

Extract from Test report for unit certificate: 28111159 007  
 “Determination of electrical properties”

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Extract No: 1 \_ Annex F.3 (VDE-AR-N 4105)

<b>Type of System:</b>	Grid tied inverter					
<b>System Manufacturer:</b>	POWER-ONE ITALY S.P.A. Via S. Giorgio, 642 52028 Terranuova Bracciolini, Arezzo, Italy					
<b>Manufacturer's data</b>						
<b>Type of System:</b>	PV					
<b>Reference test report:</b>	<b>28111159 007</b>					
<b>Measuring period:</b>	01/09/2017 - 15/11/2017					
<b>Active Power [<math>P_{E_{max}}</math>]:</b> (nominal power at reference conditions)	<table border="1"> <tr> <td><b>Model</b></td> <td><b>Pac rated [kW]</b></td> </tr> <tr> <td>PVS-100-TL</td> <td>100</td> </tr> </table>		<b>Model</b>	<b>Pac rated [kW]</b>	PVS-100-TL	100
<b>Model</b>	<b>Pac rated [kW]</b>					
PVS-100-TL	100					
<b>Rated Voltage:</b>	400V, 3W+N+PE & 3W+PE					

Reactive power reference										
Active Power $P/P_n$ [%]	10	20	30	40	50	60	70	80	90	100
<b>Max. <math>\cos \varphi_{\text{underexcited}}</math></b>	0.9	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.899
<b>Max. <math>\cos \varphi_{\text{overexcited}}</math></b>	0.902	0.902	0.901	0.901	0.901	0.901	0.901	0.901	0.901	0.901

Compliance of required displacement factor $\cos \varphi$											
Default in system control	0.9 <sub>OV</sub>	0.92 <sub>OV</sub>	0.94 <sub>OV</sub>	0.96 <sub>OV</sub>	0.98 <sub>OV</sub>	1	0.98 <sub>UN</sub>	0.96 <sub>UN</sub>	0.94 <sub>UN</sub>	0.92 <sub>UN</sub>	0.9 <sub>UN</sub>
<b>Measured value at PGU terminals</b>	0.902	0.922	0.941	0.960	0.979	1.000	0.980	0.960	0.940	0.920	0.900

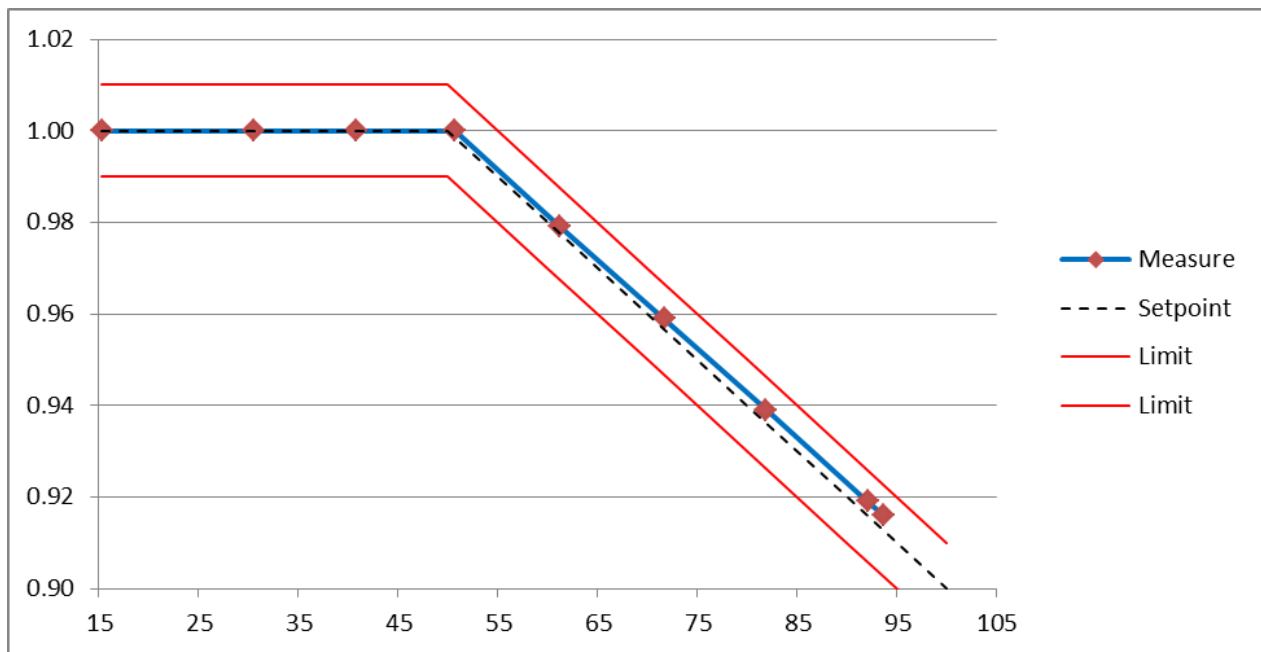
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Extract No: 1 \_ Annex F.3 (VDE-AR-N 4105)

**Reactive power transfer function – Standard  $\cos \varphi$  (P) – characteristic:**

Active Power $P/P_n$ [%]	10	20	30	40	50	60	70	80	90	100
$\cos \varphi$	-	1.000	1.000	1.000	1.000	0.979	0.959	0.939	0.919	0.916



**Switching actions:**

Ki max	Switch on 100%	Switch OFF 100%	Switch ON 50%
Phase R	0.016	0.559	0.552
Phase S	0.015	0.561	0.553
Phase T	0.017	0.522	0.553

**Flickers:**

Angle of network impedance $\Psi_k$ <i>Worst case condition</i>	30°	50°	70°	85°
Coefficient of system flicker $c_\psi$	2.745	3.145	4.968	17.200

Extract from Test report for unit certificate: 2811159 007  
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Extract No: 1 \_ Annex F.3 (VDE-AR-N 4105)

