

Annex 1: Measurement diagrams 21-1-0062601T03a-C03- Annex1

Number of pages:	7	Date of Report:	2022-Nov-02
Testing company:	CETECOM GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150	Applicant:	KOSTAL Industrie Elektrik GmbH
Product: Model:	Frequency inverter Inveor MC / IV01 PW11 LP02 AP09 GH01 DK01 CO00		
FCC ID:	SX4INVEOR-M-BG-C	IC:	--
Testing has been carried out in accordance with:	FCC Regulations Title 47 CFR, Chapter I FCC Regulations, Subchapter A Subpart B: §15.107 & §15.109 (Class A limits) Conducted emissions in the frequency range 0.15 to 30 MHz Radiated emissions in the frequency range 30 to 1000 MHz		



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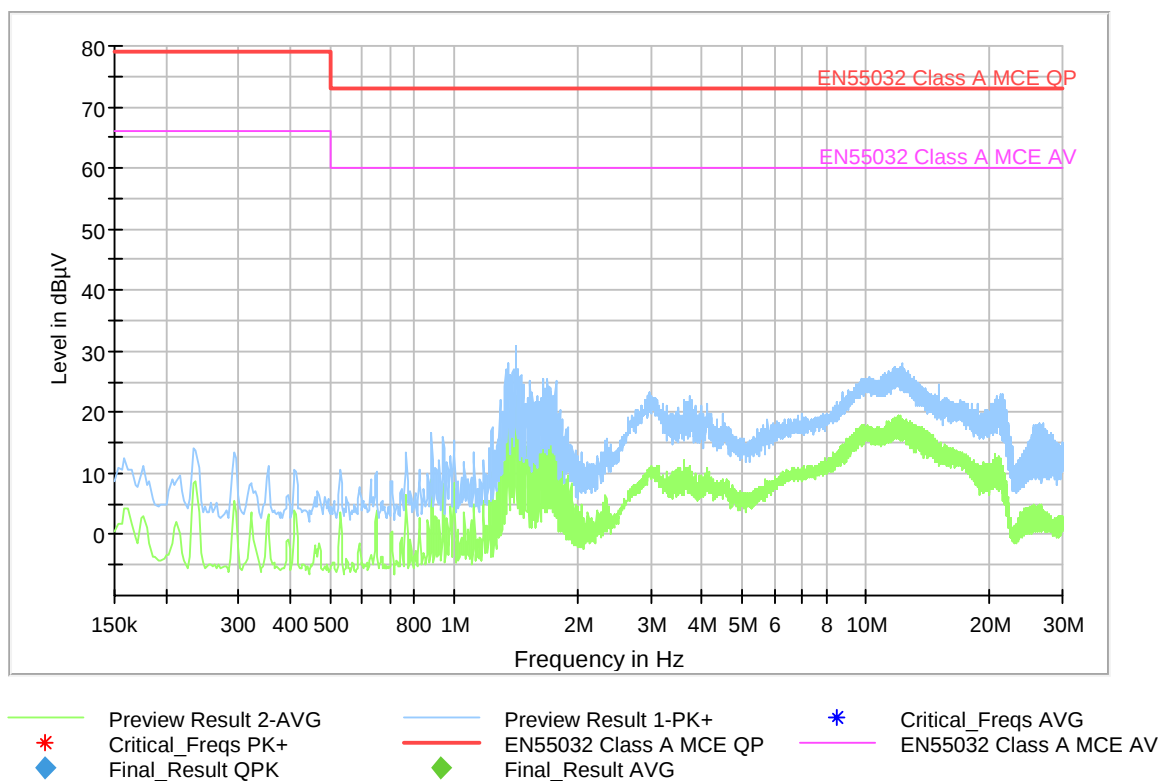
1 Measurement diagrams

1.01

Common Information

Test Description:	Mains conducted emission
Test Site & Location:	Shielded Room 1 (Lab 1); CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.50.40
Test Specification:	FCC 15B, Class A
Environmental Conditions:	Humidity: 36 %rH; Temperature: 23.2 °C; Pressure: 1018 hPa
Operating Mode:	10 Hz
Operator:	GWe
Comment:	N

