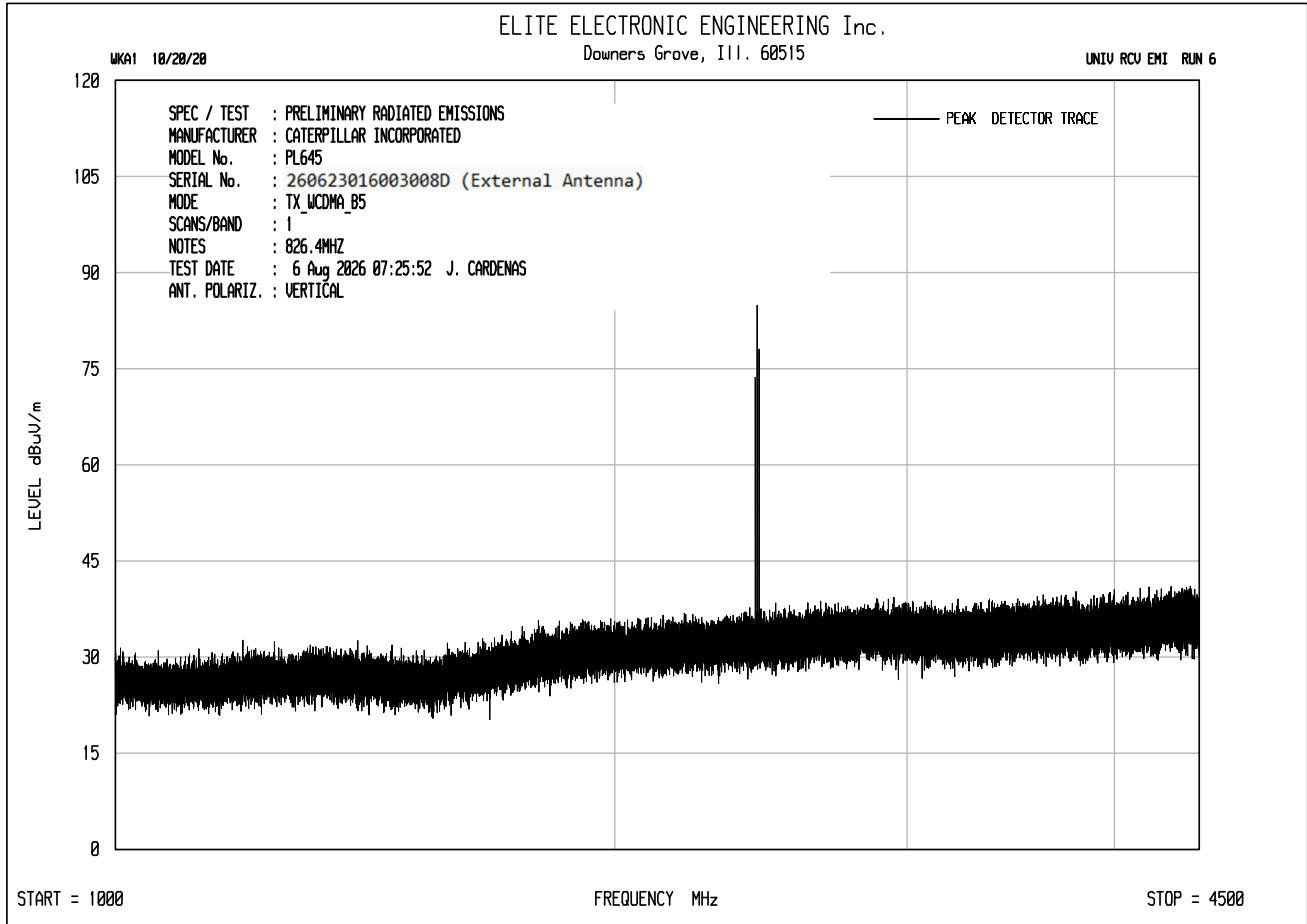
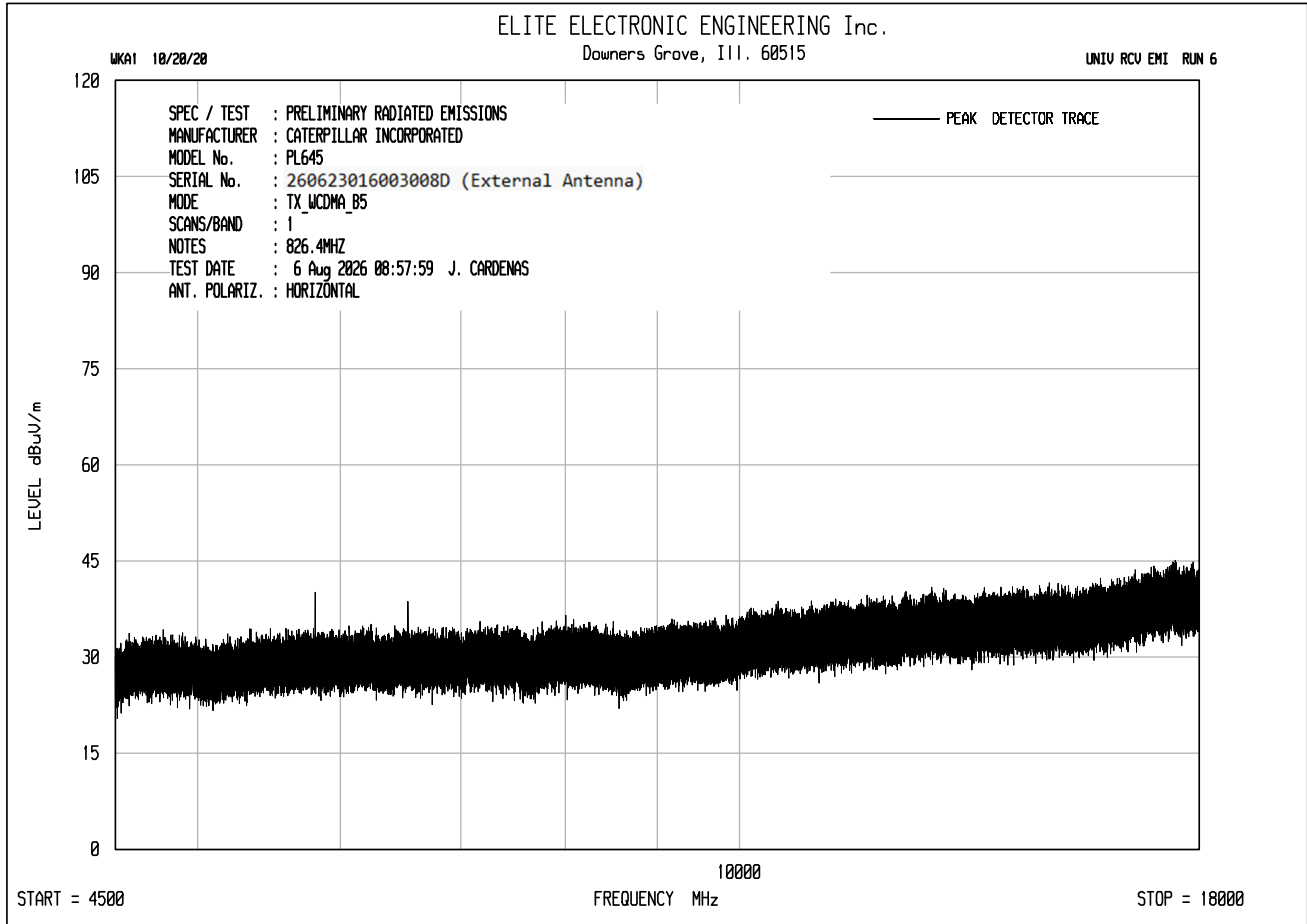
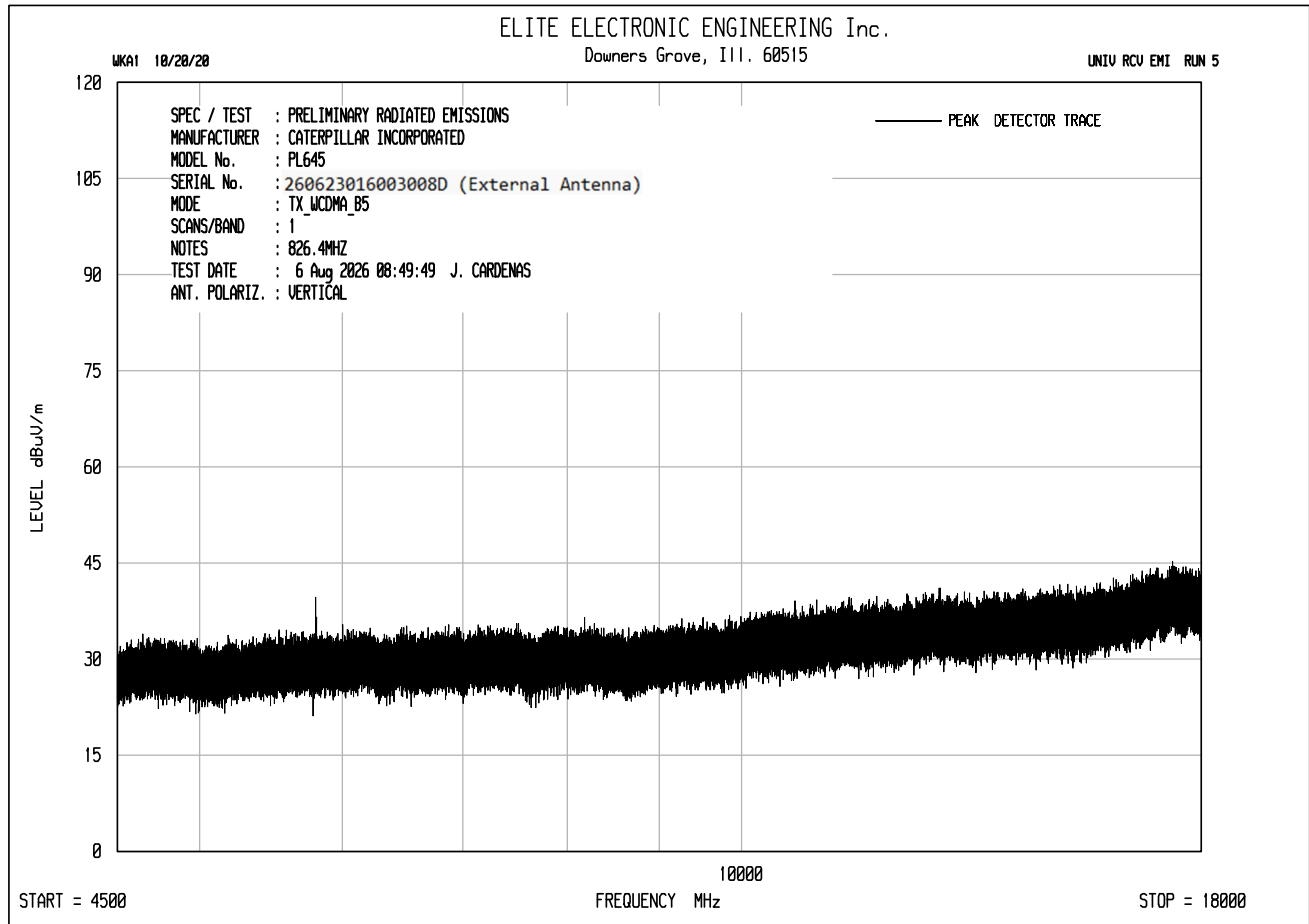


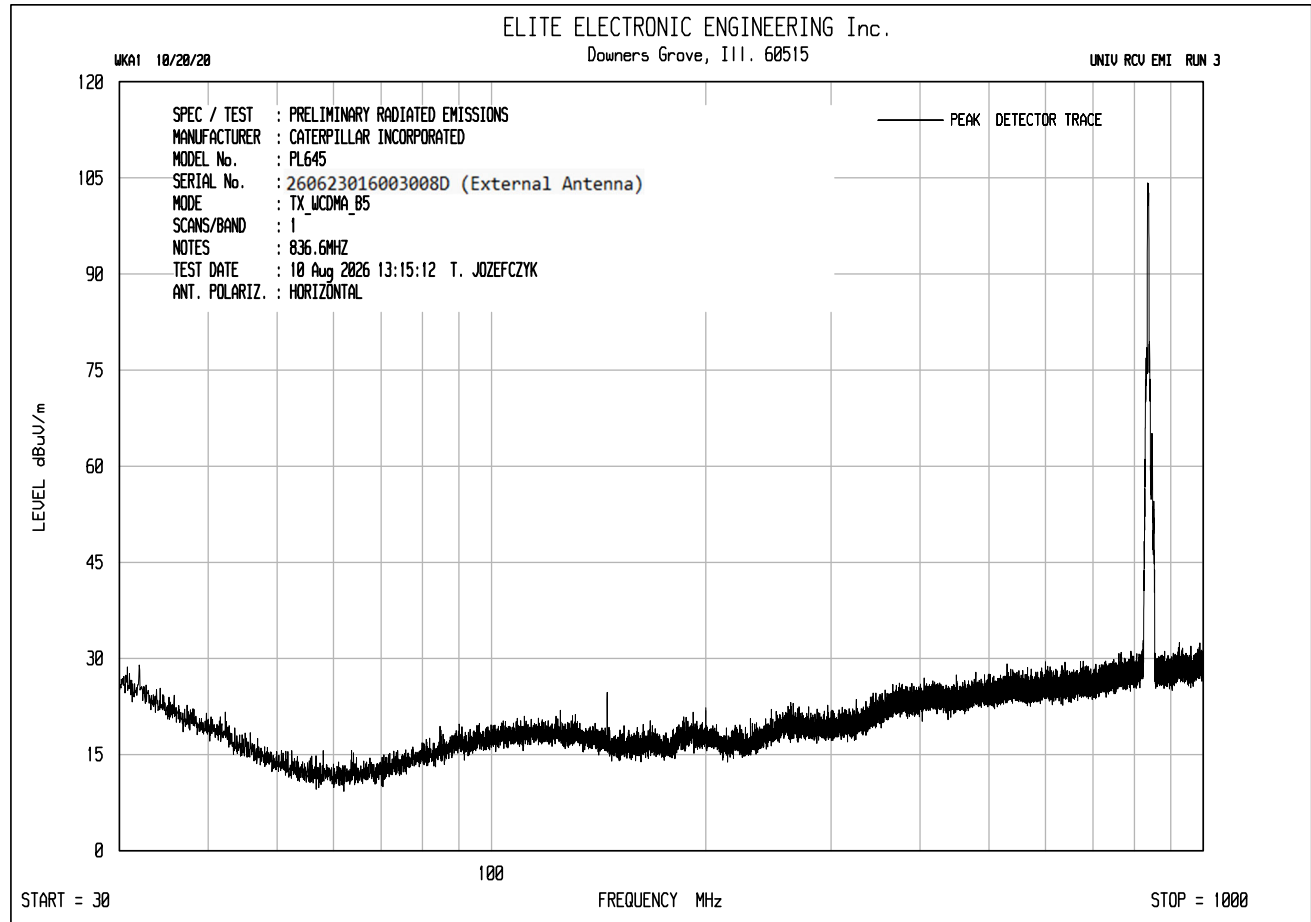


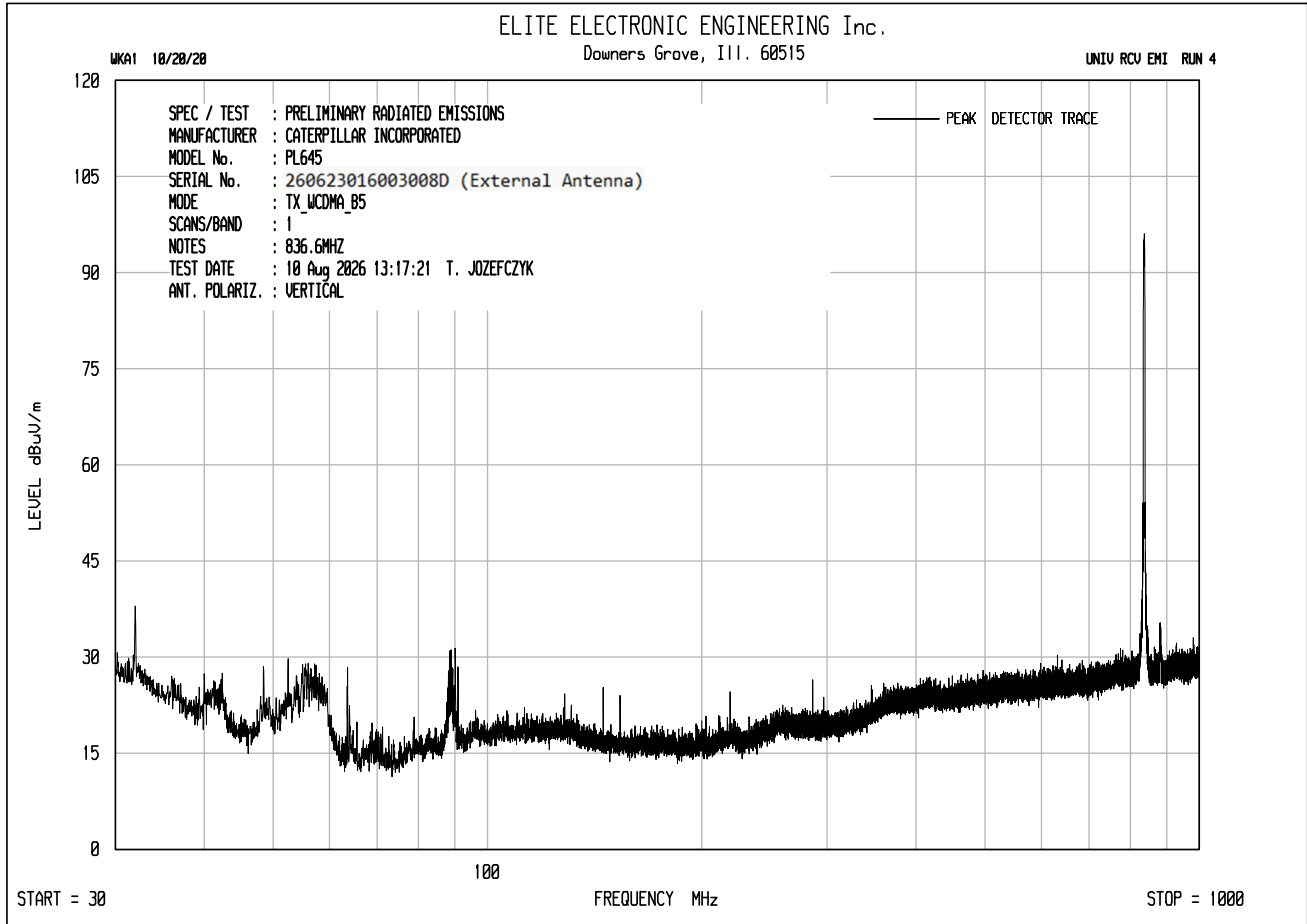


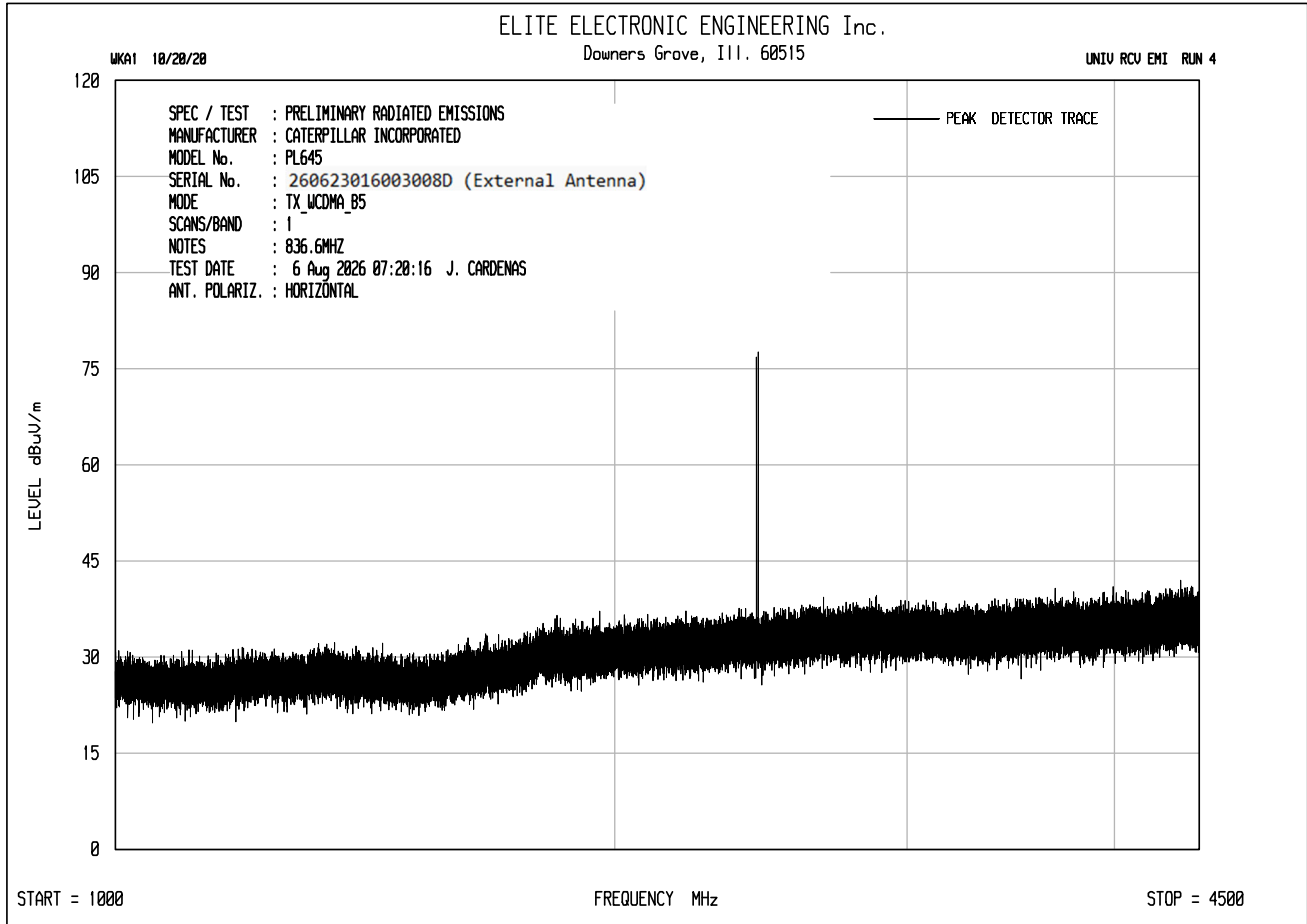


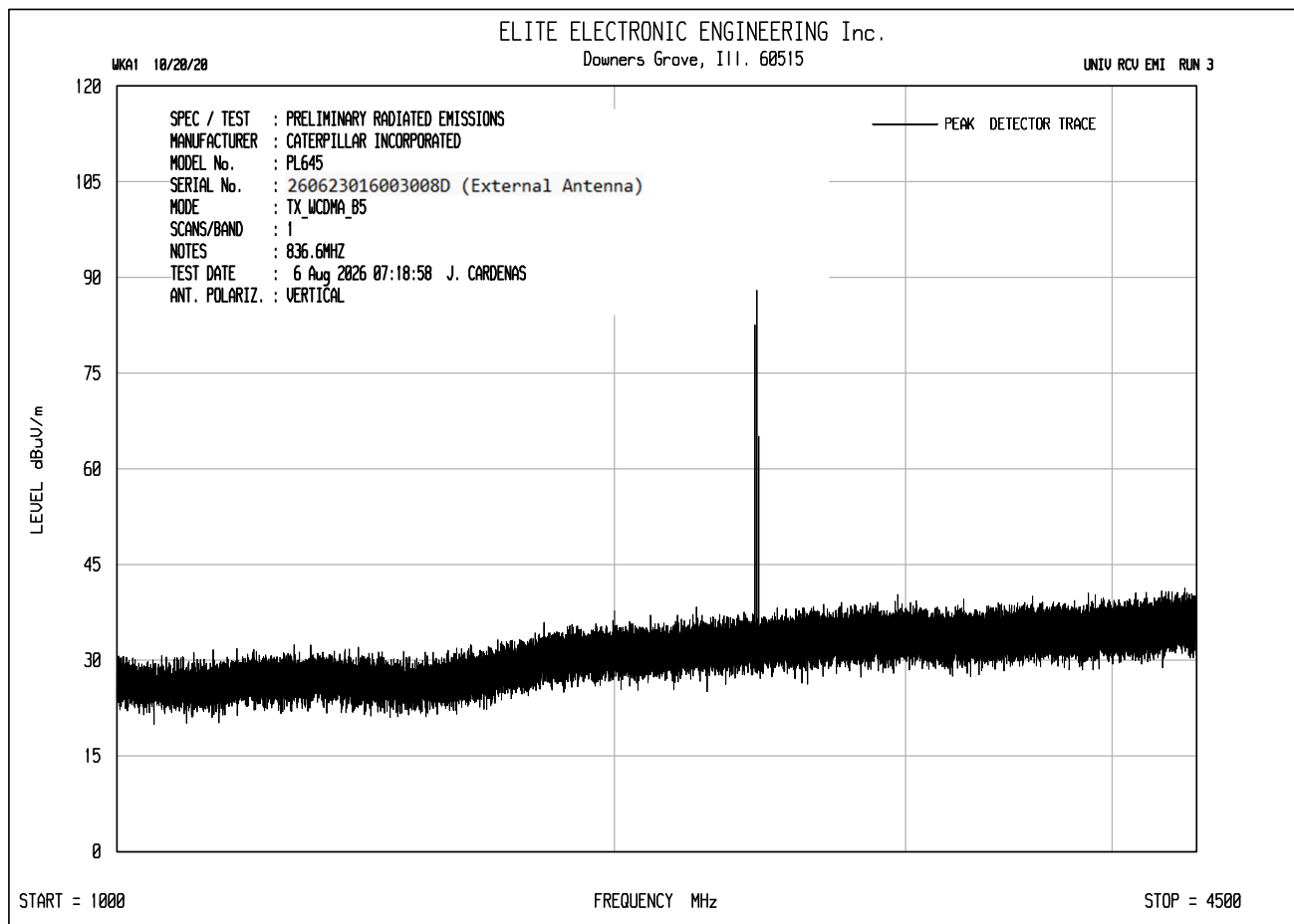
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
1652.80	H	26.32	Ambient	-42.76	2.55	2.81	-43.02	65.48	35.46
1652.80	V	27.02	Ambient	-39.24	2.55	2.81	-39.50	61.96	35.46
2479.20	H	48.15	Ambient	-58.13	2.70	3.50	-58.92	81.38	35.46
2479.20	V	48.36	Ambient	-57.06	2.70	3.50	-57.85	80.31	35.46

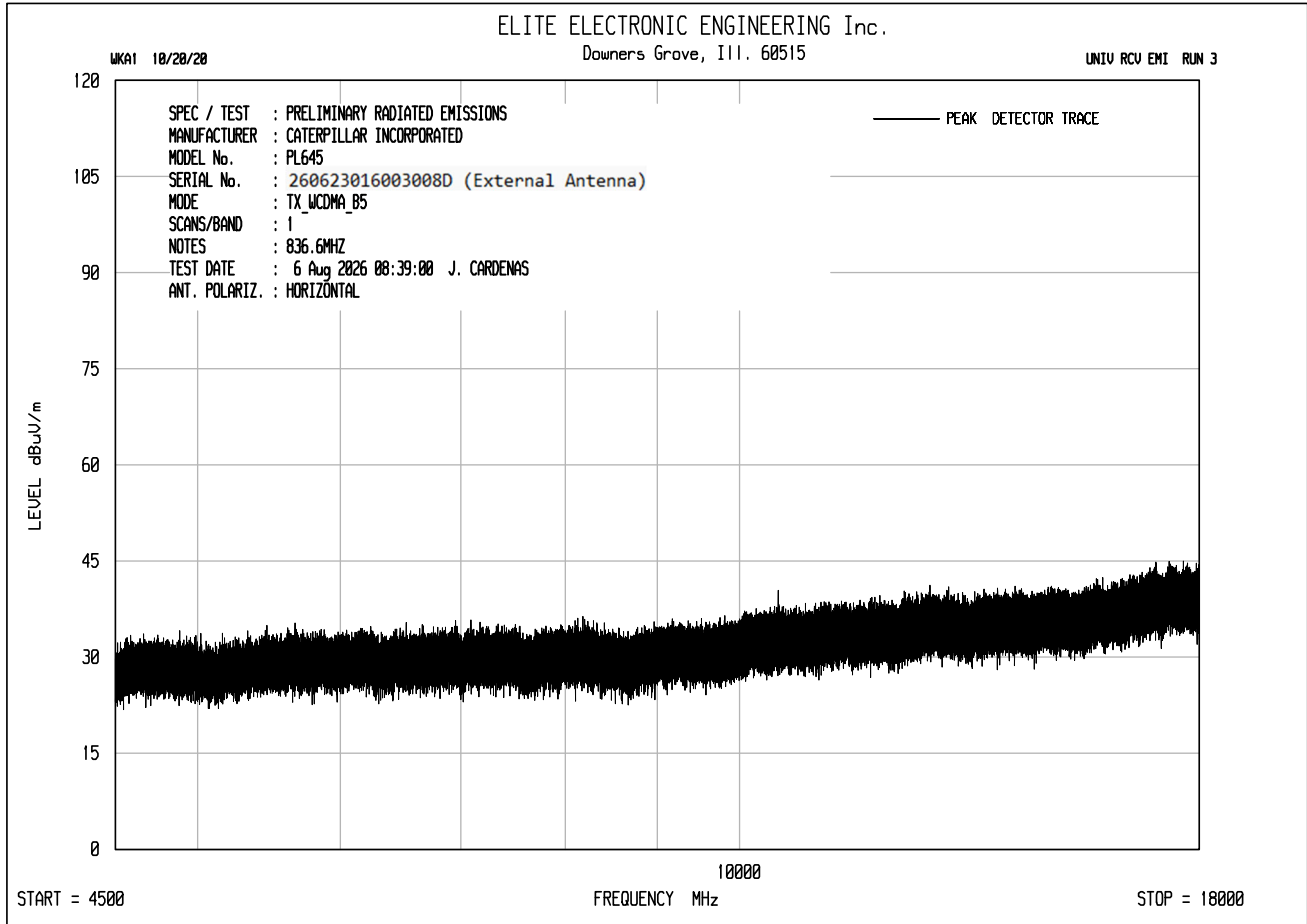
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	WCDMA Band 5
Frequency Tested	836.6MHz
Notes	None