**Harmonics PVS 100-TL :**

Order	Phase R - Current Harmonics [%]										
	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
1	1.044%	10.137%	20.193%	30.194%	40.159%	50.112%	60.050%	69.992%	79.943%	89.926%	100.000%
2	0.100%	0.085%	0.107%	0.128%	0.128%	0.119%	0.117%	0.116%	0.114%	0.126%	0.146%
3	0.072%	0.084%	0.074%	0.091%	0.106%	0.111%	0.101%	0.084%	0.079%	0.074%	0.080%
4	0.132%	0.149%	0.155%	0.158%	0.176%	0.186%	0.187%	0.178%	0.179%	0.179%	0.183%
5	0.395%	0.213%	0.070%	0.177%	0.265%	0.336%	0.395%	0.418%	0.457%	0.470%	0.449%
6	0.064%	0.041%	0.057%	0.063%	0.067%	0.086%	0.075%	0.056%	0.075%	0.065%	0.073%
7	0.394%	0.287%	0.068%	0.187%	0.290%	0.356%	0.410%	0.422%	0.452%	0.451%	0.437%
8	0.090%	0.061%	0.100%	0.086%	0.093%	0.103%	0.101%	0.082%	0.103%	0.092%	0.104%
9	0.103%	0.116%	0.092%	0.087%	0.142%	0.113%	0.109%	0.091%	0.112%	0.130%	0.138%
10	0.126%	0.108%	0.130%	0.139%	0.116%	0.160%	0.149%	0.105%	0.124%	0.117%	0.140%
11	1.071%	0.759%	1.125%	0.736%	0.727%	0.930%	1.097%	1.083%	1.106%	1.112%	1.004%
12	0.094%	0.075%	0.088%	0.085%	0.110%	0.123%	0.122%	0.111%	0.116%	0.114%	0.106%
13	0.297%	0.200%	0.237%	0.417%	0.275%	0.285%	0.295%	0.297%	0.288%	0.286%	0.309%
14	0.037%	0.042%	0.036%	0.056%	0.041%	0.042%	0.050%	0.035%	0.047%	0.042%	0.054%
15	0.026%	0.038%	0.008%	0.034%	0.041%	0.033%	0.033%	0.028%	0.030%	0.042%	0.040%
16	0.025%	0.020%	0.046%	0.028%	0.025%	0.021%	0.031%	0.022%	0.018%	0.024%	0.043%
17	0.024%	0.044%	0.010%	0.080%	0.097%	0.083%	0.081%	0.080%	0.079%	0.080%	0.083%
18	0.004%	0.005%	0.001%	0.005%	0.010%	0.009%	0.012%	0.014%	0.020%	0.014%	0.018%
19	0.003%	0.009%	0.002%	0.048%	0.076%	0.075%	0.072%	0.062%	0.064%	0.063%	0.065%
20	0.000%	0.002%	0.001%	0.003%	0.005%	0.004%	0.006%	0.005%	0.008%	0.009%	0.014%
21	0.000%	0.002%	0.000%	0.001%	0.007%	0.005%	0.004%	0.004%	0.004%	0.011%	0.011%
22	0.001%	0.001%	0.000%	0.000%	0.003%	0.004%	0.004%	0.003%	0.001%	0.006%	0.011%
23	0.001%	0.005%	0.002%	0.000%	0.021%	0.028%	0.048%	0.036%	0.027%	0.022%	0.035%
24	0.000%	0.000%	0.000%	0.000%	0.003%	0.003%	0.001%	0.002%	0.003%	0.002%	0.006%
25	0.001%	0.002%	0.001%	0.002%	0.012%	0.011%	0.042%	0.037%	0.034%	0.032%	0.034%
26	0.000%	0.000%	0.000%	0.002%	0.002%	0.002%	0.003%	0.005%	0.009%	0.007%	0.016%
27	0.000%	0.000%	0.000%	0.003%	0.010%	0.002%	0.006%	0.005%	0.004%	0.016%	0.019%
28	0.000%	0.000%	0.000%	0.005%	0.008%	0.005%	0.016%	0.009%	0.005%	0.007%	0.032%
29	0.061%	0.042%	0.046%	0.069%	0.029%	0.013%	0.036%	0.033%	0.021%	0.029%	0.039%
30	0.016%	0.030%	0.096%	0.093%	0.062%	0.017%	0.047%	0.032%	0.033%	0.015%	0.038%
31	0.002%	0.000%	0.018%	0.059%	0.149%	0.081%	0.077%	0.076%	0.034%	0.051%	0.055%
32	0.000%	0.000%	0.000%	0.042%	0.082%	0.187%	0.134%	0.098%	0.100%	0.046%	0.062%
33	0.000%	0.000%	0.000%	0.001%	0.052%	0.053%	0.166%	0.219%	0.099%	0.162%	0.085%
34	0.000%	0.000%	0.000%	0.001%	0.018%	0.052%	0.060%	0.092%	0.286%	0.104%	0.224%
35	0.000%	0.000%	0.000%	0.000%	0.006%	0.005%	0.058%	0.083%	0.073%	0.331%	0.156%
36	0.000%	0.000%	0.000%	0.000%	0.004%	0.002%	0.027%	0.035%	0.095%	0.119%	0.320%
37	0.000%	0.000%	0.000%	0.000%	0.004%	0.001%	0.009%	0.018%	0.034%	0.146%	0.252%
38	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.005%	0.007%	0.022%	0.057%	0.207%
39	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.002%	0.007%	0.009%	0.029%	0.127%
40	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.003%	0.010%	0.015%	0.062%

