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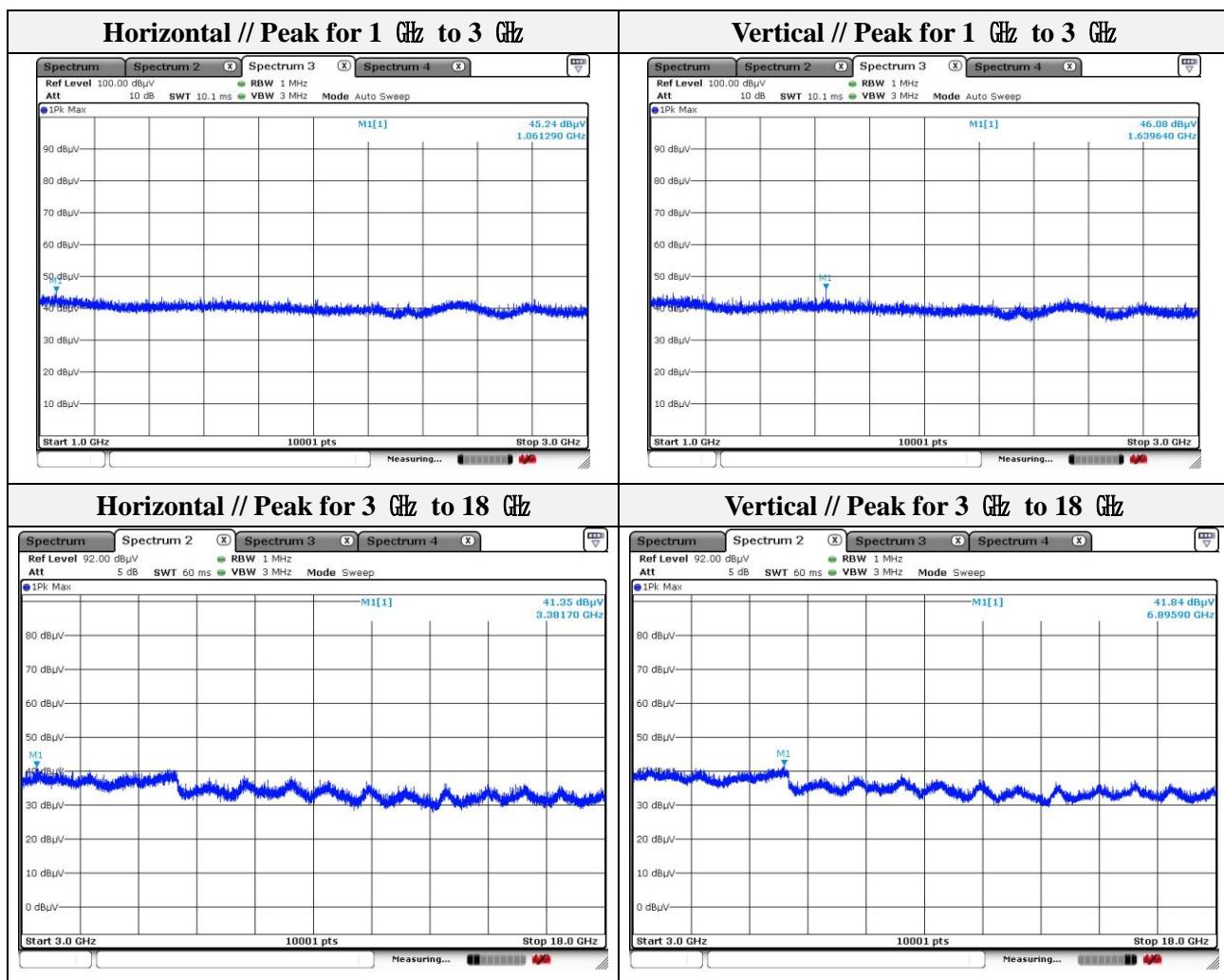
Mode: 802.11g

Distance of measurement: 3 meter

Channel: 06

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 061.29	45.24	Peak	H	-10.83	-	34.41	74.00	39.59
1 639.64	46.08	Peak	V	-7.34	-	38.74	74.00	35.26
3 381.70	41.35	Peak	H	-0.09	-	41.26	74.00	32.74
6 895.90	41.84	Peak	V	8.91	-	50.75	74.00	23.25



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Report No.:  
KES-RF1-22T0063  
Page ( 44 ) of ( 67 )

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

## - Spurious

Frequency (MHz)	Level (dB $\mu$ N)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 639.84	46.94	Peak	V	-7.34	-	39.60	74.00	34.40
1 722.63	45.08	Peak	H	-6.69	-	38.39	74.00	35.61
4 316.10	40.99	Peak	V	3.06	-	44.05	74.00	29.95
6 888.40	40.89	Peak	H	8.89	-	49.78	74.00	24.22

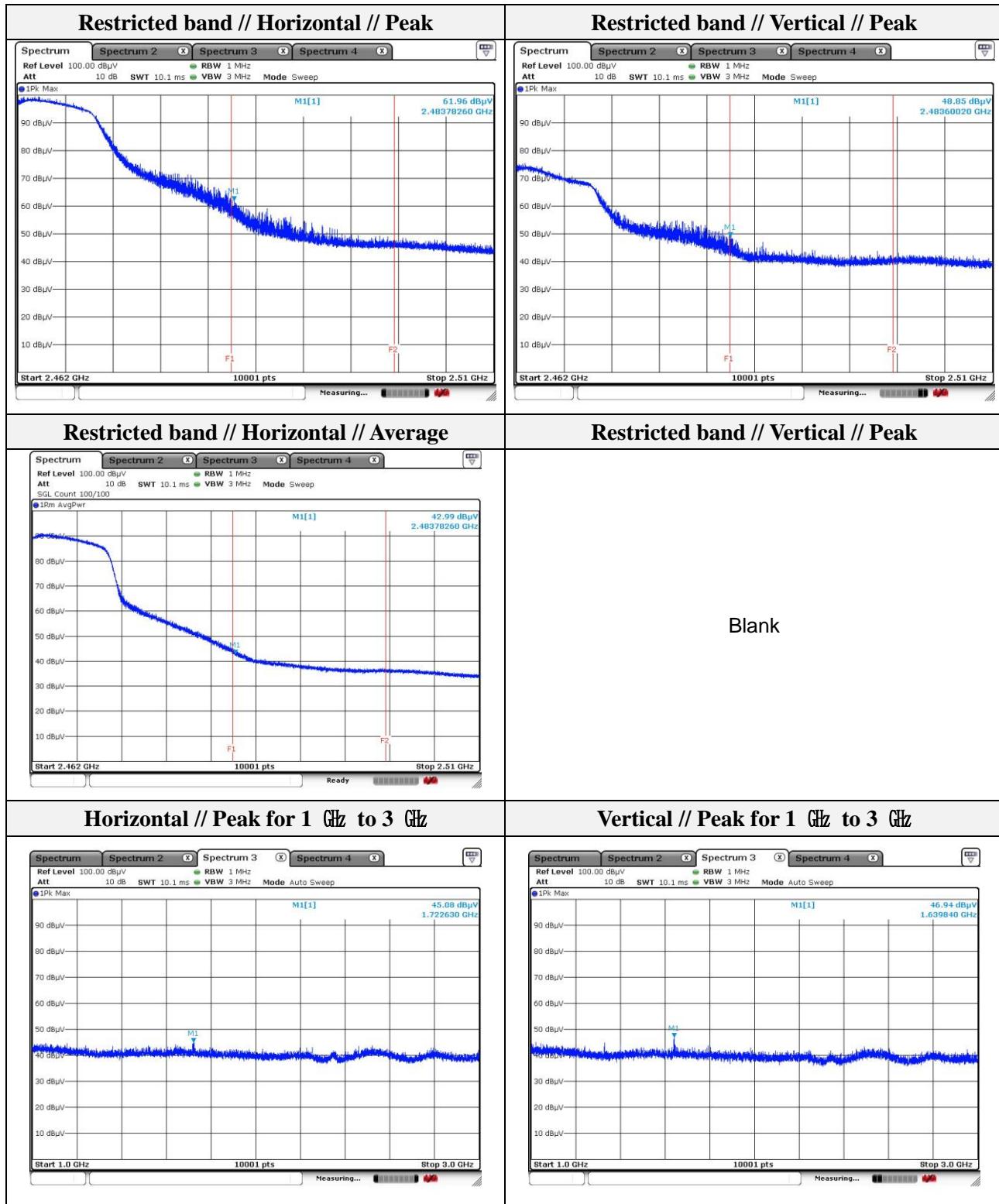
## - Band edge

Frequency (MHz)	Level (dB $\mu$ N)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 483.60	48.85	Peak	V	-2.40	-	46.45	74.00	27.55
2 483.78	61.96	Peak	H	-2.40	-	59.56	74.00	14.44
2 483.78	42.99	Average	H	-2.40	0.12	40.59	54.00	13.29