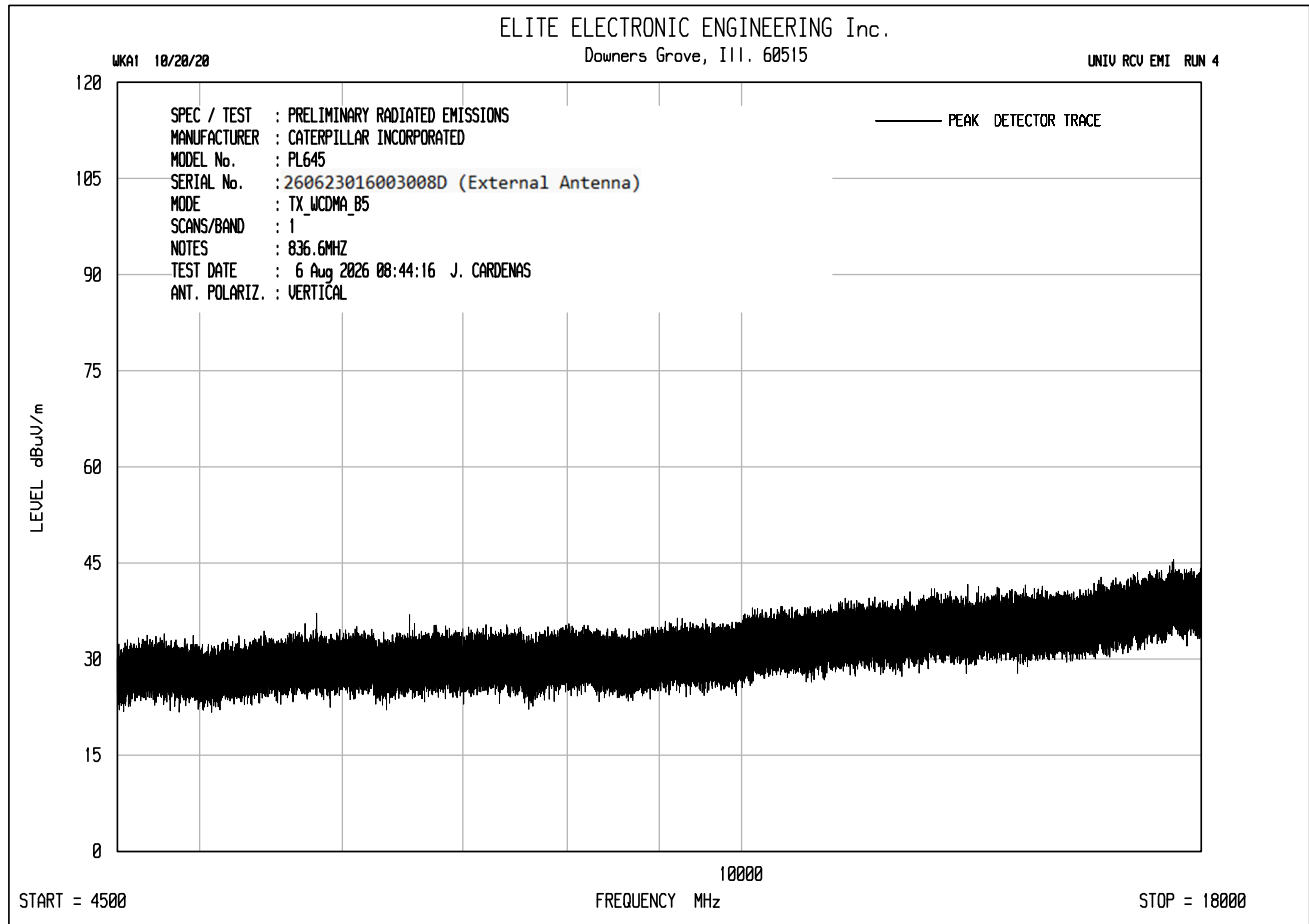






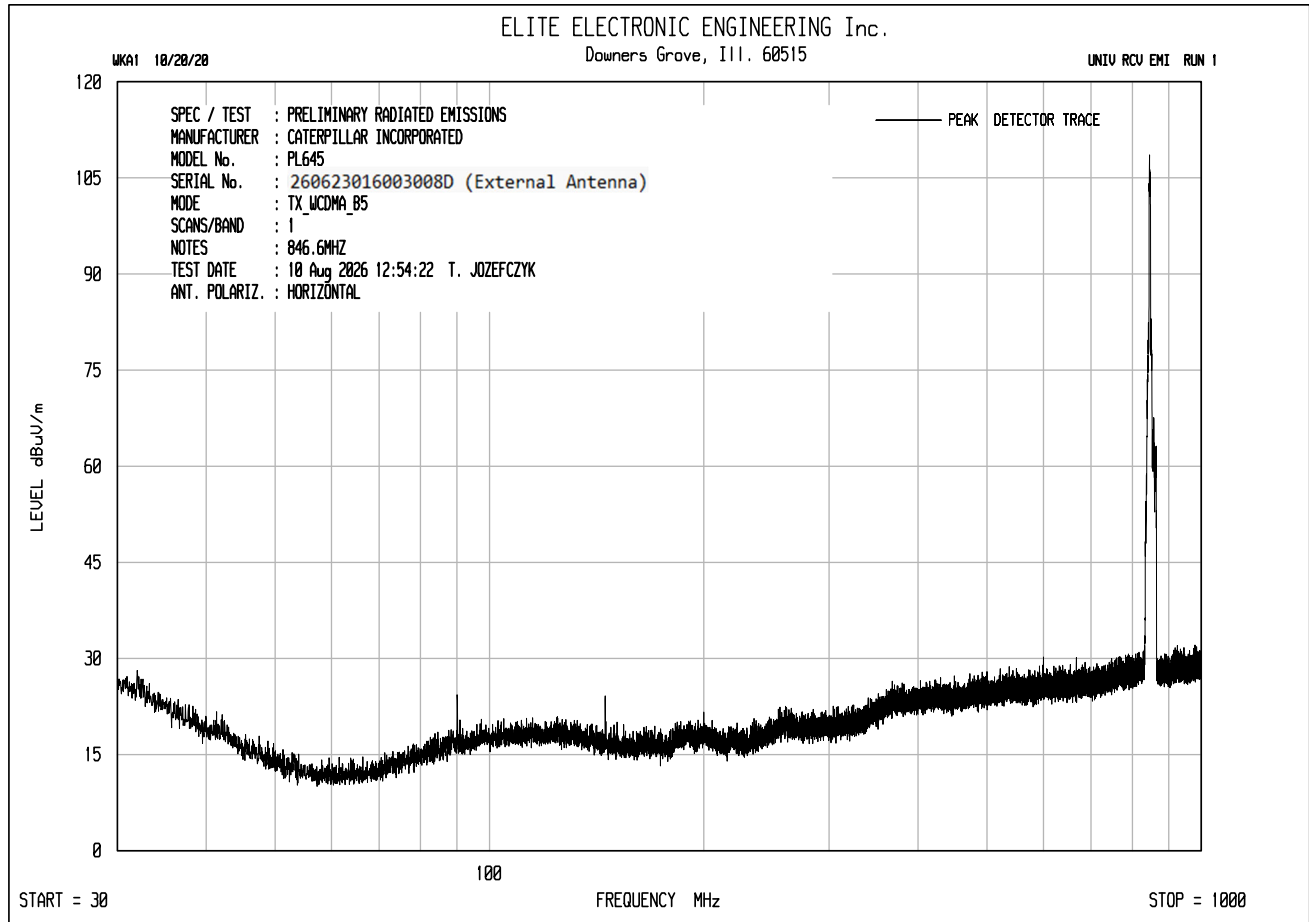


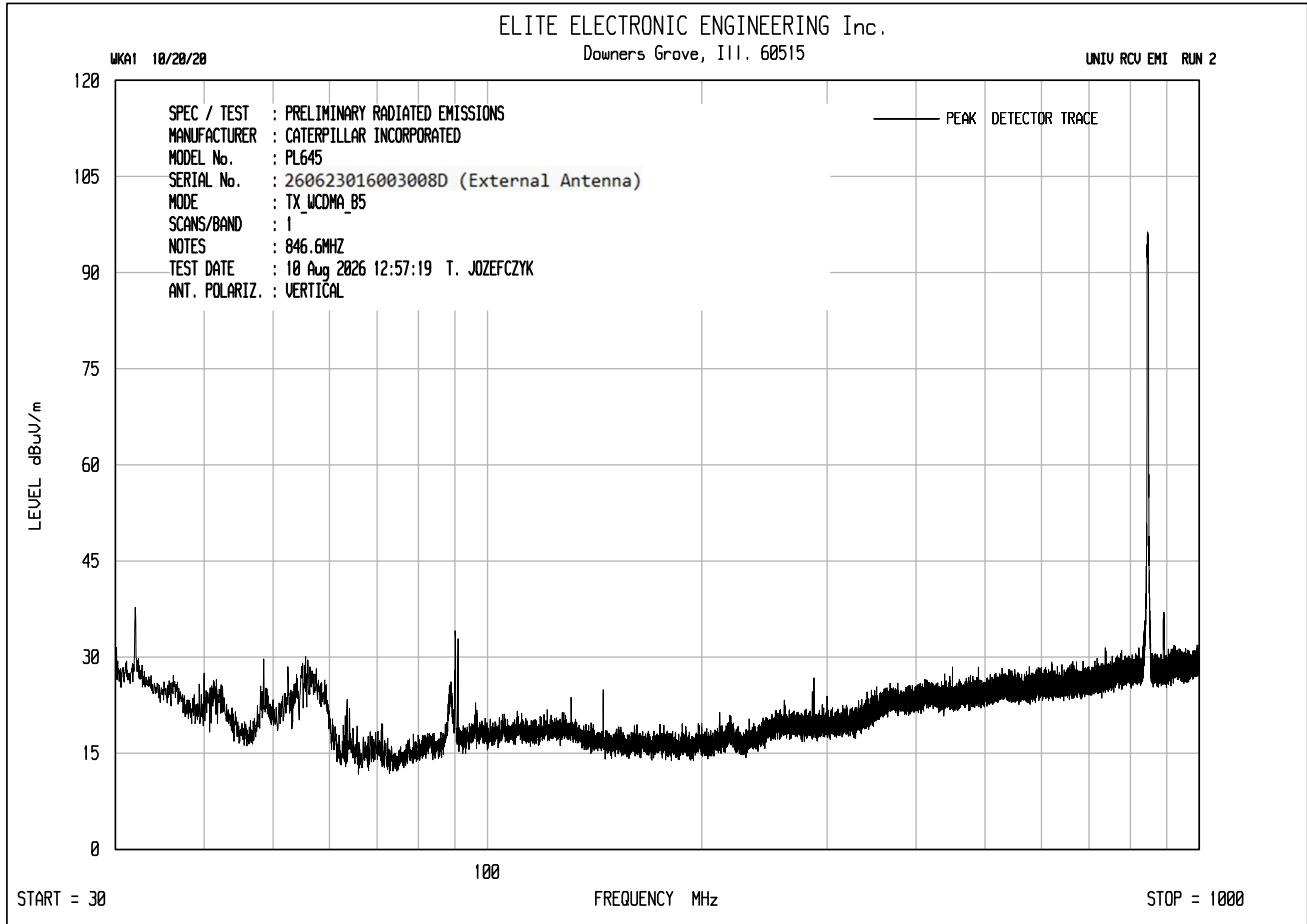


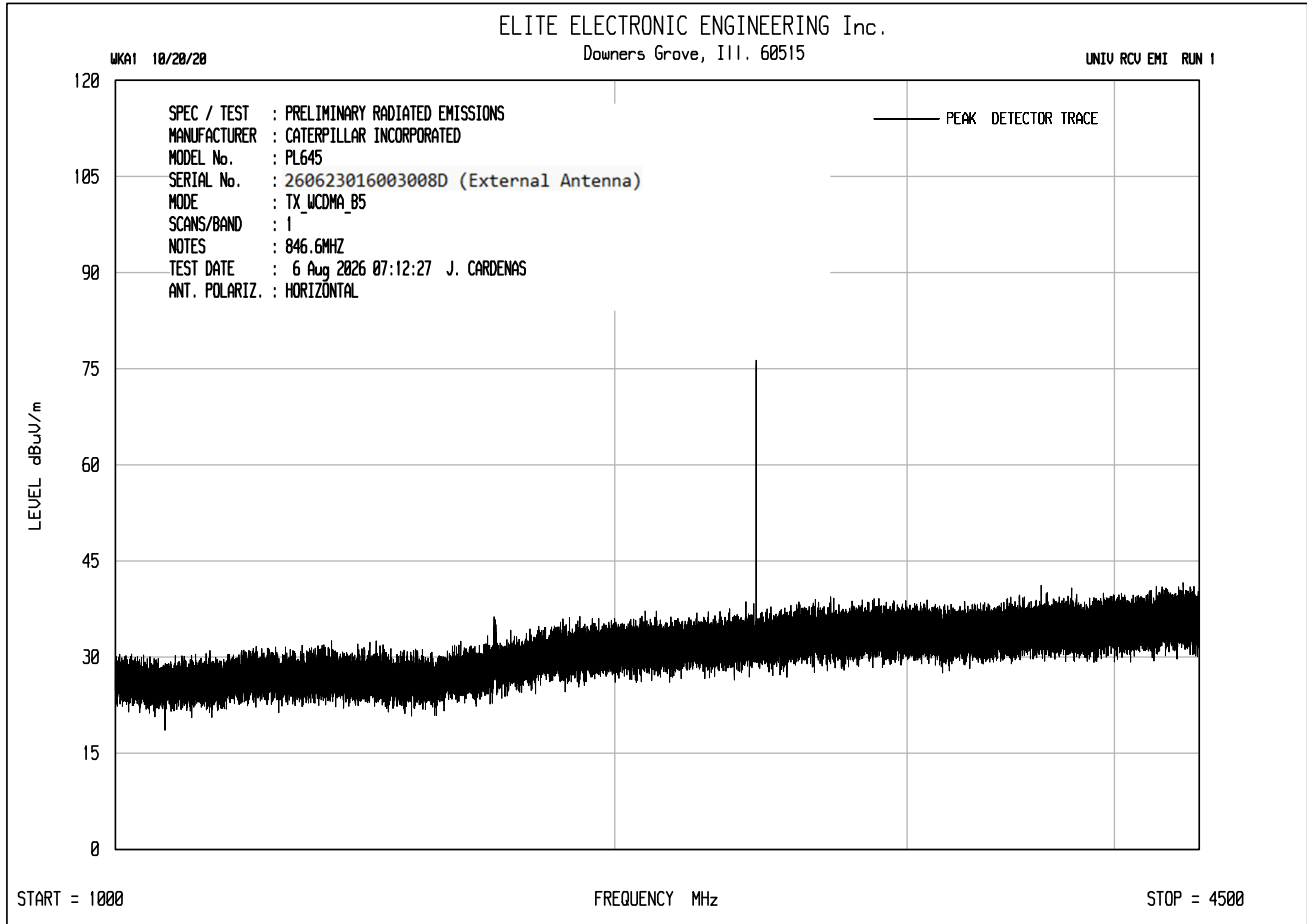


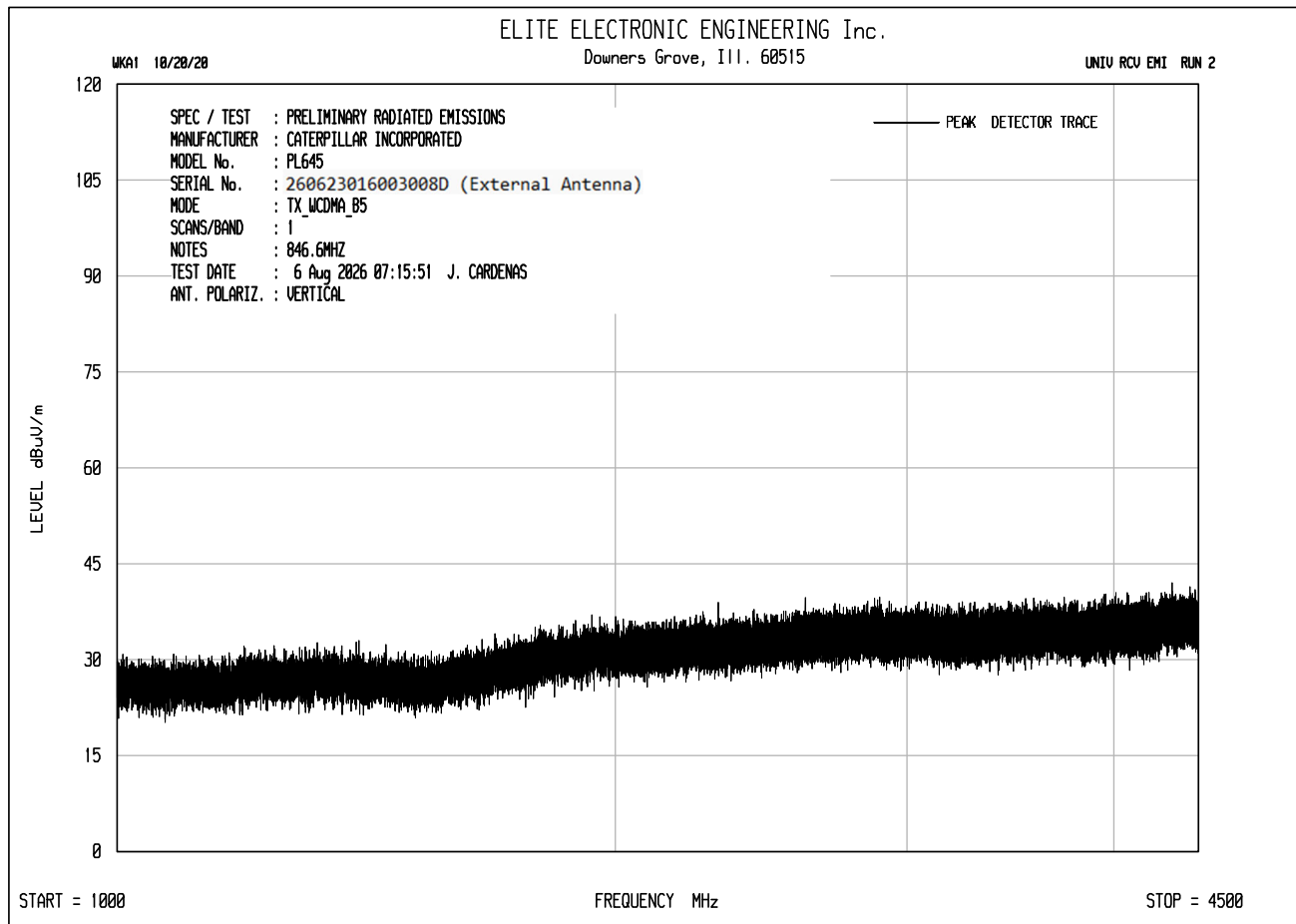
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
1673.20	H	26.15	Ambient	-42.66	2.54	2.83	-42.95	65.41	35.46
1673.20	V	26.61	Ambient	-39.36	2.54	2.83	-39.65	62.11	35.46
2509.80	H	48.65	Ambient	-57.58	2.56	3.52	-58.55	81.01	35.46
2509.80	V	48.13	Ambient	-57.26	2.56	3.52	-58.22	80.68	35.46

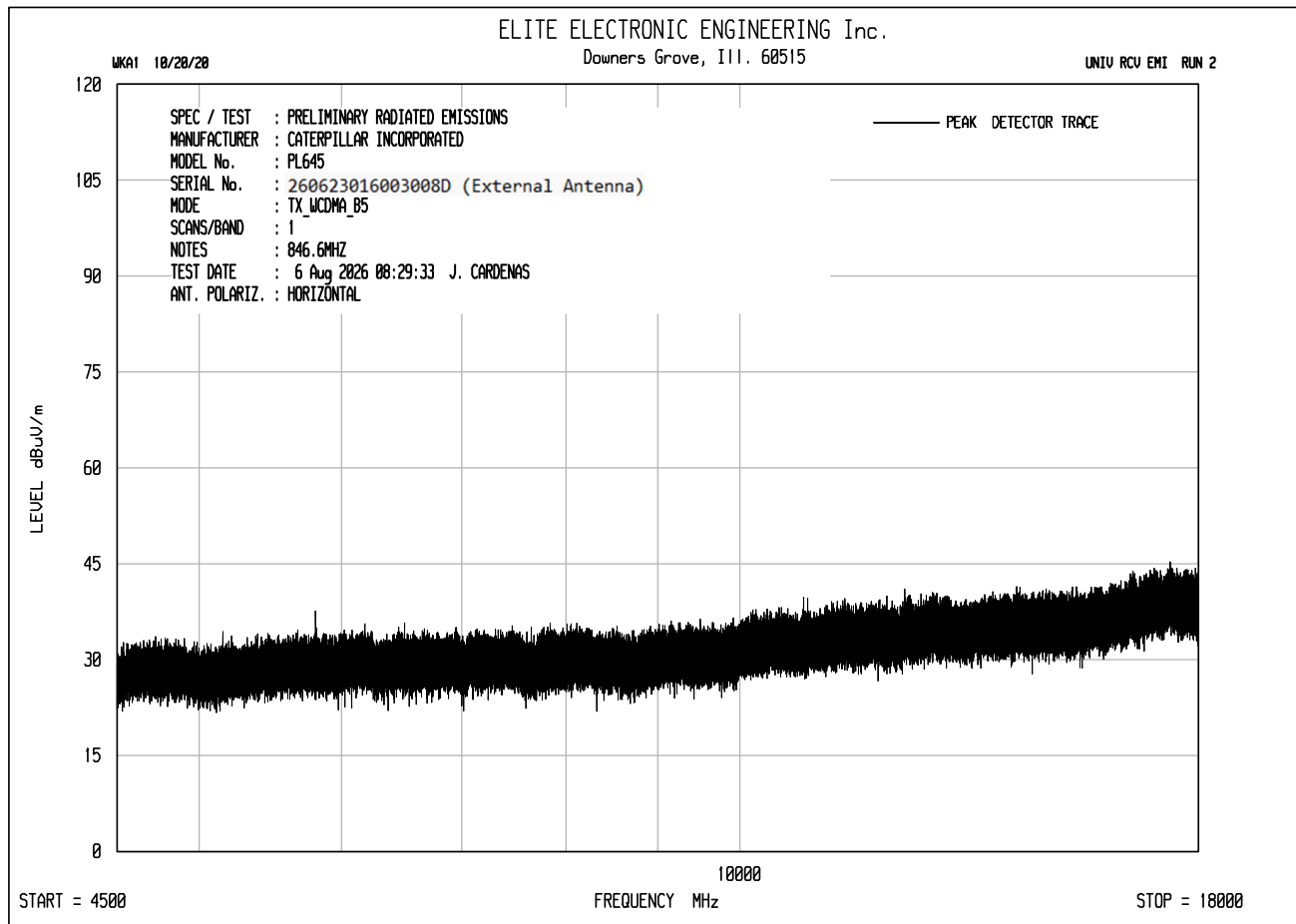
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	WCDMA Band 5
Frequency Tested	846.6MHz
Notes	None

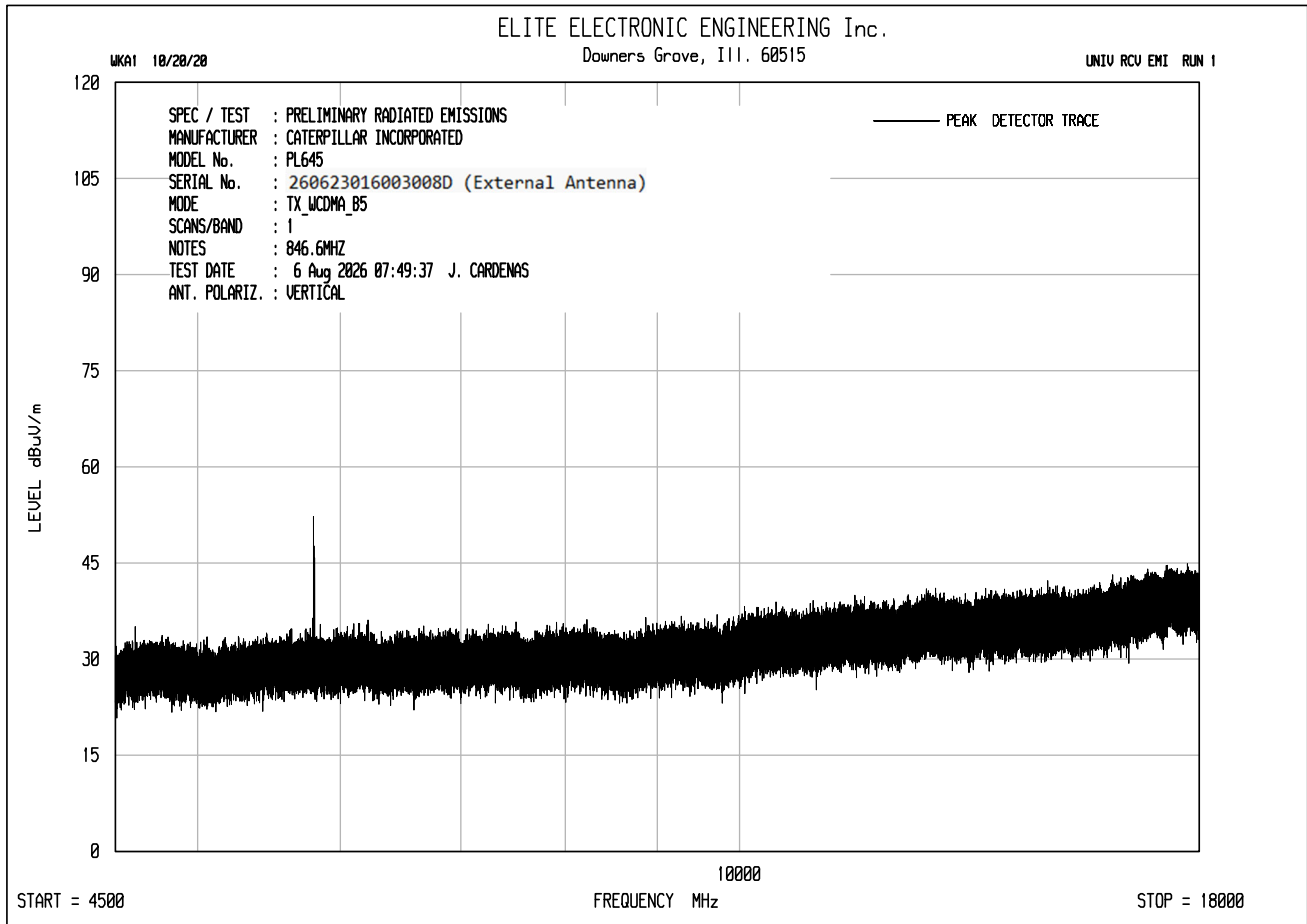






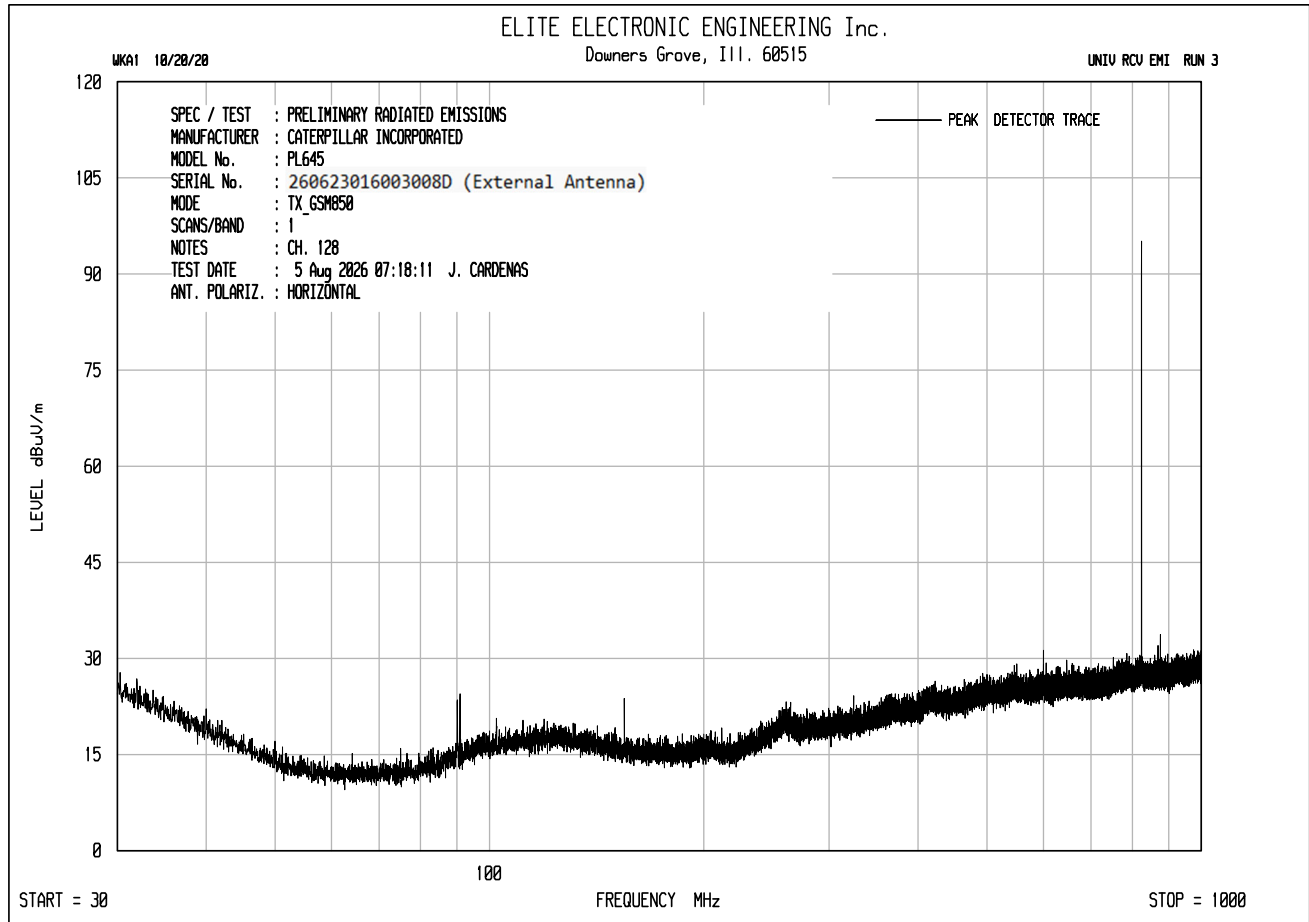


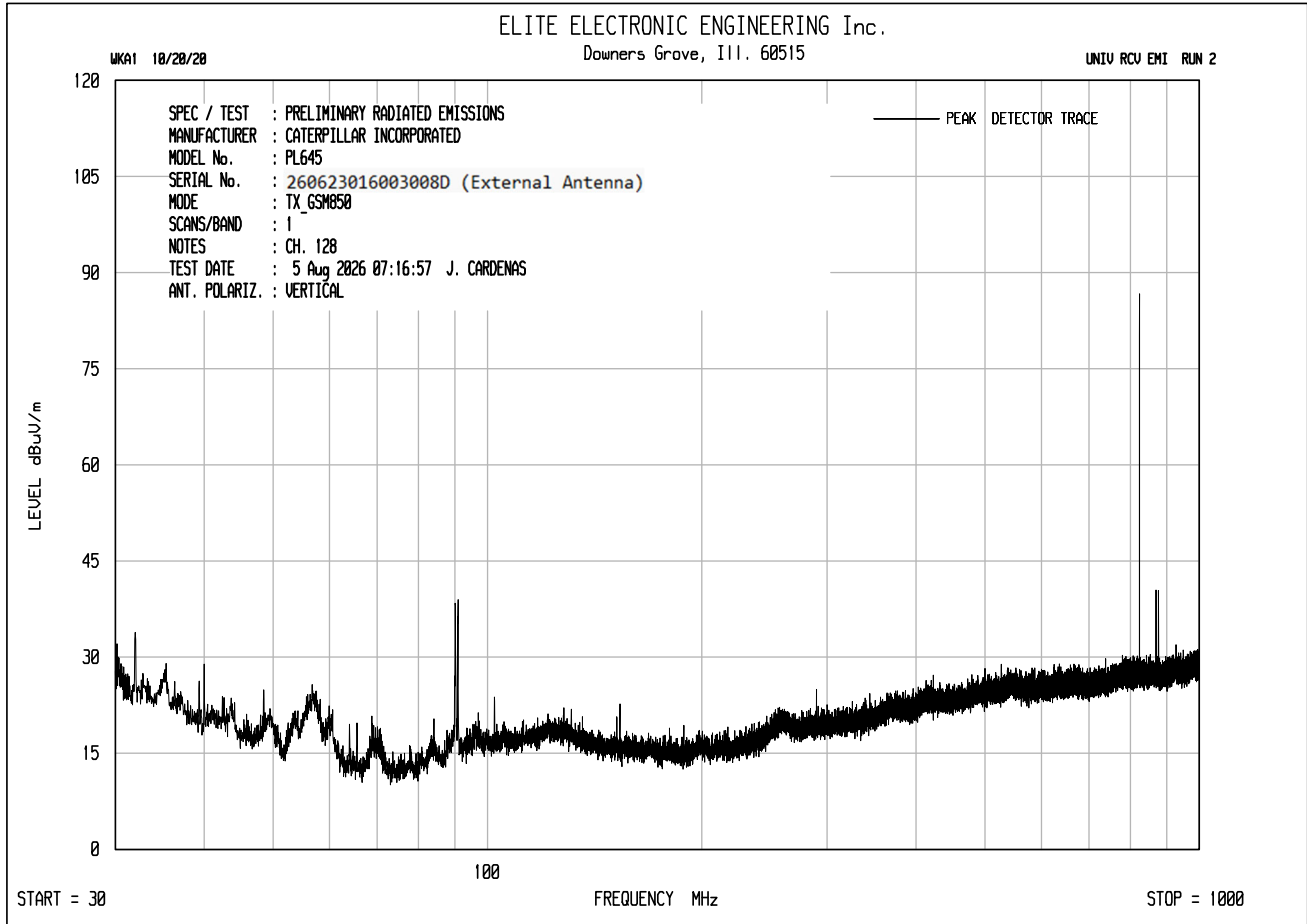


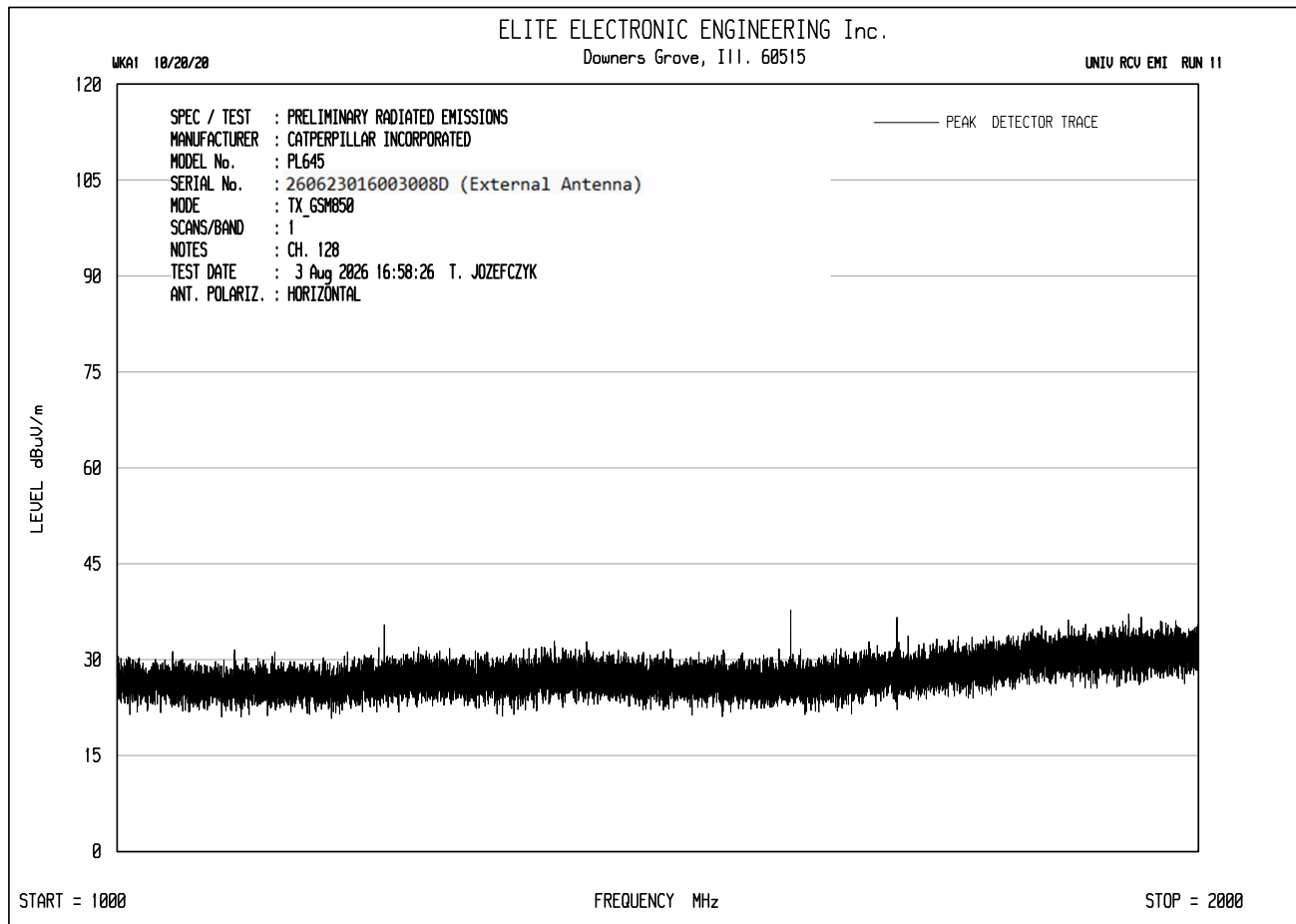


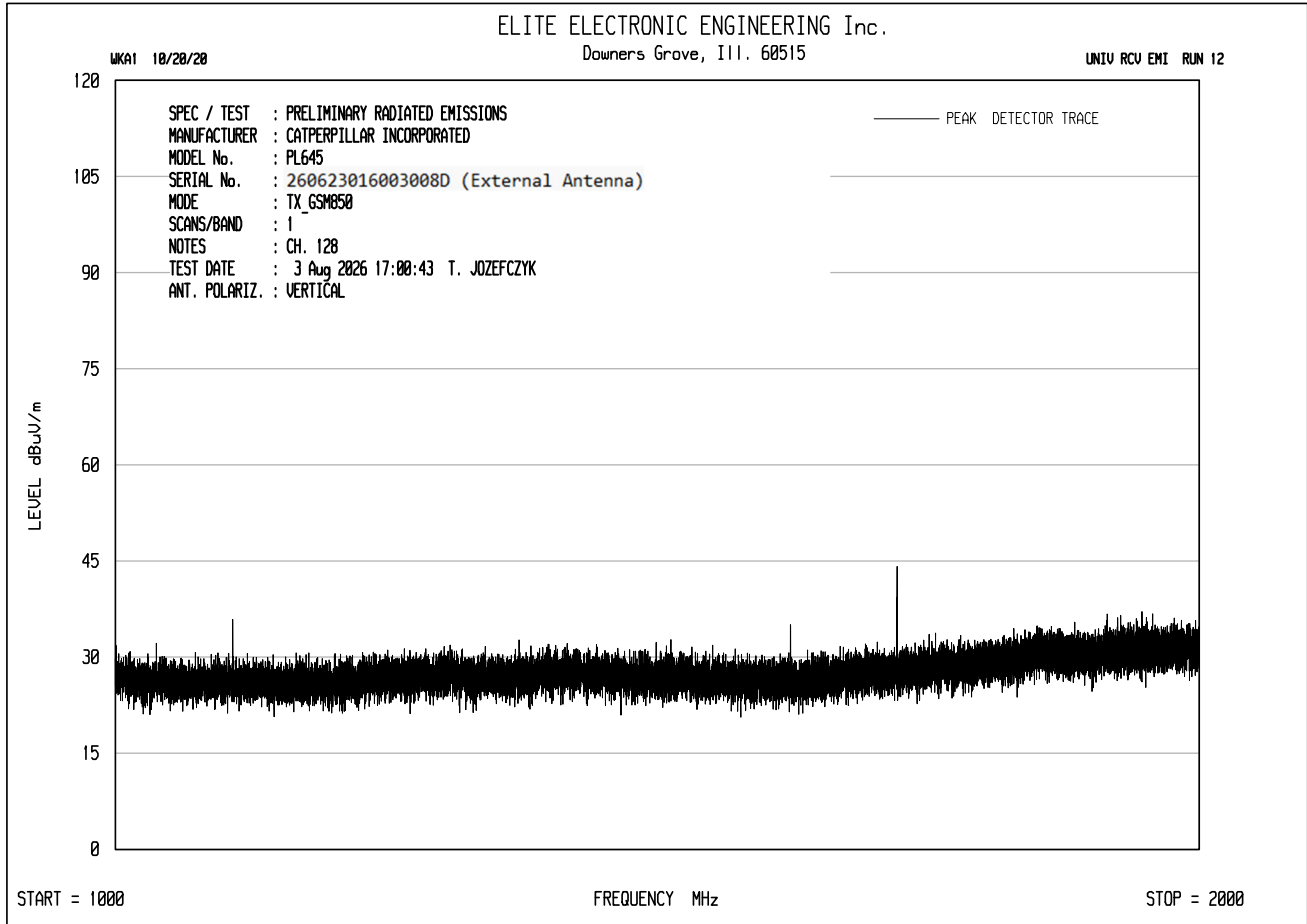
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
1693.20	H	26.98	Ambient	-41.57	2.52	2.84	-41.89	64.35	35.46
1693.20	V	26.09	Ambient	-39.61	2.52	2.84	-39.93	62.39	35.46
2539.80	H	48.91	Ambient	-57.25	2.38	3.55	-58.42	80.88	35.46
2539.80	V	49.15	Ambient	-56.18	2.38	3.55	-57.35	79.81	35.46

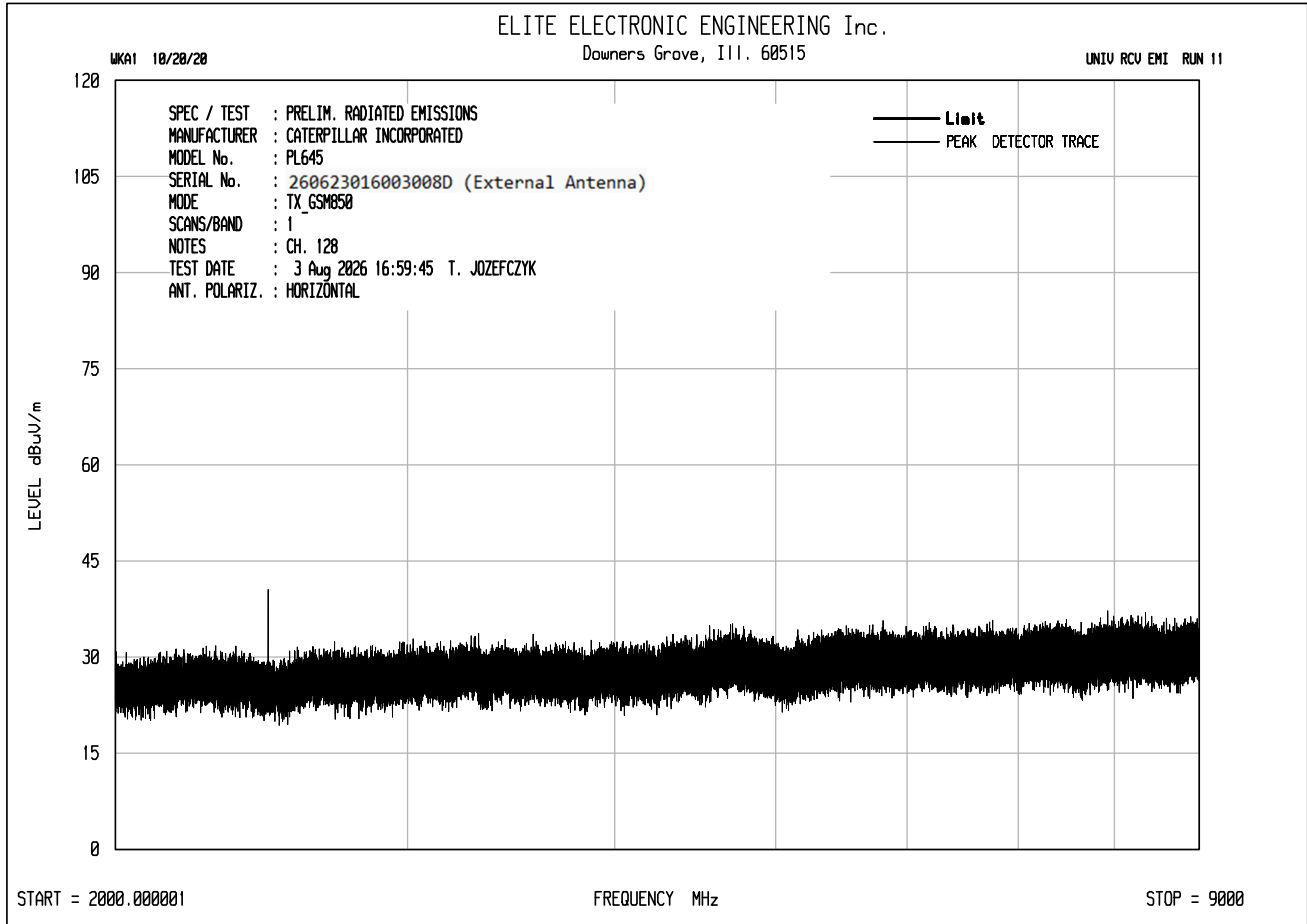
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	GSM850
Frequency Tested	824.2MHz
Notes	None

