	Project Name	,				SYSTEM TEST		RESULTS PEM Class 1.0											
	RS version				1.4			Firmware /Soft	ware version					Ver2.3					
Test	Environment D	Details	A voltmet	ter is connected acros	ss 1S and 2S and two ammeters, one in series with 1S and 1L an erial port is connected to the PC via cables for checking paramete	d other in series with 2	2S and 2L The	Test b	ench			Puls	ar source,LN	G reference	meter,DSO,M	ultimeter			
						a values.		Details/Configu	ration Details										STANDARDS
					System Test Cases	Input Test	Values			Expecte	ed Result							Remarks (If	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)	Data Element	Input Values	Test Case Designed For	Output	UOM	Lower	Upper Limit			Actual Resul	t		any)	
						Data Edition	input values		Parameter	00	Limit	Оррсі Сіпік			1				
													WS006	WS007	WS008	WS009	WS010		
						Phase Voltage	240V												
						Thuse vollage	2407	1											
1	T1		H01	Power Consumption of System	Voltmeter across input supply and ammeter in series with supply			sv	Volt-Ampere	VA	As low as possible	8	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Phase Current	10A	1											
						Frequency	50Hz												
					The system is operated at voltage which is -20% below the nominal operating voltage which will be applied between 1S and	Phase Voltage	192V	1											
			R01,R02,		2S.At this voltage,six different current values are specified for testing which will be adjusted by obsevring the reading on the ammeter connected to 1S. Each of these combinations of	Phase Current	500mA	1											
2	Т3		R04,R05, R06,R07, R10,H04.	Accuracy Test of	Phase current and Phase voltage are measured at 50Hz for accuracy.PF is varied between 0.5 lag and unity throughout these tests. Under these conditions.KWh is measured and	Frequency	50Hz	BVA	Active	% Error	Test result of test	Test result of test no.59							CBIP88
2	13		H05,H07, H08,H11,	KWh	checked for accuracy as per International Standard specifications. The test will commence when the enter key is	PF		BVA	Energy	% Elloi	no.59 - 2.1%	+ 2.1%							IS13779
			H19		pressed thereafter exactly after one minute the enter key would be pressed again. During this duration, the EUT and a caliberated meter shall be given the same inputs and their		1min												
					readings will be compared to measure accuracy. The data from the meter will be read-out through the RS232 port.	Time							-1.35%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05,			Phase Voltage Phase Current	192V 500mA				Test result	Test result							CBIP88
3	Т3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 0.5lag 1min	BVA	Active Energy	% Error	of test no.59 - 2.1%	of test no.59 +2.1%							IS13779
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	192V 1A				Test result		-1.20%	Not Tested	Not Tested	Not Tested	Not Tested		
4	Т3		R06,R07, R10,H04, H05,H07.	Accuracy Test of KWh	do	Frequency PF Time	50Hz 1 1min	BVA	Active Energy	% Error	of test no.59 - 2.1%	Test result of test no.59 +2.1%							CRIP88
			H08,H11, R01,R02,			Phase Voltage	192V				2.176		-1.10%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
5	Т3		R04,R05, R06,R07, R10.H04.	Accuracy Test of KWh	do	Phase Current Frequency PF	1A 50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test	Test result of test no.59							
			H05,H07, H08,H11, R01,R02,			Time	1min				no.59 -3%	+3.0%	-0.90%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88 IS13779
6	Т3		R04,R05, R06,R07,	Accuracy Test of	do	Phase Voltage Phase Current Frequency	192V 2A 50Hz	BVA	Active	% Error	Test result of test	Test result of test no.59							CBIP88
			R10,H04, H05,H07, H08,H11,	KWh		PF Time	1 1min	1	Energy		no.59 - 2.1%	+2.1%	-0.15%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07.	Accuracy Test of		Phase Voltage Phase Current Frequency	192V 2A 50Hz		Active		Test result	Test result							CBIP88
7	Т3		R10,H04, H05,H07, H08 H11	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -3%	of test no.59 +3.0%							
			R04,R05, R06,R07,			Phase Voltage Phase Current	192V 10A				Test result	Tost moult	0.23%	Not Tested	Not Tested	Not rested	Not rested		CBIP88
8	Т3		R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 1 1min	BVA	Active Energy	% Error	of test no.59 - 2.1%	Test result of test no.59 +2.1%							
			H08,H11, H10 R01,R02,			Phase Voltage	192V				2.170		0.05%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
9	Т3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	10A 50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -3%	Test result of test no.59 +3.0%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 192V	-				-0.0%	0.12%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
10	Т3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	30A 50Hz 1	BVA	Active Energy	% Error	Test result of test no.59 -	Test result of test no.59							
			H05,H07, H08 H11 R01,R02,			Phase Voltage	1min 192V				2.1%	+2.1%	-0.68%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
11	Т3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	30A 50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test	Test result of test no.59							
			H05,H07, H08,H11, R01,R02.			Time	1min				no.59 -3%	+3.0%	-0.80%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
12	Т3		R04,R05, R06,R07,	Accuracy Test of	do	Phase Voltage Phase Current Frequency	60A 50Hz	BVA	Active	% Error	Test result of test	Test result of test no.59							CDIF 00
			R10,H04, H05,H07, H08,H11,	KWh		Time	1 1min	1	Energy		no.59 - 2.1%	+ 2.1%	-1.30%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	192V 60A 50Hz		Active		Test result	Test result							CBIP88
13	Т3		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -3%	of test no.59 + 3%							
			H08,H11, R01,R02,		nominal operating voltage which will be applied between 1S and	Phase Voltage Phase Current	276V 500mA						-1.20%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
14	Т3		R04,R05, R06,R07, R10,H04,	Accuracy Test of	2S.At this voltage,six different current values are specified for testing which will be adjusted by obsevring the reading on the ammeter connected to 1S. Each of these combinations of	Frequency PF Time	50Hz 1 1min	BVA	Active	% Error	Test result of test	Test result of test no.59							
			H05,H07, H08,H11, H19	KWh	Phase current and Phase voltage are measured at 50Hz for accuracy.PF is varied between 0.5 lag and unity throughout these tests. Under these conditions,KWh is measured and				Energy		no.59 - 2.1%	+ 2.1%							
			R01,R02,		checked for accuracy as per International Standard	Phase Voltage	276V						0.35%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
15	Т3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	500mA 50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -3%	Test result of test no.59							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 276V				110.59 -3%	+ 3%	-1.80%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
16	Т3		R04,R05, R06,R07,	Accuracy Test of	do	Phase Current Frequency	1A 50Hz	BVA	Active	% Error	Test result of test	Test result of test no.59							ODII OO
			R10,H04, H05,H07, H08,H11,	KWh		Time	1 1min	1	Energy		no.59 - 2.1%	+ 2.1%	0.26%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07.	Accuracy Test of		Phase Voltage Phase Current Frequency	276V 1A 50Hz		Active		Test result	Test result							CBIP88
17	Т3		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -3%	of test no.59 + 3%	4.000/	N-4 T4-d	No. Tooled	No. Tooled	Not Tooks		
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	276V 2A				Test result	Test result	-1.00%	Not Tested	Not Tested	Not Tested	Not rested		CBIP88
18	Т3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 1 1min	BVA	Active Energy	% Error	of test no.59 - 2.1%	of test no.59 + 2.1%							
			H08,H11, R01,R02, R04,R05.			Phase Voltage Phase Current	276V 2A						0.13%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
19	Т3		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -3%	Test result of test no.59 + 3%							
-			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 276V		-				0.40%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
20	Т3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	10A 50Hz 1	BVA	Active Energy	% Error	Test result of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11, R01,R02.			Time Phase Voltage	1min 276V				2.1%	+ 2.1%	-0.10%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
21	Т3		R04,R05, R06,R07,	Accuracy Test of	do	Phase Voltage Phase Current Frequency	10A 50Hz	BVA	Active	% Error	Test result of test	Test result of test no.59							ODIF 00
L	L.	L	R10,H04, H05,H07, H08,H11,	KWh		PF Time	0.5lag 1min		Energy		no.59 -3%	+ 3%	0.13%	Not Tested	Not Tested	Not Tested	Not Tested	<u> </u>	
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	276V 30A 50Hz		Active		Test result of test	Test result							CBIP88