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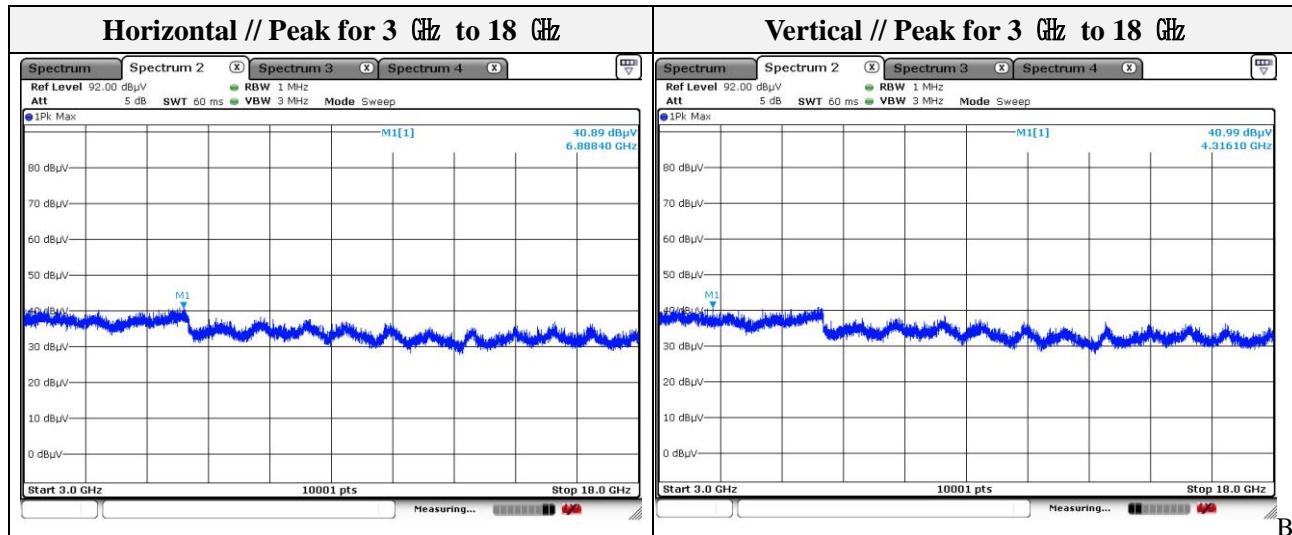
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Report No.:  
KES-RF1-22T0063  
Page ( 47 ) of ( 67 )

Mode: 802.11n\_HT20  
Distance of measurement: 3 meter  
Channel: 01

## - Spurious

Frequency (MHz)	Level (dB $\mu$ N)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 047.30	45.44	Peak	H	-10.91	-	34.53	74.00	39.47
1 639.84	45.05	Peak	V	-7.34	-	37.71	74.00	36.29
3 479.20	41.16	Peak	H	0.03	-	41.19	74.00	32.81
6 852.40	41.32	Peak	V	8.76	-	50.08	74.00	23.92

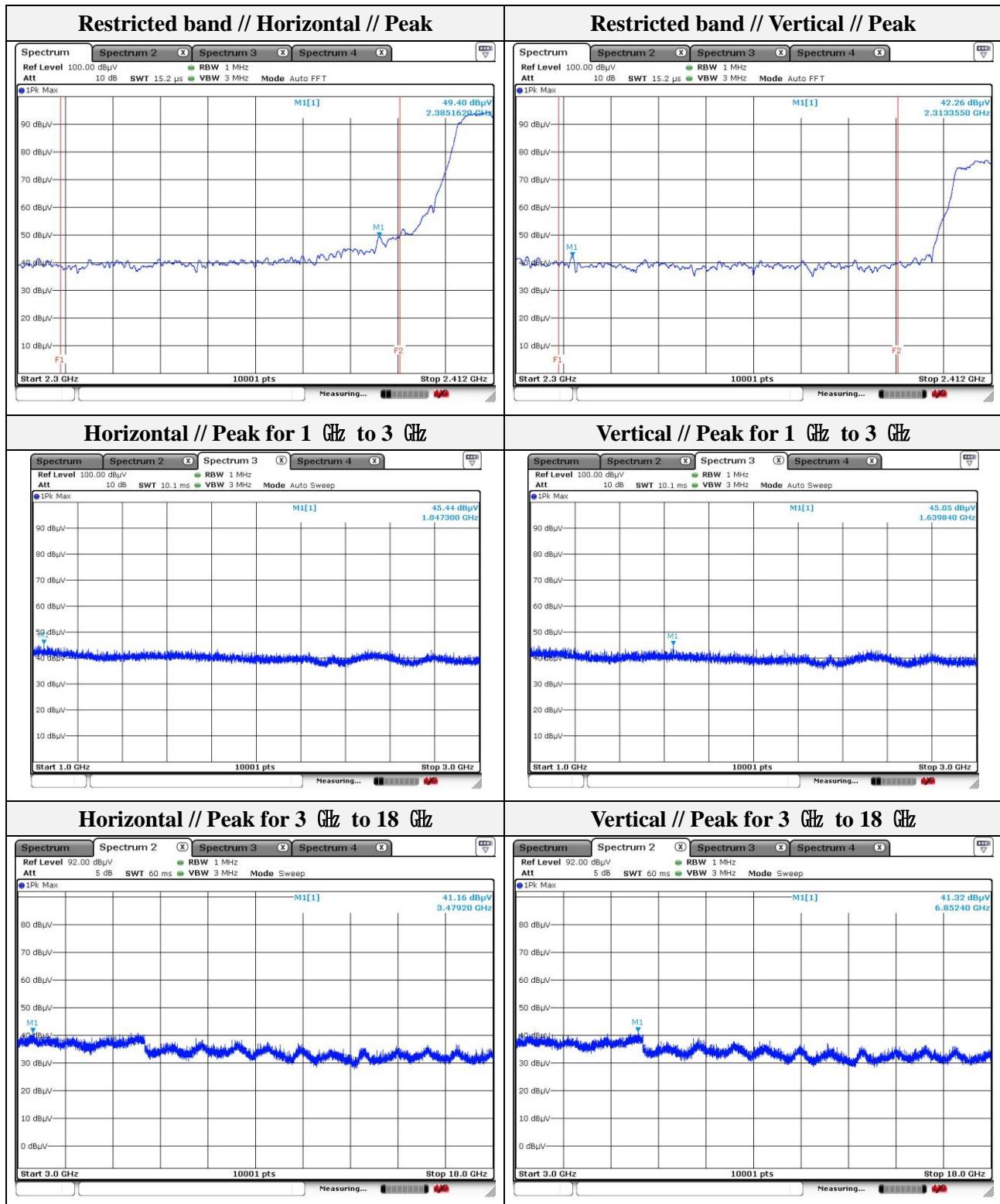
## - Band edge

Frequency (MHz)	Level (dB $\mu$ N)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 313.35	42.26	Peak	V	-3.10	-	39.16	74.00	34.84
2 385.16	49.40	Peak	H	-2.79	-	46.61	74.00	27.39

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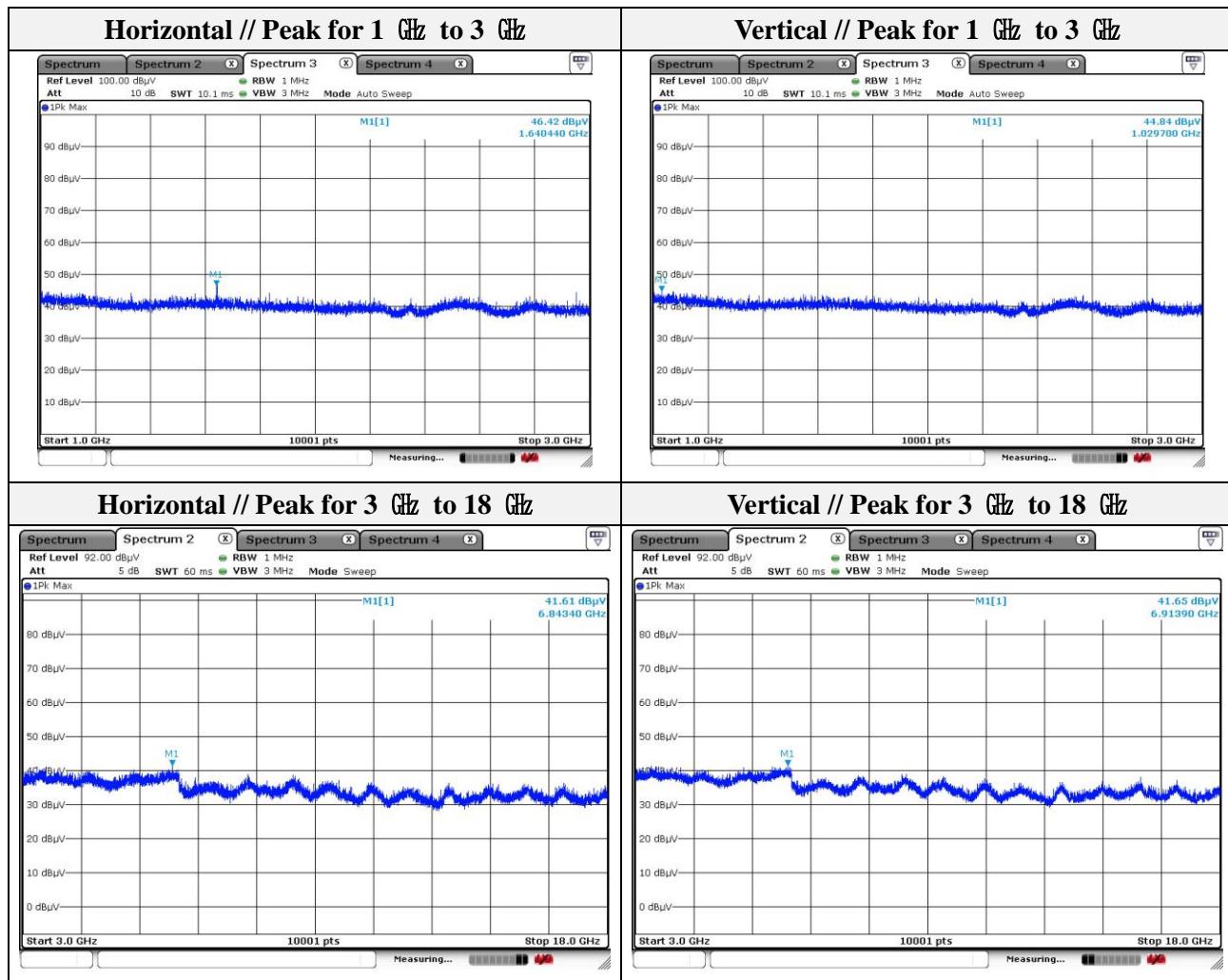
Mode: 802.11n\_HT20