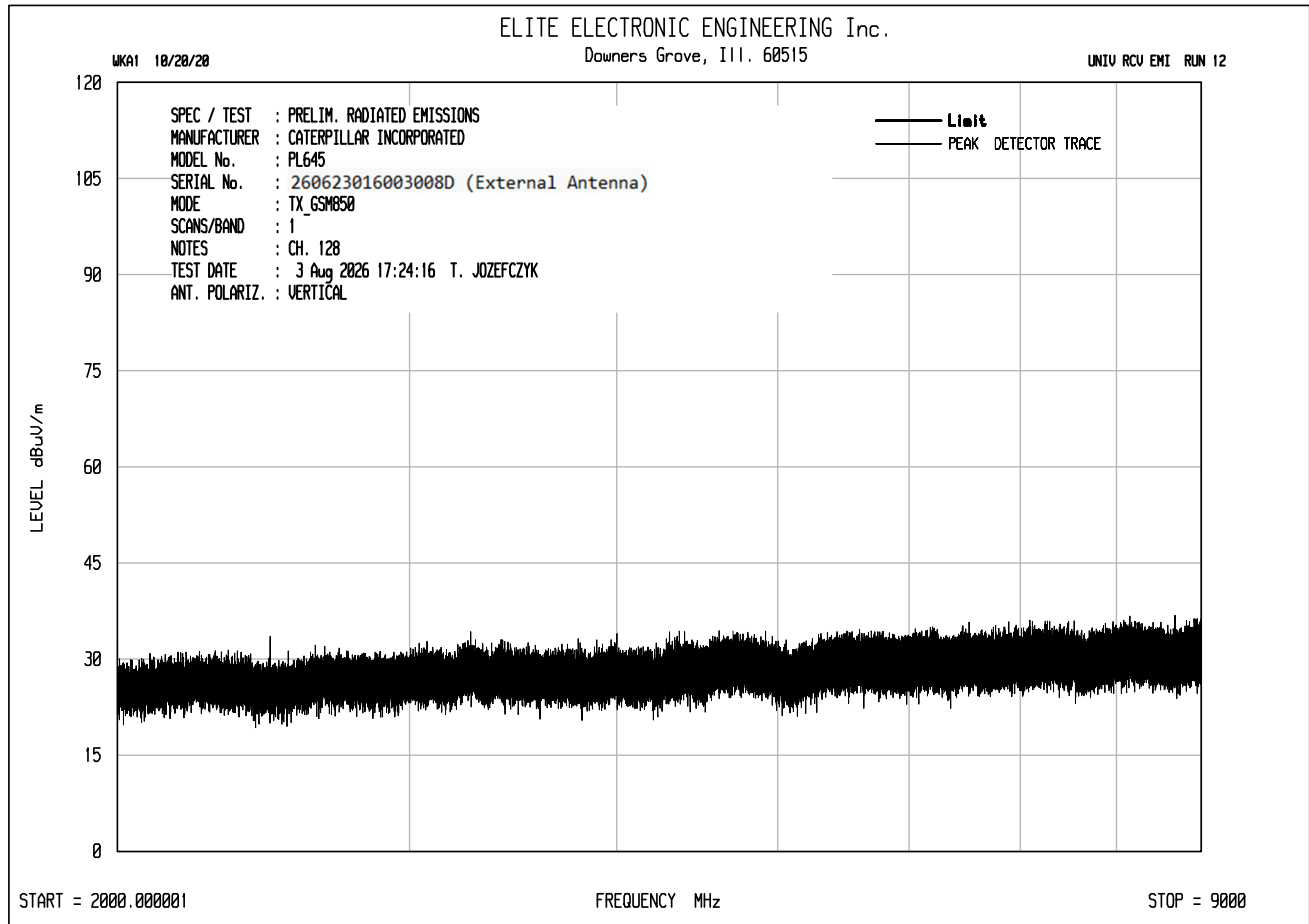






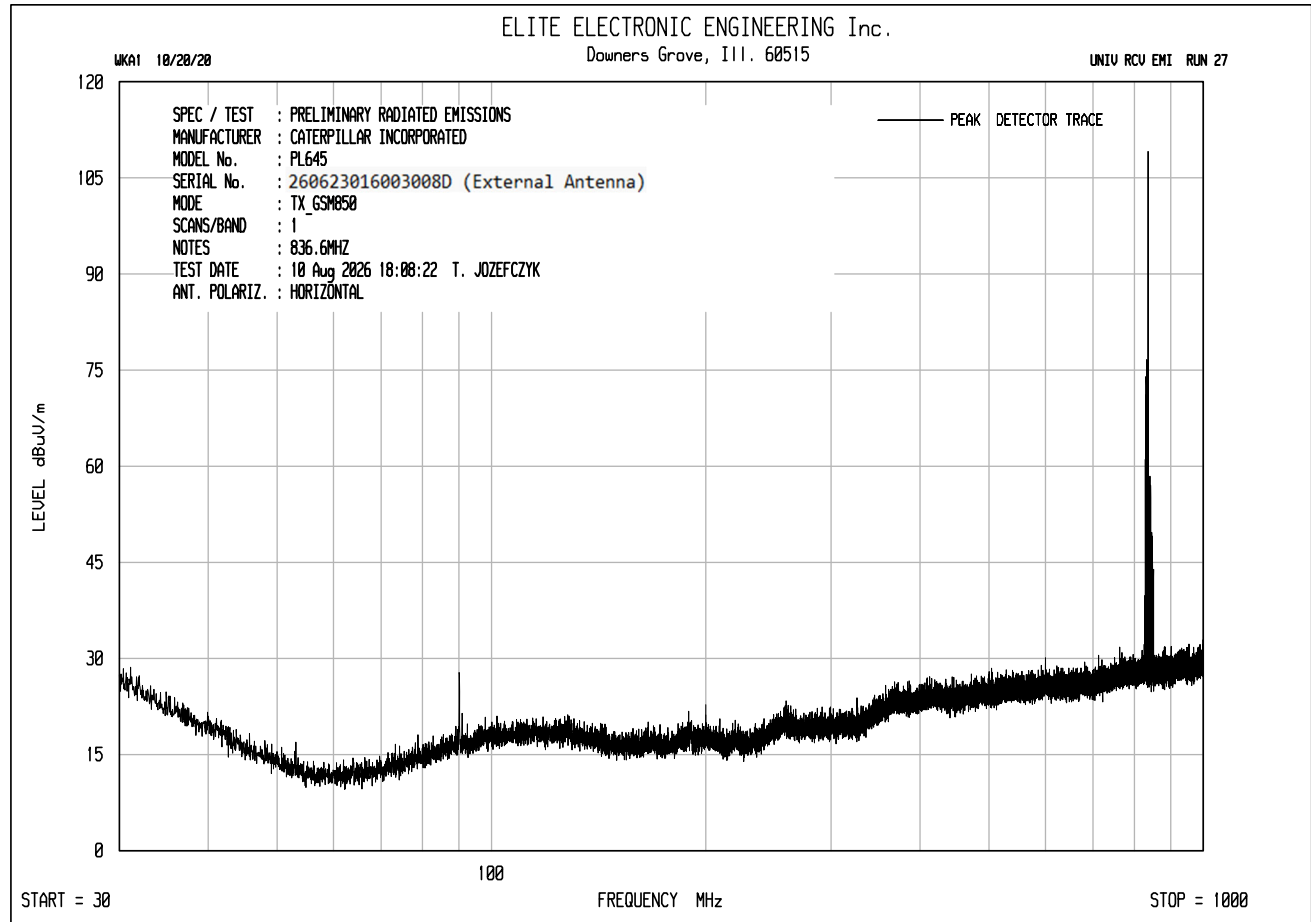


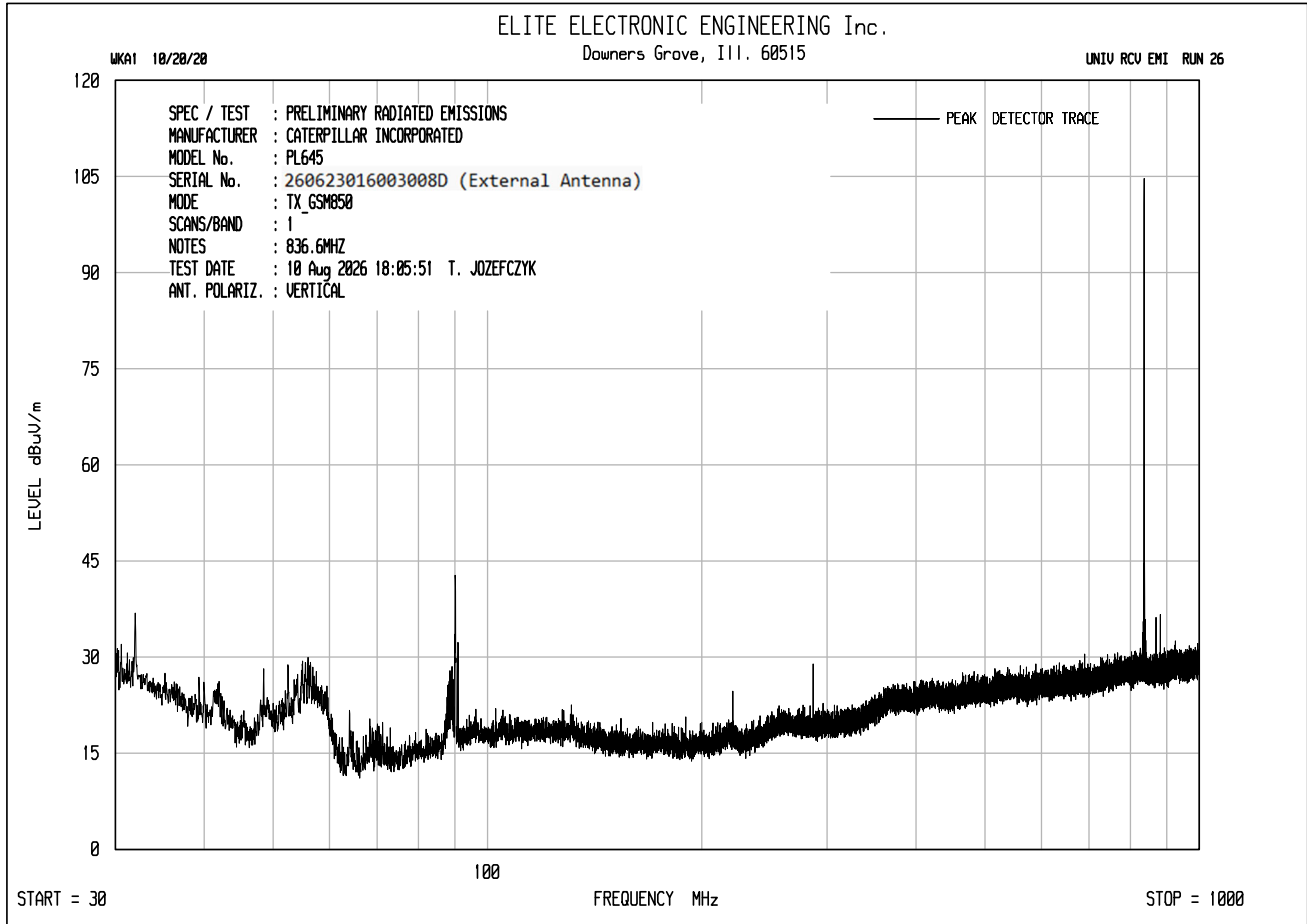


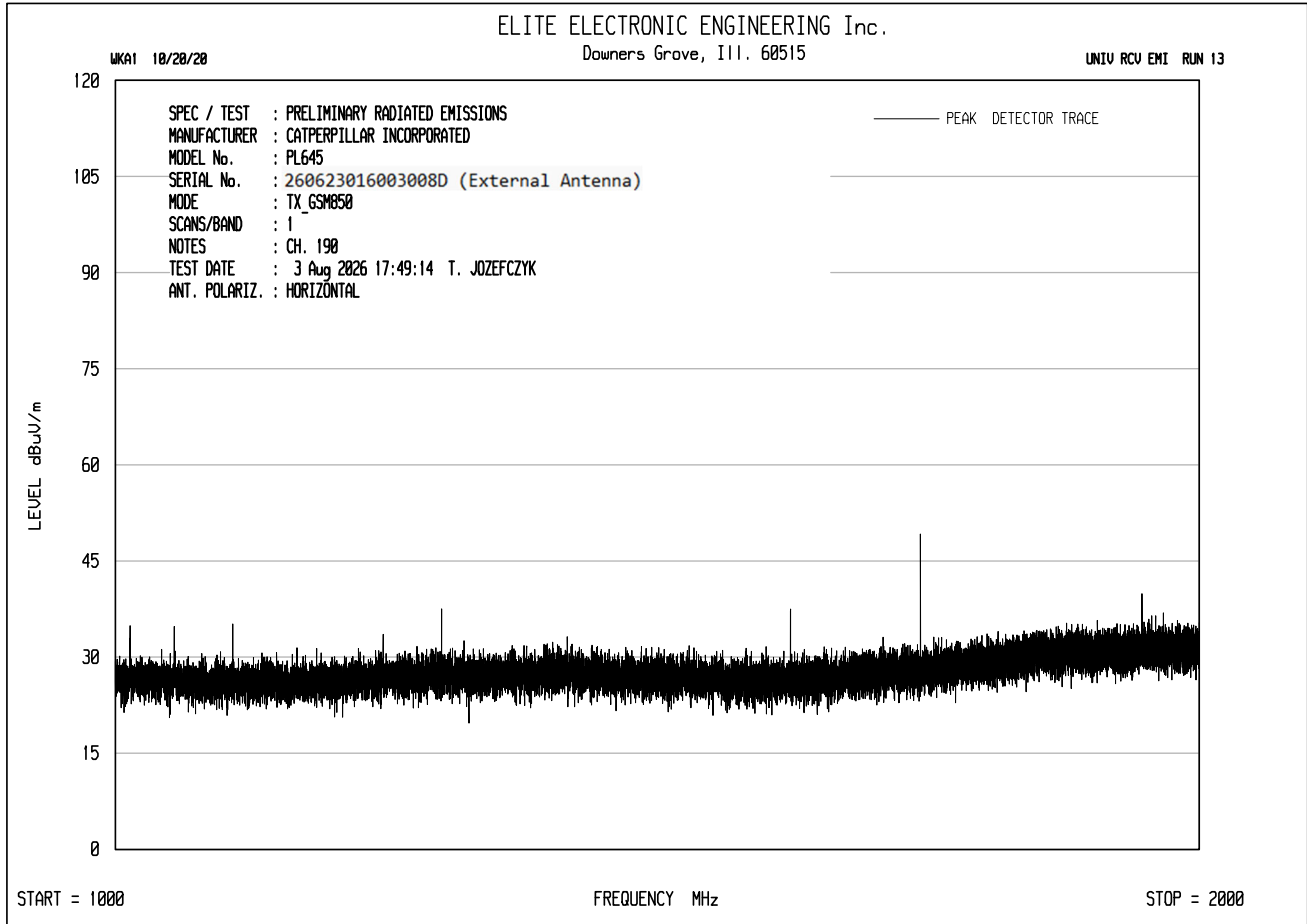


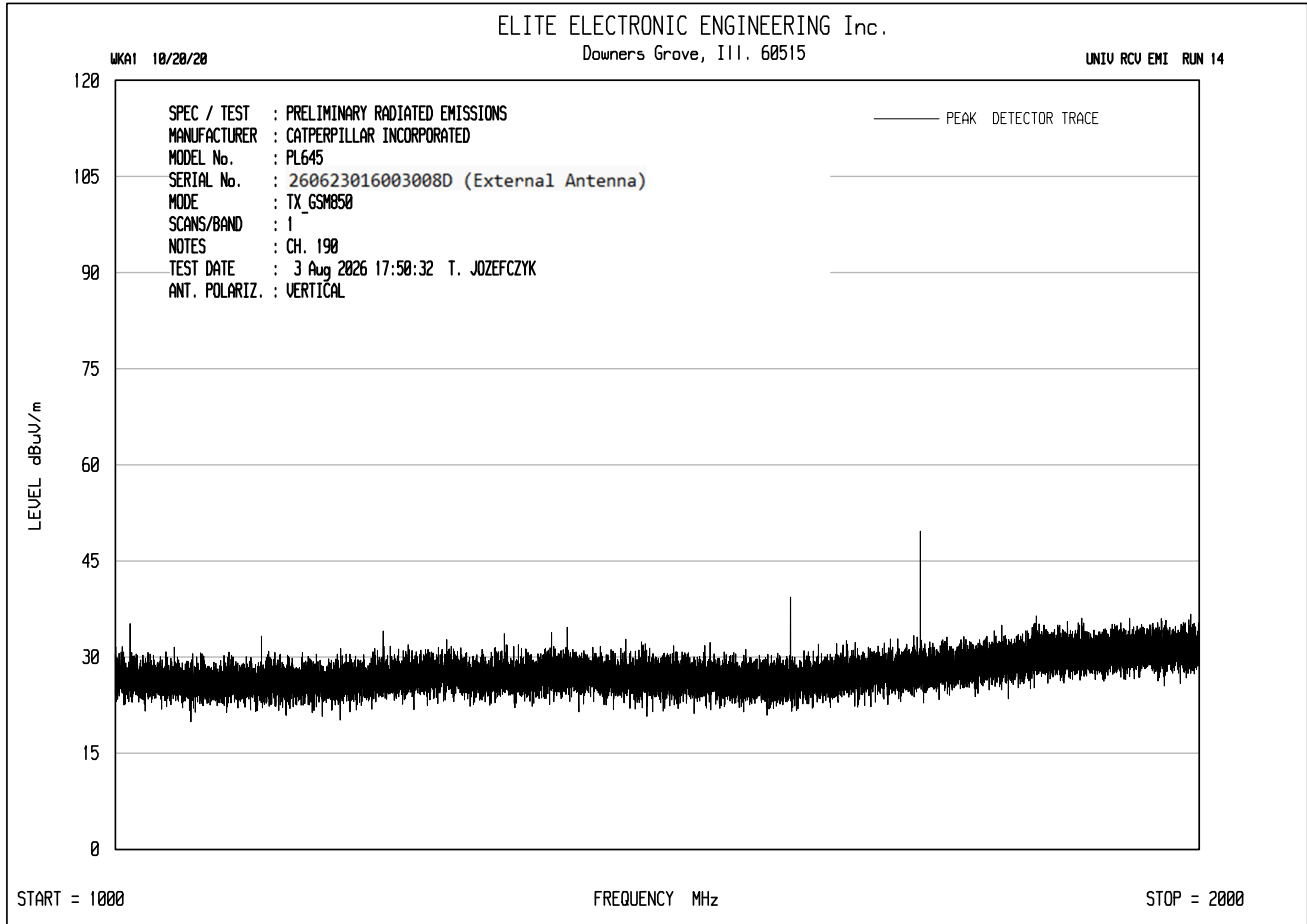
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
1648.40	H	26.55		-42.59	2.56	2.81	-42.85	76.12	46.27
1648.40	V	27.39		-38.93	2.56	2.81	-39.18	72.45	46.27
2472.60	H	54.10		-52.18	2.73	3.49	-52.94	86.21	46.27
2472.60	V	53.04		-52.38	2.73	3.49	-53.14	86.41	46.27
3296.80	H	51.00	Ambient	-54.08	4.84	4.08	-53.31	86.58	46.27
3296.80	V	51.23	Ambient	-51.70	4.84	4.08	-50.93	84.20	46.27

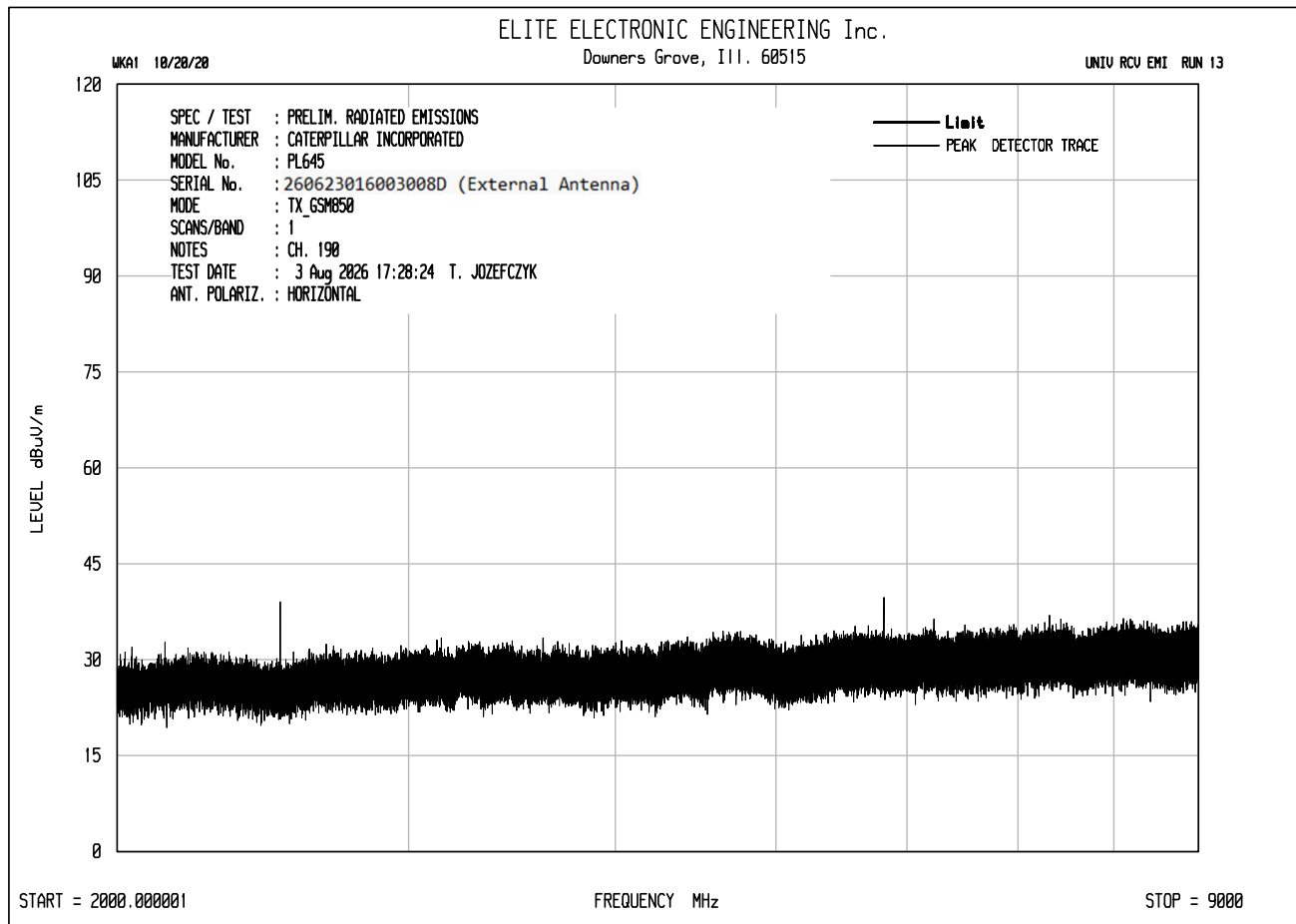
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	GSM850
Frequency Tested	836.6MHz
Notes	None