22	TR	•			do			RV/A		% Error		of toot on 50			•	•	•		

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	Project Name					SYSTEM TEST I		RESULTS PEM Class1.0											
	RS version				1.4			Firmware /Soft	ware version					Ver2.3					-
Test	Environment D	etails	A voltmet	ter is connected acros	ss 1S and 2S and two ammeters, one in series with 1S and 1L ar erial port is connected to the PC via cables for checking paramet	nd other in series with 2	2S and 2L The	Test be	ench			Puls	ar source,LN	IG reference i	meter,DSO,M	ultimeter			
						CI Values.		Details/Configu	ration Details										STANDARDS
					System Test Cases	Input Test	Values			Expecte	ed Result							Remarks (If	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)			Test Case Designed For	Output		Lower				Actual Resul	t		any)	
						Data Element	Input Values		Parameter	UOM	Limit	Upper Limit							
													WS006	WS007	WS008	WS009	WS010		
- 22	10		R10,H04,	KWh	do	PF	1	DVA	Energy	ле Епо	no.59 -	+ 2.1%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 276V				2.1%	+ 2.170	-0.15%	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
23	Т3		R04,R05, R06,R07,	Accuracy Test of	do	Phase Current Frequency	30A 50Hz	BVA	Active	% Error	Test resul	Test result of test no.59							ODII OO
-			R10,H04, H05,H07, H08,H11,	KWh		PF Time	0.5lag 1min		Energy		no.59 -3%	+ 3%	-0.80%	Not Tested	Not Tested	Not Tested	Not Tested		
						Phase Voltage Phase Current	276V 60A												CBIP88
			R01.R02.			Frequency PF Time	50Hz 1 1min	1											
			R04,R05, R06,R07,	Accuracy Test of					Active		Test resul	Test result							
24	Т3		R10,H04, H05,H07, H08.H11.	KWh	do			BVA	Energy	% Error	no.59 - 2.1%	of test no.59 + 2.1%							
			H19																
													0.400/	Not Tested	No. Tooks	N-4 T4-4	N-4 T4-4		
			R01,R02, R04,R05,			Phase Voltage Phase Current	276V 60A				Test resul	Test result	-0.4076	NOT TESTED	NOT TESTEU	NOT TESTED	Not resteu		CBIP88
25	Т3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 0.5lag 1min	BVA	Active Energy	% Error	of test no.59 -3%	of test no.59 + 3%							
			H08,H11,										-1.40%	Not Tested	Not Tested	Not Tested	Not Tested		
					The system is operated at a voltage which is -10% below the nominal operating voltage which will be applied between 1S and	1	216V												CBIP88 IS13779
			R01,R02,		2S.At this voltage, six different current values are specified for testing which will be adjusted by obsevring the reading on the ammeter connected to 1S. Each of these combinations of	Phase Current	500mA												
26	T2		R04,R05, R06,R07, R10.H04.	Accuracy Test of	Phase current and Phase voltage are measured at 50Hz for accuracy. PF is varied between 0.5 lag and unity throughout these tests. Under these conditions, the KWh, and PF is	Frequency	50Hz	RVA	Active	% Error	Test resul of test	Test result of test no.59							
20	12		H05,H07, H08,H11,	KWh	measured and checked for accuracy as per International Standard specifications. The test will commence when the enter	PF	1	BVA	Energy	76 EIIOI	no.59 - 0.7%	+ 0.7%							
			H19		key is pressed thereafter exactly after one minute the enter key would be pressed again. During this duration, the EUT and a caliberated meter shall be given the same inputs and their	Time	1min												
					readings will be compared to measure accuracy. The data from the meter will be read-out through the RS232 port.			1					Not Tostod	Not Tested	Not Tostad	Not Tostad	Not Tosted		
			R01,R02, R04,R05,			Phase Voltage Phase Current	216V 500mA						NOT TESTED	NOT TESTED	NOT TESTEU	NOL TESTED	Not resteu		CBIP88
27	T2		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 0.5lag 1min	BVA	Active Energy	% Error	NA	NA							
			H08,H11, R01,R02,			Phase Voltage	216V						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
28	T2		R04,R05, R06,R07, R10,H04,	Accuracy Test of	do	Phase Current Frequency	1A 50Hz	BVA	Active	% Error	Test resul of test	Test result of test no.59							IS13779
20			H05,H07, H08,H11,	KWh	40	PF Time	1 1min	377	Energy	70 2.1101	no.59 - 0.7%	+ 0.7%							
			H19 R01,R02, R04,R05,			Phase Voltage Phase Current	216V 1A						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
29	T2		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	50Hz 0.5lag	BVA	Active Energy	% Error	Test resul of test no.59 -1%	Test result of test no.59 + 1%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 216V						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
30	T2		R04,R05, R06,R07,	Accuracy Test of	do	Phase Current Frequency	2A 50Hz	BVA	Active	% Error	Test resul of test	Test result of test no.59							
			R10,H04, H05,H07, H08,H11,	KWh		Time	1 1min	1	Energy		no.59 - 0.7%	+ 0.7%	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07.	Accuracy Test of		Phase Voltage Phase Current Frequency	216V 2A 50Hz	1	Active		Test resul	Test result							CBIP88
31	T2		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -1%	of test no.59 + 1%							
			H08,H11, R01,R02, R04,R05.			Phase Voltage Phase Current	216V 10A				Test resul		Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
32	T2		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	50Hz	BVA	Active Energy	% Error	of test no.59 -	Test result of test no.59 + 0.7%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 216V				0.7%		Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
33	T2		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency	10A 50Hz 0.5lag	BVA	Active Energy	% Error	Test resul of test	of test no.59							
			H05,H07, H08,H11,	KWII		Time	1min		Lifelgy		no.59 -1%	+ 1%	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	216V 30A 50Hz		Active		Test resul	Test result							CBIP88
34	T2		R10,H04, H05,H07,	KWh	do	PF Time	1 1min	BVA	Energy	% Error	no.59 - 0.7%	of test no.59 + 0.7%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	216V 30A	-			Tort	Torto	NOT Tested	Not Tested	NOT Tested	NOT Tested	Not Tested		CBIP88
35	T2		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF	50Hz 0.5lag	BVA	Active Energy	% Error	Test resul of test no.59 -1%	of test no.59							
			H08,H11, R01,R02,			Time Phase Voltage	1min 216V						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
36	T2		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency	60A 50Hz	BVA	Active Energy	% Error	Test resul of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11,	1,,,,,,		Time	1min				0.7%	+ 0.7%	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	216V 60A 50Hz	ļ	Active	a	Test resul	Test result	_						CBIP88
37	T2		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -1%	of test no.59 + 1%	N-4-	N-4 =	N-4-	N-4 -			
			H08,H11,		The system is operated at a voltage which is +10% above the	Phase Voltage	264V						NOT Tested	Not Tested	NOT Tested	NOT Tested	Not Tested		CBIP88
					nominal operating voltage which will be applied between 1S and 2S.At this voltage, six different current values are specified for		500mA	1											IS13779
			R01,R02, R04,R05,		testing which will be adjusted by obsevring the reading on the ammeter connected to 1S. Each of these combinations of Phase current and Phase voltage are measured at 50Hz for	Priase Current		-											
38	T2		R06,R07, R10,H04,	Accuracy Test of KWh	accuracy. PF is varied between 0.5 lag and unity throughout these tests. Under these conditions, the KWh, and PF is	Frequency	50Hz	BVA	Active Energy	% Error	Test resul of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11, H19	KWII	measured and checked for accuracy as per International		1		Lieigy		0.7%	+ 0.7%							
					would be pressed again. During this duration, the EUT and a caliberated meter shall be given the same inputs and their	Time	1min												
					readings will be compared to measure accuracy. The data from the meter will be read-out through the RS232 port.			1					N-4-	N-4 =	N-4-	N-4 -			
			R01,R02, R04,R05,			Phase Voltage Phase Current	264V 500mA						NOT Tested	Not Tested	NOT Tested	NOT Tested	Not Tested		CBIP88
39	T2		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF	50Hz 0.5lag	BVA	Active Energy	% Error	NA	NA							
<u> </u>			H08,H11, R01,R02,			Phase Voltage	1min 264V						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
40	T2		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	1A 50Hz 1	BVA	Active Energy	% Error	Test resul of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11,	1,,,,,,		Time	1min				0.7%	+ 0.7%	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
	TO		R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	264V 1A 50Hz	BVA	Active	o. F-	Test resul								CBIP88
41	T2		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	DVA	Energy	% Error	of test no.59 -1%	of test no.59 + 1%							

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	Project Name					SYSTEM TEST		RESULTS											
	RS version				1.4			Firmware /Soft	ware version					Ver2.3					
