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TEST REPORT Part 15 Subpart C 15.247

Equipment under test DoorCam

Model name DCMU-1706

FCC ID 2ANMR-DCMU-1706

Applicant OLIVE AND DOVE CO., LTD.

Manufacturer OLIVE AND DOVE CO., LTD.

Date of test(s) 2017.09.11 ~ 2017.09.19

Date of issue 2017.09.26

Issued to OLIVE AND DOVE CO., LTD.

803 Polaris bldg., 381, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, South Korea Tel: +82-31-715-0717/ Fax: +82-31-715-0719

Issued by

KES Co., Ltd. C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Korea 473-21, Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450

Test and report completed by :	Report approval by :
Kwon-se Kim Test engineer	Jeff Do Technical manager

This test report is not related to KOLAS.



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Revision history

Revision	Date of issue	Test report No.	Description
-	2017.09.26	KES-RF-17T0101	Initial



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1. General in	nformation		
Applicant:	OLIVE AND DOVE	CO., LTD.	
Applicant address: 803 Polaris bldg, 381, Seongnam-daero, Bundang-gu,			
	Seongnam-si, Gyeong	ggi-do, South Korea	
Test site:	KES Co., Ltd.		
Test site address:	C-3701, 40, Simin-da	ero 365beon-gil, Dongan-gu, Ang	yang-si, Gyeonggi-do, Korea
	473-21, Gayeo-ro, Ye	oju-si, Gyeonggi-do, Korea	
FCC rule part(s):	15.247		
FCC ID:	2ANMR-DCMU-170	6	
Test device serial No	.: Production	Pre-production	Engineering

1.1. EUT description

Equipment under test	DoorCam
Frequency range	2412 MHz ~ 2462 MHz (11b/g/n_HT20)
Model	DCMU-1706
Modulation technique	DSSS, OFDM
Number of channels	11ch (11b/g/n_HT20)
Antenna specification	Antenna type : PCB antenna, Peak gain : 1.27 dBi
Power source	DC 4.5 V (Rechargeable Battery D x 3 or Alkaline Battery D x 3)

1.2. Test configuration

The <u>OLIVE AND DOVE CO., LTD. DoorCam FCC ID: 2ANMR-DCMU-1706</u> was tested per the guidance of KDB 558074 D01 v04. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing.

1.3. Device modifications

N/A

1.4. Information about derivative model

N/A



1.5. Frequency/channel operations

Ch.	Frequency (Mz)	Mode
01	2412	802.11b/g/n_HT20
06	2437	802.11b/g/n_HT20
11	2462	802.11b/g/n_HT20

1.6. Worst case data rate

- 1. Radiated emission was performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.
- Worst-case data rates were: 802.11b: <u>1 Mbps</u> 802.11g: <u>6 Mbps</u> 802.11n_HT20: <u>MCS5</u>

1.7. Accessory information

Equipment	Manufacturer	Model	Serial No.	Power source
-	-	-	-	-



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2. Summary of	tests	
Reference	Parameter	Test results
15.247(a)(2)	6 dB bandwidth	Pass
15.247(b)(3)	Peak output power	Pass
15.247(e)	Power spectral density	Pass
15.205 15.209	Radiated restricted band and emission	Pass
15.247(d)	Conducted spurious emission and band edge	Pass
15.207(a)	AC conducted emissions	N/A Note.1

Note.

1. This device doesn't required AC conducted emission test because only uses battery.

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3. Test results

3.1. 6 dB bandwidth

Test procedure

KDB 558074 D01 v04 – Section 8.1 or 8.2 Used test method is section 8.1.

Section 8.1

- 1. RBW = 100 kHz.
- 2. VBW \geq 3 \times RBW.
- 3. Detector = peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Section 8.2

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, $VBW \ge 3 \times RBW$, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be $\ge 6 \text{ dB}$.

Limit

According to \$15.247(a)(2), systems using digital modulation techniques may operate $902 \sim 928$ Mb, $2400 \sim 2483.5$ Mb, and $5725 \sim 5850$ Mb bands. The minimum 6 dB bandwidth shall be at least 500 kb.

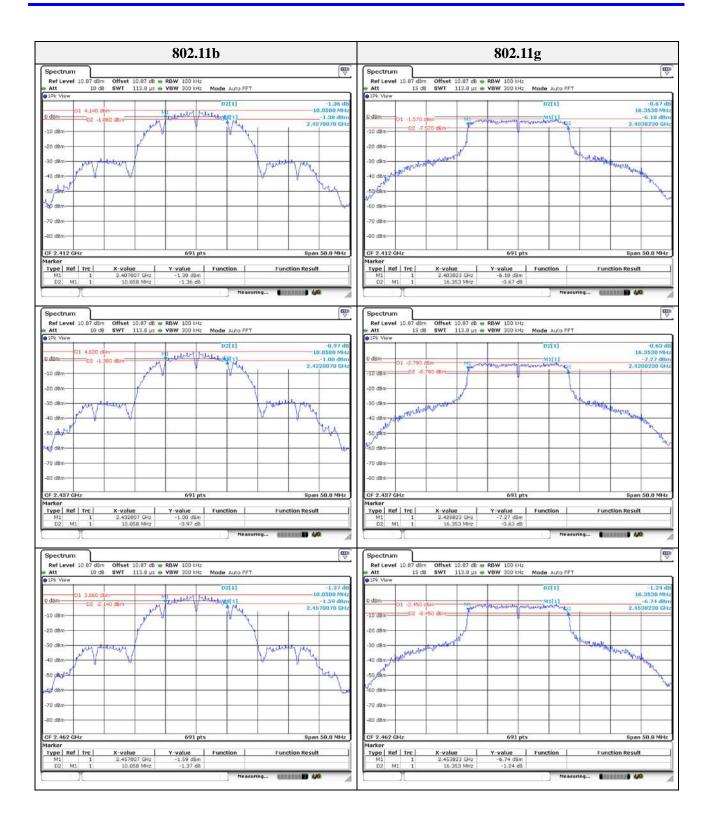


Test results

	6 dB bandwidth of 20 Mz bandwidth				
	T :::4(Mm)				
Frequency(Mz) 802.11b 802.11g 802.11n Limit(Mz)					
2412	10.06	16.35	17.22		
2437	10.06	16.35	17.19	0.5	
2462	10.06	16.35	17.22		

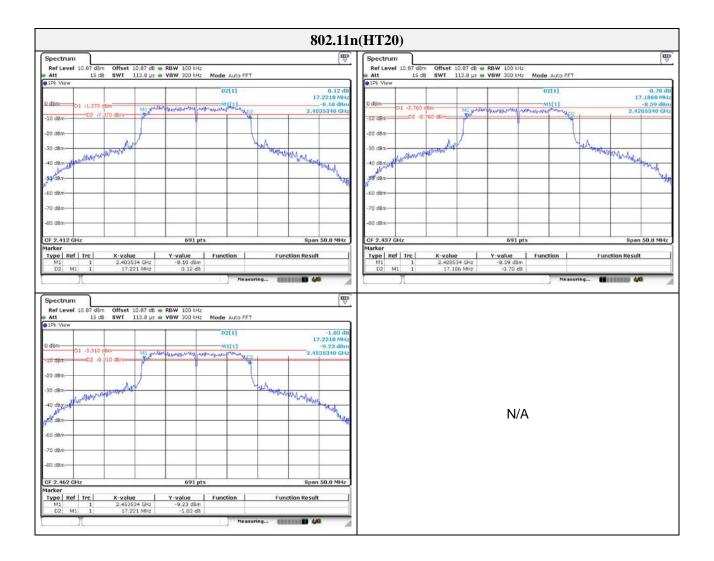


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3.2. Output power

Test procedure KDB 558074 D01 v04 – section 9.1.1 or 9.1.3 Used test method is section 9.1.3

Section 9.1.1

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is gr eater than the DTS bandwidth.

- 1. Set the RBW \geq DTS bandwidth.
- 2. Set VBW \geq 3 \times RBW.
- 3. Set span \geq 3 \times RBW
- 4. Sweep time = auto couple
- 5. Detector = peak
- 6. Trace mode = max hold
- 7. Allow trace to fully stabilize
- 8. Use peak marker function to determine the peak amplitude level

Section 9.1.3

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS ba ndwidth and shall utilize a fast-responding diode detector.

Limit

According to \$15.247(b)(3), For systems using digital modulation in the 902~928 MŁ, 2 400~2 483.5 MŁ, and 5 725~5 850 MŁ bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted out-put power. Maximum Conducted Out-put Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

According to \$15.247(b)(4), The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmit-ting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



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Test results

Measured output power (dBm)						
Mada	2412 MHz		2437 MHz		2462 MHz	
Mode	Peak	Average	Peak	Average	Peak	Average
11b	17.18	15.01	16.94	14.77	16.84	14.66
11g	20.03	12.92	19.79	12.48	19.59	12.16
11n_HT 20	19.94	12.91	19.90	12.58	19.55	12.35



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3.3. Power spectral density Test procedure KDB 558074 D01 v04– section 10.2

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS channel bandwidth.
- 3. Set the RBW : 3 kHz \leq RBW \leq 100 kHz
- 4. Set the VBW \geq 3 \times RBW.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW(no less than 3 kHz) and repeat.