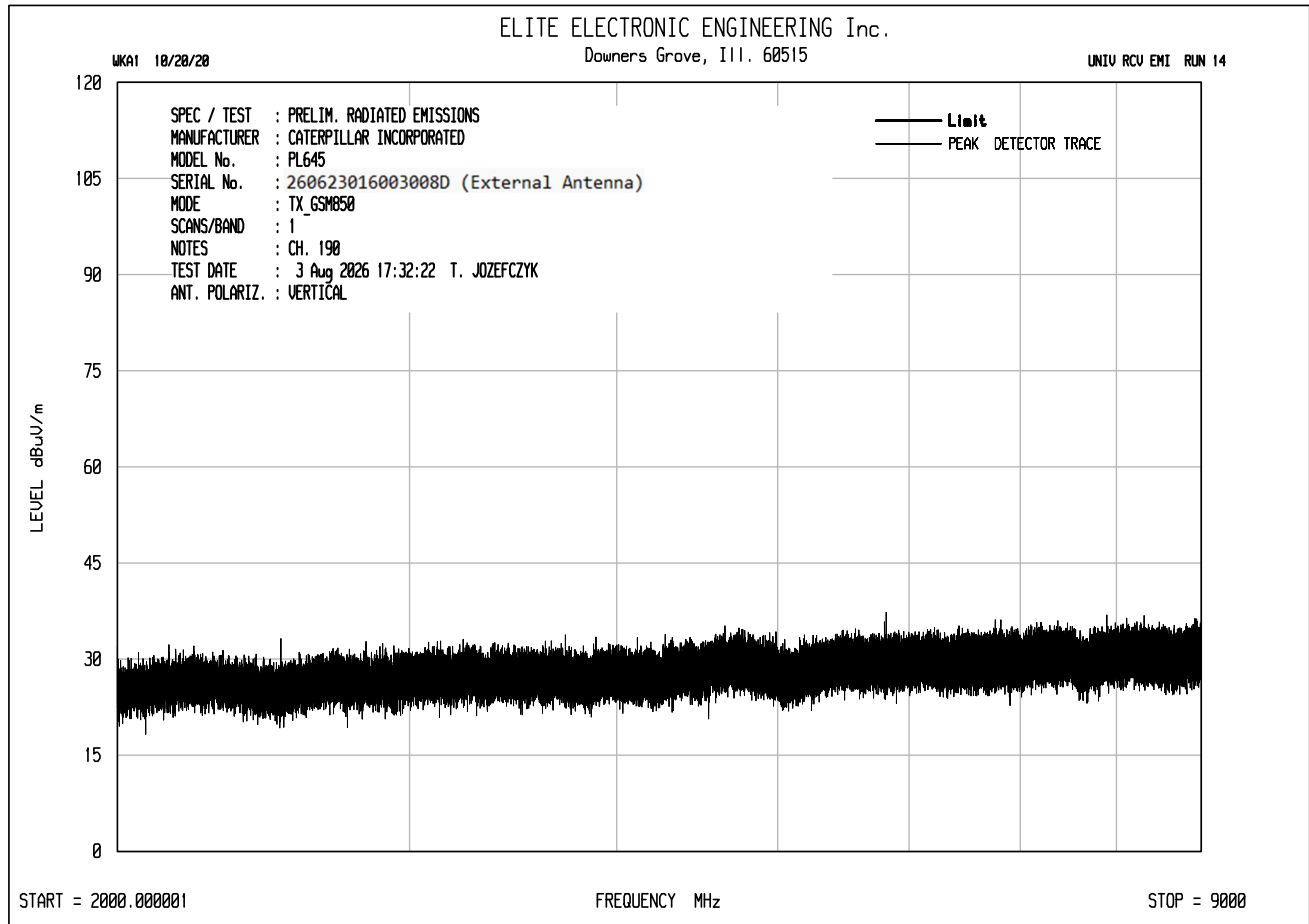






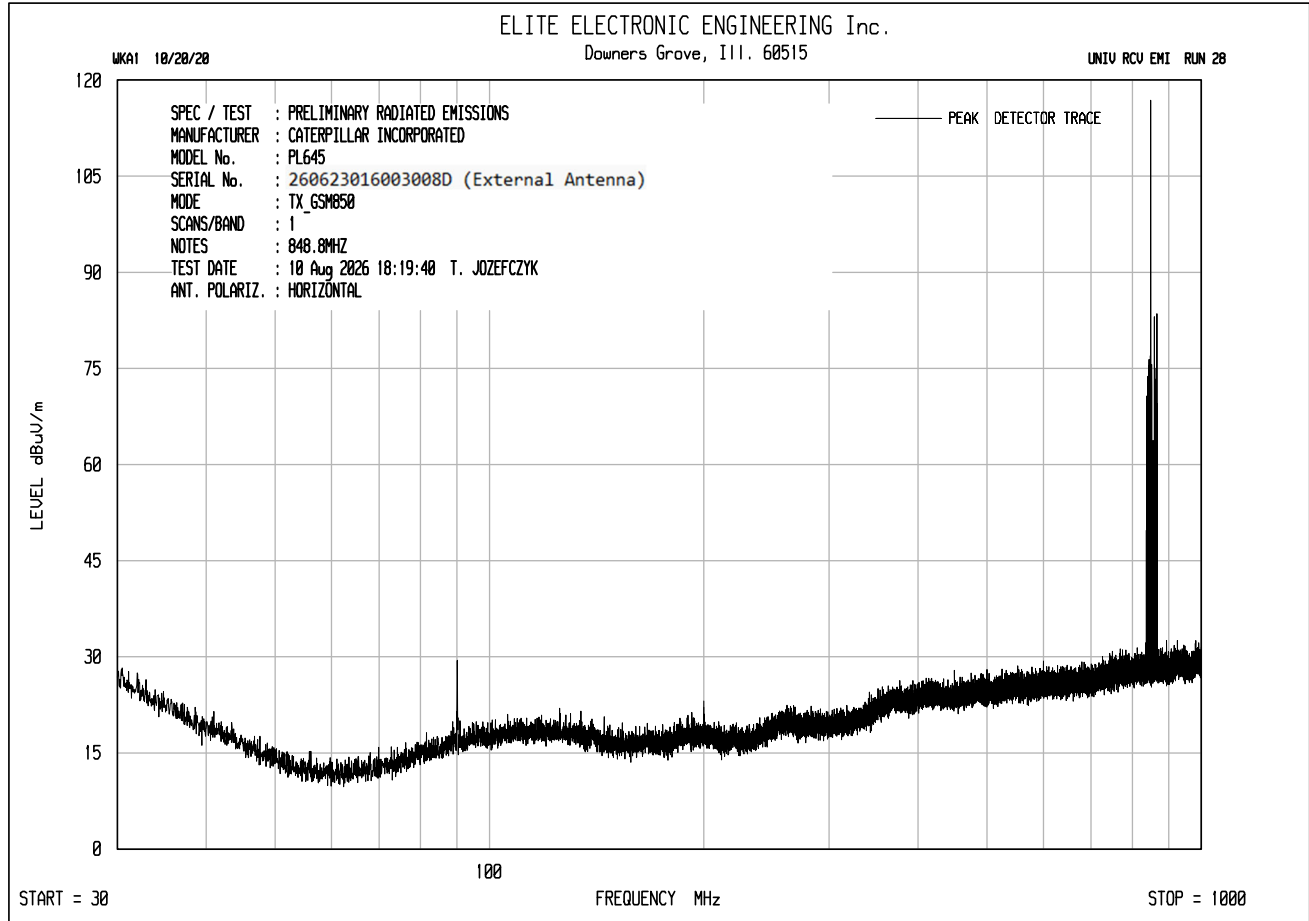


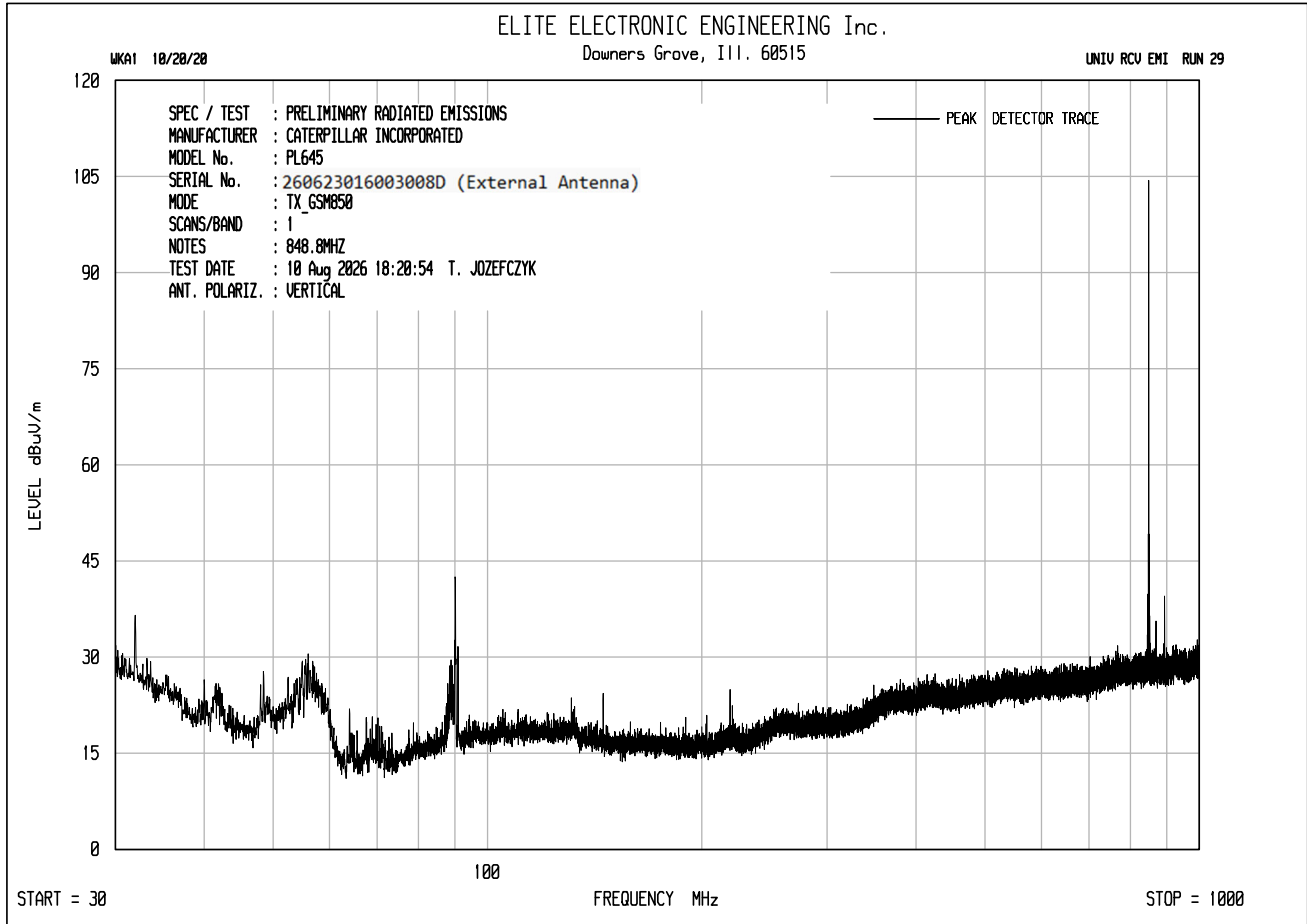


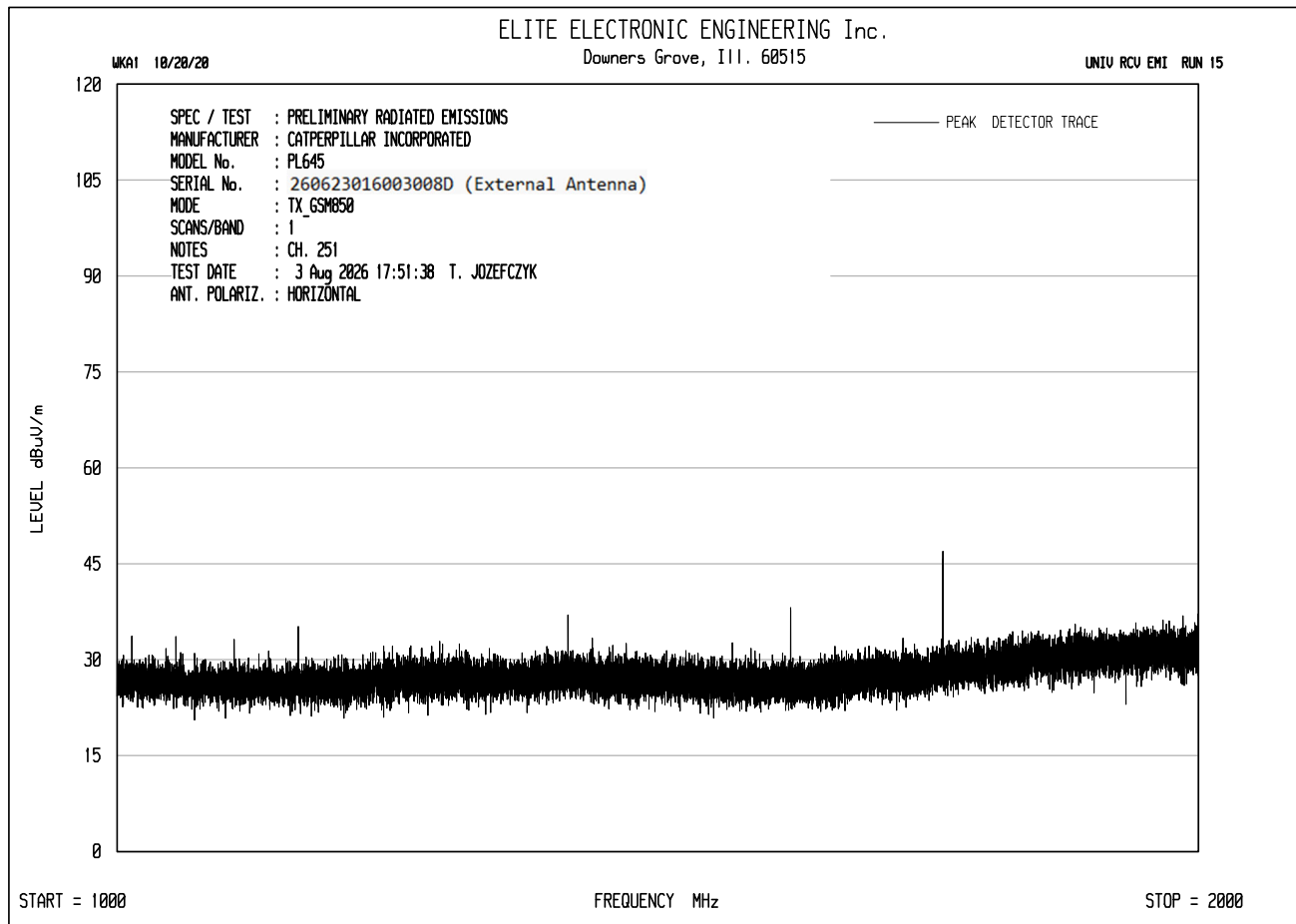


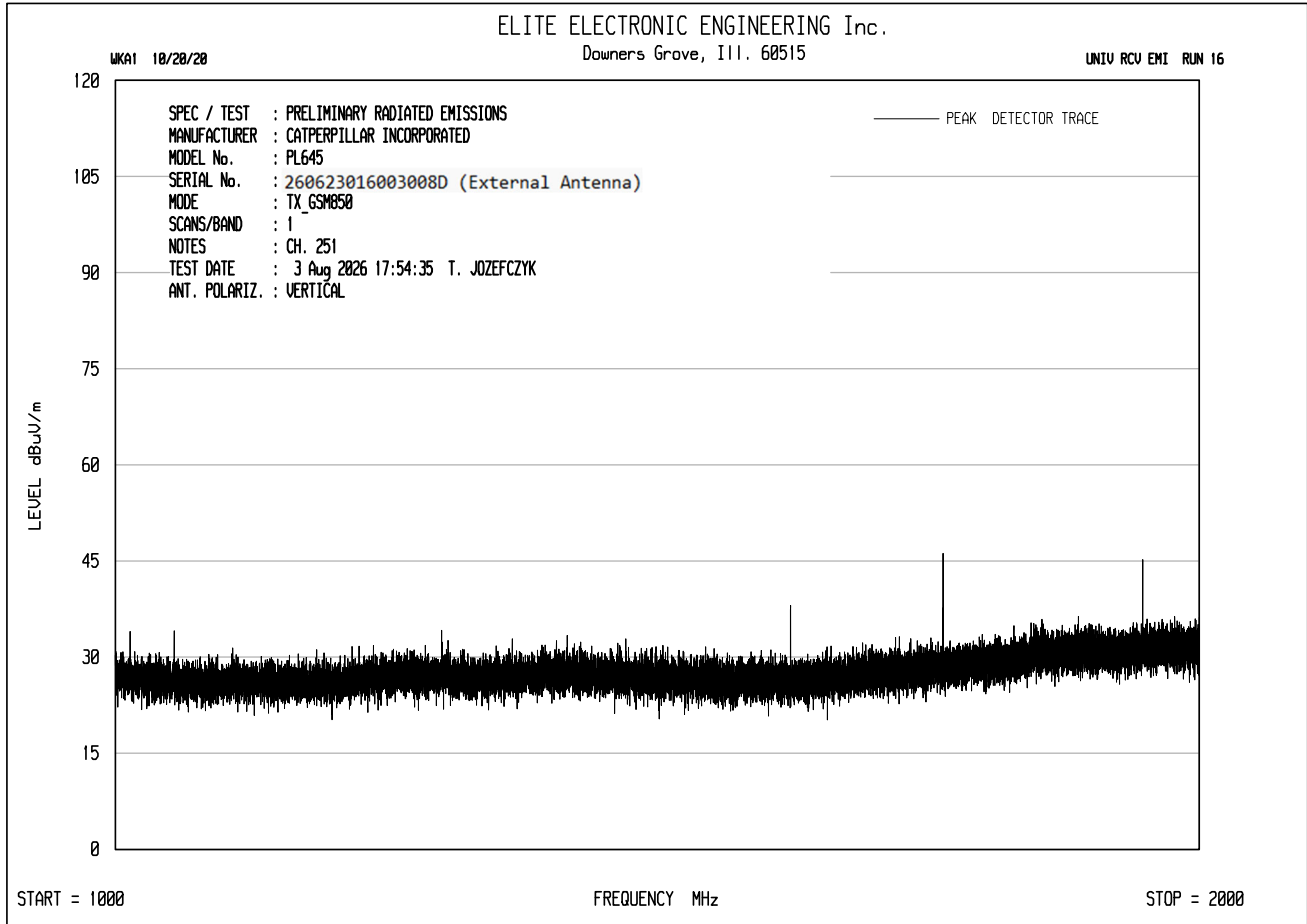
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
1673.20	H	28.81		-40.00	2.54	2.83	-40.29	73.56	46.27
1673.20	V	30.05		-35.92	2.54	2.83	-36.21	69.48	46.27
2509.80	H	53.33		-52.90	2.56	3.52	-53.87	87.14	46.27
2509.80	V	53.09		-52.30	2.56	3.52	-53.26	86.53	46.27
3346.40	H	51.02	Ambient	-54.33	5.10	4.11	-53.34	86.61	46.27
3346.40	V	50.07	Ambient	-53.20	5.10	4.11	-52.21	85.48	46.27

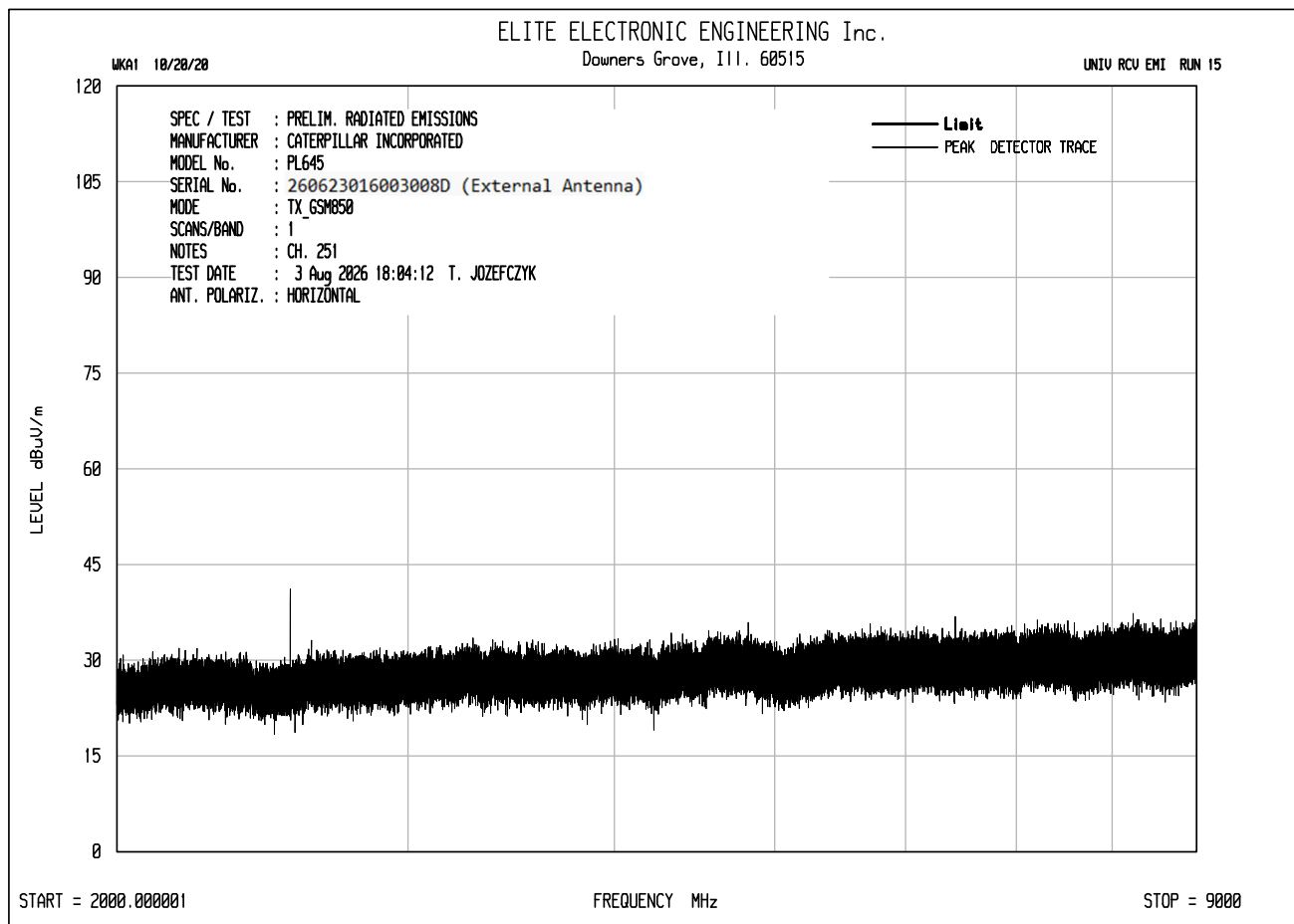
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	GSM850
Frequency Tested	848.8MHz
Notes	None

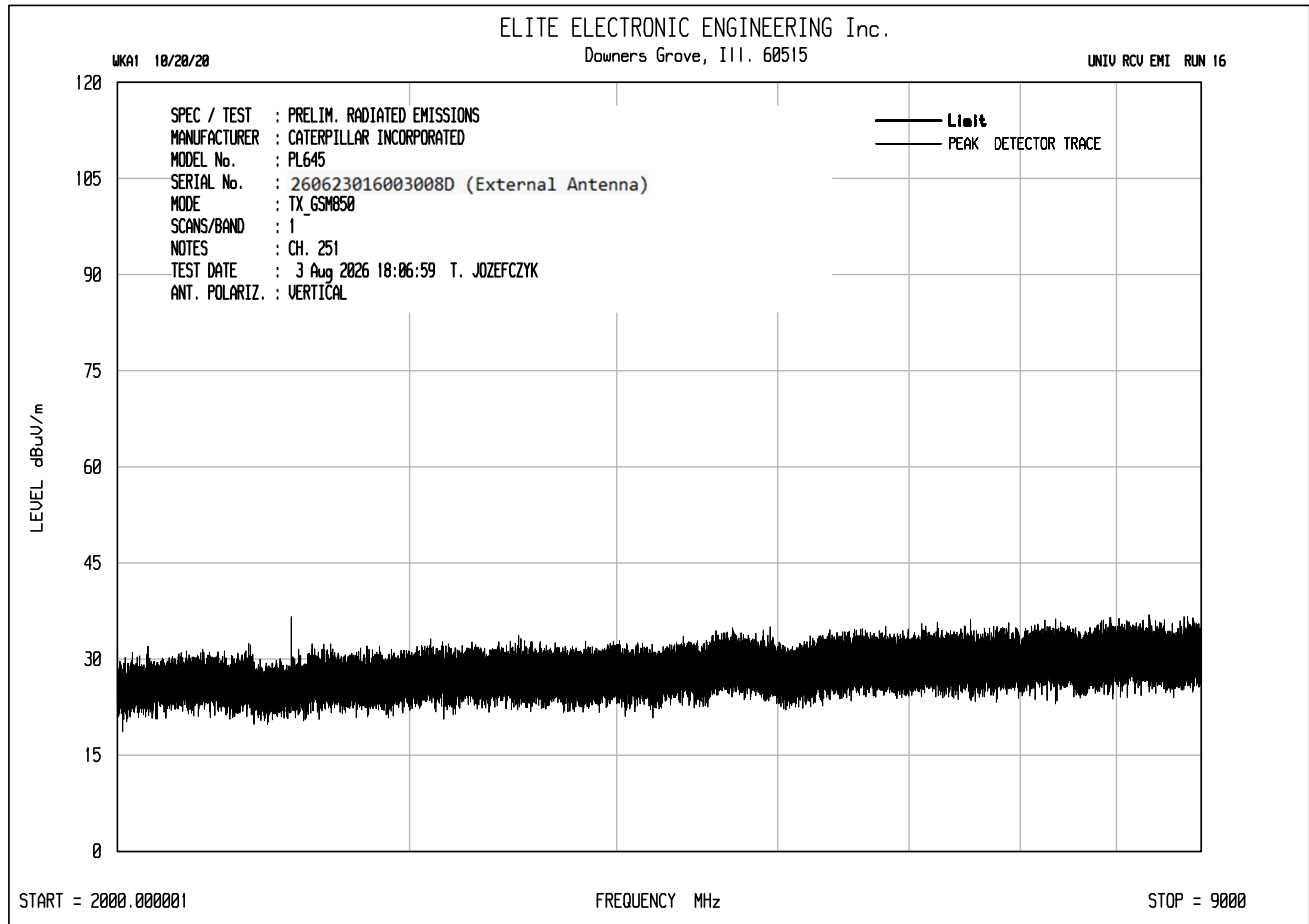






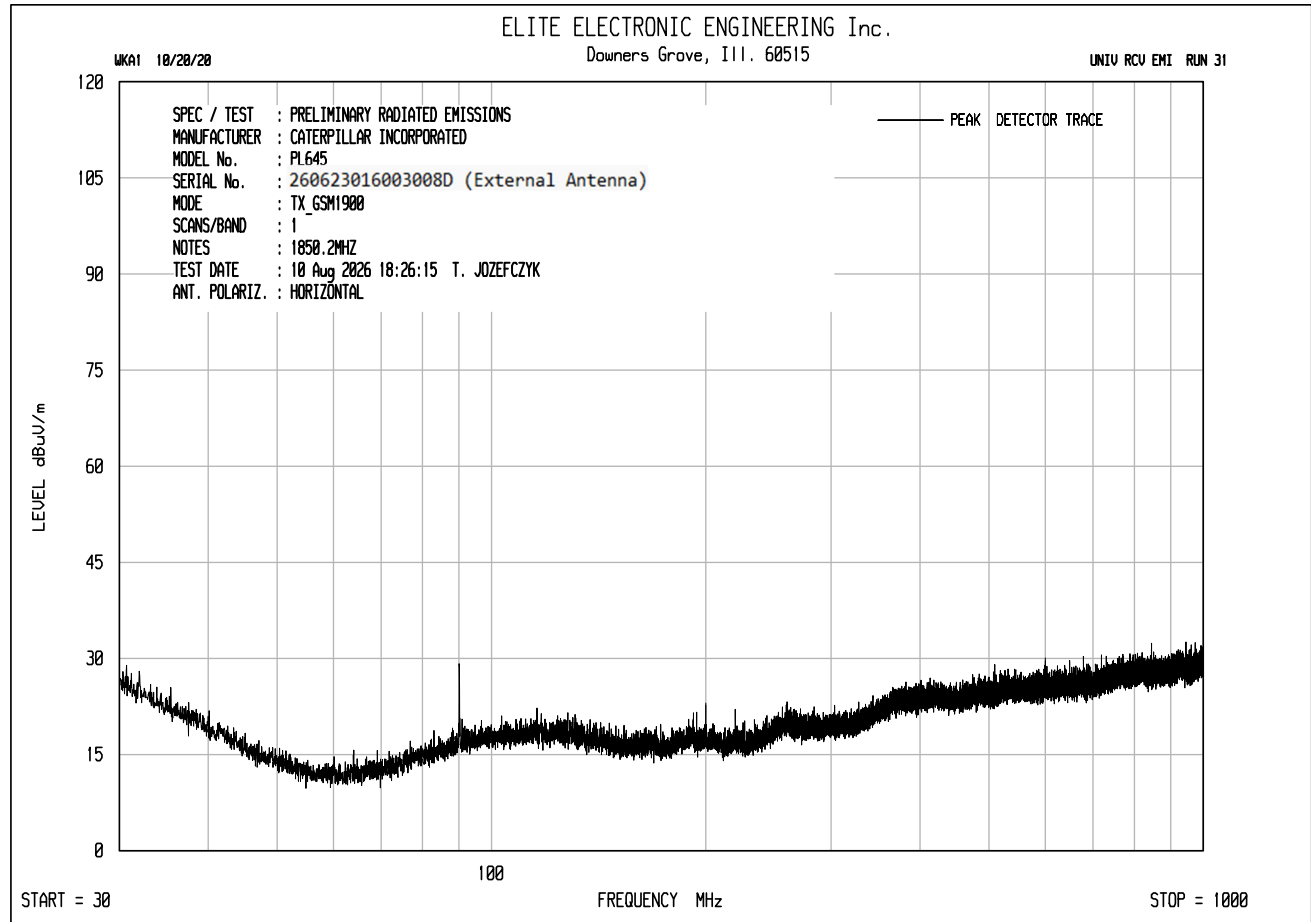


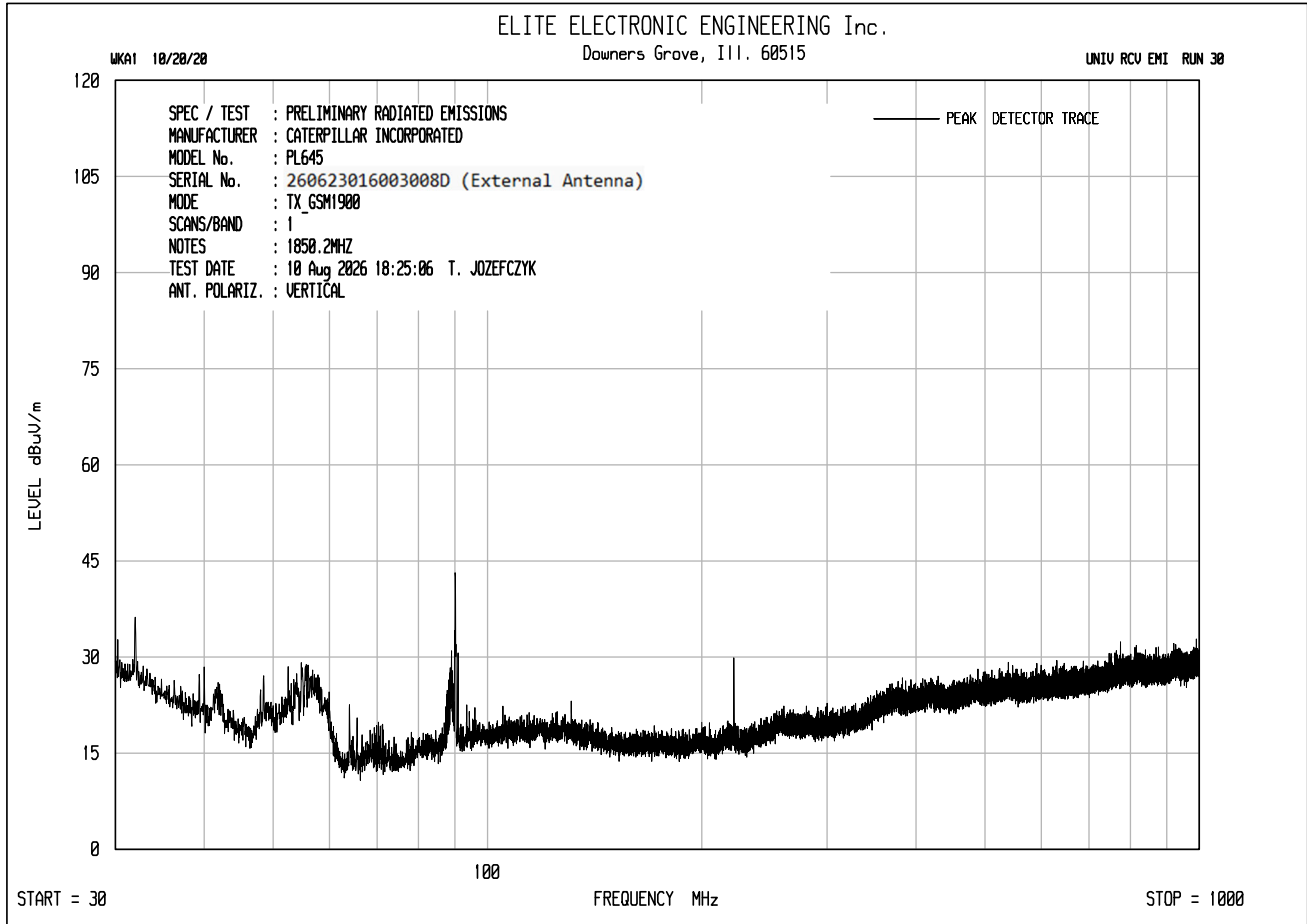


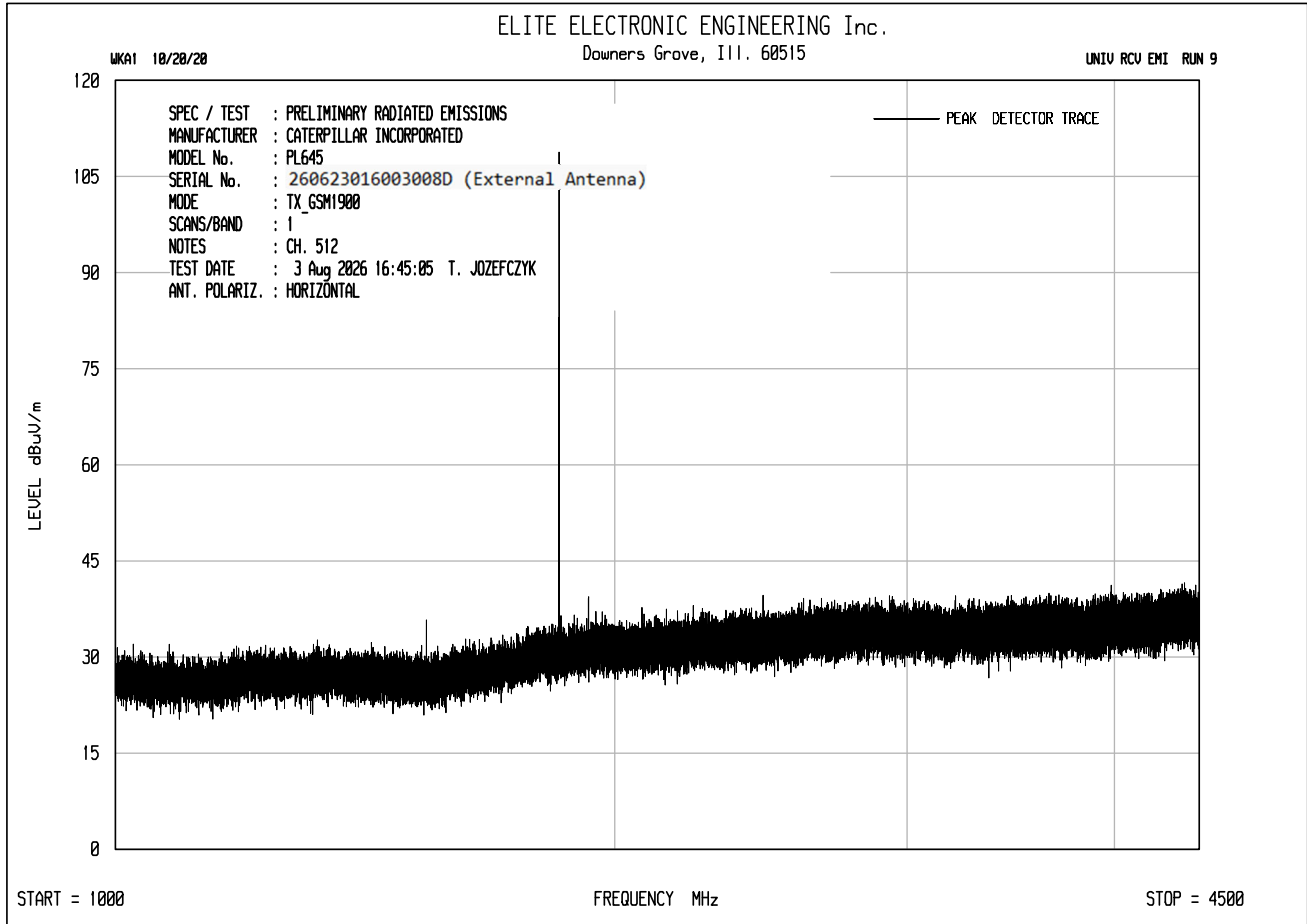


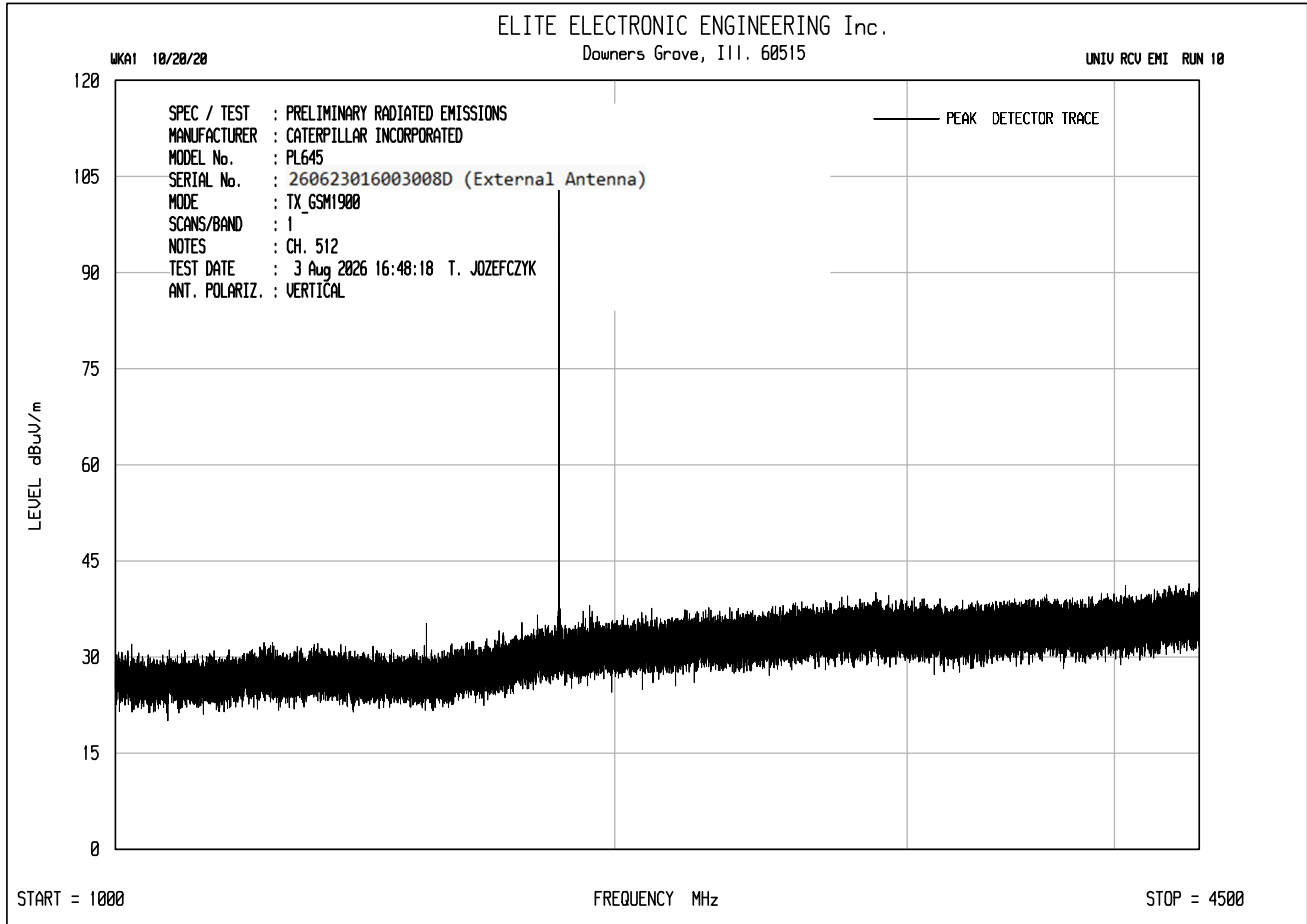
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
1697.60	H	28.70		-39.79	2.52	2.85	-40.12	73.39	46.27
1697.60	V	27.15		-38.49	2.52	2.85	-38.82	72.09	46.27
2546.40	H	57.15		-48.99	2.34	3.55	-50.21	83.48	46.27
2546.40	V	55.79		-49.53	2.34	3.55	-50.74	84.01	46.27
3395.20	H	50.36	Ambient	-55.25	5.15	4.14	-54.24	87.51	46.27
3395.20	V	50.53	Ambient	-53.07	5.15	4.14	-52.06	85.33	46.27

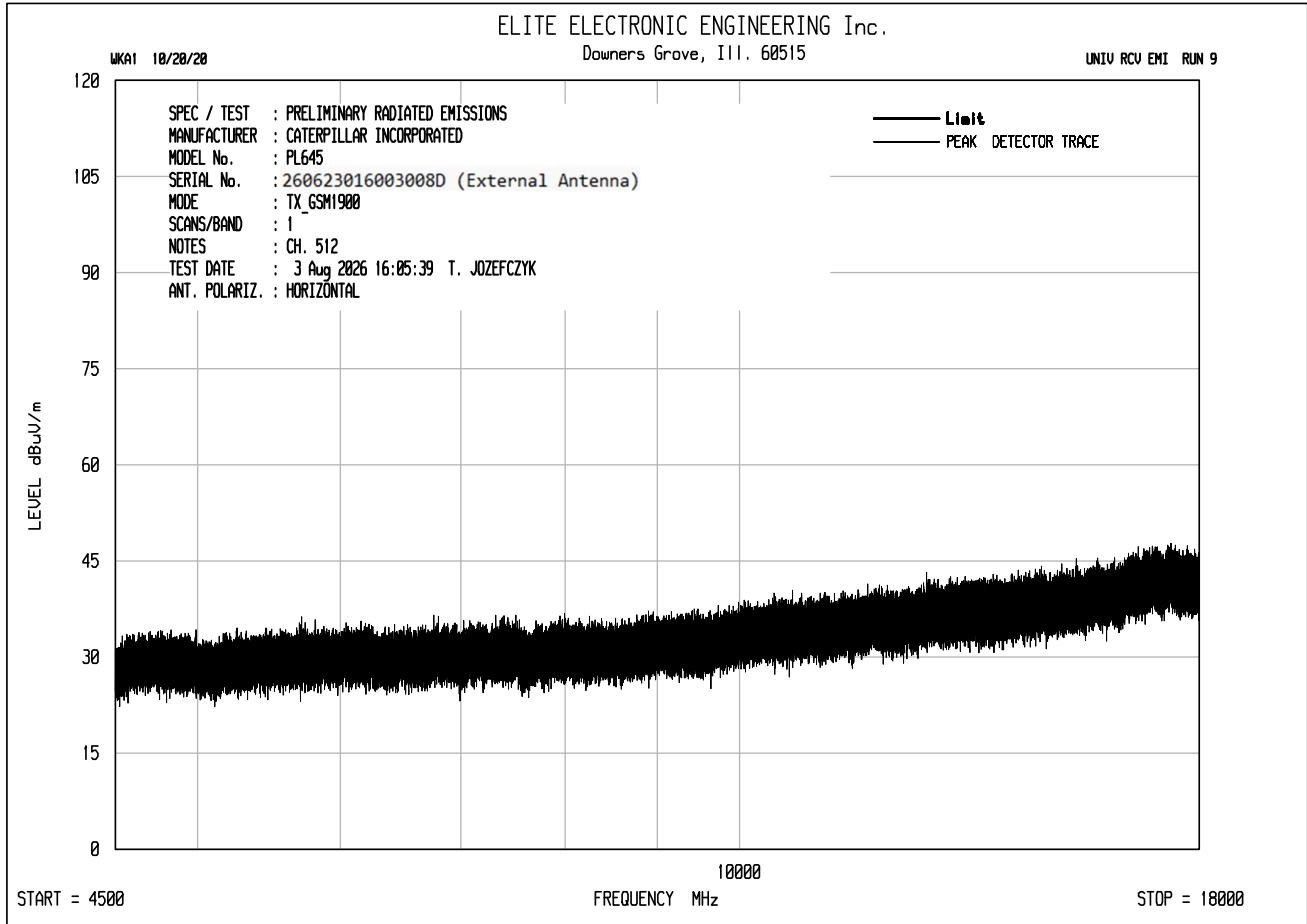
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	GSM1900
Frequency Tested	1851MHz
Notes	None

