Test 4.11	**TABLE 4.11: Thermal cycling test MQT 11**		
50 cycles			
Test date		From 2019/04/01 to 2019/04/08	
Range of temperature (°C)		- 40 ÷ + 85	Δ=125 °C
Current applied to modules during the test (A)			
Sample serial number LRP503038190200307392		9.05 A	
Sample serial number LRP503038190200307398		9.05 A	

Sample serial number	Current continuity	***Control tests***	
		10.2 Visual Inspection MST 01 (P/F)	4.15 Wet leakage current test MQT 15 (P/F)
LRP503038190200307392	YES	P	P
LRP503038190200307398	YES	P	P

200 cycles			
Test date		From 2018/05/04 to 2018/05/31	
Range of temperature (°C)		- 40 ÷ + 85	Δ=125 °C
Current applied to modules during the test (A)			
Sample serial number LRP503038190200230029		9.06 A	
Sample serial number LRP503038190200230027		9.03 A	

Sample serial number	Current continuity	***Control tests***	
		10.2 Visual Inspection MST 01 (P/F)	4.15 Wet leakage current test MQT 15 (P/F)
LRP503038190200230029	YES	P	P
LRP503038190200230027	YES	P	P

Supplementary information: /

Remarks: The module passes (P) the test if:
- No interruption of current flow during the test; in the case of a module with parallel circuits, a discontinuity in current flow indicates an interruption of flow in one of the parallel circuit;
- No evidence of major visual defects, as defined in table 5.A and 5.B (Table 10.2);
- Wet leakage current shall meet the same requirements as for the initial measurements (Table 4.15).

Test 4.12	**TABLE 4.12: Humidity-freeze test MQT 12**		
Test date		From 2019/04/19 to 2019/07/29	
Average temperature (°C)		- 40 ÷ + 85	Δ=125 °C
Average relative humidity (%)		85	
Number of cycles		10	

Sample serial number	Current continuity	***Control tests***	
		10.2 Visual Inspection MST 01 (P/F)	4.15 Wet leakage current test MQT 15 (P/F)
LRP503038190200307392	YES	P	P
LRP503038190200307398	YES	P	P

Supplementary information: /

Remarks: The module passes (P) the test if:
- No interruption of current flow or discontinuity in voltage during the test; in the case of a module with parallel circuits, a discontinuity in current flow indicates an interruption of flow in one of the parallel circuits.
- No evidence of major visual defects, as defined in table 5.A and 5.B (Table 10.2).

– Wet leakage current shall meet the same requirements as for the initial measurements (Table 4.15).

Test 4.13	**TABLE 4.13: Damp-heat test MQT 13**	
Test date		From 2019/03/14 to 2019/04/29
Average temperature (°C)		85
Average relative humidity (%)		85
Test duration (h)		1000

Sample serial number	Current continuity	***Control tests***	
		10.2 Visual Inspection MST 01 (P/F)	4.15 Wet leakage current test MQT 15 (P/F)
LRP503038190200307725	YES	P	P
LRP503038190200307400	YES	P	P

Supplementary information: /

Remarks: The module passes (P) the test if:
– No evidence of major visual defects, as defined in table 5.A and 5.B (Table 10.2).
– Wet leakage current shall meet the same requirements as for the initial measurements (Table 4.15)

Test 4.15	**TABLE 4.15: Wet leakage current test MQT 15**
Admissible resistivity of the water solution (Ω*cm)	< 3500
Admissible temperature of the water solution (°C)	22 °C ± 2 °C
DC Voltage (V)	1000
Module Area (m^2)	1.632

Sample serial number	Test date	Resistivity of the water solution (Ω*cm)	Water solution temperature (°C)	Environment		Applied Voltage (V)	MΩ*m^2 @ Applied Voltage	P/F
				Temp. (°C)	Humidity (%R.H.)			
Initial values								
LRP503038190200307411	2019/03/12	1825	21.4	27.0	12	1030	11816	P
LRP503038190200307392	2019/03/12	1825	21.4	27.0	12	1031	9286	P
LRP503038190200307398	2019/03/12	1825	21.4	27.0	12	1031	8388	P
LRP503038190200230029	2019/06/26	1736	23.3	28.0	48	1059	7377	P
LRP503038190200230027	2019/06/26	1736	23.3	28.0	48	1059	6985	P
LRP503038190200307725	2019/03/14	1721	22.6	26.5	22	1031	9531	P
LRP503038190200307400	2019/03/13	1721	22.4	26.5	17	1031	9890	P
LRP503038190200219925	2019/07/24	1727	20.9	23.5	63	1030	138888	P
LRP503038190200307522	2019/03/11	1730	23.4	29.0	18	1031	11816	P
Intermediate and final values								
IEC 61215								
After the 4.6 STC - Standard Test Conditions MQT 06.1 - Gate 2								
LRP503038190200307411	2019/05/10	1721	23.4	28.0	34	1031	10135	P
LRP503038190200307392	2019/05/13	1075	23.8	29.0	26	1031	3199	P
LRP503038190200307398	2019/05/13	1075	23.8	29.0	26	1031	2709	P
LRP503038190200230029	2019/07/25	1949	20.7	22.0	62	1030	4749	P
LRP503038190200230027	2019/07/25	1949	20.7	22.0	62	1030	6316	P
LRP503038190200307725	2019/05/14	1081	21.3	22.0	43	1031	2823	P
LRP503038190200307400	2019/05/13	1075	23.8	29.0	26	1031	2105	P
After the 4.10 UV preconditioning test MQT 10								
LRP503038190200307392	2019/04/01	2016	22.3	29.0	17	1031	9351	P

LRP503038190200307398	2019/04/01	2016	22.3	29.0	17	1031	7442	P
After the 4.11 Thermal cycling test MQT11 (50)								
LRP503038190200307392	2019/04/08	1825	22.6	27.5	33	1031	3819	P
LRP503038190200307398	2019/04/08	1825	22.6	27.5	33	1031	4814	P
After the 4.11 Thermal cycling test MQT 11 (200)								
LRP503038190200230029	2019/07/23	1558	23.4	23.5	59	1030	6185	P
LRP503038190200230027	2019/07/23	1558	23.4	23.5	59	1030	6185	P
After the 4.12 Humidity freeze test MQT 12								
LRP503038190200307392	2019/05/02	1721	23.7	31.0	26	1031	2725	P
LRP503038190200307398	2019/05/02	1721	23.7	31.0	26	1031	2252	P
After the 4.13 Damp-heat test MQT 13 (1000h)								
LRP503038190200307725	2019/04/30	1721	23.8	32.0	22	1031	1444	P
LRP503038190200307400	2019/04/30	1721	23.8	32.0	22	1031	1763	P
After the 4.17 Hail test MQT 17								
LRP503038190200307400	2019/05/06	1541	23.6	25.0	26	1030	2628	P
IEC 61730-2								
After the 10.23 Static mechanical load test MST 34								
LRP503038190200307725	2019/05/06	1541	23.6	25.0	26	1030	2530	P
After the 10.26 Materials creep test MST 37								
LRP503038190200219925	2019/08/09	1869	23.8	26.5	50	1030	8013	P
After the 10.29 Humidity freeze test MST 52 (Back Side)								
LRP503038190200307522	2019/08/01	1802	21.7	26.0	49	1030	2301	P

Supplementary information: /

Remarks: Test has been passed (P) if:
- For modules with an area of less than 0,1 m2 the insulation resistance shall not be less than 400 MΩ.
- For modules with an area larger than 0,1 m2 the measured insulation resistance times the area of the module shall not be less than 40 MΩ·m2.