

Mode:

DC 24 V_802.11n_HT40 (MCS0)

Distance of measurement:	3 meter
Channel:	38

Spurious

Frequency (畑)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dBµV/m)	Margin (dB)
1 006.75	44.06	Peak	V	-7.84	-	36.22	74.00	37.78
1 081.24	43.83	Peak	Н	-7.45	-	36.38	74.00	37.62

Band edge

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµX/m)	Limit (dBµN/m)	Margin (dB)
4 796.34	41.35	Peak	Н	5.29	-	46.64	74.00	27.36
5 146.99	42.15	Peak	V	6.48	-	48.63	74.00	25.37

Restricted	band // Horizontal /	/ Peak	Restricted band // Vertical // Peak	
Spectrum Spectrum 2 () Ref Level 90.00 dBµV Att 0 dB SWT 10.1 ms	Spectrum 3 Spectrum 4 RBW 1 MHz VBW 3 MHz Mode Sweep		Spectrum Spectrum 2 Spectrum 3 Spectrum 4 X Ref Level 90.00 dByV 	
1Pk Max 10 00 00 00 00 00 00 00 00 00 00 00		41.35 dBµV 4.7963430 GHz	• • • • • • • • • • • • •	S dBµV 90 GHz
10 dBµV 0 dBµV F1 Start 4.4 GHz	10001 pts Measuring	5.19 GHz	10 dBμV F1 Start 4.4 GHz 10001 pts Stop 5.1	





Note.

1. No spurious emission were detected above 6 $\ensuremath{\mathbb{Gl}}\xspace_{2}$.

2. Average test would be performed if the peak result were greater than the average limit.



Mode:

DC 24 V_802.11n_HT40 (MCS0)

Distance of measurement: Channel:

3 meter	
46	

Spurious

Frequency (ᡅ)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµN/m)	Limit (dBµV/m)	Margin (dB)
1 027.75	44.12	Peak	Н	-7.73	-	36.39	74.00	37.61
1 092.74	44.12	Peak	V	-7.39	-	36.73	74.00	37.27



Note.

1. No spurious emission were detected above 6 $\ensuremath{\mathbb{G}\mathrm{Hz}}$.

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Mode:

DC 12 V_802.11ac_VHT40 (MCS0)

Distance of measurement: Channel:

3 meter	
38	

Spurious

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµN/m)	Limit (dBµV/m)	Margin (dB)
1 047.25	44.36	Peak	V	-7.63	-	36.73	74.00	37.27
1 188.73	43.81	Peak	Н	-6.89	-	36.92	74.00	37.08

Band edge

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dBµN/m)	Margin (dB)
4 671.06	40.98	Peak	Н	4.84	-	45.82	74.00	28.18
4 691.52	41.29	Peak	V	4.92	-	46.21	74.00	27.79

Restri	cted band /	/ Horizontal /	// Peak		Restricted	band //	Vertical /	// Peak	
Spectrum Spectrum Ref Level 90.00 dBµV Att 0 dB sw	m 2 (X) Spectrum	3 Spectrum 4 Mode Sweep	8	Spectrum Ref Level 90.0 Att	Spectrum 2 (Χ) 0 dBμV 0 dB SWT 10.1 ms	Spectrum 3 RBW 1 MHz VBW 3 MHz Mo	Spectrum 4		
80 dBµV			40.90 dBµV 4.6710610 GHz	80 dBµV 80 dBµV 70 dBµV 60 dBµV 60 dBµV 90 dBµV 30 dBµV 90 dBµV 20 dBµV 90 dBµV			M1[3]		1.29 dBµv 15200 GH2
10 dBμV 0 dBμV F1 Start 4.4 GHz	100	01 pts	F2 Stop 5.19 GHz	10 dBµV 0 dBµV F1 Start 4.4 GHz		10001 pt	5	Stop	F2 5.19 GHz

KES-QP16-F01(00-23-01-01)

KES Co., Ltd.





Note.

1. No spurious emission were detected above 6 $\ensuremath{\mathbb{Gl}}\xspace_{2}$.

2. Average test would be performed if the peak result were greater than the average limit.



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Distance of measurement: Channel:

3 meter	
46	

Spurious

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1 037.25	43.69	Peak	V	-7.68	-	36.01	74.00	37.99
1 134.74	44.39	Peak	Н	-7.17	-	37.22	74.00	36.78



Note.