Limit

According to \$15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.



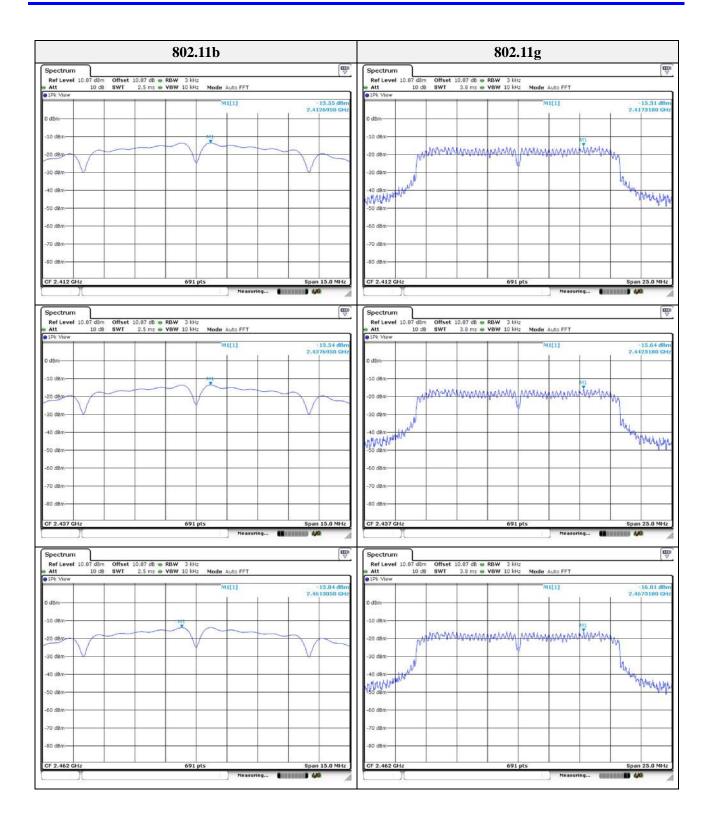
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Test results

PSD of 20 Mz bandwidth				
	Limit(dBm/3kHz)			
Frequency(Mz)	Frequency(Mz) 802.11b 802.11g 802.11n			
2412	-13.55	-15.31	-11.48	
2437	-13.54	-15.64	-11.51	8
2462	-13.84	-16.01	-11.94	



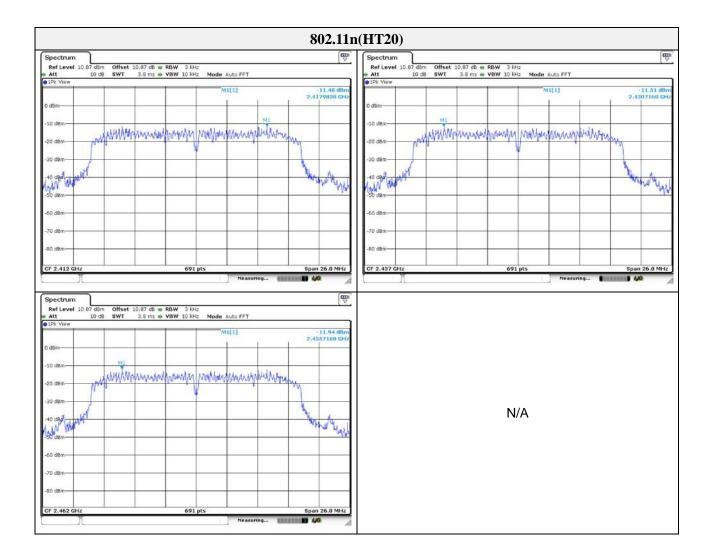
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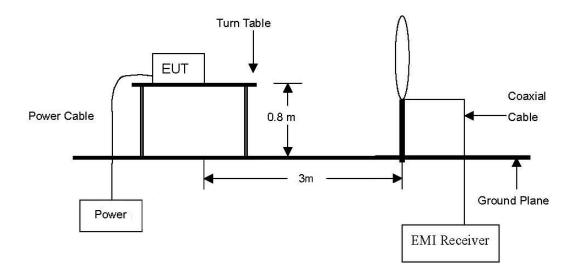




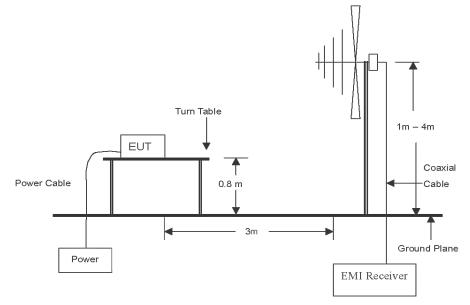
3.4. Radiated restricted band and emissions

Test setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions.



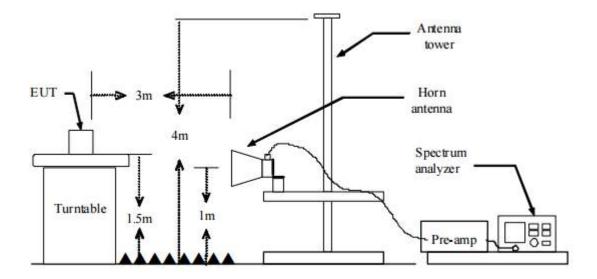
The diagram below shows the test setup that is utilized to make the measurements for emission from 30 Mz to 1 Gz emissions.



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The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz emissions, whichever is lower.



Test procedure below 30 Mz

- 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
- 3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum hold mode.

Test procedure above 30 Mz

- 1. Spectrum analyzer settings for f < 1 GHz:
 - (1) Span = wide enough to fully capture the emission being measured
 - 2 RBW = 100 kHz
 - ③ VBW \ge RBW
 - ④ Detector = quasi peak
 - 5 Sweep time = auto
 - 6 Trace = max hold
- 2. Spectrum analyzer settings for $f \ge 1$ GHz: Peak
 - ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
 - 2 RBW = 1 Mbz
 - ③ VBW \ge 3 MHz
 - (4) Detector = peak
 - 5 Sweep time = auto
 - \bigcirc Trace = max hold
 - \bigcirc Trace was allowed to stabilize

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- 3. Spectrum analyzer settings for $f \ge 1$ GHz: Average
 - ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
 - 2 RBW = 1 MHz

 - (4) Detector = RMS, if span/(# of points in sweep) \leq (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
 - (5) Averaging type = power(i.e., RMS)
 - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - 2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
 - 6 Sweep = auto
 - \bigcirc Trace = max hold
 - 8 Perform a trace average of at least 100 traces.
 - (9) A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
 - 1) If power averaging (RMS) mode was used in step (5), then the applicable correction factor is $10 \log(1/x)$, where x is the duty cycle.
 - 2) If linear voltage averaging mode was used in step (5), then the applicable correction factor is 20 log(1/x), where x is the duty cycle.
 - 3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

Note.

1. f < 30 MHz, extrapolation factor of 40 dB/decade of distance. $F_d = 40\log(D_m/Ds)$

 $f \ge 30$ Mz, extrapolation factor of 20 dB/decade of distance. $F_d = 20log(D_m/Ds)$ Where:

- F_d = Distance factor in dB
- D_m = Measurement distance in meters
- D_s = Specification distance in meters
- 3. $CF(Correction factors(dB)) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or F_d(dB)$
- 4. Field strength($dB\mu N/m$) = Level($dB\mu N$) + CF (dB) + or DCF(dB)
- 5. Margin(dB) = Limit(dB μ N/m) Field strength(dB μ N/m)
- 6. Emissions below 18 GHz were measured at a 3 meter test distance while emissions above 18 GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z, it was determined that $\underline{X \text{ orientation}}$ was worst-case orientation; therefore, all final radiated testing was performed with the EUT in $\underline{X \text{ orientation}}$.
- 8. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
- 9. All channels, modes (e.g. 802.11b/g/n (20 Mz BW)), and modulations/data rates were investigated among DTS band. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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10. According to exploratory test no any obvious emission were detected from 9 kHz to 30 MHz. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

Limit

According to 15.209(a), for an intentional radiator devices, the general required of field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values :

Frequency (Mbz)	Distance (Meters)	Radiated (µN/m)
0.009 ~ 0.490	300	2400/F(kHz)
0.490 ~ 1.705	30	24000/F(kHz)
1.705 ~ 30.0	30	30
30 ~ 88	3	100**
88 ~ 216	3	150**
216 ~ 960	3	200**
Above 960	3	500

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands $54 \sim 72$ Mb, $76 \sim 88$ Mb, $174 \sim 216$ Mb or $470 \sim 806$ Mb. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.



