

Tarana G1 RN Manual

Safety and Warnings	2
General Warnings	2
FCC Information	2
Health and Safety Warning	3
Warning Labels	3
Regulatory Information	5
Deployment in the US – FCC Statement	6
Deployment in Canada - Industry Canada Statements	7
Deployment in the European Union – CE Mark	8
Preparation	10
Tools Required	10
Tarana Hardware and Peripherals	10
Customer Supplied Equipment	10
Physical Installation	11
Preparing the RN	11
Wall or Surface Mounting the Elevation Bracket	12
Pole Mounting the Elevation Bracket	12
Installing the RN	13
Powering Up the RN	14
Warranty	15

NOTE For the most up-to-date instructions, please download the latest version of this document on our customer portal: www.taranawireless.com/private

Safety and Warnings

Tarana G1 equipment is designed for installation and use by trained professionals and requires adherence to all relevant regulatory, safety, and telecom industry best practice guidelines for outdoor radios.

General Warnings

Failure to observe these safety precautions may result in personal injury or damage to equipment.

- Follow all warnings and instructions marked on this product.
- Use standard safety guidelines when mounting. Installation and maintenance procedures must be followed and performed by trained personnel only.
- Before unmounting the product, disconnect power input to reduce the risk of hazards.
- Do not exceed 60 VDC of input to the device.
- Do not open the device. Opening the device voids the warranty.
- Do not stack anything on the radome.
- Dust covers must be installed on all connectors when not in use.
- Cable ends must be protected from weather if not connected to the device.
- When the SPF+ port is used, this is a Class 1 laser product. Invisible laser radiation can be emitted from the aperture of the port when no fiber is connected; therefore, avoid exposure to laser radiation and do not stare into open apertures.

FCC Information

The FCC occupational controlled limit for maximum permissible exposure (MPE) is 5 mW/cm2. It is estimated that the maximum power density at the radome is 1.25 mW/cm2, which is below the FCC MPE limit. Since the power density for an occupational controlled environment is less than the FCC limit, no additional precautions are necessary. The occupational uncontrolled environment limit for maximum permissible exposure (MPE) is 1 mW/cm2. To meet this MPE requirement, the operator must be at a distance of 7.87 in or 20 cm away from the radome cover of the system.

General Health and Safety Information

Торіс	Explanation
Flammability	The equipment is designed and constructed to minimize the risk of smoke and fumes during a fire.
Hazardous Materials	No hazardous materials are used in the construction of this equipment.
Hazardous Voltage	The G1 system meets global product safety requirements for safety extra-low voltage (SELV) rated equipment.
Safety Signs	External warning signs or other indicators on the equipment are not required.
Surface Temperatures	The external equipment surfaces become warm during operation, due to heat dissipation. However, the temperatures reached are not considered hazardous.

Health and Safety Warning

All personnel must comply with the relevant health and safety practices when working on or around the G1 radio equipment.

The G1 system has been designed to meet relevant US and European health and safety standards as outlined in IEC Publication 62368-1, 2nd edition.

Local safety regulations must be used if required. Safety instructions in this section should be used in addition to the local safety regulations. In the case of conflict between safety instructions stated herein and those indicated in local regulations, mandatory local norms will prevail. Should local regulations not be mandatory, then safety norms herein will prevail.

Warning Labels

WARRANTY VOID

DO NOT BREAK THE TAMPER SEALS ON HARDWARE. DOING SO WILL VOID THE WARRANTY.

WARNING

Making adjustments and/or modifications to this equipment that are not in accordance with the provisions of this User Guide, the Installation Guide or other supplementary documentation may result in personal injury or damage to the equipment, and may void the equipment warranty.

AVERTISSEMENT

Tout réglage ou modification faits à cet équipement hors du cadre édicté par ce guide d'utilisation ou par toute autre documentation supplémentaire pourraient causer des blessures ou endommager l'équipement et peut entraîner l'annulation de sa garantie.

WARNUNG

Die an diesen Geräten gemachte Einstellungen und/oder Änderungen, welche nicht gemäß dieser Bedienungsanleitung, oder gemäß anderen zusätzlichen Anleitungen, ausgeführt werden, können Verletzungen oder Materialschäden zur Folge haben und eventuell die Garantie ungültig machen.