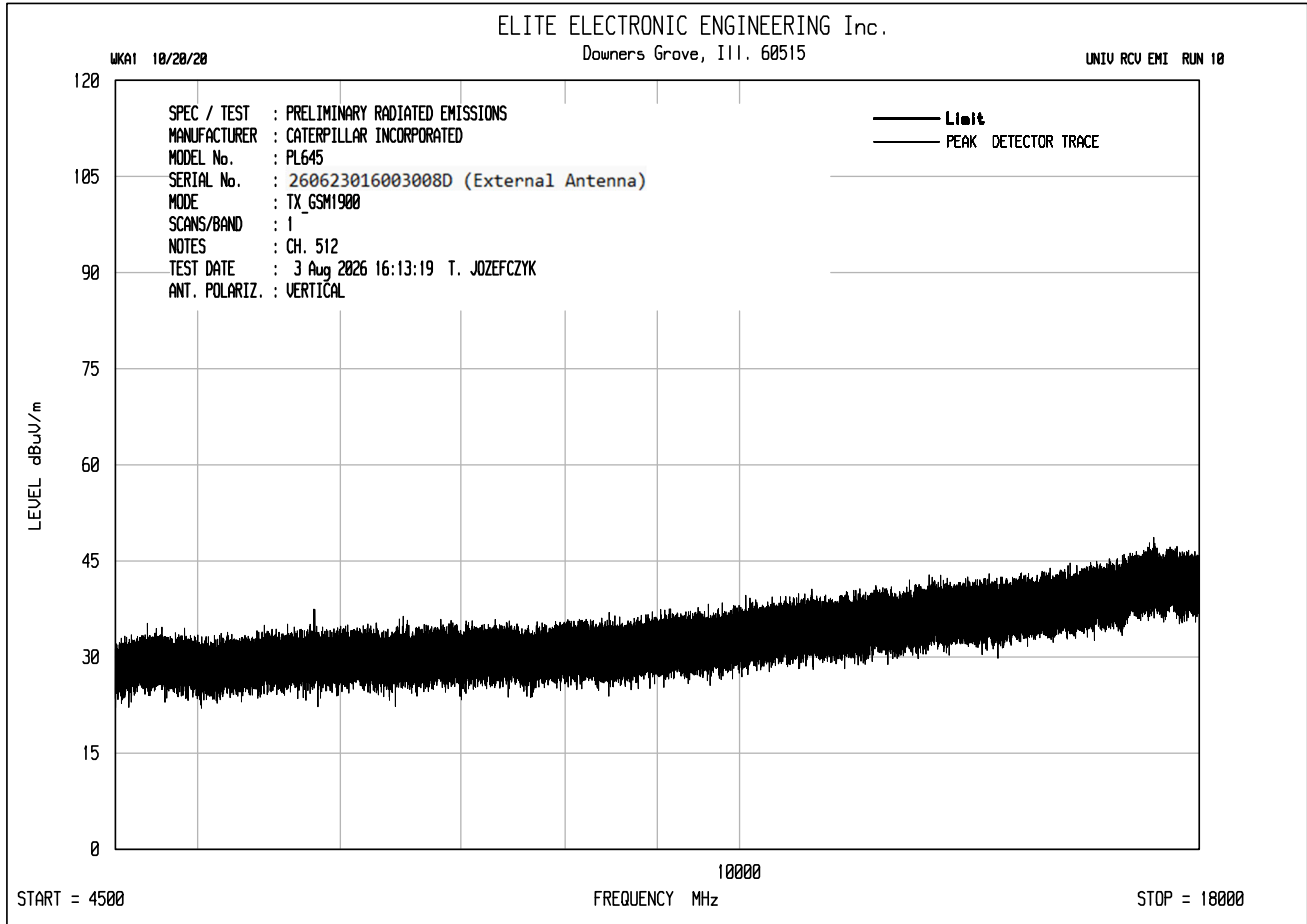


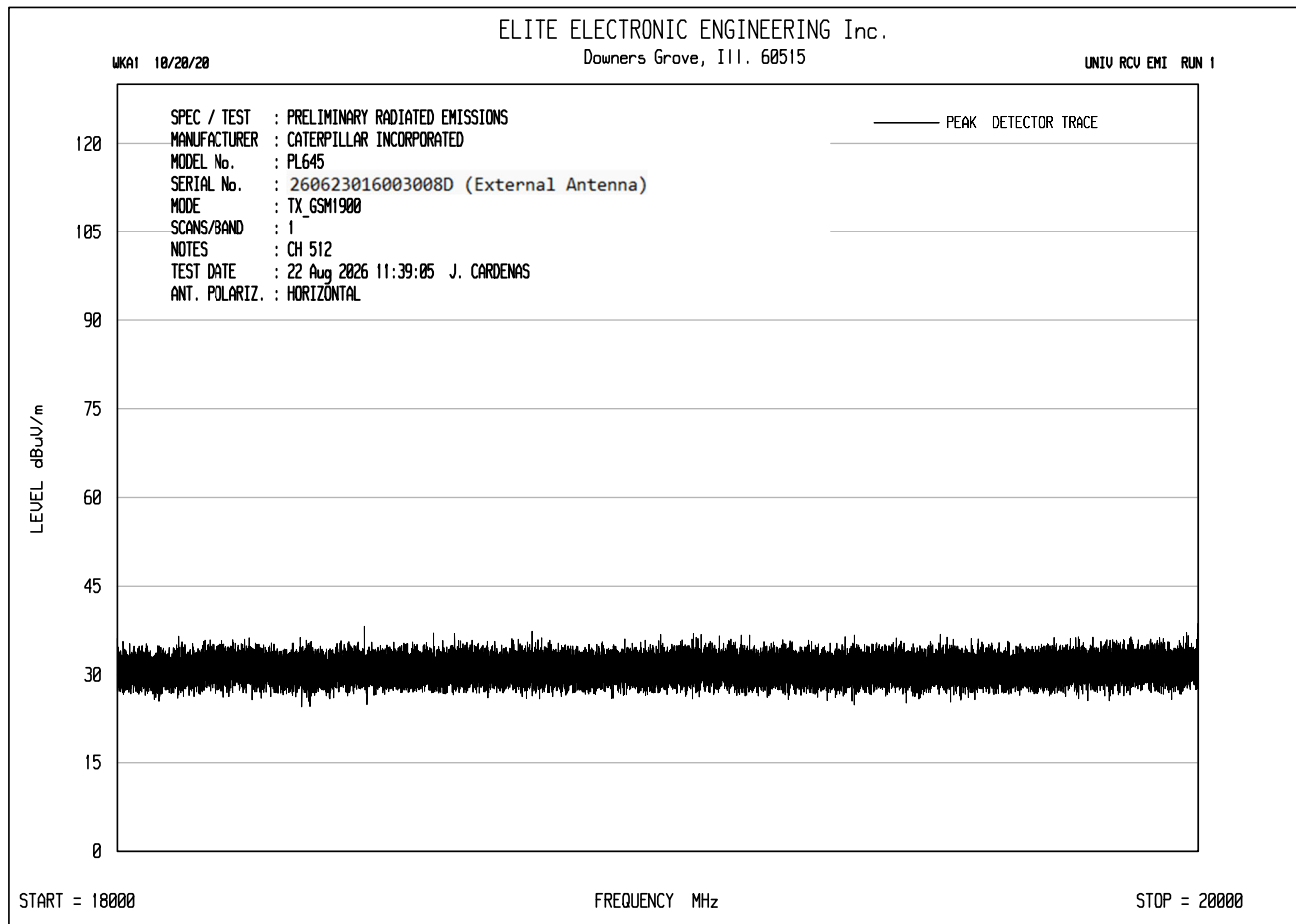


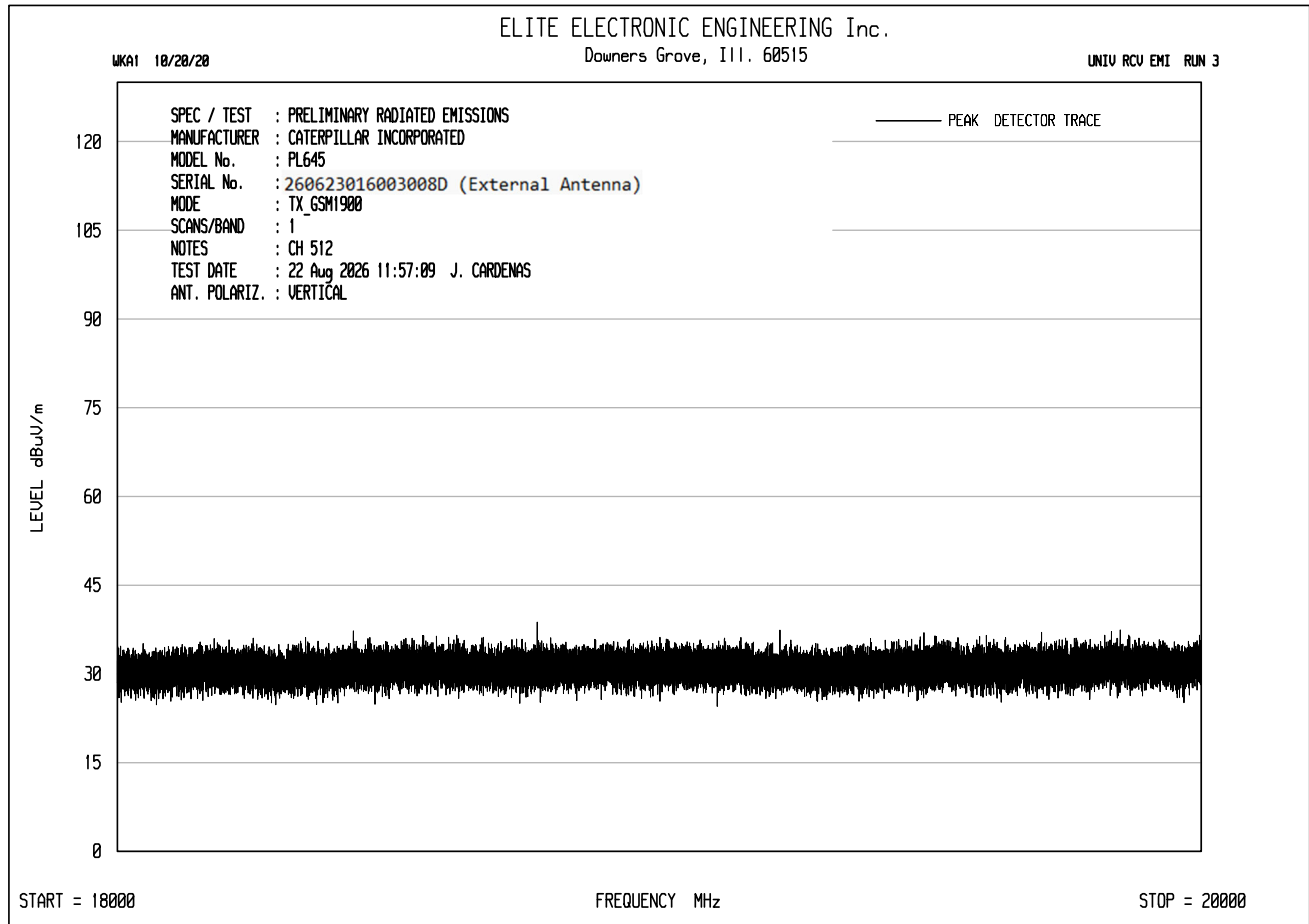






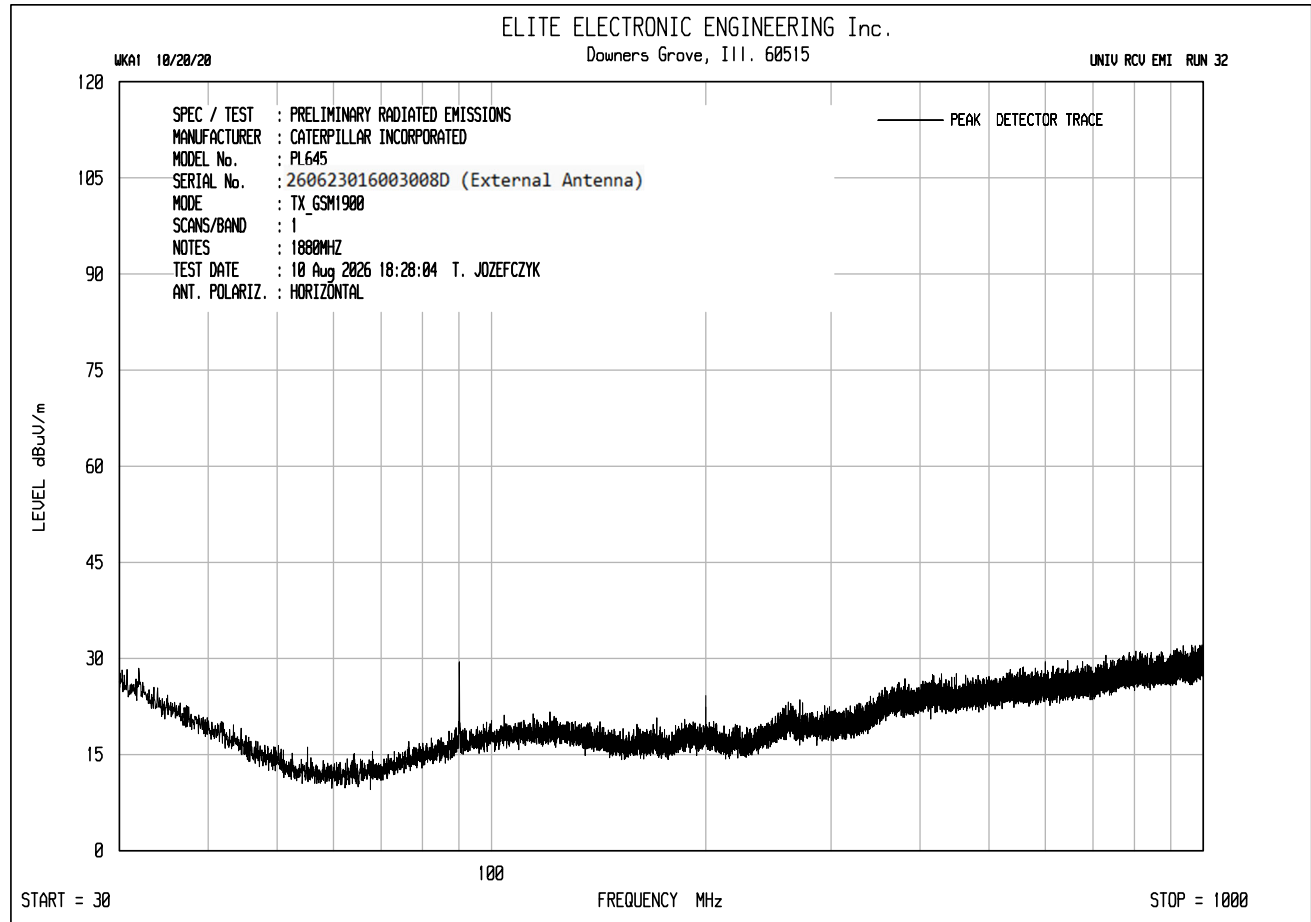


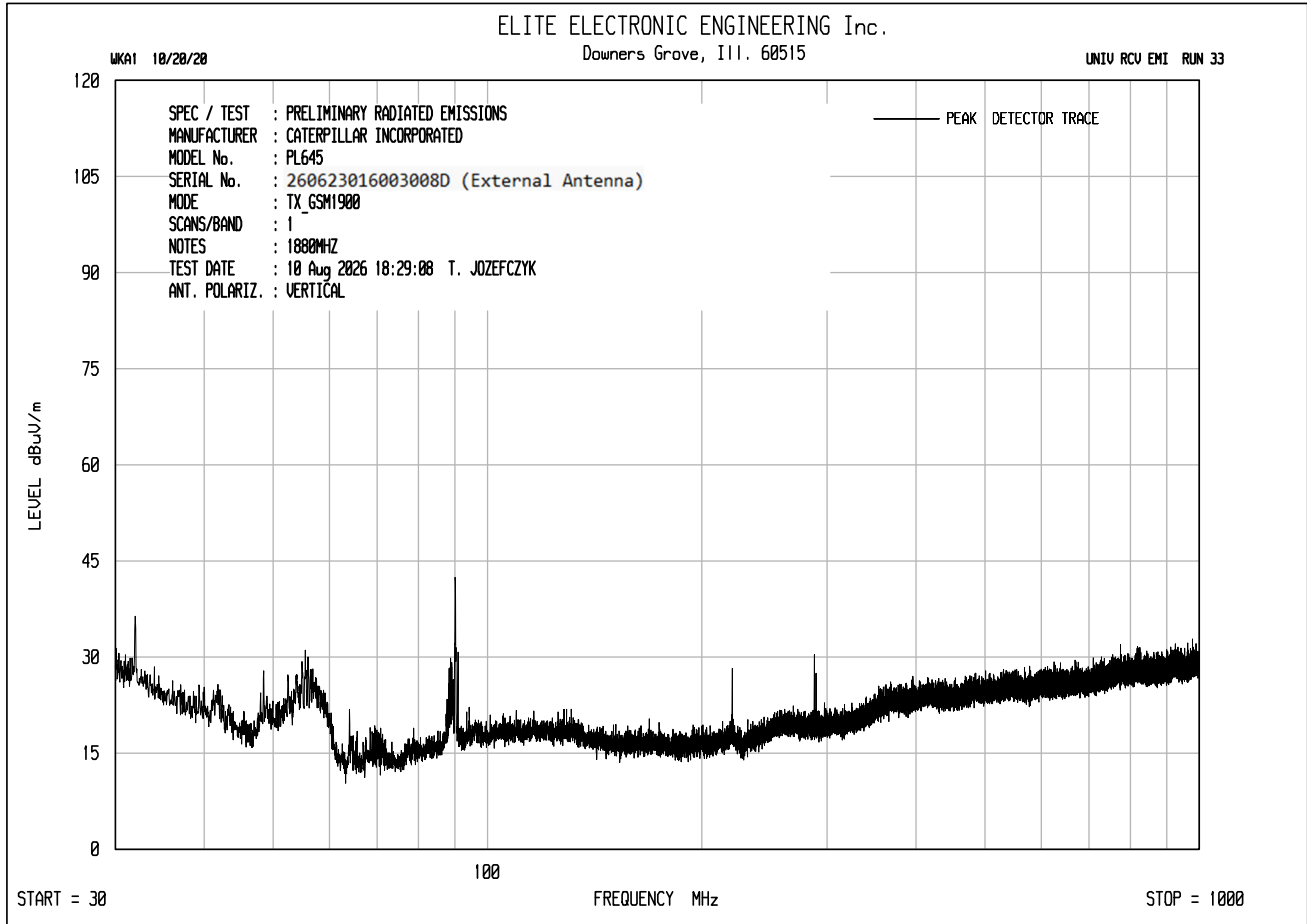


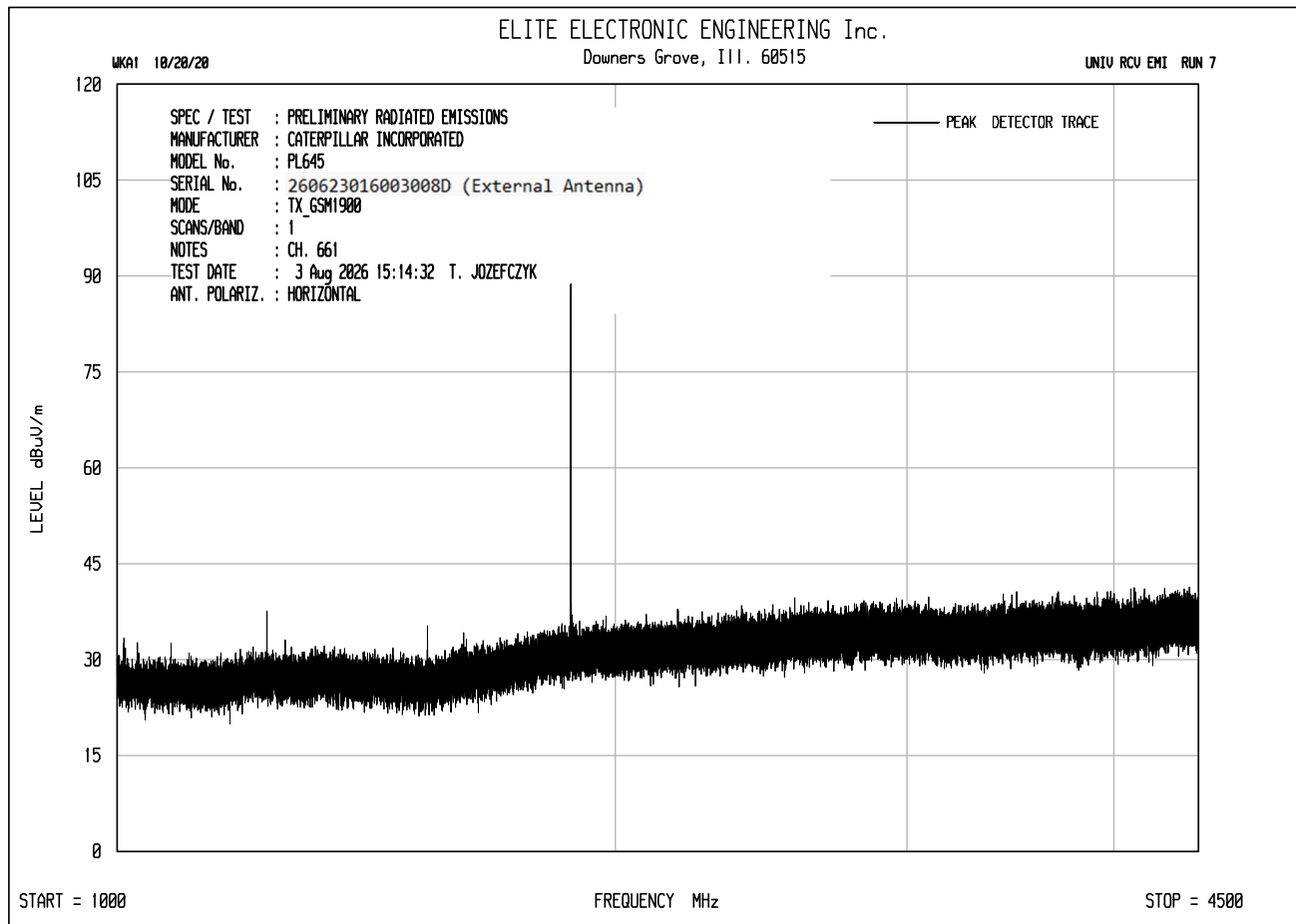


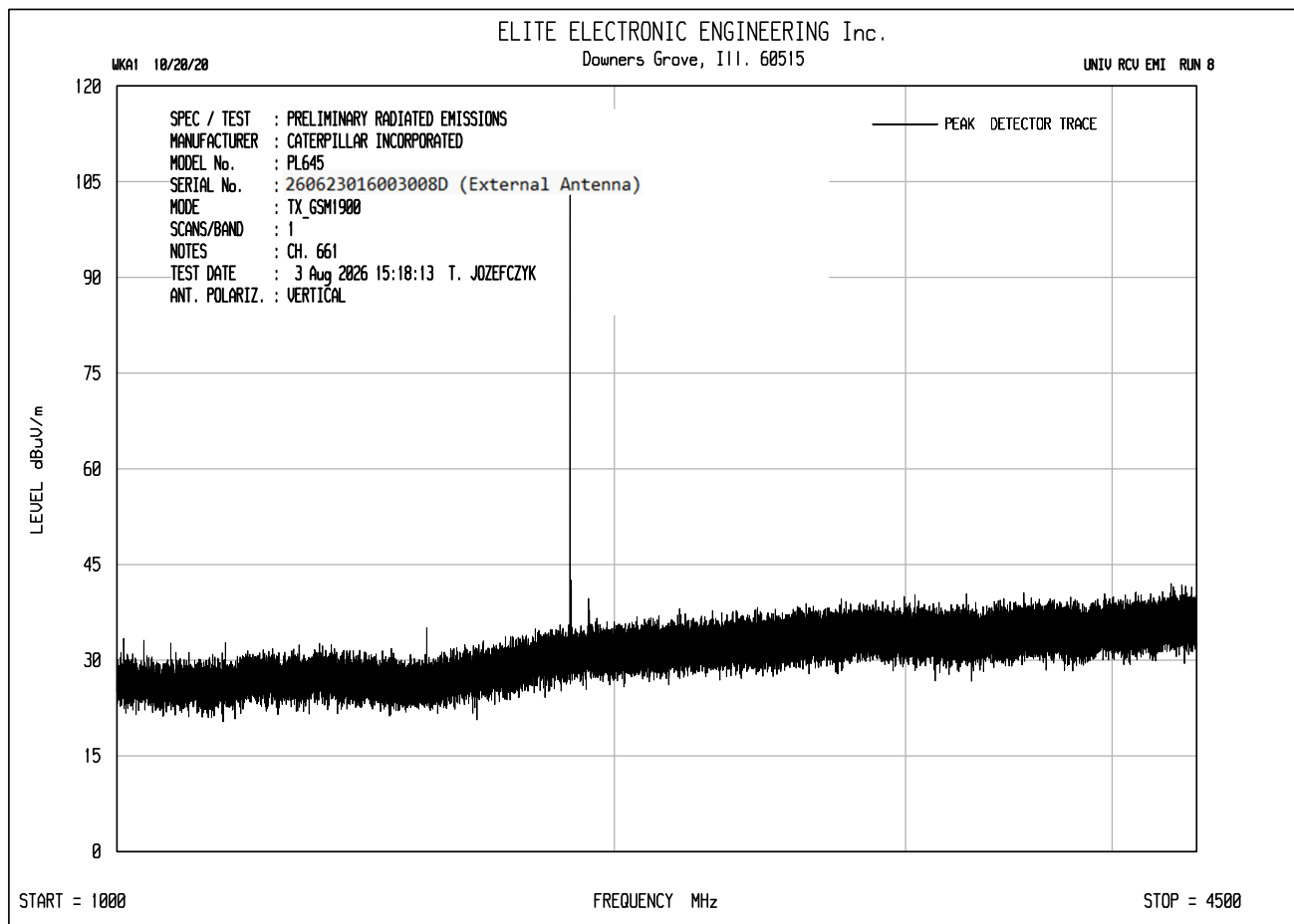
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3702.00	H	27.86	Ambient	-35.33	5.03	4.31	-34.61	65.10	43.49
3702.00	V	27.20	Ambient	-34.84	5.03	4.31	-34.12	64.61	43.49
5553.00	H	49.46	Ambient	-50.10	6.13	5.22	-49.19	79.68	43.49
5553.00	V	49.76	Ambient	-49.98	6.13	5.22	-49.07	79.56	43.49

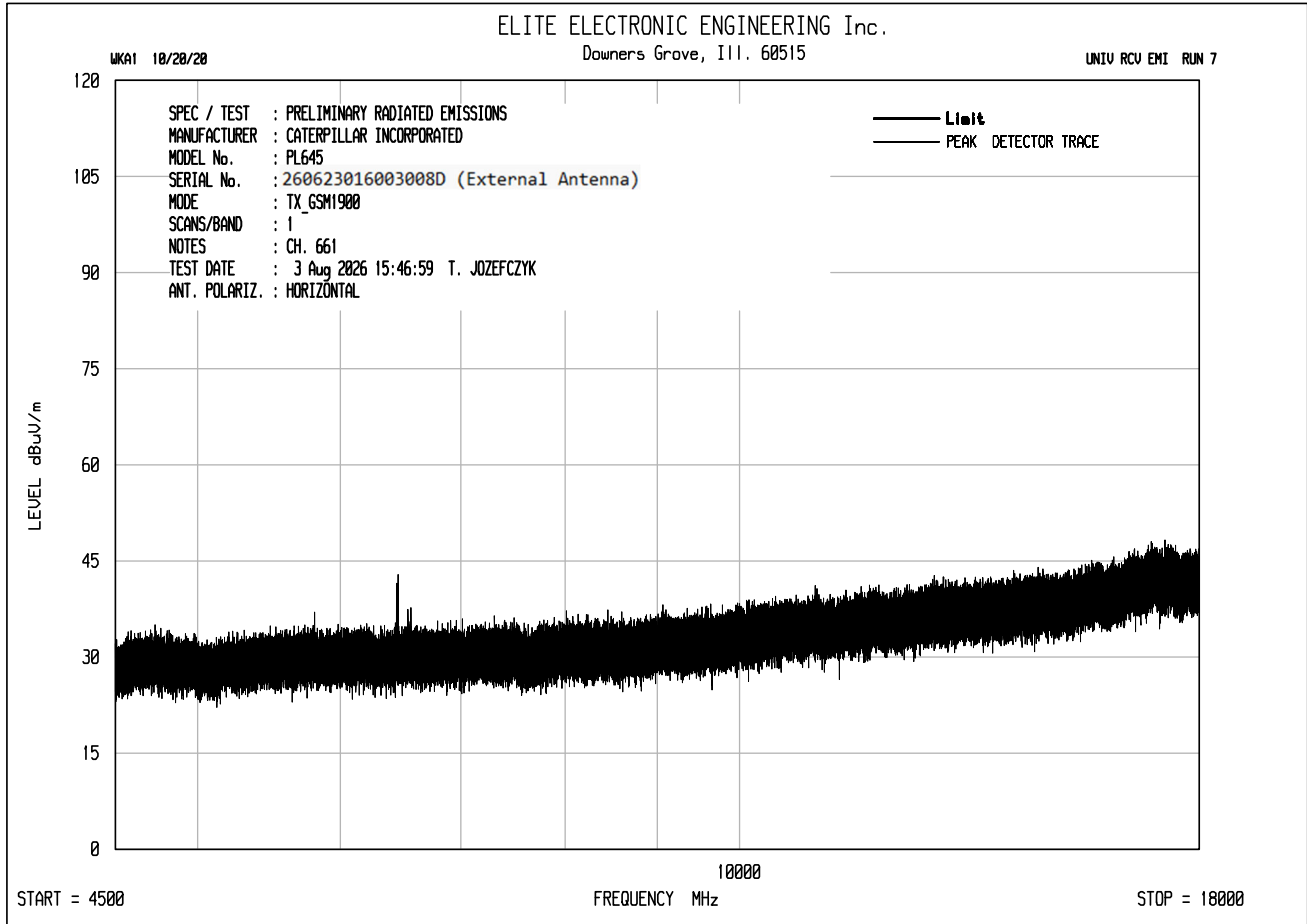
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	GSM1900
Frequency Tested	1880MHz
Notes	None