Duty cycle

Regarding to KDB 558074 D01_v04, 6.0, the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below.

Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100.

Test mode	Ton time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11b	10.00	10.00	1	100	0
802.11g	10.00	10.00	1	100	0
802.11n(HT20)	10.00	10.00	1	100	0

Duty cycle (Linear) = T_{on} time/Period

DCF(Duty cycle correction factor (dB)) = 10log(1/duty cycle)

802.11b // Middle channel					802.11g // Middle channel								
Spectrum				Spectrum									
Ref Level 20.87 dBm Att 20 dB = 3 SGL	Offset 10.87 dB • RBW 10 MHz SWT 10 ms • VBW 10 MHz			Ref Level : Att SGL		Offset 10 SWT		RBW 10 M					
1Pk Cirw		<u> </u>		1Pk Cirw			-				1		
			4	intransporterior	ng-conceptions	upperson by	ch-to-ta-l	have been	histophisto	minimum in the	inter-inter	ioust-lovet	-tertal-cental
10 dBm				10 dBm					-			-	
0 dBm				0 dBm									
15.02													
-10 dBm				-10 dBm									
-20 dBm			-	-20 dBm									
-30 dBm				-30 dBm									
				1011120									
-40 dBm-				-40 dBm									-
-50 d8m				-50 d8m									
-60 dBm				-60 dBm									
-ou abm				-50 06/1									
~70 dBm			-	-70 dBm								-	
CF 2.437 GHz	691 pts		.0 ms/	CF 2.437 GH				691	nts				1.0 ms/
Marker	077 pts			larker				077	pes				
	.11n(HT20) // Midd	le channel	(m)										
Ref Level 20.87 dBm Att 20 dB	Offset 10.87 dB • RBW 10 MHz SWT 10 ms • VBW 10 MHz												
9 1Pk Cirw													
monormalistation	And a proper provide the provide the property of the providence of	لىردىدى بىلى بىرى بىرى بىرى بىرى بىرى بىرى بىر	hadrestand										
10 dBm													
0 dBm													
-10 dBm													
-20 dBm			-										
-30 dBm								N	/A				
-30 000													
-40 dBm													
-50 d8m													
1000													
-60 dBm													
-70 dBm													
CF 2.437 GHz	691 pts		0 ms/										
Marker	DAT hts	1.	a ms/										
()()	L)	Ready	A.										

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Test results (Below 30 Mb))
Mode:	802.11g
Distance of measurement:	3 meter
Channel:	01 (Worst case)

Frequency	Level	Ant. Pol.	CF	F _d	Field strength	Limit	Margin
(MHz)	(dBµV)	(H/V)	(dB)	(dB)	(dBµN/m)	(dBµN/m)	(dB)
		No spurious er	nissions were c	letected within	20 dB of the limit	it	

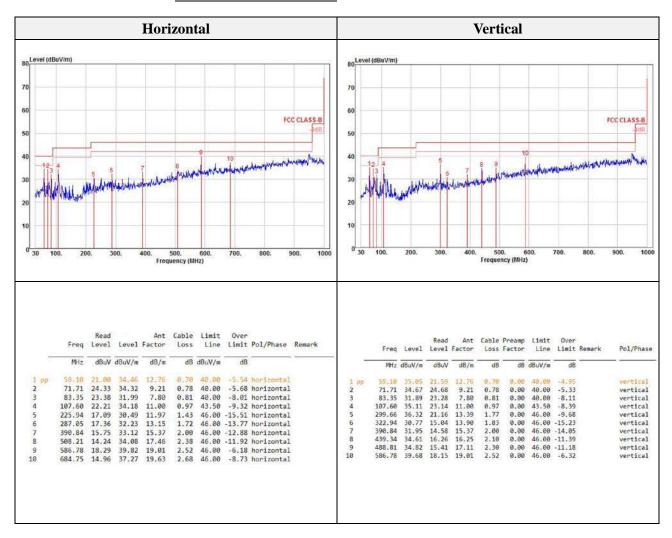
	Horizontal		Vertical					
Spectrum Spectrum 2	3			rum 2 🕥		6		
Ref Level 57.00 dBµV	RBW (CISPR) 200 Hz		Ref Level 57.00 dBµV	 RBW (CISPR) 200 Ha 				
Att 0 dB SWT 13	.4 ms 🖷 VBW 3 kHz Mode	Auto FFT	Att D dB D dB D dB	SWT 13.4 ms SVBW 3 kHz	z Mode Auto FFT			
THE MOR			THK MG2					
50 dBµV			50 dBµV					
			oo aqar					
40 dBµV			40 dBuV					
			10 VUPT					
0 d8µV			30 dBµV-					
						1		
0 dBµV			20 dBuV					
o copr			4.0 0001					
0 dBuV			10 dBuV					
dBµV-			0 dBpV-			-		
him blacks all meren	and the second second second	annumentation marcanets	Marching and New March	alther wood was been and	and the second state of th	100000		
10 dBpV	and a second and the second of the second	an phan doubter whether and the	-10 dBpV	and a march and and a standing	morphismuchanter	manne		
			and only a					
10 dBµV			-20 dBµV					
			Lo Objet			1		
io dauv			-30 dBµV					
			ou oupt					
0.00.0			-40 dB 66					
Cart 9.0 kHz	10	stop 150.0 kHz	-40 dBµV Stort 9.0 kHz	691 pts	Stop Measuring II	NA.		
spectrum Spectrum 2	BBW (CISPR) 9 kHz	easuring 🚺	Spectrum Spect	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NO.		
RefLevel 67.00 d8µ∨ Att 0 d8 SWT 2.1	BBW (CISPR) 9 kHz	easuring 🚺	Spectrum Spect Ref Level 67.00 dBµV Att 0 dB	rum 2 ③ RBW (CISPR) 9 kHz		NO.		
tart 9.0 kHz pectrum Spectrum 2 Ref Level 67.00 dBµV Nt 0 dB SWT 2.1	BBW (CISPR) 9 kHz	easuring 🚺	Spectrum Spect	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NO.		
ktort 9.0 kHz Spectrum Spectrum 2 Ref Level 67.00 dbjV Att 0 db SWT 2.1 19k Max	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 Mtz Spectrum Spect Ref Level 67.00 dbµV Att 0 db Pk Max	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NO.		
tart 9.0 kHz pectrum Spectrum 2 Ref Level 67.00 dBµV Nt 0 dB SWT 2.1	BBW (CISPR) 9 kHz	easuring 🚺	Spectrum Spect Ref Level 67.00 dBµV Att 0 dB	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	150.0 kH		
tart 9.0 kHz pectrum Spectrum 2 tef Level 67.00 dsµV tt 0.05 SWT 2.1 PEK Mac	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spect Ref Lavel 67.00 d8µV At 0 d5 91% Max 60 d8µV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NO.		
tort 9.0 kHz pectrum Spectrum 2 tef Level 67.00 dBJV tt 0 dB SWT 2.1 Pk Max	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 Mtz Spectrum Spect Ref Level 67.00 dbµV Att 0 db Pk Max	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NA.		
Spectrum Spectrum 2 of Level 67.00 d8µV 0 d8 wr 2.1 PR Max 0 d8 wr 2.1 D d8µV 0 d8 wr 2.1	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dBµV 0 dB Att 0 dB 0 JPk Max 60 dBµV 50 dBµV 50 dBµV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	KA.		
Spectrum Spectrum 2 of Level 67.00 d8µV 0 d8 wr 2.1 PR Max 0 d8 wr 2.1 D d8µV 0 d8 wr 2.1	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spect Ref Lavel 67.00 d8µV At 0 d5 91% Max 60 d8µV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	KA.		
art 9.0 kHz pectrum Spectrum 2 of Level 67.00 dBµV tt 0 dB Swr 2.1 dBµV dBµV dBµV dBµV dBµV	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spectrum Ref Level 67.00 dBµV 0 dB 0 1Pk Max 60 dBµV 60 dBµV 50 dBµV 40 dBµV 40 dBµV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	KA.		
art 9.0 kHz pectrum Spectrum Petrov Spectrum Spectrum Pk Max BBUV BBUV BBUV BBUV BBUV BBUV BBUV BBU	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dBµV 0 dB Att 0 dB 0 JPk Max 60 dBµV 50 dBµV 50 dBµV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	KA.		
art 9.0 kHz pectrum Spectrum 2 of Level 67.00 depv tt 0 d6 SWT 2.1 depv depv depv depv depv depv depv dep	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spect Rd Lovel 67.00 dep/v 0 db Att solution 0 db 10k Max 60 dbuv 50 dbuv 50 dbuv 30 dbuv 30 dbuv	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NA.		
Spectrum Spectrum 2 of Level 67:00 dej/v 0 db SWT 2.1 b dbj/v 0 db SWT 2.1 c dbj/v 0 db SWT 2.1	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spectrum Ref Level 67.00 dBµV 0 dB 0 1Pk Max 60 dBµV 60 dBµV 50 dBµV 40 dBµV 40 dBµV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	KA.		
Spectrum Spectrum 2 of Level 67.00 dBµV 0 dB SWT 2.1 PR Max 0 dB WY 2.1 0 dBµV 0 dB WY 2.1 0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV	BBW (CISPR) 9 kHz	easuring 🚺	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dBµV Att 0 JPk Maic 60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV	rum 2 ③ RBW (CISPR) 9 kHz	Neasuring	NA.		
art 9.0 kHz	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Rdt Lovel 67.00 deg/v 0 db 0 db 100 deg/v 0 db 10 dbg/v 0 db 30 dbg/v 20 dbg/v 10 dbg/v 20 dbg/v	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum Spectrum Code Bay D D D Bay D D D Bay D D D D D D D D D D D D D D D D D D D	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring 🚺	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dsp/v 0 db p/v 0 19k Max 0 db p/v 50 dbp/v 40 dbp/v 30 dbp/v 20 dbp/v 10 dbp/v 10 dbp/v	rum 2 ③ RBW (CISPR) 9 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum Spectrum Code Bay D D D Bay D D D Bay D D D D D D D D D D D D D D D D D D D	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Rdt Lovel 67.00 deg/v 0 db 0 db 100 deg/v 0 db 10 dbg/v 0 db 30 dbg/v 20 dbg/v 10 dbg/v 20 dbg/v	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum 2 ef Level 67.00 degv tt 0 db SWT 2.1 PK Max 0 db SWT 2.1 0 dbgv 0 dbg	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 deg/v 0 db 1 0 10k Max 0 db 1 60 dbg/v 0 db 1 50 dbg/v 0 30 dbg/v 0 10 dbg/v 0 10 dbg/v 0 10 dbg/v 0 dbg/v	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum 2 tef Level 67.00 d8µV tt 0 d8 SWT 2.1 PF Max 0 d8 SWT 2.1 0 d8µV	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dsp/v 0 db p/v 0 19k Max 0 db p/v 50 dbp/v 40 dbp/v 30 dbp/v 20 dbp/v 10 dbp/v 10 dbp/v	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum 2 pectrum Spectrum 2 if Laved 67.00 dBµV 0 dB WT 2.1 DX Max 0 dB W	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dBµV 0 dBµV 0 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV 10 dBµV	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum 2 pectrum Spectrum 2 if Laved 67.00 dBµV 0 dB WT 2.1 DX Max 0 dB W	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 deg/v 0 db 1 0 10k Max 0 db 1 60 dbg/v 0 db 1 50 dbg/v 0 30 dbg/v 0 10 dbg/v 0 10 dbg/v 0 10 dbg/v 0 dbg/v	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
Spectrum Spectrum 2 of Level 67.00 dejuv 0 db swr 2.1 Pk Max 0 db swr 2.1 J dbjuv 0 db swr 2.1	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dsµv 0 db 100 dsµv 10 dbµv 0 dbµv 20 dbµv 0 dbµv 10 dbµv 0 dbµv -10 dbµv -20 dbµv	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			
tart 9.0 kHz pectrum Spectrum 2 tef Level 67.00 d8µV tt 0 d8 SWT 2.1 PF Max 0 d8 SWT 2.1 0 d8µV	RBW (CISPR) 9 kHz ms • VBW 100 kHz Mode Au	easuring	Stort 9.0 kHz Spectrum Spect Ref Level 67.00 dBµV 0 dBµV 0 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV 10 dBµV	rum 2 3 • RBW (CISPR) 9 kHz SWY 2.1 ms • VBW 100 kHz	Mode Auto FFT			