Order	Phase S - Current Harmonics [%]										
	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
1	1.012%	10.112%	20.170%	30.191%	40.169%	50.119%	60.052%	69.998%	79.952%	89.938%	100.000%
2	0.140%	0.138%	0.157%	0.172%	0.181%	0.185%	0.192%	0.198%	0.197%	0.202%	0.221%
3	0.083%	0.087%	0.079%	0.084%	0.106%	0.103%	0.100%	0.086%	0.100%	0.108%	0.108%
4	0.126%	0.146%	0.153%	0.164%	0.175%	0.182%	0.179%	0.173%	0.175%	0.170%	0.171%
5	0.400%	0.211%	0.080%	0.191%	0.296%	0.363%	0.424%	0.445%	0.480%	0.479%	0.433%
6	0.065%	0.040%	0.060%	0.067%	0.066%	0.090%	0.076%	0.064%	0.080%	0.066%	0.076%
7	0.400%	0.302%	0.076%	0.178%	0.275%	0.332%	0.390%	0.413%	0.439%	0.449%	0.408%
8	0.091%	0.072%	0.099%	0.095%	0.101%	0.114%	0.110%	0.092%	0.111%	0.100%	0.107%
9	0.104%	0.117%	0.089%	0.086%	0.129%	0.112%	0.111%	0.087%	0.108%	0.134%	0.143%
10	0.149%	0.078%	0.124%	0.138%	0.142%	0.191%	0.184%	0.144%	0.163%	0.176%	0.175%
11	0.962%	0.695%	1.060%	0.659%	0.664%	0.850%	1.018%	1.013%	1.030%	1.029%	0.925%
12	0.094%	0.069%	0.092%	0.085%	0.094%	0.109%	0.103%	0.096%	0.109%	0.112%	0.113%
13	0.299%	0.210%	0.231%	0.413%	0.285%	0.291%	0.296%	0.296%	0.283%	0.283%	0.307%
14	0.035%	0.045%	0.044%	0.056%	0.047%	0.049%	0.052%	0.038%	0.046%	0.045%	0.052%
15	0.022%	0.038%	0.007%	0.026%	0.037%	0.029%	0.029%	0.018%	0.025%	0.041%	0.039%
16	0.024%	0.014%	0.044%	0.026%	0.022%	0.019%	0.027%	0.017%	0.017%	0.026%	0.041%
17	0.027%	0.040%	0.011%	0.081%	0.104%	0.086%	0.082%	0.084%	0.081%	0.082%	0.082%
18	0.007%	0.004%	0.001%	0.008%	0.011%	0.007%	0.011%	0.012%	0.021%	0.015%	0.019%
19	0.003%	0.008%	0.002%	0.045%	0.076%	0.077%	0.074%	0.064%	0.066%	0.066%	0.068%
20	0.001%	0.001%	0.000%	0.003%	0.005%	0.003%	0.005%	0.003%	0.008%	0.008%	0.010%
21	0.000%	0.001%	0.000%	0.000%	0.003%	0.002%	0.003%	0.002%	0.003%	0.011%	0.008%
22	0.000%	0.000%	0.001%	0.000%	0.002%	0.002%	0.003%	0.002%	0.002%	0.006%	0.010%
23	0.001%	0.003%	0.003%	0.000%	0.021%	0.033%	0.051%	0.037%	0.033%	0.026%	0.037%
24	0.001%	0.001%	0.000%	0.000%	0.002%	0.002%	0.001%	0.001%	0.003%	0.003%	0.005%
25	0.001%	0.001%	0.002%	0.000%	0.009%	0.009%	0.040%	0.037%	0.033%	0.033%	0.032%
26	0.000%	0.001%	0.000%	0.002%	0.002%	0.001%	0.002%	0.002%	0.008%	0.005%	0.013%
27	0.000%	0.000%	0.000%	0.001%	0.003%	0.001%	0.002%	0.002%	0.003%	0.013%	0.016%
28	0.003%	0.001%	0.002%	0.003%	0.002%	0.002%	0.008%	0.002%	0.003%	0.009%	0.025%
29	0.046%	0.018%	0.037%	0.030%	0.020%	0.004%	0.029%	0.030%	0.022%	0.027%	0.039%
30	0.043%	0.036%	0.093%	0.116%	0.053%	0.030%	0.037%	0.014%	0.016%	0.010%	0.031%
31	0.000%	0.001%	0.030%	0.053%	0.093%	0.065%	0.067%	0.077%	0.038%	0.048%	0.047%
32	0.000%	0.000%	0.000%	0.022%	0.076%	0.125%	0.089%	0.063%	0.111%	0.045%	0.059%
33	0.000%	0.000%	0.000%	0.000%	0.023%	0.065%	0.090%	0.156%	0.060%	0.151%	0.070%
34	0.000%	0.000%	0.000%	0.000%	0.002%	0.020%	0.071%	0.075%	0.181%	0.085%	0.192%
35	0.000%	0.000%	0.000%	0.000%	0.001%	0.001%	0.044%	0.080%	0.091%	0.219%	0.189%
36	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.017%	0.026%	0.092%	0.113%	0.277%
37	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.005%	0.004%	0.025%	0.138%	0.219%
38	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.002%	0.004%	0.011%	0.067%	0.194%
39	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.002%	0.005%	0.035%	0.156%
40	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.001%	0.004%	0.016%	0.074%

Order	Phase T - Current Harmonics [%]										
	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
1	1.026%	10.115%	20.163%	30.156%	40.114%	50.049%	59.969%	69.895%	79.833%	89.817%	100.000%
2	0.166%	0.174%	0.215%	0.244%	0.260%	0.269%	0.276%	0.296%	0.301%	0.322%	0.357%
3	0.053%	0.071%	0.057%	0.056%	0.074%	0.065%	0.065%	0.061%	0.081%	0.111%	0.150%
4	0.120%	0.146%	0.153%	0.150%	0.162%	0.168%	0.168%	0.162%	0.169%	0.168%	0.178%
5	0.400%	0.219%	0.062%	0.172%	0.284%	0.354%	0.415%	0.432%	0.470%	0.480%	0.419%
6	0.063%	0.038%	0.062%	0.062%	0.062%	0.087%	0.073%	0.057%	0.072%	0.060%	0.067%
7	0.410%	0.326%	0.073%	0.201%	0.309%	0.371%	0.422%	0.435%	0.465%	0.474%	0.481%
8	0.102%	0.073%	0.105%	0.096%	0.107%	0.120%	0.112%	0.091%	0.116%	0.096%	0.098%
9	0.099%	0.111%	0.085%	0.087%	0.140%	0.096%	0.101%	0.080%	0.109%	0.130%	0.143%
10	0.198%	0.097%	0.147%	0.136%	0.139%	0.207%	0.181%	0.155%	0.179%	0.175%	0.181%
11	0.989%	0.683%	1.086%	0.694%	0.665%	0.860%	1.028%	1.026%	1.040%	1.028%	0.905%
12	0.068%	0.062%	0.051%	0.057%	0.090%	0.086%	0.068%	0.058%	0.071%	0.073%	0.070%
13	0.286%	0.215%	0.225%	0.420%	0.287%	0.288%	0.296%	0.296%	0.289%	0.289%	0.326%
14	0.034%	0.036%	0.040%	0.057%	0.049%	0.047%	0.052%	0.033%	0.049%	0.041%	0.057%
15	0.025%	0.034%	0.011%	0.029%	0.038%	0.024%	0.029%	0.017%	0.027%	0.040%	0.036%
16	0.023%	0.017%	0.042%	0.027%	0.021%	0.014%	0.024%	0.012%	0.019%	0.023%	0.033%
17	0.027%	0.039%	0.009%	0.079%	0.098%	0.084%	0.081%	0.081%	0.080%	0.079%	0.079%
18	0.003%	0.002%	0.001%	0.005%	0.009%	0.006%	0.010%	0.009%	0.018%	0.013%	0.018%
19	0.002%	0.007%	0.002%	0.047%	0.077%	0.077%	0.075%	0.064%	0.066%	0.063%	0.067%
20	0.001%	0.001%	0.001%	0.002%	0.003%	0.002%	0.004%	0.002%	0.007%	0.007%	0.013%
21	0.000%	0.001%	0.000%	0.000%	0.004%	0.002%	0.002%	0.001%	0.002%	0.010%	0.010%
22	0.000%	0.000%	0.000%	0.001%	0.002%	0.001%	0.003%	0.001%	0.001%	0.004%	0.011%
23	0.000%	0.004%	0.003%	0.000%	0.021%	0.030%	0.051%	0.038%	0.030%	0.024%	0.036%
24	0.001%	0.000%	0.000%	0.000%	0.001%	0.001%	0.001%	0.002%	0.002%	0.002%	0.004%
25	0.001%	0.002%	0.002%	0.001%	0.012%	0.011%	0.040%	0.038%	0.033%	0.035%	0.036%
26	0.000%	0.000%	0.000%	0.001%	0.002%	0.001%	0.003%	0.003%	0.010%	0.005%	0.016%
27	0.000%	0.000%	0.001%	0.002%	0.006%	0.000%	0.002%	0.003%	0.004%	0.017%	0.020%
28	0.003%	0.001%	0.002%	0.006%	0.005%	0.002%	0.007%	0.005%	0.005%	0.010%	0.034%
29	0.043%	0.046%	0.046%	0.047%	0.032%	0.013%	0.035%	0.032%	0.021%	0.030%	0.045%
30	0.045%	0.013%	0.104%	0.099%	0.069%	0.036%	0.048%	0.024%	0.037%	0.014%	0.044%
31	0.005%	0.005%	0.046%	0.080%	0.114%	0.068%	0.039%	0.075%	0.046%	0.056%	0.057%
32	0.000%	0.000%	0.000%	0.001%	0.080%	0.148%	0.132%	0.070%	0.089%	0.050%	0.069%
33	0.000%	0.000%	0.000%	0.002%	0.055%	0.076%	0.131%	0.200%	0.094%	0.139%	0.083%
34	0.000%	0.000%	0.000%	0.000%	0.011%	0.028%	0.062%	0.105%	0.238%	0.119%	0.188%
35	0.000%	0.000%	0.000%	0.000%	0.005%	0.004%	0.048%	0.064%	0.097%	0.286%	0.197%
36	0.000%	0.000%	0.000%	0.000%	0.001%	0.000%	0.016%	0.043%	0.090%	0.116%	0.312%
37	0.000%	0.000%	0.000%	0.000%	0.001%	0.000%	0.006%	0.015%	0.027%	0.135%	0.230%
38	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.003%	0.004%	0.009%	0.050%	0.195%
39	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.002%	0.005%	0.038%	0.127%
40	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.002%	0.002%	0.018%	0.077%