Distance of measurement: 3 meter

Channel: 06

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 029.70	44.84	Peak	V	-11.00	-	33.84	74.00	40.16
1 640.44	46.42	Peak	H	-7.34	-	39.08	74.00	34.92
6 843.40	41.61	Peak	H	8.73	-	50.62	74.00	23.66
6 913.90	41.65	Peak	V	8.97	-	50.62	74.00	23.38



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Report No.:  
KES-RF1-22T0063  
Page ( 50 ) of ( 67 )

Mode: 802.11n\_HT20  
Distance of measurement: 3 meter  
Channel: 11

## - Spurious

Frequency (MHz)	Level (dB $\mu$ N)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 026.90	44.87	Peak	V	-11.02	-	33.85	74.00	40.15
1 331.07	45.30	Peak	H	-9.40	-	35.90	74.00	38.10
4 724.10	40.75	Peak	V	4.46	-	45.21	74.00	28.79
6 286.90	40.75	Peak	H	7.86	-	48.61	74.00	25.39

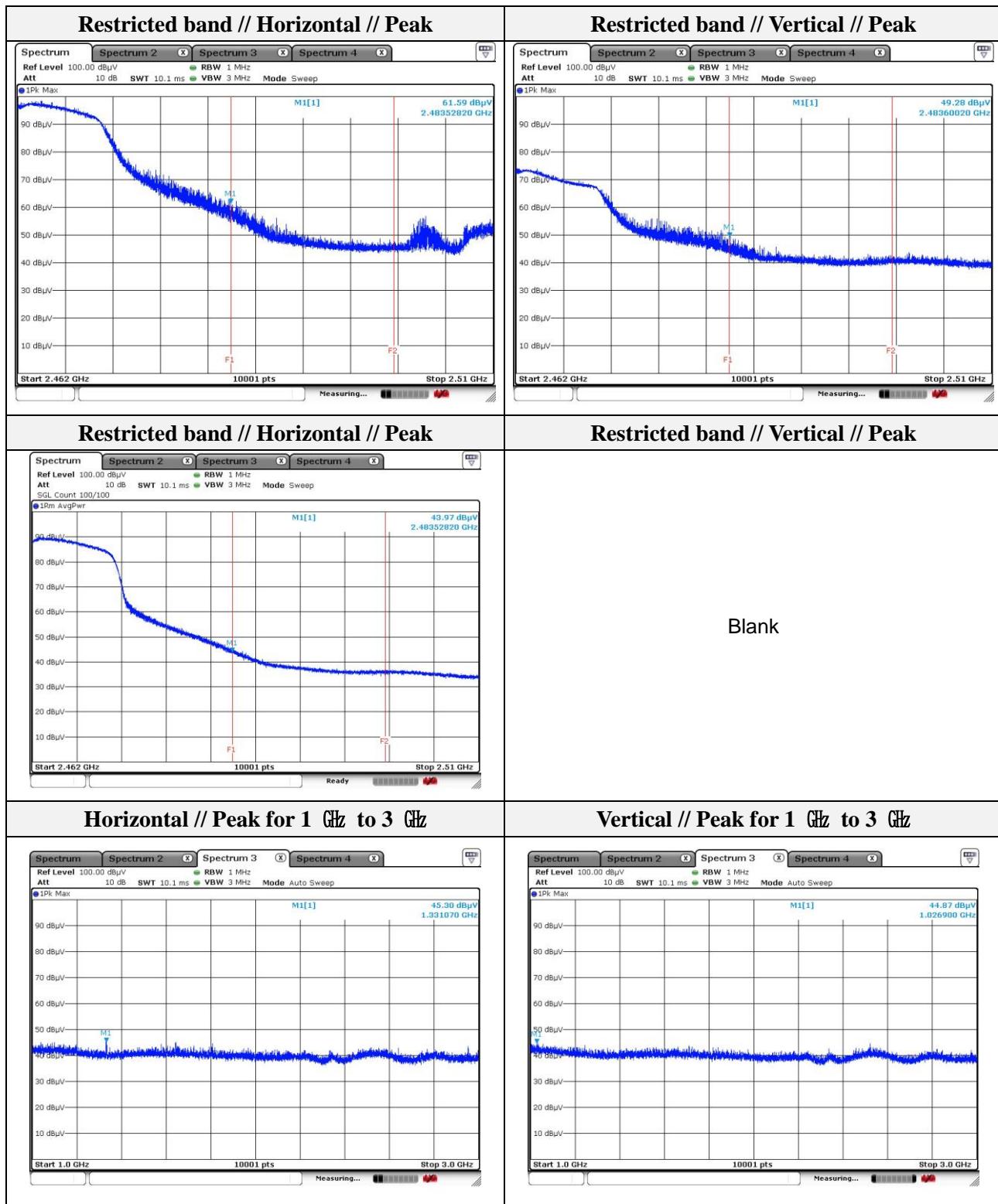
## - Band edge

Frequency (MHz)	Level (dB $\mu$ N)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 483.53	61.59	Peak	H	-2.40	-	59.19	74.00	14.81
2 483.53	43.97	Average	H	-2.40	0.13	41.57	54.00	12.30
2 483.60	49.28	Peak	V	-2.40	-	46.88	74.00	27.12

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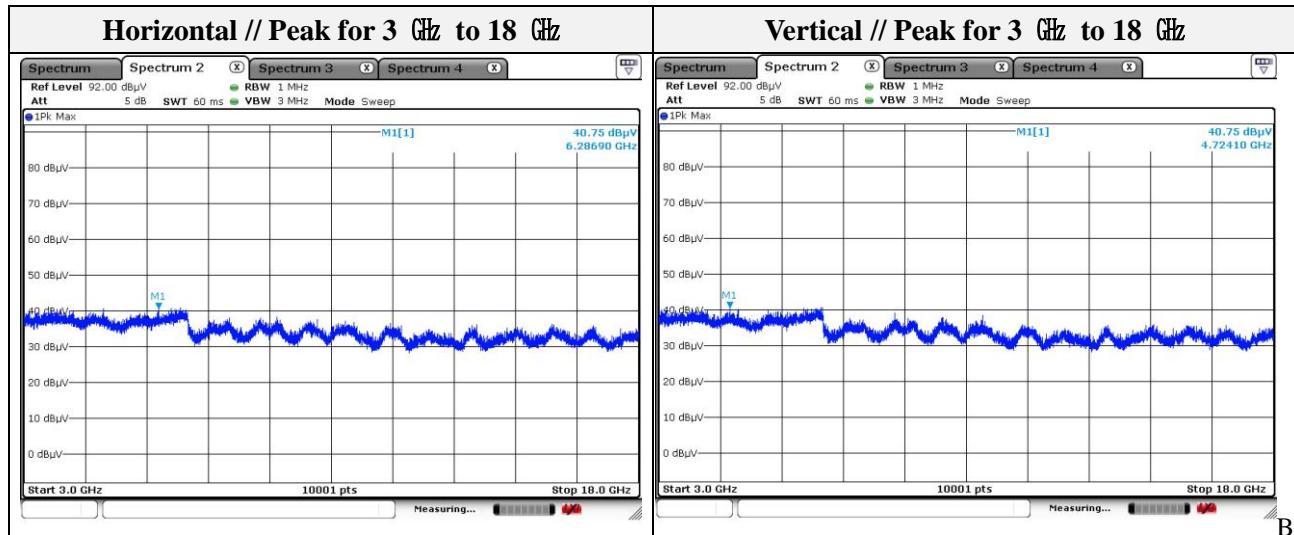
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B