ATENCIÓN

Llevar a cabo ajustamientos y/o modificaciones a este equipo, sin seguir las instrucciones provistas por este manual u otro documento adicional, podría resultar en lesiones a su persona o daños al equipo, y anular la garantía de este último.

警告

进行调整和/或修改本设备是不符合本用户指南的规定,安装手册或其他补 充文件可能导致人身伤害或设备损坏,并可能会使设备保修。

General Hazards

Торіс	Explanation	
Chassis Earthing	The G1 chassis earth must be connected directly to the DC supply system earthing conductor, or to a bonding jumper from an earthing terminal bar, or bus to which the DC supply system earthing is connected.	
Protection from RF	When installing, servicing or inspecting an antenna always comply with the following:	
Exposure	• Locate the antenna such that it does not infringe the RF Exposure Limit Distance, relating to the Compliance Boundary General Public.	
	Stay aware of the potential risk of RF exposure and take appropriate precautions.	
	• Do not stand in front of or look into an antenna without first ensuring the associated transmitter or transmitters are switched off.	
	 At a multi-antenna site ask the site owner or operator for details of other radio services active at the site and for their requirements/recommendations for protection against potentially harmful exposure to RF radiation. 	
	• When it is not possible to switch transmitters off at a multi-antenna site and there is potential for exposure to harmful levels of RF radiation, wear a protective suit.	
Fiber Optic Cables	Handle optical fibers with care. Keep them in a safe and secure location during installation.	
	• Do not attempt to bend them beyond their minimum bending radius.	
	Protect/cover unconnected optical fiber connectors with dust caps.	
Grounding Connections	Reliable grounding of the G1 chassis must be maintained.	
Mains Power Supply Routing	G1 DC power is not to be routed with any AC mains power lines. They are also to be kept away from any power lines which cross them.	
Maximum Ambient Temperature	The maximum ambient temperature for the G1 product is 55 degrees C. To ensure correct operation and to maximize long term componen reliability, ambient temperatures must not be exceeded. Operational specification compliance is not guaranteed for higher ambients. G1 should be mounted in such a way as to permit the vertical free flow of air through its cooling fins.	
Mechanical Loading	When installing the G1 on a tower, ensure that the tower is securely anchored. Ensure that the additional loading of devices will not cause any reduction in the mechanical stability of the tower.	
Power Supply Connection	G1 operates from a nominal -48 VDC power supply.	
Power Supply Disconnect	An appropriate power supply disconnect device should be provided as part of the installation.	
Rack Mount Temperature Considerations	G1 is designed to operate in an outdoor environment with no significant obstructions in front of the radome. Do not install G1 in a closed or multi-unit rack assembly, because such a closed rack would impede the propagation of the RF signals. The maximum ambient temperature applies to the immediate operating environment of the G1 product.	

Regulatory Information

This device supports UNII-1 and UNII-3 in the FCC (USA); supports UNII-3 only in ISED (Canada).

Compliance	
Safety	 IEC 60529, 2013-08 IP X7 EN 62368-1:2014 (2nd Edition) IEC/EN 60950-22
Immunity	 EN61000-4-5 Level 4 AC Surge Immunity EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity EN61000-4-3 Level 4 EMC Field Immunity EN61000-4-2 Level 2 ESD Immunity
Radio Approvals	 FCC Part 15 Subpart E §15.407 RSS-192 RSS-197 RSS-199 EN 302 326-2 EN 302 502
EMI and susceptibility	 FCC part 15.207, 15.209 ICES-003; RSS-Gen CAN ICES-3(B)/NMB-3(B) FCC 15B Class B

Deployment in the US - FCC Statement

This product must be professionally installed.

This device complies with FCC Part 15 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.

Modifications not expressly approved by Tarana Wireless Inc. could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the FCC and ISED limits for a digital device. These limits are designed to provide reasonable protection against harmful interference.

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 FCC RF exposure limits. This equipment should be installed and operated with a minimum distance of 20 cm (7.9 in.) between the radiator and user. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Deployment in Canada - Industry Canada Statements

This product must be professionally installed.

This Class B Digital apparatus meets all the requirements of ICES-003.

To satisfy IC RF exposure requirements for RF transmit ting devices, the following distances should be maintained between the antenna of this device and persons during device operation: 20cm.