Test	Environment D	etails	A voltmet		ss 1S and 2S and two ammeters, one in series with 1S and 1L ar erial port is connected to the PC via cables for checking paramet		2S and 2L The	Test be Details/Configu	ench ration Details			Puls	ar source,LN	VG reference r	meter,DSO,M	ultimeter			STANDARDS
					System Test Cases														
				Test Case Scenario	Test Description (explaining test Condition, Setup and other	Input Test	Values	Test Case		Expecte	ed Result							Remarks (If any)	
Test No.	Test ID	Test Date	Req. ID	Description	details)	Data Element	Input Values	Designed For	Output Parameter	UOM	Lower Limit	Upper Limit			Actual Resul	t			
													WS006	WS007	WS008	WS009	WS010		
			H08,H11,											Not Tested					
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	264V 2A 50Hz		Active		Test result	Test result							CBIP88
42	T2		R10,H04, H05,H07, H08,H11,	KWh	do	PF Time	1 1min	BVA	Energy	% Error	no.59 - 0.7%	of test no.59 + 0.7%	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07.	Accuracy Test of		Phase Voltage Phase Current Frequency	264V 2A 50Hz		Active		Test result	Test result							CBIP88
43	T2		R10,H04, H05,H07, H08,H11,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -1%	of test no.59 + 1%	Not Tostad	Not Tested	Not Tostad	Not Tostad	Not Tostad		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current	264V 10A		Active		Test result	Test result	NOT TESTED	NOT TESTED	NOT TESTED	NOT TESTED	Not rested		CBIP88
44	T2		R10,H04, H05,H07,	KWh	do	Frequency PF Time	50Hz 1 1min	BVA	Energy	% Error	no.59 - 0.7%	of test no.59 + 0.7%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	264V 10A				Test result	Test result	Not rested	Not Tested	Not lested	Not rested	Not rested		CBIP88
45	T2		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 0.5lag 1min	BVA	Active Energy	% Error	of test no.59 -1%	of test no.59 + 1%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	264V 30A				Test result	T1	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
46	T2		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 1 1min	BVA	Active Energy	% Error	of test no.59 - 0.7%	Test result of test no.59 + 0.7%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	264V 30A					ma e	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
47	T2		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -1%	Test result of test no.59 + 1%							
			H08,H11, R01,R02, R04.R05.			Phase Voltage Phase Current	264V 60A				Test result		Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
48	T2		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	50Hz 1	BVA	Active Energy	% Error	of test no.59 -	Test result of test no.59 + 0.7%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 264V				0.7%		Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		CBIP88
49	T2		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	60A 50Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -1%	Test result of test no.59 + 1%							
			H05,H07, H08,H11,			Time	1min				110.35 - 176	* 176	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
					The system is operated at the nominal operating voltage which	Phase Voltage	240V												CBIP88 IS13779
					will be applied between 1S and 2S.At this voltage,six different		200mA												
			R01,R02, R04,R05,		obsevring the reading on the ammeter connected to 1S. Each or these combinations of Phase current and Phase voltage are measured at 50Hz for accuracy. PF is varied between 0.5 lag,	Frequency	50Hz	-											
50	T2,T3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	unity and 0.8 lead throughout these tests. Under these conditions, the KWh is measured and checked for accuracy as per International Standard specifications. The test will	PF	1min	BVA	Active Energy	% Error	-2%	+2%							
			H08,H11, H19		commence when the enter key is pressed thereafter exactly after one minute the enter key would be pressed again. During this duration, the EUT and a caliberated meter shall be given the	Time													
					same inputs and their readings will be compared to measure accuracy. The data from the meter will be read-out through the RS232 port.								Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for		
			R01,R02,			Phase Voltage	240V						WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc		CBIP88
			R04,R05, R06,R07,	Accuracy Test of		Phase Current Frequency PF	500mA 50Hz 0.5lag	B./4	Active				Refer	Refer	Refer	Refer	Refer		
51	T2,T3		R10,H04, H05,H07, H08,H11,	KWh	do	Time	1min	BVA	Energy	% Error	-2%	+2%	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
			H19 R01,R02,			Phase Voltage Phase Current	240V 500mA						WS010.doc	WS010.doc		WS010.doc	WS010.doc		CBIP88
52	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 0.8 lead 1min	BVA	Active Energy	% Error	-2%	+2%	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		
			H05,H07, H08,H11, H19			1110			Linurgy				Report for WS006 to	Report for	Report for WS006 to	Report for WS006 to	Report for WS006 to		
			R01,R02, R04,R05,			Phase Voltage Phase Current	240V 1A 50Hz						W3010.doc	. W3010.doc	W3010.doc	W3010.000	W3010.00C		CBIP88
53	T2,T3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	1 1min	BVA	Active Energy	% Error	-1%	1%	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		
			H08,H11, H19										Report for WS006 to WS010.doc	Report for WS006 to WS010.doc	Report for WS006 to WS010.doc	Report for WS006 to WS010.doc	Report for WS006 to WS010.doc		
			R01,R02, R04,R05, R06,R07,			Phase Voltage Phase Current Frequency	240V 1A 50Hz												CBIP88
54	T2,T3		R10,H04, H05,H07, H08.H11.	Accuracy Test of KWh	do	PF Time	0.5 lag 1min	BVA	Active Energy	% Error	-1.5%	+1.5%	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for		
			H19 R01,R02,			Phase Voltage	240V						WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc		CBIP88
55	T2.T3		R04,R05, R06,R07,	Accuracy Test of		Phase Current Frequency PF	1A 50Hz 0.8 lead	BVA	Active	w. F-	4 500	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Refer	Refer	Refer	Refer	Refer		
55	12,13		R10,H04, H05,H07, H08,H11,	KWh	do	Time	1min	BVA	Energy	% Error	-1.5%	+1.5%	Accuracy Report for WS006 to	Accuracy Report for	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
			H19 R01,R02,			Phase Voltage Phase Current	240V 2A							WS010.doc			WS010.doc		CBIP88
56	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF Time	50Hz 1 1min	BVA	Active Energy	% Error	-1%	+1%	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		
			H05,H07, H08,H11, H19	1,1111			· · · · · · · · · · · · · · · · · · ·	1	gy				Report for WS006 to	Report for	Report for WS006 to	Report for WS006 to	Report for WS006 to		
			R01,R02, R04,R05,			Phase Voltage Phase Current	240V 2A						**************************************	30D.brucere	2000.010.000	ev-0010.000	**3010.00C		CBIP88
57	T2,T3		R06,R07, R10,H04, H05.H07.	Accuracy Test of KWh	do	Frequency PF Time	50Hz 0.5 lag 1min	BVA	Active Energy	% Error	-1.5%	+1.5%	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		
			H08,H11, H19										Report for WS006 to WS010.doo	Report for WS006 to	Report for WS006 to	Report for WS006 to WS010.doc	Report for WS006 to WS010.doc		
			R01,R02, R04,R05, R06,R07,			Phase Voltage Phase Current Frequency	240V 2A 50Hz												CBIP88
58	T2,T3		R10,H04, H05,H07,	Accuracy Test of KWh	do	PF Time	0.8 lead 1min	BVA	Active Energy	% Error	-1.5%	+1.5%	Refer Accuracy Report for		Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for		
			H08,H11, H19			Phase Voltage	240V						WS006 to		WS006 to	WS006 to WS010.doc	WS006 to WS010.doc		CBIP88
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Current Frequency	10A 50Hz	1	Active				Refer	Refer	Refer	Refer	Refer		
59	T2,T3		R10,H04, H05,H07, H08,H11,	KWh	do	Time	1 1min	BVA	Energy	% Error	-1%	+1%	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
			H19			Phase Voltage	240V							WS006 to WS010.doc					CBIP88
			R01,R02, R04,R05, R06,R07,			Phase Current Frequency PF	10A 50Hz 0.5 lag	1											
60	T2,T3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Time	1min	BVA	Active Energy	% Error	-1%	+1%	Refer	Refer	Refer	Refer	Refer		
						_	_											_	_

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	Project Name					SYSTEM TEST F		RESULTS PEM Class1.0											
	RS version				1.4			Firmware /Softv	ware version					Ver2.3					
Tes	t Environment D	etails	A voltmet	ter is connected acros	ss 1S and 2S and two ammeters, one in series with 1S and 1L an erial port is connected to the PC via cables for checking paramet	d other in series with 2 er values.	S and 2L The	Test be Details/Configu	ench ration Details			Puls	ar source,LN	IG reference r	meter,DSO,M	ultimeter			STANDARDS
					System Test Cases					1									STANDARDS
						Input Test \	Values .			Expecte	d Result							Remarks (If any)	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)	Data Element	Input Values	Test Case Designed For	Output Parameter	UOM	Lower	Upper Limit			Actual Resul	t		any)	