Full Spectrum



Critical_Frequencies

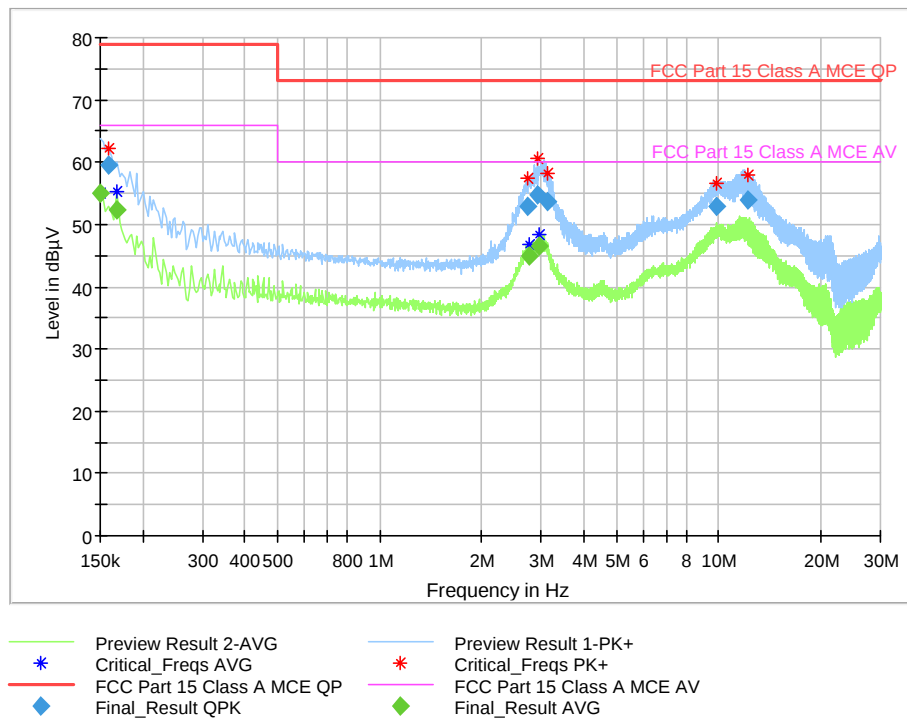
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr (dB)
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1.02

Common Information

Test Description:	Mains conducted emission
Test Site & Location:	Shielded Room 1 (Lab 1); CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.50.40
Test Specification:	FCC 15B, Class A
Environmental Conditions:	Humidity: 36 %rH; Temperature: 23.2 °C; Pressure: 1018 hPa
Operating Mode:	10 Hz
Operator:	GWe
Comment:	

Full Spectrum



Final_Result

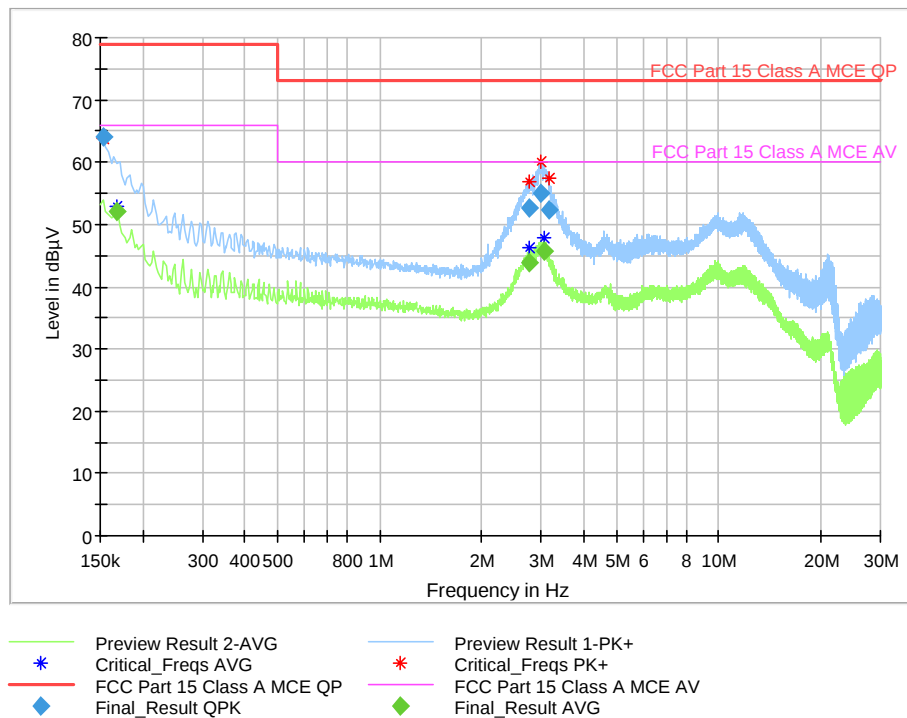
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	54.95	66.00	11.05	1000.0	9.000	L1	0.1
0.159000	59.55	---	79.00	19.45	1000.0	9.000	L1	0.1
0.168000	---	52.31	66.00	13.69	1000.0	9.000	L1	0.1
2.721000	52.91	---	73.00	20.09	1000.0	9.000	L1	0.2
2.748000	---	45.03	60.00	14.97	1000.0	9.000	L1	0.2
2.925000	54.80	---	73.00	18.20	1000.0	9.000	L1	0.2
2.970000	---	46.48	60.00	13.52	1000.0	9.000	L1	0.2
3.129000	53.74	---	73.00	19.26	1000.0	9.000	L1	0.2
9.813000	52.78	---	73.00	20.22	1000.0	9.000	L1	0.5
12.132000	53.99	---	73.00	19.01	1000.0	9.000	L1	0.7

