

Metrology test report for PIC32CXMTSH-DB and PIC32CXMTC-DB with metrology library version 3.01.02



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Metrology Lab

15/02/2024

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- **Reactive Power Load Curves**
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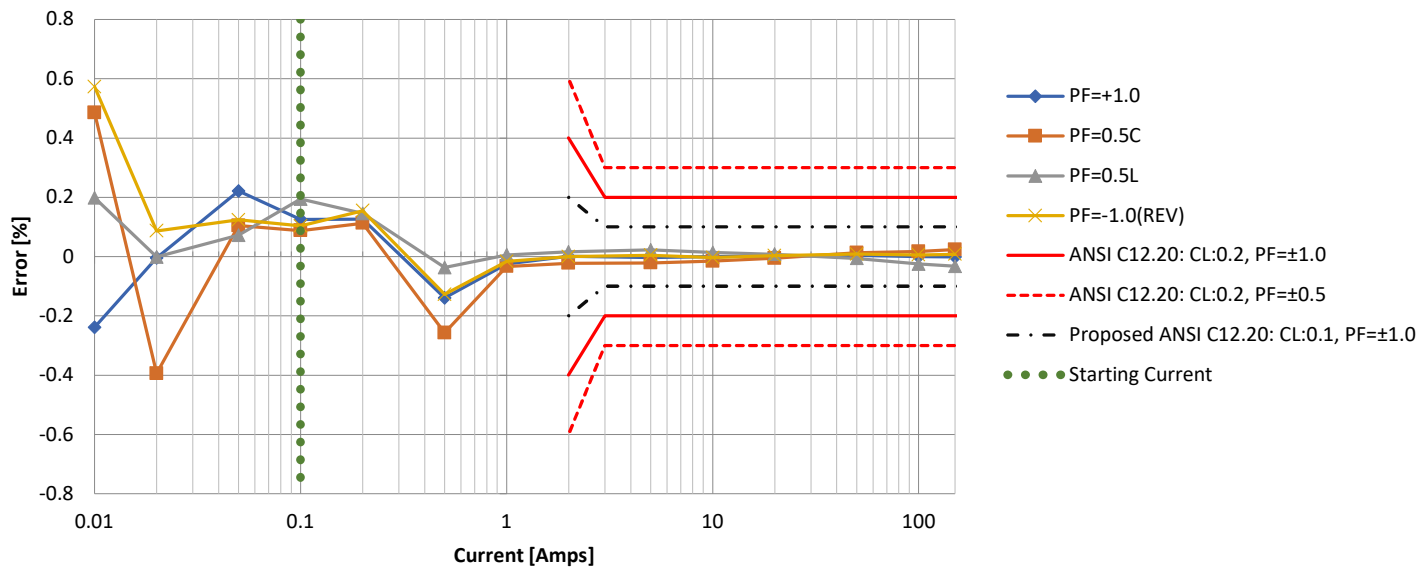
Measurement Conditions

- **Meter Tester: WECO 4150**
- **Sensors: CT VAC 4629-X040**
- **Application Firmware: Demo Meter App v2.01.03 (SEF)**
- **Metrology Firmware: 3.01.02**
- **Hardware:**
 - PIC32CXMTSH-DB Rev2
 - PIC32CXMTC-DB Rev2
 - Demo board powered by External AC/DC
- **Calibration point: PF = 0.5L, Voltage = 220V, Current = 30A.**

Active Power Load Curves

PIC32CXMTSH-Rev2. 50Hz.

Active P, 50Hz, V3.01.02 Standard Metrology FW, 220V, 2 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

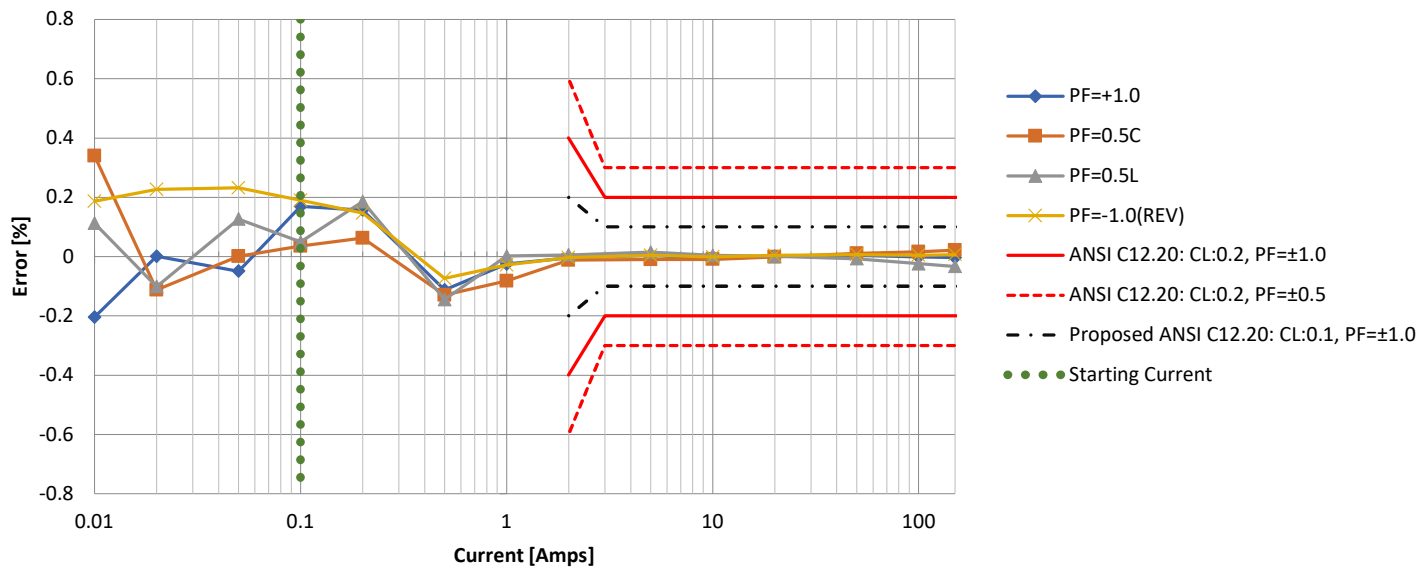


Active Power offset enabled (0,0265Wh/cycle).
Meter scaled to 240A. Integration period: 1 second.

Active Power Load Curves

PIC32CXMTSH-Rev2. 60Hz.

Active P, 60Hz, V3.01.02 Standard Metrology FW, 220V, 2 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

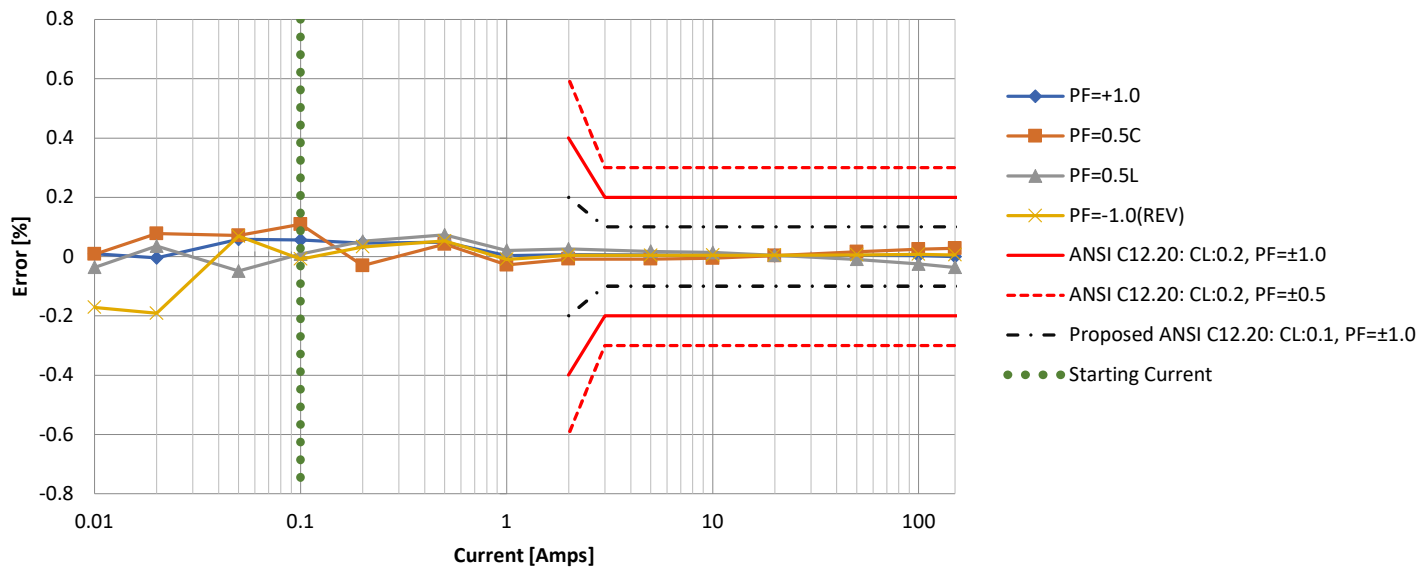


Active Power offset enabled (0,0265Wh/cycle).
Meter scaled to 240A. Integration period: 1 second.

