

# APPLICATION FORM FOR TESTING RADIO SPECTRUM MATTERS OF 5 GHz RLAN EQIPMENT

With reference to the requirements in ETSI EN 301 893 V2.2.1, the following information is provided by the manufacturer. In case that multiple options are available, check all that apply.

a) Nominal channel bandwidth(s):		
Nominal channel bandwidth 1: MHz		
Nominal channel bandwidth 2: MHz		
Nominal channel bandwidth 3: MHz		
Associated nominal centre frequencies:		
For nominal channel bandwidth 1:		
for the band 5 150 MHz to 5 250 MHz (sub-band 1): MHz; MHz;	MHz;	MHz;
for the band 5 250 MHz to 5 350 MHz (sub-band 2): MHz; MHz;	MHz;	MHz;
for the band 5 470 MHz to 5 725 MHz (sub-band 3): MHz; MHz;	MHz;	MHz;
for the band 5 725 MHz to 5 850 MHz (sub-band 4): MHz; MHz;	MHz;	MHz;
For nominal channel bandwidth 2:		
for the band 5 150 MHz to 5 250 MHz (sub-band 1): MHz; MHz;	MHz;	MHz;
for the band 5 250 MHz to 5 350 MHz (sub-band 2): MHz; MHz;	MHz;	MHz;
for the band 5 470 MHz to 5 725 MHz (sub-band 3): MHz; MHz;	MHz;	MHz;
for the band 5 725 MHz to 5 850 MHz (sub-band 4): MHz; MHz;	MHz;	MHz;
For nominal channel bandwidth 3:		
for the band 5 150 MHz to 5 250 MHz (sub-band 1): MHz; MHz;	MHz;	MHz;

b)



	for the band 5 250 MHz to 5 350 MHz (sub-band 2): MHz MHz; MHz;	··,	_ MHz;
	for the band 5 470 MHz to 5 725 MHz (sub-band 3): MHz MHz; MHz;	··;	_ MHz;
	for the band 5 725 MHz to 5 850 MHz (sub-band 4): MHz MHz; MHz;	···	_ MHz;
Fo	or equipment that supports multi-channel operation:		
•	The (maximum) number of channels that are supported for roperation:	nulti-c	hannel
•	It is possible that these channels are in different sub-bands:   Yes		No
	equipment supports a multi-channel configuration with adjacent described in clause 4.2.4.2.2.2		
	Supported channel configurations for groups of adjacent channel channel operation:	es for	multi-
	equipment supports a multi-channel configuration with non-adjac as described in clause 4.2.4.2.2.3		
	Supported combinations of channels and configurations for groups channels for multichannel operation:	of ac	djacent
•	In case of channels not used for transmission in multi-channel operagroup of adjacent channels	ation w	vithin a
	equipment supports channel edge mask given in figure 34.2.4.2.2	2 in	clause
	equipment supports channel edge mask given in figure 4.2.4.2.2.2	3 in	clause
	equipment supports channel edge mask given in figure 4.2.4.2.2.2	4 in	clause
•	In case of Load Based Equipment (LBE)		
	equipment supports option 1 as described in clause 4.2.7.3.2.3 B.2.2.7.3.2.3	or in	clause
	equipment supports option 2 as described in clause 4.2.7.3.2.3	or in	clause

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For equipment implementing option 1 (see clause 4.2.7.3.2.3 or clause B.2.2.7.3.2.3), the number of channels used for multi-channel operation when performing the test described in clause 5.4.9.3.2.3.1: \_\_\_\_\_ c) Transmit operating modes (see clause 5.3.3.2): operating mode 1: single antenna equipment equipment with only 1 antenna equipment with diversity antennas but only 1 antenna active at any moment in time smart antenna systems with 2 or more antennas but operating in a (legacy) mode where only 1 antenna is used | | operating mode 2: smart antenna systems - multiple antennas without beamforming single spatial stream / standard throughput high throughput (> 1 spatial stream) using nominal channel bandwidth 1 high throughput (> 1 spatial stream) using nominal channel bandwidth 2 high throughput (> 1 spatial stream) using nominal channel bandwidth 3 operating mode 3: smart antenna systems - multiple antennas with beamforming single spatial stream / standard throughput high throughput (> 1 spatial stream) using nominal channel bandwidth 1 high throughput (> 1 spatial stream) using nominal channel bandwidth 2 high throughput (> 1 spatial stream) using nominal channel bandwidth 3 d) For equipment with smart antenna systems or multiple antenna systems: For operating mode 2 Number of receive chains: Number of transmit chains: Equal power distribution among the transmit chains: 