**Inter- Harmonics PVS 100-TL :**

Order	Phase R - Inter-Harmonics [%]										
	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
1.5	0.027%	0.027%	0.029%	0.038%	0.041%	0.037%	0.052%	0.062%	0.049%	0.058%	0.057%
2.5	0.032%	0.031%	0.032%	0.060%	0.057%	0.046%	0.044%	0.040%	0.046%	0.048%	0.056%
3.5	0.039%	0.033%	0.037%	0.054%	0.049%	0.058%	0.046%	0.043%	0.051%	0.059%	0.055%
4.5	0.030%	0.033%	0.036%	0.051%	0.053%	0.041%	0.062%	0.043%	0.044%	0.041%	0.056%
5.5	0.030%	0.037%	0.034%	0.046%	0.052%	0.050%	0.045%	0.064%	0.047%	0.048%	0.048%
6.5	0.033%	0.036%	0.034%	0.051%	0.063%	0.054%	0.068%	0.048%	0.055%	0.053%	0.053%
7.5	0.053%	0.051%	0.048%	0.060%	0.065%	0.047%	0.065%	0.077%	0.054%	0.056%	0.064%
8.5	0.052%	0.055%	0.048%	0.076%	0.092%	0.081%	0.063%	0.068%	0.080%	0.085%	0.081%
9.5	0.099%	0.066%	0.061%	0.104%	0.129%	0.093%	0.090%	0.067%	0.090%	0.120%	0.112%
10.5	0.059%	0.088%	0.049%	0.107%	0.111%	0.072%	0.101%	0.075%	0.084%	0.082%	0.114%
11.5	0.041%	0.112%	0.037%	0.053%	0.165%	0.071%	0.060%	0.080%	0.060%	0.067%	0.067%
12.5	0.032%	0.040%	0.031%	0.045%	0.057%	0.047%	0.044%	0.045%	0.055%	0.055%	0.052%
13.5	0.034%	0.047%	0.026%	0.034%	0.046%	0.030%	0.041%	0.034%	0.037%	0.048%	0.042%
14.5	0.022%	0.026%	0.018%	0.048%	0.032%	0.027%	0.028%	0.024%	0.030%	0.032%	0.034%
15.5	0.019%	0.022%	0.017%	0.022%	0.027%	0.022%	0.023%	0.019%	0.020%	0.029%	0.030%
16.5	0.017%	0.020%	0.019%	0.023%	0.023%	0.017%	0.022%	0.019%	0.019%	0.020%	0.029%
17.5	0.014%	0.019%	0.008%	0.016%	0.022%	0.016%	0.018%	0.023%	0.020%	0.019%	0.023%
18.5	0.007%	0.009%	0.005%	0.018%	0.016%	0.014%	0.018%	0.019%	0.022%	0.020%	0.022%
19.5	0.005%	0.008%	0.004%	0.020%	0.017%	0.015%	0.019%	0.026%	0.022%	0.028%	0.024%
20.5	0.005%	0.006%	0.004%	0.008%	0.009%	0.007%	0.009%	0.009%	0.010%	0.012%	0.013%
21.5	0.004%	0.005%	0.003%	0.006%	0.009%	0.007%	0.009%	0.009%	0.008%	0.011%	0.012%
22.5	0.004%	0.005%	0.003%	0.005%	0.012%	0.012%	0.020%	0.016%	0.014%	0.013%	0.019%
23.5	0.004%	0.005%	0.003%	0.005%	0.012%	0.014%	0.021%	0.019%	0.014%	0.013%	0.017%
24.5	0.005%	0.004%	0.003%	0.006%	0.010%	0.008%	0.019%	0.016%	0.016%	0.016%	0.019%
25.5	0.005%	0.005%	0.004%	0.007%	0.010%	0.008%	0.021%	0.021%	0.017%	0.017%	0.018%
26.5	0.007%	0.005%	0.004%	0.009%	0.010%	0.006%	0.009%	0.010%	0.010%	0.013%	0.017%
27.5	0.011%	0.008%	0.006%	0.014%	0.013%	0.007%	0.012%	0.013%	0.010%	0.014%	0.022%
28.5	0.032%	0.020%	0.016%	0.032%	0.023%	0.009%	0.022%	0.020%	0.015%	0.019%	0.029%
29.5	0.040%	0.031%	0.027%	0.046%	0.029%	0.013%	0.023%	0.026%	0.019%	0.019%	0.026%
30.5	0.013%	0.018%	0.021%	0.106%	0.059%	0.024%	0.048%	0.025%	0.023%	0.026%	0.031%
31.5	0.008%	0.007%	0.011%	0.037%	0.156%	0.057%	0.068%	0.067%	0.026%	0.037%	0.030%
32.5	0.006%	0.005%	0.005%	0.026%	0.043%	0.039%	0.198%	0.068%	0.065%	0.031%	0.058%
33.5	0.004%	0.004%	0.004%	0.008%	0.034%	0.026%	0.057%	0.223%	0.056%	0.163%	0.036%
34.5	0.004%	0.003%	0.003%	0.006%	0.014%	0.022%	0.051%	0.055%	0.176%	0.101%	0.267%
35.5	0.003%	0.003%	0.003%	0.005%	0.009%	0.009%	0.032%	0.065%	0.039%	0.336%	0.109%
36.5	0.003%	0.003%	0.002%	0.005%	0.007%	0.006%	0.024%	0.019%	0.060%	0.073%	0.399%
37.5	0.003%	0.003%	0.002%	0.004%	0.006%	0.005%	0.013%	0.014%	0.018%	0.136%	0.082%
38.5	0.003%	0.002%	0.002%	0.004%	0.006%	0.004%	0.008%	0.010%	0.015%	0.030%	0.221%
39.5	0.002%	0.002%	0.002%	0.004%	0.005%	0.004%	0.006%	0.008%	0.010%	0.022%	0.035%
40.5	0.002%	0.002%	0.002%	0.004%	0.005%	0.003%	0.005%	0.007%	0.009%	0.014%	0.044%