Active Power Load Curves

PIC32CXMT-C-Rev2. 50Hz.

Active P, 50Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

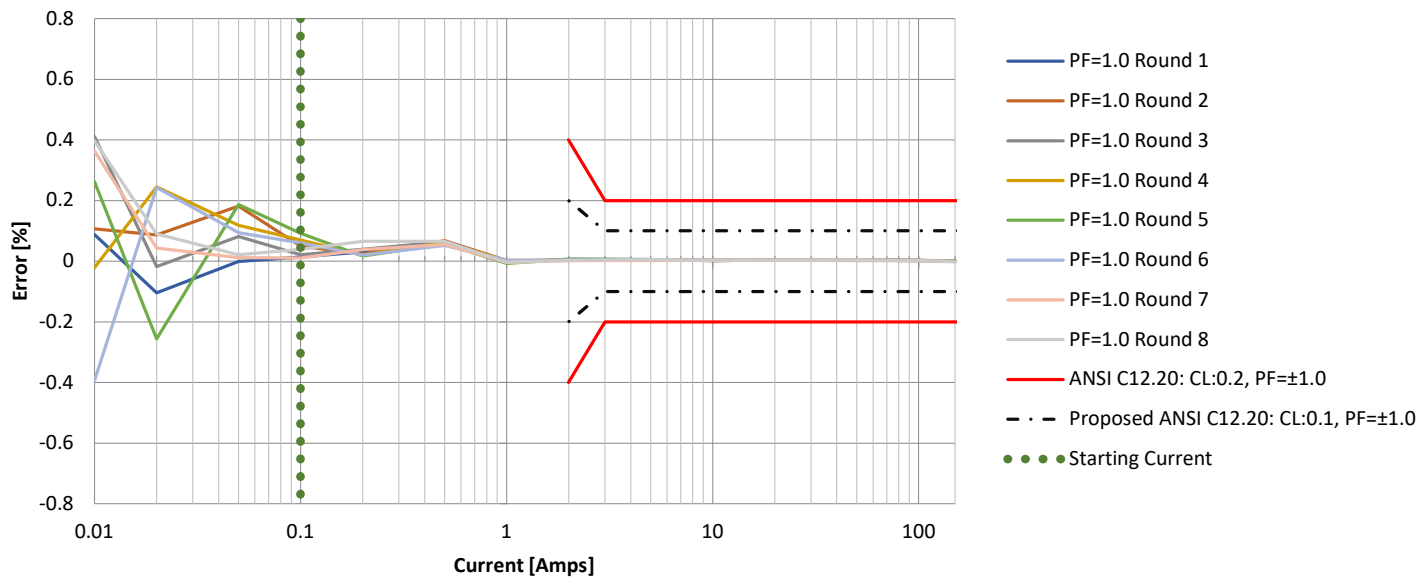


Active Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Active Power Load Curves

PIC32CXMT-C-Rev2. 50Hz. Repeatability test.

Active P, 50Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec, Class=(200A, 0.2%) [15000:1 range]. Repeatability test.

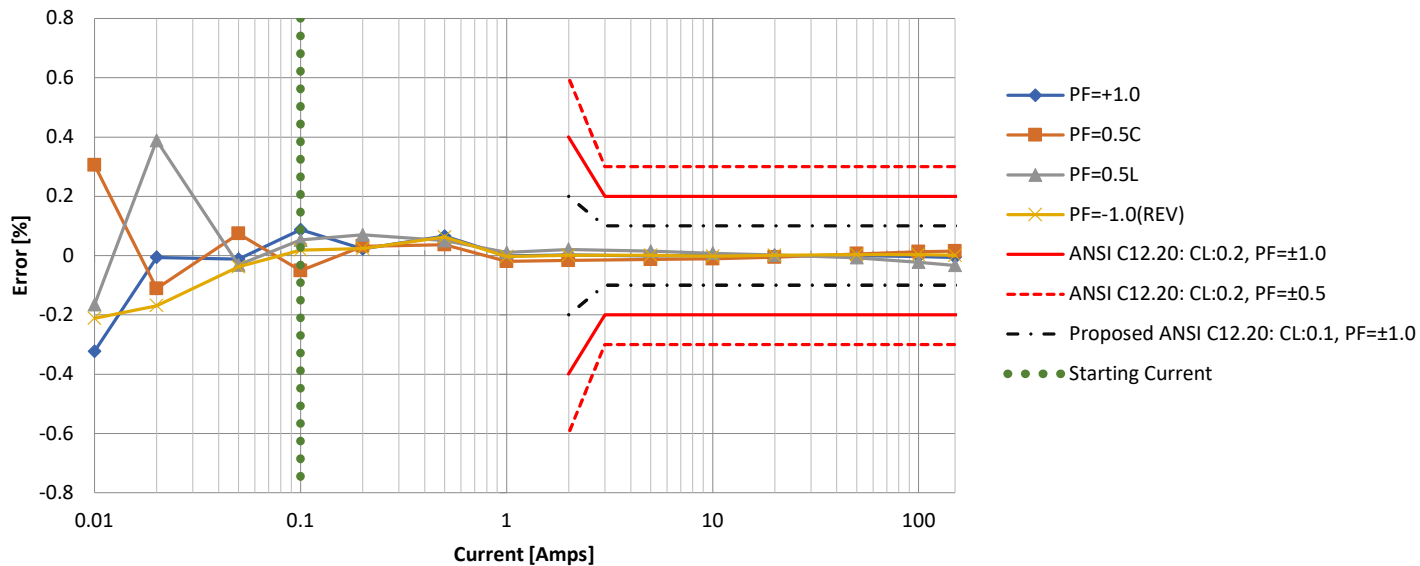


Active Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Active Power Load Curves

PIC32CXMT-C-Rev2. 60Hz.

Active P, 60Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

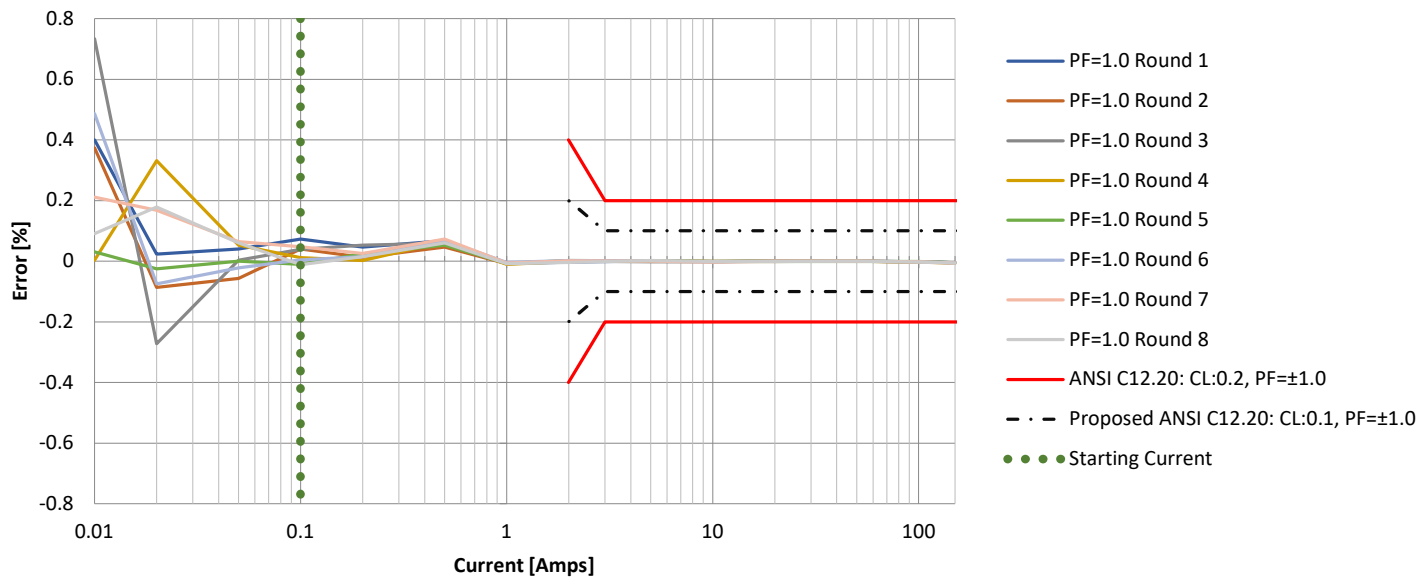


Active Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Active Power Load Curves

PIC32CXMT-C-Rev2. 60Hz. Repeatability test.

Active P, 60Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec, Class=(200A, 0.2%) [15000:1 range]. Repeatability test.

