

Above 30 MHz

Radiated Emissions			Ant.	Correction (dB/m)	Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.		Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
40.43	31.80	Quasi Peak	V	-8.54	23.26	40.00	16.74
50.25	38.90	Quasi Peak	H	-7.36	31.54	40.00	8.46
160.47	36.95	Quasi Peak	H	-11.29	25.66	43.50	17.84
274.20	38.81	Quasi Peak	H	-6.51	32.30	46.00	13.70
301.72	35.00	Quasi Peak	H	-5.79	29.21	46.00	16.79
610.91	33.60	Quasi Peak	H	0.19	33.79	46.00	12.21
Above 700.00	Not detected	-	-	-	-	-	-

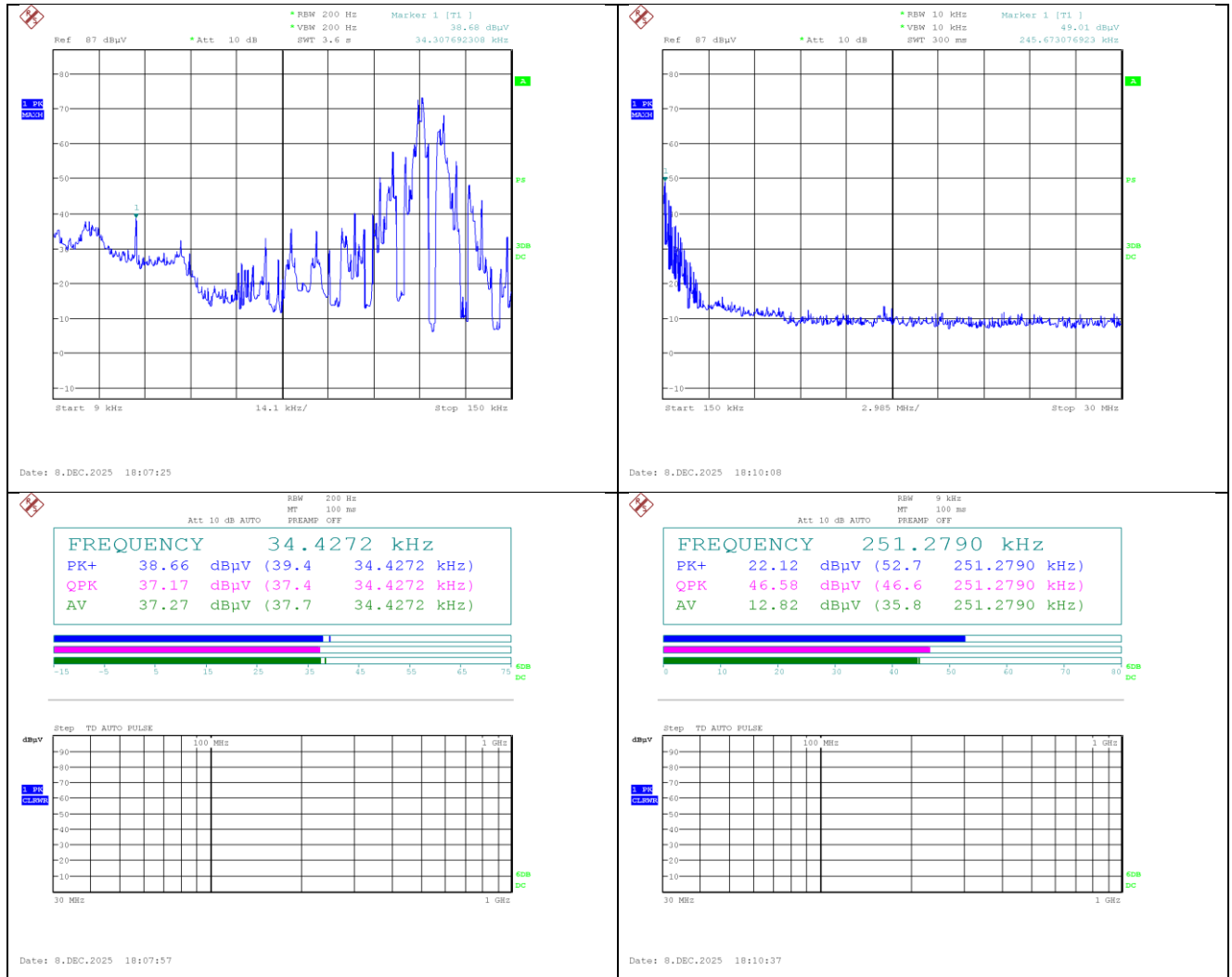
Remark;

- According to §15.31(f)(2)
 - 300 m Result (dBμV/m) = 3 m Result (dBμV/m) - 40log (300/3) (dBμV/m)
 - 30 m Result (dBμV/m) = 3 m Result (dBμV/m) - 40log (30/3) (dBμV/m)
- According to field strength table of general requirement in §15.209(a), field strength limits below 1.705 MHz were calculated as below.
 - 9 kHz to 490 kHz: 20log (2 400 / F (kHz)) at 300 m (dBμV/m)
 - 490 kHz to 1 705 kHz: 20log (24 000 / F (kHz)) at 30 m (dBμV/m)
- According to §15.209(d), the measurements were tested by using Quasi peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1 000 MHz in these three bands on measurements employing an average detector.
- According to ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED), For measurement below 30 MHz.
conversion factor from E-field to H-field is considered as free-space impedance [$1 \mu\text{V/m} = (1/377 \Omega) \times 1 \mu\text{A/m}$]
The FCC limits are same to the IC limits.
- The limit above was calculated based on table of §15.209 (a).
- Test from 30 MHz to 1 000 MHz was performed using the software of ELEKTRA(V5.02) from Rohde & Schwarz GmbH & Co. KG.
- Actual (dBμV/m) at 3 m were calculated as below.
 - Below 30 MHz : Reading (dBμV) + AF (dB/m) + CL (dB)
 - Above 30 MHz : Actual = Reading + Correction (Correction = Antenna Factor + AMP Factor + Cable Loss)
- Above 30 MHz, According to §15.31(o), emission levels are not report much lower than the limits by over 20 dB.