			H08 H11										WS006	WS007	WS008	WS009	WS010		
			H08,H11,										Report for WS006 to						
			R01,R02,			Phase Voltage Phase Current	240V 10A						WS010.doc	WS010.doc	WS010.doc	WS010.doc	WS010.doc		CBIP88
61			R04,R05, R06,R07,	Accuracy Test of		Frequency PF Time	50Hz 0.8 lead 1min		Active	~ =	401								
61	T2,T3		R10,H04, H05,H07, H08,H11,	KWh	do			BVA	Energy	% Error	-1%	+1%	Refer Accuracy Report for						
			H19			Dhara Vallana	240V						WS006 to WS010.doc	WS006 to	WS006 to	WS006 to WS010.doc	WS006 to WS010.doc		CBIP88
			R01,R02, R04,R05, R06.R07.			Phase Voltage Phase Current Frequency	30A 50Hz						Refer		Refer	Refer	Refer		CBIPOO
62	T2,T3		R10,H04, H05,H07, H08,H11,	Accuracy Test of KWh	do	Time	1 1min	BVA	Active Energy	% Error	-1%	+1%	Accuracy Report for	Refer Accuracy Report for	Accuracy Report for	Accuracy Report for	Accuracy Report for		
			H19			Phase Voltage	240V						WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS010.doc	WS006 to WS010.doc		CBIP88
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Current Frequency PF	30A 50Hz		Active				Refer	Refer	Refer	Refer	Refer		
63	T2,T3		R10,H04, H05,H07, H08.H11.	KWh	do	Time	0.5 lag 1min	BVA	Energy	% Error	-1%	+1%	Accuracy Report for						
			H19			Phase Voltage	240V						WS006 to WS010.doc		CBIP88				
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Current Frequency	30A 50Hz 0.8 lead		Active				Refer	Refer	Refer	Refer	Refer		
64	T2,T3		R10,H04, H05,H07, H08,H11,	KWh	do	Time	1min	BVA	Energy	% Error	-1%	+1%	Accuracy Report for						
	<u> </u>		H19 R01.R02.			Phase Voltage	240V						WS006 to WS010.doc		CBIP88				
65	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of	do	Phase Current Frequency PF	60A 50Hz 1	BVA	Active	% Error	-1%	+1%	Refer	Refer	Refer	Refer	Refer		
65	12,13		H05,H07, H08,H11,	KWh	ao	Time	1min	BVA	Energy	76 EIIOI	-176	¥176	Accuracy Report for WS006 to						
			H19 R01,R02,			Phase Voltage	240V							WS010.doc	WS010.doc	WS010.doc	WS010.doc		CBIP88
66	T2,T3		R04,R05, R06,R07, R10.H04.	Accuracy Test of	do	Phase Current Frequency PF	60A 50Hz 0.5 lag	BVA	Active	% Error	-1%	+1%	Refer	Refer	Refer	Refer	Refer		
00	12,13		H05,H07, H08,H11,	KWh	uu uu	Time	1min	BVA.	Energy	A LIIO	-176	*176	Accuracy Report for WS006 to						
	-		H19 R01,R02,			Phase Voltage Phase Current	240V 60A						WS010.doc	WS010.doc	WS010.doc	WS010.doc	WS010.doc		CBIP88
67	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of	do	Frequency PF	50Hz 0.8 lead	BVA	Active	% Error	-1%	+1%	Refer	Refer	Refer	Refer	Refer		
-			H05,H07, H08,H11, H19	KWh		Time	1min		Energy	,,		.,.	Accuracy Report for WS006 to	WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
			пія										WS010.doc	WS010.doc	WS010.doc	WS010.doc	WS010.doc		
					The system is operated at the nominal operating voltage which will be applied between 1S and 2S.At this voltage,six different current values are specified for testing which will be adjusted by		240V	-											IS13779
			R01,R02, R04,R05,		obsevring the reading on the ammeter connected to 1S. Each of these combinations of Phase current and Phase voltage are measured at 52.5Hz and 47.5Hz for accuracy. PF is varied		500mA												
68	T2,T3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	between 0.5 lag and unity throughout these tests. Under these conditions, the KWh is measured and checked for accuracy as per International Standard specifications. The test will	Frequency	52.5Hz	BVA	Active Energy	% Error	Test result of test no.59 -	Test result of test no.59 + 0.8%							
			H08,H11, H19		commence when the enter key is pressed thereafter exactly after one minute the enter key would be pressed again. During this	PF	1				0.8%	+ 0.076							
					duration, the EUT and a caliberated meter shall be given the same inputs and their readings will be compared to measure accuracy. The data from the meter will be read-out through the	Time	1min												
	-		R01,R02,		RS232 port.	Phase Voltage	240V						0.35%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
69	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	500mA 52.5Hz 0.5lag	BVA	Active Energy	% Error	NA	NA							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 240V						-1.80%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
70	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	500mA 47.5Hz 1	BVA	Active Energy	% Error	Test result of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11, R01.R02.	N.W.I		Time Phase Voltage	1min 240V		Linergy		0.8%	+ 0.8%	0.38%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
71	T2,T3		R04,R05, R06,R07,	Accuracy Test of	do	Phase Voltage Phase Current Frequency	500mA 47.5Hz	BVA	Active	% Error	NA.	NA							1513779
L"	.2,10		R10,H04, H05,H07, H08,H11,	KWh		PF Time	0.5lag 1min		Energy		L	L	-1.30%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	240V 1A 52.5Hz		Active		Test result	Test result							IS13779
72	T2,T3		R10,H04, H05,H07,	KWh	do	PF Time	1 1min	BVA	Energy	% Error	no.59 - 0.8%	of test no.59 + 0.8%	0.000	Not To	Not To : :	Not T-	Not To		
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	240V 1A				Test result	t Test result	0.20%	Not Tested	NOT Tested	NOC Lested	NOT TESTED		IS13779
73	T2,T3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF Time	52.5Hz 0.5lag 1min	BVA	Active Energy	% Error	of test no.59 -1%	of test no.59							
	+		H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	240V 1A				Test result		-1.20%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
74	T2,T3		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	47.5Hz	BVA	Active Energy	% Error	of test no.59 -	Test result of test no.59 + 0.8%							
	<u> </u>		H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 240V				0.8%		0.25%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
75	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	1A 47.5Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -1%	Test result of test no.59 + 1%							
			H05,H07, H08,H11, R01.R02.			Time Phase Voltage	1min 240V				110.09 -1%	T 1%	-0.80%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
76	T2,T3		R01,R02, R04,R05, R06,R07, R10,H04,	Accuracy Test of	do	Phase Voltage Phase Current Frequency PF	2A 52.5Hz	BVA	Active	% Error	Test result of test	Test result of test no.59							
			H05,H07, H08,H11,	KWh		Time	1 1min		Energy		no.59 - 0.8%	+ 0.8%	0.09%	Not Tested	Not Tested	Not Tested	Not Tested		
77	T2,T3		R01,R02, R04,R05, R06,R07,	Accuracy Test of	do	Phase Voltage Phase Current Frequency	240V 2A 52.5Hz	BVA	Active	% Error	Test result	Test result of test no.59							IS13779
"	12,13		R10,H04, H05,H07, H08,H11,	KWh	uo uo	PF Time	0.5lag 1min	DVA	Energy	70 E1101	of test no.59 -1%	of test no.59 + 1%	0.30%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07.	Accuracy Test of		Phase Voltage Phase Current	240V 2A		Active		Test result	Test result	2.3070						IS13779
		0	R06,R07, R10.H04.	Accuracy Test of KWh	do	Frequency PF	47.5Hz 1 1min	BVA	Active Energy	% Error	of test no.59 - 0.8%	of test no.59 + 0.8%							
78	T2,T3		H05,H07,			Time	11111111												
78	T2,T3		H05,H07, H08,H11, R01,R02, R04,R05,			Phase Voltage	240V					Toot	0.10%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
78	T2,T3		H05,H07, H08,H11, R01,R02, R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do		240V 2A 47.5Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -1%	Test result of test no.59 + 1%	0.10%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
			H05,H07, H08,H11, R01,R02, R04,R05, R06,R07,	Accuracy Test of KWh	do	Phase Voltage Phase Current Frequency PF	240V 2A 47.5Hz	BVA		% Error	Test result	of test no.59	0.10%				Not Tested		IS13779

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	Project Name		1			SYSTEM TEST		RESULTS PEM Class 1.0											
	RS version				1.4			Firmware /Soft	ware version					Ver2.3					
Test	Environment D	etails	A voltmet	er is connected acro	ss 1S and 2S and two ammeters, one in series with 1S and 1L ar erial port is connected to the PC via cables for checking paramet	nd other in series with 2	2S and 2L The	Test be Details/Configu	ench			Puls	ar source,LN	IG reference r	neter,DSO,M	ultimeter			
			l					Details/Corlingu	ration Details										STANDARDS
					System Test Cases	Input Test	Values			Expecte	d Result							Remarks (If	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)	D . E		Test Case Designed For	Output		Lower				Actual Resul	t		any)	
						Data Element	Input Values		Parameter	UOM	Limit	Upper Limit							
													WS006	WS007	WS008	WS009	WS010		
			H05,H07,			Time	1min				0.8%	. 0.070							
			H08,H11, R01,R02, R04,R05.			Phase Voltage Phase Current	240V 10A						-0.10%	Not Tested	Not rested	Not Tested	Not Tested		IS13779
