MINER Act Compliant Communication & Tracking Systems and Peripherals

as of October 31, 2026

Communication System Peripherals				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Kenwood USA Corporation	TK-290, TK-390	VHF or UHF Portable Radio	23-A060002-0	Not specified[3]
NL Technologies	Model GII	Cap Lamp with Messenger Circuit	23-ISA070004-0	1.2 feet (0.36 meters)
Venture Design Services, Inc.	Model TMLT Text Messaging Location Transponder	Tracking Tag and Text Messaging Device	23-A080002-0	0 feet[4]
Motorola	HT750	VHF or UHF Portable Radio	23-A080007-0	18 feet (Models AAH25RDC9AA3_N & AAH25SDC9AA3_N); and 27 feet (Model AAH25KDC9AA3_N)
SubterraCom Wireless Solutions, LLC	Model 810T	Wireless Tracking and Communication Device	23-A080014-0	Not specified[3]
Hughes Supply Company	HSC RDR_02	Radio Repeater	23-A080019-0	Not specified[3]
L-3 Communications (Transferred to Innovative Wireless Technologies, Inc.)	ASM100001 Accolade	Mesh Radio Handset	23-A080020-0	5 feet
Mine Site Technologies	ICCL	Integrated Communications Cap Lamp with optional TAG5 tracker	23-ISA080001-0	Not specified[3]
Mine Site Technologies	ICCL	Integrated Communications Cap Lamp with optional T3100 tracker	23-ISA080004-0	Not specified[3]
Active Control Technology, Inc. (Transferred to NL Technologies)	Model 8035	Telephone	23-A090008-0	8 feet[5]
Matrix Design Group	P/N: 2WC-T	Two-way Text Communicator	23-A090007-0	0 feet[4]
American Mine Research	6210	Two-way Text Messenger	23-A090014-0	0 feet[4]
Mine Site Technologies	Model MP70 MinePhone	Intrinsically Safe Wi-Fi Handset	23-A100006-0	14.8 inches (375 mm)

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Becker Electronics Pty. Ltd	UFMR-100 & VFMR-100	UHF and VHF Portable Radios	23-A100010-0	6.7 feet (model UFMR-100); and 32.8 feet (model VFMR-100)
Argon ST, Inc. (Transferred to Strata Safety Products, LLC)	StrataCommTrac Model C202 or Model STC-MC-03 Miner Communicator	Text Messaging and Tracking Device	23-A100012-0	40 inches (refer to approval marking for additional information)
Matrix Design Group	P/N: 2WC-HT	Two-Way Communicator Handheld Tracker	23-A100011-0	0 feet[4]
NL Technologies	Model Ranger Phone	Wi-Fi Phone	23-A120002-0	15.5 inches
L-3 Communications (Transferred to Innovative Wireless Technologies, Inc.)	Miner Mesh Locator (MML)	Tracking, Mesh Monitor and Emergency Status Indicating Device	23-A120003-0	8.0 feet
Innovative Wireless Technologies, Inc.	Model SENTINEL Mesh Handset Permissible Portable Two-Way Radio	Portable Two-Way Radio	23-A120005-0	3.3 feet
Comtrol International	Model CU1648	Cross Band Coupler	23-A140003-0	32 feet
American Mine Research	Model E30 Mine Net Phone	Wi-Fi Phone	23-A140008-0	14.4 inches (366 mm)
ecom Instruments GmbH	Model i.roc Ci70 -Ex	Permissible Ruggedized Handheld Computer	23-A150001-0	8 feet
JVCKenwood USA Corporation	NX-203 VHF, NX-303 UHF	Portable Two-Way Radio	23-A150003-0	12 feet (Model NX-203 VHF, 1W); 27 feet (Model NX-203 VHF, 5W); 8 feet (Model NX-303 UHF, 1W); and 18 feet (Model NX-303 UHF, 5W)

Communication System Peripherals				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Strata Safety Products, LLC	Model PAD02-CL	Personnel Tracking Component of the Model PAD02-CL Integrated Alarm Device	23-ISA160001-0	40 inches[8]
Strata Safety Products, LLC	StrataCommTrac Model STC-MC2-02 Miner Communicator	Portable Handheld Text Communicator and Miner Position Beacon	23-A200002-0	8 feet

