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Document Title : POC Guidelines for VHF based Walkie-Talkie Set		



**RESEARCH DESIGNS AND STANDARDS ORGANISATION
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(SIGNAL & TELECOM DIRECTORATE)**

**PROOF OF CONCEPT(POC) GUIDELINES
FOR
WALKIE TALKIE SETS TO BE USED IN INDIAN RAILWAYS**

I. Amendment History

Sr. No.	Amendment Date	Version	Reason for Amendment
1.	09-03-2023	Nil	First Issue
2.	22-07-2023	1.0	Modification in observation.
3.	25-04-2024	2.0	As per approval Railway Board on recommendations of TCSC
4	08-07-2024	3.0	As per instruction of Railway Board.

II. Document Control Sheet

Designation	Organisation	Function	Level
JE/Telecom	RDSO	Member	Assist/ Prepare
ADE/Telecom	RDSO	Member	Assist/ Prepare, Check
Director/ Telecom-I	RDSO	Member Secretary	Prepare, Review, Issue
PED/S&T	RDSO	Approving Authority	Approve

Loco Pilot	OEM/Contractor Representative	Consignee	QA/S&T/Official

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POC for VHF based Walkie-Talkie Set

1. Precondition and authority for the POC:

1.	Following officials shall be associated in the POC field trials: 1.Loco Pilot(s) 2.OEM/Contractor Representative 3. Consignee 4.Official from QA/S&T Field unit.
2.	During observation in running train at least one official shall be at Front Loco Pilot cabin and one in Guard van of maximum length train available in the Division/Zone, from the testing team, in addition to Loco Pilot and Guard.
3.	Train speed is also to be recorded in the observations.
4.	Voice samples shall be taken in 15 to 20 Block sections and similarly for station area, voice samples shall be taken on 15-20 stations. Atleast 100 voice samples shall be taken.
5.	Testing shall be done for at least 10 Hrs in a day (During observation it should be ensured that for 10% of the time set is in Tx mode, 10% in Rx mode and 80 % in idle mode) and accordingly performance of Walkie Talkie set and battery backup may be recorded.
6.	Same radio set and battery combination should be used for second and third observations, after 15 and 30 days respectively.
7.	Sets used in POC should not be kept idle and should be continuously used in between the observations period.
8.	Signed copy of the observations duly countersigned by at least JAG level officer of indenting department shall be forwarded to respective field unit of QA/S&T/RDSO & OEM/Authorized OEM supplier for further reference purpose.
9.	POC shall be carried out once only until model/software version/battery or hardware is changed.
10.	Additional sheets may be used wherever required.
11.	POC of different OEM's should be carried out in CKP/SER and in the same section.
12.	POC may be carried out in parallel to Type test of the same model, however if any firm has modified its hardware/Software/Model/Battery, a fresh type test as per specification should be carried out before conducting the POC.
13.	This POC format shall be applicable for the Tenders/LOA/PO issued after effective date of this format.
14.	In any particular tender, repetition of POC shall not be allowed for any OEM/supplier.
15.	Best performing VHF set among all shall be taken as reference for other sets and the sets giving performance at least 95% of that set shall be considered as satisfactory.

Loco Pilot	OEM/Contractor Representative	Consignee	QA/S&T/Official

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2. Details of the official present during POC:

S.No.	Field	Name of the person	Designation
1.	Consignee		
2.	QA/S&T/Official		
3.	OEM/Contractor Representative		
4.	Loco Pilot	1. 2. 3.	
5.	Guard	1. 2. 3.	

3. Details of VHF Set Sample

S.N.	Detail	
1.	Make	
2.	Model	
3.	Year of Manufacture	
4.	Serial no. of Walkie-Talkie sets used for POC	
5.	Battery model	
6.	Battery Capacity (As mentioned on Battery)	
7.	Chemistry of battery: NiMH or Li-ion (As mentioned on Battery)	

4. Observations:**4.1. Detail:**

S N.	Details	
1.	Train Type	Goods
2.	Train No.	
3.	Maximum Speed	

Loco Pilot	OEM/Contractor Representative	Consignee	QA/S&T/Official

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4.	Minimum Speed	
5.	Length of Train (In Meter)	

4.2. Performance in running Train:

S N.	Speed of the train	Speech Quality (Satisfactory/ Unsatisfactory)	Remark (If any)
1.	20-50 Km/Hr		
2.	50-100 Km/Hr		
3.	100-129 Km/Hr		
4.	130 Km/Hr (if permitted in section)		

4.3.Performance at ground:

S No.	Distance between two sets	Speech Quality (Satisfactory/ Unsatisfactory)	Remark (If any)
1.	500 mtr		
2.	1000 mtr		
3.	1500 mtr		
4.	2000 mtr		

4.4.Battery (During observation it should be ensured that for 10% of the time set is in Tx mode, 10% in Rx mode and 80 % in idle mode)

S No.	Battery Make	Model	Back up time			
			Tx	Rx	Idle	Total
1.						

Loco Pilot	OEM/Contractor Representative	Consignee	QA/S&T/Official

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5. Observations after 15 days of use**5.1.Detail:**

S No.	Details	
1.	Train Type	Passenger
2.	Train No.	
3.	Maximum Speed	
4.	Minimum Speed	
5.	Length of Train (In Meter)	

5.2.Performance in running Train:

S N.	Speed of the train	Speech Quality (Satisfactory/ Unsatisfactory)	Remark (If any)
1.	20-50 Km/Hr		
2.	50-100 Km/Hr		
3.	100-129 Km/Hr		
4.	130Km /Hr (if permitted in section)		

5.3.Performance at ground:

S No.	Distance between two sets	Speech Quality (Satisfactory/ Unsatisfactory)	Remark (If any)
1.	500 mtr		
2.	1000 mtr		
3.	1500 mtr		
4.	2000 mtr		

Battery (During observation it should be ensured that for 10% of the time set is in Tx mode, 10% in Rx mode and 80 % in idle mode)

S No.	Battery Make	Model	Back up time			
			Tx	Rx	Idle	Total
1.						

Loco Pilot	OEM/Contractor Representative	Consignee	QA/S&T/Official

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6. Observation after 30 days of use**6.1. Detail:**

S N.	Details	
1.	Train Type	Long Haul
2.	Train No.	
3.	Maximum Speed	
4.	Minimum Speed	
5.	Length of Train (In Meter)(Min 1500 Meter)	

6.2.Performance in running Train:

S N.	Speed of the train	Speech Quality (Satisfactory/ Unsatisfactory)	Remark (If any)
1.	20-50 Km/Hr		
2.	50-100 Km/Hr		
3.	100-129 Km/Hr		
4.	130Km/Hr (if permitted in section)		

6.3.Performance at ground:

S No.	Distance between two sets	Speech Quality (Satisfactory/ Unsatisfactory)	Remark (If any)
1.	500 mtr		
2.	1000 mtr		
3.	1500 mtr		
4.	2000 mtr		

Battery (During observation it should be ensured that for 10% of the time set is in Tx mode, 10% in Rx mode and 80 % in idle mode)

S No.	Battery Make	Model	Back up time			
			Tx	Rx	Idle	Total
1.						

Loco Pilot	OEM/Contractor Representative	Consignee	QA/S&T/Official