

Annex 1: Measurement diagrams to Test Report 19-1-0069003T33a-C1-A1

Number of pages:	7	Date of Report:	2020-Nov-19
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:	WAGO KONTAKTTECHNIK GMBH & CO. KG
Test Object / Tested Device(s):	4PORT IOL-A FLD PN DC 24V 2.0A SlimLine 765-4103/0100-0000 WAGO I/O System Field		
FCC ID:	2AKUE-SLIMLINE	IC:	22322-SLIMLINE
Testing has been carried out in accordance with:	FCC Regulations PART 15—RADIO FREQUENCY DEVICES Subpart B Radiated emissions in the frequency range 30 to 1000 MHz Radiated emissions in the frequency range 1 to 6 GHz Radiated emissions in the frequency range 1 to 12.75 GHz		

1 Measurement diagrams

Diagram No. 3.01 FCC

1.1 Radiated emissions in the frequency range 30 to 1000 MHz

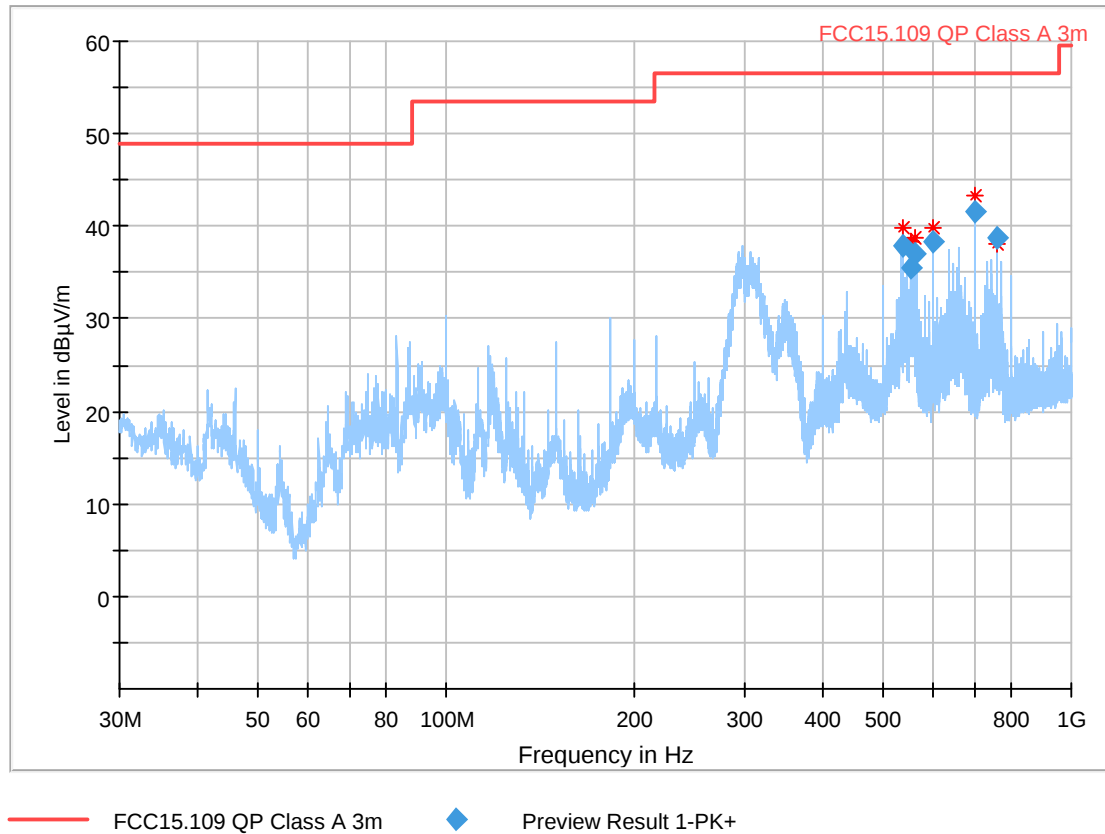
Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate and EUT. Permanent Bluetooth connection (Mobile Phone + EUT).
Environmental conditions:	Humidity: 49 %; Temperature: 21.6 °C; Air pressure: 996 hPa
Operator:	AUe
Comments:	-

EUT Information

Manufacturer:	WAGO Kontakttechnik GmbH & Co. KG
EuT:	4PORT IOL-A FLD PN DC 24V 2.0A – SlimLine 765-4103/0100-0000
HW Version:	Rev. 2
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum

Full Spectrum



Preliminary_Result (SAC 3m distance)

Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
537.496000	37.92	56.50	18.58	120.000	113.0	H	36.0	17.8
554.076000	35.59	56.50	20.91	120.000	100.0	H	-18.0	18.1
562.496000	37.09	56.50	19.41	120.000	113.0	V	242.0	18.3
599.996000	38.35	56.50	18.15	120.000	100.0	H	293.0	19.0
699.996000	41.62	56.50	14.88	120.000	100.0	H	245.0	20.5
762.492000	38.84	56.50	17.66	120.000	100.0	H	257.0	21.1

Final_Result (OATS – 10 m distance)

Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
554.076000	20.40	46.40	26.00	120.000	243.0	H	-79.0	26.2
559.996000	20.71	46.40	25.69	120.000	130.0	H	-29.0	26.4
562.490000	20.87	46.40	25.53	120.000	250.0	V	52.0	26.5
699.996000	23.81	46.40	22.59	120.000	146.0	H	-36.0	29.0
762.492000	24.58	46.40	21.82	120.000	130.0	H	-74.0	29.9

Diagram No. 4.01 FCC

1.2 Radiated emissions in the frequency range 1 to 6 GHz

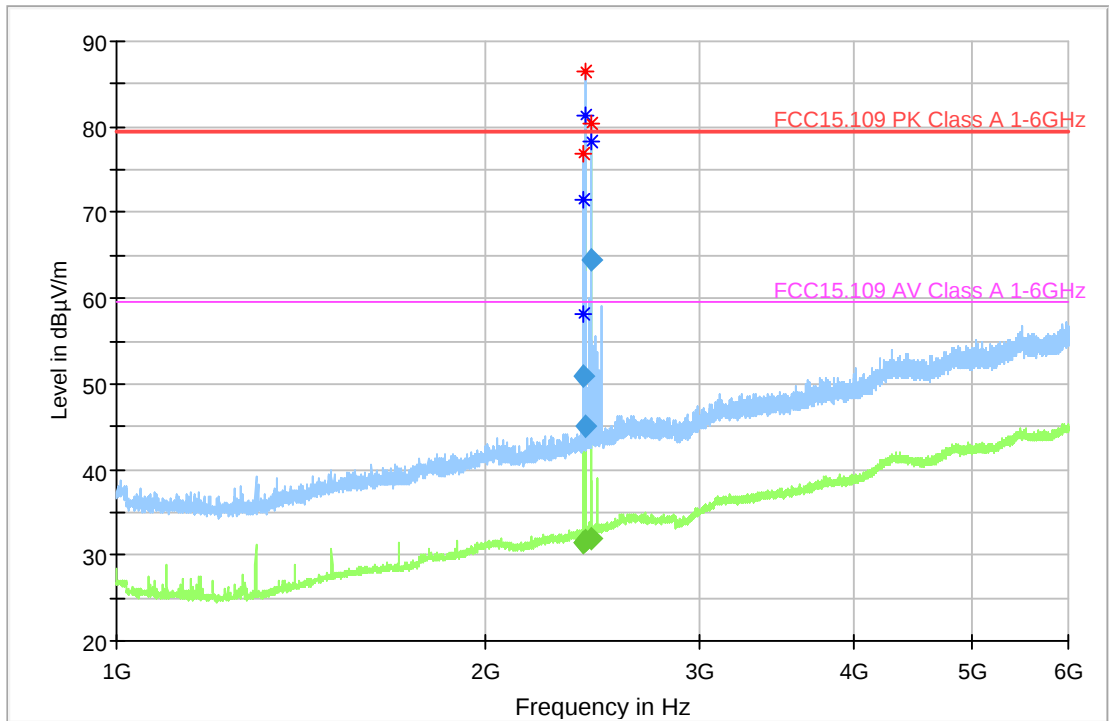
Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate and EUT. Permanent Bluetooth connection (Mobile Phone + EUT).
Environmental conditions:	Humidity: 49 %; Temperature: 21.6 °C; Air pressure: 996 hPa
Operator:	AUe
Comments:	-

EUT Information

Manufacturer:	WAGO Kontakttechnik GmbH & Co. KG
EuT:	4PORT IOL-A FLD PN DC 24V 2.0A – SlimLine 765-4103/0100-0000
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HW Version:	Rev. 2
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum

Full Spectrum



- * Preview Result 2-AVG
- FCC15.109 PK Class A 1-6GHz
- FCC15.109 AV Class A 1-6GHz
- ◆ FCC15B_RSS_Gen_PK
- ◆ Critical_Freqs PK+

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/)
No conspicuous frequencies detected – Margin to limit > 10 dB (Peak/Average)										

- The Peak at 2.4 GHz is a wanted frequency for Bluetooth signalling.

