Stationarary TCAS Installation Checklist

Station ID Number:		**Station Visit Date:**	
Station Name:		**Document Number:**	**5 XX XX 00XX - <Stn Code>**
Railway Division:		**Railway Zone:**	

1) Stationery TCAS Drawing / Documents approved by Customer:

Relay Room Floor Plan drawing		Tower Placement drawing	
Relay Wiring diagram		RFID Tag / Tin Layout drawing	
Cable Route plan Drawing		RFID Tag Data Document	
TOC document		Bit Chart document	
Soil Test Report (Approved Agency)		Tower foundation drawing	
Tower Design Drawing		Tower QAP document	
Tower Installation Folder document		Tower Verticality Test Report	
RFID Tags Data Verification Report			

2) TCAS Unit / Sub unit/ Card UNIT SERIAL NUMBERS

#	Description	Serial Numbers
1	Stationery TCAS Unit	
2	Radio Tower Unit	
3	DC-DC Converter Unit	
4	SMOCIP Unit	
5	RFID Tags Installed Quantity (Main & Duplicate):	
6	Total number of Relays connected to STCAS:	
7	Stationary TCAS unit	
8	Peripheral Processing Card-1	
9	Peripheral Processing Card-2	
10	Vital Computer Card-1	
11	Vital Computer Card-2	
12	Vital Computer Card-3	
13	Votor Card-1	
14	Voter Card-2	
15	Vital Gateway-1	
16	Vital Gateway-2	
17	Vital Gateway-3	
18	Field Scanner Card 1	
19	Field Scanner Card 2	
20	Field Scanner Card 3	
21	Field Scanner Card 4	
22	Field Scanner Card 5	
23	Field Scanner Card 6	
24	Field Scanner Card 7	
25	Field Scanner Card 8	
26	SMOCIP Unit	
27	Station Radio Power Supply card-1	
28	Next Gen/. Cal Amp Radio Modem	

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25	Station Radio Power Supply card-1			
26	Next Gen/. Cal Amp Radio Modem			
++ ADD all other units / Card numbers with is in the scope of installation. Ex: STCAS, PDU, DC-DC Converter, Splicing Box, RIUs, SMOCIP, RTU, etc..				
3)	**Check the following Earth Resistance :**	**Required Resistance Value**	**Actual Value**	**Status OK/Not**
	STCAS (Relay Room Main Earth Equipotential Bus) Earth Resistance			
	Tower Ring (3 Legs Earth Bus connected as ring) Earth Resistance			
	RTU Earth Resistance			
4)	**Check the following Power Supply I/P status:**	**Required Voltage Value**	**Actual Value**	**Status OK/Not**
	TCAS I/P VOLT(V) Main MCB			
	TCAS EMI FILTER I/P VOLT(V)			
	TCAS EMI FILTER O/P VOLT(V)			
	RTU I/P VOLT(V) Main MCB			
	RTU O/P VOLT(V) Main MCB			
	SRPS1 O/P VOLT(V)			
	SRPS2 O/P VOLT(V)			
	110V DC POSITIVE to STCAS Body (Ground) VOLT (V)			
	110V DC NEGATIVE to STCAS Body (Ground) VOLT (V)			
	110V DC POSITIVE to RTU Body (Ground) VOLT (V)			
	110V DC NEGATIVE to RTU Body (Ground) VOLT (V)			

Equipment like STCAS, RTU, SMOCIP, DC-DC Converter, Relay Racks, GPS+GSM Antenna unit (2nos), RF Antenna (4nos) installation completed**: Check for the following** **(YES / NO)**

1.	Check whether proper gauge wire (10Sq.mm) is used for 110V DC power supply from IPS room to Power Distribution unit.	
2.	2 core 25sq.mm Aluminium cable from Power Distribution unit to Radio Tower unit.	
3.	Check the rating of the fuses (10 Amps) on 110V DC power supply to TCAS unit and Radio Tower unit.	
4.	Check whether the 110V DC cable is connected to the MCB on the Relay rack and no loose connection at the MCB terminals.	
5.	Check the wire polarity of 110V DC supply MIL connector (MC10) at the TCAS unit.	
6.	Check the wire polarity of 24V DC supply MIL connector (MC2) at the TCAS unit.	
7.	Check the wire polarity of 24V DC supply MIL connector (MC3) at the SMOCIP unit.	
8.	Check whether Stationary TCAS cabinet is installed properly and grouted to the floor.	