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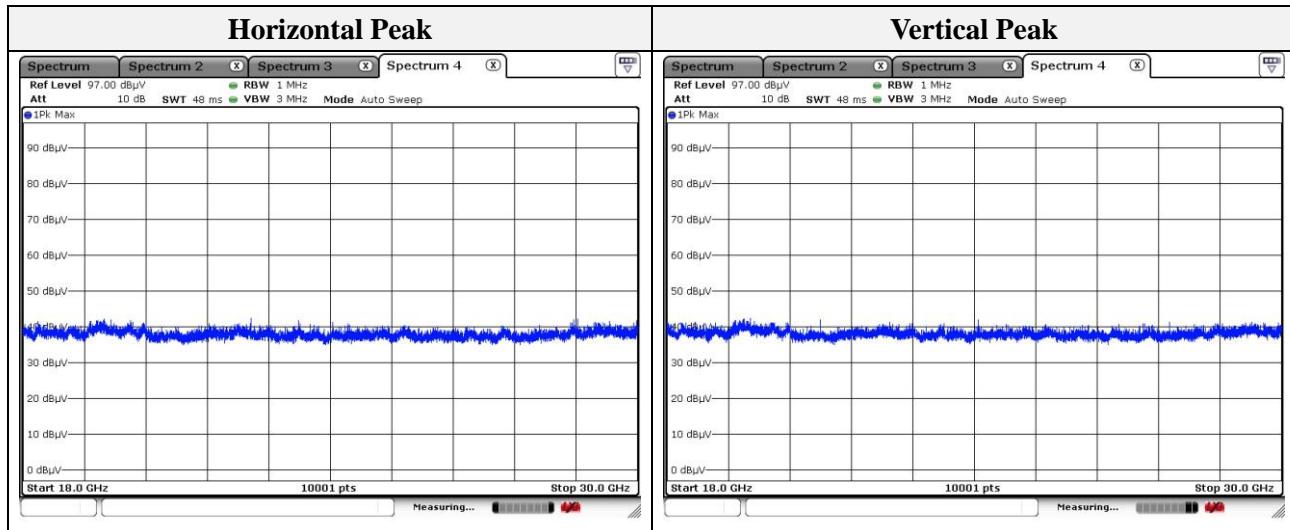
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**Test results (18 GHz to 30 GHz) – Worst case**

Mode: 802.11b

Distance of measurement: 3 meter

Channel: 00 (Worst case)

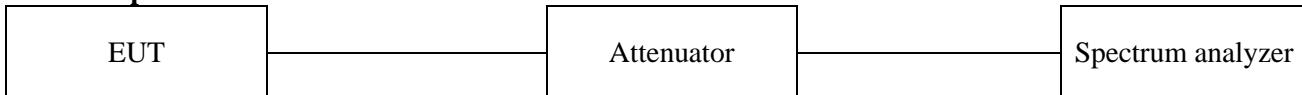


Note.

No spurious emission were detected above 18 GHz.

### 3.5. Conducted spurious emissions & band edge

#### Test setup



#### Test procedure

##### Band edge

ANSI C63.10-2013 - Section 11.11

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. Set the RBW = 100 kHz
4. Set the VBW = [3 × RBW].
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow trace to fully stabilize.

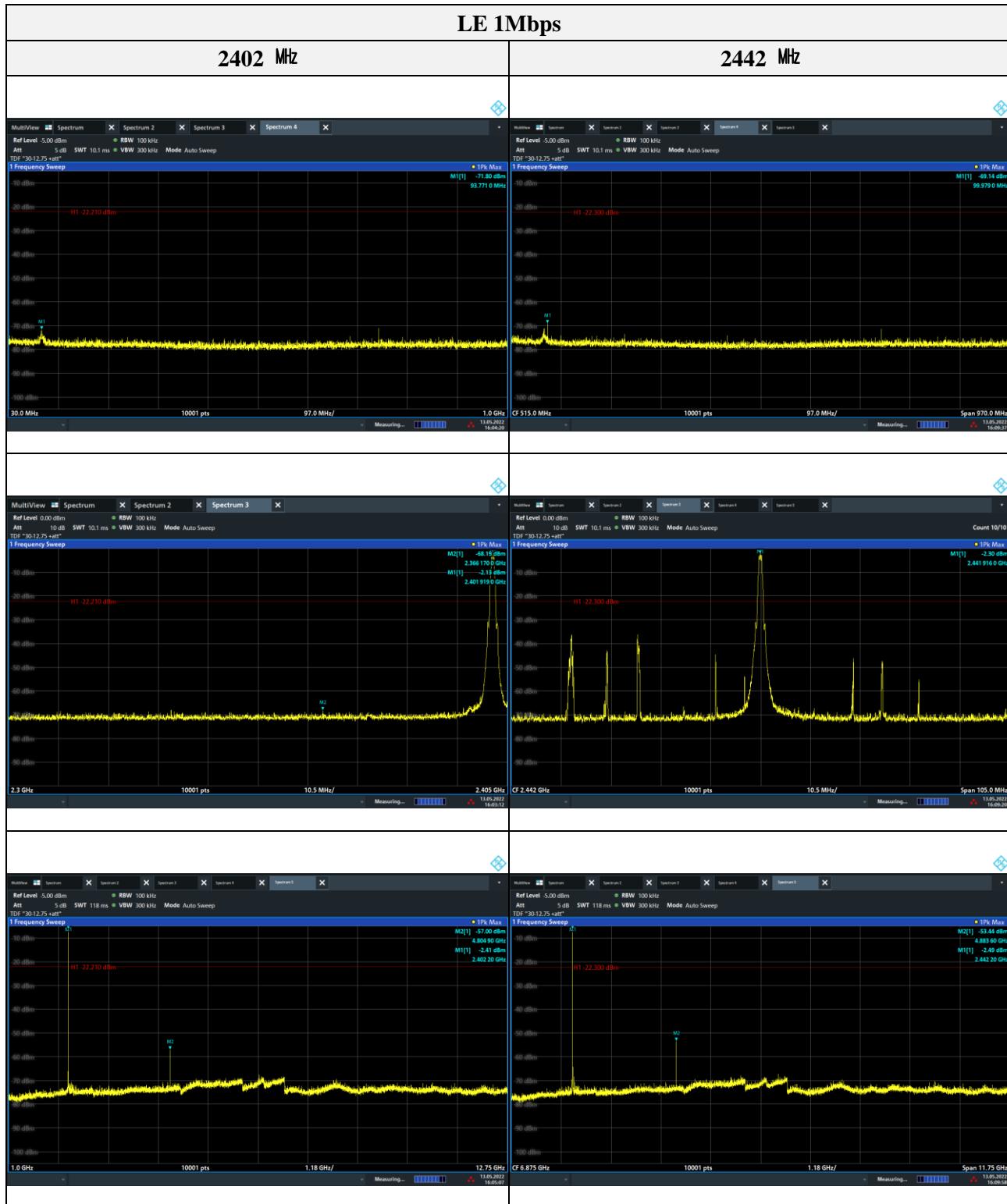
#### Out of band emissions

ANSI C63.10-2013 - Section 11.11

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. Set the RBW = 100 kHz
3. Set the VBW = [3 × RBW].
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Allow trace to fully stabilize.

