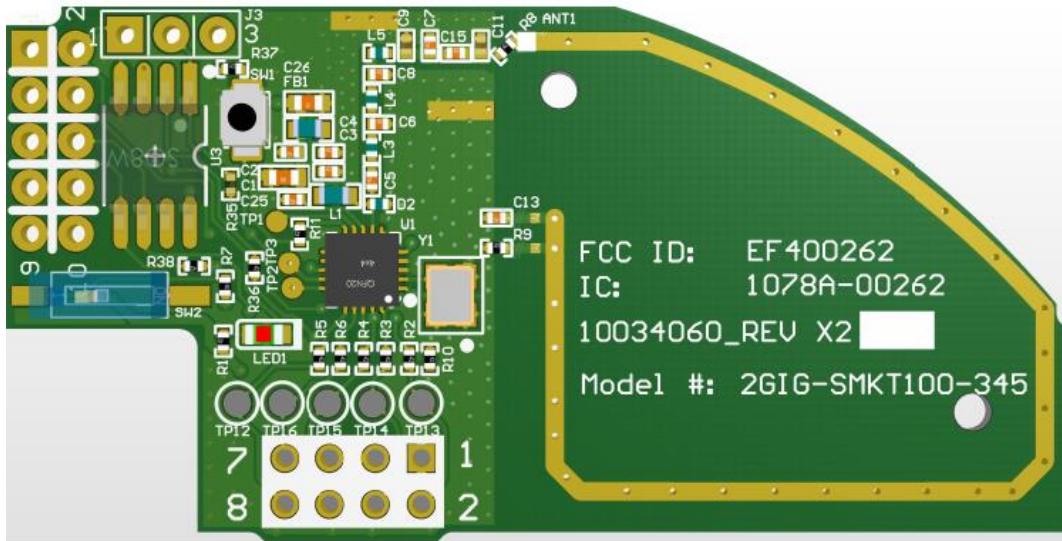
Smoke Detector

Summary

This document intends to describe the electrical specification for the 2GIG-SMKT100-345 project, Wireless Smoke Heat Freeze Detector Radio Module. The Radio Module does not function as a standalone Smoke detector.

The products are intended for North America market (US, Canada, and Mexico).

Product name is 2GIG-SMKT100-345, Smoke Detector, 345MHz.



Technical Specification

RF Section

RF Transmitting

Item	Description	Standard	Remark
1	RF Frequency	345MHz	
2	Frequency offset	<50KHz	
3	Maximum Transmitter Power	7.5dBm	
4	Modulation Type	OOK	

Antenna

Item	Description	Standard	Remark
1	Impedance	50Ω +/-10%	
2	S11	≤-10dB	
4	VSWR	≤2	
5	Antenna type	Omni-direction	PCB Antenna

Others

Tamper Switch

The Radio Module should have case tamper protection so that it sends tamper message when the case is opened.

Encrypted/Unencrypted switch

The Radio Module shall be a physical switch on the Radio Module allowing installers to select encrypted or unencrypted mode.

Environmental Operating Conditions

Item	Description	Standard	Remark
1	Operating Temperature	32° to 120° F (0° to 49° C)	
2	Humidity	5% to 95% non-condensing	
3	Certification	ETL, FCC, and IC	

REGULATORY INFORMATION

FCC and IC Notice

RF exposure FCC statements:

Federal Communication Commission (FCC) Radiation Exposure Statement

When using the product, maintain a distance of 20cm from the body to ensure compliance with RF exposure requirements.

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.

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.

A certified modular has the option to use a permanently affixed label, or an electronic label. For a permanently affixed label, the module must be labelled with an FCC ID: EF400262. The OEM manual

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must provide clear instructions explaining to the OEM the labelling requirements, options and OEM user manual instructions that are required

For a host using a this FCC certified modular with a standard fixed label, if (1) the module's FCC ID is notvisible when installed in the host, or (2) if the host is marketed so that end users do not have straightforward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module:

"Contains Transmitter Module FCC ID: EF400262 or "Contains FCC ID: EF400262 " must be used. The host OEM user manual must also contain clear instructions on how end users can find and/or access the module and the FCC ID.