Yes

No For operating mode 3 Number of receive chains: Number of transmit chains: Equal power distribution among the transmit chains: \( \subseteq \text{Yes} \quad \text{No} \) Maximum (additional) beamforming gain: dB

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NOTE: Beamforming gain does not include the basic gain of a single antenna (assembly). e) Transmit Power Control (TPC): □No Does the equipment implement TPC: | Yes f) For equipment with TPC: The lowest and highest power level (or lowest and highest EIRP level in case of integrated antenna equipment), intended antenna assemblies and corresponding operating frequency range for TPC (or for each of the TPC ranges if more than one is implemented). **TPC range 1:** Applicable frequency range (check all that apply): sub-band 1 sub-band 2 sub-band 3 sub-band 4 ☐ No Simultaneous transmissions in multiple sub-bands: Yes Power level reference: Indicate whether the power levels specified are transmitter output power (Tx out) levels or EIRP levels in case of integrated antenna equipment. Power levels specified for: Tx out EIRP For more than one transmit chain:

If more than one transmit chain is present (e.g. in the case of smart antenna systems), the power levels in following table represent the TPC range per active

transmit chain (and per sub-band in case of multichannel operation).



	Sub-band	Operating mode 1 (dBm)	Operating mode 2 (dBm)	Operating mode 3 (dBm)
	1			
Highest power	2			
level	3			
	4			
	1			
Lowest power	2			
level	3			
	4			

	_ (	
•	Beamfo	rmına:
-	Doamino	

Beamforming possible: ye	es I	no
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Antenna assembly name	Antenna gain (dBi)	Operating mode	Sub-band	Beamforming gain (dB)	Highest power level (dBm)	Lowest power level (dBm)
			1			
		Mode 1	2			
		Mode 1	3			
			4			
			1			
<antenna 1=""></antenna>		Mode 2	2			
		Mode 2	3			
			4			
			1			
		Mode 3	2			
			3			



Antenna 2>  Antenna 3>  Antenna 4  I 1  A 2  I 3  A 4  I 1  Mode 1  A 4  I 1  Mode 2  I 1  Mode 3  A 4  I 1  Mode 2  I 2  I 3  I 1  Mode 2  I 3  I 1  Mode 2  I 2  I 3  I 1  Mode 2  I 3  I 1  Mode 2  I 1  Mode 2  I 2  I 3  I 1  Mode 2  I 1  Mode 2  I 2  I 3  I 3  I 1  I 3  I 1  I 1  I 2  I 3  I 2  I 3  I 3  I 1  I 3  I 1  I 3  I 1  I 1				Т	
Mode 4 2 3 4 1 2 3 4 4 1 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			4		
Mode 4    Mode 4   3   4     1   2     3     4			1		
Antenna 2>  Mode 1  Mode 2   Antenna 2>  Antenna 3>  Mode 2   Mode 3		Mode 4	2		
Antenna 2> Antenna 2> Antenna 2> Antenna 3> Mode 1 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 1 2 3 4 2 1 2 3 4 1 2 3 4 1 2 3 4 1 2 2 4 1 2 2 2 4 4 2 2 4 4 4 2 2 4 <td></td> <td>Wode 4</td> <td>3</td> <td></td> <td></td>		Wode 4	3		
Antenna 2>  Mode 1  2 3 4  1  2 3 4  2 3 4  2 3 4  4  2 3 4  1  2 3 4  1  2 3 4  1  2 3 4  1  2 3 4  1  2 3 4  1  2 3 4  1  2 3 4   Antenna 3>  Antenna 3>  Antenna 3>			4		
Antenna 2> Antenna 2> Antenna 2> Mode 1 3 4 1 2 3 4 4 4 Mode 3 4 4 2 3 4 Mode 4 1 2 3 4 4 Antenna 3> Mode 2 Mode 2 1 1 2 3 4 Antenna 3>			1		
Antenna 2> Antenna 2> Mode 2 Mode 3 1 2 3 4 1 2 3 4 Mode 4 3 4 Mode 1 Mode 1 2 3 4 Antenna 3> Mode 2 Mode 2 1 2 3 4		Mada 4	2		
Antenna 2> Antenna 2> Mode 2   1   2   3   4   Mode 4   1   2   3   4   4   Antenna 3>   1   2   3   4   Antenna 3>   1   2   3   4   Antenna 3>   1   2   3   4		Mode 1	3		
Antenna 2> Mode 2 4 4 1 2 3 4 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 Antenna 3> Mode 2 Mode 2 1 2 3 4 2 Mode 2			4		
Antenna 2> Mode 2 4 Mode 3 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 Antenna 3> Mode 2 Mode 2 1 2 3 4 2 Mode 2 2			1		
Antenna 2> Antenna 2> Mode 3 Mode 4 1 2 3 4 1 2 3 4 2 3 4 1 2 3 4 2 3 4 4 Antenna 3> Mode 2 Mode 2 2			2		
Antenna 2> Mode 3   1   2   3   4   2   3   4    Antenna 3>    1   2   3   4    Antenna 3>  Mode 2		Mode 2	3		
Antenna 2> Mode 3   1   2   3   4   2   3   4    Antenna 3>    1   2   3   4    Antenna 3>  Mode 2					
Mode 3 2 3 4 1 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<antenna 2=""></antenna>		1		
Mode 3  3  4  1  2  3  4  1  2  3  4   Mode 1  Antenna 3>  Mode 2			2		
Mode 4  Mode 4  1  2  3  4  1  2  3  4   Antenna 3>  Mode 2		Mode 3			
Mode 4  Mode 4  1 2 3 4  Indicate the second of the second			4		
Mode 4 2 3 4 4 1 2 Mode 1 3 4 4 < Antenna 3> 1 1 2 Mode 2 2 1			1		
Mode 4 3 4 1 2 Mode 1 3 4 < Antenna 3>					
Antenna 3>  Mode 1  4  1  2  3  4 <antenna 3="">  Mode 2</antenna>		Mode 4			
Mode 1 1 2 3 4 4  Antenna 3> 1 2 Mode 2 2					
Mode 1 3 4 Antenna 3> 1 2					
<antenna 3=""></antenna>			2		
<antenna 3="">  4  Antenna 3&gt;  Mode 2</antenna>		Mode 1	3		
<antenna 3=""> 1 2 Mode 2</antenna>					
Mode 2					
Mode 2   Holder   H					
		Mode 2	3		
4					
Mode 3 1		Mode 3			