#### Limit

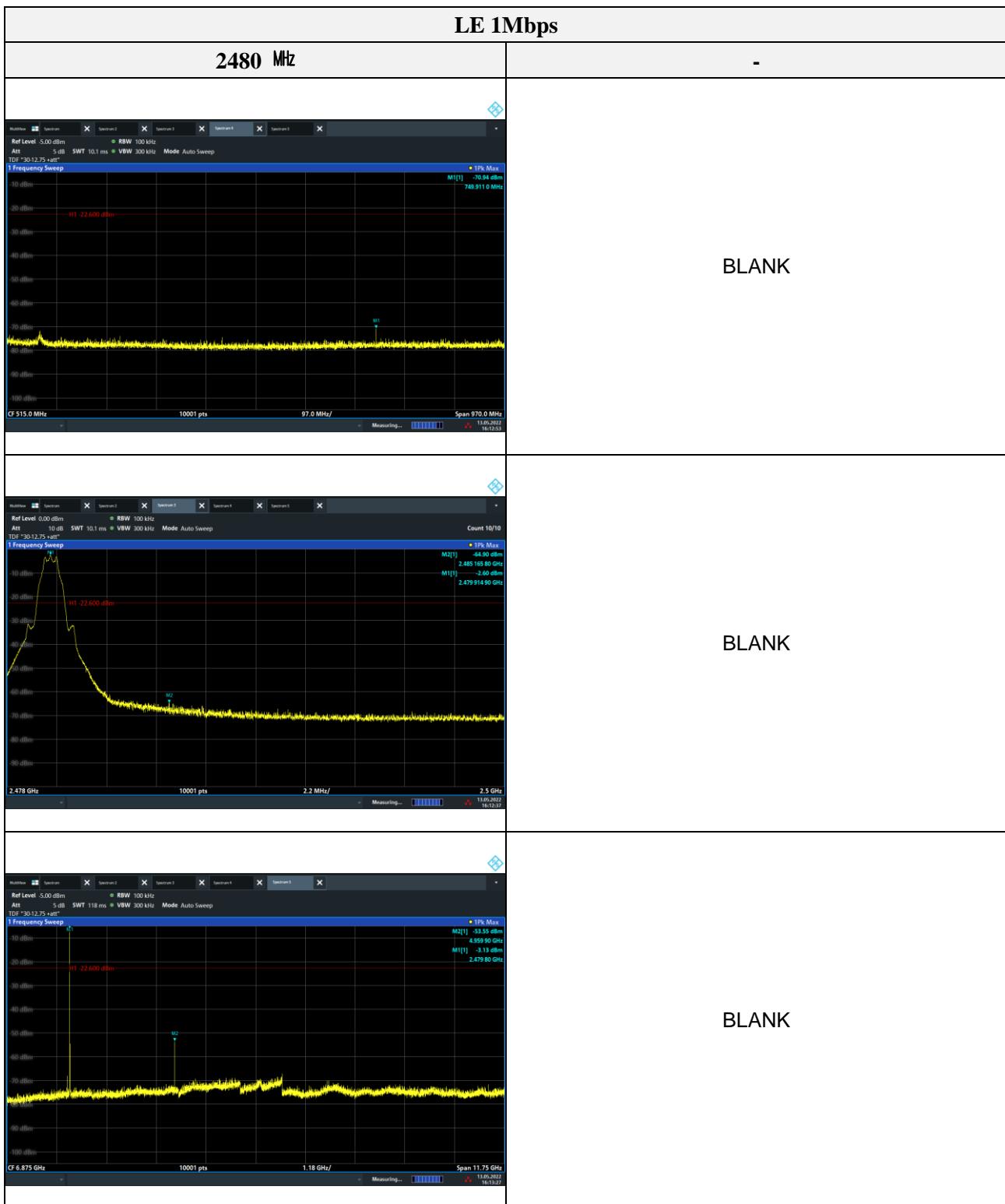
According to 15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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))