Leaky Feeder Communication Systems			
Manufacturer	**Model Number**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
El-Equip, Inc. (Transferred to Pyott-Boone Electronics, Inc.)	Model VHF-1 Radio System	9B-196-0	Not specified[3]
DAC	Type RFM 2000 Radio System	9B-201-0, -1	Not specified[3]
Mine Radio Systems (Transferred to Pyott-Boone Electronics, Inc.)	Flexcom Communications Systems	9B-219-0	Not specified[3]
Varis Mine Tech.	Model IS and Model Smart Com 150IS Leaky Feeder Communication Systems	23-A050001-0	Not specified[3]
Tunnel Radio of America	Model UltraComm Distributed Antenna Communication System	23-A070005-0	20 feet[5]
Becker Electronics (PTY) LTD (Transferred to Varis Mine Tech.)	Becker Leaky Feeder System	23-A080003-0	0 feet[4]
Minecom a division of TR Corporation Pty. Ltd. (Transferred to Pyott-Boone Electronics, Inc.)	MCA 2000 UHF Leaky Feeder System	23-A090001-0	8 feet
Minecom a division of TR Corporation Pty. Ltd. (Transferred to Pyott-Boone Electronics, Inc.)	MCA 1000 VHF Leaky Feeder System	23-A090003-0	8 feet

Leaky Feeder Communication Systems			
Manufacturer	**Model Number**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Kutta Radios, Inc.	DRUM 100S UHF/VHF Communication System	23-A110004-0	8 feet (Model 100S-U/VXXXX-U1000); 12 feet (Model 100S-U/VXXXX-V1000); and 0 feet (Models 100S-U/VXXXX-U/V0040 and 100S-U/VXXXX-U/V0020)
Mine Radio Systems (Transferred to Pyott-Boone Electronics, Inc.)	Model Multicom Permissible Leaky Feeder Communication System	23-A120004-0	12 feet

Tracking Systems and Devices				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Mine Site Technologies	Model TAG IV Transmitter	Tracking Tag	2G-4162-0	Not specified[3]
Marco	Model PRIM Model PTT-1	Tracking Tag	23-A060001-0	Not specified[3]
Matrix Design Group, LLC	Model MatrixTracker T1000 RFID Tag	Tracking Tag	23-A060003-0	0 feet[4]
NL Technologies	Model Standalone WiFi RFID Tag	Tracking Tag	23-A070001-0	Not specified[3]
Venture Design Services	MLT Mobile Location Transponder Tags	Tracking Tag	23-A070003-0	0 feet[4]
Wholesale Mine Supply	Model i-Q8X RFID Tag	Tracking Tag	23-A070004-0	Not specified[3]
Mine Radio Systems (Transferred to Pyott-Boone Electronics, Inc.)	Model TP2/ISPT	Tracking Tag	23-A070006-0	Not specified[3]
American Mine Research, Inc.	Model Mine Net Tag	Tracking Tag	23-A070007-0	0 feet[4]
NL Technologies	Model GII	Cap Lamp with Tracking Tag	23-ISA070001-0	Not specified[3]

Tracking Systems and Devices				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Koehler-Bright Star	Model TAG5 Tracker Tag Module	Tracking Tag	23-ISA070002-0	Not specified[3]
Koehler-Bright Star	Model MultiTAG TP1 Transmitter TAG PCB Assembly	Tracking Tag	23-ISA070003-0	Not specified[3]
Pyott-Boone Electronics, Inc.	Model 1980 Tracking Tag	Tracking Tag	23-A080004-0	8 feet[5]
Tunnel Radio of America	Model MineAx T1 RFID Tracking Tag	Tracking Tag	23-A080005-0	0.5 feet[5]
Extronics Ltd.	Model iTAG100/BWH3000/iTAG100-M/iTAG100-M-CB/TAG2000-X4/TAG2000-C-X4 Tag	Tracking Tag	23-A080006-0	8 feet[5] (iTAG100/BWH3000); and 14.76 inches (iTAG100-M, iTAG100-M-CB, TAG2000-X4, TAG2000-C-X4)
Conspec Controls	911152 Personnel Tracking Transmitter	Tracking Tag	23-A080011-0	0 feet[4]
Mine Site Technologies	T3i-SC RFID	Tracking Tag	23-A080012-0	15 inches
Active Control Technology, Inc. (Transferred to NL Technologies)	ActiveMine Ekahau T301	Tracking Tag	23-A080017-0	Not specified[3]
Wavetrend Technologies, Inc.	Wavetrend Technologies, Inc.	Tracking Tag	23-A080018-0	Not specified[3]
Becker Electronics	BEC004	Vehicle Mounted Tag	23-A090004-0	0 feet[4]
Becker Electronics	BEC003	Helmet Mounted Tag	23-A090006-0	0 feet[4]
L-3 Communications (Transferred to Innovative Wireless Technologies, Inc.)	Model TTURT-01 Tru-Tracker UWB	Tracking Tag	23-A090009-0	0 feet[4]