			2			
			3			
			4			
			1			
		Mada 4	2			
		Mode 4	3			
			4			
• DFS	threshold:	dBm	=	at the antenna of the and		
TPC rai	nge 2:					
□ s □ s □ s □ s	ub-band 1 ub-band 2 ub-band 3 ub-band 4		e (check all tha	at apply): sub-bands:	es 🔲 N	<b>l</b> o
• Pow	er level ref	erence:				
		•	•	ied are transmit d antenna equip		wer (Tx out)
Pow	er levels sp	ecified for:	☐ Tx out	☐ EIRP		
• For	more than	one transmit	chain:			
syste	ems), the p	ower levels	in following to	sent (e.g. in the able represent t e of multichanne	he TPC rang	



	Sub-band	Operating mode 1 (dBm)	Operating mode 2 (dBm)	Operating mode 3 (dBm)
	1			
Highest power	2			
level	3			
	4			
	1			
Lowest power	2			
level	3			
	4			

•	Beamfor	ming:

Beamforming	possible:	Пγ	es	no

Antenna assembly name	Antenna gain (dBi)	Operating mode	Sub-band	Beamforming gain (dB)	Highest power level (dBm)	Lowest power level (dBm)
			1			
		Mode 1	2			
		iviode i	3			
			4			
			1			
<antenna 1=""></antenna>		Mode 2	2			
		Mode 2	3			
			4			
			1			
		Mode 3	2			
			3			



		4		
		1		
	Mode 4	2		
	Wode 4	3		
		4		
		1		
	Made 1	2		
	Mode 1	3		
		4		
		1		
	Mada	2		
	Mode 2	3		
A 1		4		
<antenna 2=""></antenna>		1		
	M. L. O	2		
	Mode 3	3		
		4		
		1		
		2		
	Mode 4	3		
		4		
		1		
	M. I. A	2		
	Mode 1	3		
		4		
<antenna 3=""></antenna>		1		
		2		
	Mode 2	3		
		4		
	Mode 3	1		
L	<u>I</u>	L		