Extract from Test report for unit certificate: 28111159 007  
 “Determination of electrical properties”

Seite 7 von 11  
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Extract No: 1 \_ Annex F.3 (VDE-AR-N 4105)

Order	Phase S - Inter-Harmonics [%]										
	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
1.5	0.026%	0.029%	0.029%	0.040%	0.041%	0.036%	0.049%	0.064%	0.049%	0.058%	0.060%
2.5	0.031%	0.032%	0.034%	0.060%	0.060%	0.047%	0.045%	0.038%	0.048%	0.047%	0.060%
3.5	0.035%	0.032%	0.037%	0.052%	0.046%	0.051%	0.042%	0.040%	0.049%	0.058%	0.055%
4.5	0.030%	0.031%	0.035%	0.053%	0.050%	0.038%	0.058%	0.040%	0.042%	0.041%	0.053%
5.5	0.030%	0.035%	0.036%	0.051%	0.047%	0.050%	0.045%	0.059%	0.046%	0.050%	0.054%
6.5	0.034%	0.035%	0.035%	0.054%	0.064%	0.054%	0.075%	0.047%	0.054%	0.053%	0.056%
7.5	0.056%	0.055%	0.046%	0.063%	0.065%	0.047%	0.063%	0.089%	0.055%	0.058%	0.063%
8.5	0.050%	0.057%	0.049%	0.076%	0.087%	0.081%	0.060%	0.067%	0.078%	0.082%	0.081%
9.5	0.098%	0.059%	0.064%	0.105%	0.116%	0.087%	0.089%	0.065%	0.091%	0.122%	0.109%
10.5	0.061%	0.080%	0.049%	0.106%	0.110%	0.067%	0.097%	0.075%	0.083%	0.087%	0.114%
11.5	0.038%	0.103%	0.038%	0.054%	0.161%	0.066%	0.060%	0.075%	0.059%	0.067%	0.072%
12.5	0.030%	0.040%	0.030%	0.046%	0.052%	0.047%	0.043%	0.043%	0.052%	0.056%	0.054%
13.5	0.033%	0.045%	0.025%	0.034%	0.046%	0.030%	0.038%	0.035%	0.037%	0.045%	0.042%
14.5	0.021%	0.025%	0.018%	0.043%	0.032%	0.028%	0.027%	0.024%	0.028%	0.032%	0.035%
15.5	0.018%	0.021%	0.017%	0.020%	0.026%	0.020%	0.021%	0.015%	0.019%	0.030%	0.029%
16.5	0.017%	0.018%	0.019%	0.021%	0.023%	0.016%	0.020%	0.018%	0.018%	0.021%	0.027%
17.5	0.014%	0.017%	0.009%	0.016%	0.022%	0.016%	0.018%	0.021%	0.019%	0.019%	0.022%
18.5	0.008%	0.009%	0.005%	0.018%	0.016%	0.013%	0.018%	0.018%	0.021%	0.020%	0.021%
19.5	0.006%	0.007%	0.004%	0.020%	0.017%	0.014%	0.018%	0.027%	0.021%	0.026%	0.022%
20.5	0.005%	0.005%	0.004%	0.008%	0.009%	0.007%	0.009%	0.009%	0.010%	0.011%	0.012%
21.5	0.004%	0.005%	0.003%	0.006%	0.008%	0.006%	0.009%	0.008%	0.008%	0.011%	0.011%
22.5	0.004%	0.004%	0.004%	0.006%	0.011%	0.014%	0.021%	0.015%	0.015%	0.014%	0.019%
23.5	0.004%	0.004%	0.004%	0.005%	0.012%	0.016%	0.021%	0.020%	0.016%	0.014%	0.018%
24.5	0.004%	0.004%	0.003%	0.006%	0.008%	0.007%	0.018%	0.016%	0.015%	0.016%	0.018%
25.5	0.005%	0.004%	0.004%	0.007%	0.008%	0.007%	0.019%	0.021%	0.017%	0.017%	0.018%
26.5	0.005%	0.004%	0.004%	0.008%	0.007%	0.006%	0.008%	0.008%	0.009%	0.011%	0.015%
27.5	0.008%	0.005%	0.005%	0.011%	0.009%	0.006%	0.009%	0.009%	0.008%	0.013%	0.019%
28.5	0.022%	0.010%	0.013%	0.021%	0.016%	0.008%	0.018%	0.016%	0.013%	0.017%	0.026%
29.5	0.041%	0.024%	0.026%	0.042%	0.025%	0.014%	0.020%	0.020%	0.016%	0.017%	0.024%
30.5	0.023%	0.021%	0.022%	0.110%	0.047%	0.027%	0.042%	0.023%	0.020%	0.024%	0.030%
31.5	0.008%	0.007%	0.014%	0.036%	0.099%	0.040%	0.055%	0.069%	0.025%	0.030%	0.030%
32.5	0.005%	0.004%	0.006%	0.014%	0.047%	0.033%	0.119%	0.054%	0.070%	0.028%	0.033%
33.5	0.004%	0.004%	0.004%	0.008%	0.016%	0.023%	0.052%	0.151%	0.040%	0.156%	0.033%
34.5	0.003%	0.003%	0.003%	0.007%	0.008%	0.013%	0.045%	0.057%	0.109%	0.066%	0.262%
35.5	0.003%	0.003%	0.003%	0.006%	0.007%	0.006%	0.027%	0.062%	0.054%	0.220%	0.060%
36.5	0.003%	0.003%	0.003%	0.005%	0.006%	0.005%	0.016%	0.015%	0.057%	0.083%	0.338%
37.5	0.002%	0.002%	0.002%	0.005%	0.005%	0.004%	0.009%	0.009%	0.017%	0.149%	0.094%
38.5	0.002%	0.002%	0.002%	0.004%	0.005%	0.003%	0.006%	0.007%	0.011%	0.034%	0.250%
39.5	0.002%	0.002%	0.002%	0.004%	0.004%	0.003%	0.005%	0.006%	0.008%	0.023%	0.039%
40.5	0.002%	0.002%	0.002%	0.004%	0.004%	0.003%	0.004%	0.005%	0.007%	0.014%	0.037%