Tracking Systems and Devices				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Pyott-Boone Electronics, Inc.	Tracker Boss	Tracking System	23-A090011-0	5 feet or 18 feet (Tag Reader Models 1981 & 1984)[6]; 5 feet or 27 feet (Tag Reader Models 1982 & 1985)[6]; and 8 feet (Node Models 1990 & 1990-E)
Becker Electronics	BEC002	Cap Lamp Tag	23-ISA090001-0	0 feet[4]
Koehler-Bright Star	Model TAG 3100	Tracking Tag	23-ISA090003-0	15 inches
L-3 Communications (Transferred to Innovative Wireless Technologies, Inc.)	Model TTTR-01 Tru-Tracker Tag Reader	Reverse RFID tracking with UWB over a LF backbone	23-A090017-0	46 inches
L-3 Communications (Transferred to Innovative Wireless Technologies, Inc.)	ACCOLADE	Tracking Beacon	23-A090015-0	1.7 feet
Tunnel Radio	Model TR-MX-332 MineAx Tracking System	RFID Tracking System	23-A100002-0	12 feet
Becker Electronics	TCT1 4XX	Cap Lamp Tag	23-ISA100002-0	0 feet[4]
Becker Electronics	TCT0 234 and TCT0 334	Cap Lamp Tags	23-ISA100001-0	0 feet[4]
NL Technologies	Model GII	Cap Lamp with Reverse Tracking Circuit	23-ISA110001-0	1.2 feet (0.36 meters)

Tracking Systems and Devices				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Innovative Wireless Technologies, Inc.	Model SENTINEL Beacon	Tracking Beacon	23-A120001-0	3.3 feet
Pyott-Boone Electronics, Inc.	Model 911 Emergency Communicator	Tracking Tag	23-A120007-0	15 feet
American Mine Research, Inc.	Model WiFi Tag	Tracking Tag	23-A140006-0	14.4 inches (370 mm)
American Mine Research, Inc.	Model MN-6420	WiFi Beacon Module	23-A160003-0	14.4 inches (370 mm)
Pyott-Boone Electronics, Inc.	Model PT-TAG(915) w/o GPS Model PT-TAG-GR(915) w/GPS	Tracking Tag	23-A170001-0	8 feet
Strata Safety Products, LLC	Model SCT-TAG-03	Tracking Tag	23-A170003-0	40 inches
Innovative Wireless Technologies, Inc.	Model SENTINEL Tracking Tag	Tracking Tag	23-A170004-0	3.3 feet

Fixed Node-Based Communications and/or Tracking Systems[7]				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
NL Technologies	Digital Communications System	IEEE 802.11 mesh network over fiber System	23-A080010-0	1.1 feet[5]
Matrix Design Group, LLC	MDG METS 2.1	RFID Miner Tracking and Text Messaging System	23-A080013-0	0 feet[4]
American Mine Research, Inc.	MN-6000 Mine Net System	RFID Miner Tracking and Text Messaging System	23-A090013-0	0 feet[4]
American Mine Research, Inc.	MN-6215 Dual Channel Wireless Transceiver	Wireless Transceiver for use with the MN-6000 System	23-A100001-0	0 feet[4]

Fixed Node-Based Communications and/or Tracking Systems[7]				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators**[1]
Mine Site Technologies	IMPACT	IS Communications System	23-A100003-0	14.8 inches (375 mm)
NL Technologies	Portable Access Node	IEEE 802.11 mesh network over fiber System for use with Digital Communications System	23-A100004-0	14.2 inches (360 mm)
InSet Systems, LLC	10000000AA-00	Tracking and Communication System	23-A110001-0	8 feet
Conspec Controls	System Configuration Tracking	Tracking System	23-A160004-0	0 feet[4]

Wireless Node-Based Communications and/or Tracking Systems[7]				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators**[1]
Venture Design Services, Inc.	MineTracer Miner Location Monitoring System	IEEE 802.15.4 Text Messaging and Tracking System	23-A080001-0	5 feet
Venture Design Services, Inc.	PWAP	Battery powered WAP for use with IEEE 802.15.4 Text Messaging and Tracking System	23-A080001-0	5 feet
L-3 Communications (Transferred to Innovative Wireless Technologies, Inc.)	ACCOLADE	Wireless Mesh Communication and Tracking System	23-A080015-0	7 feet (900 MHz antennas); and 18.5 feet (450 MHz antennas)
Innovative Wireless Technologies, Inc.	Fixed Mesh Node, with Antenna & Battery	Fixed Mesh Node	23-ISA080005-0	18.5 feet (450 MHz antenna); 2.5 feet (900 MHz pulse antenna); and 7.5 feet (original 900 MHz antenna)
Innovative Wireless Technologies Inc.	SENTINEL	Wireless Mesh Communication System	23-A080016-0	7 feet
Active Control Technology, Inc.	ActiveMine AM1000	Wireless Mesh Communication System	23-A090002-0	18 feet