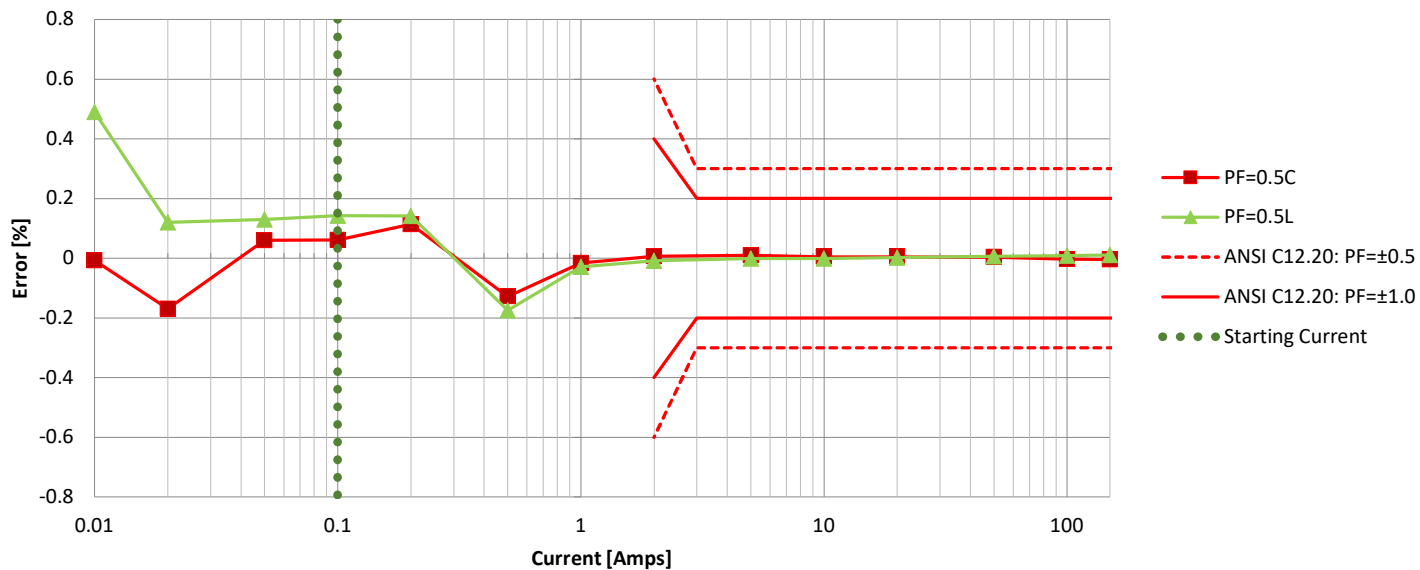


Active Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Reactive Power Load Curves

PIC32CXMTSH-Rev2. 50Hz.

Reactive Q, 50Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

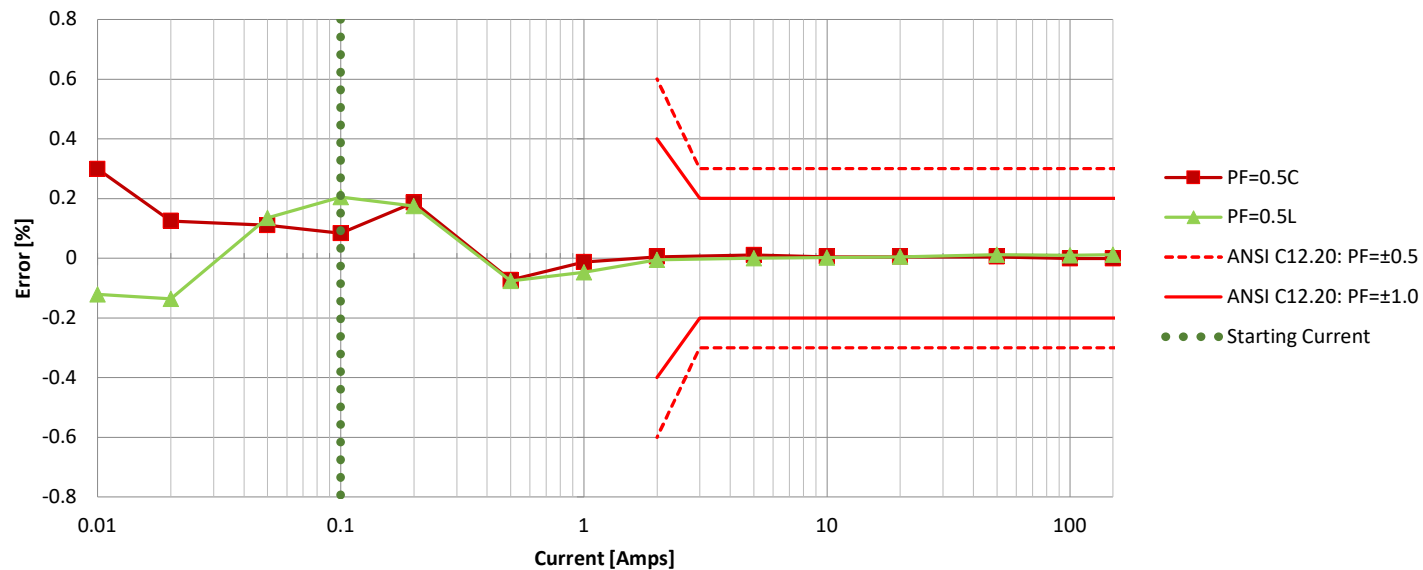


Reactive Power offset enabled (-0.03663 Varh/cycle).
Meter scaled to 240A. Integration period: 1 second.

Reactive Power Load Curves

PIC32CXMTSH-Rev2. 60Hz.

Reactive Q, 50Hz, V3.01.02 Standard Metrology FW, 220V, 2 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]



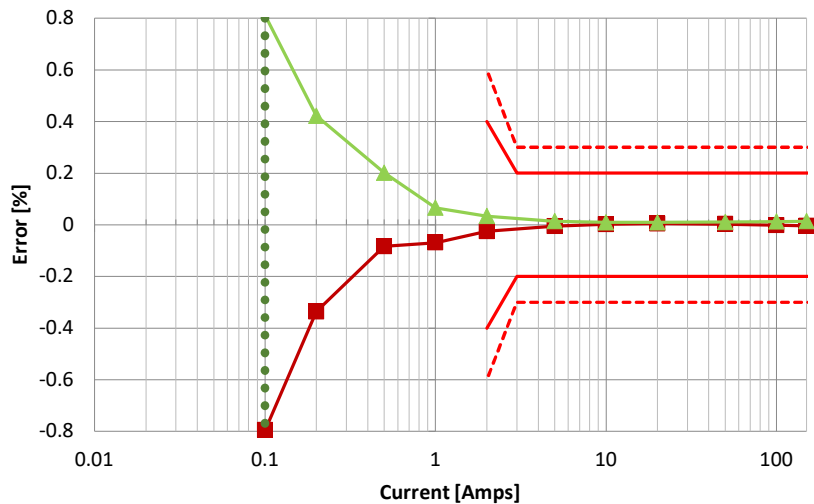
Reactive Power offset disabled.

Meter scaled to 240A. Integration period: 1 second.

Reactive Power Load Curves

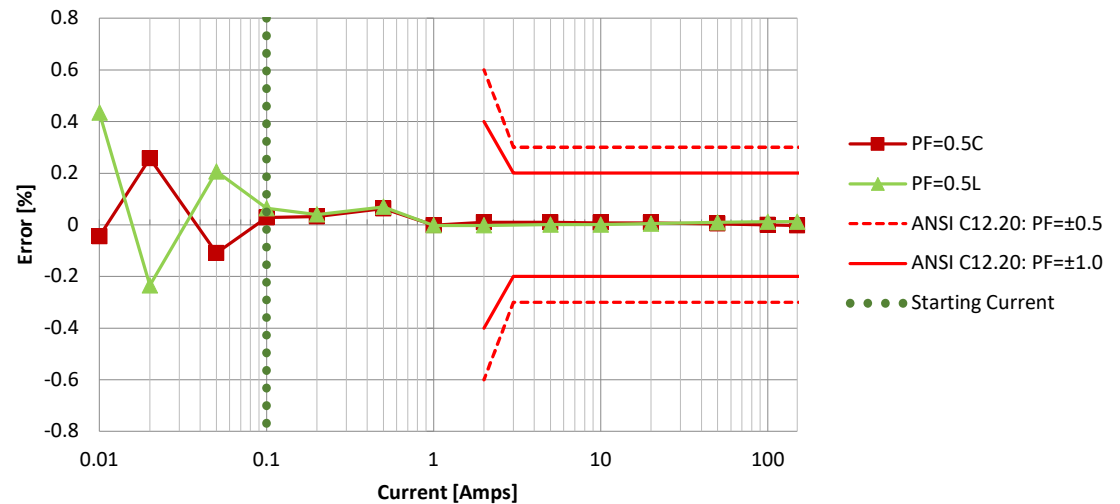
PIC32CXMT-C-Rev2. 50Hz.