Host product is required to comply with all applicable FCC equipment authorizations regulations, requirements and equipment functions not associated with the transmitter module portion. compliance must be demonstrated to regulations for other transmitter components within the host product; to requirements for unintentional radiators (Part 15B). To ensure compliance with all non-transmitter functions the host manufacturer is responsible for ensuring compliance with the module(s) installed and fully operational. If a host was previously authorized as an unintentional radiator under the Declaration of Conformity procedure without a transmitter certified module and a module is added, the host manufacturer is responsible for ensuring that the after the module is installed and operational the host continues to be compliant with the Part 15B unintentional radiator requirements. Since this may depend on the details of how the module is integrated with

the host, we suggest the host device to recertify part 15B to ensure complete compliance with FCC requirement: Part 2 Subpart J Equipment Authorization Procedures , KDB784748 D01 v07, and KDB 997198 about importation of radio frequency devices into the United States.

IC:

RF exposure Radiation Exposure Statement:

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

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un
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environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

this device may not cause interference, and

this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS exemptes de licence standard(s).

Son fonctionnement est soumis aux deux conditions suivantes:

(1) cet appareil ne peut pas provoquer d'interférences, et

(2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un mauvais fonctionnement de l'appareil.

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.

"The 2GIG-SMKT100-345 module has been labelled with its own IC number. If the IC number is not visible when the module is installed inside another device, the outside of the finished product into which the module is installed must display a label referring to the enclosed module. This exterior label can use wording as follows:

Contains transmitter module IC: 1078A-00262 or Contains IC: 1078A-00262

FCC:

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/Canada.

This device is intended only for OEM integrators under the following conditions:

1. The antenna must be installed such that 20 cm is maintained between the antenna and users.
2. The transmitter module may not be co-located with any other transmitter or antenna, For all products market in Us, OEM has to limit the operation channels in 345MHz.
3. by supplied firmware programming tool. OEM shall not supply any tool or info to the end-user regarding to Regulatory Domain change. (if modular only test in 345MHz)

As long as the three conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing, their end-product for any additional compliance requirements required with this module installed.

Important Note:

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the fcc authorization is no longer considered valid and the fcc ID can not be used on the final product. in these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate fcc authorization.

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual V01

2.2 List of applicable Fcc rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

2.3 Specific operational use conditions

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. This module can only be used as client, and the host manufacturers can not modify information, Because the software has encryption and the hardware is fixed. The encryption key is known by the module manufacturer only. The correct firmware is verified and installed by

the module manufacturer.

2.4 Limited module procedures

This module is limited modylar without shielding, host manufacturer have to consult with module manufacturer for the module limiting conditions when integrate the module in the host, module manufacturer should reviews detailed test data or host designs prior to giving the host manufacturer approval.

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

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

2.7 antenna:

This product has a PCB antenna, the antenna connection details are shown in the above.

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following " contains FCC ID: EF400262 "

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with other applicable requirements for the system such as Part 15 B.

Manual information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as shown in this manual.

Module main tenance declaration with host

When this Module is installed into the Special host, defined in section 12 Class II Permissive Change Integration Test Plan will act as following:

The specified host Device install this limited modular which has no shield.

FCC class II permissive change filing by the Grantee is required for each new host configuration.

Testing for CIIPIc filing must be done by an FCC recognized testing Laboratory.

The host shall still meet the rule section part 15.231, part 15.209 standard, and not just "radiated spurious". The host's fundamental maximum output power shall be confirmed under the worst case from module.

Host's AC Conducted emissions and radiated spurious emissions including radiate bandedges shall be tested to be confirm no parasitic emissions i.e., compliance emissions due to ingress. Band edge compliance test shall also to be verified under the worst case from module. Host can not

change the RF Exposure use conditions. If use conditions is changed.the separate Approval shall be required. Moudle integrated in other host need new FCC ID application.