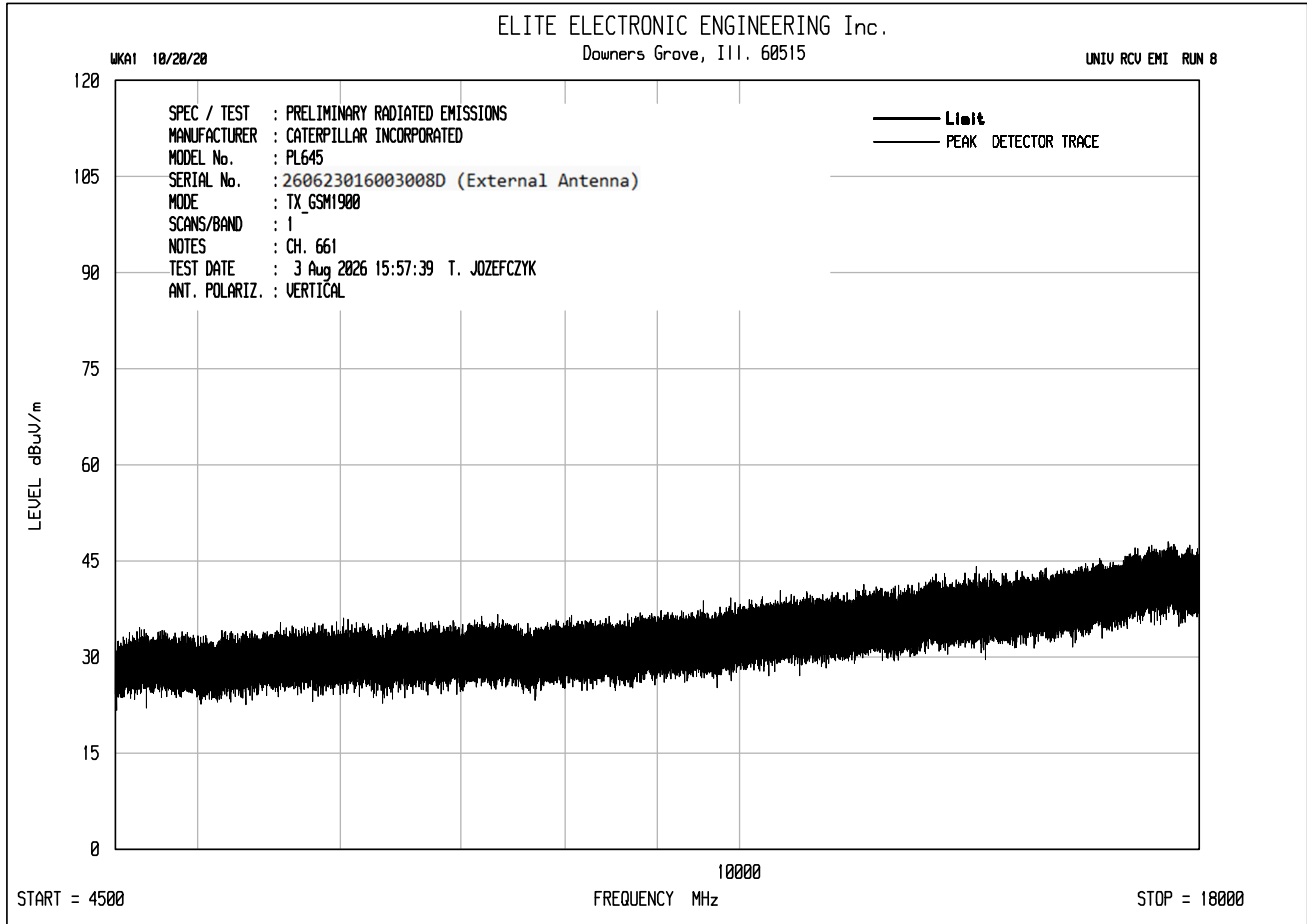


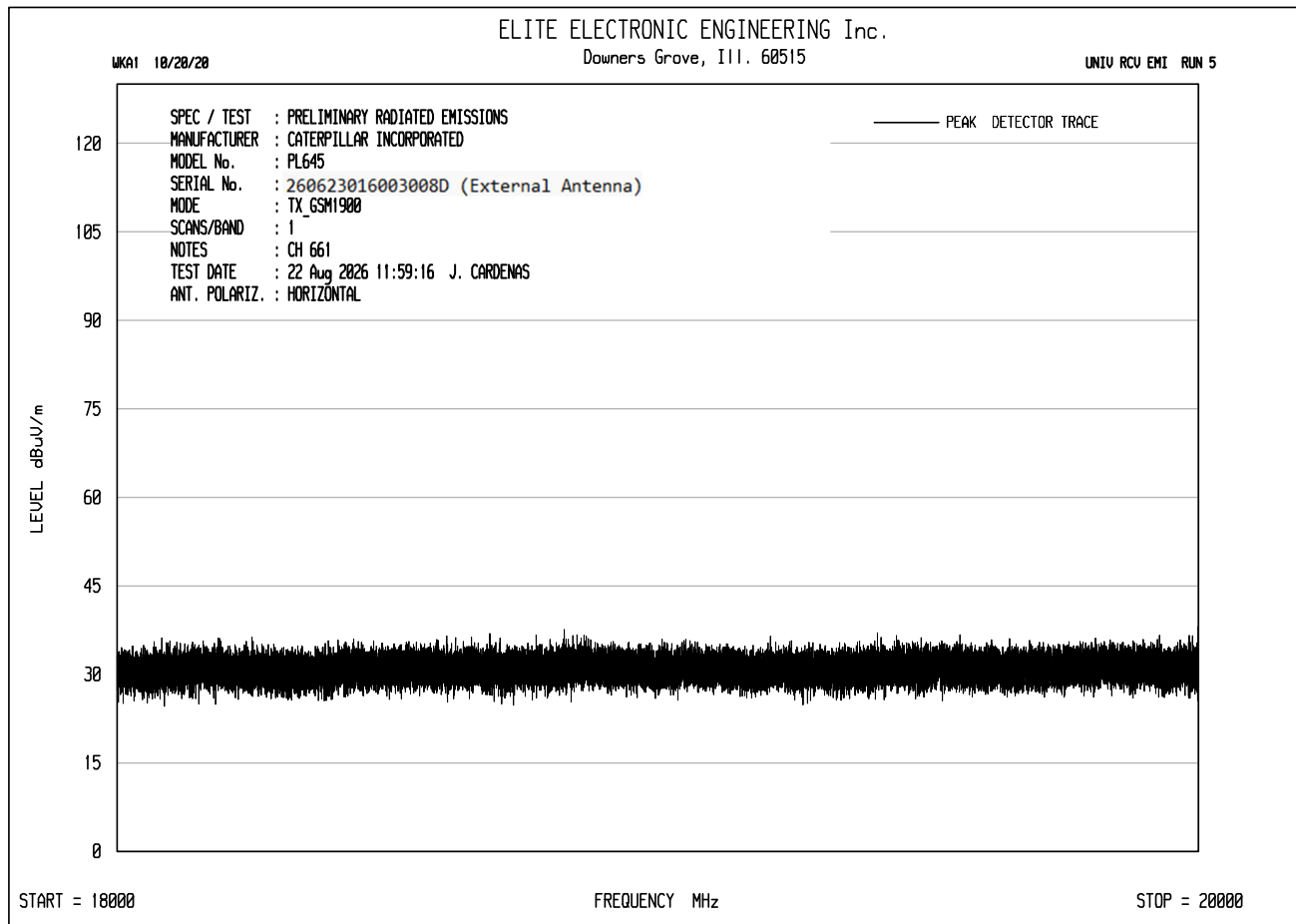


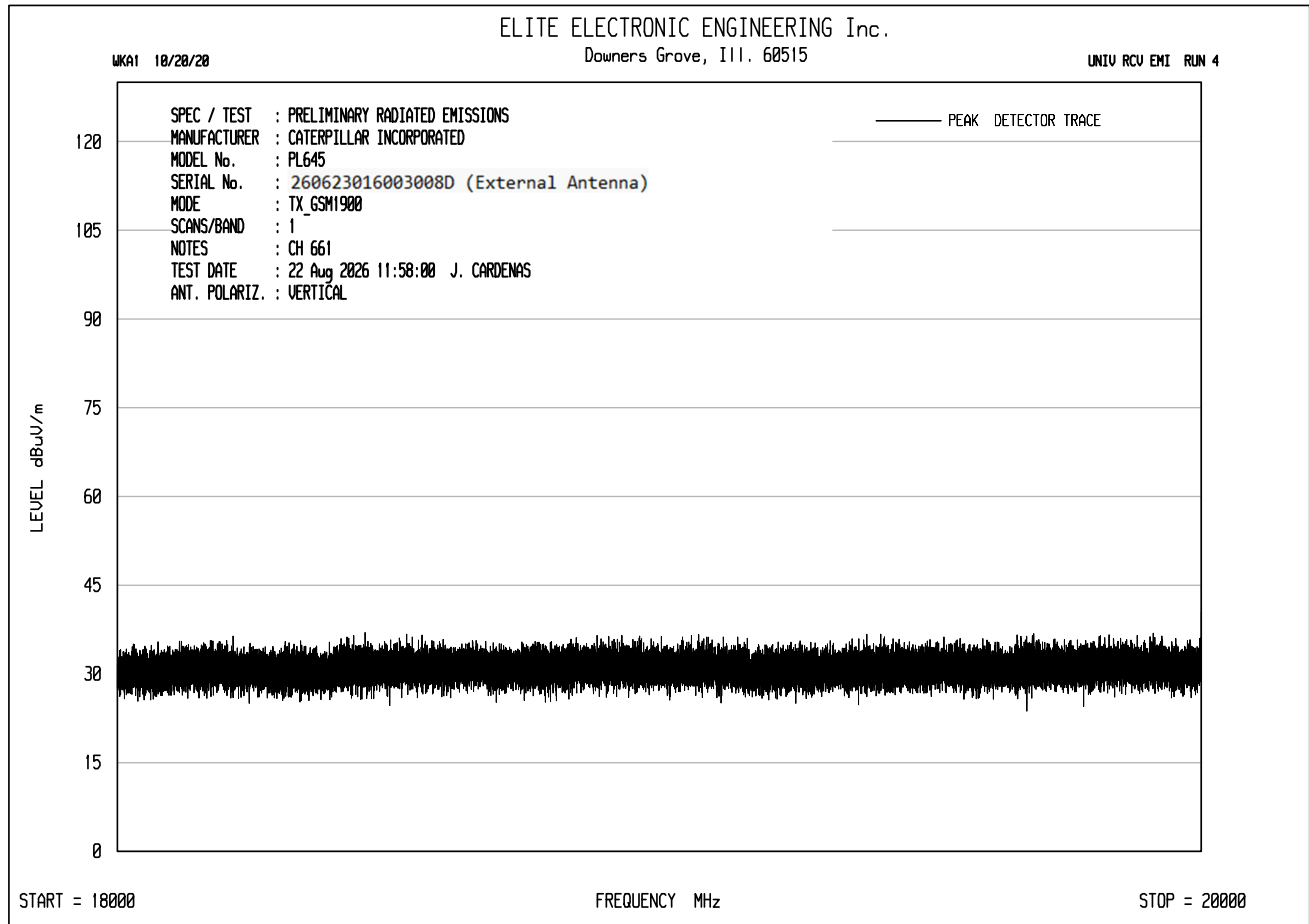






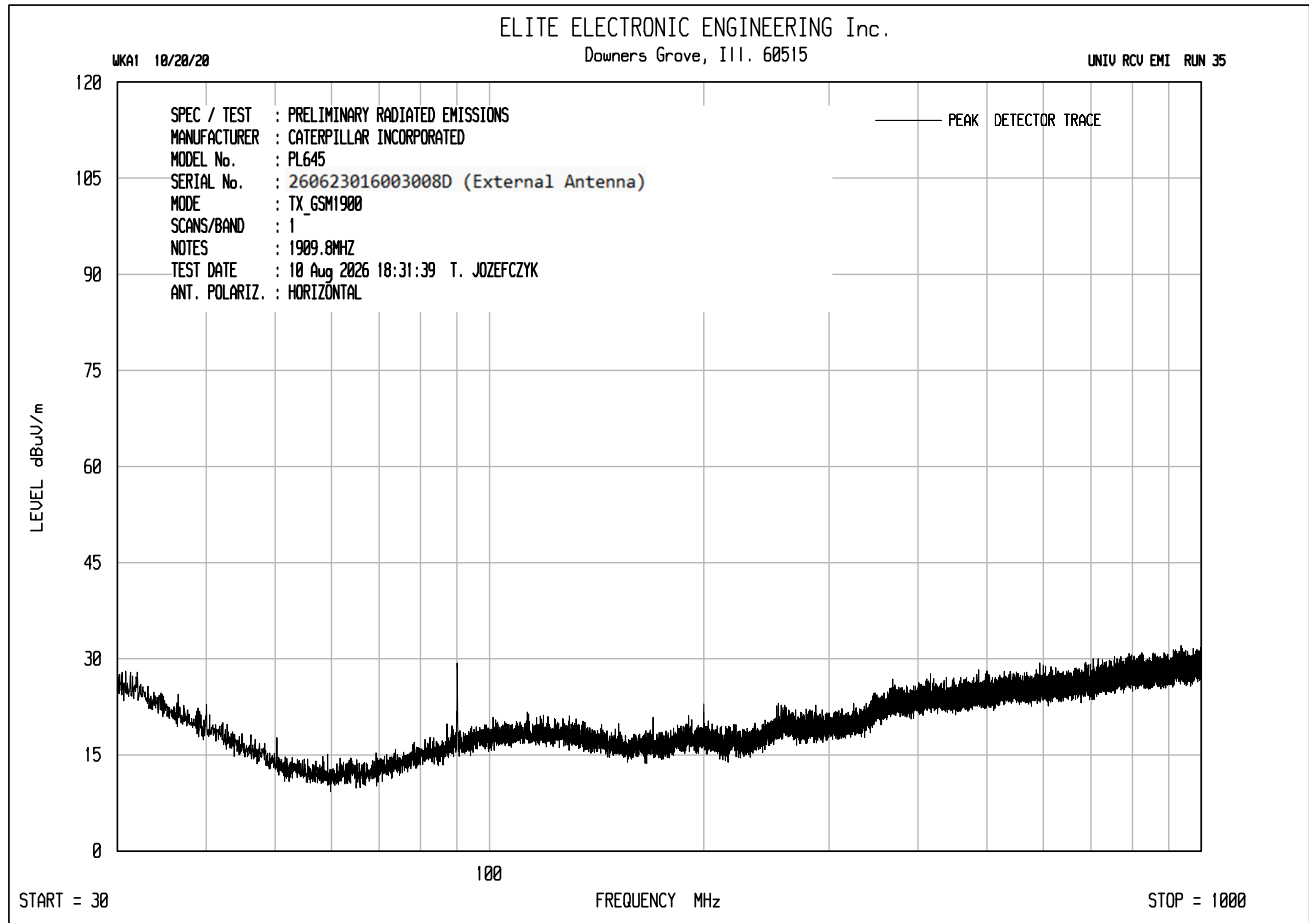


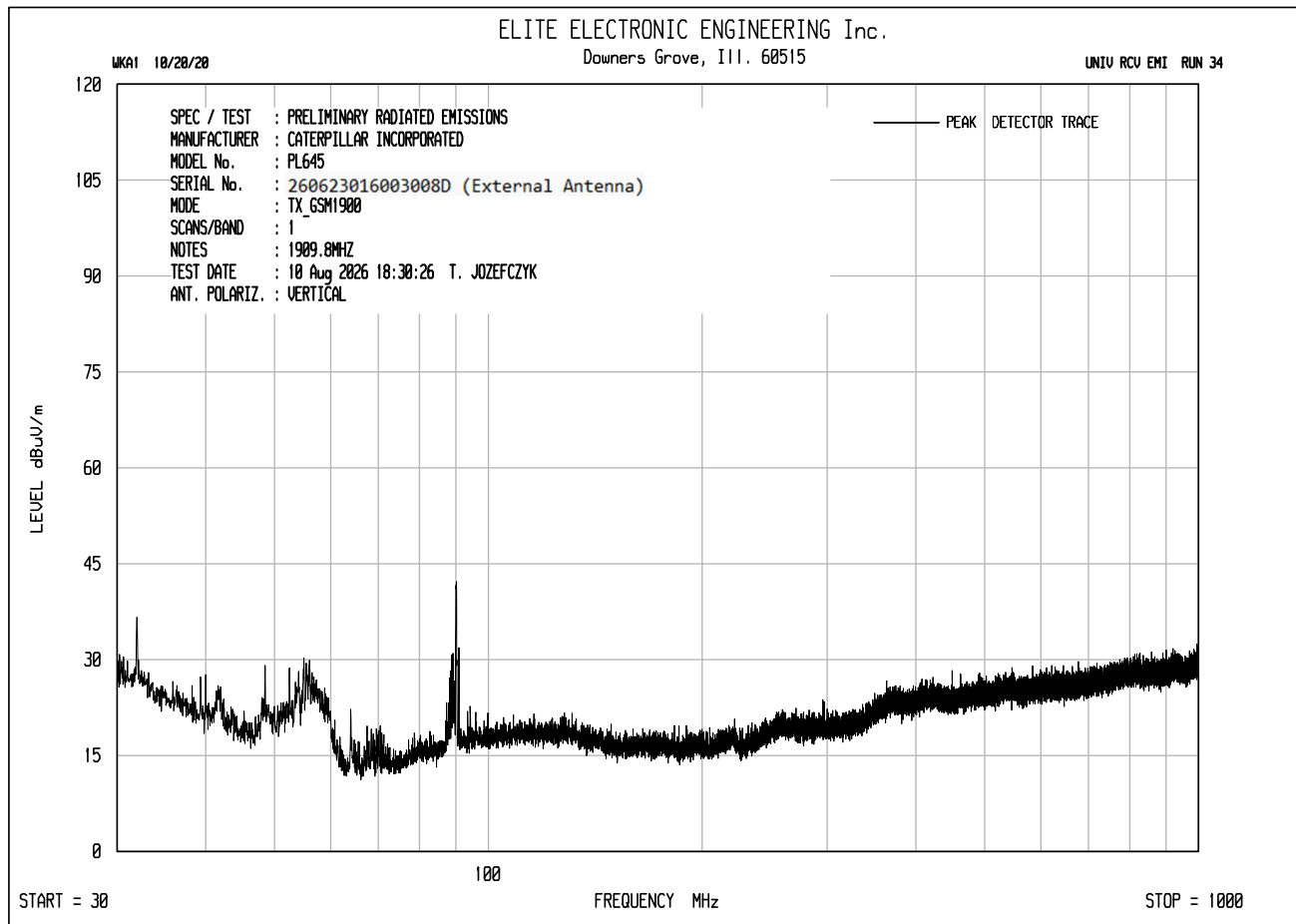


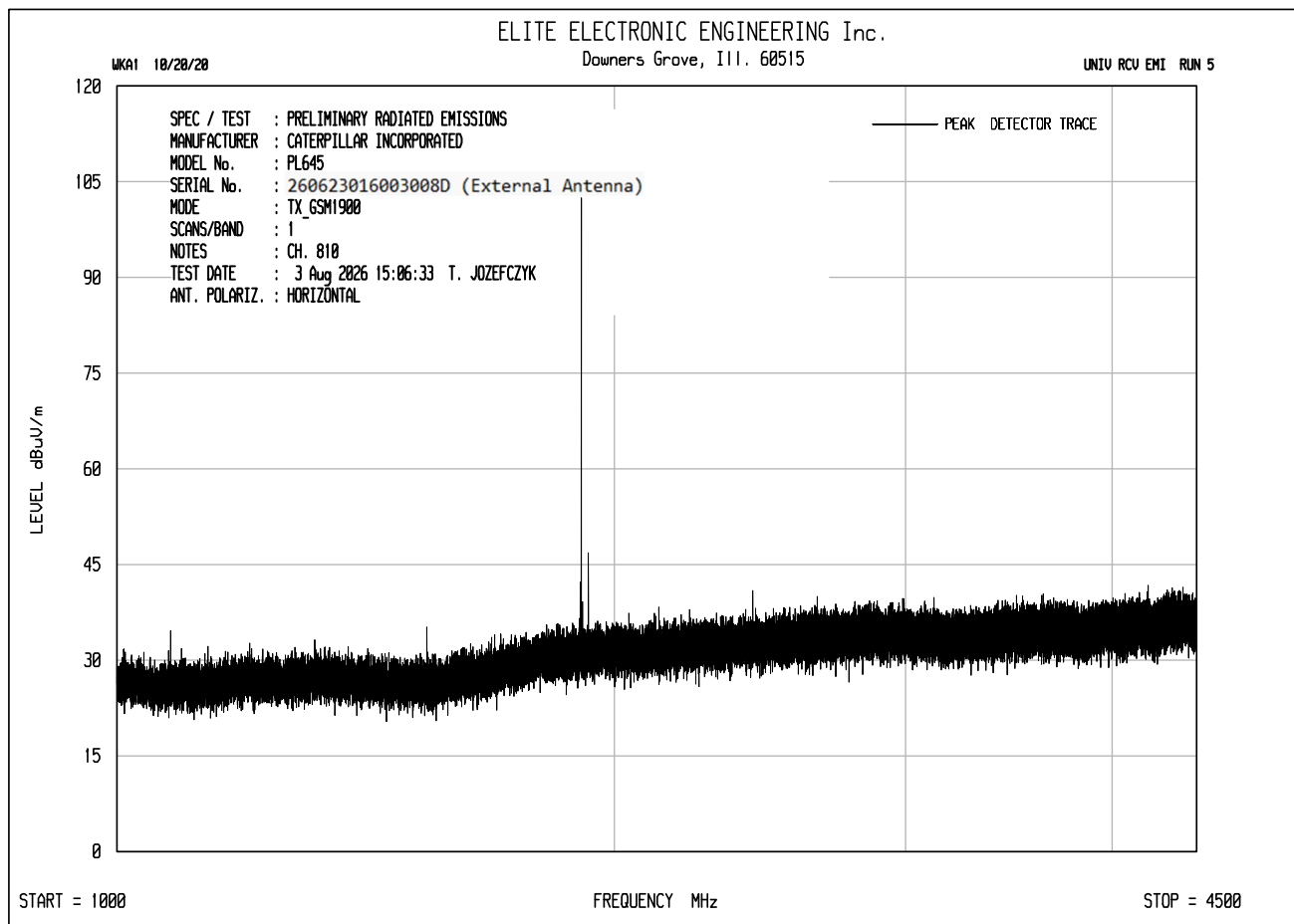


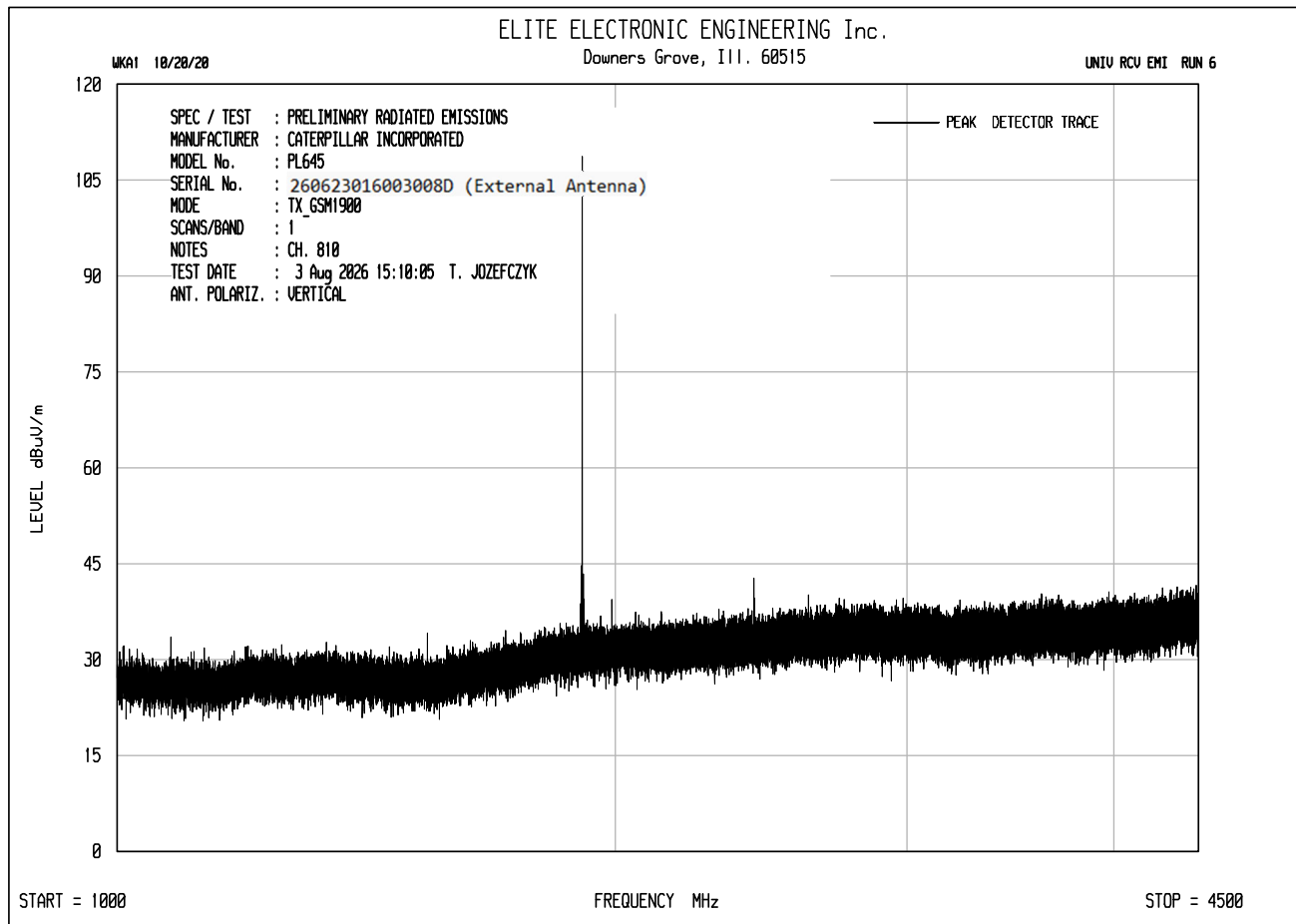
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3760.00	H	27.42	Ambient	-35.60	5.07	4.34	-34.87	65.36	43.49
3760.00	V	27.21	Ambient	-34.63	5.07	4.34	-33.90	64.39	43.49
5640.00	H	49.46	Ambient	-49.63	5.66	5.26	-49.22	79.71	43.49
5640.00	V	49.02	Ambient	-50.21	5.66	5.26	-49.81	80.30	43.49

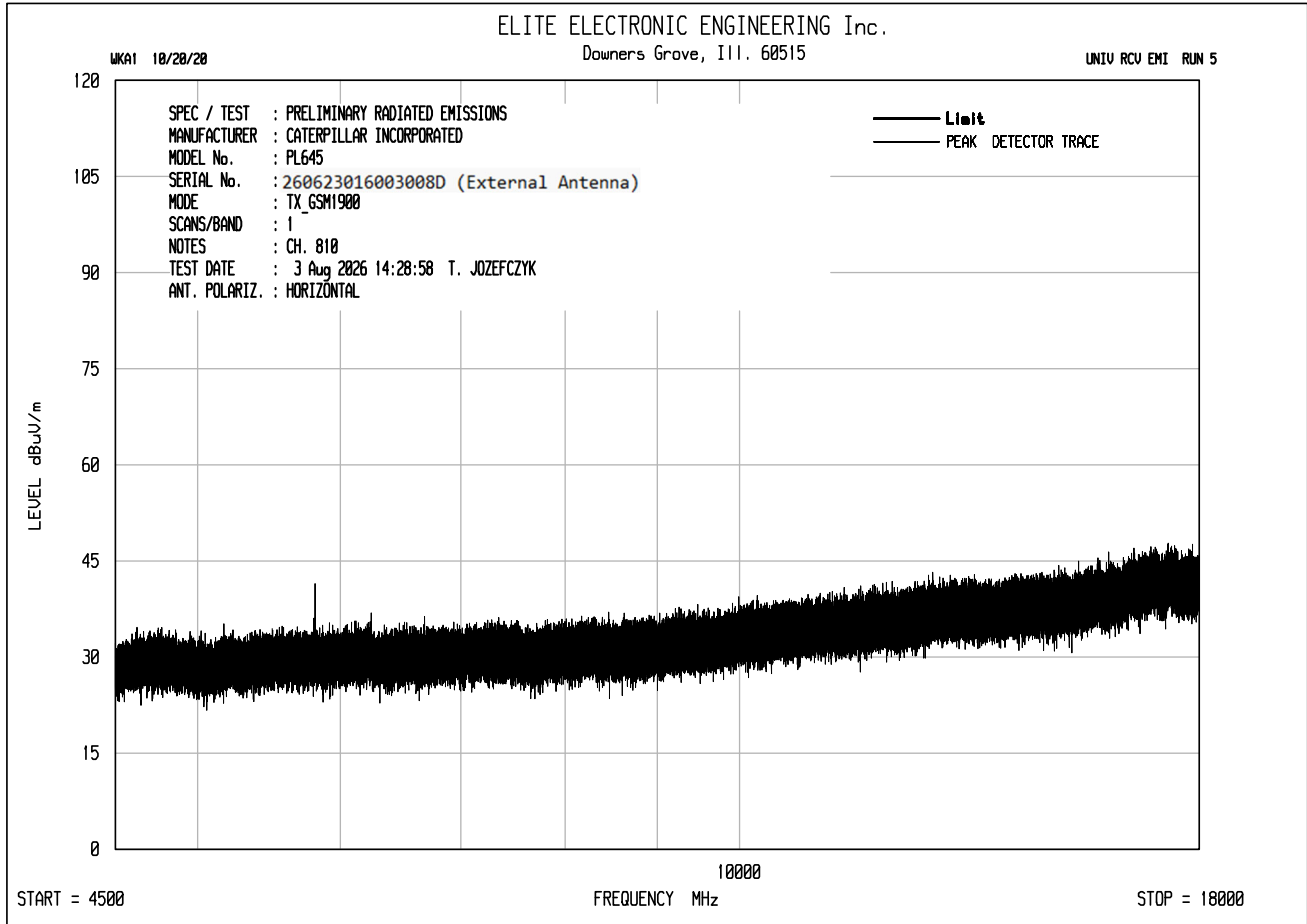
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9822
Serial No.	260623016003008D (External Antenna)
Mode	GSM1900
Frequency Tested	1909.8MHz
Notes	None

