



ActivPanel 9

Quick Install Guide

TP-3165 ActivPanel 9 Wi-Fi and Bluetooth Module

v01

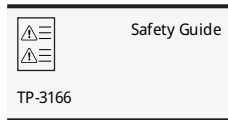
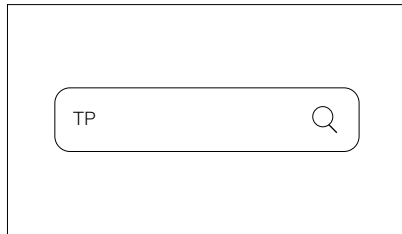


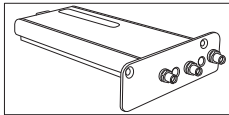
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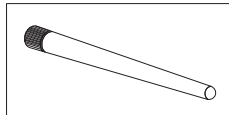
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2





x1



x3

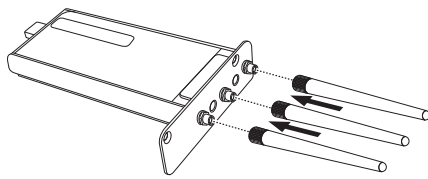


TP-3165

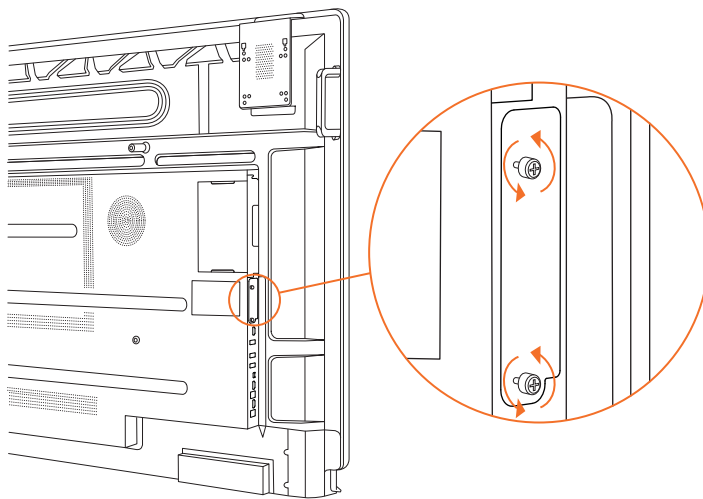
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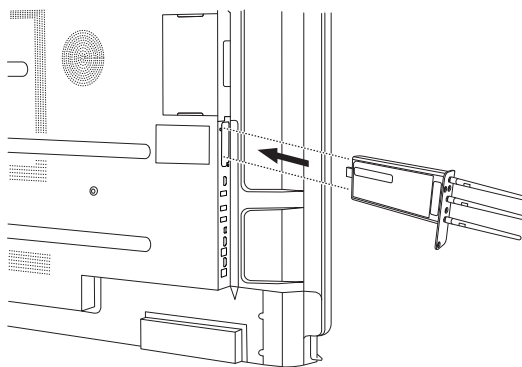
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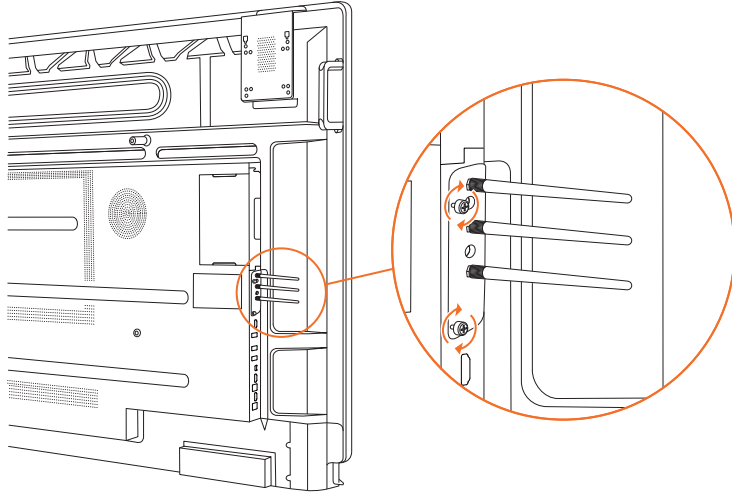


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AP9-WIFIBT-AB

EN English

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Compliance

United States of America

FCC part 15.105

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.

FCC part 15.19

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.

FCC part 15.21

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

FCC part 15.407

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

FCC Part 407

The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. Then it will scan the available radio signals. If this signal is connected before, it will be automatically connected, otherwise manual connections will be necessary.

Limited Modular Approval

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

The module must be installed in an ActivPanel.

In the event that these conditions cannot 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 cannot 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.