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DC 24 V_802.11ac_VHT40 (MCS0)

Distance of measurement:	3 meter		
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Spurious

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dBµV/m)	Margin (dB)
1 056.24	44.15	Peak	V	-7.58	-	36.57	74.00	37.43
1 161.73	44.00	Peak	Н	-7.03	-	36.97	74.00	37.03

Band edge

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dB _# N/m)	Margin (dB)
4 628.33	41.19	Peak	Н	4.69	-	45.88	74.00	28.12
4 647.60	41.50	Peak	V	4.76	-	46.26	74.00	27.74

Restricted ba	Restricted band // Horizontal // Peak				d // Vertical /	// Peak
Spectrum Spectrum 2 Spectrum	W 1 MHz W 3 MHz Mode Sweep		Spectrum Spectrum Ref Level 90.00 dBµV Att 0 dB IPk Max 0 dB	ectrum 2 (X) Spectrum RBW 1 MH SWT 10.1 ms • VBW 3 MH	n 3 X Spectrum 4 z Z Mode Sweep	
80 dBµV 10 70 dBµV 10 60 dBµV 10 90 dBµV 10 10 dBµV 10		41.19 dBµV 4.6283270 GHz	80 dBµV 70 dBµV 60 dBµV 60 dBµV 50 dBµV 90 dBµV 20 dBµV 90 dBµV 10 dBµV 90 dBµV			41.50 dBµV 4.6476010 GH2
Start 4.4 GHz	10001 pts	Stop 5.19 GHz	Start 4.4 GHz	10	001 pts	Stop 5.19 GHz
	Measuring	III 44			Measurin	g 🗰 🖬 🗰 🅼





Note.

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Mode:

DC 24 V_802.11ac_VHT40 (MCS0)

Distance of measurement: Channel:

	3 meter		
_	46		

Spurious

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
1 136.74	43.68	Peak	Н	-7.16	-	36.52	74.00	37.48
1 157.73	43.93	Peak	V	-7.05	-	36.88	74.00	37.12



Note.

1. No spurious emission were detected above 6 $\ensuremath{\mathbb{G}\mathrm{Hz}}$.

2. Average test would be performed if the peak result were greater than the average limit.



Mode:

DC 12 V_802.11ac_VHT80 (MCS0)

Distance of measurement: Channel:

3 meter	
42	

Spurious

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dBµV/m)	Margin (dB)
1 077.24	44.46	Peak	Н	-7.47	-	36.99	74.00	37.01
1 153.23	43.63	Peak	V	-7.08	-	36.55	74.00	37.45

Band edge

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dBµN/m)	Margin (dB)
4 644.80	40.69	Peak	V	4.75	-	45.44	74.00	28.56
4 828.33	41.05	Peak	Н	5.45	-	46.50	74.00	27.50

Restricte	ed band // Horizontal //	/ Peak	Rest	ricted band // V	ertical // F	Peak
Spectrum Spectrum 2 Ref Level 90.00 dBμV Att 0 dB SWT 10.3	Spectrum 3 Spectrum 4 • RBW 1 MHz 1 ms • VBW 3 MHz Mode Sweep		Spectrum Spectrur Ref Level 90.00 dBµV Att 0 dB SW1	n 2 (¥) Spectrum 3 (3 ● RBW 1 MHz 10.1 ms ● VBW 3 MHz Mode	Spectrum 4 (X V
9 1Pk Max 80 dBµV	M1[1]	41.05 dBµV 4.8283260 GHz	1Pk Мах 0 dBµV		M1[1]	40.69 dBµ 4.6447980 GH
70 dBµV		71	0 dBµV			/W
50 dBµV	M1	5	0 dBµV	M1		
19. dByV _{21. M}		1000 1000 1000 1000 1000 1000 1000 100	0 dBuVe		ude de la gratièrie de la gratiere d	www.www.w
:0 dBµV		21	0 dBµV			
.0 d8µV		F2 0	о dвµV			F2
Start 4.4 GHz	10001 pts	Stop 5.21 GHz	F1 tart 4.4 GHz	10001 pts		Stop 5.21 GHz





Note.

1. No spurious emission were detected above 6 $\ensuremath{\mathbb{Gl}}\xspace_{2}$.

2. Average test would be performed if the peak result were greater than the average limit.



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DC 24 V_802.11ac_VHT80 (MCS0)

Distance of measurement: Channel:

:	3 meter		
	42		

Spurious

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB _/ N/m)	Limit (dBµN/m)	Margin (dB)
1 078.24	45.00	Peak	V	-7.47	-	37.53	74.00	36.47
1 091.24	44.50	Peak	Н	-7.40	-	37.10	74.00	36.90

Band edge

Frequency (Mb)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµN/m)	Limit (dBµV/m)	Margin (dB)
4 501.20	41.15	Peak	V	4.14	-	45.29	74.00	28.71
4 517.32	41.59	Peak	Н	4.22	-	45.81	74.00	28.19