Order	Phase T - Inter-Harmonics [%]										
	0% P/Pn	0% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
1.5	0.026%	0.029%	0.028%	0.040%	0.038%	0.035%	0.049%	0.066%	0.049%	0.058%	0.061%
2.5	0.033%	0.033%	0.034%	0.063%	0.061%	0.040%	0.043%	0.034%	0.050%	0.046%	0.061%
3.5	0.037%	0.033%	0.037%	0.051%	0.048%	0.051%	0.042%	0.036%	0.050%	0.057%	0.059%
4.5	0.030%	0.032%	0.034%	0.054%	0.046%	0.040%	0.061%	0.039%	0.042%	0.040%	0.053%
5.5	0.031%	0.035%	0.035%	0.046%	0.047%	0.044%	0.046%	0.059%	0.041%	0.048%	0.049%
6.5	0.034%	0.035%	0.035%	0.048%	0.058%	0.051%	0.070%	0.044%	0.049%	0.049%	0.048%
7.5	0.059%	0.054%	0.046%	0.068%	0.057%	0.048%	0.064%	0.081%	0.052%	0.058%	0.064%
8.5	0.054%	0.058%	0.050%	0.076%	0.091%	0.076%	0.062%	0.053%	0.083%	0.077%	0.087%
9.5	0.098%	0.061%	0.059%	0.106%	0.128%	0.077%	0.080%	0.058%	0.092%	0.122%	0.110%
10.5	0.056%	0.079%	0.045%	0.102%	0.097%	0.066%	0.095%	0.067%	0.077%	0.074%	0.104%
11.5	0.039%	0.100%	0.035%	0.046%	0.153%	0.056%	0.056%	0.059%	0.050%	0.062%	0.061%
12.5	0.031%	0.039%	0.028%	0.040%	0.051%	0.042%	0.042%	0.038%	0.044%	0.052%	0.047%
13.5	0.032%	0.041%	0.024%	0.032%	0.042%	0.029%	0.037%	0.034%	0.035%	0.045%	0.044%
14.5	0.021%	0.023%	0.018%	0.047%	0.032%	0.025%	0.027%	0.020%	0.030%	0.030%	0.033%
15.5	0.018%	0.021%	0.017%	0.020%	0.026%	0.017%	0.020%	0.014%	0.020%	0.030%	0.026%
16.5	0.017%	0.018%	0.017%	0.022%	0.021%	0.015%	0.019%	0.017%	0.018%	0.020%	0.026%
17.5	0.015%	0.018%	0.008%	0.016%	0.021%	0.014%	0.017%	0.020%	0.018%	0.019%	0.022%
18.5	0.007%	0.008%	0.005%	0.018%	0.016%	0.013%	0.016%	0.018%	0.020%	0.020%	0.022%
19.5	0.005%	0.007%	0.004%	0.020%	0.016%	0.013%	0.017%	0.025%	0.021%	0.028%	0.023%
20.5	0.005%	0.005%	0.004%	0.008%	0.008%	0.006%	0.008%	0.008%	0.009%	0.011%	0.013%
21.5	0.004%	0.004%	0.003%	0.006%	0.008%	0.006%	0.008%	0.008%	0.008%	0.010%	0.012%
22.5	0.004%	0.005%	0.004%	0.005%	0.012%	0.013%	0.021%	0.015%	0.014%	0.014%	0.020%
23.5	0.004%	0.005%	0.004%	0.005%	0.012%	0.015%	0.021%	0.020%	0.015%	0.014%	0.017%
24.5	0.004%	0.004%	0.003%	0.005%	0.009%	0.007%	0.019%	0.016%	0.015%	0.017%	0.020%
25.5	0.005%	0.005%	0.004%	0.006%	0.010%	0.008%	0.019%	0.021%	0.017%	0.018%	0.019%
26.5	0.006%	0.006%	0.005%	0.007%	0.009%	0.005%	0.008%	0.008%	0.009%	0.014%	0.018%
27.5	0.008%	0.009%	0.006%	0.011%	0.012%	0.006%	0.009%	0.010%	0.009%	0.015%	0.025%
28.5	0.021%	0.025%	0.016%	0.023%	0.023%	0.009%	0.021%	0.017%	0.013%	0.019%	0.033%
29.5	0.039%	0.029%	0.029%	0.035%	0.031%	0.016%	0.024%	0.022%	0.020%	0.020%	0.028%
30.5	0.027%	0.012%	0.026%	0.113%	0.053%	0.026%	0.038%	0.023%	0.025%	0.028%	0.037%
31.5	0.009%	0.006%	0.018%	0.046%	0.124%	0.048%	0.060%	0.068%	0.028%	0.043%	0.029%
32.5	0.006%	0.005%	0.007%	0.009%	0.061%	0.032%	0.164%	0.069%	0.055%	0.035%	0.070%
33.5	0.004%	0.004%	0.005%	0.006%	0.030%	0.026%	0.066%	0.195%	0.064%	0.136%	0.048%
34.5	0.004%	0.003%	0.003%	0.005%	0.011%	0.016%	0.040%	0.063%	0.148%	0.088%	0.227%
35.5	0.003%	0.003%	0.003%	0.004%	0.008%	0.007%	0.030%	0.060%	0.051%	0.298%	0.106%
36.5	0.003%	0.003%	0.003%	0.004%	0.006%	0.005%	0.015%	0.024%	0.055%	0.097%	0.409%
37.5	0.003%	0.003%	0.002%	0.004%	0.006%	0.004%	0.009%	0.012%	0.018%	0.120%	0.109%
38.5	0.002%	0.002%	0.002%	0.003%	0.006%	0.003%	0.006%	0.008%	0.010%	0.031%	0.194%
39.5	0.002%	0.002%	0.002%	0.003%	0.005%	0.003%	0.005%	0.007%	0.008%	0.027%	0.036%
40.5	0.002%	0.002%	0.002%	0.003%	0.005%	0.003%	0.004%	0.006%	0.007%	0.015%	0.050%



Extract from Test report for unit certificate: 28111159 007  
 “Determination of electrical properties”

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Extract No: 1 \_ Annex F.3 (VDE-AR-N 4105)

