

UNCLASSIFIED

MILITARY COMMUNICATIONS ELECTRONICS BOARD (MCEB)

EQUIPMENT FREQUENCY ALLOCATION GUIDANCE

Military Department <p style="text-align: center;">Army Air Force</p>	Equipment <p style="text-align: center;">SAVI Gate Interrogator, Reader and Transponder</p>	Stage <p style="text-align: center;">4 - Operational</p>
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Section 1: ENCLOSURES

Enclosure Number <p style="text-align: center;">1</p>	Description <p style="text-align: center;">J/F 12/7451</p>	Dated <p style="text-align: center;">27 Apr 98</p>
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Section 2: EQUIPMENT APPLICATION INFORMATION

Frequency	Emission	Power Mean	Stage 4 Type of Service	Operating Location
433.92 MHz	66K0F1D	21 mW	Fixed, Mobile	US&P
2440.0 MHz	66K0F0D	3 mW		
902 - 928 MHz	1M30F1D	300 mW		
2400 - 2483.5 MHz	2M35F1D	60 mW		

Section 3: MCEB GUIDANCE

1. The enclosed application as described above is noted and forwarded for information and file.
2. This application meets the requirements of NTIA Manual Annex K, Technical Standards for Federal "Non-Licensed" Devices.
3. Operational use within the appropriate theater commands outside the United States has not been approved. Approval for operational use in the intended deployment area requires appropriate CINC's statement(s) that the subject system has been deemed frequency supportable.
4. Operations will be on an unprotected and non-interference basis to established services. Operations must be in accordance with the NTIA Manual. Prior to selection of factory fixed frequencies, the cognizant AFC will be consulted.
5. NTIA Spectrum Certification was not requested.
6. CINC Coordination has been initiated.

Steering Member J-12 Working Group MCEB Frequency Panel	Signature 	Date <p style="text-align: center; font-weight: bold;">MAY 19 1998</p>	Page <p style="text-align: center;">1 of 1</p>
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Downgrading Instructions Classified by: NA Declassify on:	Distribution J-12 Holders	MCEB J-12 Number J/F 12/7451/1
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APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION	CLASSIFICATION: UNCLASSIFIED	DATE: 27 Apr 98	J/F 12/7451
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DOD GENERAL INFORMATION			
To: USMCEB		From: Office of the Army Spectrum Manager Submitted By: (Project Manager Tactical Management Information System ATTN: SFAE-PS-TPC)	
1. Application Title: SAVI Gate Interrogator, Reader and Transponder			
2. System Nomenclature: Ammunition Automatic Identification Technology (AMMO AIT)			
3. Stage of Allocation: <input type="checkbox"/> Stage 1 <input type="checkbox"/> Stage 2 <input type="checkbox"/> Stage 3 <input checked="" type="checkbox"/> Stage 4 <input type="checkbox"/> Conceptual Experimental Developmental Operational			
4. Frequency Requirements: (a) Frequency(s): 433.92 MHz 2440 MHz 902 - 928 MHz 2400 -2483.5 MHz (b) Emission Designator(s): 66K0F1D 66K0F0D 1M30F1D 2M35F1D			
5. Target Starting Date for Subsequent Stages: Stage 2 <u>NA</u> Stage 3 <u>NA</u> Stage 4 <u>NA</u>			
6. Extent of Use: Intermittent use up to 10 ms per transmission. Used daily as required for asset visibility.			
7. Geographical Area For: Stage 2 <u>NA</u> Stage 3 <u>NA</u> Stage 4 <u>US&P ARFA and ARFA-member countries (FMSC-3) (See Page 2)</u>			
8. Number of Equipments: Stage 2 <u>NA</u> Stage 3 <u>NA</u> Stage 4 <u>500</u>			
9. Number of Equipments Operating Simultaneously in the Same Environment: <u>10</u>			
10. Other J/F 12 Application Number(s) to be: <input type="checkbox"/> Superseded J/F 12/ _____ <input checked="" type="checkbox"/> Related J/F 12/ <u>7026, 7075/2, 7450, 7452</u>		11. Is there any operational requirement as described in the instructions for paragraph 11? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NAVail	
12. Name(s) and Telephone Numbers: Program Manager: <u>Susian E. Vickers</u> Commercial: <u>703-806-4110</u> Autovon <u>656-4110</u> Project Engineer: <u>James K. Boyter</u> Commercial: <u>703-806-3955</u> Autovon <u>656-3955</u>			
13. Remarks: None			
DOWNGRADING INSTRUCTIONS:		CLASSIFICATION: UNCLASSIFIED	J/F 12/7451

