

Full Spectrum



Figure	8.5-4:	Radiated	emissions	spectral	plot	(26.5	GHz -	40 (GHz)
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Table 8.5-4 : Radiated emissions result
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Frequency (MHz)	CAverage (dBμV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
29628.737500	52.56	82.23	29.67	5000.0	1000.000	100.0	V	124.0	48.4
31283.387500	54.09	82.23	28.14	5000.0	1000.000	179.0	Н	42.0	48.3
35466.568750	61.45	82.23	20.78	5000.0	1000.000	121.0	V	146.0	54.9
35756.743750	62.29	82.23	19.94	5000.0	1000.000	145.0	V	11.0	55.8
35994.081250	63.24	82.23	18.99	5000.0	1000.000	137.0	V	245.0	56.4
39969.812500	62.82	82.23	19.41	5000.0	1000.000	128.0	н	110.0	53.7

Notes:

¹ Field strength (dB μ V/m) = receiver/spectrum analyzer value (dB μ V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Testing data Transmitter spurious emissions



Spectrun	τ								
Ref Level	-98.00 dBm		👄 RB	W 1 MHz					
TDF ExtMix	¢υ	● SWT 20	00 ms 👄 🛛 🛛	W 3 MHz	Mode Auto	o Sweep			
o1Rm View	AutoID								
Limit C	heck		PA	SS	M	1[1]		-	24.42 dBm
20 a <mark>8Me A</mark>	38 - 13dBm		PA	55				46.9	74630 GHz
10 dBm									
0 dBm									
-10 dBm									
ABS -13dBm									
-20 dBm						м			
-30 dBm									
-40 dBm					the test of the second second	المراجع ومحرا والمراجع	Wenterberg L.B. Made		
-50 dBm									
-60 dBm									
-70 dBm	· 00.000 db								
CF 45.0 GH	∔- 98,000 αΒ	····		3200	1 pts			Span	10.0 GHz





Figure 8.5-6: Radiated emissions spectral plot (40 GHz - 50 GHz) Vertical

Testing data Transmitter spurious emissions



Spectrum				
RefLevel -130.00 dBm	👄 RBW 1 MHz			
TDE ExtMix V	SWT 100 ms 👄 VBW 3 MHz	Mode Auto Sweep		
Limit Check	PASS	M1[1]	-32.3	3 dBm
Line ABS -13dBm	PASS		62.6025	50 GHz
10 dBm			<u> </u>	
0 dBm				
-10 dBm				
ABS -13dBm				
-20 UBIII				
		11		
-30 dBm		7		
-40 dBm			L	المستحدي والم
	and the second se	and the second	which is not a first the second s	1
50 dBm				
-60 dBm			<u> </u>	
-70 dBm				
↓-130.000 dBm		1		
start 50.0 GHZ	1000	1 pts	stop 75.L	J GHZ
		Measuring	11:4	9:25 AM

Date: 10.SEP.2024 11:49:25



Figure 8.5-7: Radiated emissions spectral plot (50 GHz - 75 GHz) Horizontal

Date: 10.SEP.2024 11:46:33



Testing data Transmitter spurious emissions



Spectrum				
Ref Level -130.00 dBm	🔵 RBW 1 MHz			
SX Count 100/100 TDF Ext	∜T 250 ms ● VBW 3 MHz čMix W	Mode Auto Sweep		
●1Rm View				
Limit Check Line ABS -13dBm	PABS PABS	M1[1]	-: 79.7	32.46 dBm 38520 GHz
10 dBm				
0 dBm				
-10 dBm				
ABS -13dBm				
-20 dBm				
-30 dBm				
and the second se				
-50 dBm				
-60 dBm				
-70 dBm				
↓ -130.000 dBm				
Start 75.0 GHz	3200	1 pts	Stop 1	.00.0 GHz
		Measuring	1,10	09/10/2024 01:05:34 PM

Date: 10.SEP.2024 13:05:35



Figure 8.5-9: Radiated emissions spectral plot (75 GHz - 100 GHz) Horizontal

Date: 10.SEP.2024 13:01:06





8.6 Frequency stability

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- FCC 47 CFR Part 87: §87.133

- Test method: ANSI C63.26 (5.6.3)

(a) Except as provided in paragraphs (c), (d), (f), and (g) of this section, the carrier frequency of each station must be maintained within these tolerances:

Frequency band (lower limit exclusive, upper limit inclusive), and categories of stations	Tolerance ¹	Tolerance
Radionavigation stations	5000	5000

8.6.2 Test summary

Verdict	Pass					
Test date	September 13, 2024	Temperature	18°C			
Test engineer	Chenhao Ma, Wireless Test Technician	Air pressure	1006mbar			
Test location	 Wireless bench 10 m semi-anechoic chamber 3 m semi-anechoic chamber Other: Environmental chamber 	Relative humidity	51 %			

8.6.3 Notes

Testing was performed with the transmitter operating on a fixed channel at full power. An unmodulated signal with a frequency center in the middle channel was selected for this test (15.55 GHz).

8.6.4 Setup details

EUT power input during test	28 V DC
EUT setup configuration	Table-top
	Floor standing
	Other: Mounted on a fixture provided by client
Spectrum analyzer settings:	
Resolution bandwidth	30 kHz
Video bandwidth	3 MHz
Detector mode	Peak
Trace mode	Max Hold



8.6.5 Test data

Table 8.6-1: Frequency stability results. Voltage Temperature **Channel frequency** Measured frequency ррт Limit Result (Hz) (Hz) (ppm) 28 V -40°C 15550000000 15550000000 0.0000 5000 Pass 28 V -30°C 15550000000 15550000000 0.0000 5000 Pass 28 V -20°C 15550000000 15550000000 0.0000 5000 Pass 28 V -10°C 15550000000 15550000000 0.0000 5000 Pass 5000 0°C 0.0000 28 V 15550000000 15550000000 Pass 28 V +10°C 15550000000 15550000000 0.0000 5000 Pass +20°C 5000 28 V 15550000000 15550000000 0.0000 Pass 23.8 V (-15%) Pass +20°C 15550000000 15550000000 0.0000 5000 32.2 V (+15%) +20°C 15550000000 15550000000 0.0000 5000 Pass 28 V +30°C 15550000000 15549992800 -0.463 5000 Pass 28 V +40°C 15550000000 15550000000 0.0000 5000 Pass 28 V +50°C 15550000000 15550000000 0.0000 5000 Pass 28 V +60°C 15550000000 15549992800 -0.463 5000 Pass 28 V +65°C 15550000000 15549992800 -0.463 5000 Pass

End of test report