This device has been designed to ensure that radio frequency emissions are maintained within the band of operation under all normal operating conditions listed in this manual.

This device complies with Industry Canada 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.

Le produit final doit être installé par un professionnel

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

IC avertissements d'exposition RF Pour satisfaire les exigencies d'IC en ce qui a trait aux expositions aux RF pour RF dispositifs de transmission, les distances suivantes doit être maintenue entre l'antenne de ce dispositive et des personnes pendant le fonctionnement du dispositif: 20cm.

Ce dispositif a été conçu pour veiller à ce que les émissions de radiofréquences sont maintenus dans la bande de fonctionnement dans toutes les conditions normales de fonctionnement figurant dans ce manuel.

Cet appareil est conforme la norme d'Industrie Canada RSS (s). Son fonctionnement est soumis aux deux conditions suivantes:

Cet appareil ne peut pas causer d'interférences, et.

Cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Deployment in the European Union - CE Mark

This Product carries CE Mark:

CE

Declaration of Conformity for radio equipment under the scope of Directive 2014/53/EU (RED) statement

The Radio Equipment Directive <u>2014/53/EU</u> (RED) establishes a regulatory framework for placing radio equipment on the market. It ensures a Single Market for radio equipment by setting essential requirements for safety and health, electromagnetic compatibility, and the efficient use of the radio spectrum

Hereby, Tarana Wireless Inc. declares that the equipment documented in this publication is in Compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU (RED).

The technical documentation as required by the Conformity Assessment procedure is kept at Tarana Wireless Inc. location which is responsible for this product. For more information please contact your local Tarana Wireless Inc. Customer Service or Sales representative.

This declaration is only valid for G1 systems (hardware, software, and firmware) that are provided for use within the EU. If this equipment is used in a manner not specified by Tarana Wireless Inc. (including use of unsupported software or firmware), it may result in the equipment no longer being compliant with the regulatory requirements.

Tarana Products described above could face some restrictions to operate in the following Countries:

AT	BE	BG	HR	CY	CZ	EE
FI	EL	FR	IT	LV	LT	LU
NL	PL	RO	SK	ES	SW	UK
DE	СН	LI	NO	IC	TR	

This Product meets International guidelines for human exposure to RF fields

Tarana Wireless systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to install the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator. To meet radiation exposure requirements, these devices should be installed at a minimum distance of 0.7083 from people or animals.

E-Field Limit (V/m)	Distance (m)
61	0.7083

G1 product complies with RF Exposure Requirements: EN 62311

Eco-Environmental Statements



Electronic products and batteries bearing or referencing the symbols shown above shall be collected and treated at the end of their useful life, in compliance with applicable European Union and other local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the product and batteries, such as heavy metals, the environment and human health may be negatively impacted as a result of inappropriate disposal.

WEEE, REACH and RoHS Compliance

Tarana Wireless products have been reviewed, analyzed and found to be following the European Union (EU) directive for Waste Electrical and Electronic Equipment (WEEE) WEEE Directive 2012/19/EU, with the EU directive for the Restriction of Hazardous Substances (RoHS) RoHS Directive 2011/65/EU and REACH Regulation (EC) No 1907/2006.

WEEE Collection Programs in the U.S. and EU at end of product life (EOL), customers are requested to contact Tarana Wireless to plan for WEEE collection/disposal of their products. The Tarana collection center in the U.S. is at the following address: Tarana Wireless Inc. 590 Alder Drive, Milpitas, CA 95035 Telephone: 408-351-4085 Contact: compliance@taranawireless.com