Reactive Q, 50Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec, Class=(200A, 0.2%) [15000:1 range]



Reactive Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Reactive Q, 50Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec, Class=(200A, 0.2%) [15000:1 range]

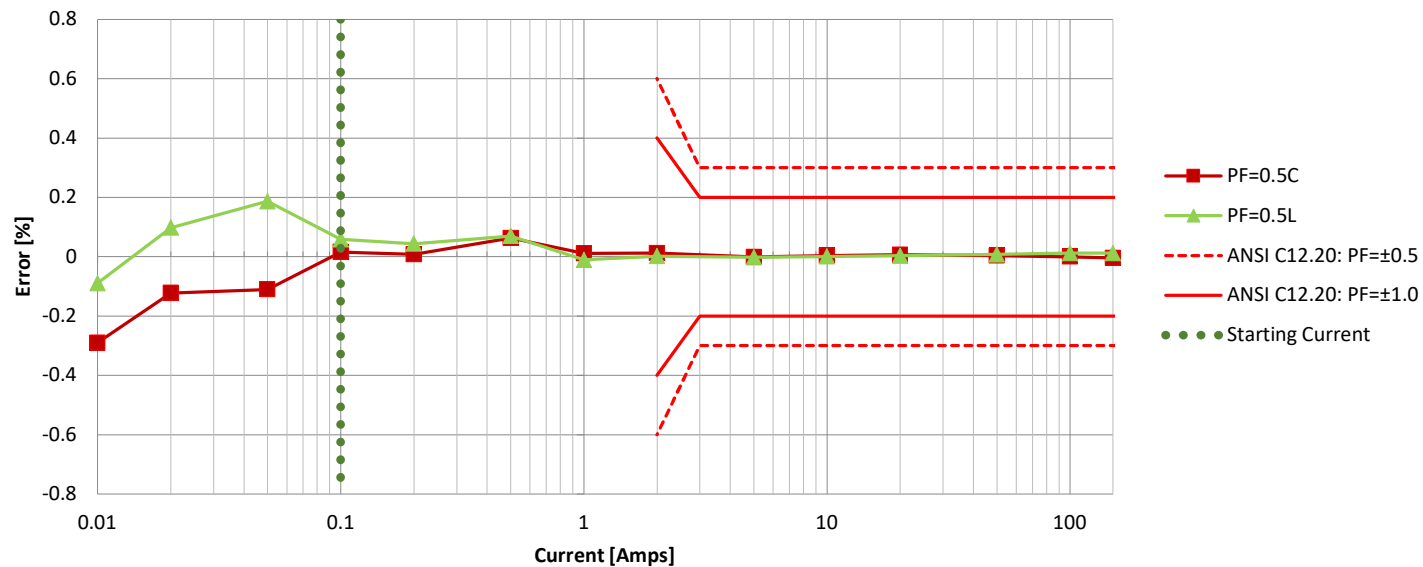


Reactive Power offset enabled and set to 0.411Varh/cycle.
Meter scaled to 240A. Integration period: 1 second.

Reactive Power Load Curves

PIC32CXMT-C-Rev2. 50Hz.

Reactive Q, 50Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

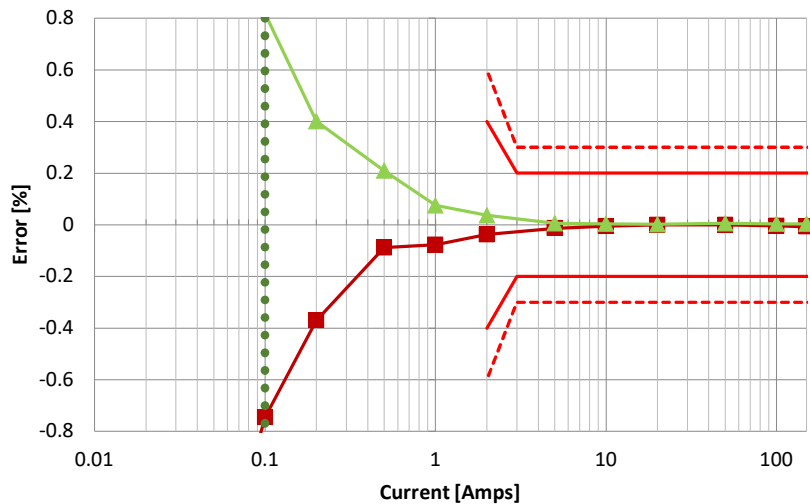


Reactive Power offset enabled and set to 0,411Varh/cycle.
Meter scaled to 240A. Integration period: 1 second.

Reactive Power Load Curves

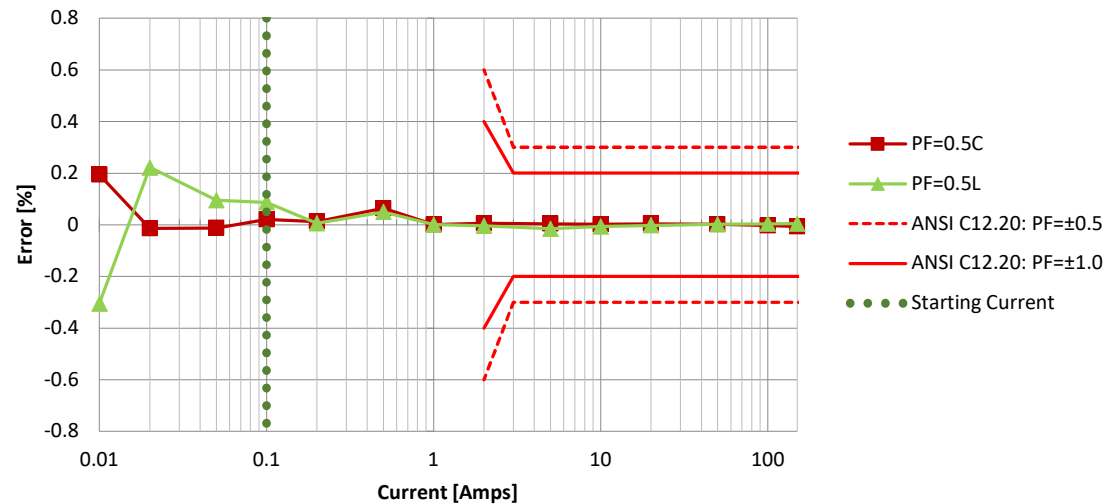
PIC32CXMT-C-Rev2. 60Hz.

Reactive Q, 60Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec, Class=(200A, 0.2%) [15000:1 range]



Reactive Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Reactive Q, 60Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec, Class=(200A, 0.2%) [15000:1 range]

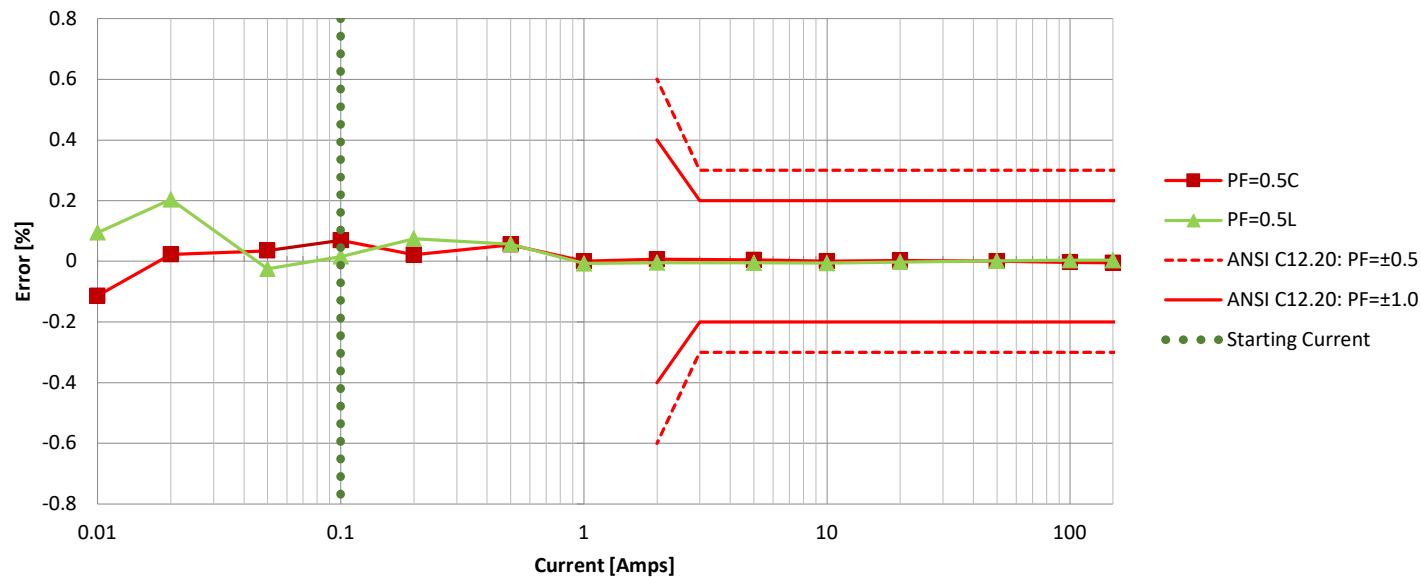


Reactive Power offset enabled and set to 0,376846Varh.
Meter scaled to 240A. Integration period: 1 second.