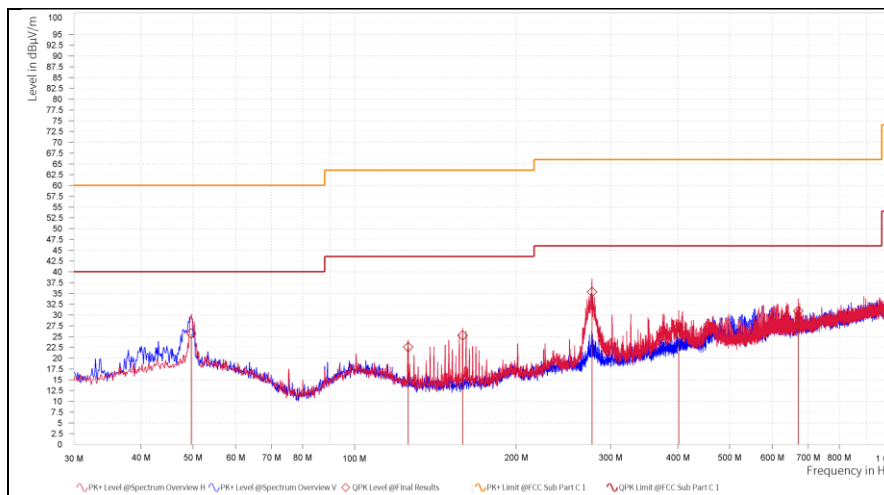
- Test plots

INT1 Antenna

Below 30 MHz

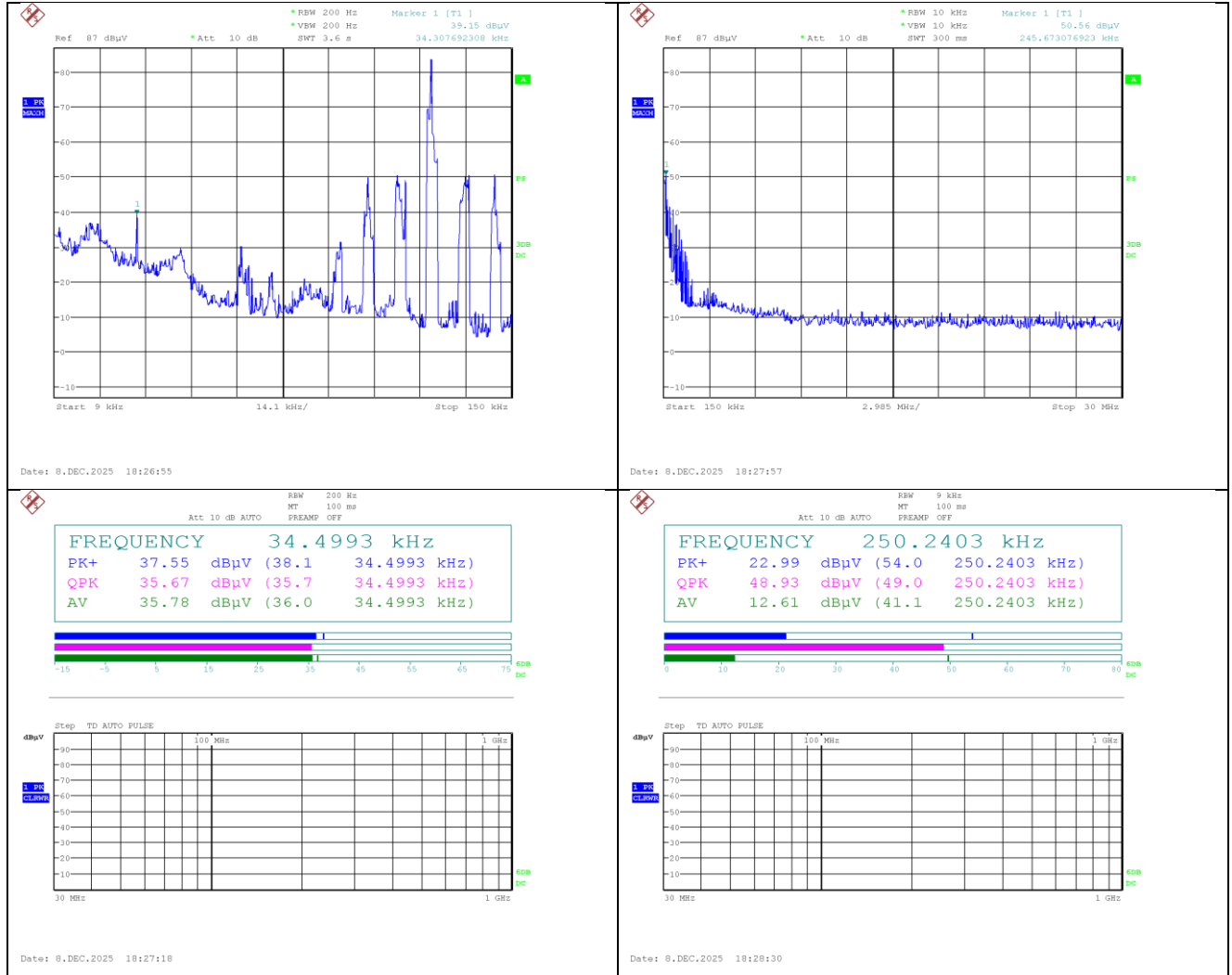


Above 30 MHz

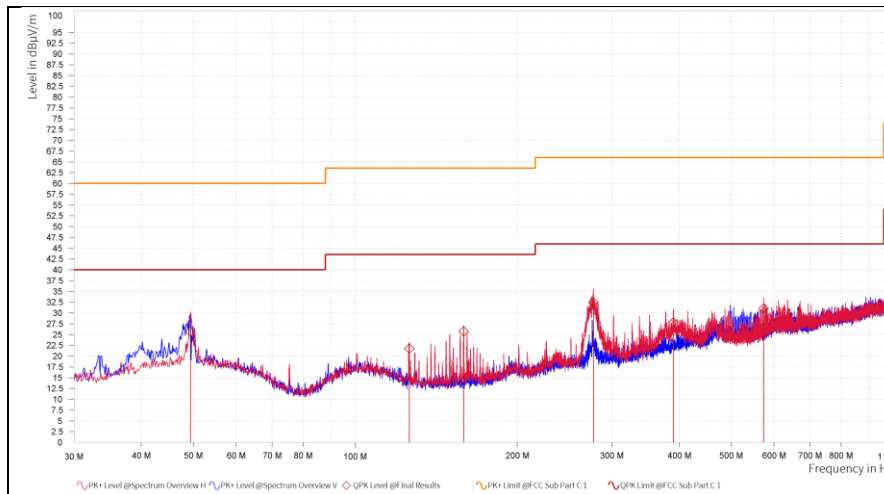


INT2 Antenna

Below 30 MHz

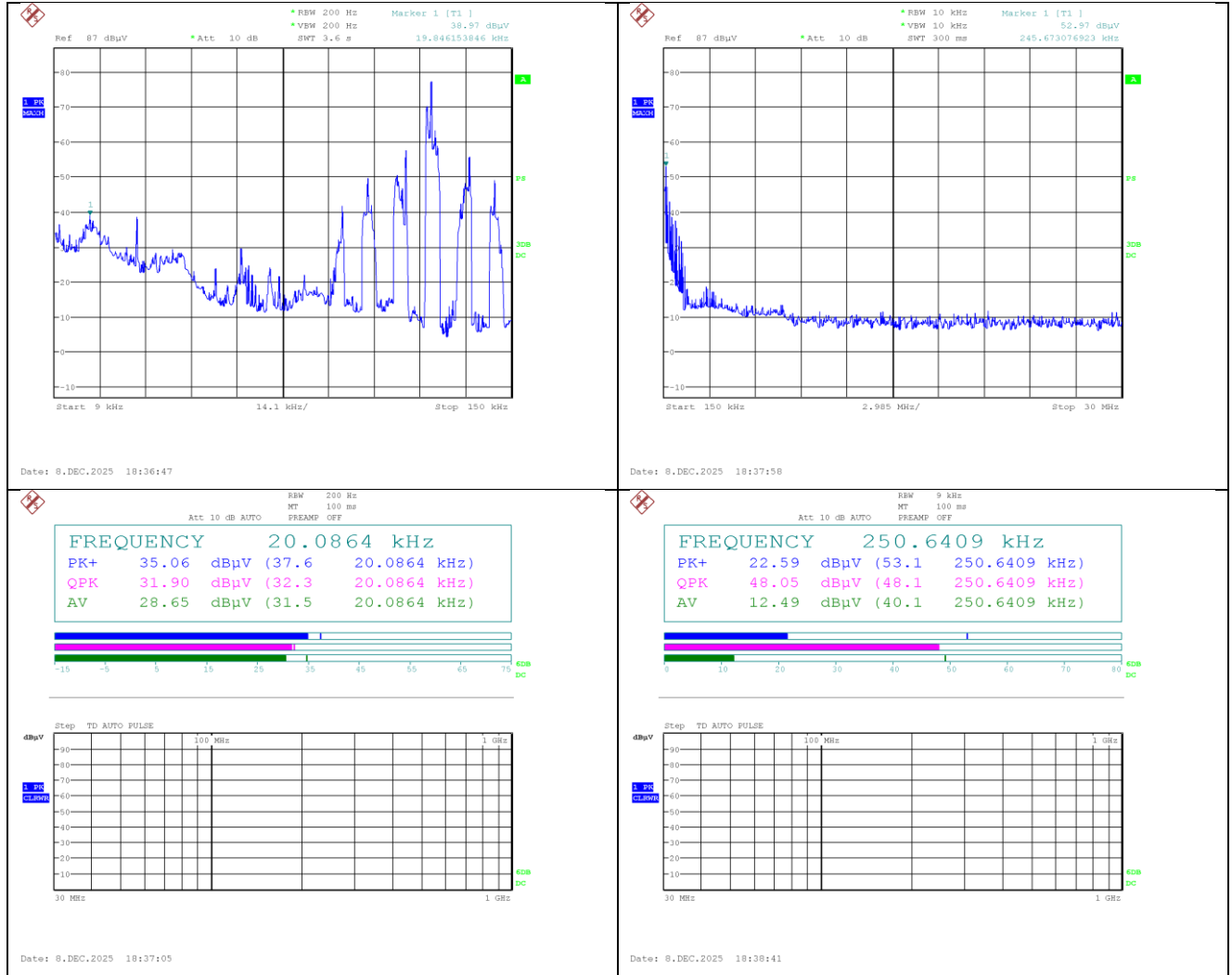


Above 30 MHz

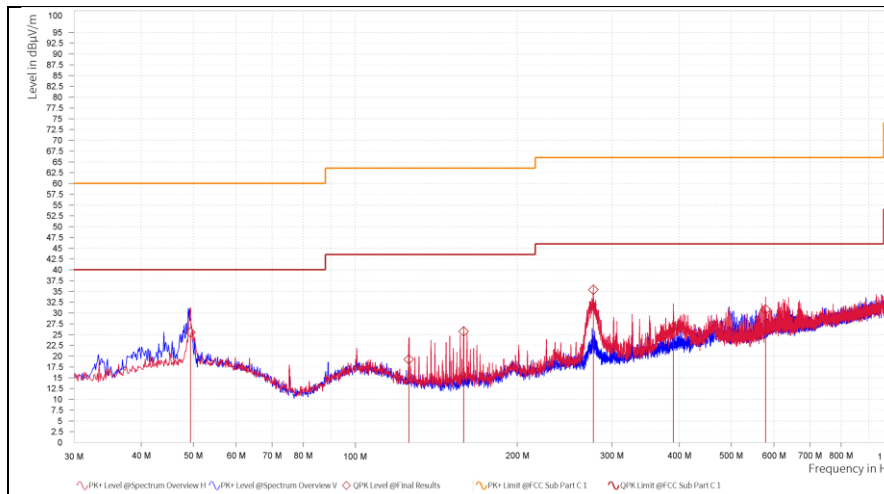


DRV Antenna

Below 30 MHz

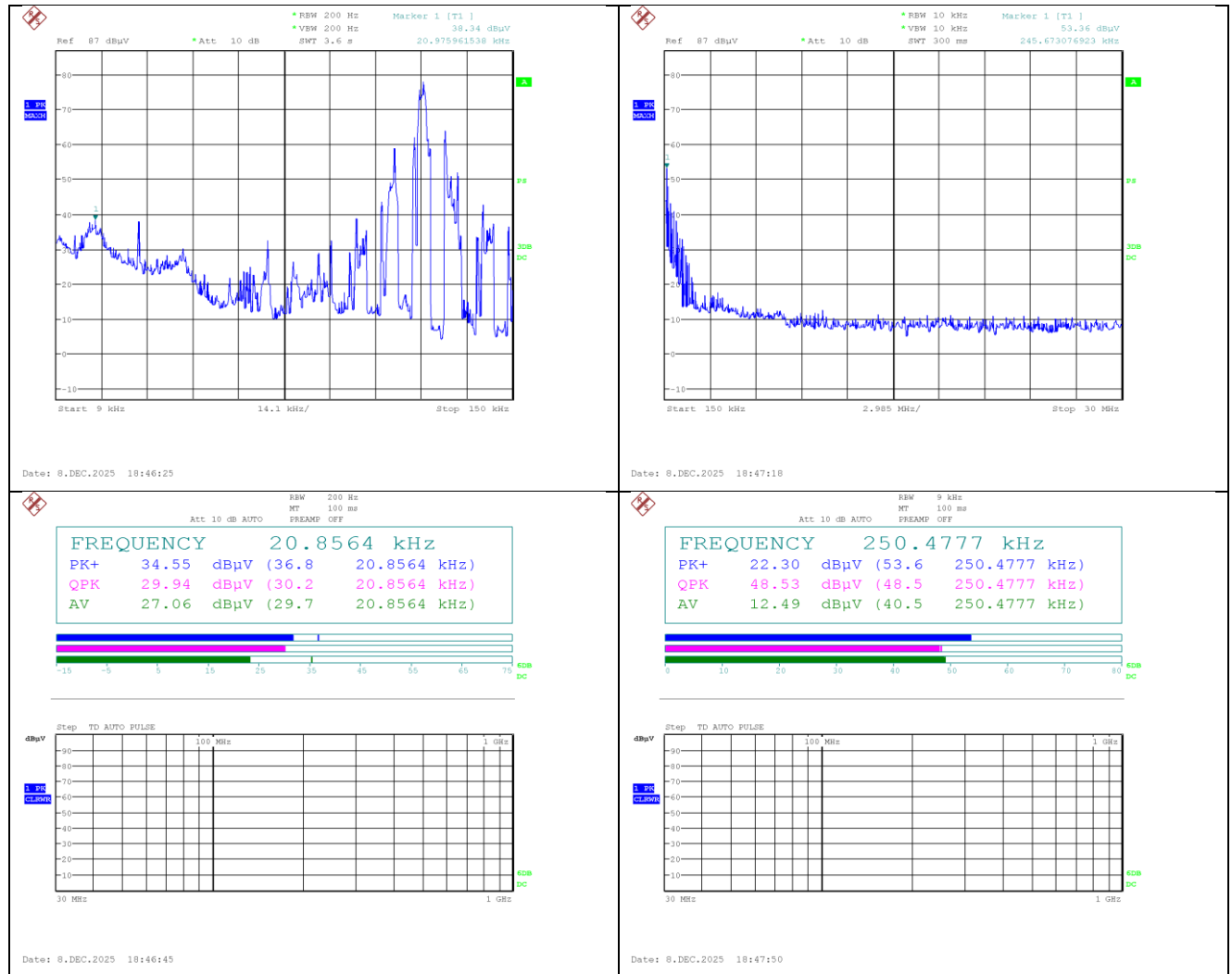


Above 30 MHz

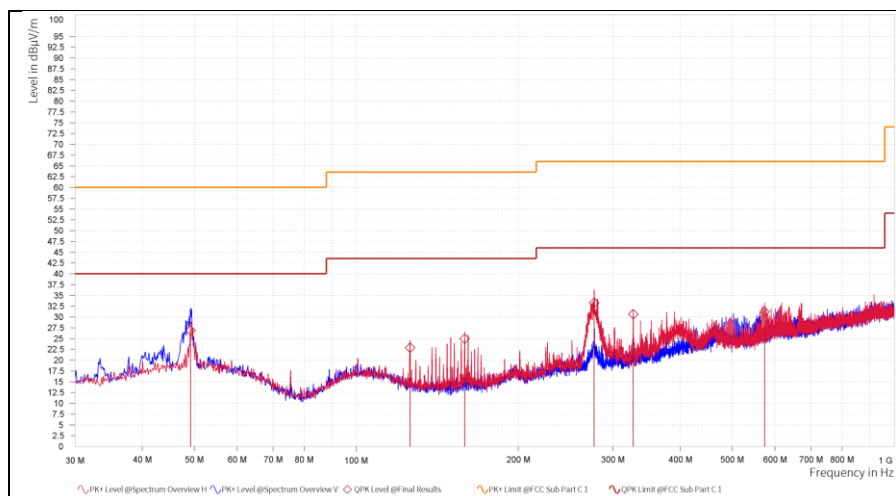


AST Antenna

Below 30 MHz