Wireless Node-Based Communications and/or Tracking Systems[7]				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators**[1]
(Transferred to NL Technologies)				
Active Control Technology, Inc. (Transferred to NL Technologies)	ActiveMine AM2000	Battery Powered Node for use with the Wireless Mesh Communication System	23-A090002-0	18 feet
Rajant Corporation	WE-IS UX-2400	Breadcrumb® Portable Wireless Mesh Network Nodes	23-A090012-0	3.3 feet
Argon ST, Inc. (Transferred to Strata Safety Products, LLC)	StrataCommTrac Model C201 & Model SCT-CN-03 Subsurface Communication Nodes	Wireless Mesh Communication System	23-A100008-0	40 inches (refer to approval marking for additional information)
Newtrax Technologies Inc.	Network Infrastructure Device	Battery Powered Wireless Node	23-A110005-0	0 feet[4]
Innovative Wireless Technologies, Inc.	Portable Mesh Node (PMN)	Battery Powered Wireless Node	23-A120008-0	7.1 feet
Immersive Technologies, LLC	WFP0200830	ZAP Wireless Zone Access Point	23-A120006-0	8 feet
American Mine Research, Inc.	MN-6400 Mine Net Mesh System	Battery Powered Wireless Mesh Communication System	23-A140005-0	25 feet (2.4 GHz antenna)
Innovative Wireless Technologies Inc.	SENTINEL Wireless Repeater Node	Battery Powered Wireless Node	23-A170002-0	3.3 feet
Innovative Wireless Technologies Inc.	SENTINEL Uniti System	Wireless Mesh Communication System	23-A200001-0	7.1 feet (2.45 MHz antenna)

Medium Frequency Systems			
Manufacturer	**Model Number**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators**[1]
Kutta Radios, Inc.	DRUM 100R	23-A090010-0	32 feet[9]
Kutta Radios, Inc.	DRUM 100P Portable Medium Frequency Radio	23-A100009-0	6.6 feet (2 meters)

Kutta Radios, Inc.	DRUM 100CP Portable Medium Frequency Radio	23-A100009-0	6.6 feet (2 meters)
Kutta Radios, Inc.	DRUM TTR-100 Tracking Tag Receiver	23-A110003-0	0 feet[4]

Through-The-Earth (TTE) Systems				
Manufacturer	**Model Number**	**Product Type**	**Approval No.**	**RFI Minimum Separation Distance between blasting circuits, explosives and detonators[1]**
Lockheed Martin Corporation	Model No. 03538-MCS-UP-001	MagneLink Magnetic Communication System (MCS)	23-A110002-0	10.5 feet
E-Spectrum Technologies Inc.	Rescue Dog	Through The Earth Communication System	23-A140001-0	50 feet
Vital Alert Communication, Inc.	C1000-IS	Through-The-Earth Radio	23-A140007-0	20 feet
Strata Products Worldwide, LLC	Model STE1000	Subsurface Through-The-Earth Communication System	23-A160001-0	40 inches

Note 1 – The minimum safe distance is for only one device. Mine operators must take the combined effect of multiple RF devices into account and document this in their Emergency Response Plan (ref. MSHA Program Policy Letter P11-V-07). Refer to manufacturer recommendations and related product conditions of use for more information.

Note 2 – This device only receives RF signals, and therefore minimum safe distances around it are not applicable. The surface antenna loop and its hazards associated with blasting circuits were not evaluated.

Note 3 – The applicant did not specify a minimum separation distance during the MSHA approval process for this device. An approval holder should submit a Revised Approval and Modification Program (RAMP) application to add a minimum separation distance.

Note 4 – The MSHA approval label does not need to specify a minimum separation distance if the distance is 0 feet.

Note 5 – MSHA verified the minimum separation distance, however, the MSHA approval label may not include this distance. An approval holder may submit a RAMP application to add the minimum separation distance.

Note 6 – Refer to Approval label for the appropriate distance.

Note 7 – A fixed node-based system includes node-to-node communication signal cable while a wireless node-based system does not.

Note 8 – Personnel Tracking Component Intrinsic Safety Evaluation No. 23-ISA160001-0 is part of the Model PAD02-CL Integrated Alarm Device Approval No. 18-A160005-0. The Model PAD02-CL approval label lists the minimum separation distance between blasting circuits, explosives, and detonators.

Note 9 – Refer to the product conditions of use as other distances may apply.