1.03

Common Information

Test Description:	Mains conducted emission
Test Site & Location:	Shielded Room 1 (Lab 1); CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.50.40
Test Specification:	FCC 15B, Class A
Environmental Conditions:	Humidity: 36 %rH; Temperature: 23.2 °C; Pressure: 1018 hPa
Operating Mode:	10 Hz
Operator:	GWe
Comment:	L2

Full Spectrum



Final_Result

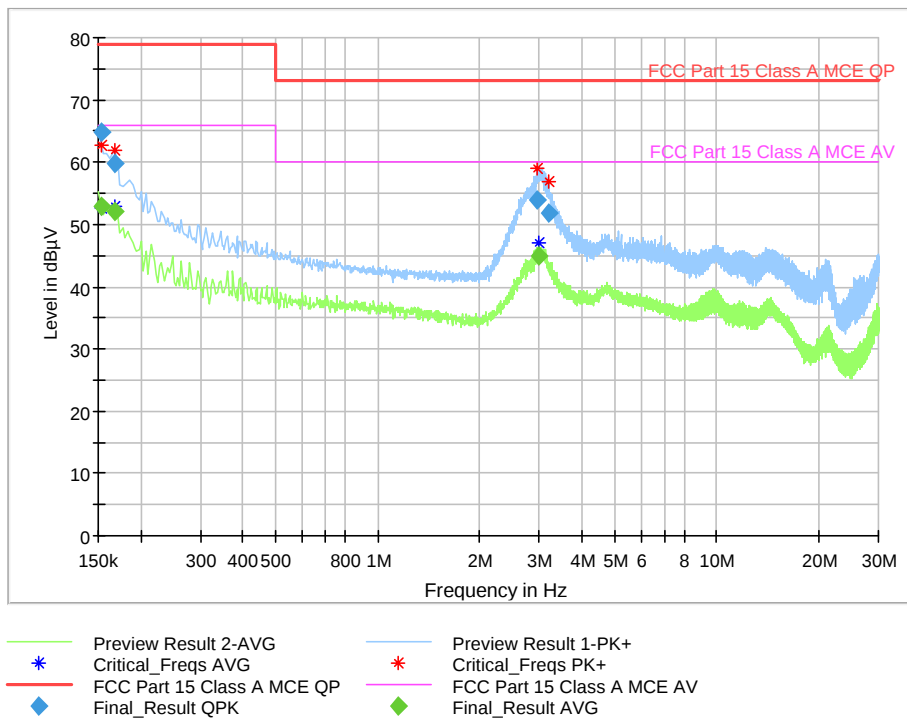
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.153000	64.08	---	79.00	14.92	1000.0	9.000	L2	0.1
0.168000	---	52.10	66.00	13.90	1000.0	9.000	L2	0.1
2.760000	---	43.82	60.00	16.18	1000.0	9.000	L2	0.2
2.760000	52.58	---	73.00	20.42	1000.0	9.000	L2	0.2
2.994000	55.07	---	73.00	17.93	1000.0	9.000	L2	0.2
3.048000	---	45.71	60.00	14.29	1000.0	9.000	L2	0.2
3.168000	52.36	---	73.00	20.64	1000.0	9.000	L2	0.2

1.04

Common Information

Test Description:	Mains conducted emission
Test Site & Location:	Shielded Room 1 (Lab 1); CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.50.40
Test Specification:	FCC 15B, Class A
Environmental Conditions:	Humidity: 36 %rH; Temperature: 23.2 °C; Pressure: 1018 hPa
Operating Mode:	10 Hz
Operator:	GWe
Comment:	

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.153000	---	52.99	66.00	13.01	1000.0	9.000	L3	0.1
0.153000	64.79	---	79.00	14.21	1000.0	9.000	L3	0.1
0.168000	---	52.06	66.00	13.94	1000.0	9.000	L3	0.1
0.168000	59.92	---	79.00	19.08	1000.0	9.000	L3	0.1
2.961000	53.93	---	73.00	19.07	1000.0	9.000	L3	0.2
3.003000	---	44.95	60.00	15.05	1000.0	9.000	L3	0.2
3.186000	51.70	---	73.00	21.30	1000.0	9.000	L3	0.2