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Australia	Bahrain	Belgium	Bolivia
Bosnia	Botswana	Brazil	Bulgaria
Columbia	Costa Rica	Croatia	Cuba
Czech Republic	Denmark	Ecuador	Egypt
El Salvador	Ethiopia	Finland	France
Georgia	Germany	Greece	Greenland
Guatemala	Haiti	Holland	Honduras
Hong Kong	Hungary	Iceland	India
Ireland	Israel	Italy	Jamaica
Japan	Jordan	Kenya	Korea (Seoul)
Kuwait	Lebanon	Liberia	Lithuania
Malaysia	Mexico	Morocco	Myanmar
Netherlands	New Caledonia	New Zealand	Nicaragua
Nigeria	NATO	Norway	Oman
Pakistan	Panama	Peru	Philippines
Poland	Portugal	Romania	Russia
Saudi Arabia	Singapore	Slovakia	Slovenia
Somalia	South Africa	Spain	Surinam
Sweden	Switzerland	Syria	Taiwan
Thailand	Tunisia	Turkey	Ukraine
United Arab Emirates	United Kingdom	Venezuela	South Yemen
	Yugoslavia		

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TRANSMITTER EQUIPMENT CHARACTERISTICS

1. Nomenclature, Manufacturer's Model No.
Gate Interrogator, SaviReader (See Remarks)

2. Manufacturer's Name:
Savi Technology

3. Transmitter Installation:
Fixed sites

4. Transmitter Type:
FSK Communications

5. Tuning Range:
433.92 MHz

6. Method Of Tuning:
Saw Resonator

7. RF Channeling Capability:
NA

8. Emission Designator(s):
66K0F1D

9. Frequency Tolerance: 2.13 ppm

12. Emission Bandwidth:

10. Filter Employed:
 a. YES b. NO

Calculated Measured

11. Spread Spectrum:
 a. YES b. NO

a. -3 db: 37 kHz
b. -20 db: 67 kHz
c. -40 db: 193 kHz
d. -60 db: 605 kHz
e. OC-BW : 66 kHz

13. Maximum Bit Rate: 30 kbps

15. Maximum Modulation Frequency:
15 kHz

14. Modulation Techniques And Coding:
FSK - with manchester coding

16. Pre-Emphasis:
 a. YES b. NO

17. Deviation Ratio:
1

19. Power:
a. Mean: 21 milliwatts
b. Pep : _____

18. Pulse Characteristics:
NA
a. Rate: _____
b. Width: _____
c. Rise Time: _____
d. Fall Time: _____
e. Comp Ratio: _____

20. Output Device:
Transistor

22. Spurious Level:
-66 dB

21. Harmonic Level:
a. 2nd -56 dB
b. 3rd -64 dB
c. Other -66 dB

23. FCC Type Acceptance No.:
NAvail

24. Remarks:

Item 1: 410R, Models SR-410GR-021 & SR-410GR-041.

Item 10: Type of filter: Low Pass
In-Band insertion loss: 5 dB
Minimum 10 dB attenuation at 20.4 MHz removed from the tuned frequency.