**Higer Frequency Harmonics Phase 1 for Model PVS-100-TL:**

Frequency [Hz]	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
2100	0.0002	0.0008	0.0007	0.0001	0.0005	0.0000	0.0003	0.0001	0.0003	0.0004	0.0003
2300	0.0002	0.0008	0.0004	0.0003	0.0000	0.0006	0.0008	0.0006	0.0009	0.0009	0.0007
2500	0.0004	0.0005	0.0006	0.0004	0.0001	0.0002	0.0006	0.0002	0.0003	0.0010	0.0001
2700	0.0002	0.0003	0.0002	0.0003	0.0005	0.0008	0.0005	0.0002	0.0003	0.0010	0.0001
2900	0.0004	0.0009	0.0000	0.0003	0.0001	0.0006	0.0008	0.0006	0.0005	0.0007	0.0006
3100	0.0008	0.0001	0.0009	0.0010	0.0008	0.0005	0.0008	0.0004	0.0009	0.0001	0.0004
3300	0.0004	0.0006	0.0005	0.0003	0.0004	0.0003	0.0003	0.0006	0.0008	0.0007	0.0007
3500	0.0007	0.0003	0.0005	0.0007	0.0001	0.0007	0.0006	0.0006	0.0010	0.0007	0.0006
3700	0.0000	0.0007	0.0008	0.0001	0.0002	0.0010	0.0001	0.0002	0.0000	0.0000	0.0002
3900	0.0001	0.0003	0.0004	0.0006	0.0001	0.0003	0.0009	0.0006	0.0010	0.0004	0.0004
4100	0.0009	0.0003	0.0010	0.0002	0.0007	0.0002	0.0004	0.0003	0.0009	0.0010	0.0008
4300	0.0007	0.0002	0.0001	0.0005	0.0001	0.0004	0.0008	0.0009	0.0003	0.0006	0.0008
4500	0.0008	0.0009	0.0003	0.0001	0.0009	0.0008	0.0008	0.0007	0.0004	0.0000	0.0001
4700	0.0006	0.0007	0.0002	0.0002	0.0005	0.0000	0.0003	0.0005	0.0005	0.0005	0.0010
4900	0.0008	0.0005	0.0004	0.0010	0.0007	0.0002	0.0004	0.0007	0.0003	0.0004	0.0002
5100	0.0001	0.0005	0.0010	0.0001	0.0009	0.0008	0.0001	0.0007	0.0005	0.0009	0.0010
5300	0.0003	0.0004	0.0002	0.0009	0.0002	0.0002	0.0002	0.0009	0.0002	0.0000	0.0010
5500	0.0001	0.0004	0.0010	0.0009	0.0008	0.0005	0.0008	0.0010	0.0002	0.0007	0.0008
5700	0.0009	0.0004	0.0004	0.0004	0.0009	0.0009	0.0010	0.0008	0.0009	0.0006	0.0008
5900	0.0003	0.0005	0.0008	0.0009	0.0009	0.0008	0.0004	0.0005	0.0003	0.0006	0.0009
6100	0.0007	0.0000	0.0008	0.0005	0.0009	0.0007	0.0002	0.0001	0.0002	0.0000	0.0005
6300	0.0008	0.0009	0.0002	0.0005	0.0002	0.0004	0.0003	0.0007	0.0002	0.0010	0.0005
6500	0.0003	0.0000	0.0003	0.0002	0.0005	0.0000	0.0005	0.0006	0.0006	0.0003	0.0005
6700	0.0004	0.0007	0.0001	0.0005	0.0009	0.0004	0.0004	0.0001	0.0006	0.0008	0.0002
6900	0.0005	0.0008	0.0001	0.0000	0.0008	0.0009	0.0008	0.0009	0.0000	0.0007	0.0003
7100	0.0000	0.0004	0.0002	0.0002	0.0006	0.0001	0.0000	0.0007	0.0003	0.0009	0.0010
7300	0.0004	0.0001	0.0000	0.0009	0.0009	0.0003	0.0003	0.0002	0.0002	0.0007	0.0000
7500	0.0006	0.0001	0.0006	0.0010	0.0009	0.0006	0.0002	0.0008	0.0005	0.0001	0.0002
7700	0.0005	0.0007	0.0004	0.0000	0.0007	0.0002	0.0001	0.0006	0.0006	0.0005	0.0001
7900	0.0003	0.0001	0.0008	0.0004	0.0005	0.0001	0.0002	0.0001	0.0007	0.0001	0.0005
8100	0.0010	0.0008	0.0004	0.0009	0.0005	0.0010	0.0007	0.0004	0.0001	0.0002	0.0002
8300	0.0006	0.0002	0.0003	0.0006	0.0005	0.0001	0.0000	0.0005	0.0000	0.0004	0.0001
8500	0.0009	0.0009	0.0001	0.0007	0.0010	0.0001	0.0001	0.0003	0.0000	0.0003	0.0003
8700	0.0008	0.0006	0.0006	0.0005	0.0003	0.0002	0.0006	0.0006	0.0009	0.0005	0.0003
8900	0.0009	0.0004	0.0004	0.0008	0.0001	0.0008	0.0005	0.0007	0.0010	0.0008	0.0004

**Higer Frequency Harmonics Phase 2 for Model PVS-100-TL:**

Frequency [Hz]	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
2100	0.0010	0.0006	0.0003	0.0006	0.0004	0.0008	0.0006	0.0002	0.0006	0.0005	0.0007
2300	0.0000	0.0001	0.0010	0.0002	0.0002	0.0008	0.0000	0.0002	0.0002	0.0002	0.0002
2500	0.0002	0.0003	0.0002	0.0005	0.0005	0.0001	0.0010	0.0002	0.0004	0.0004	0.0005
2700	0.0005	0.0003	0.0006	0.0009	0.0005	0.0008	0.0007	0.0004	0.0000	0.0009	0.0010
2900	0.0005	0.0009	0.0008	0.0007	0.0004	0.0005	0.0006	0.0001	0.0005	0.0006	0.0010
3100	0.0005	0.0007	0.0006	0.0006	0.0010	0.0009	0.0006	0.0007	0.0010	0.0006	0.0001
3300	0.0010	0.0001	0.0002	0.0004	0.0005	0.0001	0.0001	0.0002	0.0006	0.0004	0.0009
3500	0.0003	0.0004	0.0007	0.0001	0.0003	0.0008	0.0006	0.0009	0.0004	0.0003	0.0009
3700	0.0006	0.0005	0.0010	0.0008	0.0002	0.0002	0.0005	0.0007	0.0000	0.0002	0.0002
3900	0.0001	0.0003	0.0003	0.0003	0.0008	0.0002	0.0003	0.0001	0.0002	0.0002	0.0009
4100	0.0002	0.0002	0.0009	0.0006	0.0009	0.0006	0.0007	0.0004	0.0008	0.0008	0.0010
4300	0.0006	0.0009	0.0002	0.0007	0.0002	0.0007	0.0001	0.0008	0.0003	0.0010	0.0007
4500	0.0004	0.0004	0.0005	0.0003	0.0002	0.0003	0.0005	0.0006	0.0007	0.0008	0.0001
4700	0.0004	0.0001	0.0010	0.0000	0.0008	0.0009	0.0004	0.0008	0.0006	0.0009	0.0010
4900	0.0002	0.0005	0.0005	0.0007	0.0009	0.0003	0.0003	0.0000	0.0006	0.0001	0.0003
5100	0.0002	0.0001	0.0003	0.0006	0.0001	0.0007	0.0000	0.0010	0.0008	0.0002	0.0010
5300	0.0009	0.0009	0.0006	0.0000	0.0002	0.0003	0.0003	0.0007	0.0009	0.0001	0.0000
5500	0.0006	0.0010	0.0000	0.0001	0.0001	0.0003	0.0008	0.0004	0.0009	0.0010	0.0001
5700	0.0004	0.0001	0.0005	0.0005	0.0002	0.0002	0.0006	0.0007	0.0000	0.0008	0.0009
5900	0.0001	0.0009	0.0007	0.0006	0.0005	0.0000	0.0005	0.0008	0.0008	0.0005	0.0009
6100	0.0002	0.0003	0.0001	0.0001	0.0007	0.0006	0.0004	0.0005	0.0005	0.0005	0.0003
6300	0.0001	0.0007	0.0006	0.0009	0.0005	0.0009	0.0001	0.0004	0.0001	0.0002	0.0001
6500	0.0002	0.0001	0.0009	0.0001	0.0004	0.0000	0.0009	0.0010	0.0007	0.0005	0.0004
6700	0.0003	0.0008	0.0004	0.0002	0.0001	0.0004	0.0006	0.0005	0.0000	0.0001	0.0005
6900	0.0009	0.0007	0.0009	0.0005	0.0002	0.0009	0.0001	0.0008	0.0006	0.0003	0.0009
7100	0.0005	0.0008	0.0005	0.0004	0.0004	0.0007	0.0006	0.0001	0.0010	0.0007	0.0002
7300	0.0006	0.0001	0.0003	0.0004	0.0009	0.0003	0.0000	0.0001	0.0007	0.0002	0.0004
7500	0.0006	0.0004	0.0008	0.0003	0.0009	0.0001	0.0007	0.0007	0.0006	0.0008	0.0005
7700	0.0007	0.0008	0.0007	0.0008	0.0006	0.0005	0.0009	0.0005	0.0006	0.0007	0.0003
7900	0.0001	0.0008	0.0001	0.0007	0.0002	0.0007	0.0005	0.0001	0.0005	0.0009	0.0004
8100	0.0000	0.0009	0.0007	0.0002	0.0002	0.0010	0.0008	0.0005	0.0001	0.0000	0.0000
8300	0.0005	0.0008	0.0010	0.0009	0.0004	0.0007	0.0008	0.0001	0.0009	0.0001	0.0003
8500	0.0007	0.0007	0.0005	0.0008	0.0007	0.0008	0.0004	0.0009	0.0005	0.0001	0.0003
8700	0.0008	0.0006	0.0009	0.0003	0.0004	0.0005	0.0002	0.0009	0.0007	0.0003	0.0004
8900	0.0008	0.0007	0.0007	0.0004	0.0004	0.0008	0.0008	0.0002	0.0000	0.0004	0.0007