Reactive Power Load Curves

PIC32CXMT-C-Rev2. 60Hz.

Reactive Q, 60Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.3125, t=36sec, Class=(200A, 0.2%) [15000:1 range]

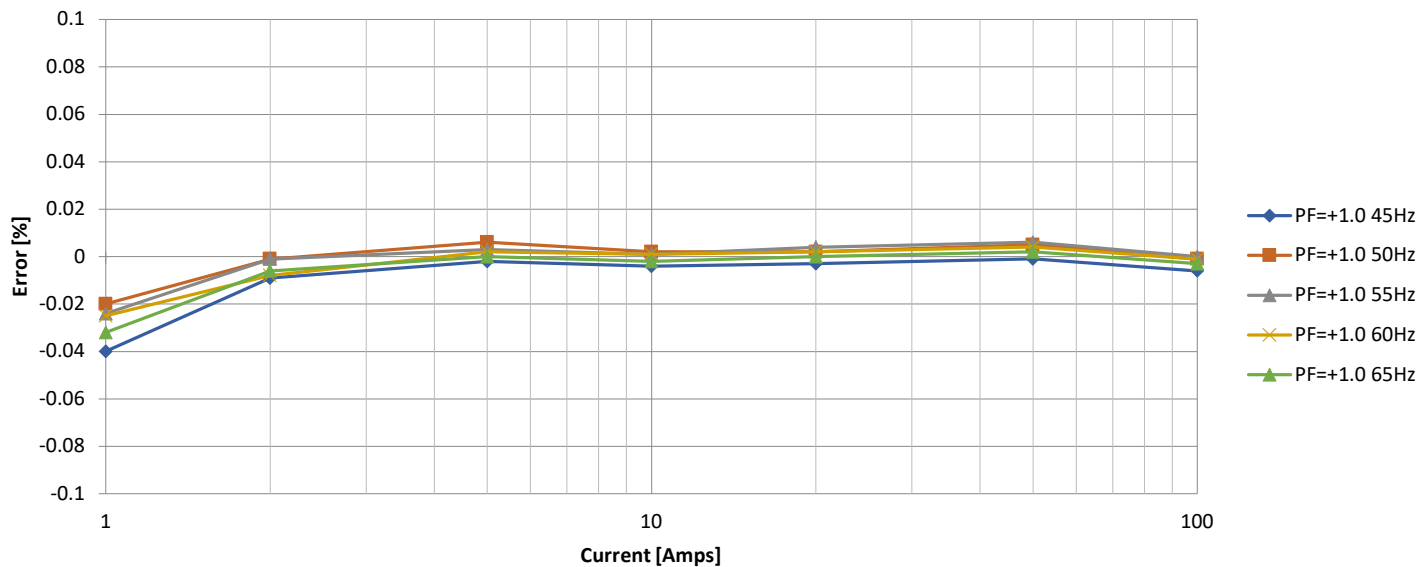


Reactive Power offset enabled and set to 0,376846Varh/cycle.
Meter scaled to 240A. Integration period: 1 second.

Frequency Influence Test

PIC32CXMTSH-Rev2

Active P, 45 to 65Hz, V3.01.02 Standard Metrology FW, 220V, 2 Φ ,
Kt=0.075, t=36sec



Power offset enabled (0,0265Wh/cycle).

Meter scaled to 240A. Integration period: 1 second.

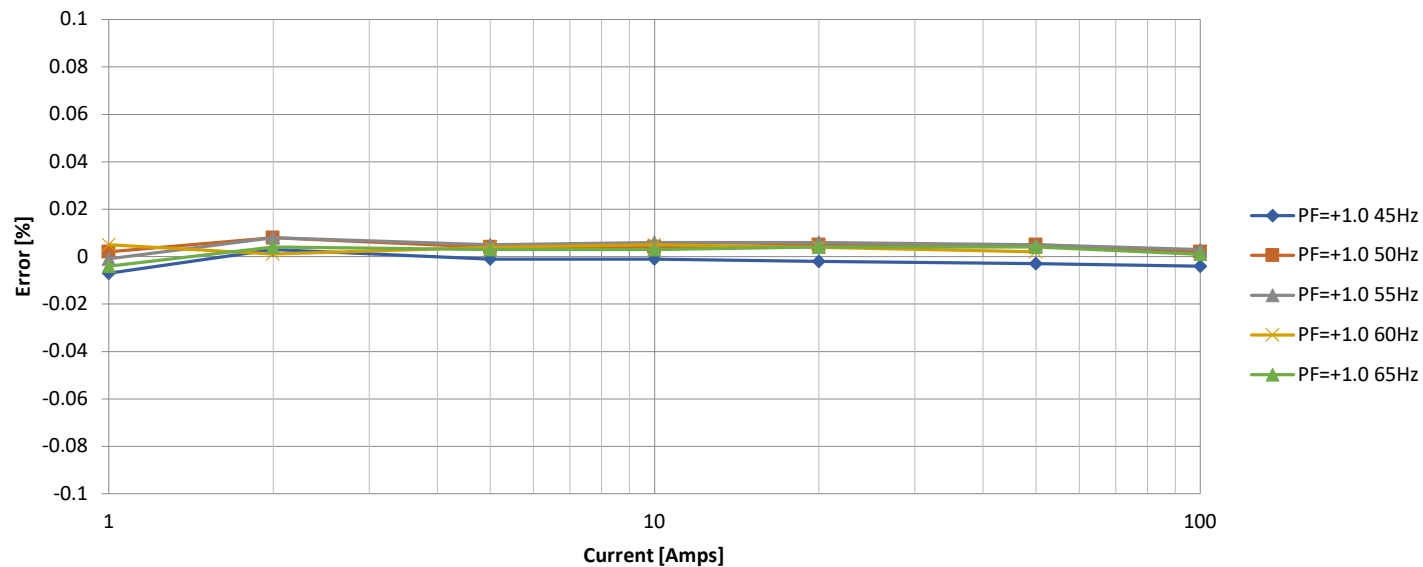
Conclusion: The system frequency will not influent the metrology performance.

Note: The performance of the CT could be affected by the frequency.

Frequency Influence Test

PIC32CXMT-C-Rev2 50Hz

Active P, 45 to 65Hz, V3.01.02 Standard Metrology FW, 220V, 3 Φ ,
Kt=0.075, t=36sec



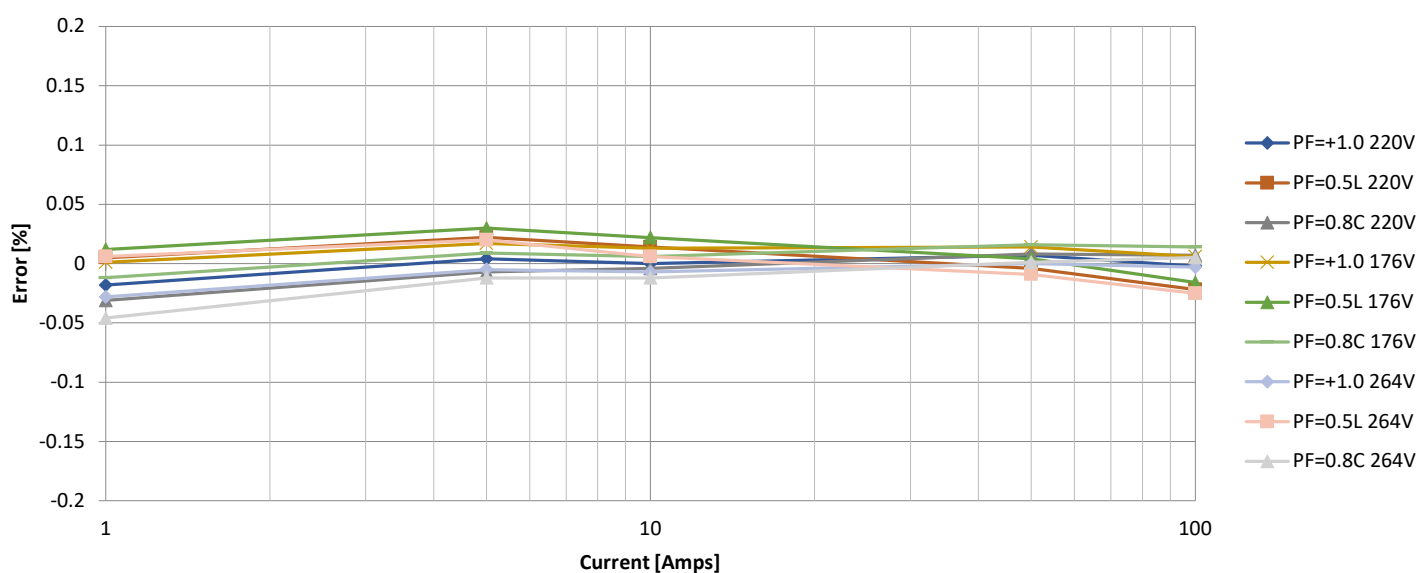
Active Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Conclusion: The system frequency will not influence the metrology performance.
Note: The performance of the CT could be affected by the frequency.