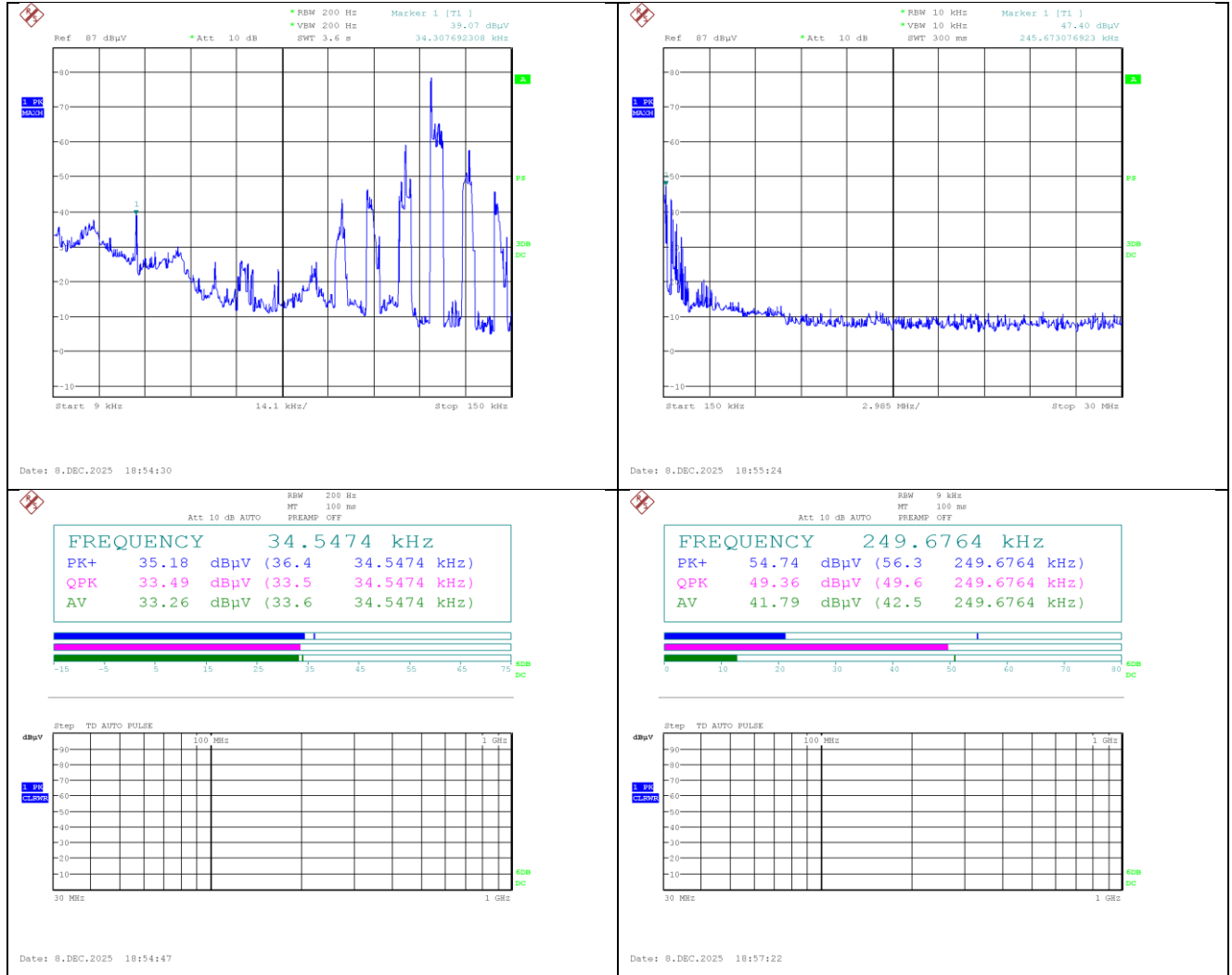


Above 30 MHz

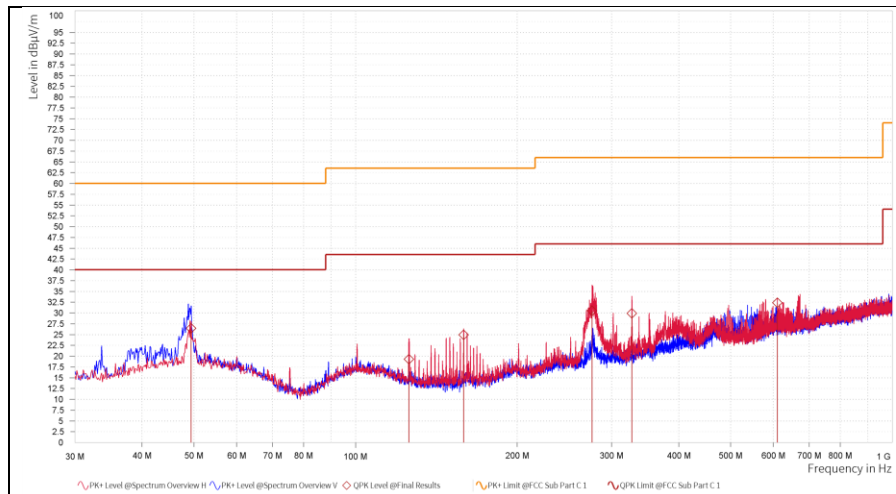


Bumper Antenna

Below 30 MHz

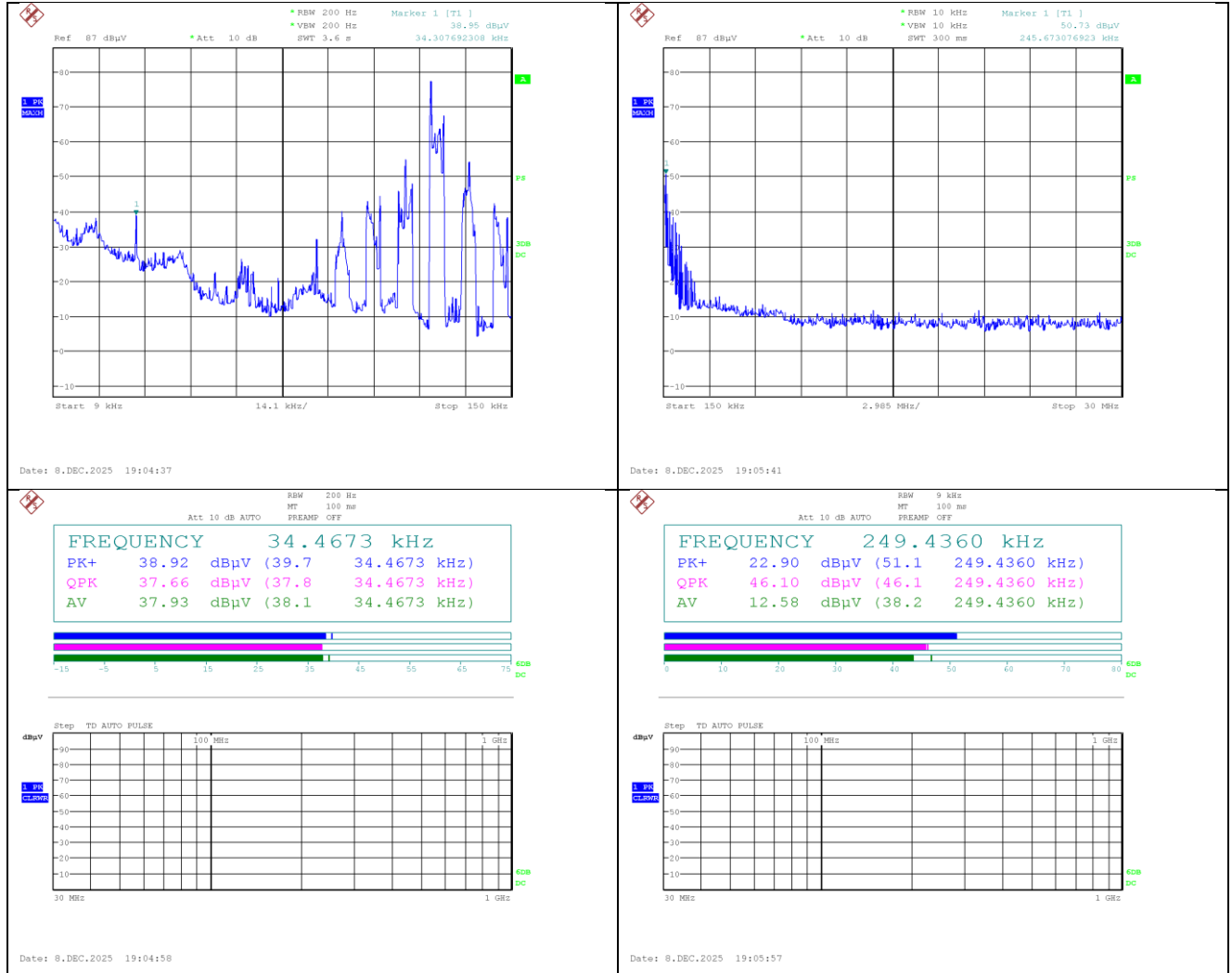


Above 30 MHz

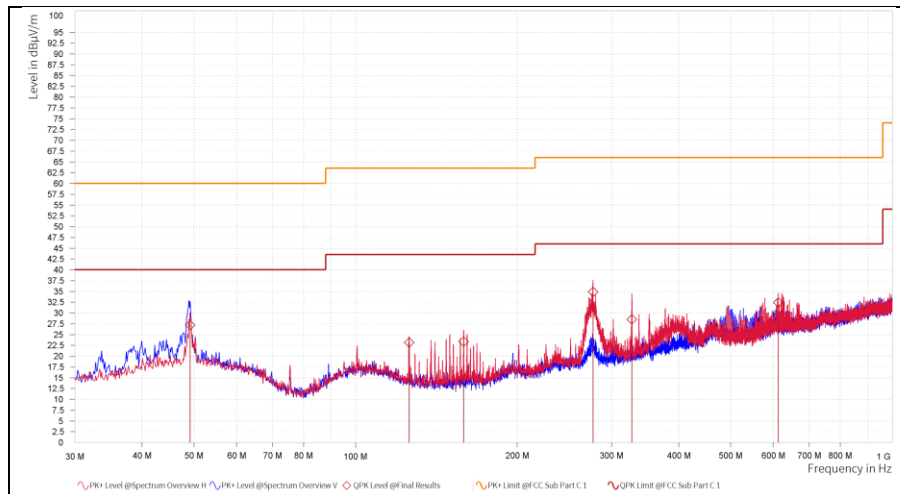


TRUNK Antenna

Below 30 MHz

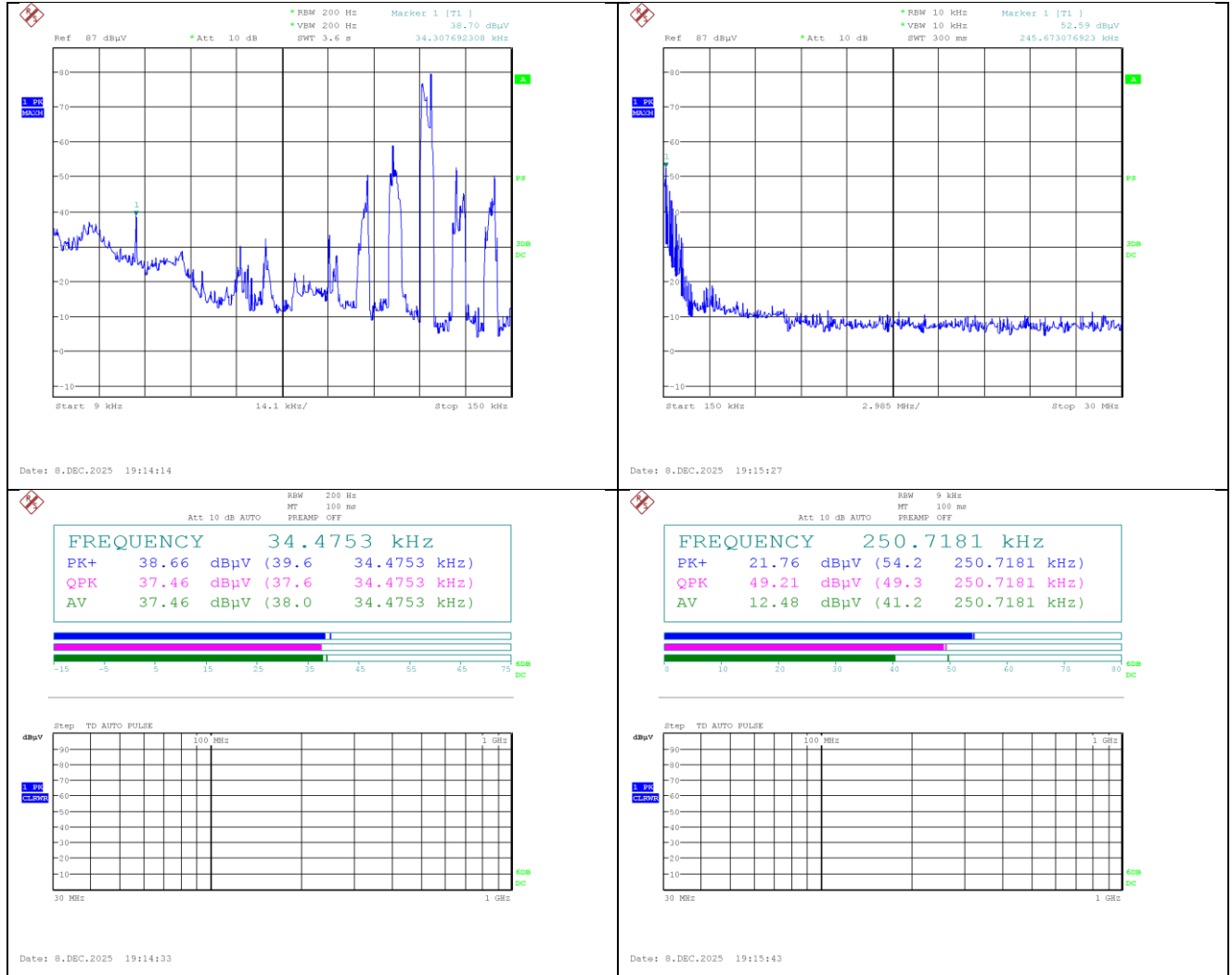


Above 30 MHz

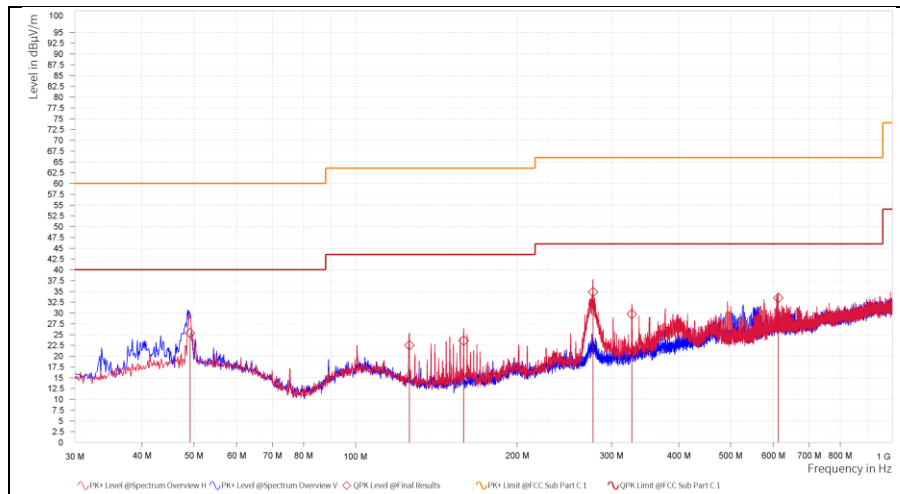


FR Bumper Antenna

Below 30 MHz

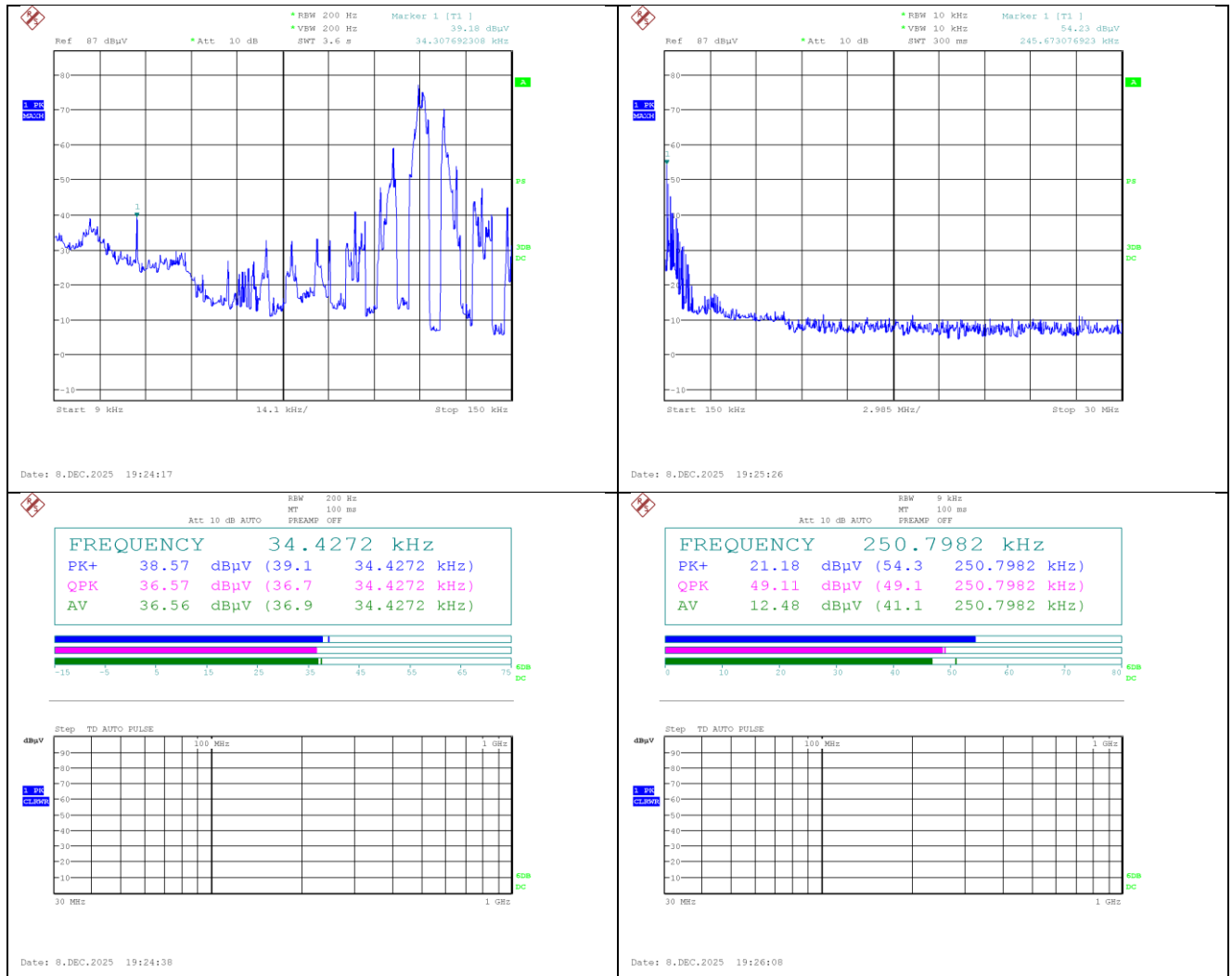


Above 30 MHz

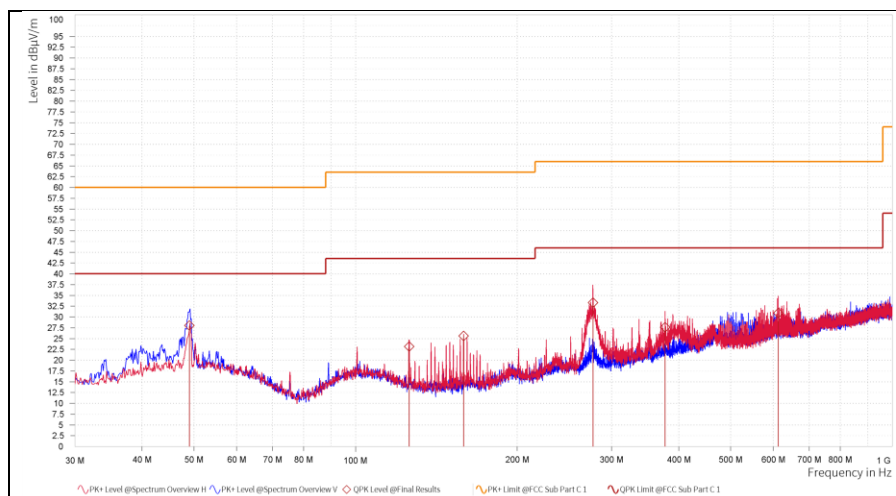


Rear_DRV Antenna