This device complies with FCC part 15C: 15.247 and 15.407.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter. The module should be installed at a minimum distance of 20 cm away from a person nearby. The host product manufacturer should state this information to the host instruction manual.

Trace antenna designs - not applicable.

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

Any final host product with the modular transmitter installed should be under test according to guidance given in KDB 996369 D04. To enter test mode for module, secure CRT command is necessary. When something wrong happens in configuring test modes for host product with module, host product manufacturer should coordinate with module manufacturer for technical support. It is recommended that some investigative measurements should be taken to confirm that host product with module installed does not exceed the spurious emissions limits or band edge limits.

The modular complies with FCC authorised for the specific rule parts (FCC Part 15.2477 and 15.407) list on the grant, and that 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. The final host product still requires Part 15 subpart B compliance testing with the modular transmitter installed when contains digital circuitry.

Model name: ActivPanel 9 Wi-Fi and Bluetooth Module

Product description: 2.4 GHz and 5 GHz Wi-Fi and Bluetooth Module

Antenna type	Antenna gain
External Antenna	WLAN 2412 MHz to 2472 MHz: Max gain: 3.9 dBi WLAN 5150 MHz to 5250 MHz: Max gain: 5.3 dBi WLAN 5250 MHz to 5350 MHz: Max gain: 4.4 dBi WLAN 5470 MHz to 5725 MHz: Max gain: 3 dBi WLAN 5725 MHz to 5850 MHz: Max gain: 3.2 dBi

Frequency Bands and Power

Frequency band	Power (dBm)
Bluetooth 2402 to 2480 MHz	<20
WLAN 2412 MHz to 2472 MHz	<20
WLAN 5150 MHz to 5250 MHz	<23
WLAN 5250 MHz to 5350 MHz	<20
WLAN 5470 MHz to 5725 MHz	<20
WLAN 5725 MHz to 5850 MHz	<14

Manufacturer's name and address: Promethean Limited
Promethean House, Whitebirk Industrial Estate, Lower Philips Rd, Blackburn BB1 5TH.

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.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

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

Frequency Bands and Power

Frequency band	Power (dBm)
Bluetooth 2402 to 2480 MHz	<20
WLAN 2412 MHz to 2472 MHz	<20
WLAN 5150 MHz to 5250 MHz	<23
WLAN 5250 MHz to 5350 MHz	<20
WLAN 5470 MHz to 5725 MHz	<20
WLAN 5725 MHz to 5850 MHz	<14

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.

Cet appareil, conçu pour fonctionner dans la bande 5150 – 5250 MHz, est destiné uniquement à une utilisation intérieure afin de réduire les interférences néfastes qui pourraient perturber les systèmes satellites mobiles utilisant les canaux adjacents.

Toute modification ou amélioration qui n'a pas été explicitement approuvée par la partie responsable de la conformité peut annuler le droit de l'utilisateur à faire fonctionner l'appareil.

Frequency Bands and Power

Frequency band	Power (dBm)
Bluetooth 2402 to 2480 MHz	<20
WLAN 2412 MHz to 2472 MHz	<20
WLAN 5150 MHz to 5250 MHz	<23
WLAN 5250 MHz to 5350 MHz	<20
WLAN 5470 MHz to 5725 MHz	<20
WLAN 5725 MHz to 5850 MHz	<14


Manufacturer's name and address: Promethean Limited
Promethean House, Whitebirk Industrial Estate, Lower Philips Rd, Blackburn BB1 5TH.

Europe



We Promethean Limited declare under our Sole responsibility that the ActivPanel 9 Wi-Fi and Bluetooth Module; Model No: AP9-WIFIBT-AB; conforms to the essential requirements of European Union Directive 2014/53/EU Radio Equipment Directive (RED) and 2011/65/EU Restriction of Hazardous Substances in Electrical and Electronic Equipment.

The full text of the EU declaration of conformity is available at the following internet address:
<https://support.prometheanworld.com>



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IT	EL	ES	CY	LV
LI	LT	LU	HU	MT
NL	NO	PL	PT	RO
SI	SK	TR	FI	SE
CH				

WARNING



AP9-WIFIBT-AB is Class B product. In a domestic environment, they may cause interference in which case the user may be required to take adequate measures.

AP9-WIFIBT-AB is for internal use only.



The device complies with RF specifications when the device is used at 20 cm from your body.

Frequency Bands and Power

Frequency band	Power (dBm)
Bluetooth 2402 to 2480 MHz	<20
WLAN 2412 MHz to 2472 MHz	<20
WLAN 5150 MHz to 5250 MHz	<23
WLAN 5250 MHz to 5350 MHz	<20
WLAN 5470 MHz to 5725 MHz	<20
WLAN 5725 MHz to 5850 MHz	<14

Manufacturer's name and address: Promethean Limited
Promethean House, Whitebirk Industrial Estate, Lower Philips Rd, Blackburn BB1 5TH.