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Test results (Below	1	000	MHz) -	Worst case
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Mode:	802.11g
Distance of measurement:	3 meter
Channel:	01 (Worst case)





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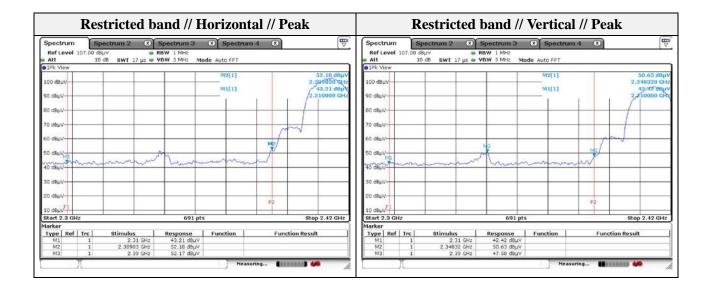
Test results (Above 1 000 Mz)

Mode:	802.11b
Distance of measurement:	3 meter
Channel:	01

- Spurio	us							
Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1 044.90	49.67	Peak	Н	-8.85	-	40.82	74.00	33.18
1 594.80	46.77	Peak	Н	-5.04	-	41.73	74.00	32.27
2 257.60	46.24	Peak	Н	-0.47	-	45.77	74.00	28.23
2 451.50	48.48	Peak	Н	-0.11	-	48.37	74.00	25.63
1 302.50	47.65	Peak	V	-7.20	-	40.45	74.00	33.55
2 251.80	45.77	Peak	V	-0.48	-	45.29	74.00	28.71

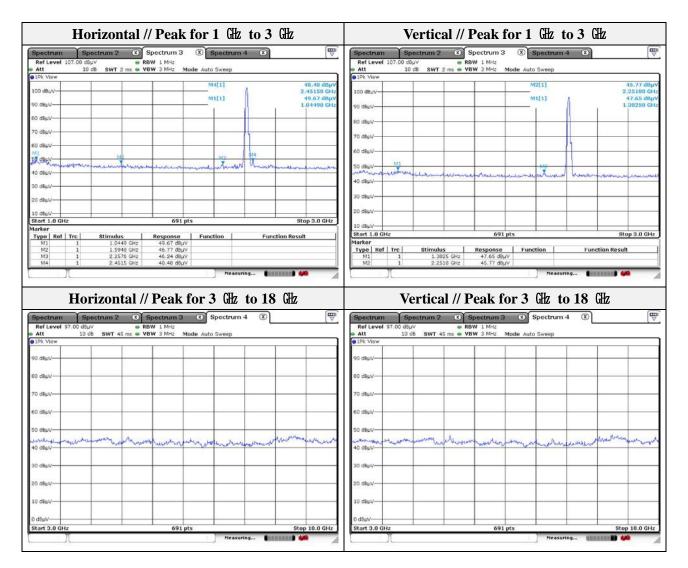
- Band edge

2 una v								
Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
2 389.83	52.18	Peak	Н	-0.22	-	51.96	74.00	22.04
2 348.32	50.63	Peak	V	-0.30	-	50.33	74.00	23.67



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Note.

1. No spurious emission were detected above 3 GHz.

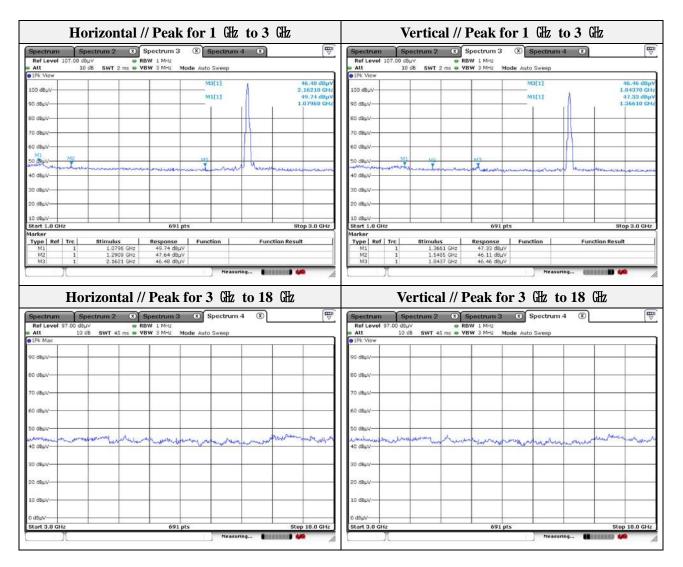
2. Average test would be performed if the peak result were greater than the average limit.



Mode:	802.11b
Distance of measurement:	3 meter
Channel:	06

- Spurio	us							
Frequency (MHz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
1 079.60	49.74	Peak	Н	-8.63	-	41.11	74.00	32.89
1 290.90	47.64	Peak	Н	-7.28	-	40.36	74.00	33.64
2 162.10	46.48	Peak	Н	-0.65	-	45.83	74.00	28.17
1 366.10	47.33	Peak	V	-6.79	-	40.54	74.00	33.46
1 548.50	46.11	Peak	V	-5.50	_	40.61	74.00	33.39
1 843.70	46.46	Peak	V	-2.62	-	43.84	74.00	30.16





Note.