81	T2,T3		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	52.5Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -1%	Test result of test no.59 + 1%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 240V						-0.02%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
82	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency	10A 47.5Hz	BVA	Active Energy	% Error	Test result of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11,	Kwii		Time	1 1min	1	Lileigy		0.8%	+ 0.8%	-0.15%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	240V 10A 47.5Hz	1	Active		Test result	Test result							IS13779
83	T2,T3		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -1%	of test no.59 + 1%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	240V 30A				Test result		-0.32%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
84	T2,T3		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	52.5Hz 1	BVA	Active Energy	% Error	of test no.59 -	Test result of test no.59 + 0.8%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 240V				0.8%		-0.30%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
85	T2,T3		R04,R05, R06,R07, R10.H04.	Accuracy Test of KWh	do	Phase Current Frequency	30A 52.5Hz 0.5lag	BVA	Active	% Error	Test result of test	Test result of test no.59							
			H05,H07, H08,H11,	Kwii		Time	1min		Energy		no.59 -1%	+ 1%	-0.70%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	240V 30A 47.5Hz	ļ	Active		Test result	Test result					_		IS13779
86	T2,T3		R10,H04, H05,H07,	KWh	do	PF Time	1 1min	BVA	Energy	% Error	no.59 - 0.8%	of test no.59 + 0.8%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	240V 30A				T	T- 1	-0.50%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
87	T2,T3		R06,R07, R10,H04,	Accuracy Test of KWh	do	Frequency PF	47.5Hz 0.5lag	BVA	Active Energy	% Error	Test result of test no.59 -1%	Test result of test no.59 + 1%							
			H05,H07, H08,H11, R01,R02,			Time Phase Voltage	1min 240V						-0.80%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
88	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency	60A 52.5Hz	BVA	Active Energy	% Error	Test result of test no.59 -	Test result of test no.59							
			H05,H07, H08,H11,	KWII		Time	1min		Energy		0.8%	+ 0.8%	-0.30%	Not Tested	Not Tested	Not Tested	Not Tested		
			R01,R02, R04,R05, R06,R07,	Accuracy Test of		Phase Voltage Phase Current Frequency	240V 60A 52.5Hz		Active		Test result	Test result							IS13779
89	T2,T3		R10,H04, H05,H07,	KWh	do	PF Time	0.5lag 1min	BVA	Energy	% Error	of test no.59 -1%	of test no.59 + 1%							
			H08,H11, R01,R02, R04,R05,			Phase Voltage Phase Current	240V 60A				Test result		-0.70%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
90	T2,T3		R06,R07, R10,H04, H05,H07,	Accuracy Test of KWh	do	Frequency PF	47.5Hz 1	BVA	Active Energy	% Error	of test no.59 - 0.8%	Test result of test no.59 + 0.8%							
			H08,H11, R01,R02,			Time Phase Voltage	1min 240V				0.6%		-0.50%	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
91	T2,T3		R04,R05, R06,R07, R10,H04,	Accuracy Test of KWh	do	Phase Current Frequency PF	60A 47.5Hz 0.5lag	BVA	Active Energy	% Error	Test result of test	Test result of test no.59							
			H05,H07, H08,H11,			Time	1min				no.59 -1%	+ 1%	-0.80%	Not Tested	Not Tested	Not Tested	Not Tested		
					The system will be operated at nominal voltage and nominal	Phase Voltage Phase Current	240V 0.5A						Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		IEC62053-21
92	Т6		R03,R19	Accuracy Test of RMS Current	current. The operating frequency will be maintained at 50Hz throughout this test. Only the power factor will be varied and will be observed over a duration of one minute.	Frequency IPF	50Hz 0.5lag	BVA	AMPERE	A	0.49	0.51	Report for WS006 to	Report for WS006 to	Report for WS006 to	Report for WS006 to	Report for WS006 to		
						Phase Voltage	240V						WS010.doc	WS010.doc Refer	WS010.doc Refer	WS010.doc	WS010.doc Refer		IEC62053-21
93	Т6		R03,R19	Accuracy Test of RMS Current	do	Phase Current Frequency PF	0.5A 50Hz 1	sv	AMPERE	A	0.49	0.51	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
						Phase Voltage	240V						WS010.doc	WS010.doc	WS010.doc	WS010.doc	WS010.doc		IEC62053-21
94	T6		R03,R19	Accuracy Test of	do	Phase Current Frequency	0.5A 50Hz	BVA	AMPERE	A	0.49	0.51	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for		12002033-21
54	10		103,115	RMS Current	uo uo	PF	0.8lead	500	AWFERE	^	0.45	0.51	WS006 to WS010.doc	WS006 to	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc		
						Phase Voltage Phase Current	240V 4A						Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		IEC62053-21
95	T7		R03,R19	Accuracy Test of RMS Current	do	PF PF	50Hz 0.5lag	BVA	AMPERE	A	3.92	4.08	Report for WS006 to	Report for WS006 to	Report for WS006 to	Report for WS006 to	Report for WS006 to		
						Phase Voltage	240V						WS010.doc	WS010.doc Refer	WS010.doc Refer	WS010.doc	WS010.doc Refer		IEC62053-21
96	T7		R03,R19	Accuracy Test of RMS Current	do	Phase Current Frequency PF	4A 50Hz 1	sv	AMPERE	А	3.92	4.08	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
						Phase Voltage	240V						WS010.doc	WS010.doc	WS010.doc	WS010.doc	WS010.doc		IEC62053-21
97	T7		R03.R19	Accuracy Test of	do	Phase Current Frequency	4A 50Hz	BVA	AMPERE	A	3.92	4.08	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for		12002033-21
				RMS Current		PF	0.8lead	1					WS006 to WS010.doc	WS006 to	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc		
						Phase Voltage Phase Current	240V 10A						Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		IEC62053-21
98	T8		R03,R19	Accuracy Test of RMS Current	do	Frequency PF	50Hz 0.5lag	BVA	AMPERE	Α	9.8	10.2	Report for WS006 to	Report for WS006 to WS010.doc	Report for WS006 to	Report for WS006 to	Report for WS006 to WS010.doc		
						Phase Voltage Phase Current	240V 10A	-					Refer	Refer	Refer	Refer	Refer		IEC62053-21
99	Т8		R03,R19	Accuracy Test of RMS Current	do	Frequency PF	50Hz	sv	AMPERE	A	9.8	10.2	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
						Phase Voltage	240V						WS010.doc	WS010.doc	WS010.doc	WS010.doc	WS010.doc		IEC62053-21
100	T8		R03,R19	Accuracy Test of	do	Phase Current Frequency	10A 50Hz	BVA	AMPERE	A	9.8	10.2	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for	Refer Accuracy Report for		
L			L	RMS Current		PF	0.8lead	L			L	L	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc	WS006 to WS010.doc		
				Accuracy T4 -		Phase Voltage Phase Current Erequency	240V 60A 50Hz						Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy	Refer Accuracy		IEC62053-21
101	Т9		R03,R19	Accuracy Test of RMS Current	do	PF PF	0.5lag	BVA	AMPERE	Α	58.8	61.2	Report for WS006 to	Report for WS006 to WS010.doc	Report for WS006 to	Report for WS006 to	Report for WS006 to		
						Phase Voltage Phase Current	240V 60A						Refer	Refer	Refer	Refer	Refer		IEC62053-21
102	Т9		R03,R19	Accuracy Test of RMS Current	do	Frequency PF	50Hz	sv	AMPERE	А	58.8	61.2	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to	Accuracy Report for WS006 to		
						Phase Voltage	240V						WS010.doc			WS010.doc	WS010.doc		IEC62053-21
103	Т9		R03,R19	Accuracy Test of	do	Phase Current Frequency	60A 50Hz	BVA	AMPERE	A	58.8	61.2	Accuracy Report for	Accuracy Report for	Accuracy Report for	Accuracy Report for	Accuracy Report for		
				RMS Current		гГ	0.8lead				L		WS006 to	WS006 to	WS006 to	WS006 to			
					The System will be operated at nominal voltage and nominal current and the display sequence will be checked. The display shall scroll through the specified sequence for every 10 sec and	Up Scroll key	Realeased												
					repeat after the last parameter of the sequence has been displayed. The sequence of the paramters is as follows:	Down Scoll Key	Released	1											
					Cumulative Active Energy of tariff 1. Cumulative Active Energy of tariff 2. Cumulative Active Energy of tariff 3. 4.	MD reset key	Released	1	The display will be checked if										
1		l	I	l	Cumulative Active Energy of tariff 4.			J	the	I	I	l		l	l	1	1		

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	Project Name	SYSTEM TEST PL					RESULTS PEM Class1.0												
Test E	RS version)etails	A voltmet		s 1S and 2S and two ammeters, one in series with 1S and 1L an		S and 2L The	Firmware /Soft				Puls	ar source,LN	Ver2.3 G reference n	neter,DSO,Mu	ultimeter			
				Se	erial port is connected to the PC via cables for checking paramete	er values.		Details/Configu											STANDARDS
					System Test Cases	Input Test \	/alues			Expecte	d Result							Remarks (If	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)	Data Element	Input Values	Test Case Designed For	Output	UOM	Lower	Upper Limit			Actual Result			any)	
							.,		Parameter		Limit								
													WS006	WS007	WS008	WS009	WS010		
104	T21		R21,H13	Test for Autoscroll	Cumulative Apparent Energy of tariff 1 Cumulative Apparent Energy of tariff 2 Cumulative Apparent Energy of tariff 3			IOD	sequence of parameters is in		NA	NA	Tested Ok.						