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9.	Check whether Earth cable is connected to the TCAS cabinet properly and the other end of the Earth cable to the Earth pit located outside the Relay Room	
10.	Check whether all the cards on TCAS sub-rack and FIU sub-rack are properly placed and all fixing screws are tightened	
11.	Check whether all the Ethernet cables from the IDL / V-GW card, Ethernet Switch and Modems are connected properly.	
12.	Check whether all the relay wiring from the relay rack to the TCAS unit are properly routed and tied properly to the cable ladder	
13.	Check to avoid any loose contacts / connections in the fuse holders provided on TCAS Relay rack.	
14.	Check whether all the locks on the front, side, and read doors are working properly.	
15.	Check to avoid any loose wires in the TCAS unit or on Relay rack.	
16.	Check whether all the doors (front, side, and rear) are fixed and locked properly.	
17.	Check the Radio Tower unit1 & Radio Tower Unit2 are installed properly on the platform provided on TCAS Tower with all the fixing nuts are tightened properly.	
18.	Check whether Earth cable / GI strip is connected properly from the Radio Tower units to its Earth pit.	
19.	Check whether the locking system of the RTU1 & RTU2 Unit is working properly	
20.	Check whether Radios, SRPS, Modems are fixed properly to the frame inside the Radio Tower unit	
21.	Check whether DB9 connectors are fixed to the Radios with their fixing screws are tightened properly.	
22.	Check whether LMR600 (Rx & Tx) RF cable N-type connectors are connected and tightened properly to their respective connectors on Radio.	
23.	Check whether Surge Protectors are firmly fixed to the frame and the RF cable connectors are connected and tightened properly at both the ends.	
24.	Check whether all the four RF cables are taken out from the Radio Tower unit to the Tower without any crisscross.	
25.	Check whether all the RF cable connectors are at the antennae end are connected, weather proof tapes are applied as per SOP issued by Engineering department.	
26.	Check whether the OFC patch cables are properly connected between the OFC modems / Media converter and OFC junction box.	
27.	Check whether the power supply cable from the SRPS to the modems are connected properly.	
28.	Check whether DB25 connector is fixed to the OFC modems properly and the fixing screws are tightened properly.	
29.	Check whether all the three legs of tower are connected to respective earth pit properly.	
30.	Check whether proper rated fuses (10 Amps) are used in the Radio Tower unit.	
31.	Check whether the Aviation Warning Lamp cable is connected properly to the fuse & terminal block.	
32.	Check whether SM-OCIP is installed and fixed properly on the desk of Station Master.	
33.	Check whether the cable connector is connected to the SM-OCIP properly.	
34.	Check whether the SM-OCIP is installed in a convenient location for Station Master to operate	

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35.	Check whether the SM-OCIP cable is routed from the TCAS unit properly and cable is tied properly.	
36.	Check whether the Routers / LAR / LSR are installed in the 42U /17U rack and fixed rigidly.	
37.	Check whether 48V / 24VDC is connected to the Routers / LER / LAR properly.	
38.	Check whether the OFC cable is connected to the Routers / LER / LAR properly.	
39.	Check whether 4-wire OFC connectivity from Routers / LER / LAR to the FDMS unit is properly checked with LED laser tester and terminated.	

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STCAS – CHECKS:

85	**Switch ON STCAS & Check the functioning of all cards, relevant LED status should be Glow & Blink.**					
	PPC-1 CARD	**LED STATUS (Blinking / Not Blinking / Not Glowing)**	**PPC-2 CARD**	**LED STATUS (Blinking / Not Blinking / Not Glowing)**	**VOTER-1 CARD**	**LED STATUS (Blinking / Not Blinking / Not Glowing)**
	PWR LED		PWR LED		PWR LED	
	RDAC LED		RDAC LED		VTS LED	
	RDRT LED		RDRT LED		SYS LED	
	OBRT LED		OBRT LED		CMS LED	
	SPD LED		SPD LED		MNR LED	
	WHD LED		WHD LED		BMS LED	
	RGS LED		RGS LED		CNS LED	
	HLT-4 LED		HLT-4 LED		ACC LED	
	HLT-3 LED		HLT-3 LED		TTM LED	
	HLT-2 LED		HLT-2 LED		HLT-1 LED	
	HLT-1 LED		HLT-1 LED		HLT-2 LED	
					HLT-3 LED	
	VC-1 CARD		**VC-2 CARD**		**VC-3 CARD**	
	PWR LED		PWR LED		PWR LED	
	HLT-1 LED		HLT-1 LED		HLT-1 LED	
	HLT-2 LED		HLT-2 LED		HLT-2 LED	
	VOTER-2 CARD		**GSM CARD**		**FSC CARDS (1 TO 8)**	
	PWR LED		PWR LED		PWR LED	
	VTS LED		G1S LED		SCS LED	
	SYS LED		HLT-1 LED		ADC LED	
	CMS LED		G2S LED			
	MNR LED		HLT-2 LED			
	BMS LED		**IDL / V-GW CARD**		**RIU COM CARD (If Available)**	
	CNS LED		PWR LED		PWR LED	
	ACC LED		HLT1 LED(IDL)		MHLT LED	
	TTM LED		HLT2 LED(IDL)		WHLT LED	
	HLT-1 LED		NWS LED		BMS LED	
	HLT-2 LED		ACT LED		CNS LED	
	HLT-3 LED		SPD LED		DATA1 LED	
86	**RADIO Modem - 1**		**RADIO Modem - 2**		DATA2 LED	
	PWR LED		PWR LED		LINK1 LED	
	STATUS LED		STATUS LED		LINK2 LED	
	TX LED		TX LED			

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	RX LED		RX LED			
	RD/TD LED		RD/TD LED			

Turn all modules ON through Power Analyzer application, record the modules input voltages:

		DPS-1				DPS-2				
		Name of the Card(Module)	**Power (W)**	**Current (A)**	**Voltage (V)**	**Status**	**Power (W)**	**Current (A)**	**Voltage (V)**	**Status**
87	**POWER**	**PPC-1**								
		PPC-2								
		VC-1								
		VC-2								
		VC-3								
		VOTER-1								
		VOTER-2								
		IDL								
		GSM								
		CI1								
		CI2								
		CAB TERMINATION								
		RADIO-1								
88	**POWER**	**RADIO-2**								
		RFID-1								
		RFID-2								
		OCIP-1								
		OCIP-2								
		SPD								
		BIU								
		SPARE								
		CAN								
		ISO								
		CARD STATUS(OK/NOT OK)	**Temperatures**			**CARD STATUS(OK/NOT OK)**	**Temperatures**			
			Brick	**HS Low**	**HS High**		**Brick**	**HS Low**	**HS High**	
89	**Observation / Conclusion**									
90	**DC-DC Converter Qty:**		**RIU Qty:**							
	HBL Testing Team (Names)			**Signatures & Mobile No.**						
	HOD Name			**Signature & Mobile No.**						