1. No spurious emission were detected above 3 GHz.

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

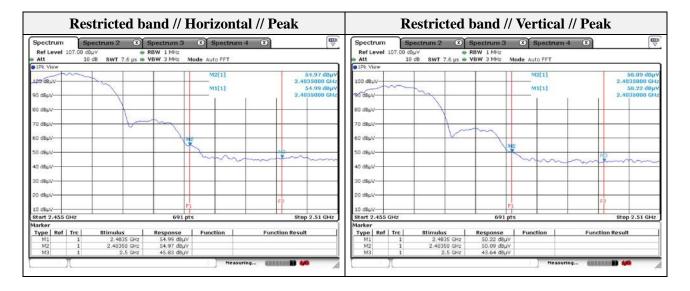


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Mode:	802.11b
Distance of measurement:	3 meter
Channel:	11

- Spurio	us							
Frequency (Mbz)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
1 094.10	48.80	Peak	Н	-8.54	-	40.26	74.00	33.74
1 285.10	47.75	Peak	Н	-7.31	-	40.44	74.00	33.56
2 303.90	46.34	Peak	Н	-0.38	-	45.96	74.00	28.04
1 253.30	47.96	Peak	V	-7.52	-	40.44	74.00	33.56
1 366.10	47.30	Peak	V	-6.79	-	40.51	74.00	33.49
1 846.60	46.21	Peak	V	-2.59	-	43.62	74.00	30.38

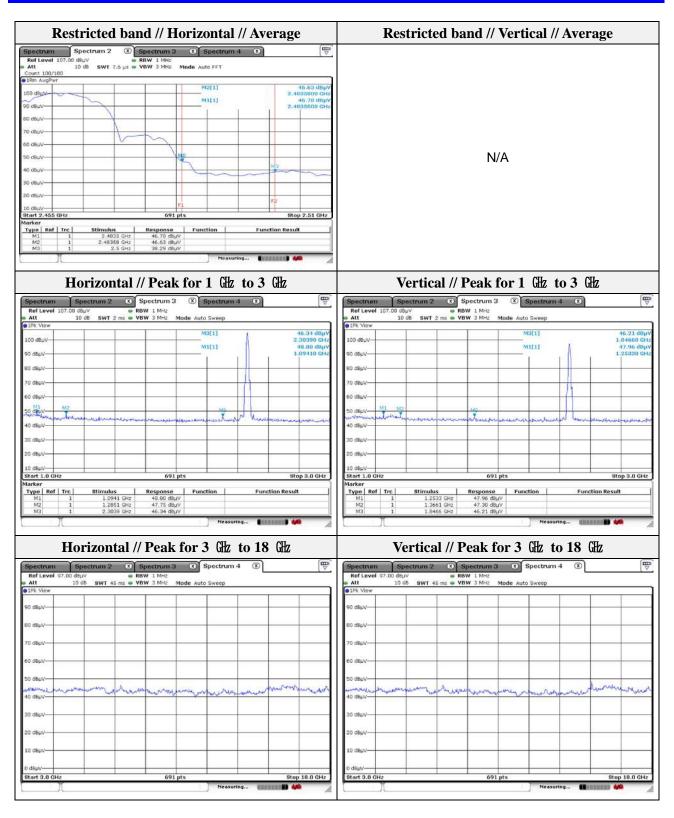
- Band e	edge							
Frequency (Mbz)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
2 483.50	54.99	Peak	Н	-0.05	-	54.94	74.00	19.06
2 483.50	46.78	Avg	Н	-0.05	-	46.73	54.00	7.27
2 483.58	50.09	Peak	V	-0.05	-	50.04	74.00	23.96



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Note.

1. No spurious emission were detected above 3 GHz.

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

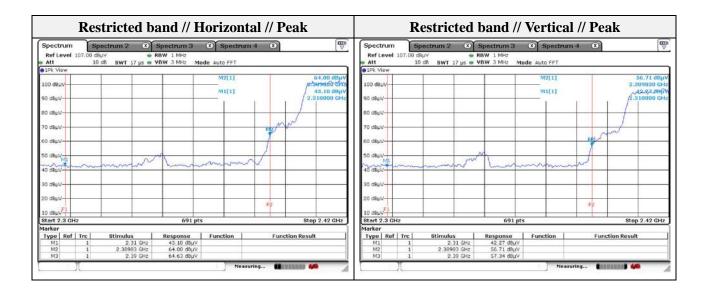


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Mode:	802.11g
Distance of measurement:	3 meter
Channel:	01

- Spurio	us							
Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1 111.40	49.54	Peak	Н	-8.43	-	41.11	74.00	32.89
1 568.70	46.99	Peak	Н	-5.30	-	41.69	74.00	32.31
2 248.90	47.11	Peak	Н	-0.48	-	46.63	74.00	27.37
1 843.70	46.55	Peak	V	-2.62	-	43.93	74.00	30.07
2 246.00	48.68	Peak	V	-0.49	-	48.19	74.00	25.81

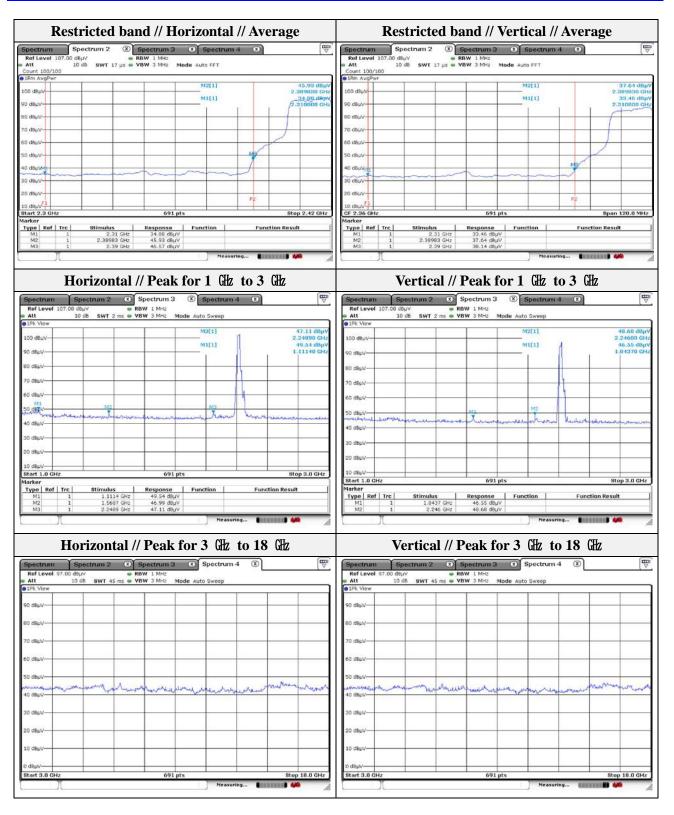
- Band e	dge							
Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµN/m)	Limit (dBµN/m)	Margin (dB)
2 389.83	64.00	Peak	Н	-0.22	-	63.78	74.00	10.22
2 389.83	45.93	Avg	Н	-0.22	-	45.71	54.00	8.29
2 389.83	56.71	Peak	V	-0.22	-	56.49	74.00	17.51
2 389.83	37.64	Avg	V	-0.22	-	37.42	54.00	16.58



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Note.

1. No spurious emission were detected above 3 GHz.

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

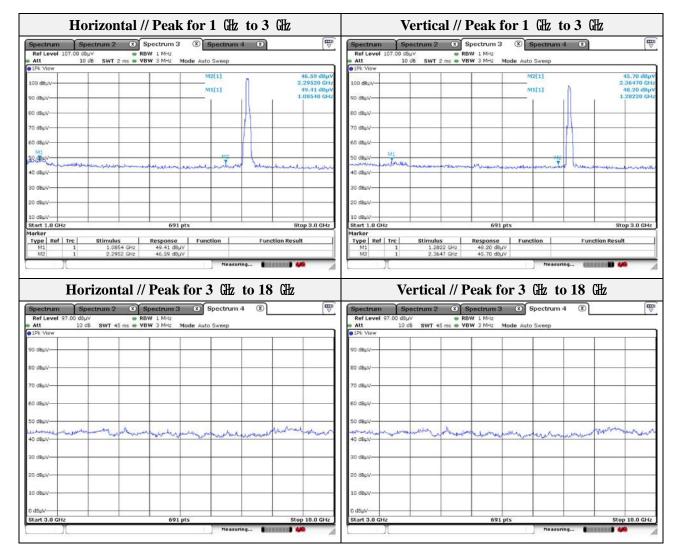


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Mode:	802.11g
Distance of measurement:	3 meter
Channel:	06

- Spurious

Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
1 085.40	49.41	Peak	Н	-8.59	-	40.82	74.00	33.18
2 295.20	46.59	Peak	Н	-0.40	-	46.19	74.00	27.81
1 282.20	48.20	Peak	V	-7.33	-	40.87	74.00	33.13
2 364.70	45.70	Peak	V	-0.27	-	45.43	74.00	28.57



Note.

