

Annex 1: Measurement diagrams to Test Report 19-1-0069003T34a-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):	8DIO FLD PN DC 24V 2.0A SlimLine 765-1105/0100-0000 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

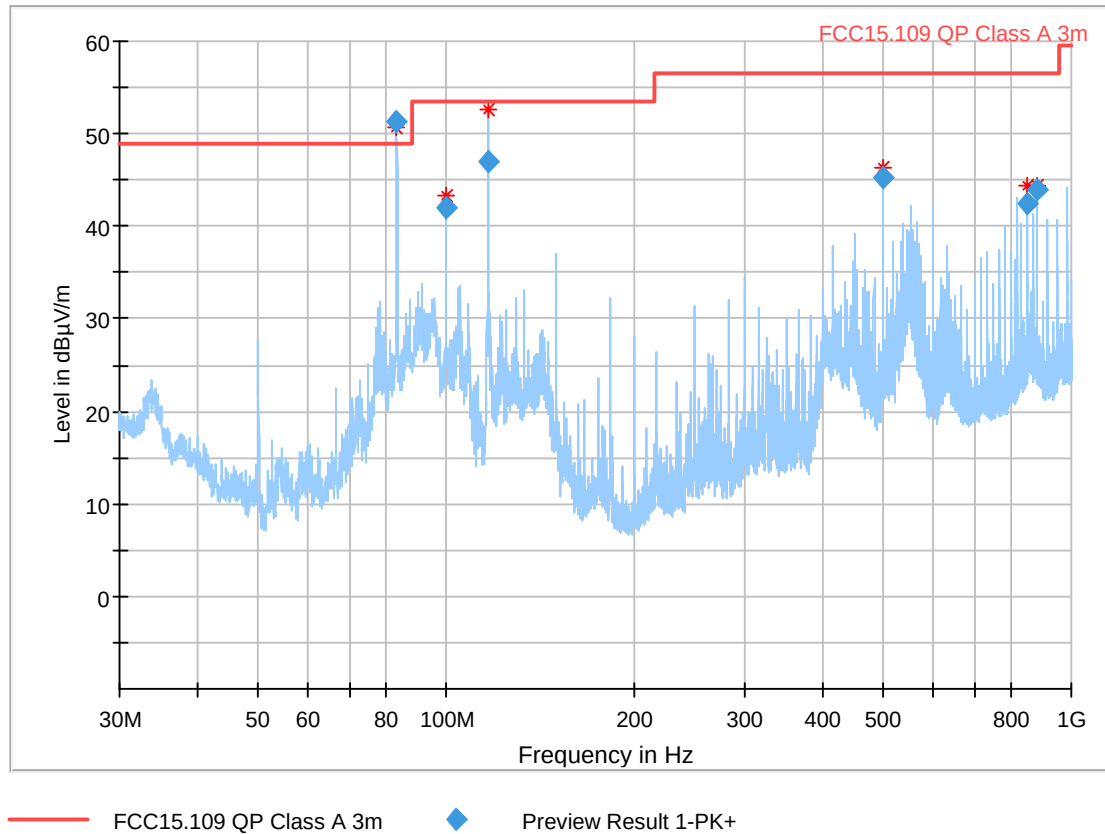
Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate 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:	8DIO FLD PN DC 24V 2.0A – SlimLine 765-1105/0100-0000
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HW Version:	Rev. 4
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 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
83.332000	51.38	49.00	-2.38	120.000	115.0	V	340.0	11.2
100.000000	42.02	53.50	11.48	120.000	106.0	V	352.0	11.4
116.664000	46.91	53.50	6.59	120.000	104.0	V	1.0	12.5
499.996000	45.36	56.50	11.14	120.000	108.0	V	118.0	17.5
849.996000	42.47	56.50	14.03	120.000	100.0	H	259.0	22.3
883.328000	43.92	56.50	12.58	120.000	104.0	H	65.0	22.7

Final_Result (OATS – 10 m distance)

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
83.332000	31.04	39.00	7.96	120.000	169.0	V	38.0	11.5
116.664000	40.77	43.50	2.73	120.000	100.0	V	-39.0	16.8
499.996000	19.29	46.40	27.11	120.000	205.0	V	19.0	25.3
849.996000	25.84	46.40	20.56	120.000	178.0	H	145.0	31.0
883.328000	26.13	46.40	20.27	120.000	171.0	H	-44.0	31.4