					Cumulative Apparent Energy of tariff 4 9. Total Cumulative Energy (resolution 1 decimal points) Instantaneous Power Factor.	Display	ON		accordance with the sequence										
					Maximum Demand (resolution 3 decimal points) Please refer to REN0144UG01 (User Guide) for further details.				specified.										
						Time	5Min												
105	T12		R14,R21,	Test of Scrolling	Several combinations of these keys will be pressed to validate the proper operation of the system without letting the system to	Up Scroll key Down Scoll Key	Depressed Released	IOD	The display will be		NA.	NA.	Tested Ok.						
			UI01	Keys,MD reset.	enter into any invalid state of operation.	MD reset key Display Up Scroll key	ON Released		checked whether the The display										
106	T13		R14,R21, UI01	<-do->	do	Down Scoll Key MD reset key Display	Depressed Released ON	IOD	will be checked whether the		NA	NA	Tested Ok.						
107	T14		R14,R21, UI01	<-do->	Press the MD Reset key.Then MD value from the EEPROM will be read-out through the RS232 port and verified.	Up Scroll key Down Scoll Key MD reset key	Released Released Depressed	IOD	The back-up of the present MD		NA.	NA	Tested Ok.						
						Display Time Up Scroll key	ON 2sec Released		value will be stored in the The										
108	T15		R14,R21, UI01	<-do->	Several combinations of these keys will be pressed to validate the proper operation of the system without letting the system to enter into any invalid state of operation.	Down Scoll Key MD reset key Display	Released Released ON	IOD	specified keys will not perform any		NA	NA	Tested Ok.						
			R14,R21,			Time Up Scroll key Down Scoll Key	2sec Depressed Depressed		of their The specified										
109	T16		UI01	<-do->	do	MD reset key Display Time	ON 2sec	IOD	keys will not perform any of their		NA	NA	Tested Ok.						
110	T16		R14,R21,	<-do->	do	Up Scroll key Down Scoll Key MD reset key	Depressed Depressed Released	IOD	The specified keys will not		NA.	NA.	Tested Ok.						
			UI01			Display Time Up Scroll key	ON 2sec Depressed		perform any of their The										
111	T16		R14,R21, UI01	<-do->	do	Down Scoll Key MD reset key Display	Released Depressed ON	IOD	specified keys will not perform any		NA	NA	Tested Ok.						
						Time Up Scroll key Down Scoll Key	2sec Released Depressed		of their The specified										
112	T16		R14,R21, UI01	<-do->	do	MD reset key Display Time	Depressed ON 2sec	IOD	keys will not perform any of their		NA	NA	Tested Ok.						
113	T16		R14,R21,	<-do->	do	Up Scroll key Down Scoll Key MD reset key	Depressed Released Depressed	IOD	The specified keys will not		NA.	NA.	Tested Ok.						
113	110		UI01	C-00-5	00	Display Time	ON 2sec	IOD	perform any of their The		NA	NA.	rested Ok.						
114	T16		R14,R21, UI01	<-do->	do	Up Scroll key Down Scoll Key MD reset key Display	Released Depressed Depressed ON	IOD	specified keys will not perform any		NA	NA	Tested Ok.						
					Transmit the header of the frame for the protocol followed, to the	Time Data transmitted to energymeter	2sec Header (/?!x0d\x0a)		of their Data received										
115	T17		R25,R10, R26,H11	Test of functionality of RS232 Optical port	energy meter via the optical port. In response to this, the acknowledgement transmitted by the enerymeter shall be compared with the "acknowledgement format" as specified in	Phase Voltage	240V	IOD	shall match with the specified		NA	NA	Tested OK.						
				F	the protocol.(REN0144SCP01 "Serial Communication Procedure")	Phase Voltage	240V		acknowledge ment format. The KWh										
116	T18		H09,H21, H23,R13,	LED Indication and Fault Indication	The system shall be operated at the nominal operating voltage which will be applied between 1S and 2S.Starting current shall	Phase Current Neutral Current Frequency	0.04A 0.04A 50Hz	IOD	LED shall blink at a rate		NA	NA	Tested OK.						
			R12,R08	Tests	be fed to the system.	PF Time Phase Voltage	1 1min 240V		proportional to the power										
117	T19		H09,H21, H23,R13, R12.R08	Current reversal indication	The Phase current is made to flow in opposite direction.ie.1L to 1S. Nominal phase voltage shall be applied to the system.	Phase Current	10A(reverse 10A(reverse 50Hz	EB,IOD	Reversal LED		NA	NA	Tested OK.						
			R12,R00			PF Time Phase Voltage	1 1min 240V												
118	T20		H09,H21, H23,R13, R12,R08	Earth Leakage indication	The neutral current connection will be removed (2L) and the load will be connected to earth (1L).	Phase Current Neutral Current Frequency	10A 0A 50Hz	EB,IOD	ELT LED		NA	NA	Tested OK.						
			K12,K00			PF Time	1 1min Connected to												
					The meter shall operate at nominal voltage and current. During	Incoming Phase	incoming neutral												
119	T22		R12,R13, H20,H21, H22,H23	Anti-Tampering and Anti-Fraud Testing	these tests, the various methods of tampering will be simulated on the meter and simultaneously the meter functionality will be	Incoming Neutral	Connected to incoming Phase	EB	The meter should be operational.				The meter is operational						
					tested for proper operation.	Outgoing Phase Outgoing Neutral Phase Voltage	Connected Connected 240V												
						Phase Current Incoming Phase Incoming Neutral	10A Connected Disconnected												
120	T23		R12,R13, H20,H21, H22,H23	<-do->	do	Outgoing Phase Outgoing Neutral	Connected to earth via load earthed	EB	The meter should not be powered				The meter is not operational						
						Phase Voltage Phase Current Incoming Phase	240V 1A Connected		ON.										
121	T23		R12,R13, H20,H21,	<-do->	do	Incoming Neutral Outgoing Phase	Connected to earth via load	EB	The meter should not				The meter is not						
			H22,H23			Outgoing Neutral Phase Voltage Phase Current	earthed 240V 2A		be powered ON.				operational	operational	operational	operational	operational		
			R12,R13,			Incoming Phase Incoming Neutral	Connected Disconnected Connected to		The meter should be				The meter is operational	The meter is operational	The meter is operational	The meter is operational	The meter is operational		
122	T23		H20,H21, H22,H23	<-do->	do	Outgoing Phase Outgoing Neutral Phase Voltage	earth via load earthed 240V	EB	operational, powerd up by the third				powered up by the neutral						
						Phase Current Incoming Phase Incoming Neutral	3A Connected Connected		CT.				missing CT						
123	T24		R12,R13, H20,H21,	<-do->	do	Outgoing Phase	Connected to earth via load Connected to	EB	The meter should be				The meter is	The meter is	The meter is	The meter is	The meter		
			H22,H23	20-1		Outgoing Neutral Phase Voltage	earth via resistor 240V		operational.				operational	operational	operational	operational	operational		
						Phase Current Incoming Phase Incoming Neutral	10A Connected Disconnected							_	_	_			
124	T25		R12,R13, H20,H21, H22,H23	<-do->	do	Outgoing Phase Outgoing Neutral	Connected to earth via load Disconnected	EB	The meter should not be powered				The meter is not operational						
			,			Phase Voltage Phase Current Incoming Phase	240V 1A Connected		ON.								-		
125	T25		R12,R13, H20,H21,	<-do->	do	Incoming Phase Incoming Neutral Outgoing Phase	Disconnected Connected to earth via load	EB	The meter should not				The meter is not						
			H22,H23		-	Outgoing Neutral Phase Voltage Phase Current	Disconnected 240V 2A		be powered ON.				operational	operational	operational	operational	operational		
			R12,R13,			Incoming Phase Incoming Neutral	Connected Disconnected Connected to		The meter should be				The meter is operational	The meter is operational	The meter is operational	The meter is operational	The meter is operational		
126	T25		H20,H21, H22,H23	<-do->	do	Outgoing Phase Outgoing Neutral Phase Voltage	earth via load Disconnected 240V	EB	operational, powerd up by the third				powered up by the neutral						
		1				Phase Current	3A	1	CT.	1	1	1	missing CT						

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	Project Name					SYSTEM TEST		RESULTS PEM Class 1.0											
	RS version				1.4			Firmware /Soft	ware version					Ver2.3					
Test	Environment D	Details	A voltme	ter is connected acro	ess 1S and 2S and two ammeters, one in series with 1S and 1L as serial port is connected to the PC via cables for checking paramet	nd other in series with 2	2S and 2L The	Test b	ench			Puls	ar source,LN	IG reference	meter,DSO,N	lultimeter			
						ei values.		Details/Configu	ration Details										STANDARDS
					System Test Cases	Input Test	Values			Expecte	d Result							Remarks (If	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)			Test Case Designed For	Output		Lower				Actual Resu	lt		any)	
				, , , ,		Data Element	Input Values		Parameter	UOM	Limit	Upper Limit							
													WS006	WS007	WS008	WS009	WS010		
						Incoming Phase	Connected to outgoing Phase		The meter										
127	T26		R10,R11, H19,H20,	<-do->	do	Incoming Neutral	Connected	EB	should be operational and the				The meter is operational	The meter is operational	The meter is operational	The meter is operationa	The meter is operationa		
			H21,H22			Outgoing Phase	Connected to incoming Phase		"Reversal" LED shall				and REV led glows.	and REV led glows.	and REV led glows.	and REV led glows.	and REV		
						Outgoing Neutral Phase Voltage	Connected 240V	1	glow.										