1. No spurious emission were detected above 3 GHz.

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



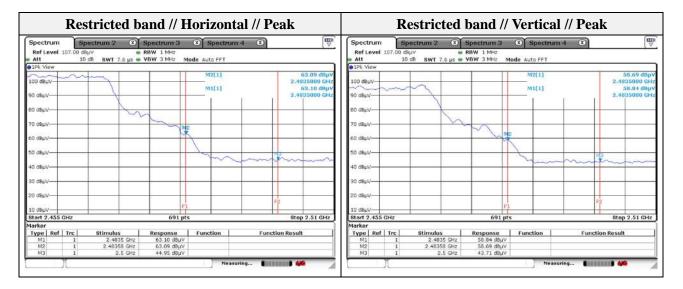
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Mode:	802.11g
Distance of measurement:	3 meter
Channel:	11

- Spurio	us							
Frequency (MLz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
1 091.20	49.20	Peak	Н	-8.56	-	40.64	74.00	33.36
1 290.90	47.63	Peak	Н	-7.28	-	40.35	74.00	33.65
1 140.40	47.73	Peak	V	-8.24	-	39.49	74.00	34.51
1 843.70	46.02	Peak	V	-2.62	-	43.40	74.00	30.60

- Band edge

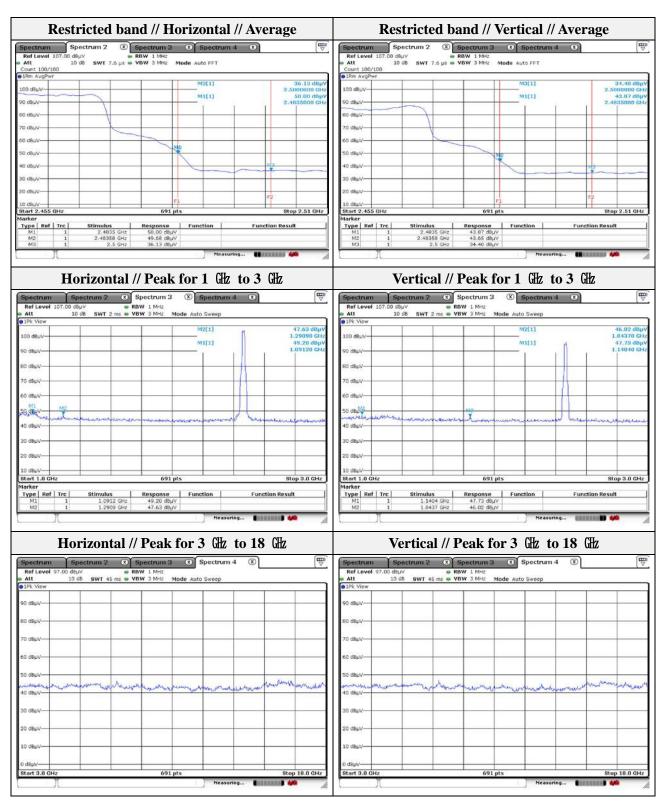
Dunu								
Frequency (Mtz)	Level (dBµV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2 483.50	63.10	Peak	Н	-0.05	-	63.05	74.00	10.95
2 483.50	50.00	Avg	Н	-0.05	-	49.95	54.00	4.05
2 483.50	58.84	Peak	V	-0.05	-	58.79	74.00	15.21
2 483.50	43.87	Avg	V	-0.05	-	43.82	54.00	10.18



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Test report No.: KES-RF-17T0101 Page (34) of (47)



Note.

1. No spurious emission were detected above 3 GHz.

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



Mode:	802.11n(HT20)
Distance of measurement:	3 meter
Channel:	01

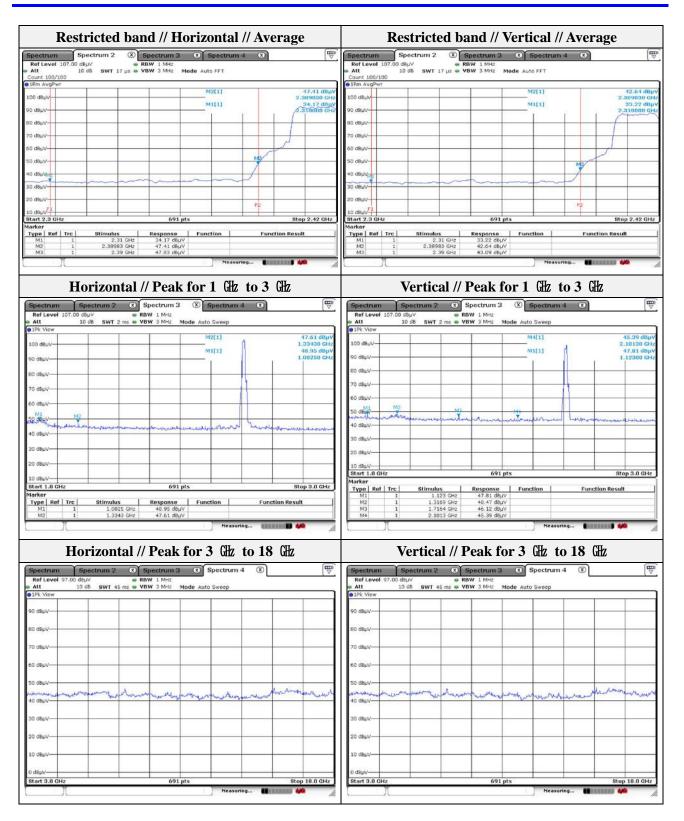
- Spurio	us							
Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1 082.50	48.95	Peak	Н	-8.61	-	40.34	74.00	33.66
1 334.30	47.61	Peak	Н	-7.00	-	40.61	74.00	33.39
1 123.00	47.81	Peak	V	-8.35	-	39.46	74.00	34.54
1 316.90	48.47	Peak	V	-7.11	-	41.36	74.00	32.64
1 716.40	46.12	Peak	V	-3.88	-	42.24	74.00	31.76
2 101.30	45.39	Peak	V	-0.77	-	44.62	74.00	29.38

- Band e	- Band edge									
Frequency (MHz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµN/m)	Limit (dBµN/m)	Margin (dB)		
2 389.31	59.51	Peak	Н	-0.22	-	59.29	74.00	14.71		
2 389.83	47.41	Avg	Н	-0.22	-	47.19	54.00	6.81		
2 389.83	53.39	Peak	V	-0.22	-	53.17	74.00	20.83		
2 389.83	42.64	Avg	V	-0.22	-	42.42	54.00	11.58		

Spectrum	Spectrum 2	Spectrum 3	Spectrun	n4 🗶	Spectrum	Spectr	um 2 💌 🛛	Spectrum 3	Spectru	m4 💌		E .
Ref Level 10		RBW 1 MHz				107.00 dBµ∨		BW 1 MHz				
Att	10 dB SWT 17	s 🖶 VBW 3 MHz M	Iode Auto FFT		e Att	10 dB	SWT 17 µs @ V	BW 3 MHz M	ode Auto FFT			
1Pk View					1Pk View							
UDD deuv			M2[1]		9.51 dBpV 99310'67% 100 dBuV				M2[1]			53.39 dBp 2.389830 GF
UO deuv			M1[1]		12.80 dBuV				M1[1]			2.309030 G
0 dBuV			oritil		10000 GHz 90 dBuV				oritit			2.310000 G
o uppv			1		30 000 0112				1	E	1	
0 dBuV					80 dBµV			-				_
					co copr							
dBuV-					70 dBuV+						1	
				SHO	/u ubpv-			1 1			n	
0 dBuV				Mar Contraction	60 dBuV						white	
0 dBµV				1	1004000					14	when	-
				190	1004000						m	
		mann mann	min		60 dBµV		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Marca M		y	white	
	mmm	mm	m		60 dBµV			m			what is a second	
0 dBµV M1 0 dBµV		mmmm	m		60 dBµV 50 dBµV 40 dBµV	······		Minim	mm		-	
	mmm	mmun	min		60 dBµV	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Muran				
0 dBµV M1 0 dBµV 0 dBµV		mmm			60 dBµV- 50 dBµV- 40 dBµV- 30 dBµV-	······		m				
0 dBµV M1 0 dBµV 0 dBµV		mm			60 dBµV 50 dBµV 40 dBµV	~~~~		m				
) dB _B V) dB _B V) dB _B V		mm	min	12 12	60 dBuV 50 dBuV M1 40 dBuV 30 dBuV 20 dBuV		~~~~	Mirin		F2		
0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV				F2	60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV 10 dBµV							
0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV 1 0 dBµV 1 1 1 1 1 1 1 1 1 1 1 1 1		691 pt		F2	60 dByV 50 dByV 40 dByV 30 dByV 20 dByV 20 dByV 2 dByV 2 dByV 2 dByV			691 pt				Stop 2.42 GH
0 dBuV 0 dBuV 0 dBuV 0 dBuV 0 dBuV 0 dBuV 1 dBuV		691 pr	ts	F2 Stop :	60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV 20 dBµV 10 dBµV 2.42 GHz 8tot 2.3 G	Hz		691 pt	s	F2		
0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV 0 dBµV F1 context conte	frc Stimulus	691 pt	ts Function	F2	60 dByV 50 dByV 40 dByV 30 dByV 20 ByV 20 ByV 2 dByV 2 dByV 2 dByV 7 ype 16 dByV 1 ype 16 dByV	Hz f Trc S	timulus	691 pt Response		F2	unction Re	
0 dBuV 0 dBuV 0 dBuV 0 dBuV 0 dBuV 0 dBuV 1 dBuV		691 pt 691 pt 842 42.60 dBµV	ts Function	F2 Stop :	60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV 20 dBµV 10 dBµV 2.42 GHz 8tot 2.3 G	Hz		691 pt	s	F2		



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Note.

