

SPECIFICATION of WIRELESS COMMUNICATION SYSTEM

1.SYSTEM NAME
WIRELESS COMMUNICATION SYSTEM DVM192

6	Booster	MRB-02	0-2	Used when antenna loss is greater than 16dB
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2.COMPONENTS' NAME

No.	Name	Type	Q'ty per System	Remarks
1	Station Modem	DVM-19202	1	Attached to the station controller
2	Mobile Modem	MVM-19201A	1-20	Attached to the vehicle Transmit antenna ANT-MVMT Receive antenna ANT-MVMR are exclusively used
3	Matching Box	BM-520-2	1	Impedance changer 50ohm-200ohm
4	Terminator	TBR-200	1	200 ohm
5	Antenna	-----	1	200 ohm TV antenna feeder cable, generally sold in market.

3.ELECTORICAL SPECIFICATION

1) DVM-19202 Station Modem

(1) Common Specification

No.	Item	Specification			
1	Frequency	Transmission	222 MHz Band	7-channel	
		Receive	150 MHz Band	7-channel	
2	Mode	F2D(FSK)			
3	Transmission Level	Meets FCC Regulation (FCC Part15.209)			
4	Communication	Duplex or Half duplex			
5	Communication speed	9600bps-19200bps			
6	Antenna Impedance	50ohm			
7	Dimension	100(W)*70(D)*25(H) mm			
8	Power	5VDC			
9	Input	Transmit enable			
		Transmit Data			
10	Output	Carrier Detect			
		Receive Data			

(2) Transmission

No.	Item	Specification			
1	Transmission Frequency ---selectable by the rotary inside. Final user can not operate.	Ch.	Frequency[MHz]	Ch.	Frequency[MHz]
		1	222.15	5	222.55
		2	222.25	6	222.65
		3	222.35	7	222.75
		4	222.45		
2	Transmission Level	Less than 200 microV/m at 3m from Antenna			
3	Transmission Leak Level	Transmission Leak Level when Transmission is disabled is less than -40dB of Normal Transmission Level			
4	Modulation	Direct crystal frequency modulation			
5	Frequency Deviation	+ - 7.5kHz			
6	Spurious Level	Less than -40dB			
7	Occupied Band Width	Less than 200kHz			
8	Frequency Stability	Less than + - 10*10E-5			

(3)Receive

No.	Item	Specification			
1	Receive Frequency ----selectable by main control system. Final user can not operate directly.	Ch.	Frequency[MHz]	Ch.	Frequency[MHz]
		1	150.15	5	150.55
		2	150.25	6	150.65
		3	150.35	7	150.75
		4	150.45		
2	Circuitry	Double super heterodyne			
3	Sensitivity	40dB-micro/ Bit error rate --less than 10E-6			
4	Intermediate Frequency	10.7MHz			

2) MVM-19201A Mobile Modem

(1) Common Specification

No.	Item	Specification			
1	Frequency	Transmission	150 MHz Band	7-channel	
		Receive	222 MHz Band	7-channel	
2	Mode	F2D(FSK)			
3	Transmission Level	Meets FCC Regulation (FCC Part15.209)			
4	Communication	Duplex or Half duplex			
5	Communication speed	9600bps-19200bps			
6	Antenna	Transmit antenna	ANT-MVMT	1 piece	
		Receive antenna	ANT-MVMR	2 pieces	
7	Dimension	100(W)*70(D)*25(H) mm			
8	Power	5VDC			
9	Input	Transmit enable			
		Transmit Data			
		Transmit/Receive frequency select---3 bits			
		Receive antenna select			
10	Output	Carrier Detect			
		Receive Data			

(2) Transmission

No.	Item	Specification			
1	Transmission Frequency selectable	Ch.	Frequency[MHz]	Ch.	Frequency[MHz]
		1	150.15	5	150.55
		2	150.25	6	150.65
		3	150.35	7	150.75
		4	150.45		
2	Transmission Level	Less than 150 microV/m at 3m from transmit antenna			
3	Transmission Leak Level	Transmission Leak Level when Transmission is disabled is less than -40dB of Normal Transmission Level			
4	Modulation	Direct crystal frequency modulation			
5	Frequency Deviation	+ - 7.5kHz			
6	Spurious Level	Less than -40dB			
7	Occupied Band Width	Less than 200kHz			
8	Frequency Stability	Less than + - 10*10E-5			

(3)Receive

No.	Item	Specification			
		Ch.	Frequency[MHz]	Ch.	Frequency[MHz]
1	Receive Frequency selectable	1	222.15	5	222.55
		2	222.25	6	222.65
		3	222.35	7	222.75
		4	222.45		
2	Circuitry	Double super heterodyne			
3	Sensitivity	40dB-micro/ Bit error rate --less than 10E-6			
4	Intermediate Frequency	10.7MHz			
5	Antenna select	One of 2-Receive antenna is selected by external control			

3) BM-520-2 Matching Box

No.	Item	Specification
1	Input Impedance	50ohm unbalanced
2	Output Impedance	200ohm balnced
3	Insertion Loss	Less than 1 dB
4	Dimension	50(W)*67(D)*25(H) mm

4) TBR-200 Terminator

No.	Item	Specification
1	Terminate Impedance	200ohm
2	Dimension	50(W)*63(D)*25(H) mm

5) Antenna

No.	Item	Specification
1	Impedance	200ohm
2	Length	Depends on the system size

6) MRB-02 Booster

No.	Item	Specification	
1	Gain	15dB /input -16dBm	
2	Gained Band	Direction	Band
		Matching Box to Terminator	222MHz Band
		Terminator to Matching Box	150MHz Band
3	Dimension	130(W)*180(D)*46(H) mm	
4	Power	85-220VAC	

Sample Communication Configuration for Transportation system

