

QRs OF BODY WORN CAMERA SYSTEM

<u>Ser No</u>	<u>Qualitative Requirements</u>
1	<u>Introduction</u>
	(a) The system is required for body worn application to fetch real time operational awareness from within the target area.
	(b) The system should be lightweight, covert, compact and suitable enough for body worn application without hindering with personal load carrying equipment of individual.
2	<u>Body Worn Camera</u>
	(a) <u>Camera</u> The system to be provided with two cameras.
	(i) Bullet Body Worn camera
	(ii) Button Body Worn Camera
	(b) The specification of the Bullet Body Worn Cameras is as under:-
	(i) Video Resolution - 750 (H) x 500 (V) or better
	(ii) The Body Worn Camera should offer low light capability of .001 lux or better.
	(iii) Field of View - 70° or better
	(c) The specification of the Button Body Worn Camera is as under:-
	(i) Video Resolution - 750 (H) x 500 (V) or better
	(ii) Field of View - 70° or better
	(d) <u>Transmitter</u>
	(i) The transmitter should be compact and lightweight such that it can be carried by a Soldier during operation in addition to his tactical gear (Bullet Proof Jacket, Helmet, Weapon and Ammunition).
	(ii) Should incorporate COFDM IP Mesh digital transmission technology to provide video transmission ranges of 750 meter or better in Non Line of Sight environment with one repeater.
	(iii) Each COFDM IP Mesh Transmitter should act as repeater also.
	(iv) The form factor of the transmitter should be compact, with least no of wires and all components should be sandwiched in a single unit except for camera.
	(v) The transmitter should have suitable video in ports analog and Ethernet.
	(vi) The transmitter should have the provision of being operated on rechargeable batteries and also on 220 V AC
	(vii) Rechargeable battery pack for the transmitter should offer 4 hours of endurance. Spare rechargeable battery pack to be provided.
	(viii) Suitable Battery Charger should be provided to charge the transmitter batteries through 220 V AC.

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QRs OF BODY WORN CAMERA SYSTEM (Contd...)

Ser No	Qualitative Requirements
(ix)	The transmitter should be able to operate from -15 degree Celsius to 50 degree Celsius.
(x)	The Transmitter should comply to IP 65 level or higher.
(xi)	The transmitter, battery pack, antennas and battery charger should be supplied in suitable pelican box for ease of carriage.
(xii)	The transmitter should offer 128 bit AES encryption or better to avoid eaves dropping
(xiii)	Universal interface cable to support a variety of cameras should be provided.
(xiv)	The transmitter should offer MPEG-2 and MPEG- 4 video compressions or better.
(xv)	The transmitter should operate in license free frequency band.
(xvi)	The Transmitter should offer bandwidth option of 8 Mhz, 6Mhz, 1.25 Mhz or lower.
(xvii)	The transmitter should offer a latency of 1 sec or lower.
(e)	<u>Receiver</u>
(i)	The receiver should be a diversity receiver to eliminate fade and multi path effects.
(ii)	The receiver should have suitable antennas to receive and display three Video feeds simultaneously from three transmitters @ 25 FPS or better while other transmitters are acting as repeaters.
(iii)	The receiver should have provision of high gain directional antennas to enhance the transmission ranges. High gain directional antennas should be supplied with the transmitter.
(iv)	The receiver should be able to operate on internal battery pack for 8 hours or better
(v)	There should be a provision to power the Receiver through 220 V AC.
(vi)	The receiver should have inbuilt DVR to record and play the video surveillance feeds for analysis and evidence purposes.
(vii)	The receiver should offer a video out port for further connection with TV.
(viii)	The receiver with all its accessories should be such that it can be carried by a single Soldier.
(ix)	The Receiver should comply to IP 66 or better and should be Pelican box based for ease of carriage, deployment and safety during operations.
(x)	The receiver should offer IP interface for IP streaming and network connections.

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QRs OF BODY WORN CAMERA SYSTEM (Contd...)

<u>Ser No</u>	<u>Qualitative Requirements</u>
3	<u>Literature</u> Operating and Technical literature for each discrete components of system should be in English language
4	<u>Training</u> Demonstration of one set of complete system with its full accessories should be arranged at buyers premises on NO cost NO commitment basis. In situ training of users for three day on operation, maintenance, fault finding and user level repairs.

<u>(P.K. Rao)</u> Estt. Dir	<u>(Att)</u> ASST DIR	<u>(RABISH CHANDRA, DC)</u> B.S.S.
<u>(S. N. Lal)</u> DC, NSG	<u>(J. N. Choudhury)</u> DC, NSG	<u>(D. K. ...)</u> DC, NSG
<u>(S. N. Lal)</u> DC, NSG	<u>(J. N. Choudhury)</u> DC, NSG	<u>(D. K. ...)</u> DC, NSG

APPROVED / NOT APPROVED

(S. N. Lal)
DC, NSG

(J. N. Choudhury)
DC, NSG

TRIAL DIRECTIVE OF BODY WORN SVL CAMERA SYSTEM

<u>Ser No</u>	<u>Qualitative Requirements</u>	<u>Trial Directive/Procedure</u>
1.	<u>Introduction</u>	
	(a) The system is required for body worn application to fetch real time operational awareness from within the target area.	To be checked physically by BOO
	(b) The system should be lightweight, covert, compact and suitable enough for body worn application without hindering with personal load carrying equipment of individual.	To be checked physically by BOO
2.	<u>Body Worn Camera</u>	
	(a) <u>Camera</u> The system to be provided with two cameras.	To be checked physically by BOO
	(i) Bullet Body Worn camera	To be checked physically by BOO
	(ii) Button Body Worn Camera	To be checked physically by BOO
	(b) The specification of the Bullet Body Worn Cameras is as under:-	To be checked physically by BOO
	(i) Video Resolution - 750 (H) x 500 (V) or better	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(ii) The Camera should offer low light capability of .001 lux or better.	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(iii) Field of View - 70° or better	To be checked physically by BOO
	(c) The specification of the Button Body Worn Camera is as under:-	
	(i) Video Resolution - 750 (H) x 500 (V) or better	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(ii) Field of View - 70° or better	To be checked physically by BOO

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TRIAL DIRECTIVE OF BODY WORN SVL CAMERA SYSTEM (Contd...)