Below 30 MHz

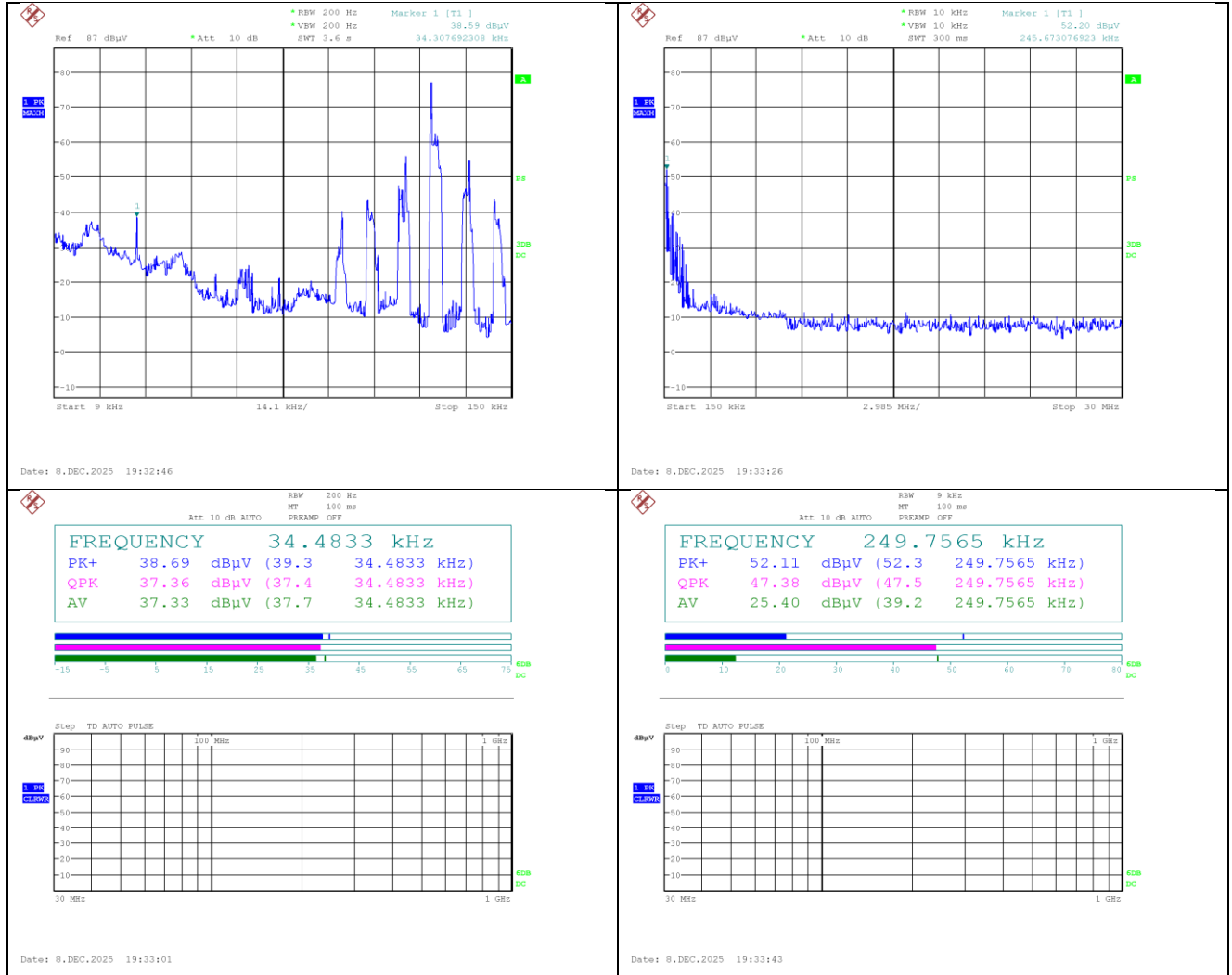


Above 30 MHz

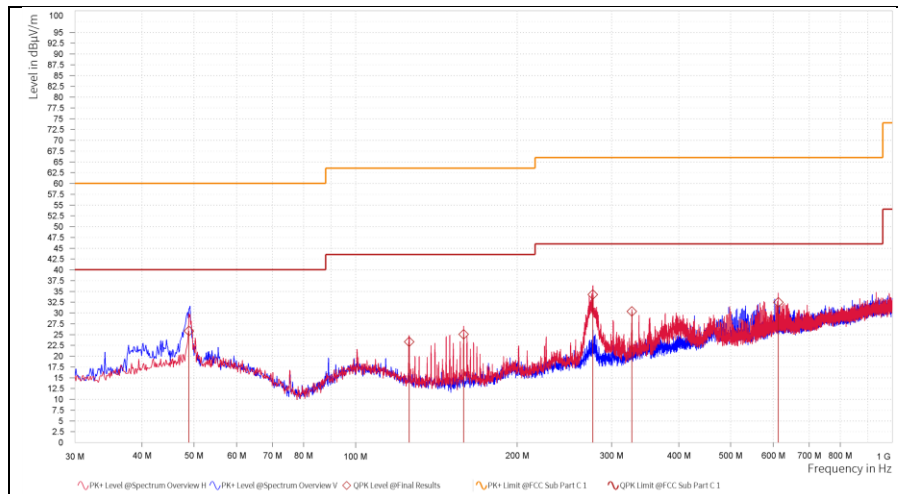


Rear_AST Antenna

Below 30 MHz

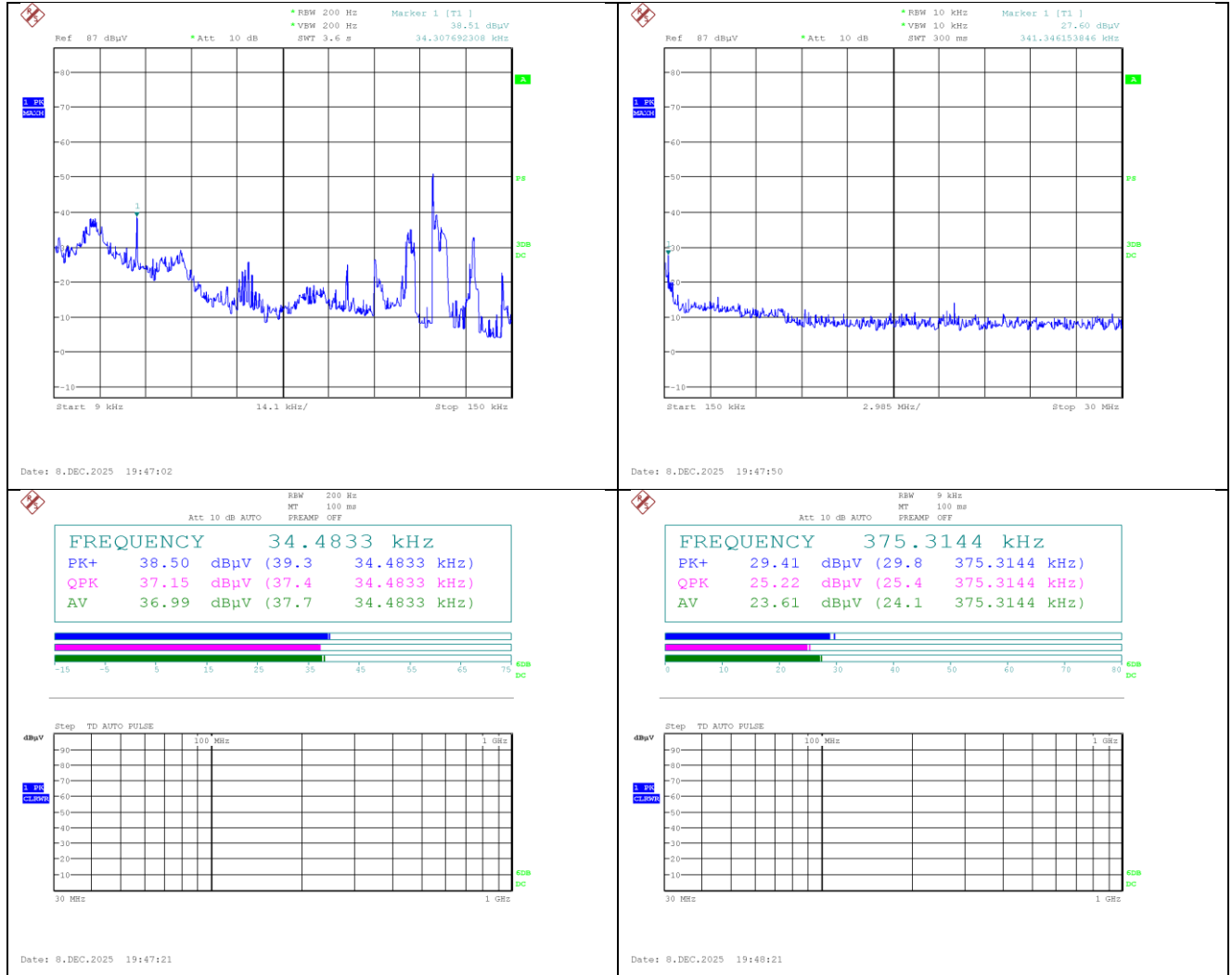


Above 30 MHz

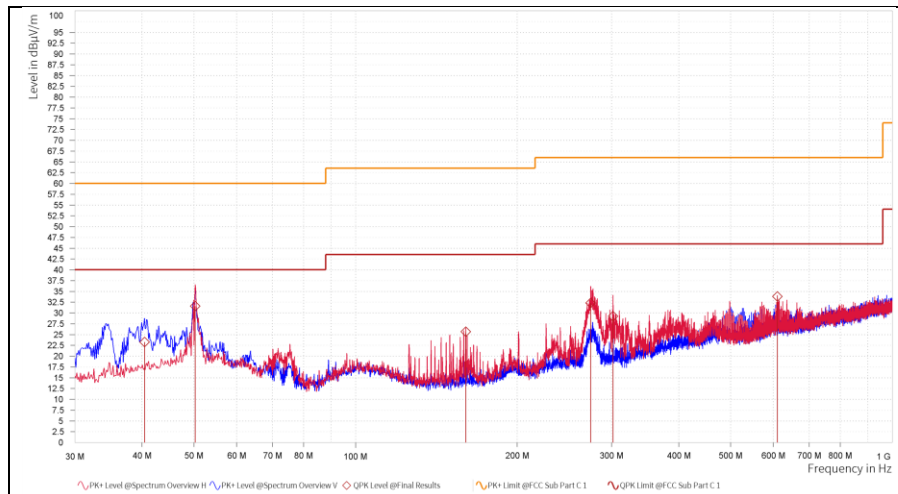


SSB Antenna

Below 30 MHz

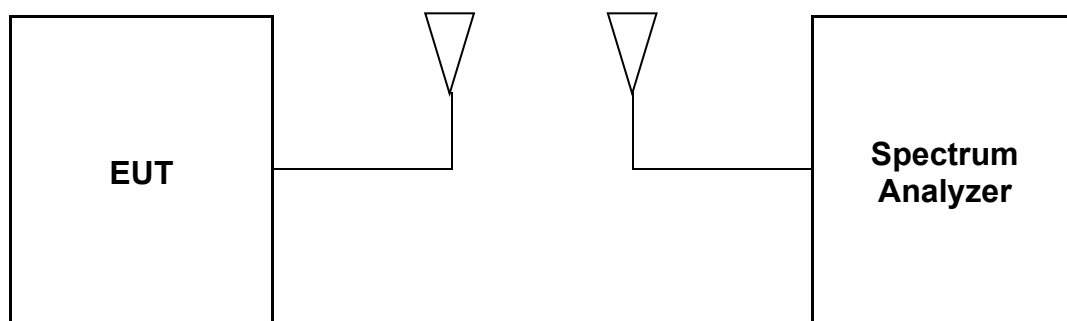


Above 30 MHz



3. 20 dB Bandwidth

3.1. Test Setup



3.2. Limit

None; for reporting purposed only

3.3. Test Procedure

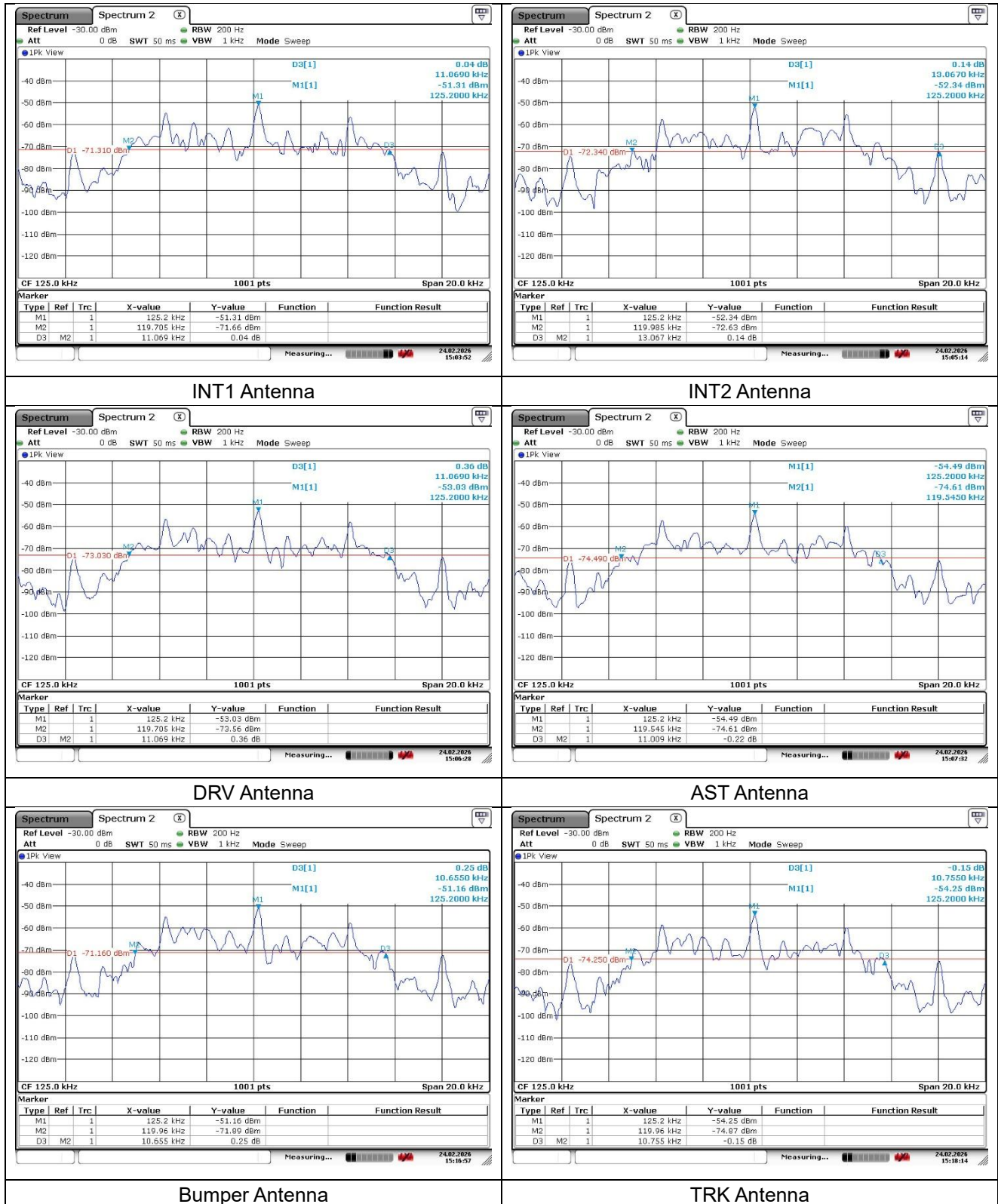