**Test results**


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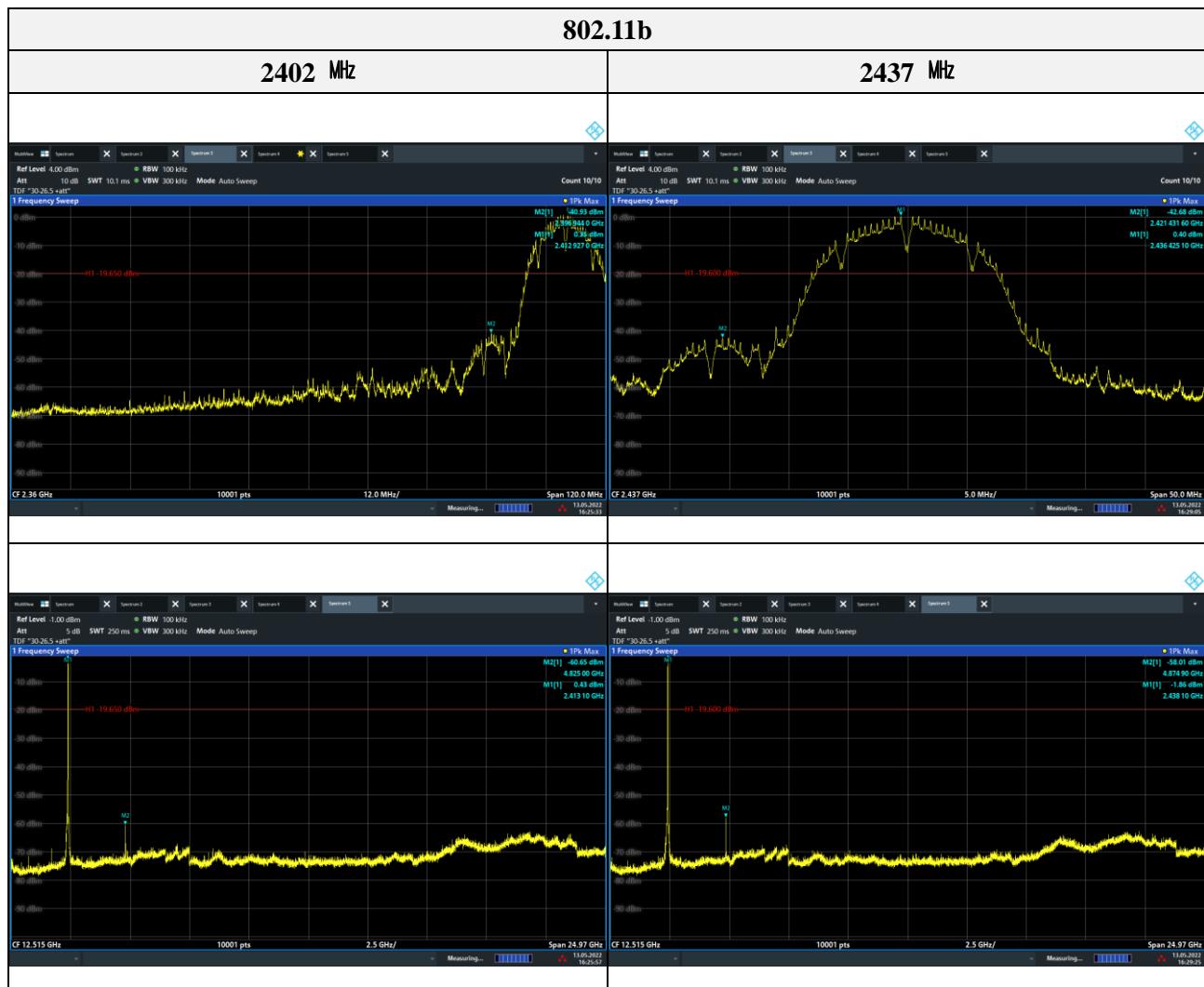
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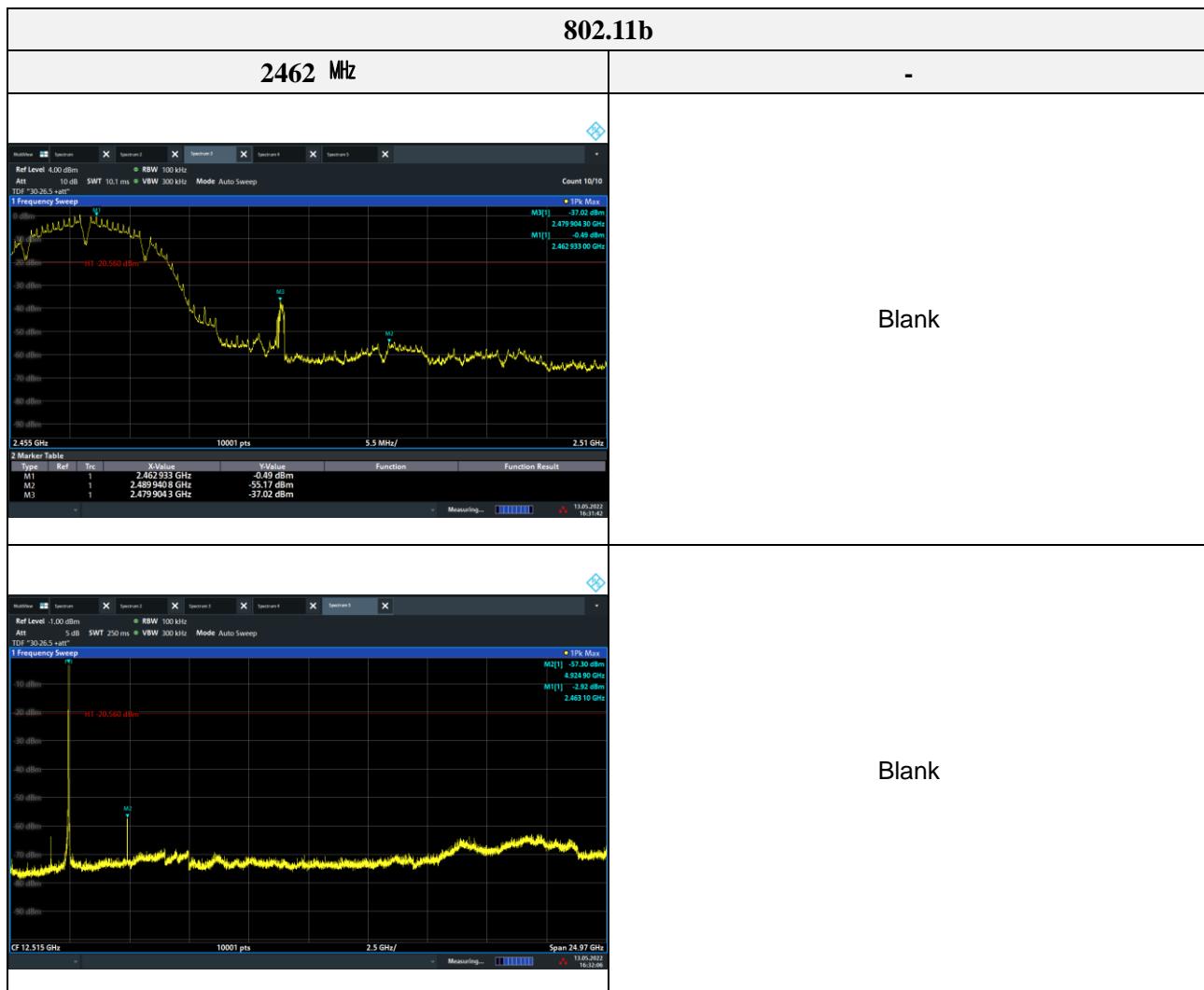
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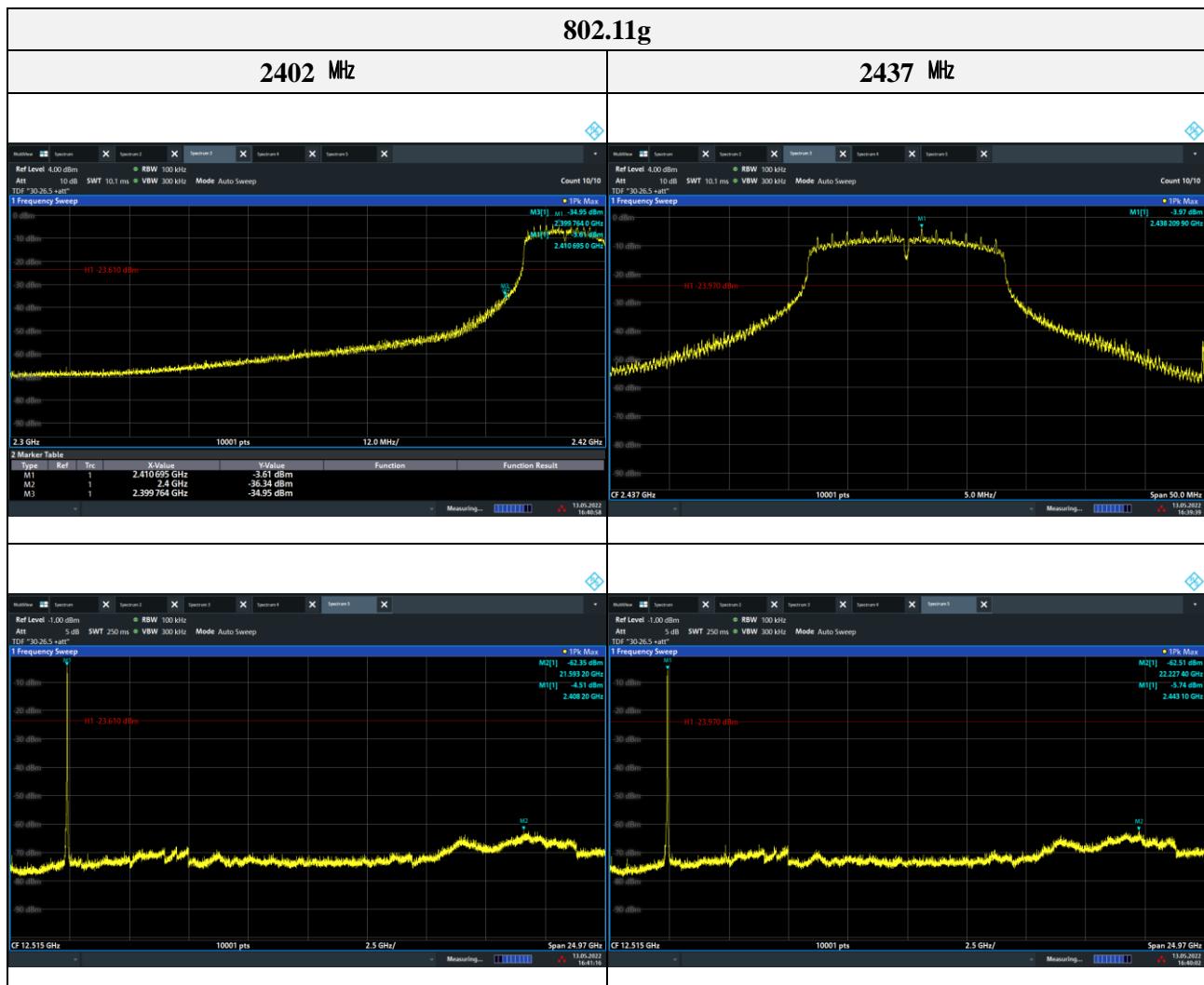