Diagram No. 4.02 FCC

1.3 Radiated emissions in the frequency range 6 to 12.75 GHz

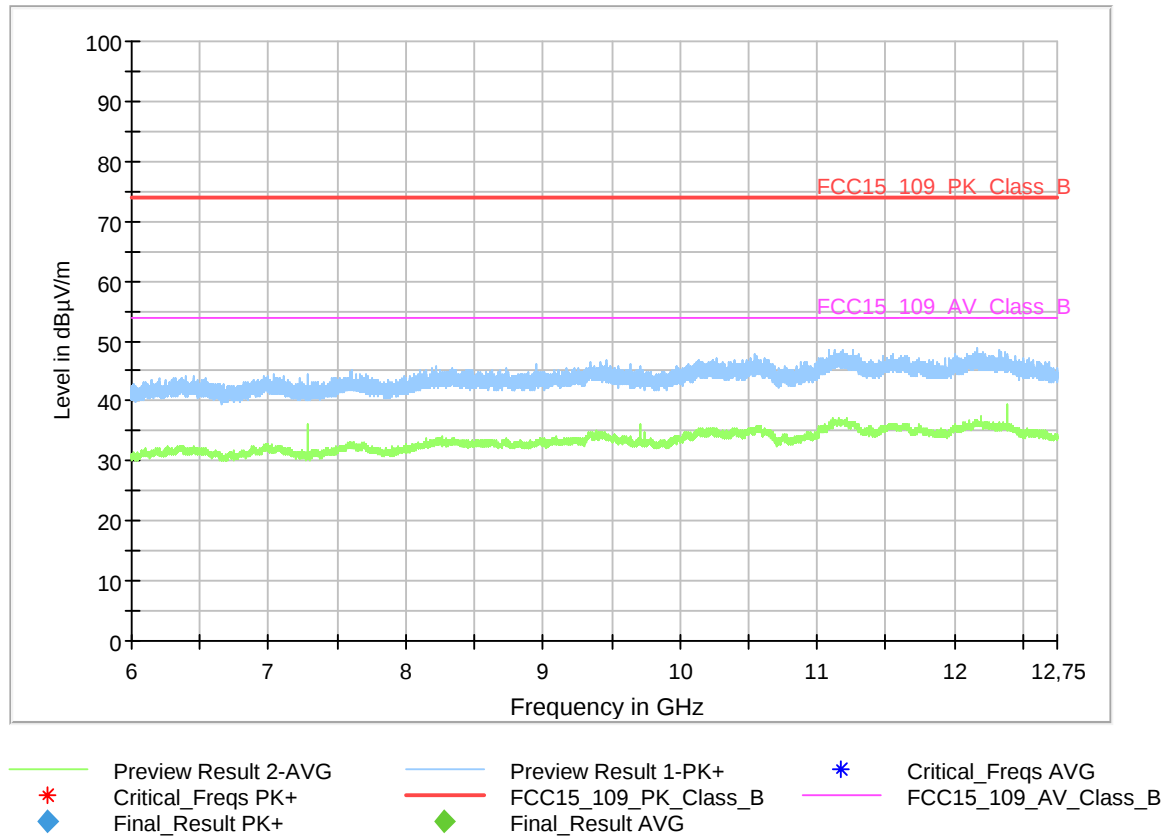
Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate and EUT. Permanent Bluetooth connection (Mobile Phone + EUT).
Environmental conditions:	Humidity: 49 %; Temperature: 21.6 °C; Air pressure: 996 hPa
Operator:	AUe
Comments:	-

EUT Information

Manufacturer:	WAGO Kontakttechnik GmbH & Co. KG
EuT:	4PORT IOL-A FLD PN DC 24V 2.0A – SlimLine 765-4103/0100-0000
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HW Version:	Rev. 2
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum

Full Spectrum



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/)
No conspicuous frequencies detected – Margin to limit > 10 dB (Peak/Average)										

End Of Annex 1