						Phase Current	10A												
			R10.R11.			Incoming Phase	Connected		The meter should be										This goes to show that the
128			H19,H20, H21,H22	Meter Bypass Test	The meter shall be bypassed using a low resistance wire between 1S and 1L.	Incoming Neutral Outgoing Phase	Connected Connected	EB	operational and the "ELT" LED				The test	The test	The test	The test	The test		meter is difficult to be
						Outgoing Neutral Phase Voltage	Connected 240V	1	shall glow.				could not be	could not be	could not be	could not be	could not be		tampered.
						Phase Current Impulse Voltage	10A 6KV						simulated.	simulated.	simulated.	simulated.	simulated.		
129			H06	Impulse voltage tes	The impulse of 6KV is applied 10 times with one polarity and then repeated with the other polarity. The minimum time between the impulses shall be 3s.Impulse voltage test of electri				Functionality										CBIP88
					circuits relative to earth. This shall be only a functional test.			1											
						Test Voltage R.M.S.:	4KV						Not rested	Not Tested	Not Tested	Not rested	Not Tested		
					For Protective Class 1 Meters:Points of application of test			1											
					voltage: a.) Between: On one hand, all the current and voltage circuits			1											IEC62052-11 IEC62053-21
130			H06	AC Voltage Test	as well as the auxiliary circuits whose reference voltage is over 40V, connected together and on the other hand, earth. b.) Between circuits not intended to be connected together in			1	Insulation										CBIP88 IS13779
					service. The test voltage shall be substantially sinusoidal, having a frequency between 45Hz and 65Hz and applied for 1 min.			1											
								1					Not Tostad	Not Tosted	Not Tostad	Not Tostor	Not Tested		
													NOT TESTED	Not reside	NOT TOSICO	Not restee	, NOT TESTED	The	IEC62052-11
131			H06	Meter Constant	The relation between the test output and the indication on the display shall comply with the marking on the nameplate.			1	Conformity									encisoure should contain the	IEC62053-21 CBIP88 IS13779
					The current circuit must be open circuit and a voltage of 115 %	Phase Voltage	276V						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
132			H06	Test of no-load condition	of Un shall be applied to the voltage circuit. The test output of the meter shall not produce more than one output pulse count. The minimum test period will be Dt o (600 X 106)/(k X m	Time	3 Hr												IEC62052-11 IEC62053-21 CBIP88
					X Un X Imax) min where k = number of pulses emitted by the output device of the meter The active and apparent power consumption in each voltage	DI 17.6	0.001						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		IS13779
133			H06	Test of power consumption	circuit of a meter at sinusoidal reference voltage (240V +1%), reference temperature (27°C+2%), reference frequency (50Hz	Phase Voltage Frequency	240V 50Hz												CBIP88 IS13779
				consumption	+0.3%) and zero magnetic induction shall not exceed 1.5W and 8VA and for each current circuit at lb shall not exceed	Voltage Variation	+10% of Un						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		1513779
					Voltage Range:The additional percentage error due to the	Power Factor Limits of Variation in	1 0.70%	1											
				Test of influence of	change of influence quantities with respect to the reference	Percentage error	0.70%	1											CBIP88
134			H06	supply voltage				1											IS13779
						Voltage Variation	+10% of Un 0.5lag						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
135			H06	<-do->	do	Power Factor	1.00%	1											CBIP88 IS13779
													Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
							200/ 1- 400/												
						Voltage Variation	-20% to -10% of Un												
136			H06	<-do->	do	Power Factor	1	1											CBIP88 IS13779
						Limits of Variation in Percentage error	2.10%]											
													Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Voltage Variation	-20% to -10% of Un												
137			H06	<-do->	do	Power Factor	0.5lag	1											CBIP88 IS13779
						Limits of Variation in Percentage error	3.00%	1											
								1					Not Tested	Not Tested	Not Tested	Not Tester	Not Tested		
						Voltage Variation	+10% to +15% of Un												
138			H06	<-do->	do														CBIP88 IS13779
						Power Factor Limits of Variation in Percentage error	2.10%	1											
								1					Not To-t-	Not To	Not Tarte	Not To-	Not Tested		
													.vo. rested	rested	rested	rested	rested		
						Voltage Variation	+10% to +15% of Un												
139			H06	<-do->	do														CBIP88 IS13779
						Power Factor Limits of Variation in Percentage error	0.5lag 3.00%	1											
						age citui		1											
													Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Voltage Variation	-20% to -30% of Un												
140			H06	<-do->	do		3, 011												CBIP88
						Power Factor Limits of Variation in	1 +10% to -	1											IS13779
						Percentage error	100%	†											
					For testing, MD display will be used. The voltage dips and shor	Voltage interruptions	100%						Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
141			H06	Voltage Dips and	interruptions shall not produce a change in the register of more	interruption time number of Restoring time	1s 3 50ms	1											CBIP88
								=	•					•	•		•	-	

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	Project Name		ı			SYSTEM TEST P		RESULTS PEM Class1.0											
	RS version				1.4					I				Ver2.3					
Test I	Environment D	Details	A voltmet	ter is connected acros	ss 1S and 2S and two ammeters, one in series with 1S and 1L an	d other in series with 2	S and 2L The	Firmware /Soft				Puls	ar source,LN	G reference r	neter,DSO,Mi	ultimeter			
					erial port is connected to the PC via cables for checking parameter			Details/Configu											STANDARDS
					System Test Cases			1		Expecte									
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario	Test Description (explaining test Condition, Setup and other	Input Test V	raiues	Test Case		Expecte					Actual Result			Remarks (If any)	
				Description	details)	Data Element	Input Values	Designed For	Output Parameter	UOM	Lower Limit	Upper Limit							
													WS006	WS007	WS008	WS009	WS010		
				snort interruptions	nave surrered degradation of its meteorological characteristics.								***************************************	******	110000	***************************************	***************************************		
					Test Conditions:- Voltage circuit energized by reference voltage- No current in current circuits								Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Voltage interruptions interruption time	100% 20 ms												
142			H06	do	do	number of interruptions	1	FB											CBIP88
						Restoring time between interruptions													
													Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Voltage interruptions Dip time	50% 1 min												CBIP88
143			H06	do	do	Number of dips	1	EB											CBIPOO
						Basic Current	10A		Snort-time overcurrent				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
					After the application of the short-time overcurrent with the voltage maintained at the terminals, the meter shall be allowed	Power Factor Limits of Variation in	1.50%	1	shall not damage the meter. The										
144			H06	Test of influence of short-time over- currents	to return to the initial temperature with the voltage circuits energized for one hour individually. The meter shall be able to	Percentage error		EB	meter shall perform										IS13779
					carry a short-time overcurrent of 30 times Imax for one half cycle at rated frequency				correctly, when back to its initial										
						Phase Voltage	240V		working meritiener shall perform				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
					After the voltage circuits of the meter have been energized at nominal voltage and meters without any current in the current circuits for at least 2 hours, the rated maximum current shall be	Phase Current Power Factor	10A	1	correctly, when back	Test result	Test result								
145			H06	Test of influence of self-heating	applied to the current circuits. The meter error shall be measured at unity power-factor and at 0.5 lag immediately after	Limits of Variation in	0.70%	EB	to its initial working conditions	of test no.59 -	of test no.59 +								IS13779
					the current is applied and then at intervals short enough to allow a correct drawing to be made of the curve of error variation as a function of time.			1	and the variation of	0.7%	0.7%								
						Phase Voltage	240V		error shall not exceed The meter			0.25%	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
146			H06	<-do->	do	Phase Current Power Factor	10A 0.5lag	FR	shall perform correctly, when back	Test result	Test result	0.6%							IS13779
146			HUB	<-00->	do do	Limits of Variation in Percentage error	1%	EB	to its initial working conditions	no.59 -1%	of test no.59 +1%	0.6%							1813779
									and the				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Test Voltage on the current and voltage	4K(Common Mode)		During the test a										
147			H06	Fast Transient Burst		circuit	60s at each	EB	temporary degradation or loss of										CBIP88
147			nuo	Test		Duration Cable length between	polarity 1m		function or performance										CBIPOO
						Limits of Variation in Percentage error	4%	1	is acceptable.										