United Kingdom



We Promethean Limited, declare under our sole responsibility that this product conforms to the essential requirements of UK Legislation: RED Radio Equipment Regulation 2017 – UK SI 2017 No. 1206, LVD The Electrical Equipment (Safety) Regulations 2016 – UK SI 2016 No. 1101, RoHS Restriction of the use of certain Hazardous Substances in Electrical and Electronic Regulations 2012 – UK SI 2012 No. 3032.

The full United Kingdom Declaration of Conformity can be found by searching for the model name at support.prometheanworld.com.

Frequency Bands and Power

Frequency band	Power (dBm)
Bluetooth 2402 to 2480 MHz	<20
WLAN 2412 MHz to 2472 MHz	<20
WLAN 5150 MHz to 5250 MHz	<23
WLAN 5250 MHz to 5350 MHz	<20
WLAN 5470 MHz to 5725 MHz	<20
WLAN 5725 MHz to 5850 MHz	<14

Antenna type	Antenna gain
External Antenna	WLAN 2412 MHz to 2472 MHz: Max gain: 3.9 dBi WLAN 5150 MHz to 5250 MHz: Max gain: 5.3 dBi WLAN 5250 MHz to 5350 MHz: Max gain: 4.4 dBi WLAN 5470 MHz to 5725 MHz: Max gain: 3 dBi WLAN 5725 MHz to 5850 MHz: Max gain: 3.2 dBi



WARNING



AP9-WIFIBT-AB is Class B product. In a domestic environment, they may cause interference in which case the user may be required to take adequate measures.

AP9-WIFIBT-AB is for internal use only.



The device complies with RF specifications when the device is used at 20 cm from your body.

Manufacturer's name and address: Promethean Limited
Promethean House, Whitebirk Industrial Estate, Lower Philips Rd, Blackburn BB1 5TH.

Waste Electrical and Electronic Equipment (WEEE)

For more information concerning the correct disposal of these products, please contact your Promethean reseller.



Russian importer details

LLC «STARTTEH»
Address: 125315, Moscow, Leningradskiy prospect, 80KD, 3rd Floor, Apartment III, Room 32B.
Registration No.: 5137746235853.
INN/KPP: 7743911253/774301001

Rated power consumption: 12-19 V \approx 60 W

Model	Year of manufacture	Week of manufacture	Serial number
WFC	22	01	10000001



2.2 List of applicable FCC rules

List the FCC rules that are applicable to the modular transmitter. These are the rules that specifically establish the bands of operation, the power, spurious emissions, and operating fundamental frequencies. DO NOT list compliance to unintentional-radiator rules (Part 15 Subpart B) since that is not a condition of a module grant that is extended to a host manufacturer. See also Section 2.10 below concerning the need to notify host manufacturers that further testing is required.

Explanation: this module meets all the requirements of FCC part 15 -247&FCC Part 15, Subpart E (15.407)

2.3 Summarize the specific operational use conditions

Describe use conditions that are applicable to the modular transmitter, including for example any limits on antennas, etc. For example, if point-to-point antennas are used that require reduction in power or compensation for cable loss, then this information must be in the instructions. If the use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual. In addition, certain information may also be needed, such as peak gain per frequency band and minimum gain, specifically for master devices in 5 GHz DFS bands.

Explanation: The EUT uses External rubber antenna with a maximum gain of 5.3dBi. There is no restriction on the installation method.

2.4 Limited module procedures

If a modular transmitter is approved as a "limited module," then the module manufacturer is responsible for approving the host environment that the limited module is used with. The manufacturer of a limited module must describe, both in the filing and in the installation instructions, the alternative means that the limited module manufacturer uses to verify that the host meets the necessary requirements to satisfy the module limiting conditions.

A limited module manufacturer has the flexibility to define its alternative method to address the conditions that limit the initial approval, such as: shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation. The alternative method could include that the limited module manufacturer reviews detailed test data or host designs prior to giving the host manufacturer approval. This limited module procedure is also applicable for RF exposure evaluation when it is necessary to demonstrate compliance in a specific host. The module manufacturer must state how control of the product into which the modular transmitter will be installed will be maintained such that full compliance of the product is always ensured. For additional hosts other than the specific host originally granted with a limited module, a Class II permissive change is required on the module grant to register the additional host as a specific host also approved with the module.

Explanation: this module is a limited module

2.5 Trace antenna designs

For a modular transmitter with trace antenna designs, see the guidance in Question 11 of KDB Publication 996369 D02 FAQ – Modules for Micro-Strip Antennas and traces. The integration information shall include for the TCB review the integration instructions for the following aspects: layout of trace design, parts list (BOM), antenna, connectors, and isolation requirements.