1. No spurious emission were detected above 3 GHz.

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

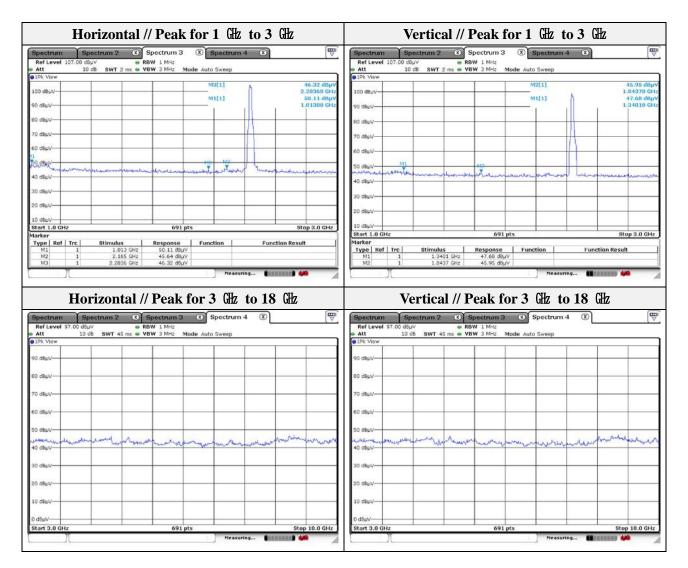


Test report No .: KES-RF-17T0101 Page (37) of (47)

Mode:	802.11n(HT20)
Distance of measurement:	3 meter
Channel:	06

- Spurio	us							
Frequency (MHz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµN/m)	Margin (dB)
1 013.00	50.11	Peak	Н	-9.06	-	41.05	74.00	32.95
2 165.00	45.64	Peak	Н	-0.64	-	45.00	74.00	29.00
2 283.60	46.32	Peak	Н	-0.42	-	45.90	74.00	28.10
1 340.10	47.68	Peak	V	-6.96	-	40.72	74.00	33.28
1 843.70	45.95	Peak	V	-2.62	-	43.33	74.00	30.67





Note.

1. No spurious emission were detected above 3 GHz.

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



Mode:	802.11n(HT20)
Distance of measurement:	3 meter
Channel:	11

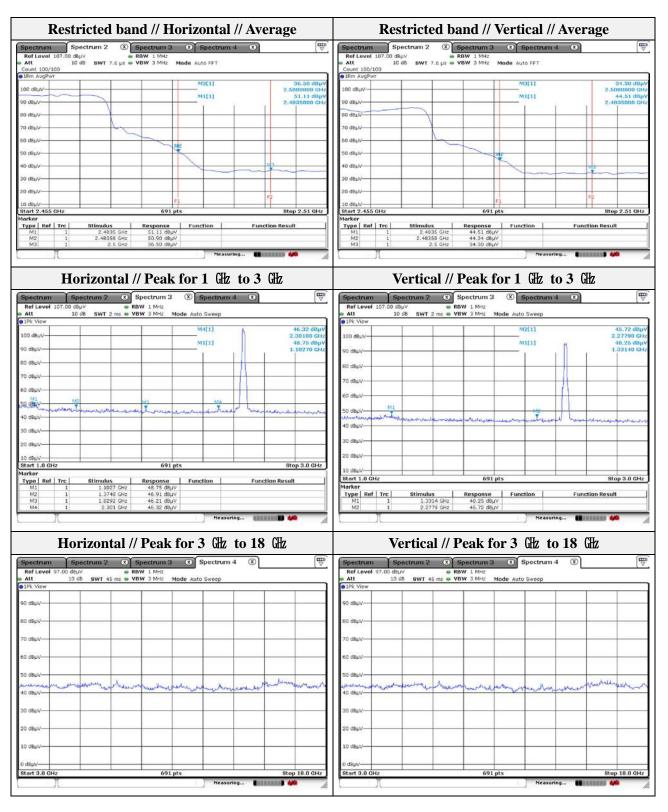
- Spurio	us							
Frequency (Mbz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1 102.70	48.75	Peak	Н	-8.48	-	40.27	74.00	33.73
1 374.80	46.91	Peak	Н	-6.74	-	40.17	74.00	33.83
1 829.20	46.21	Peak	Н	-2.77	-	43.44	74.00	30.56
2 301.00	46.32	Peak	Н	-0.39	-	45.93	74.00	28.07
1 331.40	48.25	Peak	V	-7.02	-	41.23	74.00	32.77
2 277.90	45.72	Peak	V	-0.43	-	45.29	74.00	28.71

- Band e	Duna cuge									
Frequency (MHz)	Level (dBµN)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)		
2 483.50	62.25	Peak	Н	-0.05	-	62.20	74.00	11.80		
2 483.50	51.11	Avg	Н	-0.05	-	50.85	54.00	3.15		
2 483.50	57.98	Peak	V	-0.05	-	57.93	74.00	16.07		
2 483.50	44.51	Avg	V	-0.05	-	44.46	54.00	9.54		

Spectrum	Spectrum 2	Spectrum 3	Spectrum	14 🛞	Spectrum	Sp	ectrum 2 🛛 🖹	Spectrum 3	Spectrum	14 🛞	E C
Ref Level 10		RBW 1 MHz	and the state of the second		Ref Level			RBW 1 MHz	(1) Jacob 2011 (1) 2020 (1) 20		
Att	10 dB SWT 7.6	5µs 🖷 VBW 3 MHz N	ode Auto FFT		Att	10	dB SWT 7.6 µs 🖷	VBW 3 MHz M	ode Auto FFT		
1Pk View					IPk View						
LOO deuv	m		M2[1]	61.90 dBµV 2.4035000 GHz	100 d8uV-		·		M2[1]		57.63 dB
ou dupt			M1[1]	62.25 dBµV	100 0001	in	~		M1[1]		57.98 dB
0 dBuV				2.4835000 GHz	90 dBµV						2.4835000 G
101-1033-1033	N N				Descentifiers			1 11	1	F 1	interest and a second
ID dBuV					80 dBµV		X	-			
10								1 11			
0 dBµV		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			70 dBµV		- h	~			
0 dBuV					60 dBµV		×	M			
o onder					00 0001			The second secon	2		
0 dBuV			1	112	50 dBµV				be	-	
A-236/2026			have	momm				1 11	Var	man 1	hanne
0 dBµV					40 dBµV					T	
								1 1			
0 dBµV					30 dBpV						
0 dBuV					20 dBuV						
o organ				F2	E.O. Order					F	2
0 dBµV					10 dBµV			F1		-	
tart 2.455 GH	z	691 pt	s	Stop 2.51 GHz	Start 2.455	GHz	ł	691 pt	8		Stop 2.51 GH
larker		- N			Marker		- A.				
Type Ref T		Response	Function	Function Result	Type Ref	Trc	Stimulus	Response	Function	Function	on Result
M1	1 2.4835				M1	1	2.4835 GHz	57.98 dBµV			
M2 M3	1 2.48358	GH2 61.90 dBµV GH2 45.39 dBµV			M2 M3	1	2.48358 GHz 2.5 GHz	57.63 dBµV 42.69 dBµV			



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Note.