- a. Span = set to capture all products of the modulation process, including the emission skirts.
 RBW = 200 Hz, VBW = 1 kHz, Sweep = auto, Detector = peak, Trace = max hold.
- b. The marker-to-peak function to set the mark to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is 20 dB bandwidth of the emission.

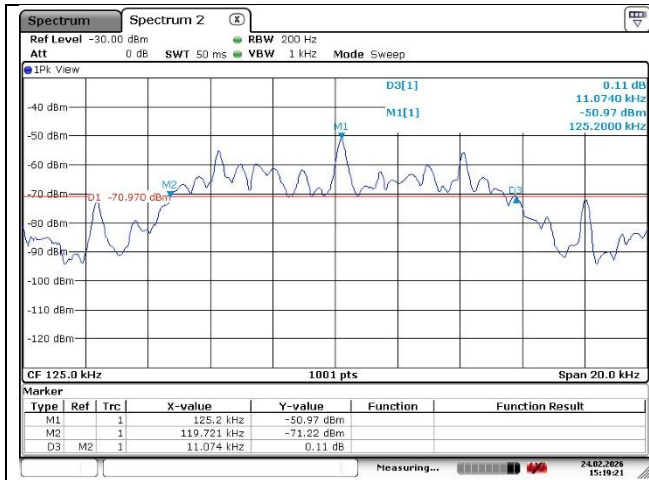
3.4. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 %

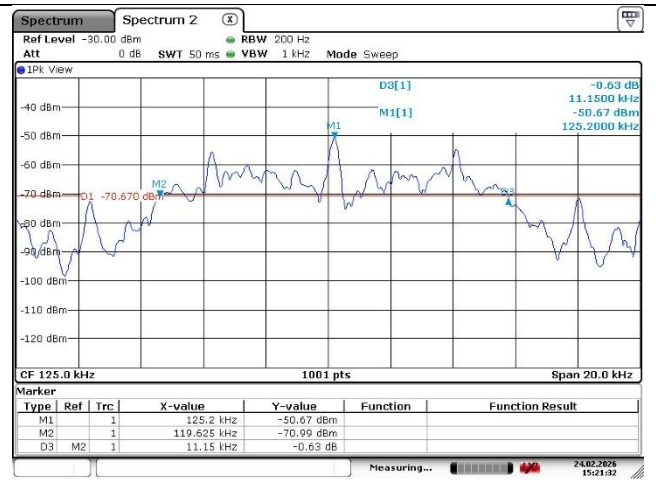
Test Antenna	Frequency (kHz)	20 dB Bandwidth (kHz)	Limit