**Higer Frequency Harmonics Phase 3 for Model PVS-100-TL:**

Frequency [Hz]	0% P/Pn	10% P/Pn	20% P/Pn	30% P/Pn	40% P/Pn	50% P/Pn	60% P/Pn	70% P/Pn	80% P/Pn	90% P/Pn	100% P/Pn
2100	0.0002	0.0009	0.0000	0.0006	0.0007	0.0002	0.0001	0.0004	0.0009	0.0010	0.0007
2300	0.0008	0.0004	0.0001	0.0007	0.0003	0.0007	0.0007	0.0004	0.0003	0.0007	0.0000
2500	0.0009	0.0009	0.0001	0.0010	0.0006	0.0007	0.0003	0.0002	0.0006	0.0007	0.0002
2700	0.0004	0.0009	0.0009	0.0007	0.0002	0.0002	0.0009	0.0008	0.0009	0.0009	0.0004
2900	0.0001	0.0005	0.0003	0.0004	0.0003	0.0007	0.0007	0.0007	0.0005	0.0002	0.0001
3100	0.0009	0.0005	0.0006	0.0003	0.0001	0.0007	0.0003	0.0002	0.0002	0.0000	0.0006
3300	0.0006	0.0009	0.0000	0.0001	0.0009	0.0009	0.0004	0.0010	0.0010	0.0006	0.0007
3500	0.0004	0.0008	0.0007	0.0001	0.0009	0.0002	0.0001	0.0002	0.0004	0.0009	0.0005
3700	0.0000	0.0010	0.0004	0.0000	0.0007	0.0004	0.0009	0.0005	0.0006	0.0003	0.0004
3900	0.0006	0.0007	0.0002	0.0005	0.0005	0.0009	0.0002	0.0008	0.0004	0.0004	0.0010
4100	0.0008	0.0009	0.0006	0.0003	0.0008	0.0006	0.0005	0.0008	0.0004	0.0003	0.0009
4300	0.0003	0.0001	0.0005	0.0001	0.0008	0.0000	0.0003	0.0004	0.0001	0.0007	0.0003
4500	0.0009	0.0002	0.0006	0.0000	0.0007	0.0003	0.0006	0.0007	0.0005	0.0001	0.0004
4700	0.0002	0.0007	0.0009	0.0001	0.0007	0.0002	0.0004	0.0004	0.0010	0.0003	0.0000
4900	0.0005	0.0002	0.0005	0.0007	0.0001	0.0007	0.0008	0.0001	0.0003	0.0006	0.0006
5100	0.0000	0.0006	0.0004	0.0003	0.0009	0.0001	0.0005	0.0008	0.0000	0.0005	0.0010
5300	0.0001	0.0005	0.0010	0.0007	0.0007	0.0004	0.0002	0.0003	0.0008	0.0005	0.0003
5500	0.0009	0.0001	0.0006	0.0010	0.0000	0.0005	0.0001	0.0002	0.0004	0.0006	0.0006
5700	0.0008	0.0008	0.0004	0.0001	0.0007	0.0003	0.0008	0.0007	0.0001	0.0008	0.0006
5900	0.0004	0.0010	0.0001	0.0006	0.0009	0.0009	0.0004	0.0002	0.0007	0.0003	0.0007
6100	0.0003	0.0006	0.0010	0.0005	0.0009	0.0007	0.0005	0.0007	0.0002	0.0008	0.0003
6300	0.0002	0.0003	0.0006	0.0007	0.0004	0.0003	0.0006	0.0009	0.0009	0.0001	0.0003
6500	0.0003	0.0007	0.0004	0.0002	0.0009	0.0000	0.0007	0.0007	0.0009	0.0004	0.0009
6700	0.0006	0.0001	0.0010	0.0003	0.0010	0.0007	0.0002	0.0005	0.0000	0.0009	0.0008
6900	0.0005	0.0009	0.0009	0.0005	0.0004	0.0000	0.0000	0.0004	0.0005	0.0004	0.0002
7100	0.0001	0.0001	0.0009	0.0001	0.0004	0.0004	0.0002	0.0002	0.0009	0.0005	0.0001
7300	0.0008	0.0004	0.0008	0.0010	0.0008	0.0004	0.0005	0.0007	0.0004	0.0010	0.0004
7500	0.0005	0.0002	0.0003	0.0000	0.0001	0.0007	0.0002	0.0006	0.0004	0.0006	0.0007
7700	0.0005	0.0009	0.0005	0.0005	0.0002	0.0009	0.0006	0.0010	0.0006	0.0002	0.0004
7900	0.0003	0.0001	0.0003	0.0001	0.0010	0.0003	0.0007	0.0009	0.0007	0.0000	0.0001
8100	0.0007	0.0003	0.0001	0.0002	0.0008	0.0008	0.0008	0.0001	0.0008	0.0004	0.0000
8300	0.0007	0.0008	0.0002	0.0009	0.0010	0.0002	0.0001	0.0003	0.0009	0.0004	0.0010
8500	0.0009	0.0002	0.0000	0.0004	0.0003	0.0008	0.0002	0.0003	0.0009	0.0008	0.0005
8700	0.0009	0.0007	0.0005	0.0008	0.0005	0.0009	0.0010	0.0001	0.0006	0.0002	0.0008
8900	0.0007	0.0001	0.0000	0.0002	0.0006	0.0004	0.0003	0.0003	0.0007	0.0010	0.0009