DFS threshold: dBm	Sub-ban	d	perating mo	ode 1 Op	erating mode 2 (dBm)	_	ng mode 3 IBm)
DFS threshold: dBm	If n	nore than o tems), the	ne transmit power levels	chain is pre s in following	table represen	t the power	settings per
DFS threshold: dBm	Pov	ver levels s	pecified for:	☐ Tx out	☐ EIRP		
Mode 4	Ind	cate wheth	er the power	•			wer (Tx out)
Mode 4     3     4      DFS threshold: dBm	• Pov	ver level ref	erence:				
Mode 4     3     4      DFS threshold: dBm		sub-band 1 sub-band 2 sub-band 3 sub-band 4		`	_	es 🔲 N	No
Mode 4     3     4      DFS threshold: dBm	Power settin	g 1:					
Mode 4     3     4      DFS threshold: dBm	g) For equip	ment witho	ut TPC:				
Mode 4	• DF	S threshold:	: dBm				
Mode 4							
			Mode 4		-		
					_		

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1		
2		
3		
4		

•	Beamforming:	

Beamforming possible:		yes		no
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Antenna assembly name	Antenna gain (dBi)	Operating mode	Sub-band	Beamforming gain (dB)	Highest power level (dBm)	Lowest power level (dBm)
			1			
		Mode 1	2			
		Mode 1	3			
			4			
			1			
		Mada 0	2			
		Mode 2	3			
Antonno 1			4			
<antenna 1=""></antenna>			1			
		Mode 2	2			
		Mode 3	3			
			4			
			1			
		Mode 4	2			
		Mode 4	3			
			4			
<antenna 2=""></antenna>		Mode 1	1			



Г			 
		2	
		3	
		4	
		1	
	Mada 2	2	
	Mode 2	3	
		4	
		1	
		2	
	Mode 3	3	
		4	
		1	
		2	
	Mode 4	3	
		4	
		1	
	Mode 1	2	
		3	
		4	
		1	
		2	
	Mode 2	3	
<antenna 3=""></antenna>		4	
		1	
		2	
	Mode 3	3	
		4	
		1	
	Mada 4	2	
	Mode 4		
		3	



				4			
• [	DFS	threshold	: dBm	=	at the antenna of the an		
Power sett	ing	2:					
<ul> <li>Applicable frequency range (check all that apply):  sub-band 1  sub-band 2  sub-band 3  sub-band 4  Simultaneous transmissions in multiple sub-bands: Yes No</li> <li>Power level reference: Indicate whether the power levels specified are transmitter output power (Tx ou levels or EIRP levels in case of integrated antenna equipment.</li> <li>Power levels specified for: Tx out EIRP</li> <li>For more than one transmit chain: If more than one transmit chain is present (e.g. in the case of smart antenr systems), the power levels in following table represent the power settings practive transmit chain (and per sub-band in case of multichannel operation).</li> </ul>						wer (Tx out) art antenna settings per	
Sub-b	and	0	perating mo (dBm)	ode 1 Ope	erating mode 2 (dBm)	•	ng mode 3 Bm)
1							
2							
3							
4							
• E		nforming:	ng possible:	☐ yes ☐	no		



Antenna assembly name	Antenna gain (dBi)	Operating mode	Sub-band	Beamforming gain (dB)	Highest power level (dBm)	Lowest power level (dBm)
			1			
		Mode 1	2			
		iviode i	3			
			4			
			1			
		Mada O	2			
		Mode 2	3			
Antonno 4			4			
<antenna 1=""></antenna>			1			
		Mada 0	2			
		Mode 3	3			
			4			
			1			
		Mode 4	2			
			3			
			4			
			1			
		NA. I. A	2			
		Mode 1	3			
			4			
<antenna 2=""></antenna>			1			
		Madao	2			
		Mode 2	3			
			4			
		Mode 3	1			



		2		
		3		
		4		
		1		
	NA sels 4	2		
	Mode 4	3		
		4		
		1		
	NA da 4	2		
	Mode 1	3		
		4		
		1		
	Mada 2	2		
	Mode 2	3		
<antenna 3=""></antenna>		4		
<antenna 3=""></antenna>		1		
	Made 2	2		
	Mode 3	3		
		4		
		1		
	Mode 4	2		
	iviode 4	3		
		4		