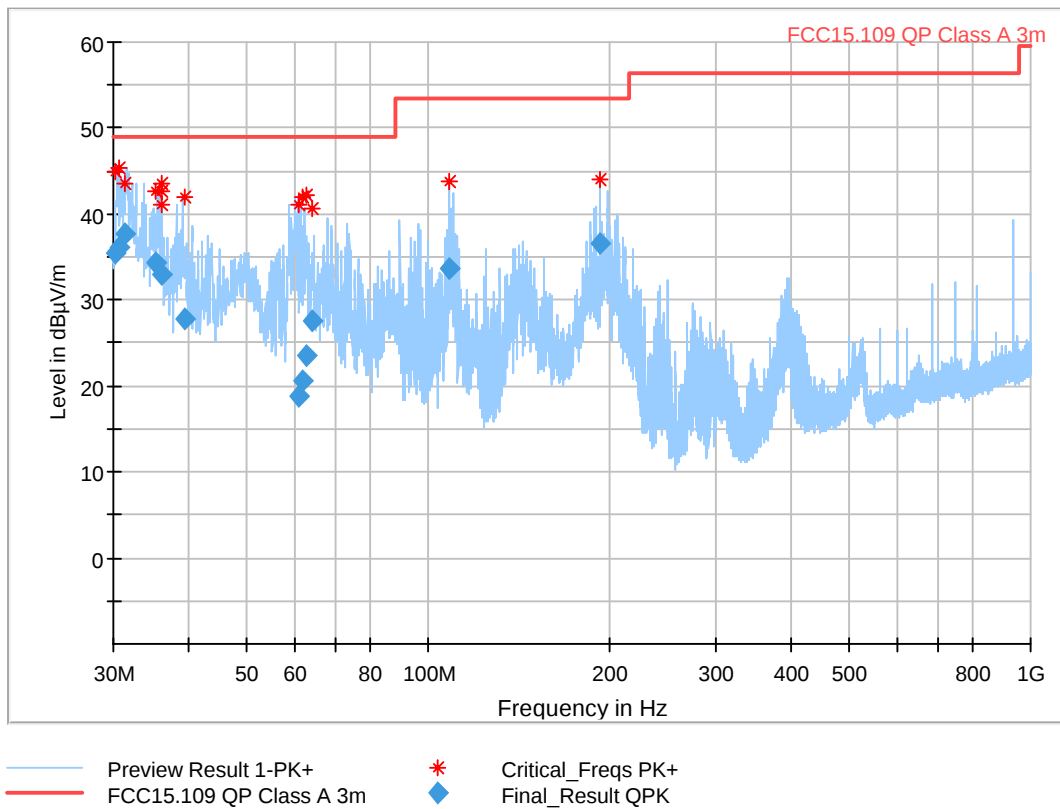
3.02

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Test Description:	Electric Fieldstrength Measurement above 1GHz
Test Site & Location:	Semi Anechoic Chamber 2 (SAC); CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	25Hz
Used Filter:	none
Measured side(s):	front, right, rear, left
Distance correction:	no, measurement in 3m Distance with 3m Limits
Environmental conditions:	Humidity: 37% rH; Temperature: 20.2 °C; Pressure: 1010 hPa
Operator:	A. Ueberbach
Comments:	-

Full Spectrum

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.288000	35.51	40.00	4.49	120.000	104.0	V	330.0	19.7
30.640000	36.17	40.00	3.83	120.000	100.0	V	337.0	19.6
31.372000	37.68	40.00	2.32	120.000	113.0	V	14.0	19.1
35.336000	34.42	40.00	5.58	120.000	123.0	V	103.0	16.9
36.136000	32.88	40.00	7.12	120.000	106.0	V	79.0	16.5
39.556000	27.81	40.00	12.19	120.000	111.0	V	232.0	14.6
60.804000	18.88	40.00	21.12	120.000	133.0	V	163.0	6.1
62.056000	20.51	40.00	19.49	120.000	212.0	V	153.0	6.7
62.944000	23.45	40.00	16.55	120.000	141.0	V	170.0	7.0
64.196000	27.53	40.00	12.47	120.000	113.0	V	165.0	7.5
108.772000	33.77	43.50	9.73	120.000	204.0	H	216.0	11.8
192.664000	36.65	43.50	6.85	120.000	113.0	V	23.0	9.6

End Of Annex 1