Diagram No. 4.01 FCC

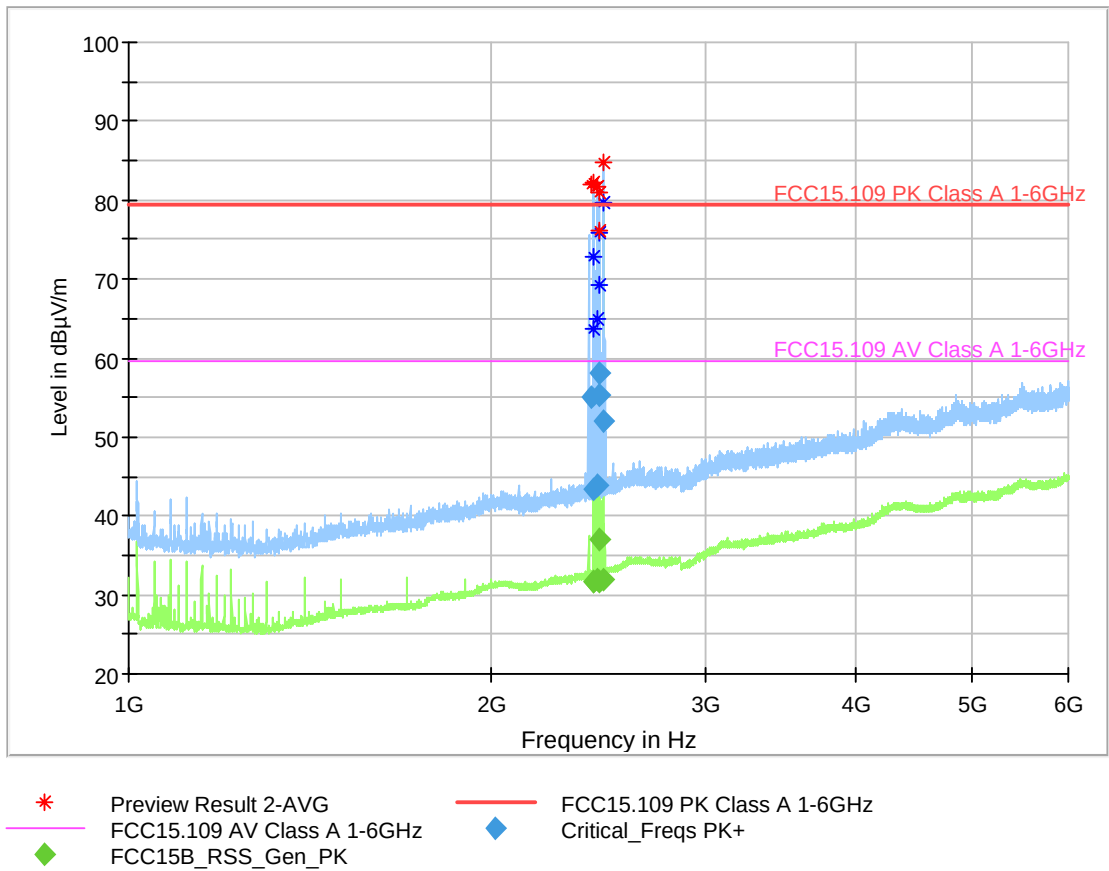
1.2 Radiated emissions in the frequency range 1 to 6 GHz

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:	8DIO FLD PN DC 24V 2.0A – SlimLine 765-1105/0100-0000
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HW Version:	Rev. 4
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

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)										

- 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

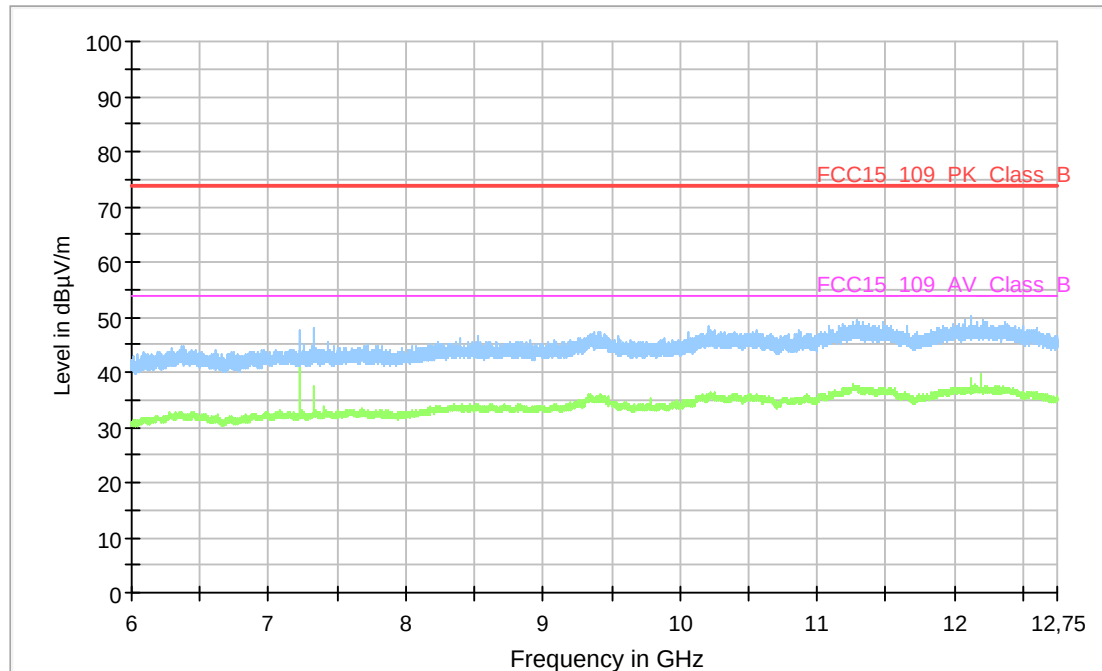
Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate 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:	8DIO FLD PN DC 24V 2.0A – SlimLine 765-1105/0100-0000
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HW Version:	Rev. 4
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum

Full Spectrum



- * Preview Result 2-AVG [Preview Result 2.Result:2]
- Preview Result 1-PK+ [Preview Result 1.Result:1]
- Critical_Freqs AVG [Critical_Freqs.Result:5]
- ◆ Critical_Freqs PK+ [Critical_Freqs.Result:4]
- ◆ FCC15_109_PK_Class_B [.\02 EMI FCC\FCC_Part15\FCC_Part15.109\]

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