English	This equipment is in compliance with essential requirements and other relevant provisions of Directive 2014/53/EU			
Български	Това оборудване е в съответствие с основните изисквания и			
Bulgarian	съответващите разпоредби на Директива 2014/53/EU			
Cesky	Toto zařízení je v souladu se základními požadavky a dalšími			
Czech	příslušnými ustanoveními směrnice 2014/53/EU			
Dansk	Dette udstyr er i overensstemmelse med væsentlige krav og			
Danish	øvrige relevante bestemmelser i direktiv 2014/53/EU			
Deuch	Dieses Gerät ist in Übereinstimmung mit den grundlegenden Anforderungen und anderen Bestimmungen der Richtlinie 2014/53/EU			
German				
Esti	See seade on vastavuses põhinõuetele ja muudele direktiivi			
Estonian	2014/53/EU			
Español	Este equipo cumple con los requisitos esenciales y otras			
Spanish	disposiciones pertinentes de la Directiva 2014/53/EU			
Ελληνική	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιώδεις			
Greek	απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 2014/53/EU			
Français	Cet équipement est conforme aux exigences essentielles et aux			
French	autres dispositions pertinentes de la Directive 2014/53/EU			
Islenska	Þessi búnaður er í samræmi við grunnkröfur og aðrar kröfur sem			
Islandic	gerðar eru í tilskipun 2014/53/EU			
Italiano	Questa apparecchiatura è conforme ai requisiti essenziali e altre			
Italian	disposizioni contenute nella Direttiva 2014/53/EU			
Latviešu	Šī iekārta atbilst būtiskajām prasībām un citiem ar to			
Latvian	saistītajiem noteikumiem Direktīvas 2014/53/EU			
Lietuvių	Ši įranga atitinka esminius reikalavimus ir kitas susijusias			
l ithuanian	nuostatas Direktyvos 2014/53/EU			

Nederlands	De apparatuur is in overeenstemming met de essentiële eisen				
Dutch	en andere relevante bepalingen van Richtlijn 2014/53/EU				
Malti	Dan it-tagħmir huwa konformi mar-rekwiżiti essenzjali u				
Malteese	dispożizzjonijiet rilevanti oħra tad-Direttiva 2014/53/EU				
Magyar	Ez a berendezés megfelel az alapvető követelményeknek és más				
Hungarian	vonatkozó rendelkezéseinek a 2014/53/EU				
Norsk	Dette utstyret er i samsvar med grunnleggende krav og øvrige				
Norwegian	relevante krav i direktiv 2014/53/EU				
Polski	Ten sprzęt jest zgodny z zasadniczymi wymaganiami oraz				
Polish	pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/EU				
Portugues	Este equipamento está em conformidade com os requisitos				
Portuguese	essenciais e outras disposições relevantes da Directiva 2014/53/EU				
Română	Acest echipament este în conformitate cu cerințele esențiale și				
Romanian	alte prevederi relevante ale Directivei 2014/53/EU				
Slovensko	Ta oprema je v skladu z bistvenimi zahtevami in drugimi				
Slovenian	ustreznimi določbami Direktive 2014/53/EU				
Slovenski	Toto zariadenie je v súlade so základnými požiadavkami a				
Slovak	ďalšími príslušnými ustanoveniami smernice 2014/53/EU				
Suomi	Tämä laite on olennaisten vaatimusten ja muiden määräysten				
Finish	mukainen direktiivin 2014/53/EU				
Swenska	Denna utrustning är i överensstämmelse med väsentliga krav				
Swedish	och andra relevanta bestämmelser i direktivet 2014/53/EU				
Hrvatski <i>Croatian</i>	Ova oprema je u skladu s osnovnim zahtjevima i drugim relevantnim odredbama Direktive 2014/53/EU				

Preparation

Tools Required

- □ 8mm socket driver
- □ Torque wrench
- □ #2 crosspoint screwdriver
- $\hfill\square$ Crimping tool (14 AWG) for ground wire

Tarana Hardware and Peripherals

- 🛛 RN radio unit
- \Box RN mounting kit
 - o 1pcs RN chassis bracket
 - o 1pcs RN elevation Bracket
 - o 8pcs M5 flanged-head screw with thread lock
 - o 2pcs Wormdrive clamps
- □ Single hole ground lug
- □ Passive PoE injector with power cord
- □ 1 m Ethernet cable

Customer Supplied Equipment

- □ Ethernet cable shielded CAT5e/CAT6
- □ RJ45 connectors
- □ Grounding wire (14 AWG)
- □ Earthing hardware
- $\hfill\square$ Lightning and surge protection devices