1. No spurious emission were detected above 3 GHz.

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

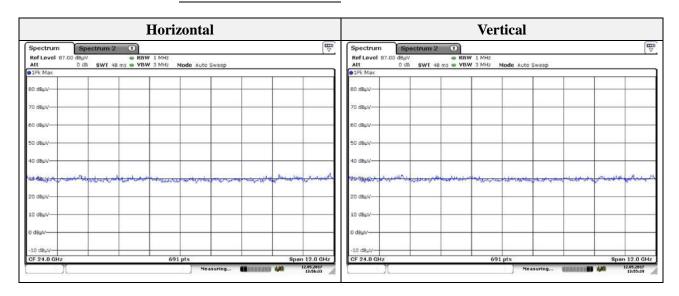


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Test results (18	GHz	to 30	(出z) – Worst case
Mode:			802.11g

Distance of measurement: 3 meter Channel: 01 (Worst case)



Note.

1. No spurious emission were detected above 18 GHz.

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3.5 Conducted spurious emissions & band edge Test procedure

Band edge

KDB 558074 D01 v04 - Section 11.3

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW = 100 kHz
- 4. VBW = 300 kHz
- 5. Detector = Peak
- 6. Trace mode = max hold
- 7. Sweep time = auto
- 8. The trace was allowed to stabilize

Out of band emissions

KDB 558074 D01 v04 - Section 11.3

- 1. Start frequency was set to 30 MHz and stop frequency was set to 25 GHz for 2.4 GHz frequencies and 40 GHz for 5 GHz frequencies
- 2. RBW = 100 kHz
- 3. VBW = 300 kHz
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep time = auto couple
- 7. The trace was allowed to stabilize

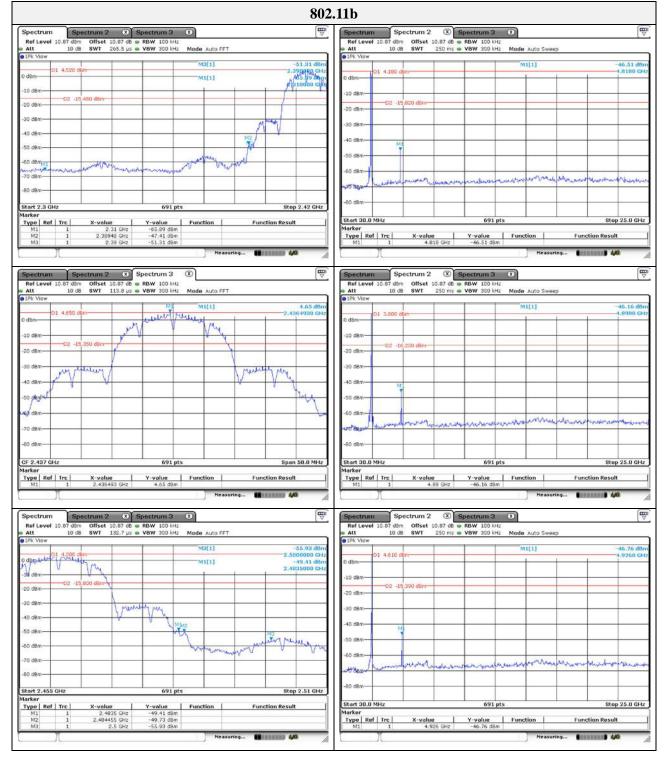
Limit

According to 15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in section 15.209(a) is not required. In addition, radiated emission which in the restricted band, as define in section 15.205(a), must also comply the radiated emission limits specified in section 15.209(a) (see section 15.205(c))



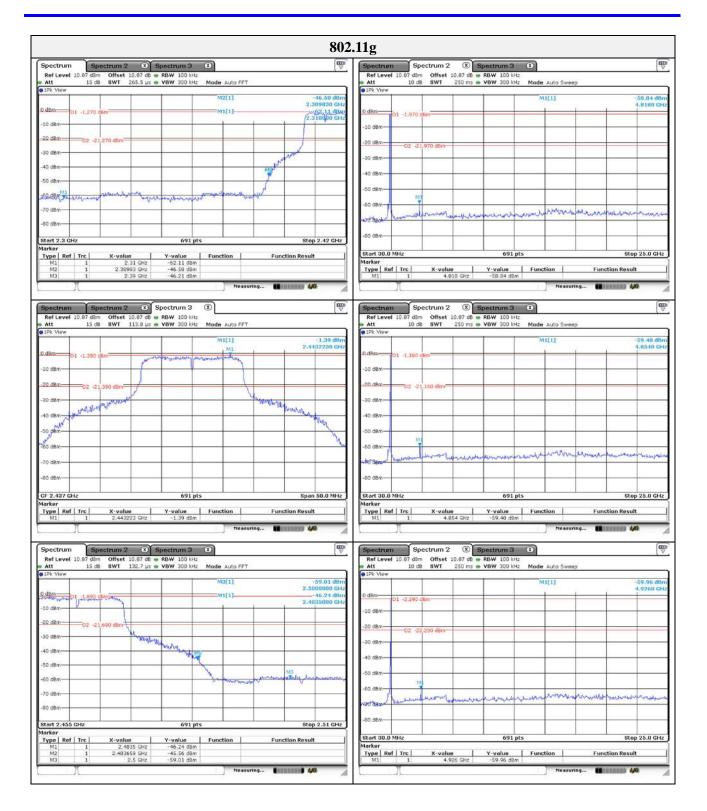
C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450 www.kes.co.kr Test report No.: KES-RF-17T0101 Page (43) of (47)

Test results



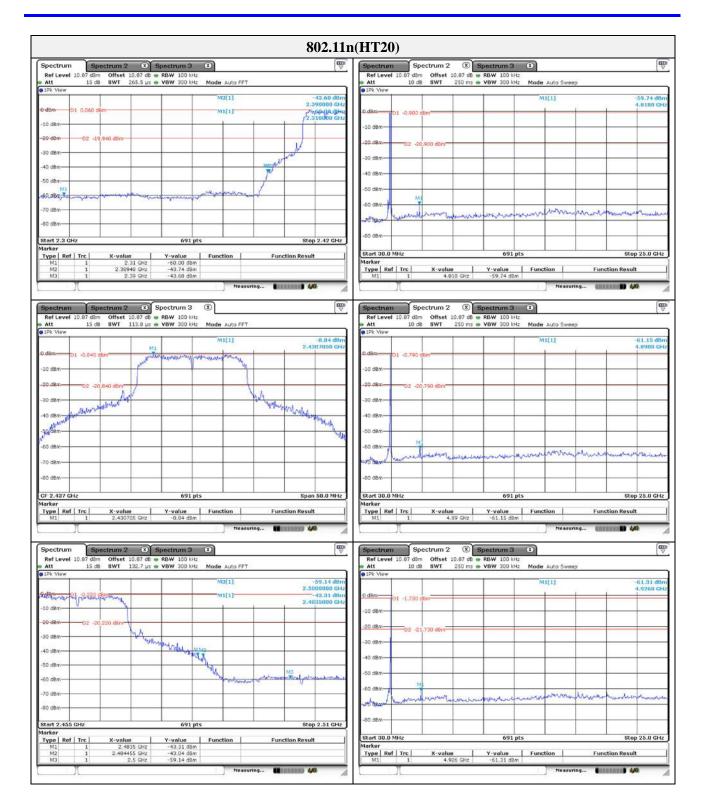


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Calibration Calibration Manufacturer Model Serial No. Equipment interval due. R&S FSV30 100736 2018.07.04 Spectrum Analyzer 1 year Spectrum Analyzer R&S FSV40 101002 1 year 2018.07.04 8360B Series Swept HP 83630B 3844A00786 2018.01.23 1 year Signal Generator Power Meter ML2495A 1438001 2018.01.23 Anritsu 1 year Pulse Power Sensor MA2411B 1339205 2018.01.23 Anritsu 1 year 8493C Attenuator Agilent 51401 1 year 2018.07.04 Schwarzbeck FMZB1513 225 2019.05.10 Loop Antenna 2 years Trilog-broadband SCHWARZBECK **VULB 9163** 9168-714 2018.11.28 2 years antenna SAS-571 414 2019.02.15 Horn Antenna A.H 2 years Horn Antenna **SCHWARZBECK BBHA9170** BBHA9170550 2019.02.15 2 years Wainwright High Pass Filter WHJS3000-10TT 1 1 year 2018.07.03 Instrument Gmbh Wainwright Low Pass Filter WLK1.0/18G-10TT 1 1 year 2018.07.03 Instrument Gmbh 3008A00538 Preamplifier HP 8449B 1 year 2018.01.19 SCHWARZBECK **BBV-9718** 9718-246 2017.10.14 Preamplifier 1 year **EMI** Test Receiver R&S ESR3 101781 1 year 2018.04.27 **EMI Test Receiver** R&S ESU26 100552 2018.04.19 1 year

Appendix A. Measurement equipment

Peripheral devices

Device	Manufacturer	Model No.	Serial No.
Notebook Computer	LG Electronics Inc.,	LGS53	306QCZP560949
Notebook Computer	Samsung Electronics Co., Ltd.	NT-RV518-AD6S	HTK99NC600207R
Test Board	N/A	N/A	N/A