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TRANSMITTER EQUIPMENT CHARACTERISTICS

1. Nomenclature, Manufacturer's Model No.
Gate Interrogator, SaviReader (See Remarks)

2. Manufacturer's Name:
Savi Technology

3. Transmitter Installation:
Fixed sites

4. Transmitter Type:
FSK Communications

5. Tuning Range:
2440 MHz

6. Method Of Tuning:
Coaxial Resonator

7. RF Channeling Capability:
NA

8. Emission Designator(s):
66K0F0D (See Remarks)

9. Frequency Tolerance: 10 ppm

12. Emission Bandwidth:

10. Filter Employed: a. YES b. NO

Calculated Measured

11. Spread Spectrum: a. YES b. NO

a. -3 db: 37 kHz
b. -20 db: 67 kHz
c. -40 db: 193 kHz
d. -60 db: 605 kHz
e. OC-BW : 66 kHz

13. Maximum Bit Rate: NA

15. Maximum Modulation Frequency:
15 kHz

14. Modulation Techniques And Coding:
FSK

16. Pre-Emphasis: a. YES b. NO

17. Deviation Ratio:
1

19. Power:
a. Mean: 3 milliwatts
b. Pep : _____

18. Pulse Characteristics:
NA
a. Rate: _____
b. Width: _____
c. Rise Time: _____
d. Fall Time: _____
e. Comp Ratio: _____

20. Output Device:
Transistor

22. Spurious Level:
-40 dB

21. Harmonic Level:
a. 2nd -35 dB
b. 3rd -40 dB
c. Other -40 dB

23. FCC Type Acceptance No.:
NAvail

24. Remarks:

Item 1: 410R, Models SR-410GR-021 & SR-410GR-041.

Item 8: FOD emission is a telecommand signal with no data transmitted.

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TRANSMITTER EQUIPMENT CHARACTERISTICS

1. Nomenclature, Manufacturer's Model No.
Hand-Held Interrogator, Savi (See Remarks)

2. Manufacturer's Name:
Savi Technology

3. Transmitter Installation:
Handheld portable

4. Transmitter Type:
MSK Communications

5. Tuning Range:
906 - 924 MHz

6. Method Of Tuning:
Synthesizer

7. RF Channeling Capability:
906 MHz, 3 MHz increments

8. Emission Designator(s):
1M57F1D

9. Frequency Tolerance: 5 ppm

10. Filter Employed: a. YES b. NO

12. Emission Bandwidth:
 Calculated Measured

11. Spread Spectrum: a. YES b. NO

- a. -3 db: 790 kHz
- b. -20 db: 2.2 MHz
- c. -40 db: 6.7 MHz
- d. -60 db: 21 MHz
- e. OC-BW : 1.57 MHz

13. Maximum Bit Rate: 1.33 Mbps

14. Modulation Techniques And Coding:
MSK (See Remarks)

15. Maximum Modulation Frequency:
1.33 MHz

16. Pre-Emphasis: a. YES b. NO

17. Deviation Ratio:
1

19. Power:
a. Mean: 300 milliwatts
b. Pep : NA

18. Pulse Characteristics:
NA
a. Rate: _____
b. Width: _____
c. Rise Time: _____
d. Fall Time: _____
e. Comp Ratio: _____

20. Output Device:
Bipolar Junction Transistor

22. Spurious Level:
-65 dB

21. Harmonic Level:
a. 2nd -50 dB
b. 3rd -50 dB
c. Other -50 dB

23. FCC Type Acceptance No.:
NAvail

24. Remarks
Item 1: Mobile Reader 410R, Model SMR-410R-201-G.
Item 14: Data is encoded into an 11-bit barker sequence using a data scrambler to randomize the output carrier power density.

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TRANSMITTER EQUIPMENT CHARACTERISTICS