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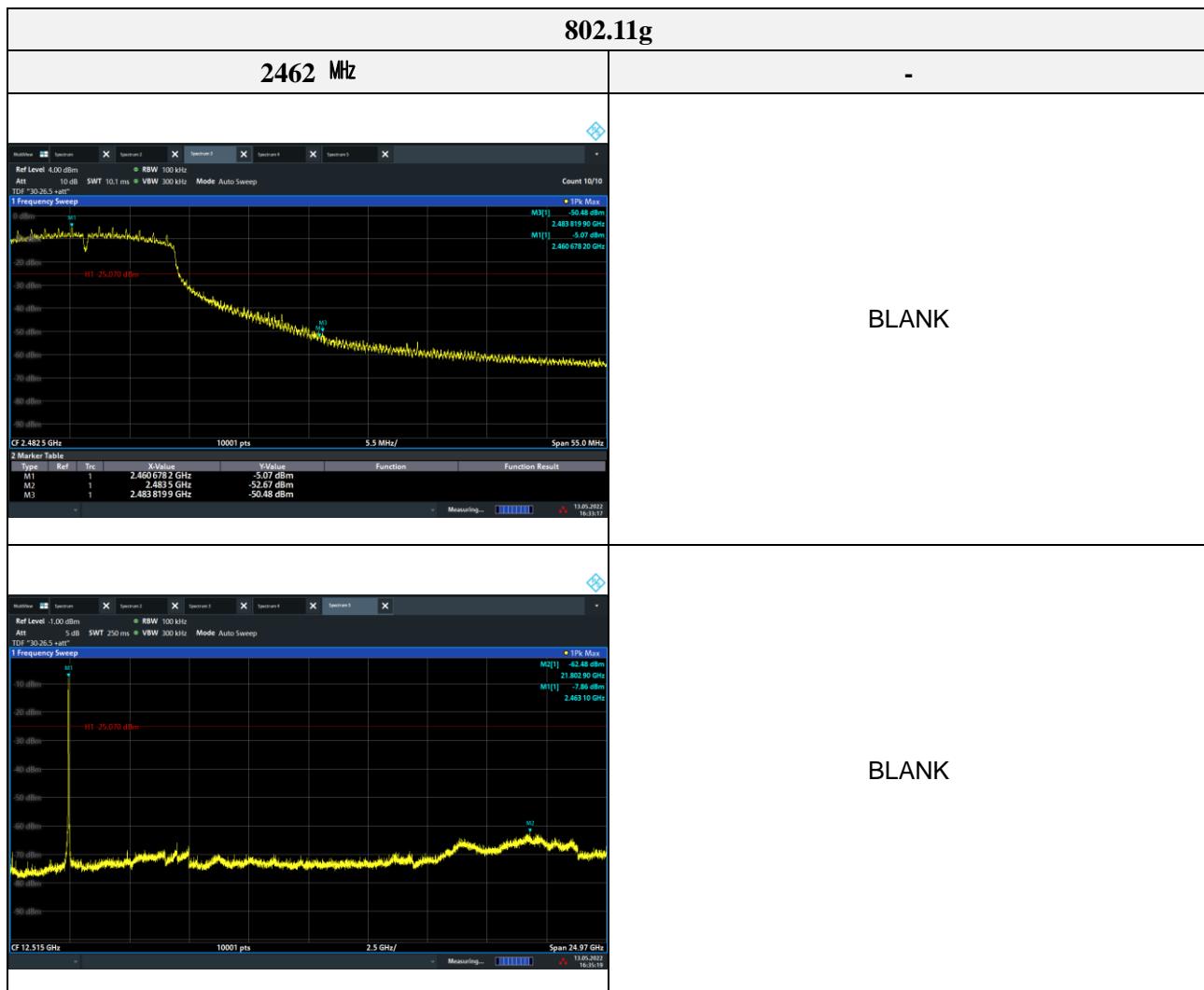
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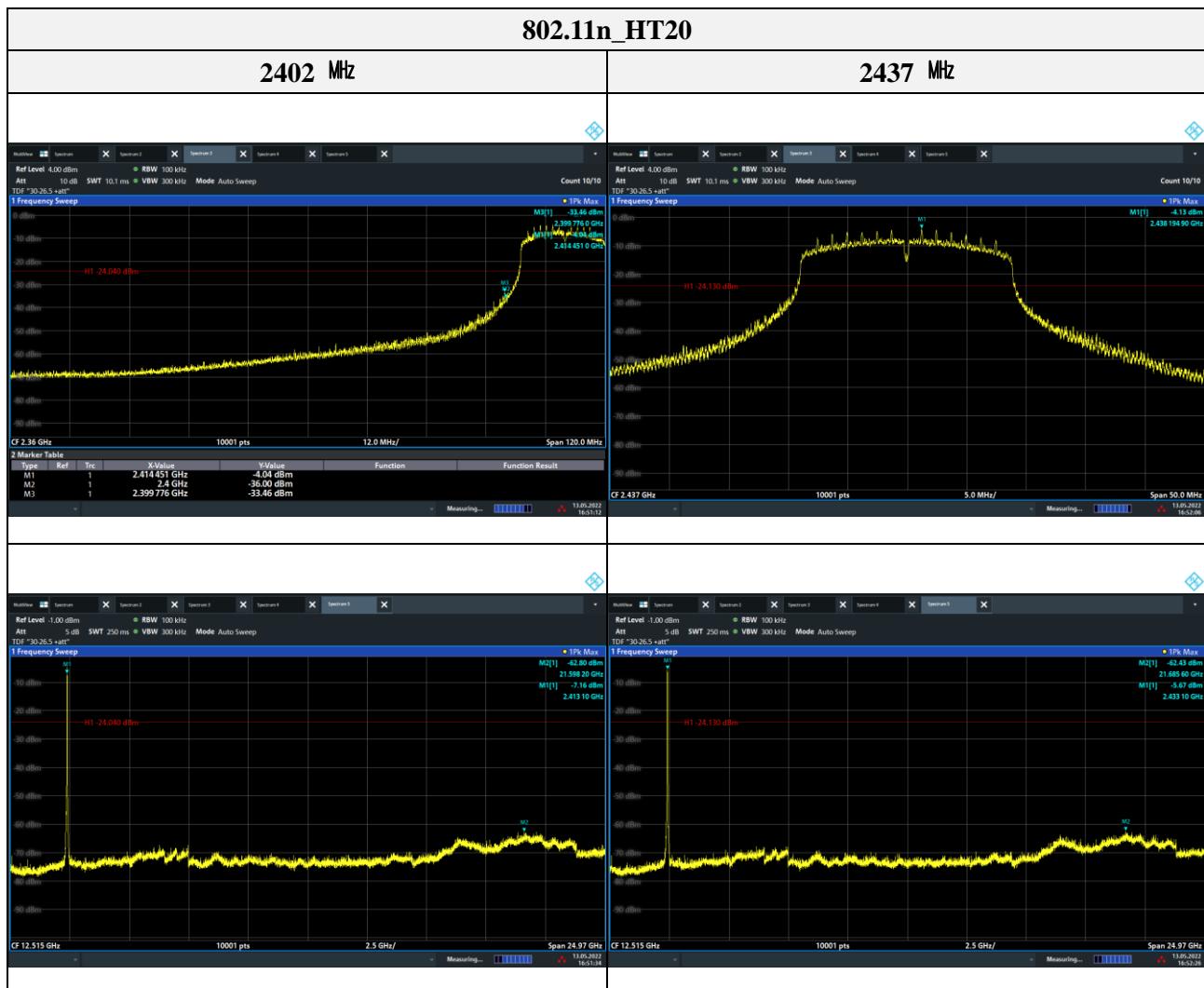
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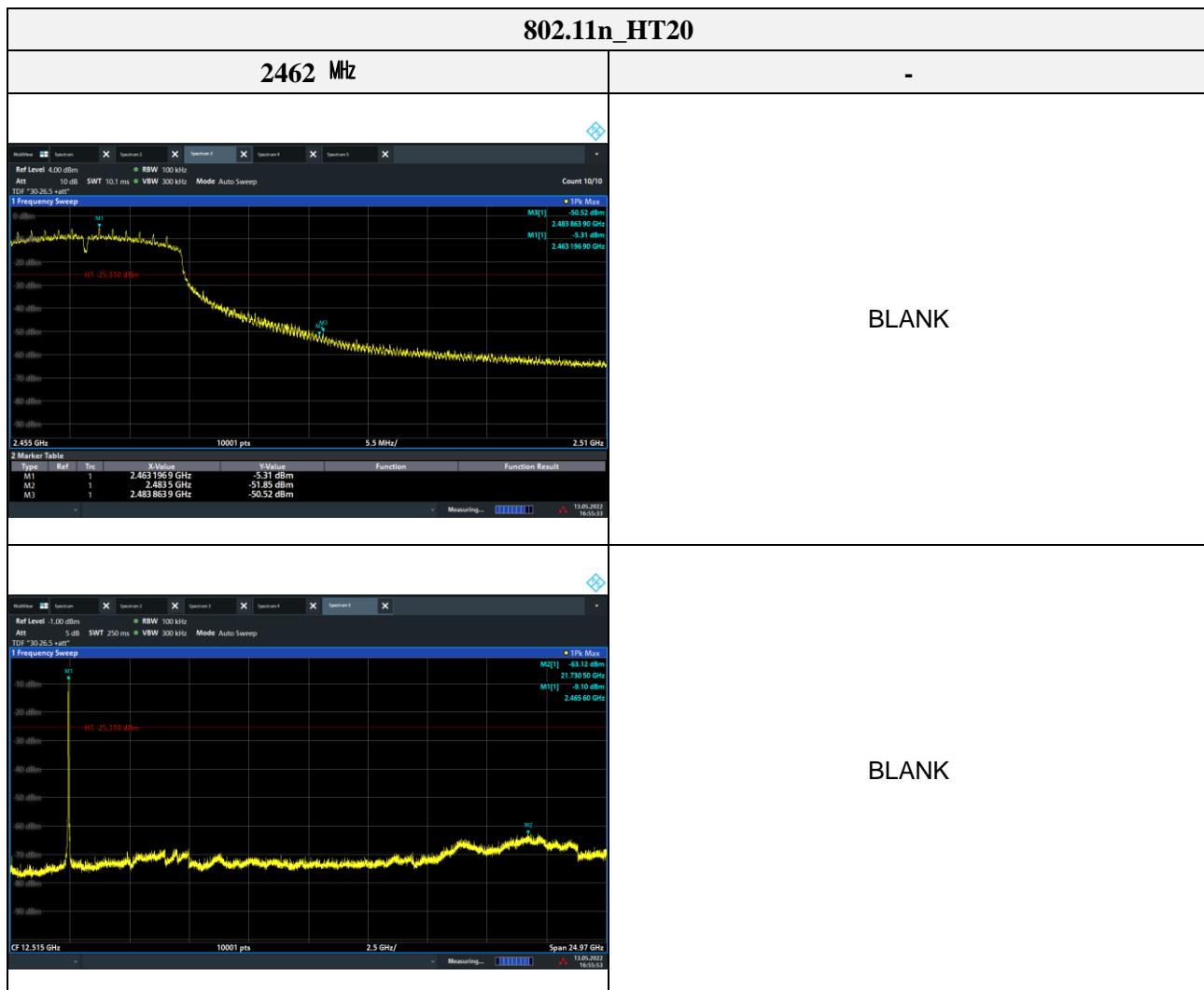
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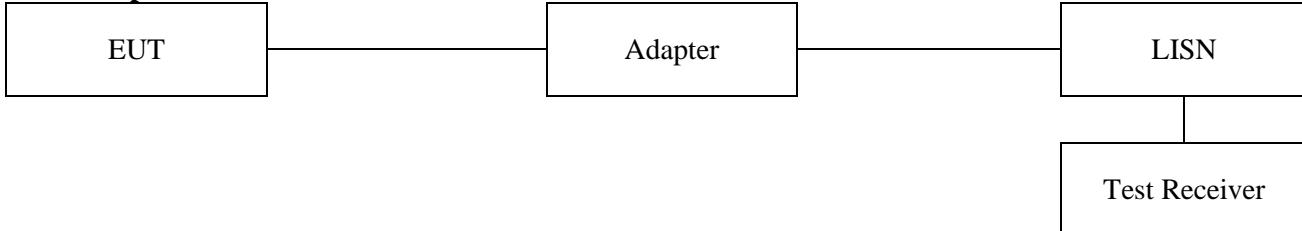