INT1	125	11.069	Reporting proposed only
INT2	125	13.067	
DRV	125	11.069	
AST	125	11.009	
Bumper	125	10.655	
Trunk	125	10.755	
FR Bumper	125	11.074	
Rear_DRV	125	11.150	
Rear_AST	125	11.209	
SSB	125	0.940	

- Test plot(s)

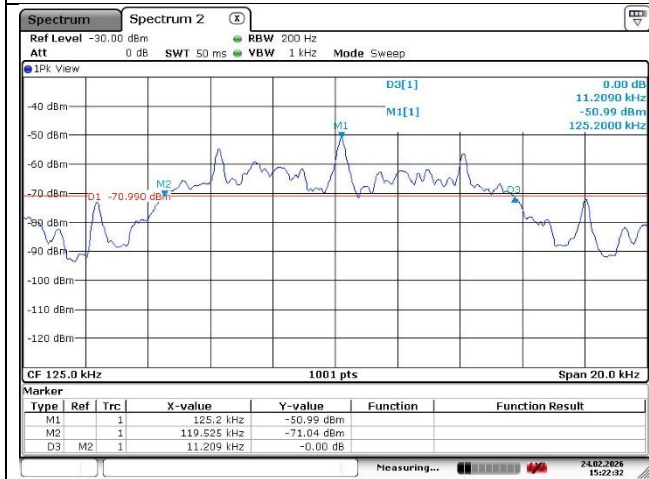




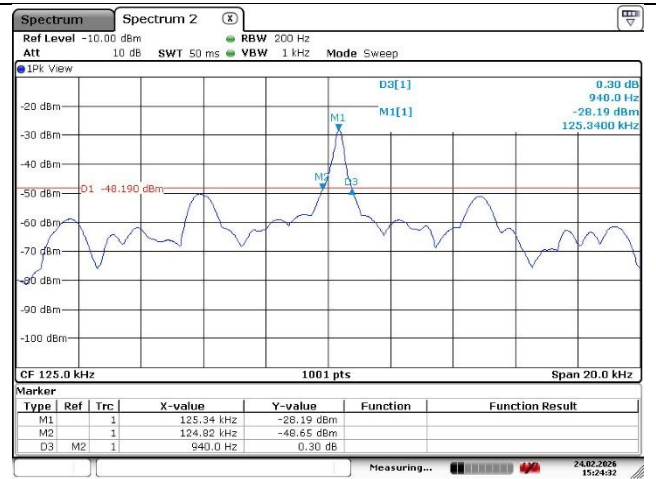
FR Bumper Antenna



Rear_DRV Antenna



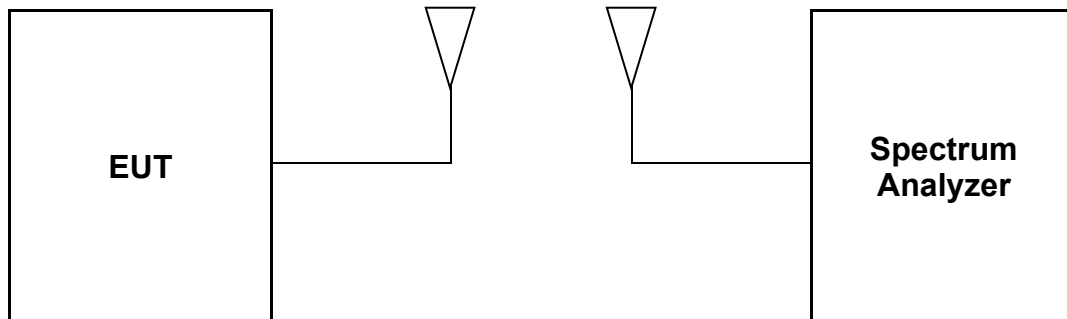
Rear_AST Antenna



SSB Antenna

4. Occupied Bandwidth

4.1. Test Setup



4.2. Limit

None; for reporting purposed only

4.3. Test Procedure

1. Set the spectrum analyzer as Span = set to capture all products of the modulation process, including the emission skirts, RBW = 200 Hz, VBW = 1 kHz, Detector = peak, Trace mode = max hold.
2. Measure lowest and highest frequencies are placed in a running sum until 0.5 % and 99.5 % of the total is reached.
3. Record the SPAN between the lowest and the highest frequencies for the 99 % occupied bandwidth.