Voltage Influence Test

PIC32CXMTSH-Rev2

Active P, Voltage Sweep, V3.01.02 Standard Metrology FW, 220V, 2Φ,
Kt=0.075, t=36sec, 50Hz



Voltage	Current	PF = 1.0	PF = 0.5L	PF = 0.8C
176	1	0.001	0.012	-0.012
220	1	-0.018	0.005	-0.031
264	1	-0.028	0.006	-0.046
176	5	0.017	0.03	0.009
220	5	0.004	0.022	-0.007
264	5	-0.005	0.02	-0.012
176	10	0.013	0.022	0.006
220	10	0	0.014	-0.004
264	10	-0.007	0.006	-0.012
176	50	0.014	0.004	0.016
220	50	0.007	-0.004	0.008
264	50	0	-0.009	0.001
176	100	0.006	-0.016	0.014
220	100	-0.002	-0.022	0.007
264	100	-0.003	-0.025	0.005

Power offset enabled (0,0265Wh/cycle).
Meter scaled to 240A. Integration period: 1 second.

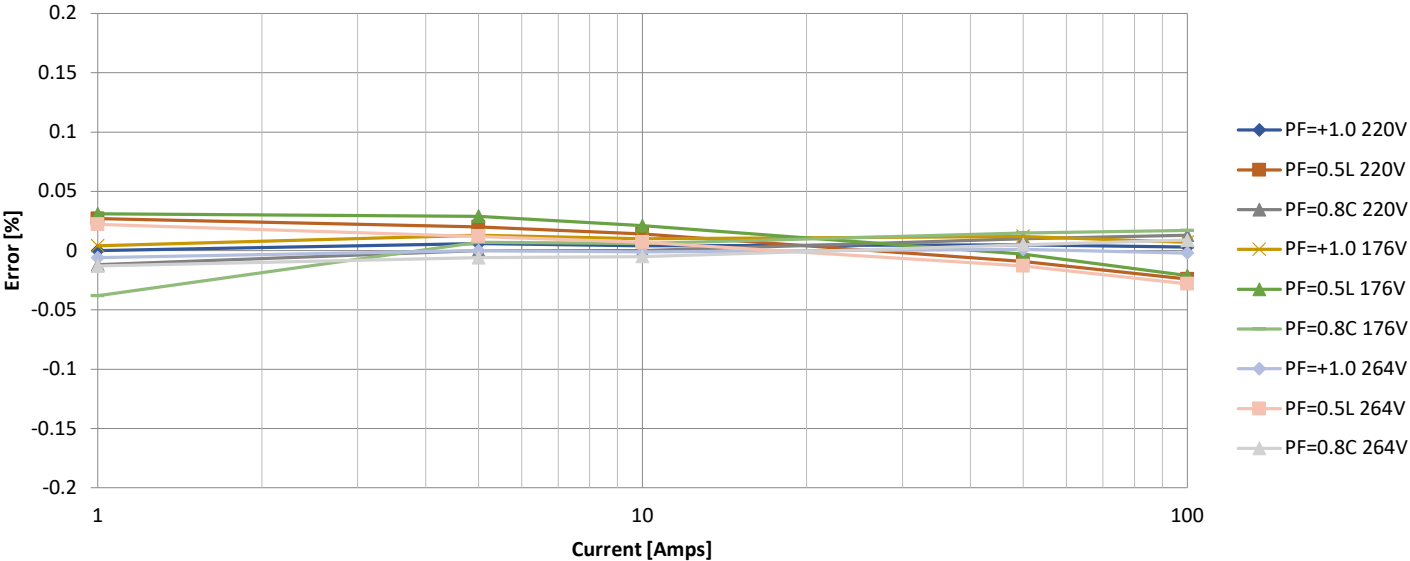
Conclusion: The system voltage will not influent the metrology performance.



Voltage Influence Test

PIC32CXMT-C-Rev2

Active P, Voltage Sweep, V3.01.02 Standard Metrology FW, 3Φ,
Kt=0.075, t=36sec



Voltage	Current	PF = 1.0	PF = 0.5L	PF = 0.8C
176	1	0.004	0.031	-0.038
220	1	0	0.027	-0.012
264	1	-0.006	0.022	-0.013
176	5	0.013	0.029	0.007
220	5	0.006	0.02	0
264	5	0	0.012	-0.006
176	10	0.01	0.021	0.006
220	10	0.004	0.014	0
264	10	-0.001	0.007	-0.005
176	50	0.012	-0.003	0.015
220	50	0.005	-0.009	0.01
264	50	0.001	-0.013	0.005
176	100	0.007	-0.021	0.017
220	100	0.003	-0.024	0.013
264	100	-0.002	-0.028	0.009

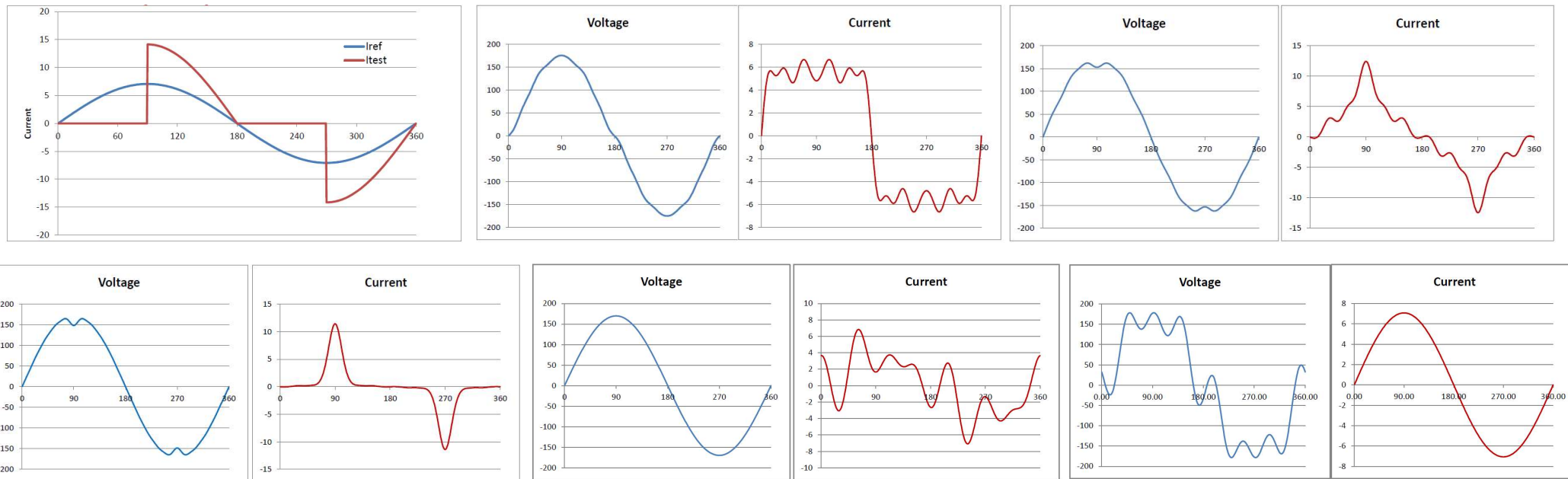
Power offset disabled.
Meter scaled to 240A. Integration period: 1 second.

Conclusion: The system voltage will not influence the metrology performance.