Restricted	band // Horizontal //	/ Peak	Restricted band // Vertical // Peak			
Spectrum Spectrum 2 X Ref Level 90.00 dBµV Att 0 dB SWT 10.1 ms	Spectrum 3 (X) Spectrum 4 RBW 1 MHz VBW 3 MHz Mode Sweep		Image: Spectrum Spectrum Control (1 − 1) Control (1 − 1)			
0 0		41.59 dBµV 4.5173170 GHz	M11 41.15 dBpV 80 dBpV 4.501190 GHz 80 dBpV 4.501190 GHz 70 dBpV 4.501190 GHz 50 dBpV 4.501190 GHz 60 dBpV 4.501190 GHz 30 dBpV 4.501190 GHz 10 dBpV 10 dBpV			
0 dBµV	10001 pts	F2 Stop 5.21 GHz	0 dBuV F1 Start 4.4 GHz 10001 pts Stop 5.21 GHz			
	Measuring	•••••	Measuring			





Note.

1. No spurious emission were detected above 6 GHz.

2. Average test would be performed if the peak result were greater than the average limit.



Test results (18 GHz to 40 GHz)

Band Distance of measurement: Channel 802.11a (Worst Case)_DC 12 V

ance of measurement: 3 meter nnel 36 (Worst Case)



Note.

1. No spurious emission were detected above 18 GHz.

3 meter

Band

802.11a (Worst Case)_DC 24 V

Distance of measurement: Channel

36 (Worst Case)



Note.

1. No spurious emission were detected above 18 ${\rm Ghz}.$



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3.3. Antenna Requirement

According to 15.207(a), An intentional radiator shall be designed to ensure that no antenna other than that fu rnished by the responsible party shall be used with the device. The use of a permanently attached antenna o r of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be r eplaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This require ment does not apply to carrier current devices or to devices operated under the provisions of Sections 15.21 1, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that mu st be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation si te. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the li mits in this Part are not exceeded.





Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.		
Spectrum analyzer R&S		FSV40	101725	1 year	2025.06.12		
SIGNAL GENERATOR	KEYSIGHT	N5182B	MY59100115	1 year	2025.04.15		
SIGNAL GENERATOR	Anritsu	68369B	002118	1 year	2025.04.15		
Power Meter	Anritsu	ML2495A	2010001	1 year	2025.04.15		
Pulse Power Sensor	Anritsu	MA2411B	1911111	1 year	2025.04.15		
Attenuator	Mini-Circuits	BW-S20-2W263A+	Y1	1 year	2026.02.10		
BAND REJECT FILTER	MICRO-TRONICS	BRM50716	G199	1 year	2026.01.08		
LOOP ANTENNA	TESEQ	HLA6121	66547	2 years	2026.01.22		
TRILOG-BROADBAND ANTENNA	Schwarzbeck	VULB 9163	714	2 years	2026.04.19		
Attenuator	HUBER+SHHNER	6806.17.A	NONE	1 year	2026.02.13		
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1802	1 year	2025.11.04		
ATTENUATOR	HP	8491B	23094	1 year	2026.02.13		
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA 9170550	1 year	2026.01.13		
Amplifier	SONOMA INSTRUMENT	310N	401123	1 year	2026.02.13		
PREAMPLIFIER	HP	8449B	3008A00538	1 year	2025.04.30		
BROADBAND AMPLIFIER	SCHWARZBECK	BBV9721	PS9721-003	1 year	2026.01.09		
DC POWER SUPPLY	SORENSEN	DCS40-75E	1408A02745	1 year	2026.01.08		
EMI Test Receiver	R & S	ESR7	101190	1 year	2025.07.29		
Cable	-	-	#5	1 year	2025.11.01		
	SUCOFLEX106	HUBER SUHNER	-				
Cable (SAC #5)	SUCOFLEX106	HUBER SUHNER	-	0.5 vear	2025.07.25		
	LH21D/2xSMA	OSI Cable	-		2020101120		
	TCLH21D-SMSM- 2.5M 0222	OSI Cable	-				
Cable (SAC #6)	TCLH21D-NMNM- 10.0M 0222	OSI Cable	-	0.5 year	2025.07.25		
	TCLH21D-SMSM- 7.0M 0222	OSI Cable	-				

Appendix A. Measurement equipment

* Statement of Traceability: KES Co., Ltd. attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Peripheral devices

Device	Manufacturer	Model No.	Serial No.	
Notebook computer	LG Electronics Inc.,	LGS53	306QCZP560949	
Test Jig Board	N/A	N/A	N/A	

The End.