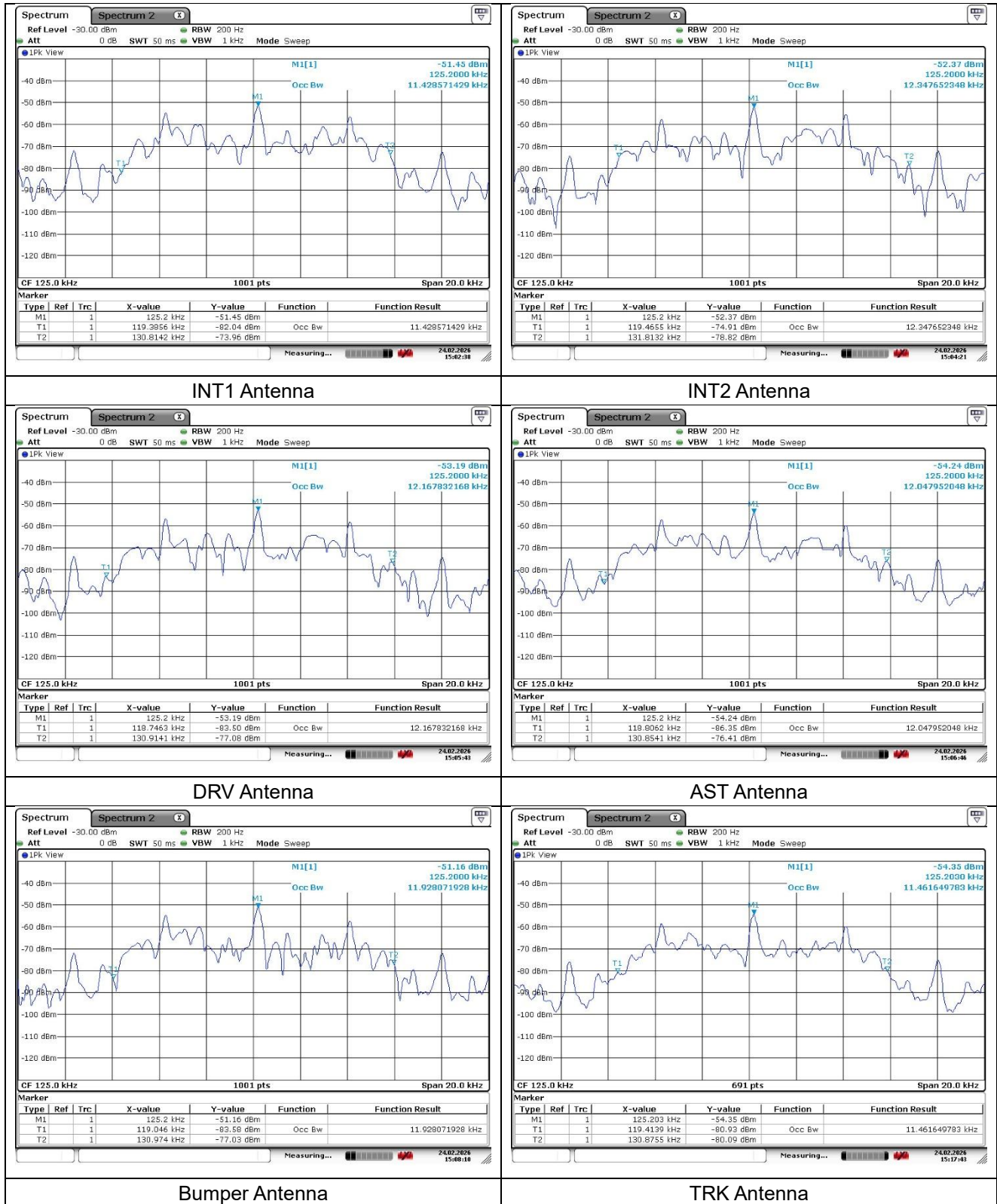
4.4. Test Result

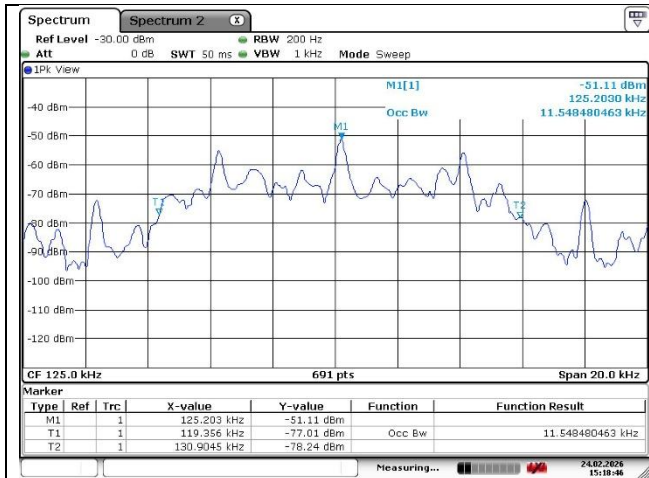
Ambient temperature : (23 ± 1) °C

Relative humidity : 47 %

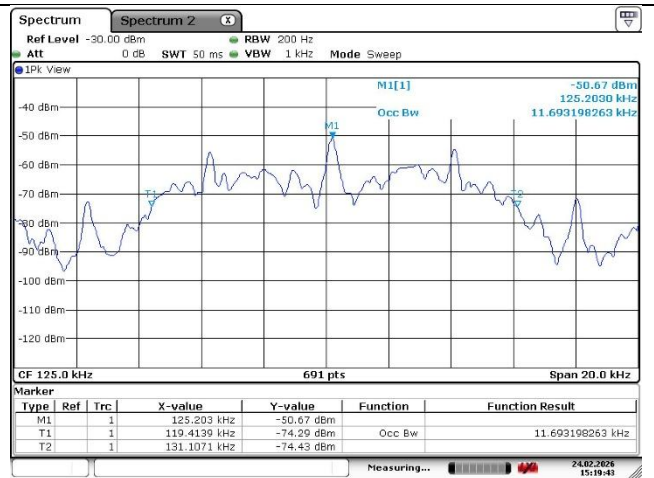
Test Antenna	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit
INT1	125	11.429	Reporting proposed only
INT2	125	12.348	
DRV	125	12.168	
AST	125	12.048	
Bumper	125	11.928	
Trunk	125	11.462	
FR Bumper	125	11.548	
Rear_DRV	125	11.693	
Rear_AST	125	12.012	
SSB	125	11.229	

- Test plots

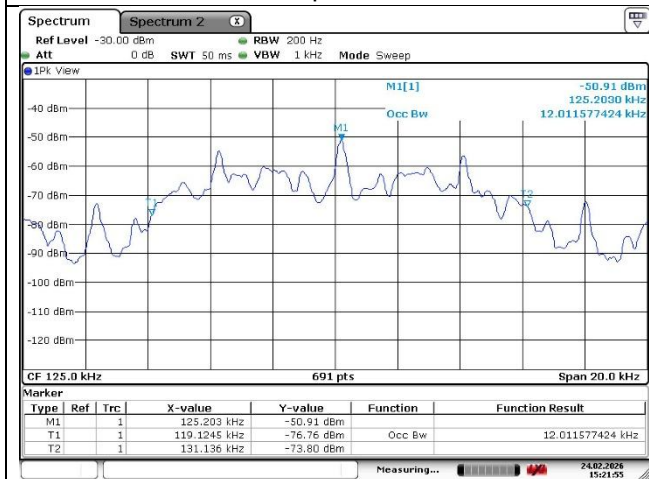




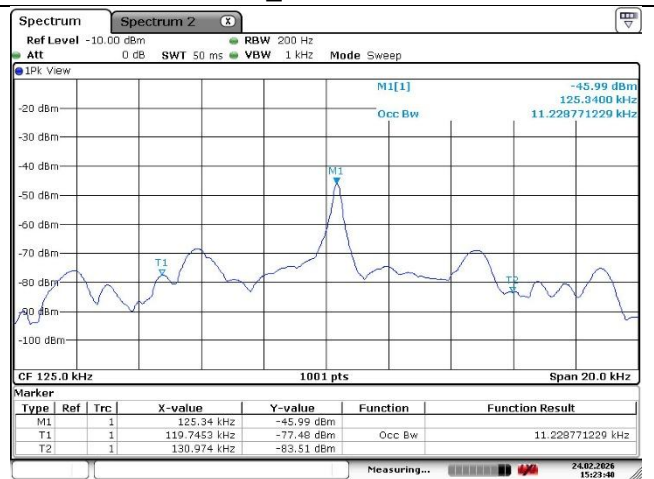
FR Bumper Antenna



Rear_DRV Antenna



Rear_AST Antenna



SSB Antenna

5. Antenna Requirement

5.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or 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 replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.2. Antenna Connected Construction

Antenna type	Antenna connector
Coil	Multi-pin header connector

End of the Test Report -