RN Mounting Kit

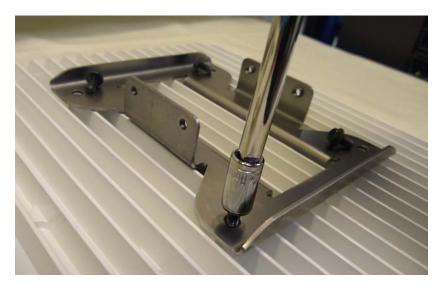


Physical Installation

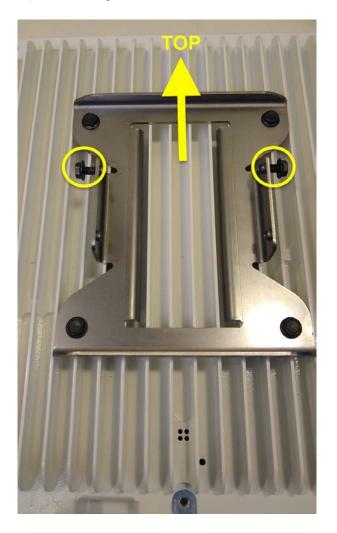
The RN mount is a saddle clamp that is adjustable in azimuth and tilt (20° uptilt – 5° downtilt supported). In typical installation, the RN is installed on a pole mounted to the side of a dwelling.

Preparing the RN

- **Step 1.** Carefully place the RN face down on a surface that will not damage the plastic radome.
- **Step 2.** Place the chassis bracket onto the back of the RN and locate it onto the 4 threaded holes.
- **Step 3.** Using an 8mm hex socket, install the four screws, and gradually torque them in a crossing pattern to the specified torque value of 6 N-m (4.5 ft-lb)

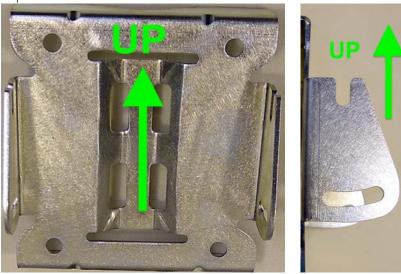


Step 4. Partially install one screw on each of the elevation attachment tabs of the chassis bracket in the locations closest to the top of the RN unit. These two screws should be threaded into the tabs enough that 2 or 3 threads are exposed coming out of the backside of each of the tabs.



Wall or Surface Mounting the Elevation Bracket

Step 1. Using the elevation bracket as a template, mark the location of the 4 holes at each corner of the bracket with the bracket oriented in the direction depicted.



- **Step 2.** Suitable fasteners 7mm or 8mm (not included) in diameter can be used with the bracket without issue. Do not attempt to use fasteners smaller than 6mm and never modify the elevation bracket by drilling for larger than 8mm fasteners as it will damage the corrosion protection of the finish.
- **Step 3.** Install the elevation bracket with its elevation tabs facing outward and oriented as shown.

Pole Mounting the Elevation Bracket

Step 1. Route the opened screw clamps through the Wall/Pole bracket so that the serrated surfaces of the bracket will be facing the pole and the clamps will go around the pole.





Installing the RN

- **Step 1.** Attach the ground system to the chassis first! There is a stainless screw installed on the RN that is used for attaching the ground.
 - o Ground wire should be 14AWG (2.5mm2)
 - A ring terminal suitable for the M5 screw should be crimped to the ground wire.
 - o Torque screw to 6 N-m (4.5 ft lb)
 - Grounding wire shall not limit any adjustment needed or alignment.

Additional local electrical codes and ordinances may apply to grounding. Compliance in this area is the responsibility of the installation company and not Tarana Wireless Inc.

- **Step 2.** Install the body of the cord grip into the RN enclosure. Take care not to cross thread the plastic threads of the cord grip body with the aluminum threads of the RN enclosure.
- **Step 3.** Properly terminate and test Ethernet cable run before proceeding. This should include power verification on all pins of the Ethernet cable using a POE tester.
- **Step 4.** With POE power disconnected, slide the cord grip sealing nut and split gland over and around the terminated RJ45 connector and cable.
- **Step 5.** Carefully plug the RJ45 connector into the RN making sure there is an audible click made by the connector properly seating into RJ45 receptacle on the main PCB inside the RN enclosure. If the click is not heard a slight pull on the Ethernet cable is sufficient to check if the cable has been properly seated or not. DO NOT FORCIBLY pull on the Ethernet cable as it could cause irreparable damage to the PCB.
- **Step 6.** With the Ethernet cable connected, slide the split gland and sealing nut down the Ethernet cable towards the RN and into place.
- **Step 7.** While tightening this assembly together make sure that the Ethernet cable is not being twisted in any way in the process.