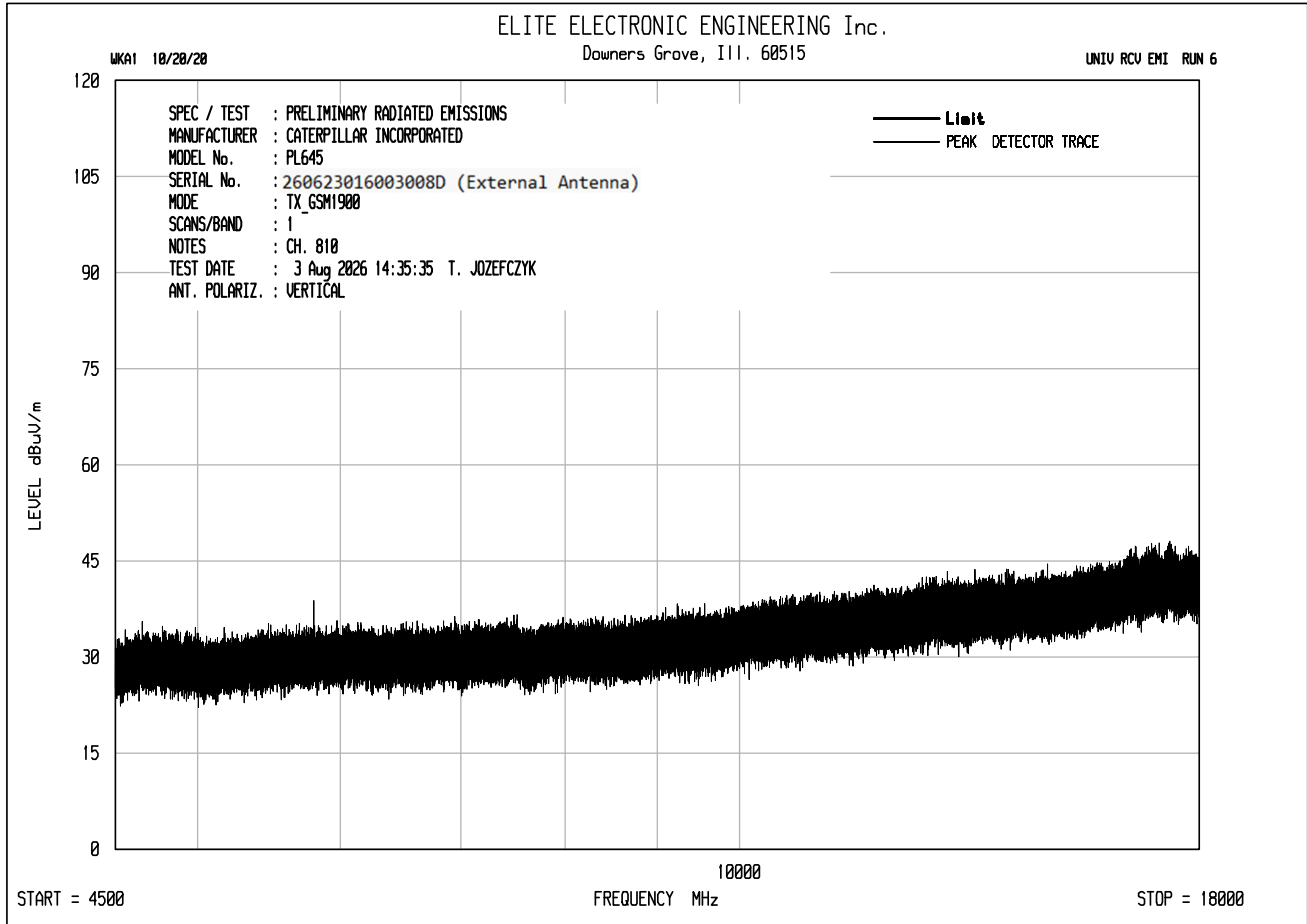


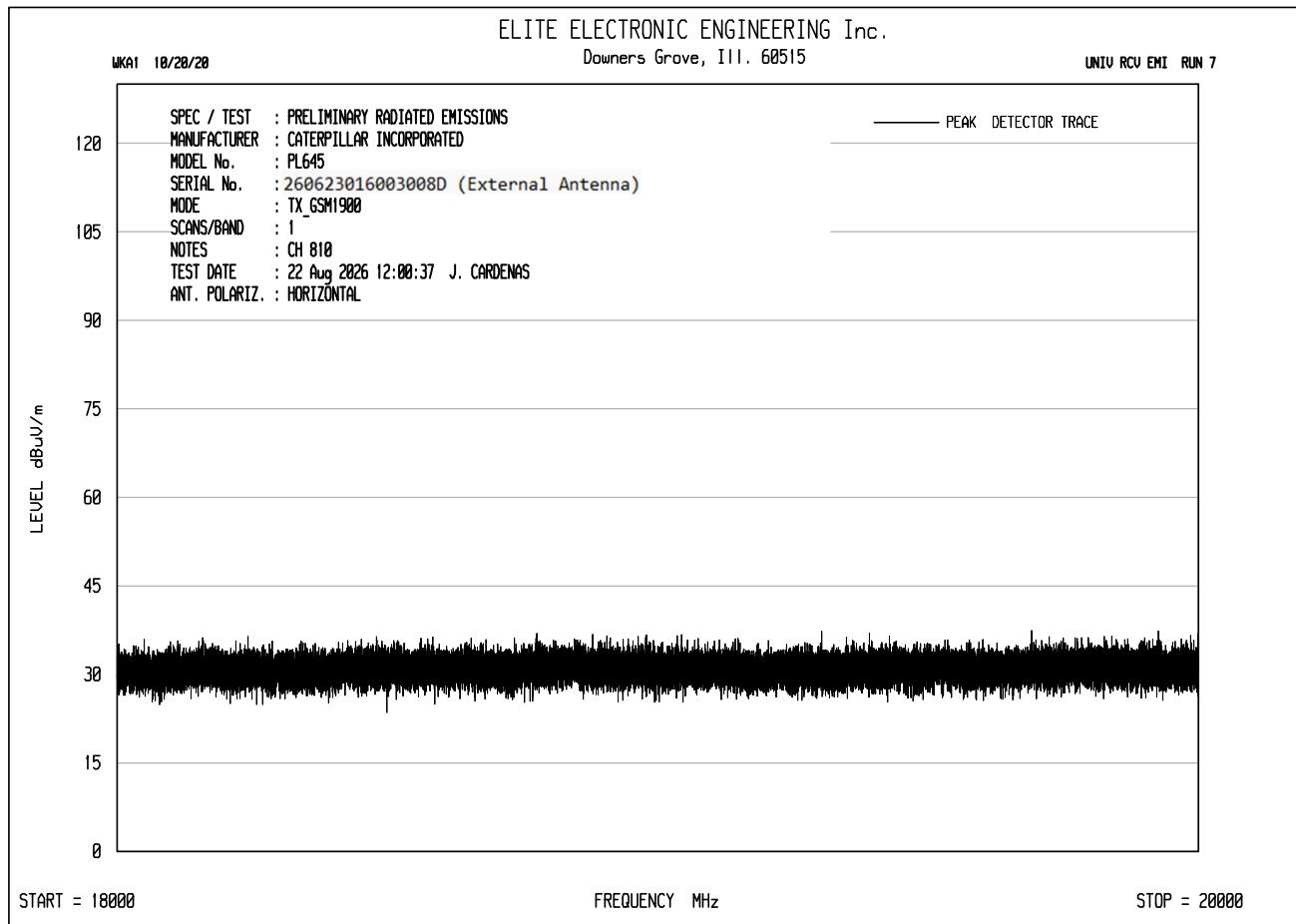


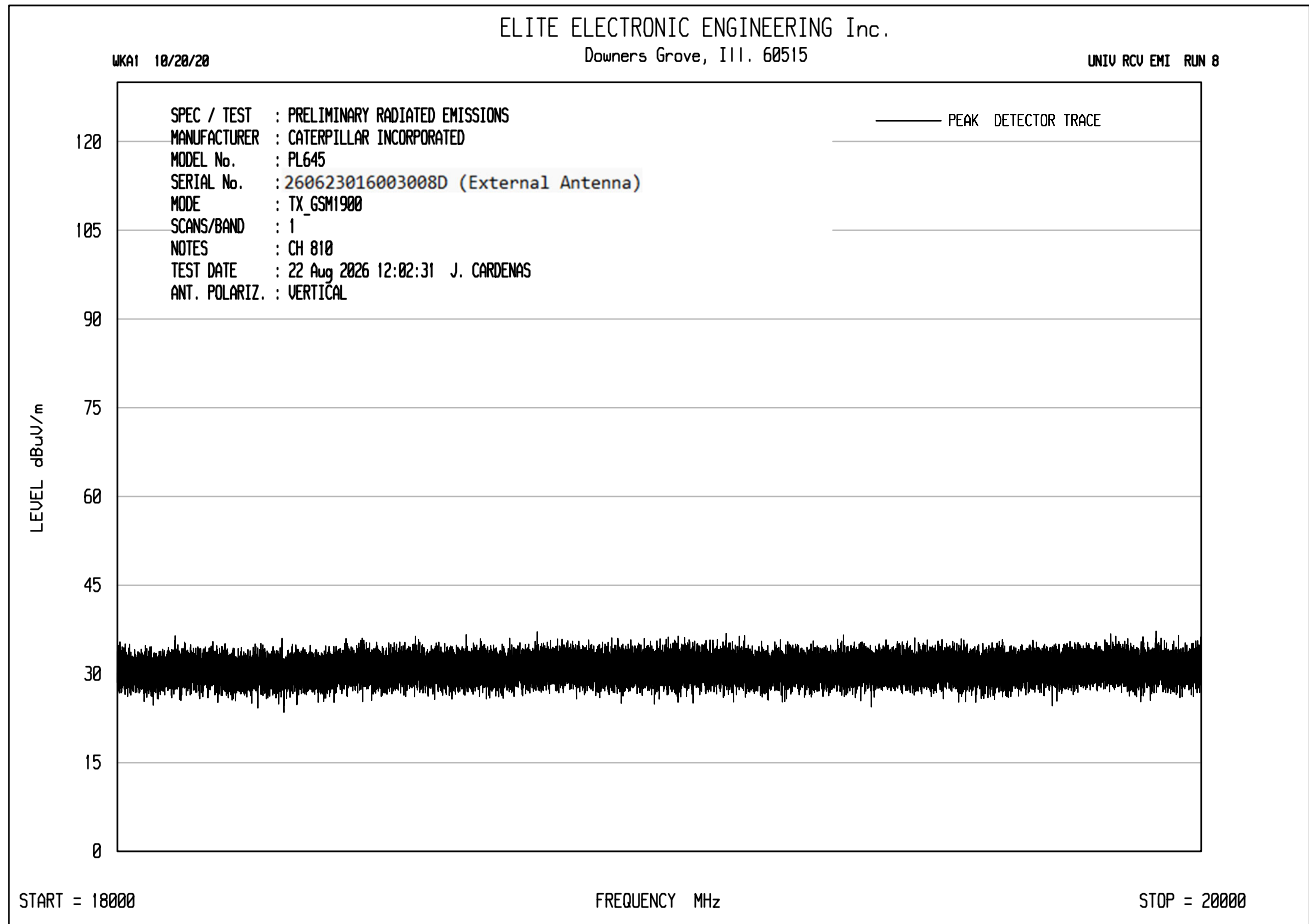






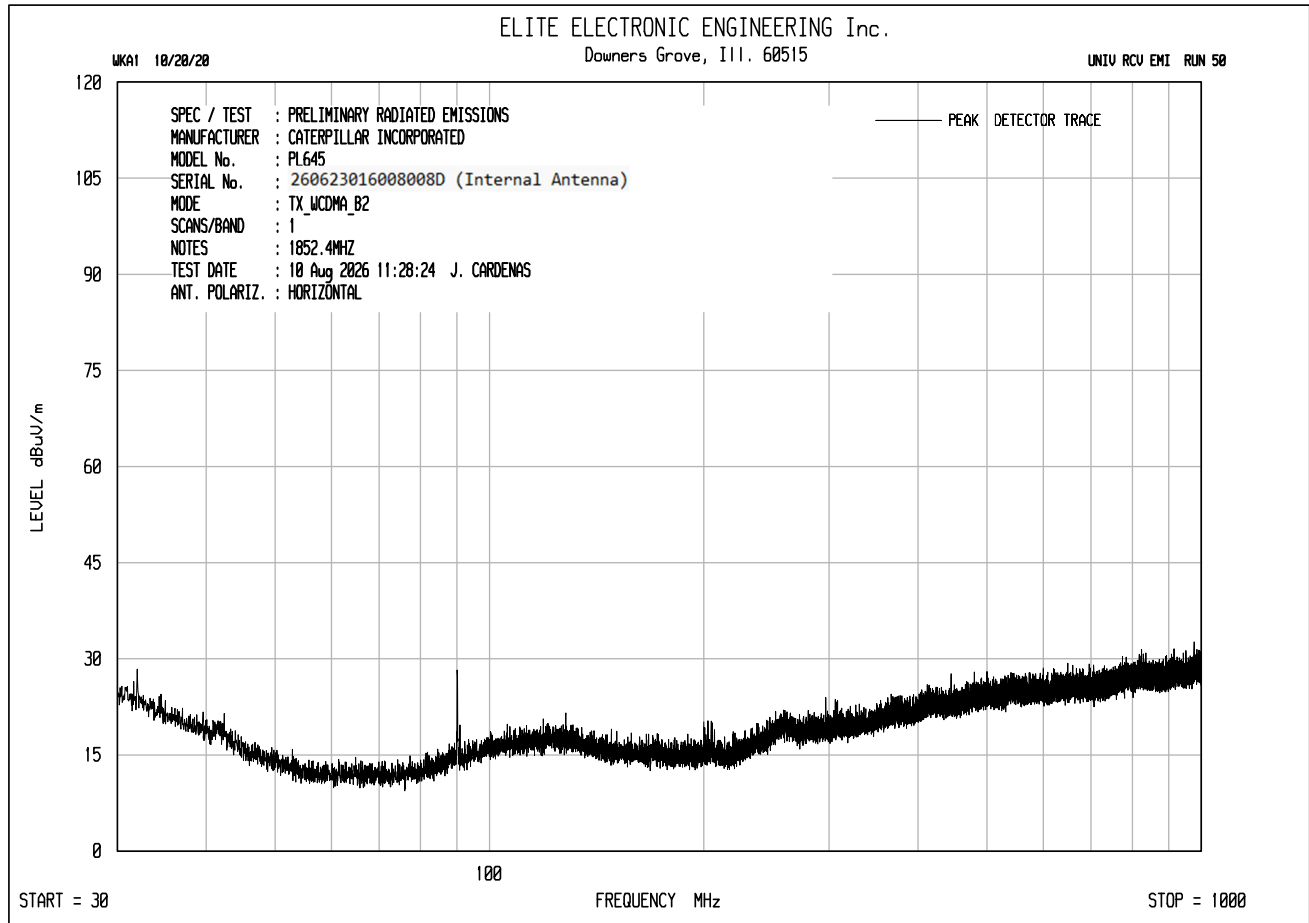


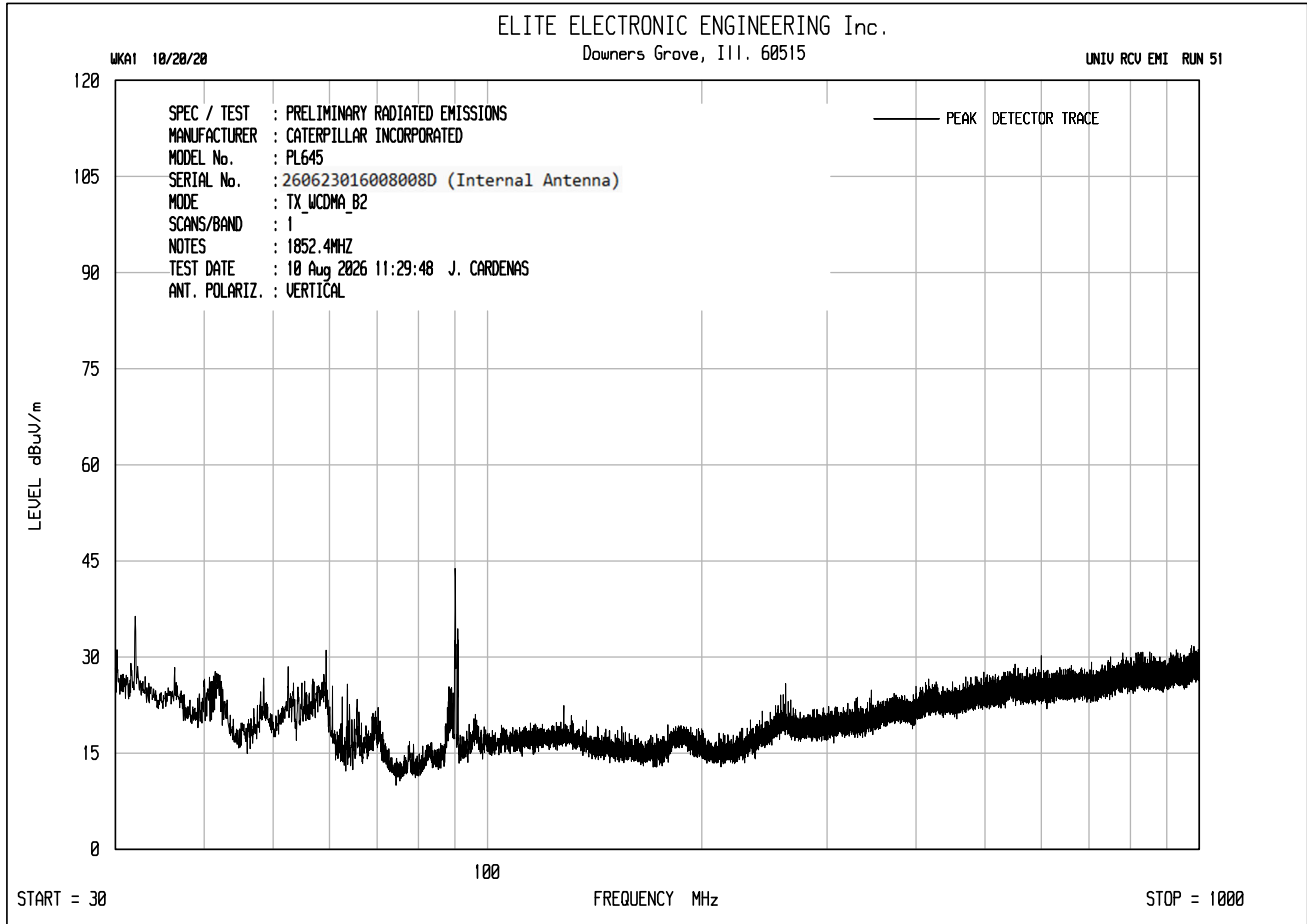


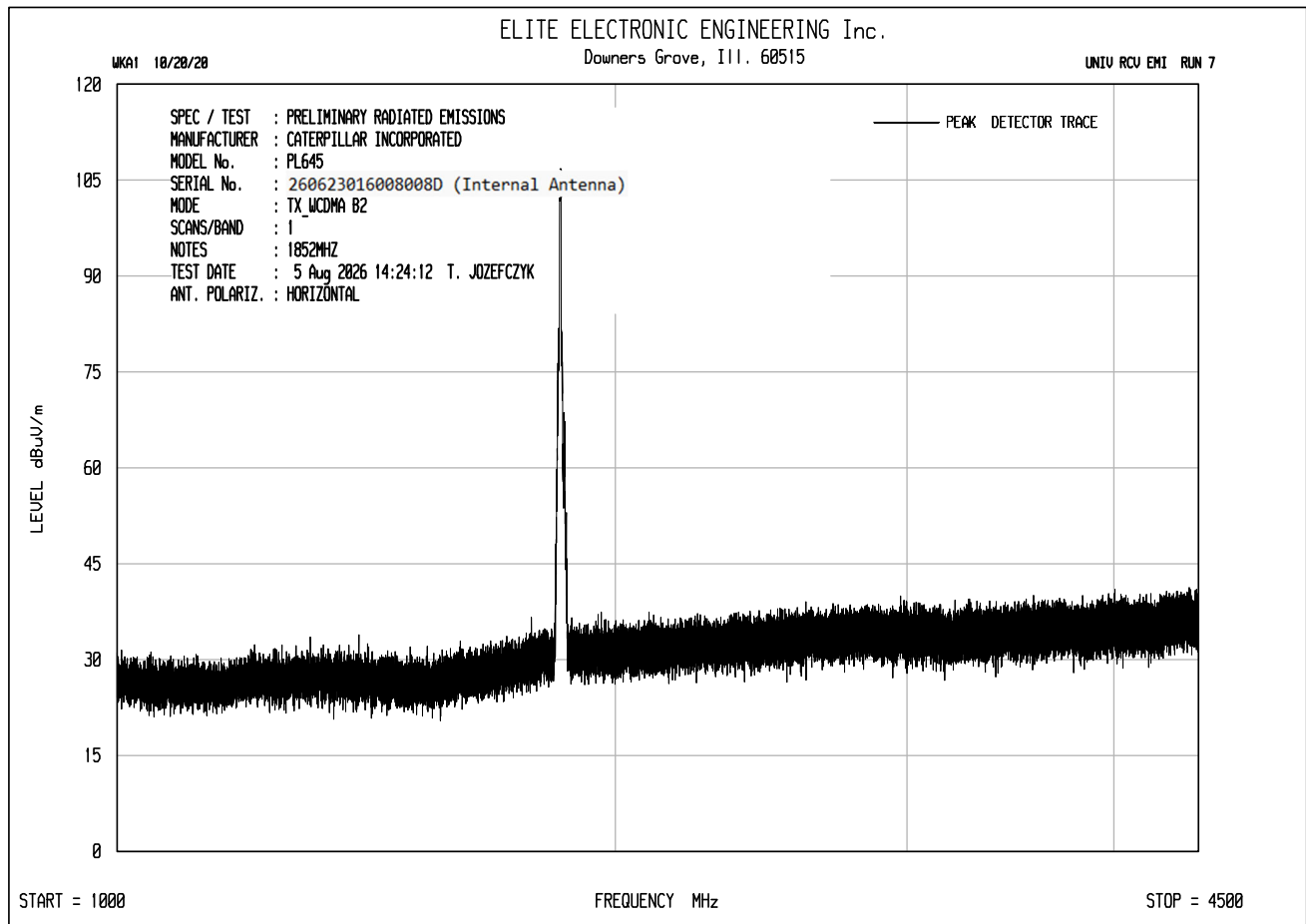


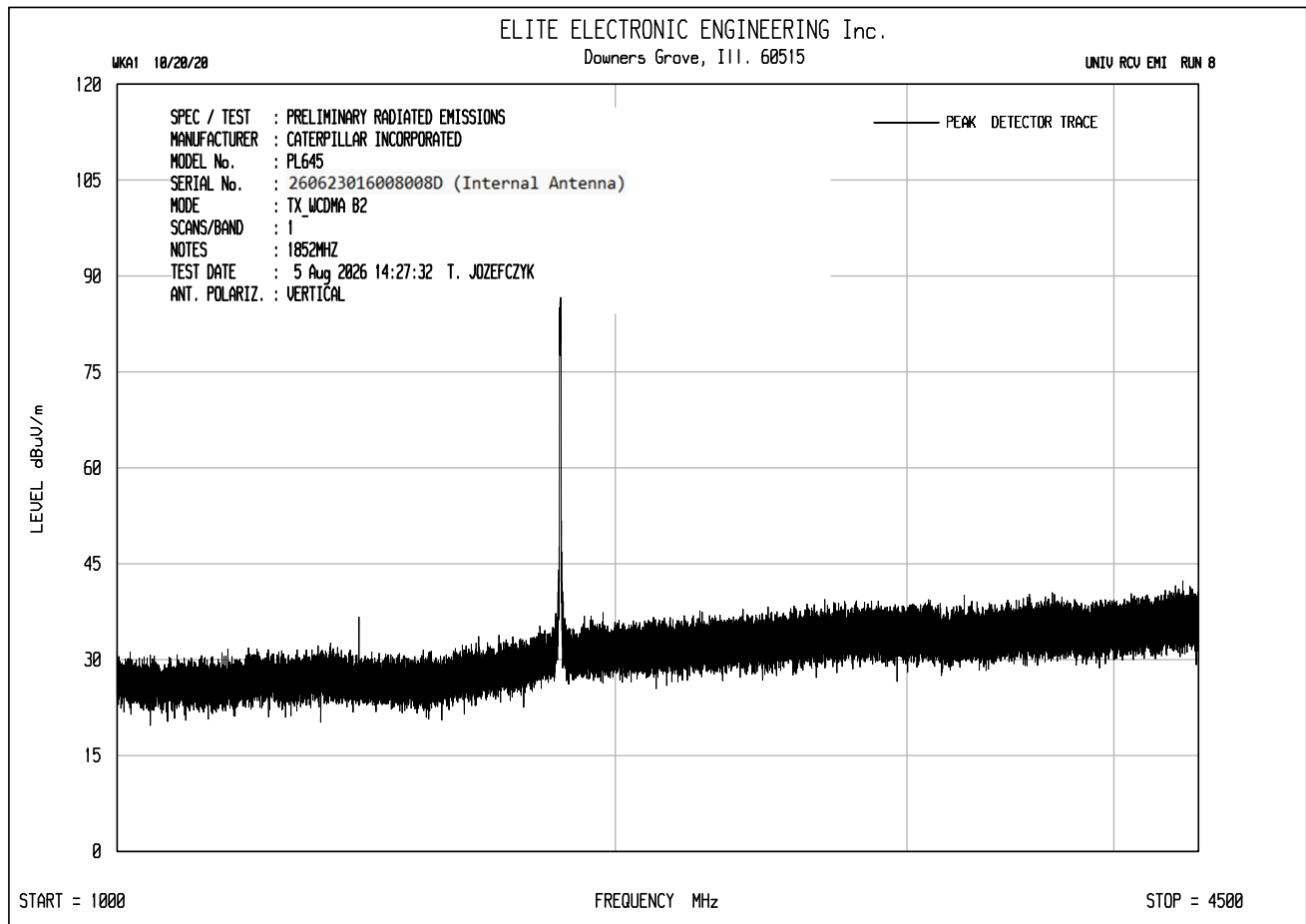
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3819.60	H	28.02	Ambient	-34.89	4.98	4.37	-34.29	64.78	43.49
3819.60	V	28.06	Ambient	-33.69	4.98	4.37	-33.09	63.58	43.49
5729.40	H	49.94	Ambient	-48.66	5.50	5.30	-48.47	78.96	43.49
5729.40	V	50.10	Ambient	-48.61	5.50	5.30	-48.42	78.91	43.49

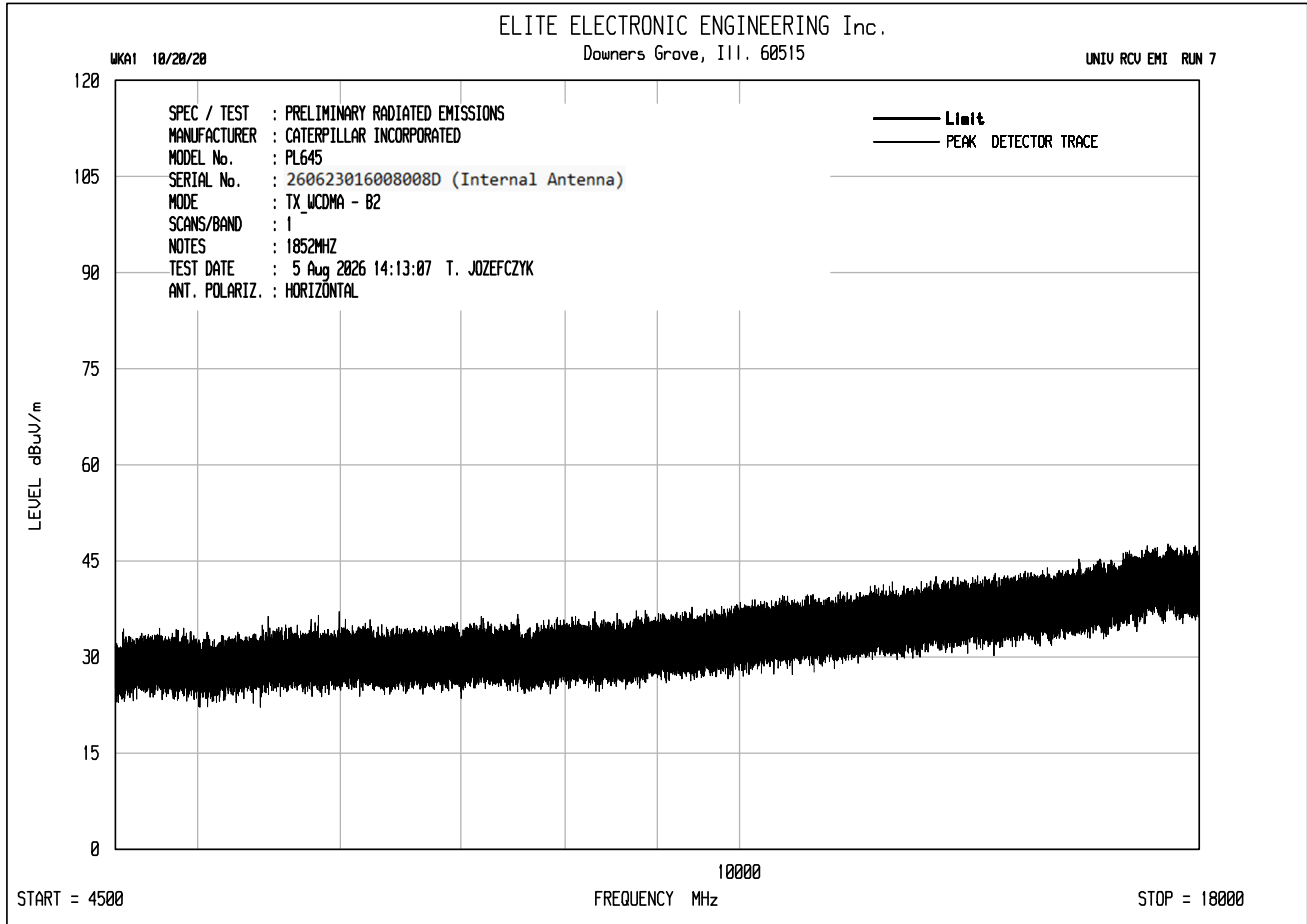
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 2
Frequency Tested	1852MHz
Notes	None

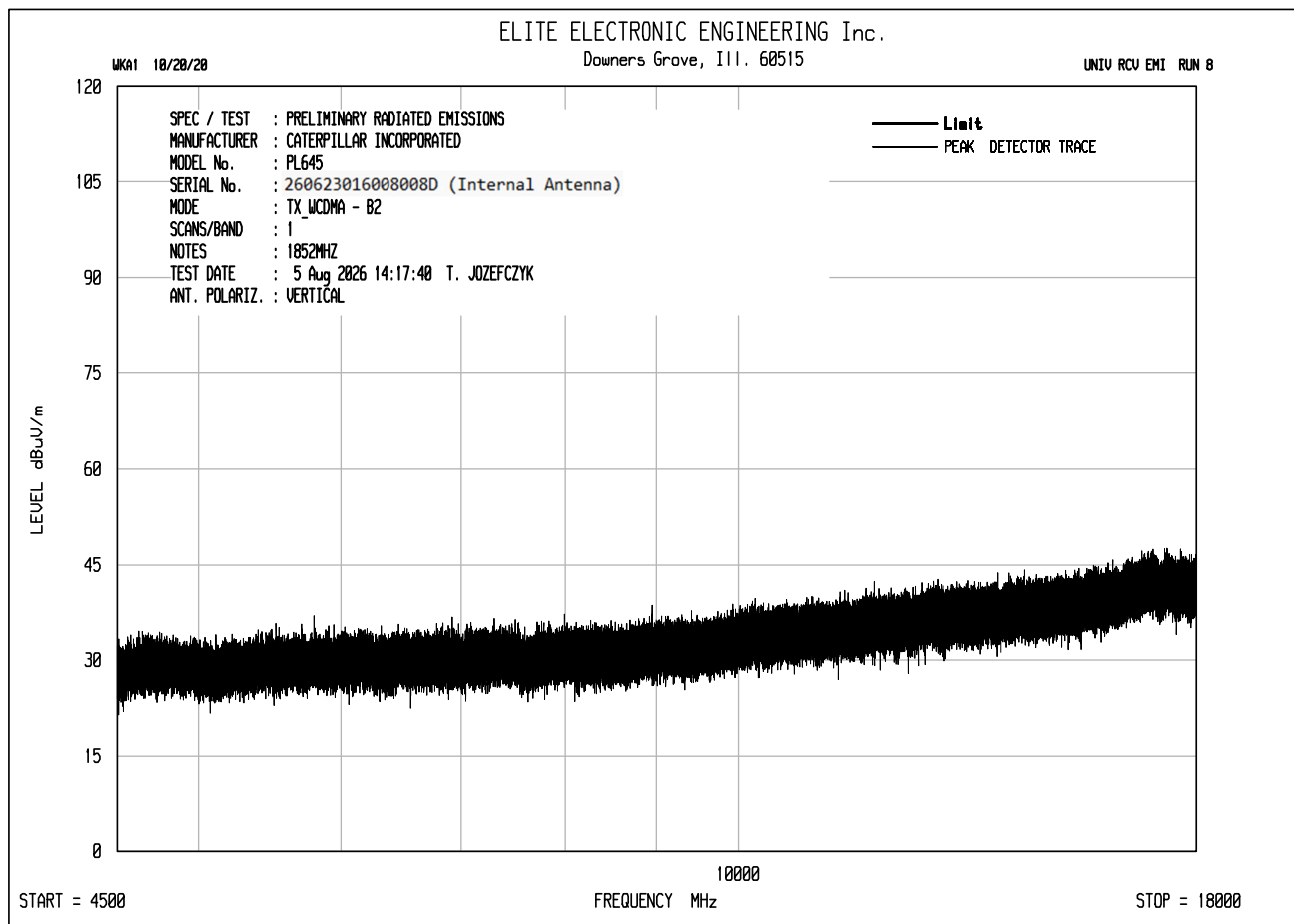


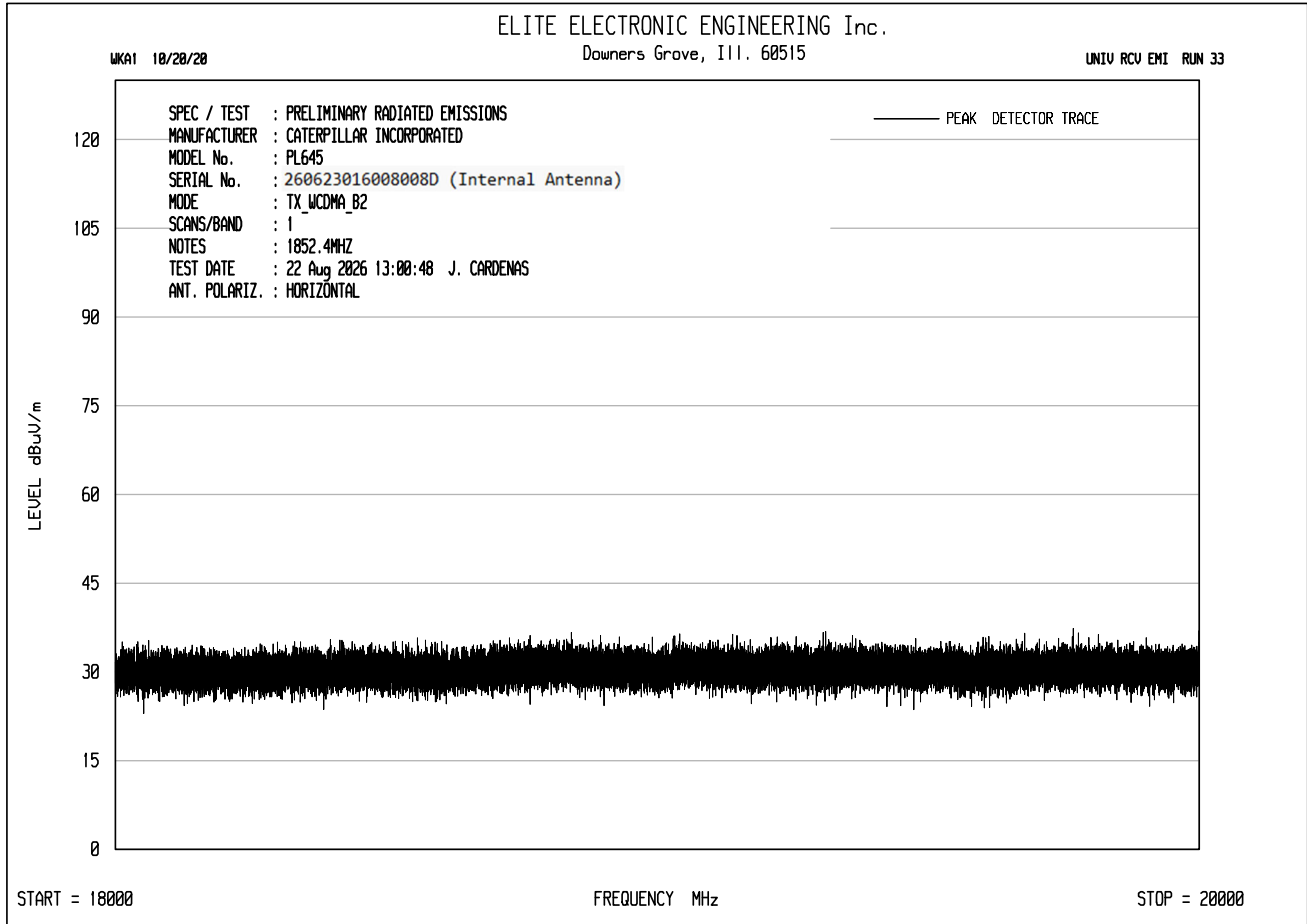


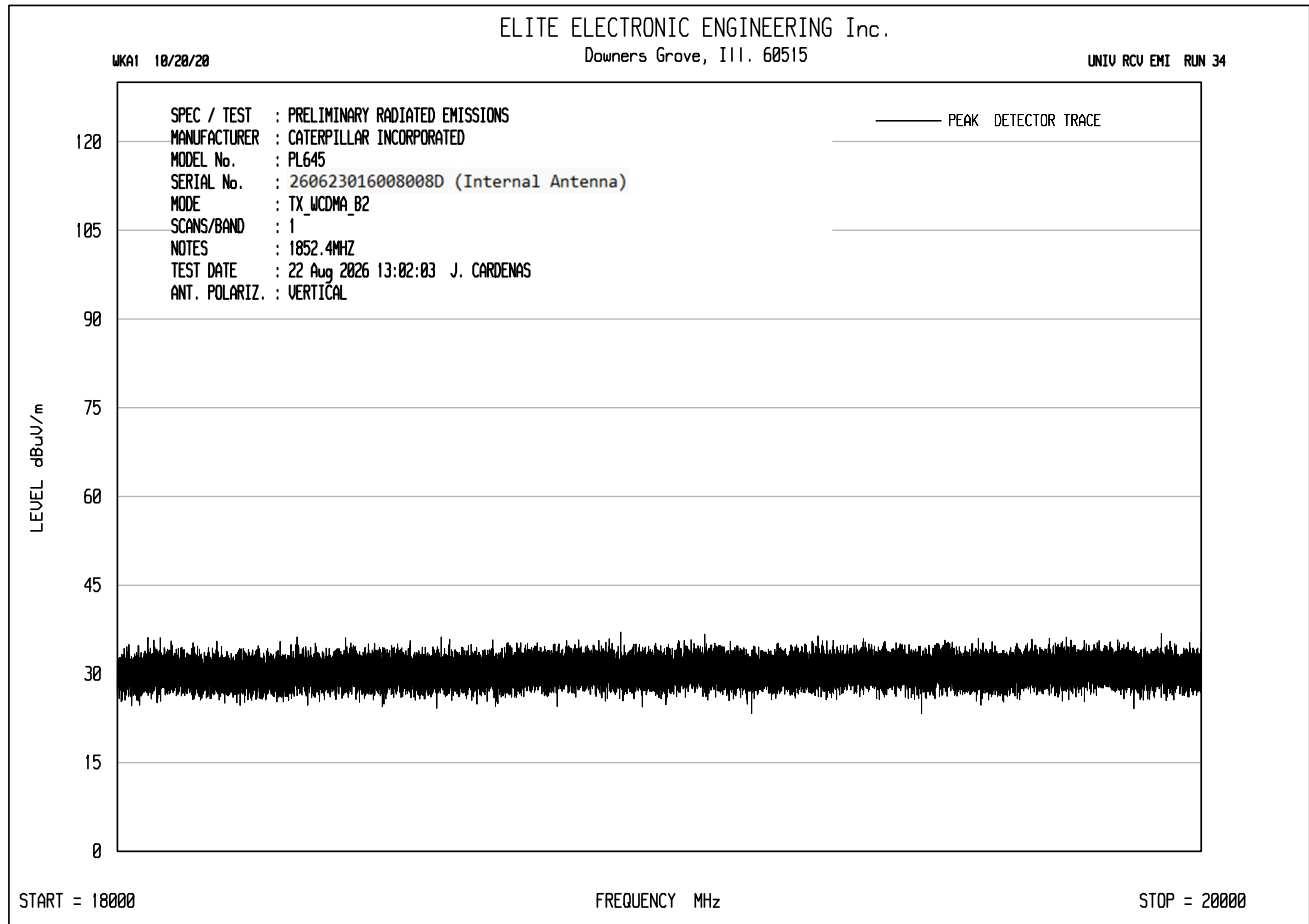






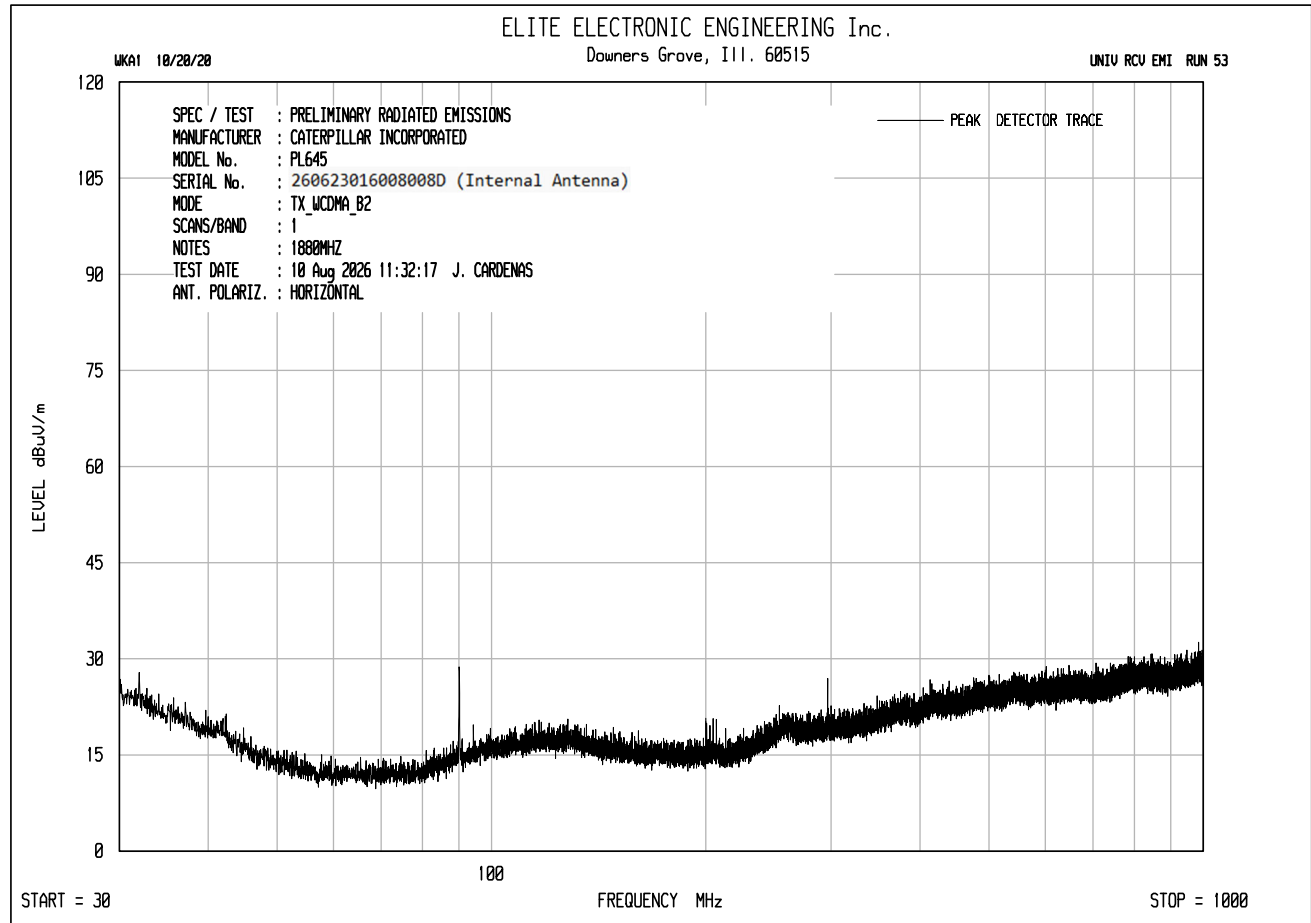


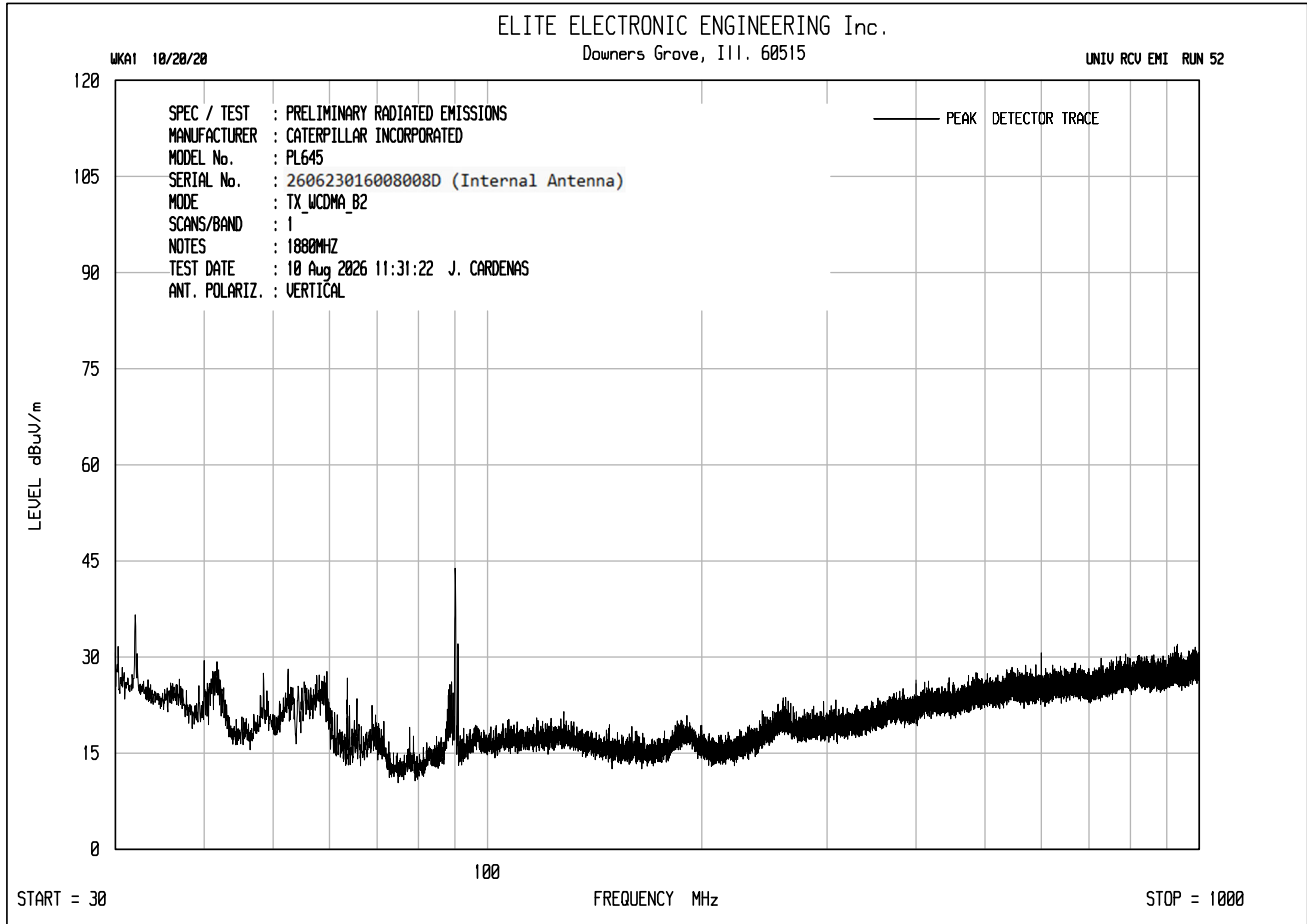


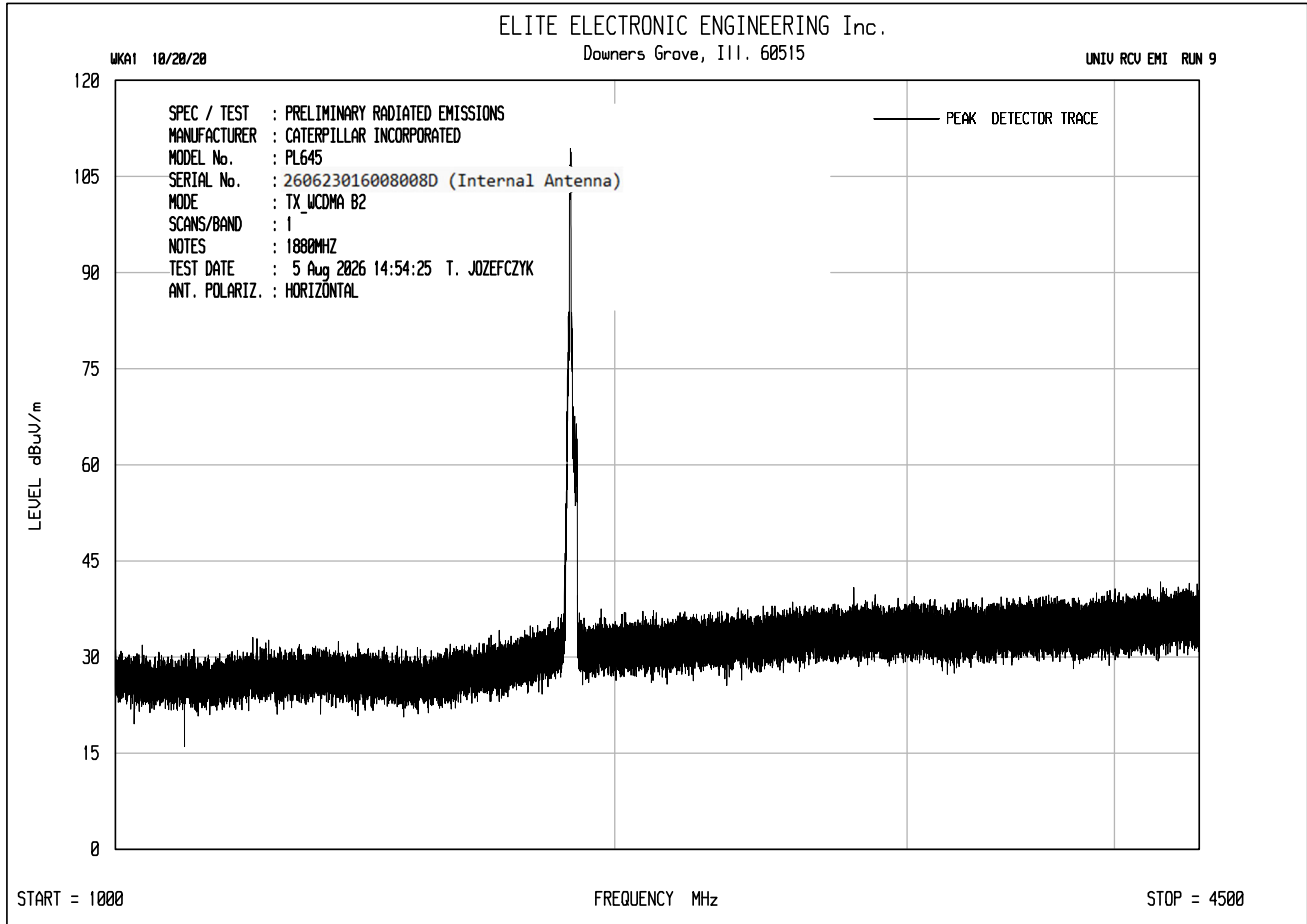


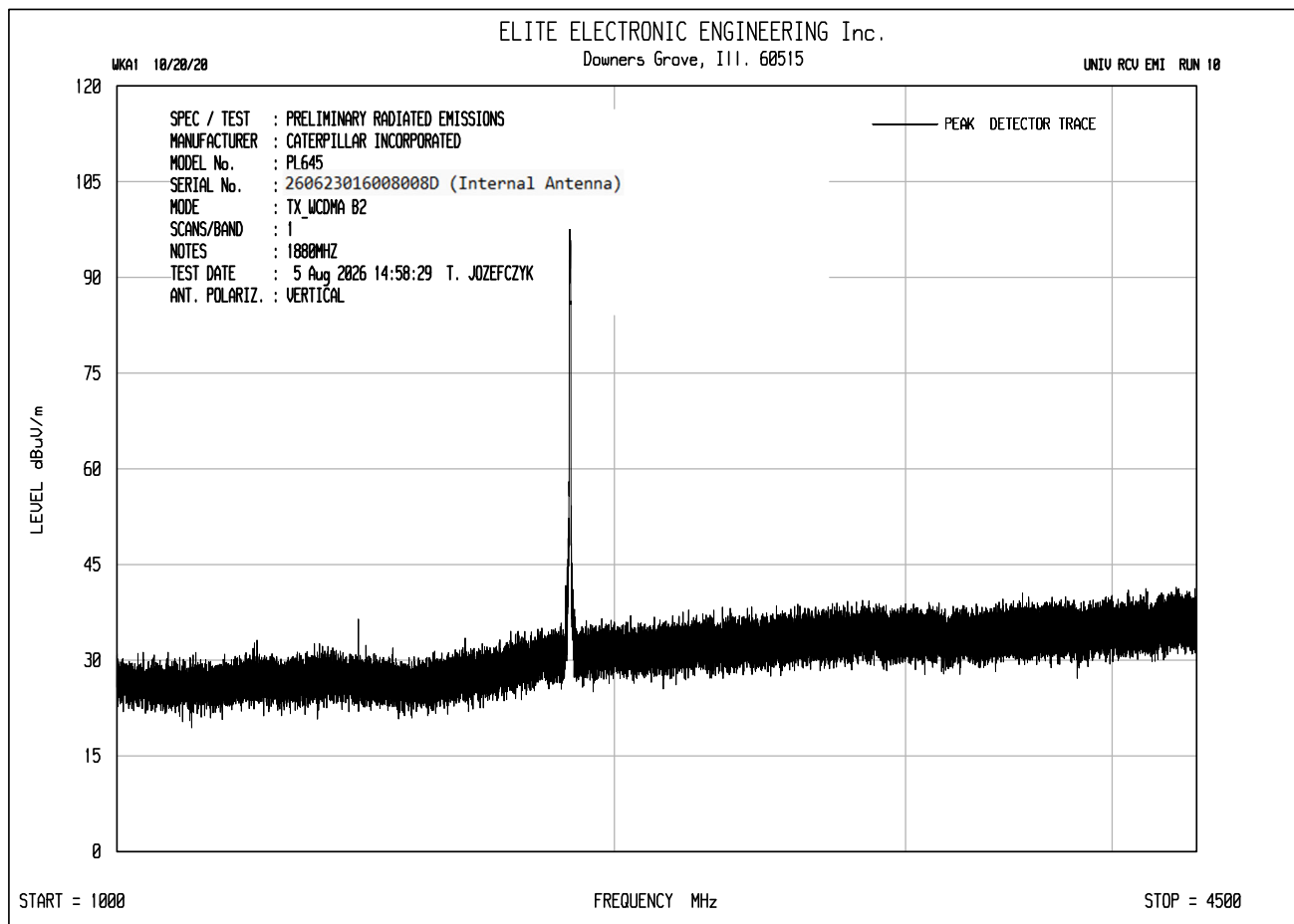
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3704.80	H	24.93	Ambient	-38.25	5.04	4.31	-37.53	59.57	35.04
3704.80	V	24.98	Ambient	-37.05	5.04	4.31	-36.33	58.37	35.04
5557.20	H	48.98	Ambient	-50.56	6.10	5.22	-49.67	71.71	35.04
5557.20	V	48.95	Ambient	-50.76	6.10	5.22	-49.88	71.92	35.04