Harmonic performance

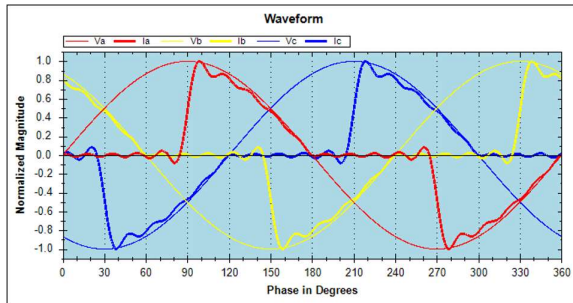
ANSI Harmonics Definitions. Waveforms summary



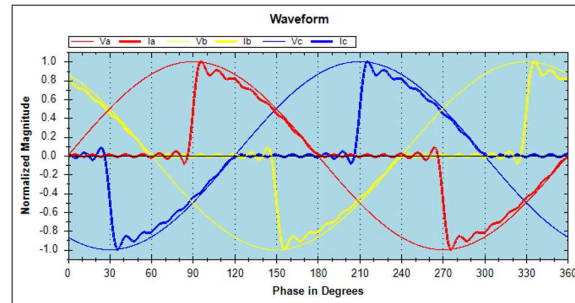
Harmonic performance

ANSI Harmonics Definitions. Waveforms detail

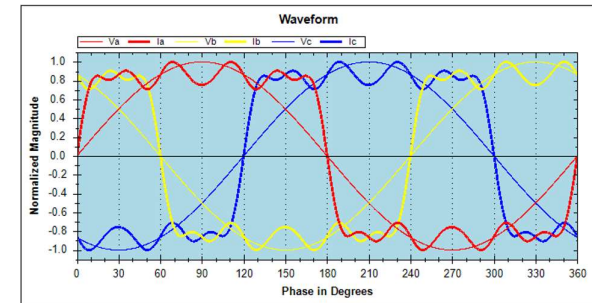
Phase Controlled – 90 Degree



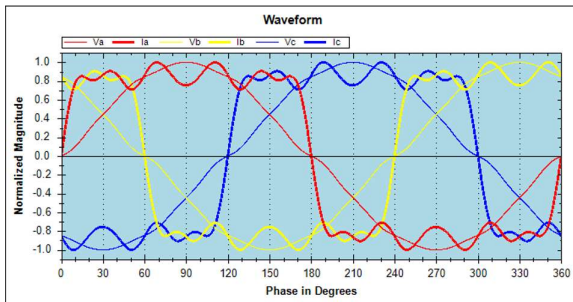
ANSI C12.20-2015 5.5.6.1 – Condition 2



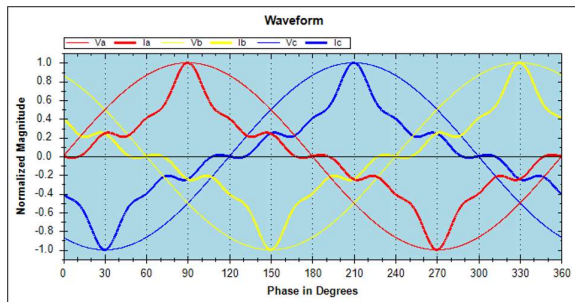
ANSI C12.20-2015 5.5.6.2 – Condition 2



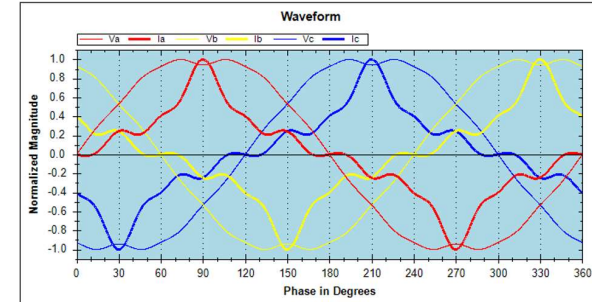
ANSI C12.20-2015 5.5.6.2 – Condition 3



ANSI C12.20-2015 5.5.6.3 – Condition 2



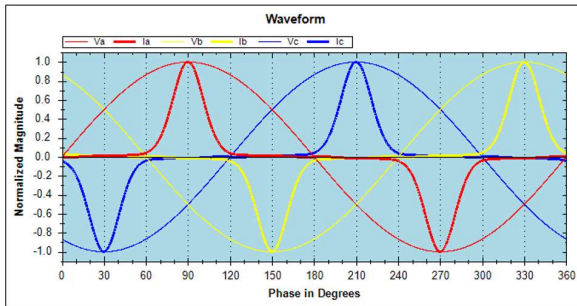
ANSI C12.20-2015 5.5.6.3 – Condition 3



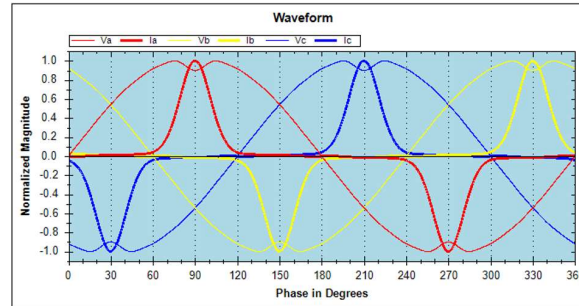
Harmonic performance

ANSI Harmonics Definitions. Waveforms detail

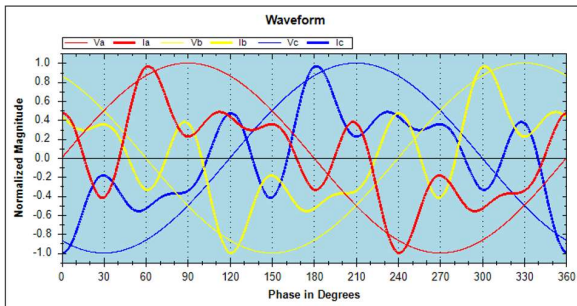
ANSI C12.20-2015 5.5.6.4 – Condition 2



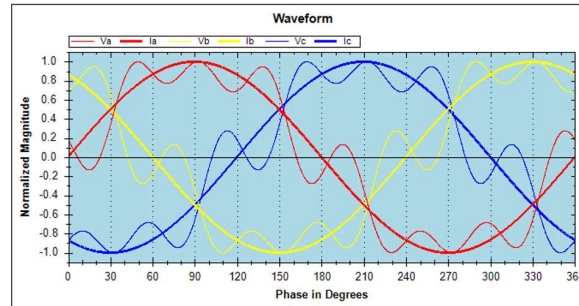
ANSI C12.20-2015 5.5.6.4 – Condition 3



ANSI C12.20-2015 5.5.6.5 – Condition 2



ANSI C12.20-2015 5.5.6.6 – Condition 2



Harmonic performance

PIC32CXMTSH-Rev2. Fundamental Frequency = 50Hz.

Step	Element	Test	As Found	As Left	Accuracy Status	Test Duration (Seconds)	Volts	Amps	Phase Angle	Optics	kh	Service	Energy Mode	Freq	Harmonic Configuration
1	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
2	S	FL	0.009	0.009	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	PhaseControlled - 90 Degree
3	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
4	S	FL	0.009	0.009	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.1 - Condition 2
5	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
6	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.2 - Condition 2
7	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.2 - Condition 3
8	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
9	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.3 - Condition 2
10	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.3 - Condition 3
11	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
12	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.4 - Condition 2
13	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.4 - Condition 3
14	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
15	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.5 - Condition 2
16	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
17	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.6 - Condition 2

PIC32CXMTSH-Rev2. Fundamental Frequency = 60Hz.

Step	Element	Test	As Found	As Left	Accuracy Status	Test Duration (Seconds)	Volts	Amps	Phase Angle	Optics	kh	Service	Energy Mode	Freq	Harmonic Configuration
1	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
2	S	FL	0.008	0.008	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	PhaseControlled - 90 Degree
3	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
4	S	FL	0.008	0.008	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.1 - Condition 2
5	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
6	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.2 - Condition 2
7	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.2 - Condition 3
8	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
9	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.3 - Condition 2
10	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.3 - Condition 3
11	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
12	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.4 - Condition 2
13	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.4 - Condition 3
14	S	FL	0.003	0.003	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
15	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.5 - Condition 2
16	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
17	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.6 - Condition 2

Harmonic performance

PIC32CXMT-Rev2. Fundamental Frequency = 50Hz.

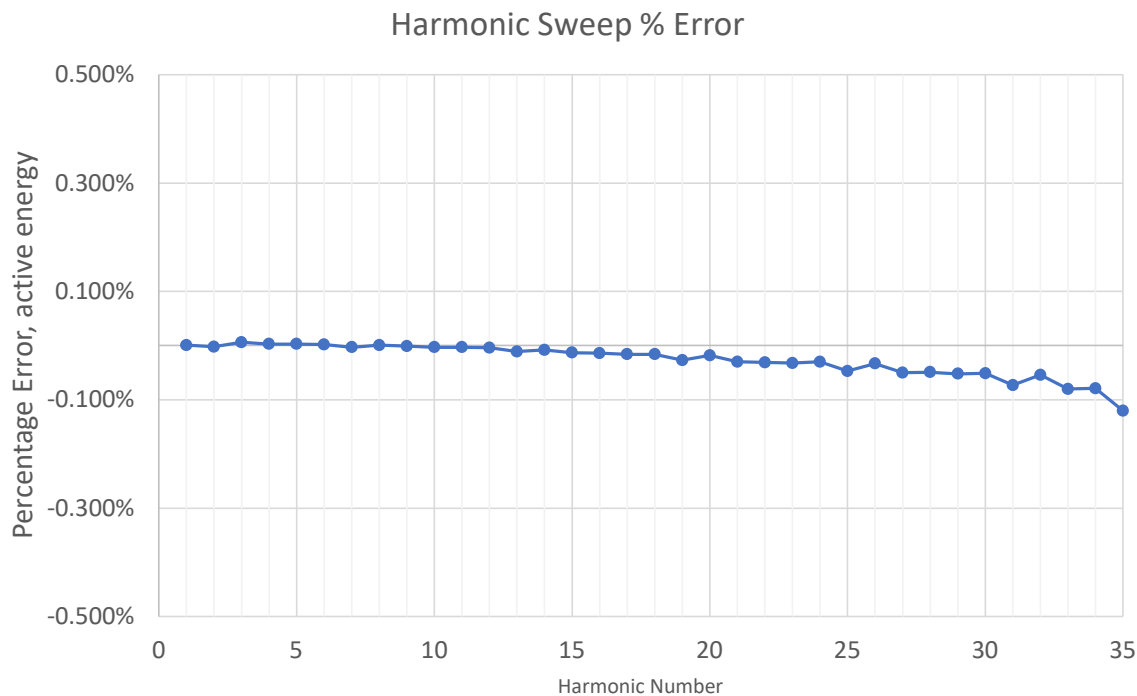
Step	Element	Test	As Found	As Left	Accuracy Status	Test Duration (Seconds)	Volts	Amps	Phase Angle	Optics	kh	Service	Energy Mode	Freq	Harmonic Configuration
1	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
2	S	FL	0.008	0.008	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	PhaseControlled - 90 Degree
3	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
4	S	FL	0.008	0.008	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.1 - Condition 2
5	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
6	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.2 - Condition 2
7	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.2 - Condition 3
8	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
9	S	FL	0.007	0.007	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.3 - Condition 2
10	S	FL	0.007	0.007	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.3 - Condition 3
11	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
12	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.4 - Condition 2
13	S	FL	0.011	0.011	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.4 - Condition 3
14	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
15	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.5 - Condition 2
16	S	FL	0.006	0.006	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	Default (Sine)
17	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	50.000	ANSI C12.20-2015 5.5.6.6 - Condition 2