- a) Information that includes permitted variances (e.g., trace boundary limits, thickness, length, width, shape(s), dielectric constant, and impedance as applicable for each type of antenna);
- b) Each design shall be considered a different type (e.g., antenna length in multiple(s) of frequency, the wavelength, and antenna shape (traces in phase) can affect antenna gain and must be considered);
- c) The parameters shall be provided in a manner permitting host manufacturers to design the printed circuit (PC) board layout;
- d) Appropriate parts by manufacturer and specifications;
- e) Test procedures for design verification; and
- f) Production test procedures for ensuring compliance.

Explanation: YES. this module without trance antenna designs,use External rubber antenna

2.6 RF exposure considerations

It is essential for module grantees to clearly and explicitly state the RF exposure conditions that permit a host product manufacturer to use the module. Two types of instructions are required for RF exposure information: (1) to the host product manufacturer, to define the application conditions (mobile, portable – xx cm from a person's body); and (2) additional text needed for the host product manufacturer to

provide to end users in their end-product manuals. If RF exposure statements and use conditions are not provided, then the host product manufacturer is required to take responsibility of the module through a change in FCC ID (new application).

Explanation: This module complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This module is designed to comply with the FCC statement, fcc id is:QAM023

2.7 Antennas

A list of antennas included in the application for certification must be provided in the instructions. For modular transmitters approved as limited modules, all applicable professional installer instructions must be included as part of the information to the host product manufacturer. The antenna list shall also identify the antenna types (monopole, PIFA, dipole, etc. (note that for example an “omnidirectional antenna” is not considered to be a specific “antenna type”)).

For situations where the host product manufacturer is responsible for an external connector, for example with an RF pin and antenna trace design, the integration instructions shall inform the installer that unique antenna connector must be used on the Part 15 authorized transmitters used in the host product. The module manufacturers shall provide a list of acceptable unique connectors.

Explanation: This module use External rubber antenna.

External Antenna:2.9dBi Gain for 2400MHz ~ 2500MHz

External Antenna, 5.3dBi Gain for 5180MHz ~ 5240MHz

External Antenna, 4.4dBi Gain for 5260MHz ~ 5320MHz

External Antenna, 3.0dBi Gain for 5500MHz ~ 5700MHz

2.8 Label and compliance information

Grantees are responsible for the continued compliance of their modules to the FCC rules. This includes advising host product manufacturers that they need to provide a physical or e-label stating “Contains FCC ID” with their finished product. See Guidelines for Labeling and User Information for RF Devices – KDB Publication 784748.

Explanation: On the metal shielding shell, there is space for printing basic information such as the name and model of the product, and the id :QAM023 is included.

2.9 Information on test modes and additional testing requirements

Additional guidance for testing host products is given in KDB Publication 996369 D04 Module Integration Guide. Test modes should take into consideration different operational conditions for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product. The grantee should provide information on how to configure test modes for host product evaluation for different operational conditions for a stand-alone modular transmitter in a host, versus with multiple, simultaneously transmitting modules or other transmitters in a host.

Grantees can increase the utility of their modular transmitters by providing special means, modes, or instructions that simulates or characterizes a connection by enabling a transmitter. This can greatly simplify a host manufacturer’s determination that a module as installed in a host complies with FCC requirements.

Explanation: Data transfer module demo board can control the EUT work in RF test mode at specified test channel.

2.10 Additional testing, Part 15 Subpart B disclaimer

The grantee should include a statement that the modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and that 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 circuitry), 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.

Explanation: The module without unintentional-radiator digital circuitry, so the module do not require an evaluation by FCC part15 subpart B. The host should be evaluated by the FCC subpart B.

This radio transmitter [IC:5459A-023] has been approved by Innovation, Science and Economic Development Canada 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.

<p>ANTENNA TYPE</p>	<p>2.4G WLAN: ANT0:External Antenna, with 2.9dBi gain ANT1:External Antenna, with 2.9dBi gain 2.4G BT-LE/EDR: External Antenna, with 2.9dBi gain ANT0: External Antenna, 5.3dBi Gain for 5180MHz ~ 5240MHz External Antenna, 4.4dBi Gain for 5260MHz ~ 5320MHz External Antenna, 3.0dBi Gain for 5500MHz ~ 5700MHz ANT1: External Antenna, 5.3dBi Gain for 5180MHz ~ 5240MHz External Antenna, 4.4dBi Gain for 5260MHz ~ 5320MHz External Antenna, 3.0dBi Gain for 5500MHz ~ 5700MHz</p>
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