<p>1. Nomenclature, Manufacturer's Model No. Hand-Held Interrogator, Savi (See Remarks)</p>	<p>2. Manufacturer's Name: Savi Technology</p>
<p>3. Transmitter Installation: Multiple sites</p>	<p>4. Transmitter Type: MSK Communications</p>
<p>5. Tuning Range: 924 - 928 MHz</p>	<p>6. Method Of Tuning: Synthesizer</p>
<p>7. RF Channeling Capability: 924 - 928 MHz</p>	<p>8. Emission Designator(s): 1M30F1D</p>
<p>9. Frequency Tolerance: 5 ppm</p>	
<p>10. Filter Employed: <input type="checkbox"/> a. YES <input checked="" type="checkbox"/> b. NO</p>	<p>12. Emission Bandwidth: <input checked="" type="checkbox"/> Calculated <input type="checkbox"/> Measured</p>
<p>11. Spread Spectrum: <input checked="" type="checkbox"/> a. YES <input type="checkbox"/> b. NO</p>	<p>a. -3 db: 790 kHz</p>
<p>13. Maximum Bit Rate: 1.33 Mbps</p>	<p>b. -20 db: 2.2 MHz</p>
<p>14. Modulation Techniques And Coding: MSK (See Remarks)</p>	<p>c. -40 db: 6.7 MHz</p>
<p>16. Pre-Emphasis: <input type="checkbox"/> a. YES <input checked="" type="checkbox"/> b. NO</p>	<p>d. -60 db: 21 MHz</p>
<p>19. Power: a. Mean: 300 mW b. Pep: NA</p>	<p>e. OC-BW: 1.57 MHz</p>
<p>20. Output Device: Bipolar Junction Transistor</p>	<p>15. Maximum Modulation Frequency: 1.33 MHz</p>
<p>22. Spurious Level: -65 dB</p>	<p>17. Deviation Ratio: 1</p>
<p>23. FCC Type Acceptance No.: NAvail</p>	<p>18. Pulse Characteristics: NA</p>
<p>24. Remarks Item 1: Mobile Reader 410R, Model SMR-410R-201-G. Item 14: Data is encoded into an 11-bit barker sequence using a data scrambler to randomize the output carrier power density.</p>	<p>21. Harmonic Level: a. 2nd -50 dB b. 3rd -50 dB c. Other -50 dB</p>

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TRANSMITTER EQUIPMENT CHARACTERISTICS

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1. Nomenclature, Manufacturer's Model No. Hand-held Interrogator, Savi (See Remarks)	2. Manufacturer's Name: Savi Technology
3. Transmitter Installation: Multiple sites	4. Transmitter Type: FSK Communications
5. Tuning Range: 2400 - 2483.5 MHz	6. Method Of Tuning: Frequency synthesizer
7. RF Channeling Capability: 2402 MHz, 1 MHz increments	8. Emission Designator(s): 2M35F1D
9. Frequency Tolerance: 30 ppm	12. Emission Bandwidth: <input type="checkbox"/> Calculated <input checked="" type="checkbox"/> Measured a. -3 db: <u>1.5 MHz</u> b. -20 db: <u>3.6 MHz</u> c. -40 db: <u>8.4 MHz</u> d. -60 db: <u>23.0 MHz</u> e. OC-BW : <u>2.35 MHz</u>
10. Filter Employed: <input checked="" type="checkbox"/> a. YES <input type="checkbox"/> b. NO	
11. Spread Spectrum: <input checked="" type="checkbox"/> a. YES <input type="checkbox"/> b. NO	
13. Maximum Bit Rate: 1.6 Mbps	15. Maximum Modulation Frequency: 1.6 MHz
14. Modulation Techniques And Coding: FSK	17. Deviation Ratio: 1.0
16. Pre-Emphasis: <input type="checkbox"/> a. YES <input checked="" type="checkbox"/> b. NO	18. Pulse Characteristics: NA a. Rate: _____ b. Width: _____ c. Rise Time: _____ d. Fall Time: _____ e. Comp Ratio: _____
19. Power: a. Mean: <u>60 mW</u> b. Pep : _____	21. Harmonic Level: a. 2nd <u>-68 dB</u> b. 3rd <u>-68 dB</u> c. Other <u>-68 dB</u>
20. Output Device: Gas MMIC Device	
22. Spurious Level: -68 dB	
23. FCC Type Acceptance No.: NAvail	

24. Remarks
 Item 1: Mobile Reader 410R, Model SMR-410R Series.

 Item 10: Low-pass.

 Item 11: Frequency hopping spread spectrum with a programmable number of hop frequencies and a frequency hop time of 200 ms.