<u>Ser No</u>	<u>Qualitative Requirements</u>	<u>Trial Directive/Procedure</u>
	<p>(d) Transmitter</p> <p>(i) The transmitter should be compact and lightweight such that it can be carried by a Soldier during operation, in addition to his tactical gear (Bullet Proof Jacket, Helmet, Weapon and Ammunition).</p> <p>(ii) Should incorporate COFDM IP Mesh digital transmission technology to provide video transmission ranges of 750 meter or better in Non Line of Sight environment with one repeater.</p> <p>(iii) Each COFDM IP Mesh Transmitter should act as repeater also.</p> <p>(iv) The form factor of the transmitter should be compact, with least no of wires and all components should be sandwiched in a single unit except for camera.</p> <p>(v) The transmitter should have suitable video in ports analog and ethernet.</p> <p>(vi) The transmitter should have the provision of being operated on rechargeable batteries and also on 220 V AC.</p> <p>(vii) Rechargeable battery pack for the transmitter should offer 4 hours of endurance. Spare rechargeable battery pack to be provided.</p> <p>(viii) Suitable Battery Charger should be provided to charge the transmitter batteries through 220 V AC.</p>	<p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p>

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TRIAL DIRECTIVE OF BODY WORN SVL CAMERA SYSTEM (Contd...)

<u>Ser No</u>	<u>Qualitative Requirements</u>	<u>Trial Directive/Procedure</u>
	(ix) The transmitter should be able to operate from -15 degree Celsius to 50 degree Celsius.	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(x) The Transmitter should comply to IP 65 level or higher.	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(xi) The transmitter, battery pack, antennas and battery charger should be supplied in suitable pelican box for ease of carriage.	To be checked physically by BOO
	(xii) The transmitter should offer 128 bit AES encryption or better to avoid eaves dropping	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
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	(xvi) The Transmitter should offer bandwidth option of 8 Mhz, 6Mhz, 1.25 Mhz or lower.	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(xvii) The transmitter should offer a latency of 1 sec or lower.	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.

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TRIAL DIRECTIVE OF BODY WORN SVL CAMERA SYSTEM (Contd...)


<u>Ser No</u>	<u>Qualitative Requirements</u>	<u>Trial Directive/Procedure</u>
	<p>(e) Receiver</p> <p>(i) The receiver should be a diversity receiver to eliminate fade and multi path effects.</p> <p>(ii) The receiver should have suitable antennas to receive and display three Video feeds simultaneously from three transmitters @ 25 FPS or better while other transmitters are acting as repeaters.</p> <p>(iii) The receiver should have provision of high gain directional antennas to enhance the transmission ranges. High gain directional antennas should be supplied with the transmitter.</p> <p>(iv) The receiver should be able to operate on internal battery pack for 6 hours or better.</p> <p>(v) There should be a provision to power the Receiver through 220 V AC.</p> <p>(vi) The receiver should have inbuilt DVR to record and play the video surveillance feeds for analysis and evidence purposes.</p> <p>(vii) The receiver should offer a video out port for further connection with TV.</p> <p>(viii) The receiver with all its accessories should be such that it can be carried by a single Soldier.</p>	<p>A certificate to the effect should be furnished by the vendor from a NABL accredited labs.</p> <p>A certificate to the effect should be furnished by the vendor from a NABL accredited labs.</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p> <p>To be checked physically by BOO</p>

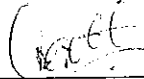
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- Row 3: [Signature] [Signature] [Signature] [Signature]
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TRIAL DIRECTIVE OF BODY WORN SVL CAMERA SYSTEM (Contd...)


<u>Ser No</u>	<u>Qualitative Requirements</u>	<u>Trial Directive/Procedure</u>
	(ix) The Receiver should comply to IP 66 or better and should be Pelican box based for ease of carriage, deployment and safety during operations.	A certificate to the effect should be furnished by the vendor from a NABL accredited labs.
	(x) The receiver should offer IP interface for IP streaming and network connections.	To be checked physically by BOO
3	Literature Operating and Technical literature for each discrete components of system should be in English language	To be checked physically by BOO
4	Training Demonstration of one set of complete system with its full accessories should be arranged at buyers premises on NO cost NO commitment basis. In situ training of users for three day on operation, maintenance, fault finding and user level repairs.	Undertaking for this clause should be submitted by the OEM. BOO to check the authenticity, validity and correctness of such document.



H.R. Raut
 (Sd/-)



(Anand)
 (Sd/-)

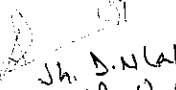

RAKESH CHANDRA, DC
 ISM


Anil Singh
 (Sd/-)


D.K. Chandra
 (Sd/-)


Satinder Singh
 DC 17157


Capt. Milkam
 FC, FOS NSG


 J.N. Choudhury
 GC (Prov), NSG

APPROVED / NOT APPROVED

(J N Choudhury)
 DG, NSG