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### 3.6. AC conducted emissions

#### Test setup



#### Limit

According to 15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50uH/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequencies ranges.

According to RSS-Gen Issue 5, 8.8, a radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in Table 3. Unless the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 3 below. The more stringent limit applies at the frequency range boundaries.

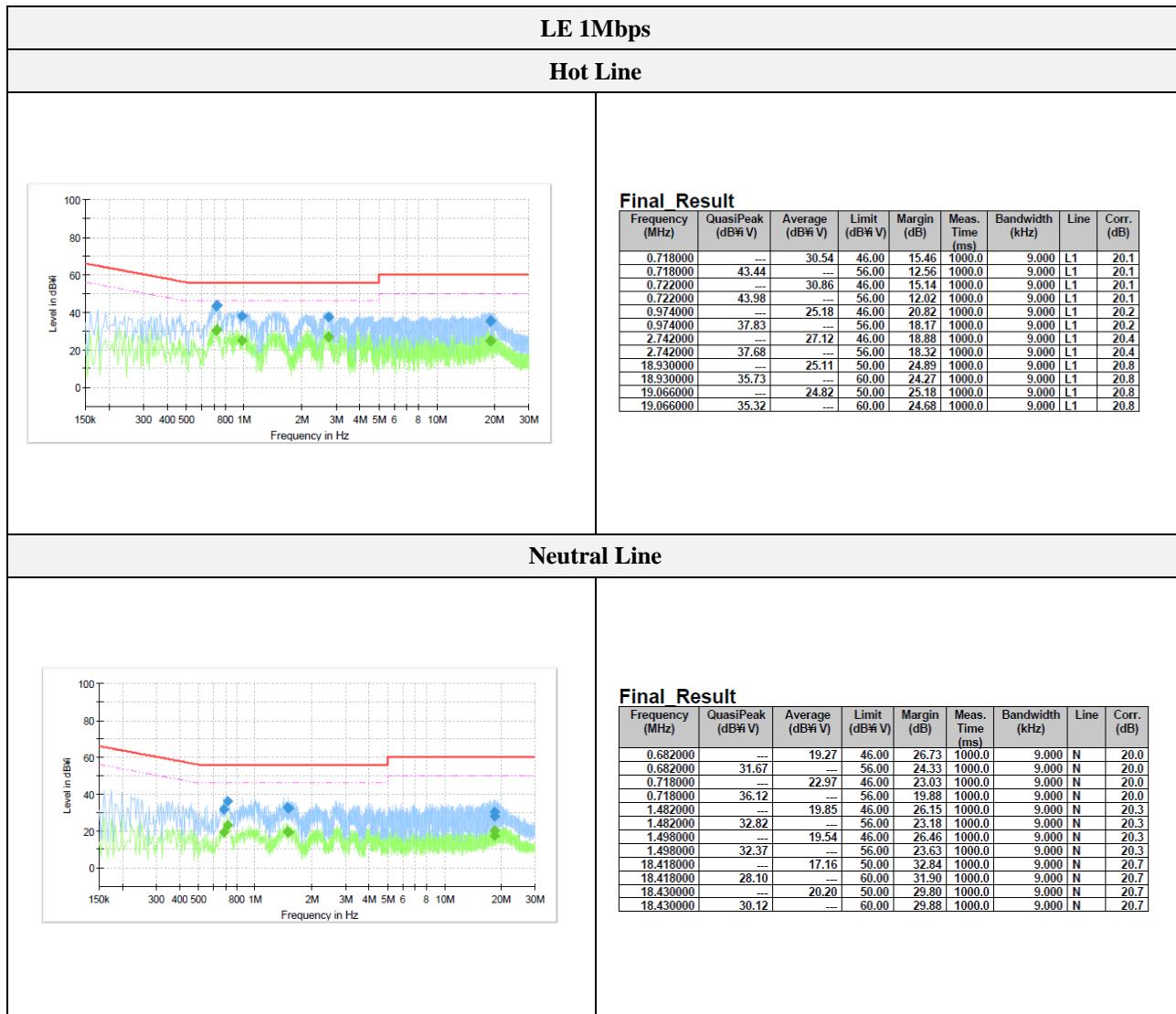
The conducted emissions shall be measured in accordance with the reference publication mentioned in Section 3.

Frequency of Emission (MHz)	Conducted limit (dB $\mu$ V/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

#### Note:

1. All AC line conducted spurious emission are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and the appropriate frequencies. All data rates and modes were investigated for conducted spurious emission. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.
3. Both Cable loss and LISN factor are included in measurement level(QP Level or AV Level).

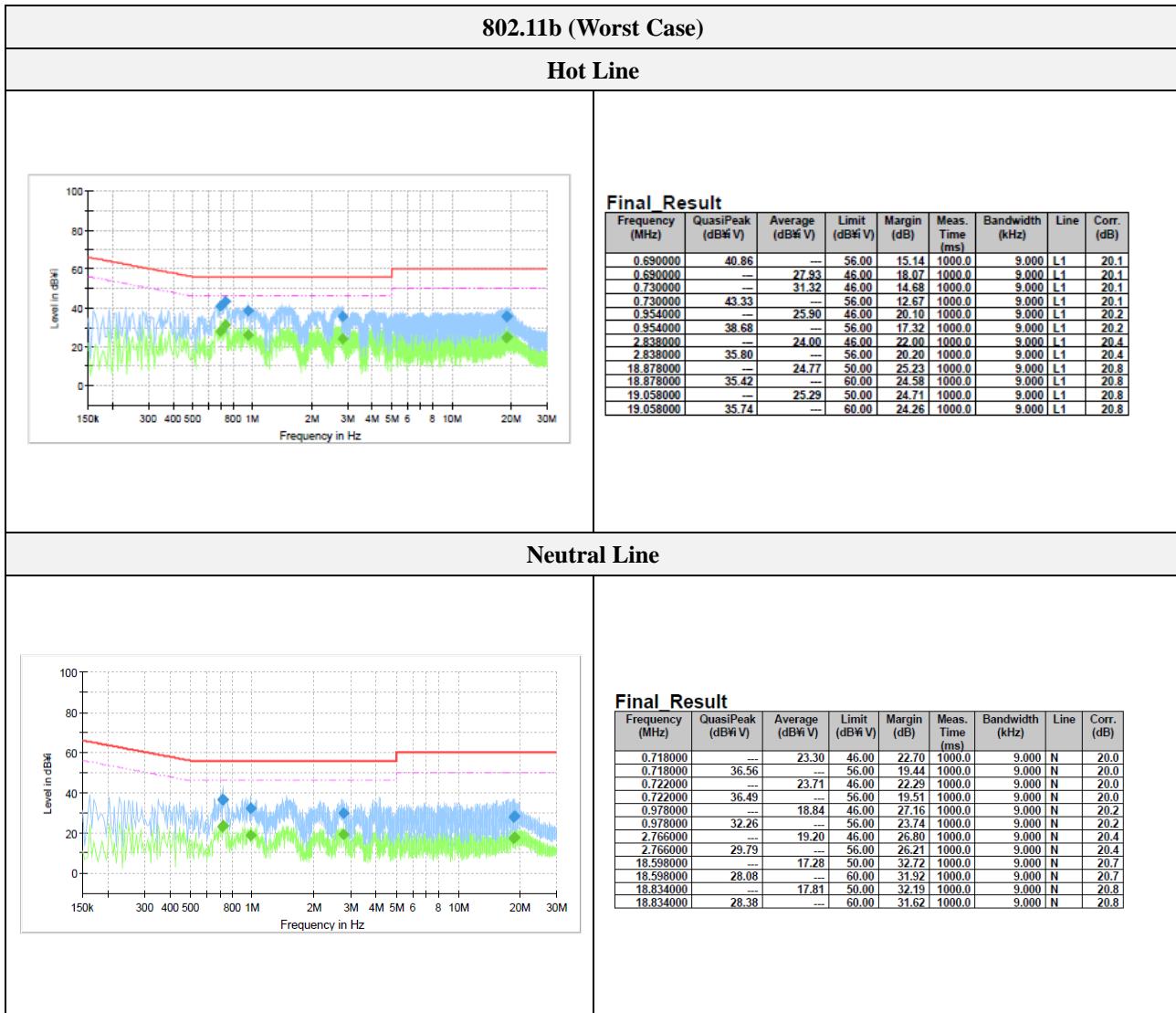
## Test results



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## Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.
Spectrum Analyzer	R&S	FSV40	101725	1 year	2022.06.18
Spectrum Analyzer	R&S	FSV3044	101272	1 year	2023.03.14
8360B Series Swept Signal Generator	HP	83630B	3844A00786	1 year	2023.01.14
SIGNAL GENERATOR	KEYSIGHT	N5182B	MY59100115	1 year	2023.01.14
DC Power supply	Agilent	6632B	MY43004090	1 year	2022.06.21
Power Meter	Anritsu	ML2495A	2010001	1 year	2023.04.27
Pulse Power Sensor	Anritsu	MA2411B	1911111	1 year	2023.04.27
Attenuator	Mini-Circuits	BW-S10-2W263+	2	1 year	2023.01.14
Attenuator	HUBER+SUHNER	6806.17.A	-	1 year	2023.04.01
Loop Antenna	Schwarzbeck	FMZB1513	225	2 years	2023.01.18
BILOG ANTENNA	Schwarzbeck	VULB 9168	9168-461	2 years	2024.04.27
Horn Antenna	A.H	SAS-571	414	1 years	2023.01.18
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA 9170550	1 years	2023.01.20
Amplifier	SONOMA INSTRUMENT	310N	401123	1 year	2022.06.07 2023.06.02
PREAMPLIFIER	8449B	HP	3008A00538	1 year	2022.06.21 2023.06.02
EMI Test Receiver	R&S	ESU26	100552	1 year	2023.03.31
LISN	ENV216	R & S	101787	1 year	2022.12.27
EMI TEST RECEIVER	ESR3	R & S	101783	1 year	2022.12.28
PULSE LIMITER	ESH3-Z2	R & S	101915	1 year	2022.12.27

## Peripheral devices

Device	Manufacturer	Model No.	Serial No.
NoteBook	LG Electronics.	LG15N54	411NZJV044052
NoteBook DC Power Unit	LITE-ON TECHNOLOGY (CHANGZHOU)CO., LTD	PA-1900-14	N/A

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