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RECEIVER EQUIPMENT CHARACTERISTICS

1. Nomenclature, Manufacturer's Model No.
Handheld, Gate Interrogator, (See Remarks)

2. Manufacturer's Name:
Savi Technology

3. Receiver Installation
Fixed sites and vehicles

4. Receiver Type:
Single Conversion Superheterodyne

5. Tuning Range:
433.92 MHz

6. Method Of Tuning:
Saw Resonator

7. RF Channeling Capability:
NA

8. Emission Designator(s):
66K0F1D

9. Frequency Tolerance:
1.57 ppm

11. RF Selectivity:

10. IF Selectivity: 1st 2nd 3rd
a. -3 db: 460 kHz
b. -20 db: 753 kHz
c. -60 db: 1031 kHz

Calculated Measured
a. -3 db: 810 kHz
b. -20 db: 2160 kHz
c. -60 db: 35000 kHz
d. Preselection Type: BP filter

12. IF Frequency:
a. 1st: 10.7 MHz
b. 2nd: NA
c. 3rd: NA

13. Maximum Post Detection Frequency:
104 kHz

15. Oscillator Tuned: 1st 2nd 3rd
a. Above Tuned Frequency
b. Below Tuned Frequency
c. Either Above or Below the Frequency

14. Minimum Post Detection Frequency:
NA

18. De-emphasis:
 Yes No

16. Maximum Bit Rate: 30 kbps

17. Sensitivity:

a. Sensitivity: -94 dBm
b. Criteria: S/N = 20 dB
c. Noise Fig: 5 dB
d. Noise Temp: NA °Kelvin

19. Image Rejection:
26 dB

20. Spurious Rejection:
56 dB

21. Remarks:
Item 1: SaviReader, Mobile Reader 410R, Models SR-410GR Series and SMR-410R Series.

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RECEIVER EQUIPMENT CHARACTERISTICS

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1. Nomenclature, Manufacturer's Model No. Hand-Held Interrogator, Savi (See Remarks)	2. Manufacturer's Name: Savi Technology
3. Receiver Installation Multiple sites	4. Receiver Type: Dual conversion Superheterodyne
5. Tuning Range: 906 - 924 MHz	6. Method Of Tuning: Synthesizer
7. RF Channeling Capability: 906 - 924 MHz in 3 MHz increments	8. Emission Designator(s): 1M57F1D
9. Frequency Tolerance: 5 ppm	11. RF Selectivity:
10. IF Selectivity: <u>1st</u> <u>2nd</u> <u>3rd</u> a. -3db: 4.2 MHz 2 MHz b. -20db: 4.5 MHz 5 MHz c. -60db: 4.8 MHz 12 MHz	<input type="checkbox"/> Calculated <input checked="" type="checkbox"/> Measured a. -3 db: 30 MHz b. -20 db: 55 MHz c. -60 db: 100 MHz d. Preselection Type: _____ Ceramic Filter
12. IF Frequency: a. 1st: 44 MHz b. 2nd: 32 MHz c. 3rd: NA	13. Maximum Post Detection Frequency: 900 kHz
15. Oscillator Tuned: 1st 2nd 3rd a. Above Tuned Frequency <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> b. Below Tuned Frequency <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> c. Either Above or Below the Frequency <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	14. Minimum Post Detection Frequency: NA
18. De-emphasis: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16. Maximum Bit Rate: 1.33 Mbps 17. Sensitivity: a. Sensitivity: -91 dBm b. Criteria: 10 ⁻⁵ BER (S/N = 10 dB) c. Noise Fig: 10 dB d. Noise Temp: NA
19. Image Rejection: 40 dB	20. Spurious Rejection: 50 dB

21. Remarks:

Item 1: Mobile Reader 410R Series, Models SMR-410R Series.

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RECEIVER EQUIPMENT CHARACTERISTICS

1. Nomenclature, Manufacturer's Model No.
Hand Held Interrogator, Savi (See Remarks)

2. Manufacturer's Name:
Savi Technology

3. Receiver Installation
Multiple sites

4. Receiver Type:
Dual Conversion Superheterodyne

5. Tuning Range:
2400 - 2483.5 MHz

6. Method Of Tuning:
Frequency synthesizer

7. RF Channeling Capability: 79 channels possible, programmable in 1 MHz steps

8. Emission Designator(s):
2M35F1D

9. Frequency Tolerance:
30 ppm

11. RF Selectivity:

10. IF Selectivity:	1st	2nd	3rd
a. -3db:	1.8 MHz	4 MHz	NA
b. -20db:	2.2 MHz	7 MHz	NA
c. -60db:	3.1 MHz	14 MHz	NA

Calculated Measured

a. -3 db: 120 MHz
 b. -20 db: 280 MHz
 c. -60 db: 960 MHz
 d. Preselection Type: _____