•	DFS threshold:	dBm	at the antenna connector
			in front of the antenna



h) DFS operating mode(s):
primary device
secondary device with radar detection
secondary device without radar detection
i) With regard to DFS:
The equipment has an off-channel CAC function when operating in sub-band 2 or in sub-band 3:  Yes  No
j) For equipment with off-channel CAC function:
Off-channel CAC time:
<ul> <li>For channels in sub-band 2: hours</li> </ul>
<ul> <li>For channels in sub-band 3 outside the 5 600 MHz to 5 650 MHz range:</li> <li> hours</li> </ul>
<ul> <li>For channels in sub-band 3 (partially) within the 5 600 MHz to 5 650 MHz range:         hours</li> </ul>
k) User Access Restrictions (UAR):
<ul><li>equipment is constructed to conform to the requirements contained in clause 4.2.10</li></ul>
equipment is constructed to conform to the requirements contained in clause B.2.2.10
I) Ad-hoc mode:
no ad-hoc operation
ad-hoc operation in sub-band 1 without DFS
ad-hoc operation with DFS
m) Operating frequency range(s):
Range 1: 🗌 sub-band 1
Range 2:  sub-band 2
Range 3: sub-band 3
Range 4: 🔲 sub-band 4
Range 5: Other, please specify:



n) Operating temperature and supply voltage range:
<ul><li>☐ -20 °C to +55 °C (outdoor &amp; indoor usage)</li><li>☐ 0 °C to +35 °C (indoor usage only)</li></ul>
other:
Supply voltage details provided for: stand-alone equipment combined (or host) equipment
test jig
Supply voltage
☐ AC mains AC voltage: minimum: nominal: maximum:   ☐ DC DC voltage: minimum: nominal: maximum:
In case of DC, indicate the type of power source:
external power supply or AC/DC adapter
☐ battery ☐ nickel cadmium
☐ alkaline
nickel-metal hydride
☐ lithium-ion
☐ lead acid (vehicle regulated)
other
o) Test sequence / test software used (see also clause 5.3.1.2):
p) Type of equipment:
combined equipment (equipment where the radio part is fully integrated within another type of equipment)
plug-in radio device (equipment intended for a variety of host systems) other



q) Adaptivity (channel access mechanism):		
	<ul><li>☐ Frame Based Equipment (FBE)</li><li>☐ Load Based Equipment (LBE)</li></ul>	
r) With	n regards to adaptivity for FBE:	
	<ul> <li>☐ FBE supports operating as an initiating device</li> <li>☐ FBE supports operating as a responding device</li> <li>FBE implements the following Fixed Frame Period(s) (FFPs):</li> <li> ms</li> <li> ms</li> <li> ms</li> </ul>	
s) Witl	h regards to adaptivity for LBE:	
	<ul><li>☐ LBE supports operating as a supervising device</li><li>☐ LBE supports operating as a supervised device</li></ul>	
	Priority classes supported by the equipment (see clause 4.2.7.3.2.4):	
	<ul> <li>When operating as a supervising device</li> <li>priority class 4 (highest priority)</li> <li>priority class 3</li> <li>priority class 2</li> <li>priority class 1 (lowest priority)</li> </ul>	
	<ul> <li>When operating as a supervised device</li> <li>priority class 4 (highest priority)</li> <li>priority class 3</li> <li>priority class 2</li> <li>priority class 1 (lowest priority)</li> </ul>	
	<ul> <li>□ LBE supports using note 1 in table 6 in clause 4.2.7.3.2.4</li> <li>□ LBE supports using note 1 in table 7 in clause 4.2.7.3.2.4</li> <li>□ LBE, when operating as a supervising device, supports using note 2 in table 6 in clause 4.2.7.3.2.4</li> </ul>	



<ul><li>☐ LBE supports operating as an initiating device</li><li>☐ LBE supports operating as a responding device</li></ul>			
t) Minimum performance criteria (see clause 4.2.8.3 and clause 4.2.9.3) t correspond to the intended use of the equipment:			
u) Theoretical maximum radio performance of the equipment (e.g. maximum throughput) (see clause 5.4.9.3.2):			
v) Equipment supports a country determination capability as defined in claus B.2.2.11:  Yes No			
Additional information provided by the manufacturer			
Modulation Can the transmitter operate unmodulated? ☐ Yes ☐ No			
Duty cycle			
The transmitter is intended for :			
About the UUT			
The equipment submitted are representative production models.			
<ul> <li>If not, the equipment submitted are pre-production models.</li> <li>If pre-production equipment is submitted, the final production equipment will be identical in all respects with the equipment tested.</li> <li>If not, supply full details:</li> </ul>			

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List of ancillary and/	or support equipment provided by the manufacture
spare batteries (e.g. fc	or portable equipment)
□ battery charging device	e
external power supply	or AC/DC adapter
test jig or interface box	(
☐ RF test fixture (for equ	ipment with integrated antennas)
host system	manufacturer:
	model no.:
	model name:
combined equipment	manufacturer:
	model no.:
	model name:
user manual	

technical documentation (handbook and circuit diagrams)