- Step 8. Install RN by lowering it onto the elevation bracket such that the partially threaded-in screws are captured by the U-shaped features on the bracket. Tighten the top screw on each side of the mount enough to prevent the RN from coming loose while performing the next steps.
- **Step 9.** Align the tilt adjustment slot so that the threaded holes in the elevation attachment tabs of the chassis bracket tabs are accessible and install the two lower screws (one on each side) and snug them. Final torque sequence will follow after final alignment and pointing.

Powering Up the RN

- **Step 1.** Using the Tarana POE injector, apply power to Ethernet cable.
- **Step 2.** Verify LED operation.



- Step 3. Once the RF link is established, optimize alignment using RN local WebUI.
- **Step 4.** Torque the four screws used on the elevation attachment tabs to 6 N-m (4.5 ft-lb).
- **Step 5.** Run final checks
 - a. Authentication
 - b. Internet connectivity
 - c. Internet speed test

Warranty

We warrant that commencing from the date of shipment to you (and in case of resale to you by a Tarana partner, commencing not more than 90 days after our original shipment), and continuing for a period of twelve (12) months, the hardware will be free from defects in material and workmanship under normal use. This limited warranty is not transferrable. Your sole and exclusive remedy and our entire liability under this limited warranty will be, at our option, shipment of a replacement or a refund of the purchase price, if you notify us of the defect within the warranty period and return the hardware to us freight and insurance prepaid. Parts used in replacement may be new or reconditioned. Our obligations are conditioned upon the return of affected hardware in accordance with our thencurrent standard Return Material Authorization (RMA) procedures. This limited warranty does not cover (a) damage resulting from (i) use in other than the wireless transport applications defined in our product documentation; (ii) use not in accord with applicable spectrum regulations; (iii) handling, testing, installation, operation, maintenance, service, repair, alteration, modification, or adjustment outside of practices and conditions defined in our product documentation; (iv) other general misuse, accident, liquid intrusion, or neglect; (v) unauthorized radio connection to equipment not supplied by us; (vi) illegal or unauthorized alteration of software or firmware; (vii) acts of nature (such as lightning) or performance failure of other equipment (including electrical transients and over/under voltage); (b) scratches, discoloration, or other cosmetic damage to surfaces that do not affect operation; (c) normal and customary wear and tear; and (d) any product where serial number, revision level, part number, date code, warranty data, tamper-proof seals, or quality assurance decals have been removed or altered.

DISCLAIMER: Except as specified above, all express or implied conditions, representations, and warranties including, without limitation, any implied warranty or condition of merchantability, fitness for a particular purpose, non-infringement, satisfactory quality, non-interference, accuracy of informational content, or arising from a course of dealing, law, usage, or trade practice, are hereby excluded to the extent allowed by applicable law and are expressly disclaimed by us. To the extent an implied warranty cannot be excluded, such warranty is limited in duration to the express warranty period. This disclaimer and exclusion will apply even if the express warranty set forth above fails of its essential purpose.

Tarana products are not designed, intended, or certified for use in communication systems for, or relating to (a) weapons or weapons systems, (b) nuclear facilities, (c) air traffic control or other mass transportation systems, (d) life support systems or other medical devices, (e) applications where electrical sparks could trigger explosions or fires, or (f) any other systems, devices or applications in which the failure of the product to operate as intended may lead to death, bodily injury, or catastrophic property damage (each an "Unauthorized Use"). Many of such Unauthorized Uses would require specific industry certification which has not been sought or obtained for the Tarana products.

LIABILITY. We will not be liable for any special, incidental, indirect, or consequential damages (including lost profits or property damage) arising out of or relating to the sale of the goods to you or your possession, installation, use, operation or repair of the goods, even if the goods are nonconforming, defective, infringing, delayed, or not delivered, and even if we have been advised of the possibility of such damages. You agree to indemnify and hold us harmless from any claims, suits, demands and causes of action arising out of or relating to your possession, installation, use, operation or repair of the goods. Notwithstanding any other provisions of this document, in no event will our total liability in connection with or relating to the goods exceed the amount you have paid us for the goods.