						Frequency Band:	80MHz to		The				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
					Carrier modulated within 80% AM at 1KHz sine wave a.) Test with current:Unmodulated Test Field Strength:	Cable length exposed to the field:	2000MHz 1m	1	application of RF field shall not										
148			H06	Test of immunity to electromagnetic RF fields	10V/mDuring the test, the behavior of the equipment shall not be perturbed and the variation of error shall be within 2%.b.)	Test Field Strength	10V/m	EB	produce a change in the register									E:\cmm\softwar	EC62052-11 EC62053-21
					Test without any current:Unmodulated Test Field Strength: 30V/m			1	of more than 0.01 KWh and the test									tcases\report\RE	902
						Frequency Band:	80MHz to		output shall The				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
						Cable length exposed to the field:	2000MHz 1m	1	application of RF field shall not										IEC62052-11
149			H06	<-do->	<-do->	Test Field Strength	30V/m	EB	produce a change in the register										IEC62053-21
									of more than 0.01 KWh				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
					Meter in operating condition- Voltage circuit energized with	Test voltage: Test severity level:	8KV 4	-	application of the										
				Test of immunity to	reference voltage (Un)- Without any current in the current circuits and the current circuit shall be open circuitThe application of the electrostatic discharge test voltage shall not	Number of discharges: Type of Discharge	10 Contact	1	electrostatic discharge the meter										
150			H06	electrostatic discharge	produce a change in the register of more than 0.01 KWh and the test output shall not produce a signal equivalent to more	Type or Discharge	Contact	EB	no damage or change of										CBIP88
					than 0.01 KWh. Meter in non-operating condition- Voltage and current circuit shall be unenergized				information and shall										
					The test will be carried out according to CISPR22, under the following conditions:- For Class B equipment- Tested as table-				stay within the accuracy The test results shall				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
151			H06	Radio Interference Measurement	top equipment- For connection to the voltage circuits, an unshielded cable length of 1m to each connector shall be used- Voltage circuits energized with reference voltage (LIn)- With a			EB	comply with the										IEC62052-11 IEC62053-21
					current between 0.1lb and 0.2lb respectively. (Connected by unshielded cable length of 1m)			1	requirement s given in CISPR22.				Not Tested	Not Tested	Not Tested	Not Tested	Not Tested		
48-				Surge Immunity	Cable length between Surge generator and EUT: 1mPhase				The application of the surge										IEC62052-11
152			H06	Test	angle: pulses to be applied at 60 deg. and 240deg. after zero- crossing of ACTest voltage: 4KV Generator impedance: 2W			EB	immunity test voltage				N-4 T-44	No. Tools	Not Tested	Not Tooks d	Not Tooks d		IEC62053-21
					The meter shall operate at a phase voltage of 240V and a	Phase Voltage Phase Current	240V 10A		shall not Verify whether the				NOT TESTED	NOT TESTED	Not rested	NOT TESTED	NOT TESTED		
153	T27		R11,R14, UI01	MD test	Phase current of 10A and unity PF. Initially, a MD reset shall be done then the meter is operated for 30min at the same operating condition.	Power Factor Time	1 30min	sv	correspondin g KW value is stored in	KW	2.376	2.424	2.399	2.397					
						Phase Voltage Phase Current	240V 20A		MD register. The correspondin						Not Tested	Not Tested	Not Tested		
154	T28		R11,R14, UI01	<-do->	The meter shall now be operated at a relatively higher KW. The MD register shall be updated at the end of this test duration.	Power Factor Time	1 30min	sv	g KW value is overwritten	ĸw	4.752	4.848	4.82	4.822					
						Phase Voltage	240V		the previous value in MD The MD						Not Tested	Not Tested	Not Tested		
155	T29		R11,R14, UI01	<-do->	The meter shall now be operated at a relatively lower KW. The MD register shall not be updated at the end of this test duration.	Phase Current Power Factor Time	10A 1 30min	sv	register shall retain its previous MD	ĸw	4.752	4.848	4.82	4.822					
									value without being						Not Tested	Not Tested	Not Tested		
156	T27		R11,R14,	MD test	The meter shall operate at a Phase current of 240V and a Phase current of 10A and unity PF. Initially, a MD reset shall be	Phase Voltage Phase Current Power Factor	240V 10A 1	sv	Verify whether the correspondin	ĸw	2.376	2.424	2.418	2.415					
135	12/		UI01	MD test	done then the meter is operated for 60min at the same operating condition.	Time	60min	SV.	g KW value is stored in MD register.	NW	2.3/6	2.424	2.418	2.415	Not Testad	Not Tested	Not Testo		
			R11.R14.		The mater shall name be accounted at a sixty of the same of the sa	Phase Voltage Phase Current	240V 20A		The correspondin						vated	valed	cated		
157	T28		R11,R14, UI01	<-do->	The meter shall now be operated at a relatively higher KW. The MD register shall be updated at the end of this test duration.	Power Factor Time	1 60min	sv	g KW value is overwritten the previous	KW	4.752	4.848	4.818	4.823					
					The power supply to the energymeter is switched off. The value	Phase Voltage Phase Current	240V 10A		value in MD The MD register shall						Not Tested	Not Tested	Not Tested		
158	T29		R11,R14, UI01	<-do->	of all the energies are noted before the commencement of this test to be compared with the data after the power is switched	Power Factor Time	1 60min	sv	retain its previous MD	ĸw	4.752	4.84	4.818	4.823					
					ON again with no current.	Phone \/-#==	0401		value without being						Not Tested	Not Tested	Not Tested		
						Phase Voltage Phase Current	240V 10A	1											
ļ		1	l	I	ļ			1	1				l	l	l	l			L

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						SYSTEM TEST P	I AN / TEST I	DECILI TO											
	Project Name					SISIEM IESI P		PEM Class1.0											
	RS version				1.4			Firmware /Softv	vare version					Ver2.3					
Test	Environment D	etails	A voltmet		is 1S and 2S and two ammeters, one in series with 1S and 1L an arial port is connected to the PC via cables for checking paramete		S and 2L The	Test be Details/Configur				Puls	ar source,LN	G reference r	neter,DSO,M	ultimeter			STANDARDS
		il de la companya de			System Test Cases														
						Input Test V	'alues			Expecte	d Result							Remarks (If any)	
Test No.	Test ID	Test Date	Req. ID	Test Case Scenario Description	Test Description (explaining test Condition, Setup and other details)	Data Element	Input Values	Test Case Designed For	Output Parameter	UOM	Lower Limit	Upper Limit			Actual Resul	t		any)	
													WS006	WS007	WS008	WS009	WS010		
159			R22	Power-Failure Interrupt	The power supply to the energymeter is switched off. The value of all the energies are noted before the commencement of this test to be compared with the data after the power is switched ON again with no current.	Power Factor	1	sv			to the valu	he EEPROM es before the	Tested OK.	Tested OK.	Tested OK.	Tested OK.	Tested OK.		
					ON again with no current.														
160			R15	Monthly Auto Reset	month change-over. At the instant the month change-over occurs a a back-up of the following parameters are taken in the	Phase Voltage Phase Current Power Factor	240V 10A 1	sv	The values of	f the specifie	ed paramete	ers at the time	Tested OK	Tested OK	Tested OK	Tested OK.	Tested OK		
100			1110	monany rato reser	EEPROM:(1) Cumulative Active & Apparent Energy (2) Maximum Demand in KW. (3) Date and Time from RTC (4) Type of Reset (5) Total Cumulative active energy				OTTALOET SI	data collec		iai port iii aic	Tested Oil.	reside oit.	rested Oit.	rested oit.	resieu oit.		
			R17.R10	Tariff update test	The meter shall be operated at the nominal voltage and current during the entire period of a specified tariff. During this period	PF	240V 10A 1	sv	T. 100 !!										
161			K17,K10	ranif update test	the energy consumed shall be updated in the respective tariff till the end of slot.	Frequency	50Hz	SV	The LCD dis	spiays the re	espective ta	nπ energies.	rested UK.	rested OK.	rested OK.	Tested OK.	rested OK.		
						Phase Voltage Phase Current PF	240V 10A 1												
162			R10, R17, R24, R25	Programming parameters	Refer the document REN0144SCP01(Serial Communication Procedure)programming various parameters	Frequency	50Hz	sv	The res	ult should a	s per the do	cument	Tested OK.	Tested OK.	Tested OK.	Tested OK.	Tested OK.		
						Phase Voltage Phase Current	240V 10A												
					Press the up or down key to swich the meter to maual scrolling	PF	1 50Hz												
163	T21		R21,H13	Manual scrolling to auto scrolling	mode and after 5 min the meter will again start scrolling in auto		50HZ 5Min		The switch o	ver from ma 5 m	nual to auto	scroll will be	Tested OK.	Tested OK.	Tested OK.	Tested OK.	Tested OK.		
				add scittling	scrolling mode.					311									

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