12. IF Frequency:

a. 1st: 110.5 MHz
 b. 2nd: 12.0 MHz
 c. 3rd: NA

13. Maximum Post Detection Frequency:
1.6 MHz

15. Oscillator Tuned:	1st	2nd	3rd
a. Above Tuned Frequency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Below Tuned Frequency	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Either Above or Below the Frequency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Minimum Post Detection Frequency:
NA

16. Maximum Bit Rate: 1.6 Mbps

18. De-emphasis:

Yes No

17. Sensitivity:

a. Sensitivity: -90 dBm
 b. Criteria: S/N = 10 dB
 c. Noise Fig: 12 dB
 d. Noise Temp: NA Kelvin

19. Image Rejection:
40 dBc

20. Spurious Rejection:
40 dB

21. Remarks:
Item 1: Mobile Reader 410R, Model SMR-410R Series.

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ANTENNA EQUIPMENT CHARACTERISTICS

1. Transmitting Receiving Transmitting and Receiving

2. Nomenclature, Manufacturer's Model No.:
Gate Interrogator, SaviReader (See Remarks)

3. Manufacturer's Name:
Savi Technology

4. Frequency Range:
430 - 440 MHz

5. Type:
Tunable Loop

6. Polarization: Linear

7. Scan Characteristics:

8. Gain:
a. Main Beam: 2 dBi
b. 1st Major Side Lobe: NA

a. Type: Fixed
b. Vertical Scan: NA
(1) Max Elev:
(2) Min Elev:
(3) Scan Rate:

9. Beamwidth:
a. Horizontal: 360°
b. Vertical: 72°

c. Horizontal Scan: NA
(1) Sector Scan:
(2) Scan Rate:

d. Sector Blanking Yes No

10. Remarks:
Item 1: 410GR, Models SR-410GR-021 and SR-410GR-041.

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ANTENNA EQUIPMENT CHARACTERISTICS

1. Transmitting Receiving Transmitting and Receiving

2. Nomenclature, Manufacturer's Model No.:
Hand-Held Interrogator, Savi (See Remarks)

3. Manufacturer's Name:
Savi Technology

4. Frequency Range:
430 - 440 MHz

5. Type:
Helical Antenna

6. Polarization: Linear

7. Scan Characteristics:

8. Gain:
a. Main Beam: 0 dBi
b. 1st Major Side Lobe: NA

a. Type: Fixed
b. Vertical Scan: NA
(1) Max Elev:
(2) Min Elev:
(3) Scan Rate:

9. Beamwidth:
a. Horizontal: 360°
b. Vertical: 78°

c. Horizontal Scan: NA
(1) Sector Scan:
(2) Scan Rate:
d. Sector Blanking Yes No

10. Remarks:
Item 1: Mobile Reader 410R, Models SMR-410R Series.

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ANTENNA EQUIPMENT CHARACTERISTICS

1. Transmitting Receiving Transmitting and Receiving

2. Nomenclature, Manufacturer's Model No.:
Hand-Held Interrogator, Savi (See Remarks)

3. Manufacturer's Name:
Savi Technology

4. Frequency Range:
902 - 928 MHz

5. Type:
Monopole

6. Polarization: Vertical

7. Scan Characteristics:

8. Gain:
a. Main Beam: 2.1 dB
b. 1st Major Side Lobe: NA

a. Type: Fixed
b. Vertical Scan: NA
(1) Max Elev:
(2) Min Elev:
(3) Scan Rate:

9. Beamwidth:
a. Horizontal: 360°
b. Vertical: 78°

c. Horizontal Scan: NA
(1) Sector Scan:
(2) Scan Rate:

d. Sector Blanking Yes No

10. Remarks:
Item 1: Mobile Reader 410R, Models SMR-410R Series.

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UNCLASSIFIED ANTENNA EQUIPMENT CHARACTERISTICS		
1. Transmitting <input checked="" type="checkbox"/> Receiving <input type="checkbox"/> Transmitting and Receiving <input type="checkbox"/>		
2. Nomenclature, Manufacturer's Model No.: Gate Interrogator, SaviReader (See Remarks)		3. Manufacturer's Name: Savi Technology
4. Frequency Range: 2400 - 2500 MHz		5. Type: Patch Antenna
6. Polarization: Vertical		7. Scan Characteristics: a. Type: <u>Fixed</u> b. Vertical Scan: <u>NA</u> (1) Max Elev: _____ (2) Min Elev: _____ (3) Scan Rate: _____ c. Horizontal Scan: <u>NA</u> (1) Sector Scan: _____ (2) Scan Rate: _____ d. Sector Blanking <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. Gain: a. Main Beam: <u>1.0 dBi</u> b. 1st Major Side Lobe: <u>NA</u>		
9. Beamwidth: a. Horizontal: <u>360°</u> b. Vertical: <u>75°</u>		
10. Remarks: Item 1: 410GR, Models SR-410GR Series.		
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ANTENNA EQUIPMENT CHARACTERISTICS

1. Transmitting Receiving Transmitting and Receiving

2. Nomenclature, Manufacturer's Model No.:
Hand-Held Interrogator, Savi (See Remarks)

3. Manufacturer's Name:
Savi Technology

4. Frequency Range:
2400 - 2483.5 MHz

5. Type:
Dipole

6. Polarization: Vertical

7. Scan Characteristics:

8. Gain:

a. Main Beam: 2.1 dB

b. 1st Major Side Lobe: NA

a. Type: Fixed

b. Vertical Scan: NA

(1) Max Elev: _____

(2) Min Elev: _____

(3) Scan Rate: _____

c. Horizontal Scan: NA

(1) Sector Scan: _____

(2) Scan Rate: _____

9. Beamwidth:

a. Horizontal: 360°

b. Vertical: 78°

d. Sector Blanking Yes No

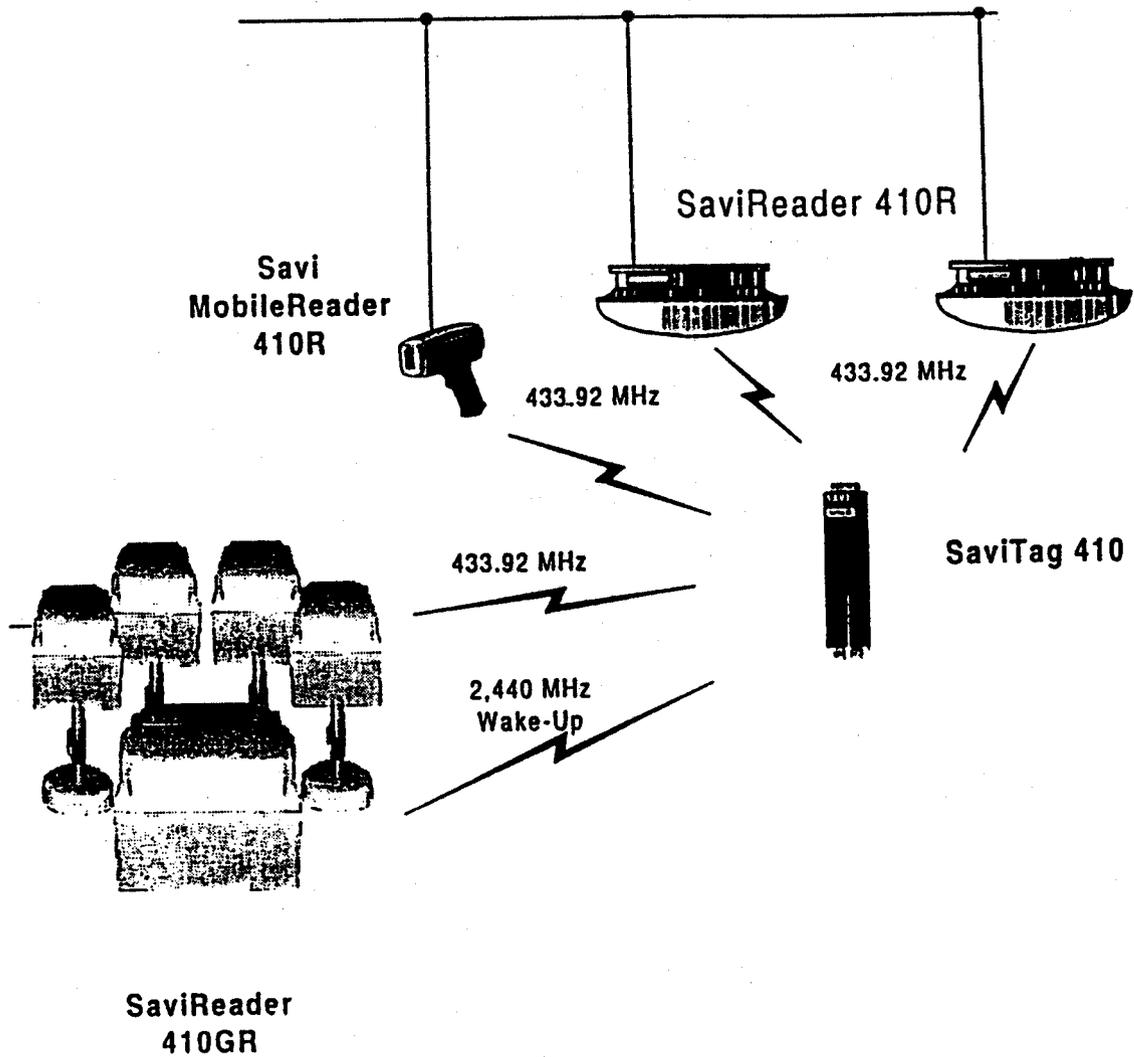
10. Remarks:

Item 1: Mobile Reader 410R, Models SMR-410R-202.

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NTIA GENERAL INFORMATION		
1. Application Title: SAVI Gate Interrogator, Reader and Transponder		
2. System Nomenclature: Ammunition Automatic Identification Technology (AMMO AIT)		
3. Stage of Allocation: <input type="checkbox"/> Stage 1 <input type="checkbox"/> Stage 2 <input type="checkbox"/> Stage 3 <input checked="" type="checkbox"/> Stage 4 Conceptual Experimental Developmental Operational		
4. Frequency Requirements: (a) Frequency(s): 433.92 MHz 2440 MHz 902 - 928 MHz 2400 - 2483.5 MHz (b) Emission Designator(s): 66K0F1D 66K0F0D 1M30F1D 2M35F1D		
5. Purpose of System, Operational and System Concepts: (Wartime Use) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Provides visibility of assets including ordinance by reporting location, health and status of assets by use of wireless communications.		
6. Information Transfer Requirements: Up to 1.6 Mbps		
7. Estimated Initial Cost of System: 50 million for entire AMMO AIT system		
8. Target Date for: Application Approval <u>5-31-98</u> System Activation <u>6-31-98</u> System Termination <u>NAvail</u>		
9. System Relationship and Essentiality: These RF interrogators (readers) communicate information to transponders located on assets in order to track principle assets in facilities or in transit.		
10. Replacement Information: This system replaces manual processes within tracking, inventory and manifest system.		
11. Related Analysis and/or Test Data: None		
12. Number of Mobile Units: None		
13. Geographical Area for: Stage 2: <u>NA</u> Stage 3: <u>NA</u> Stage 4: <u>US&P ARFA and ARFA-member countries (FMSC-3) (See Page 2)</u>		
14. Line Diagram: See Page(s) # <u>16</u>	15. Space Systems: See Page(s) # <u>NA</u>	
16. Type of Service for Stage 4: Fixed, Mobile	17. Station Class for Stage 4: FX, MO	
18. Remarks: None		
DOWNGRADING INSTRUCTIONS:	CLASSIFICATION: UNCLASSIFIED	J/F 12/7451