PIC32CXMT-Rev2. Fundamental Frequency = 60Hz.

Step	Element	Test	As Found	As Left	Accuracy Status	Test Duration (Seconds)	Volts	Amps	Phase Angle	Optics	kh	Service	Energy Mode	Freq	Harmonic Configuration
1	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
2	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	PhaseControlled - 90 Degree
3	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
4	S	FL	0.005	0.005	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.1 - Condition 2
5	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
6	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.2 - Condition 2
7	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.2 - Condition 3
8	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
9	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.3 - Condition 2
10	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.3 - Condition 3
11	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
12	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.4 - Condition 2
13	S	FL	0.004	0.004	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.4 - Condition 3
14	S	FL	0.002	0.002	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
15	S	FL	0.000	0.000	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.5 - Condition 2
16	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	Default (Sine)
17	S	FL	0.001	0.001	Pass	36	220	30.0	0	Lower IR	0.075	3P Wye ABC	Watt Hrs	60	ANSI C12.20-2015 5.5.6.6 - Condition 2

Single Harmonic Sweep

PIC32CXMTSH-Rev2. Fundamental Frequency = 50Hz.



- I_fundamental = 100%
- V_fundamental = 100%

- I_harmonic = 40%
- V_harmonic = 25%

$$\bullet \frac{P_{\text{harmonic}}}{P_{\text{fundamental}}} = 10\%$$

Test conditions:

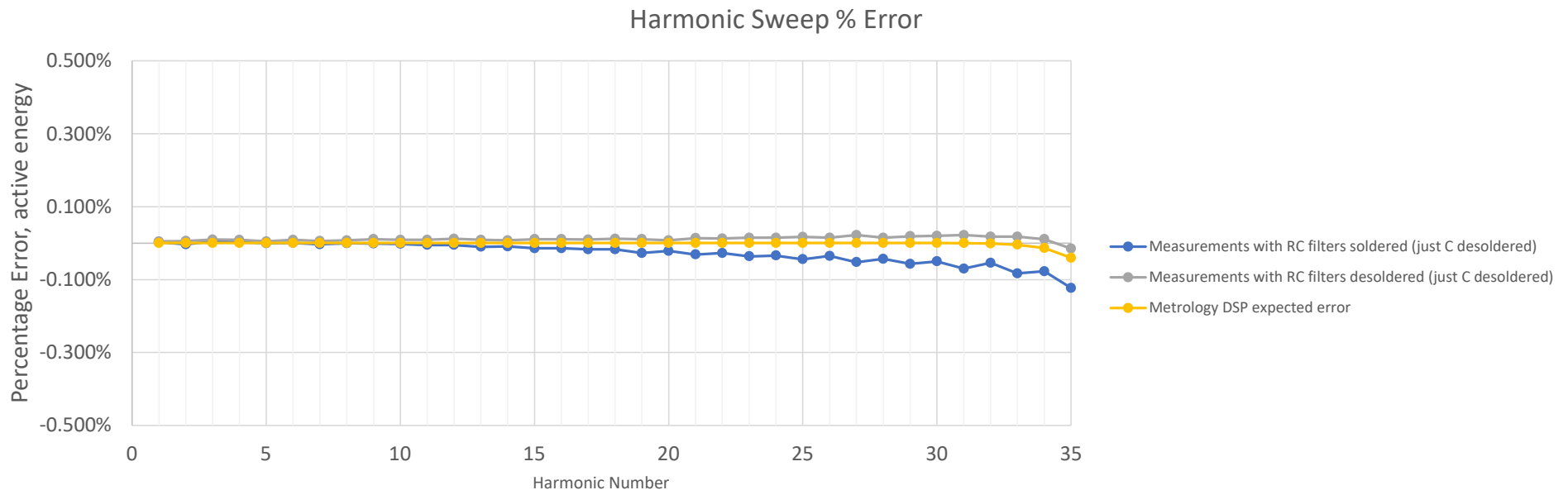
WECO 4150X, 30A, 220V

f_fundamental = 50Hz

2ØNetwork Meter

Single Harmonic Sweep

PIC32CXMTSH-Rev2. Fundamental Frequency = 50Hz.

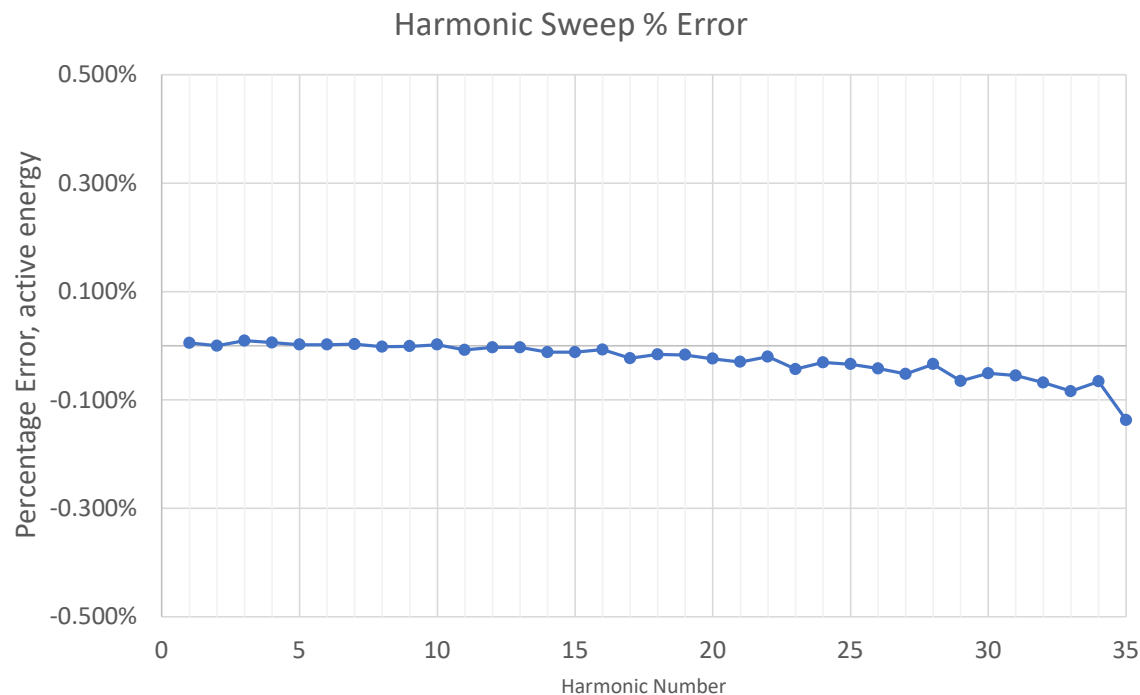


Note:

- The anti-aliasing filter, having a cut-off frequency of approx. 16kHz, is affecting the accuracy of the high-order harmonics measurements.
- This is due to the attenuation of the RC filter in the measurement bandwidth.
- For applications where high accuracy in the high-order harmonics measurements is needed it could be useful to modify the cut-off frequency of the anti-aliasing filter.

Single Harmonic Sweep

PIC32CXMTC-Rev2. Fundamental Frequency = 50Hz.



- I_fundamental = 100%
- V_fundamental = 100%

- I_harmonic = 40%
- V_harmonic = 25%

$$\bullet \frac{P_{\text{harmonic}}}{P_{\text{fundamental}}} = 10\%$$

Test conditions:

WECO 4150X, 30A, 220V

f_fundamental = 50Hz

3ØNetwork Meter



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