Special host information

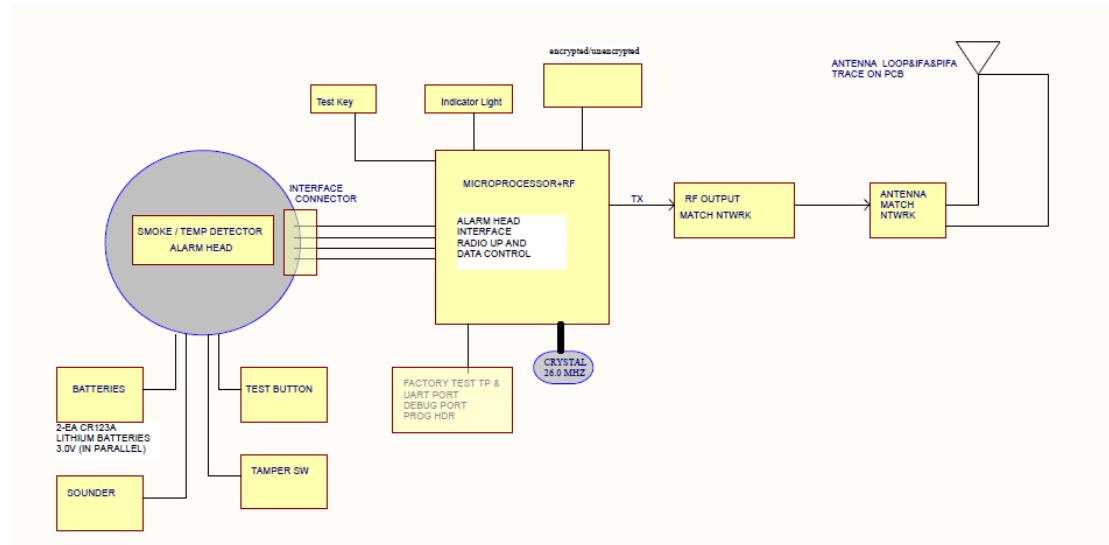
Host Name: Smoke Detector

Manufacturer: Nice North America LLC

wireless function: 345MHz

2GIG-SMKT100-345 is a 345MHz module used in an indoor unit called Smoke Detector.

Function Blocking:



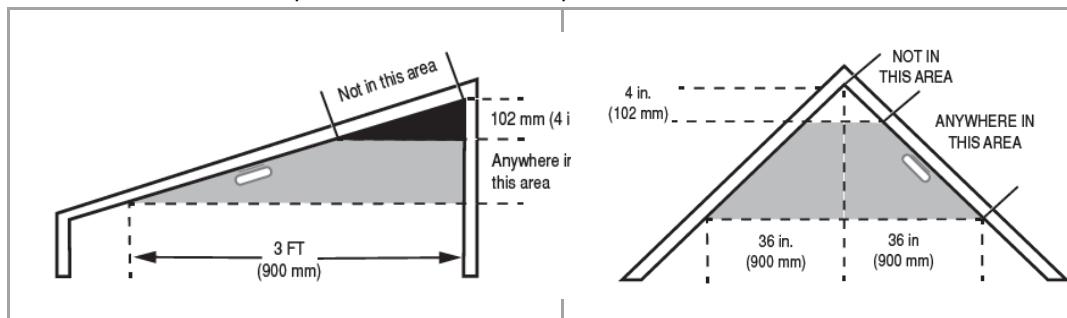
How to install the module on Host

Figure 2 – Header Pinout		
Pin Number	Name	Function
1	GND	Ground
2	COMMS	CommsLINK
3	B+	Head battery positive
4	HORN	Horn signal
5	B+	Head battery positive
6	I/O	Interconnect
7	TEST	Test input/output
8	Head SW	Head switch indicator

The module interacts with the alarm detector via an 8-way header. This header also provides power to the RF module.



The smoke from a fire generally rises to the ceiling, spreads out across the ceiling surface, and begins to bank down from the ceiling. The corner where the ceiling and wall meet is an air space into which the smoke could have difficulty penetrating. In most fires, this dead air space measures about 0.1m (4in.) along the ceiling from the corner and about 0.1m (4in.) down the wall. Detectors should not be placed in this dead air space



Contact Information for host integrators

Name: Horsen Ma

Title: Senior Manager, Hardware Engineering of CIC

Company: Nice North America LLC

Email:Horsen.Ma@niceforyou.com