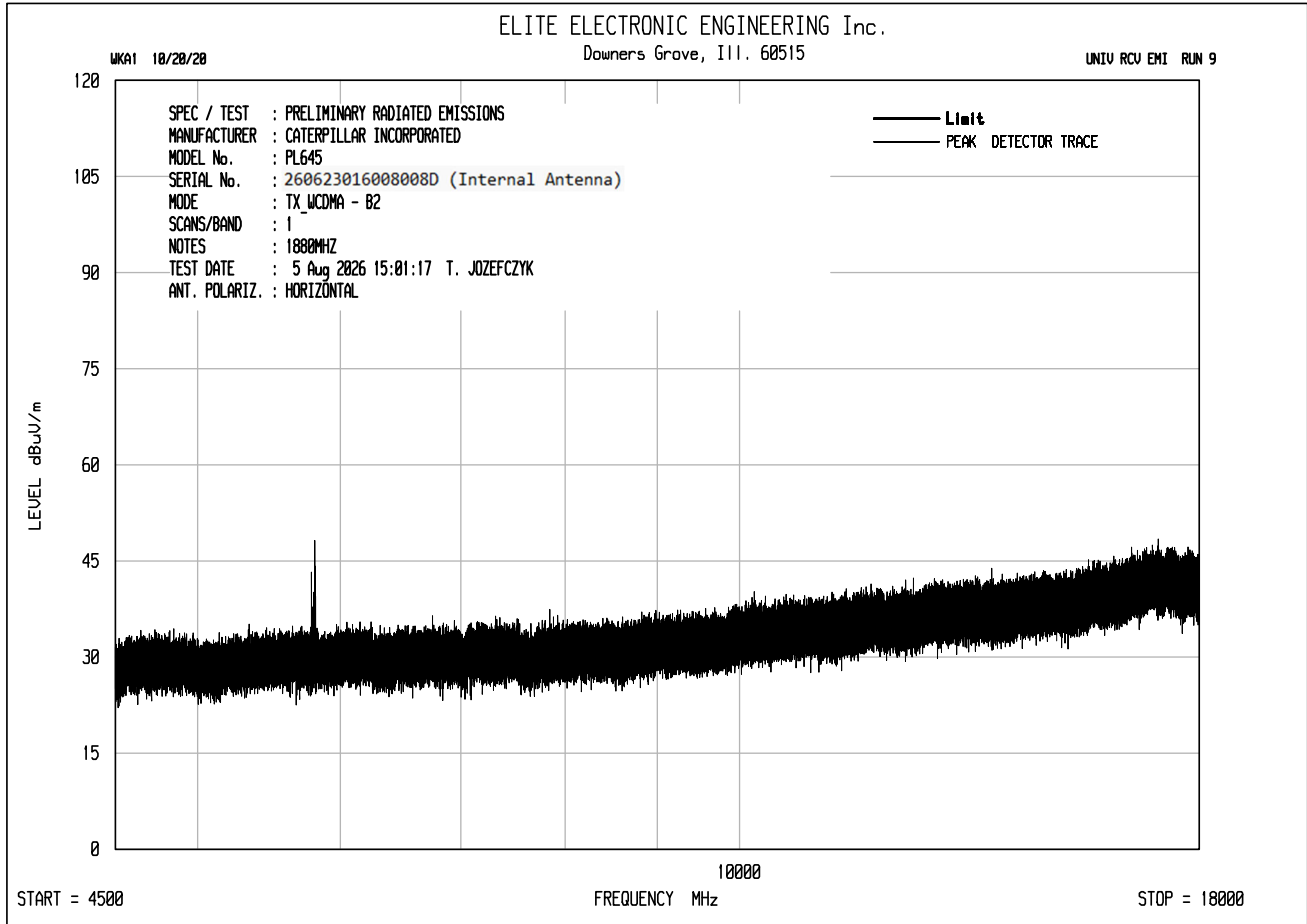
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 2
Frequency Tested	1880MHz
Notes	None

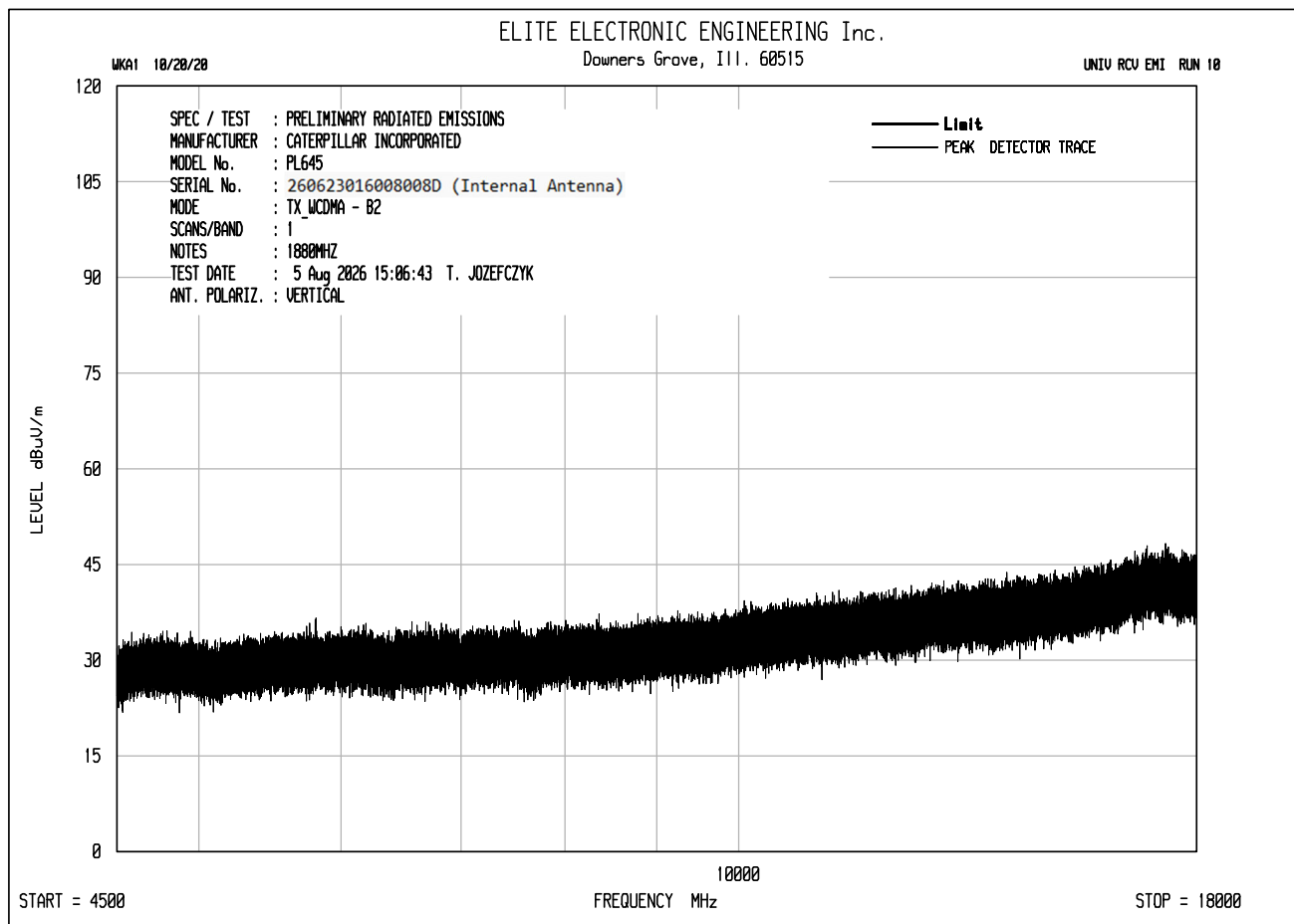


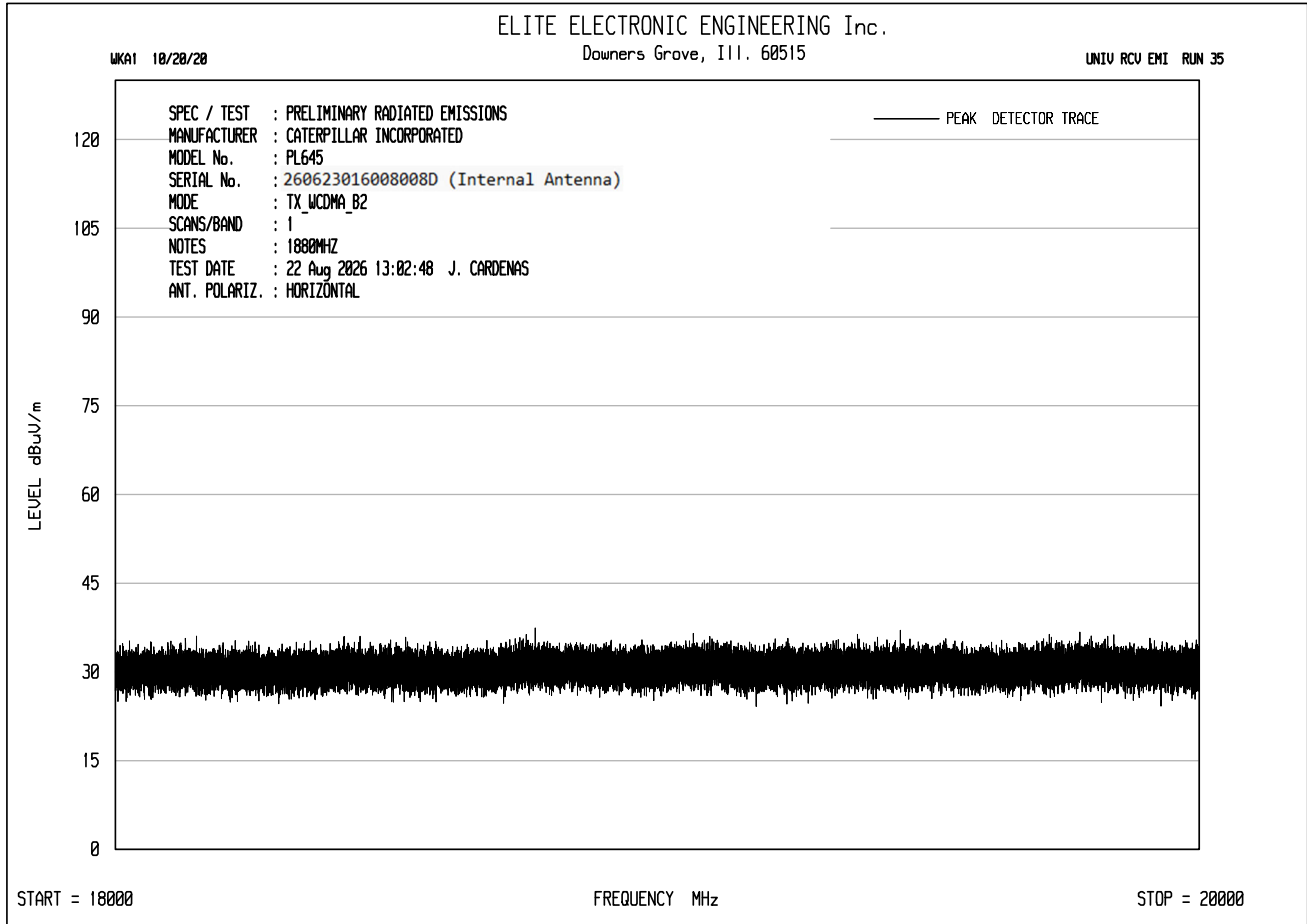


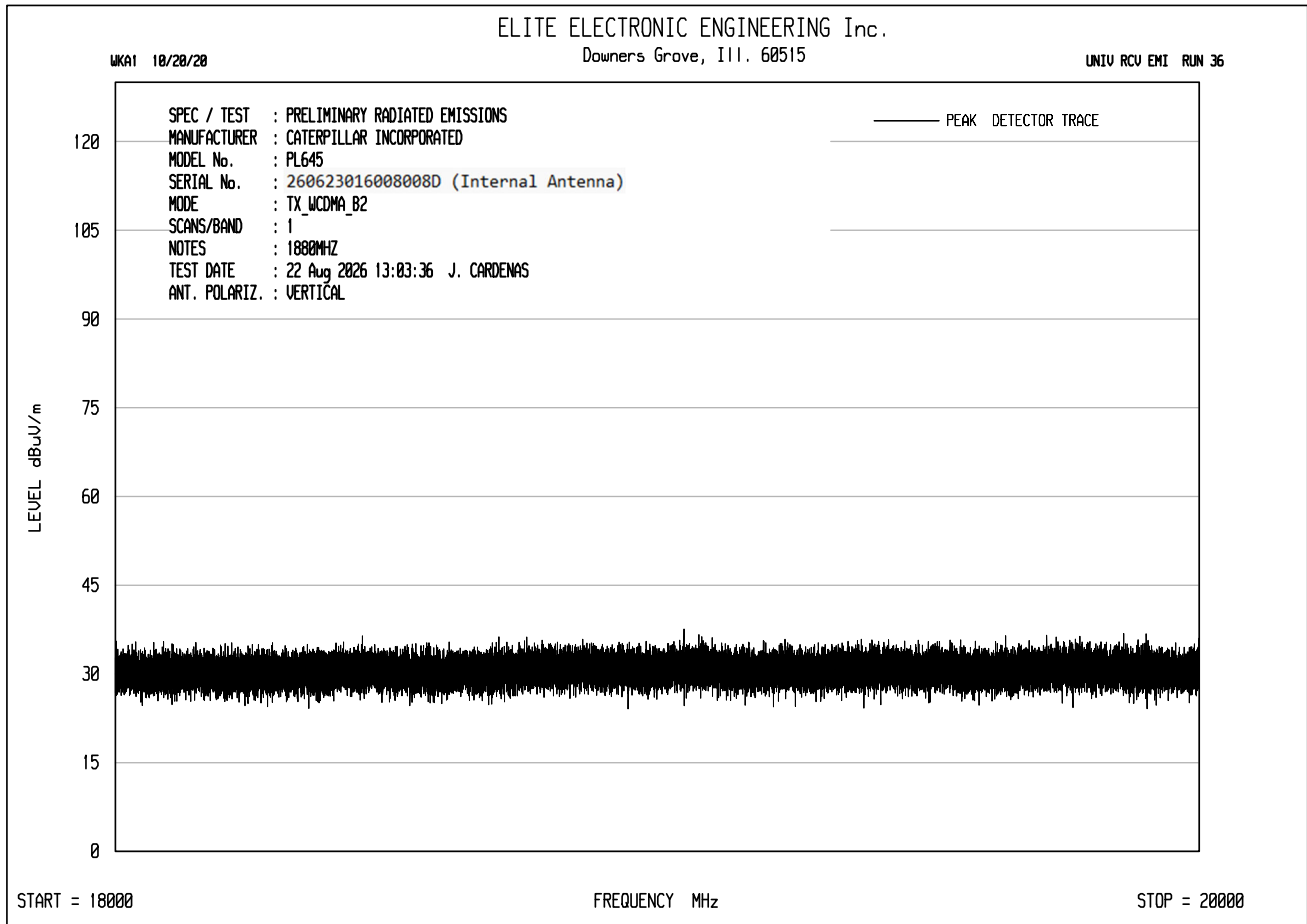






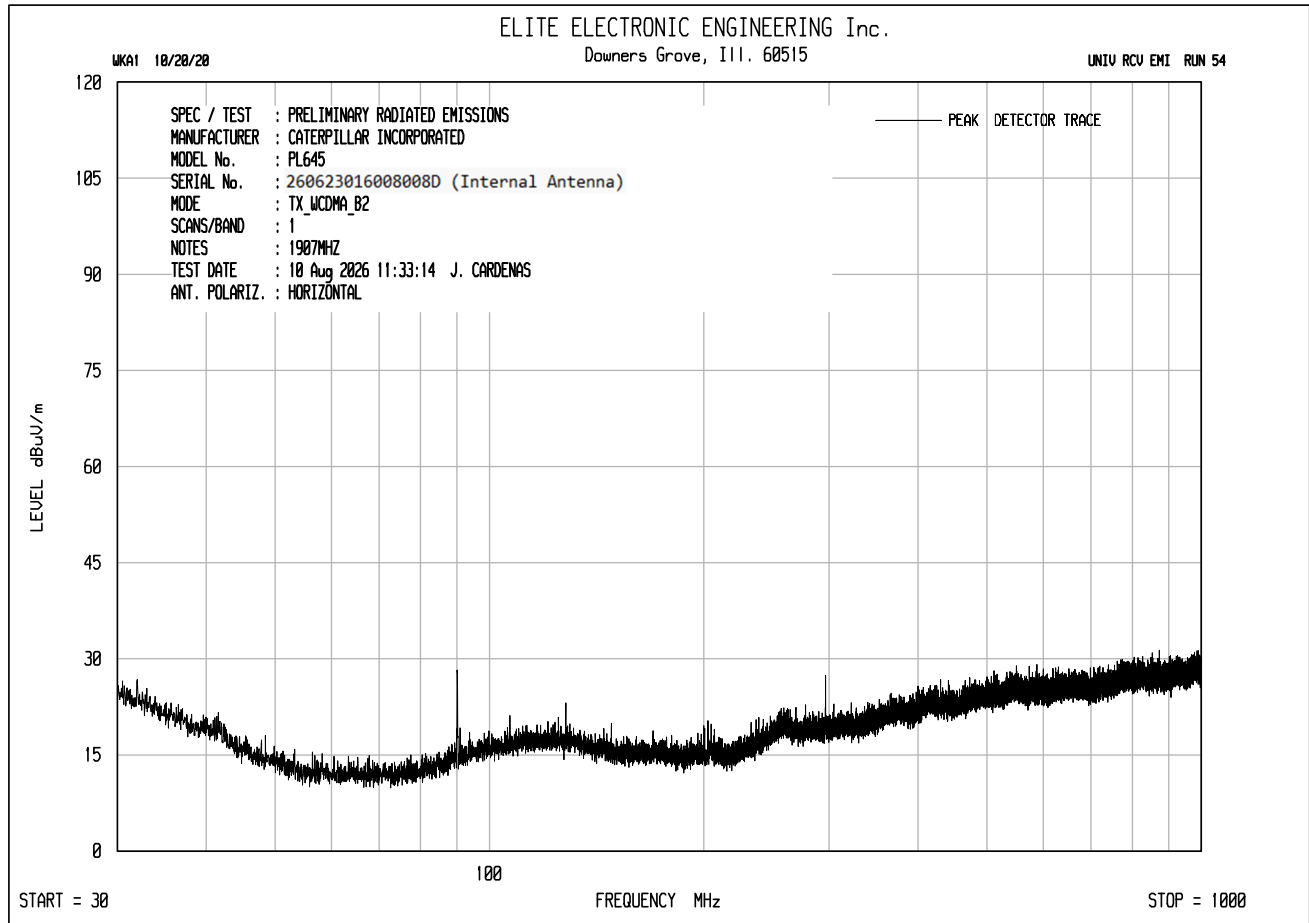


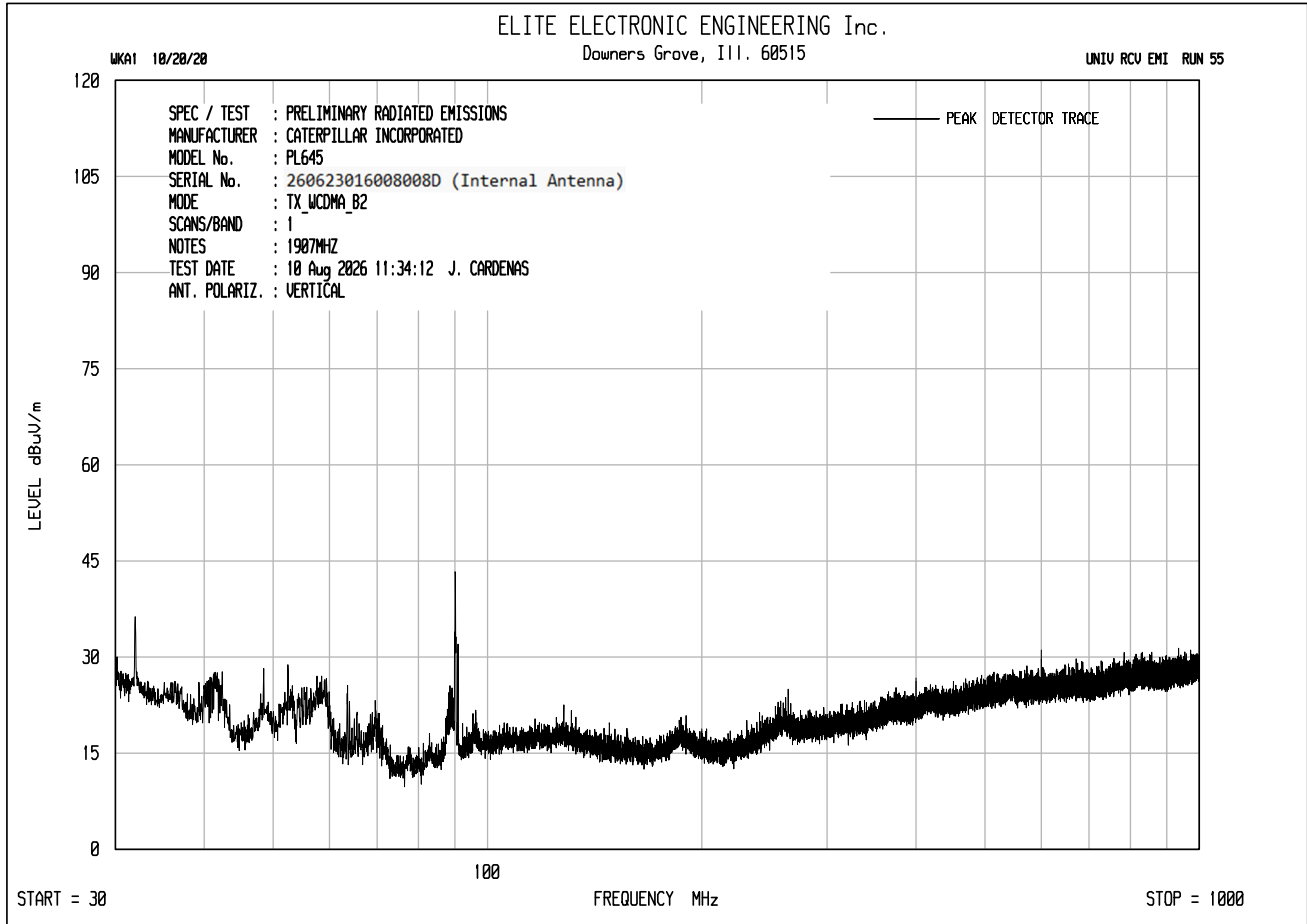


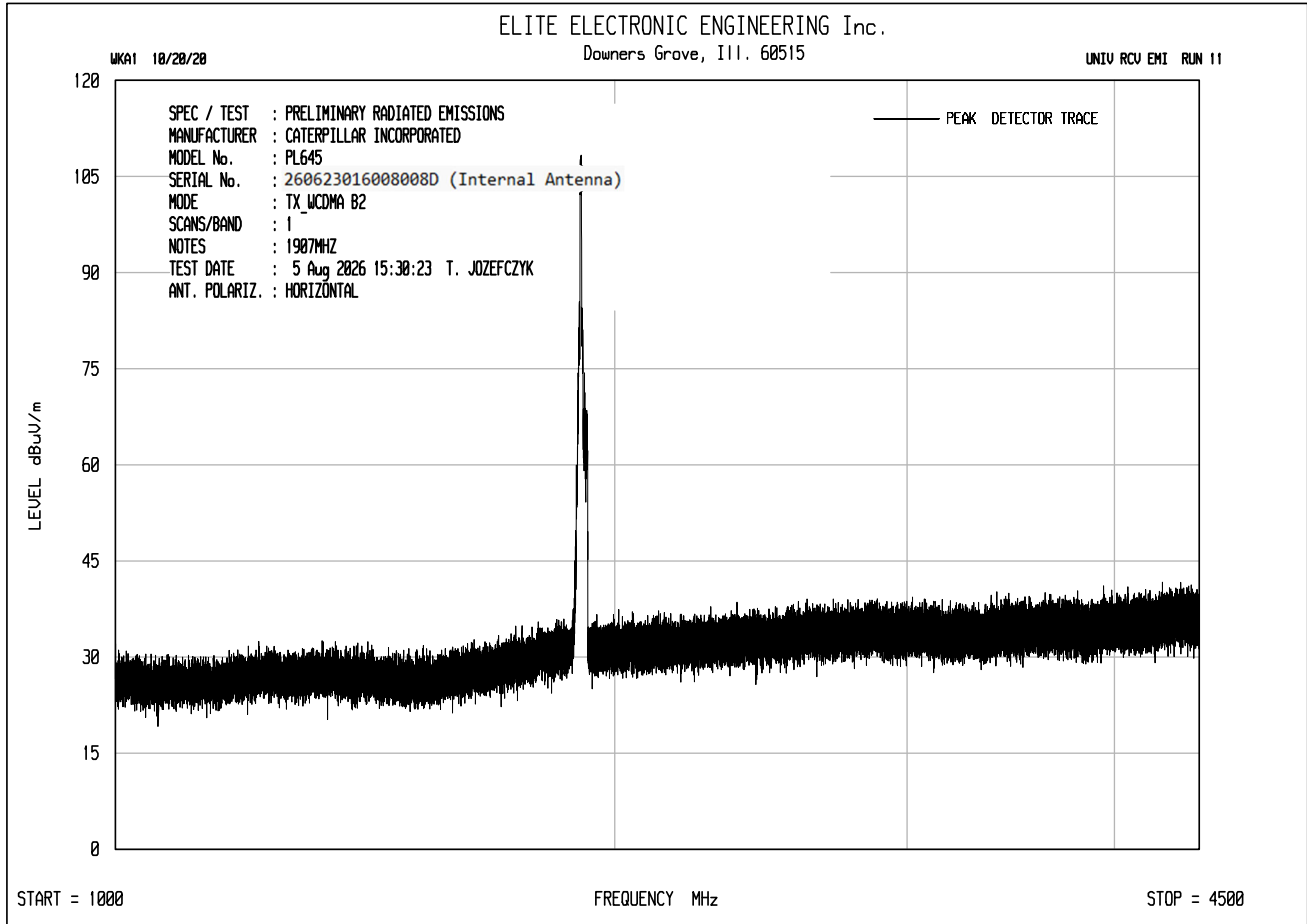


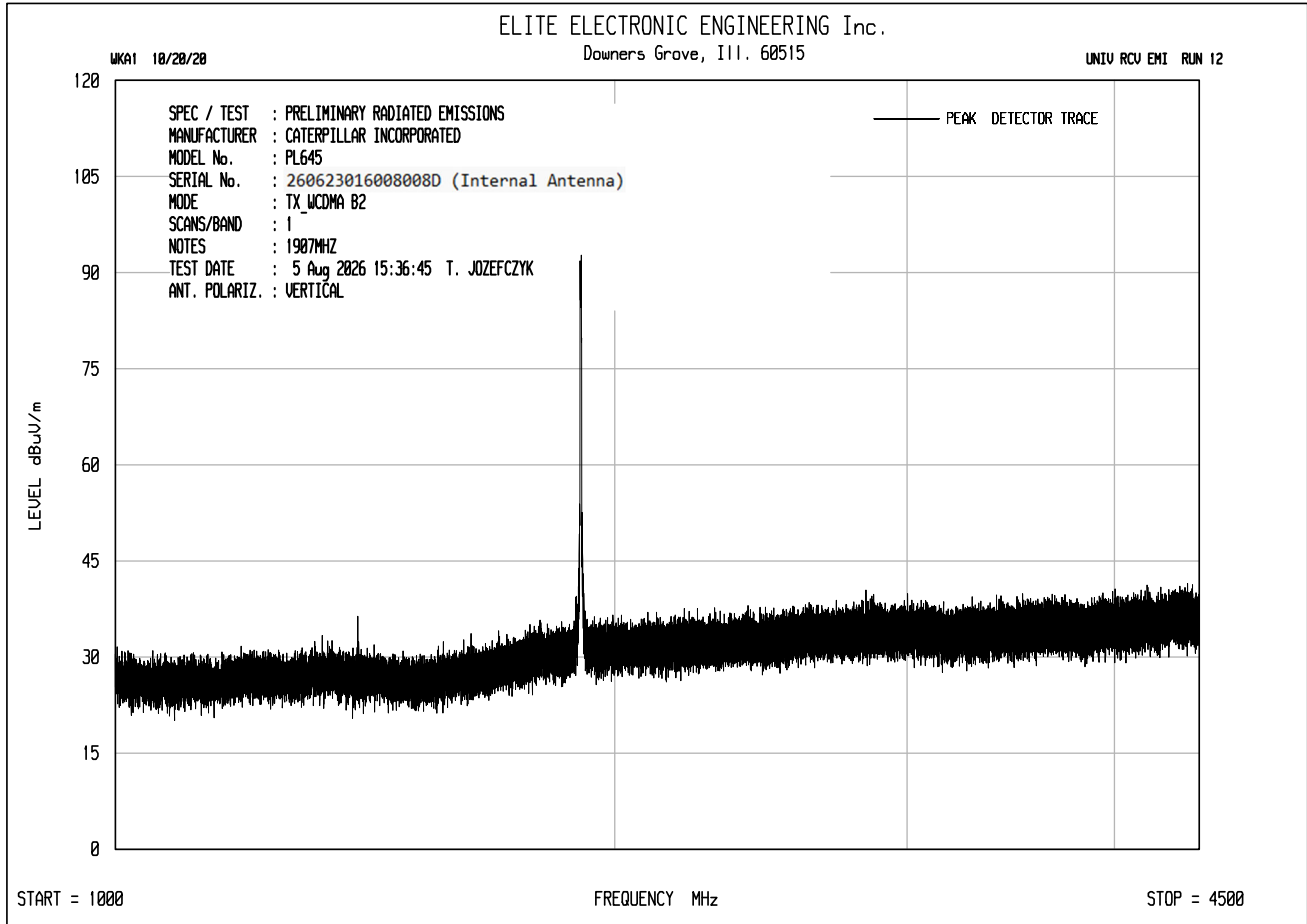
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3760.00	H	24.30	Ambient	-38.72	5.07	4.34	-37.99	60.03	35.04
3760.00	V	24.31	Ambient	-37.53	5.07	4.34	-36.80	58.84	35.04
5640.00	H	49.56	Ambient	-49.53	5.66	5.26	-49.12	71.16	35.04
5640.00	V	49.41	Ambient	-49.82	5.66	5.26	-49.42	71.46	35.04

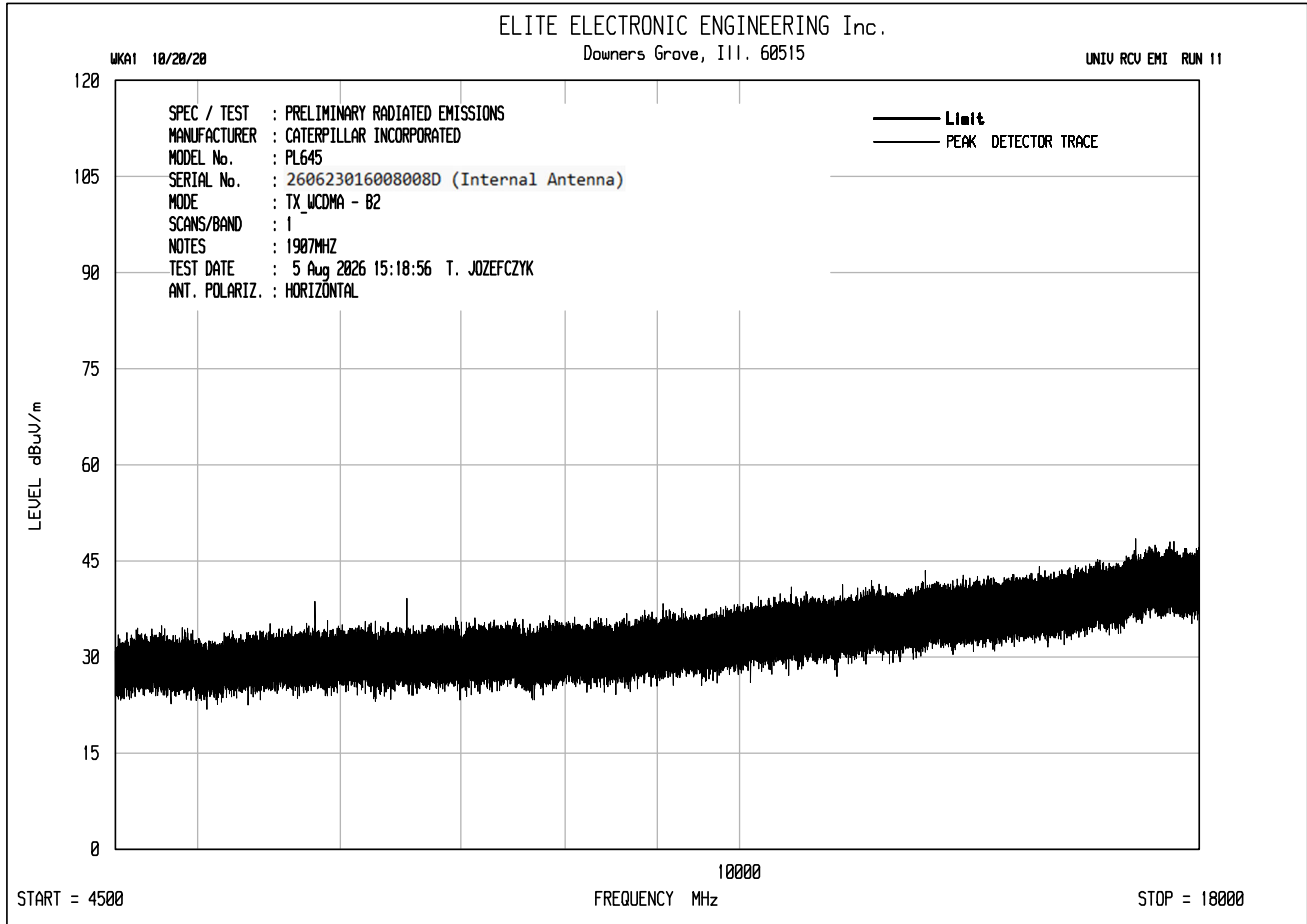
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 2
Frequency Tested	1907.6MHz
Notes	None

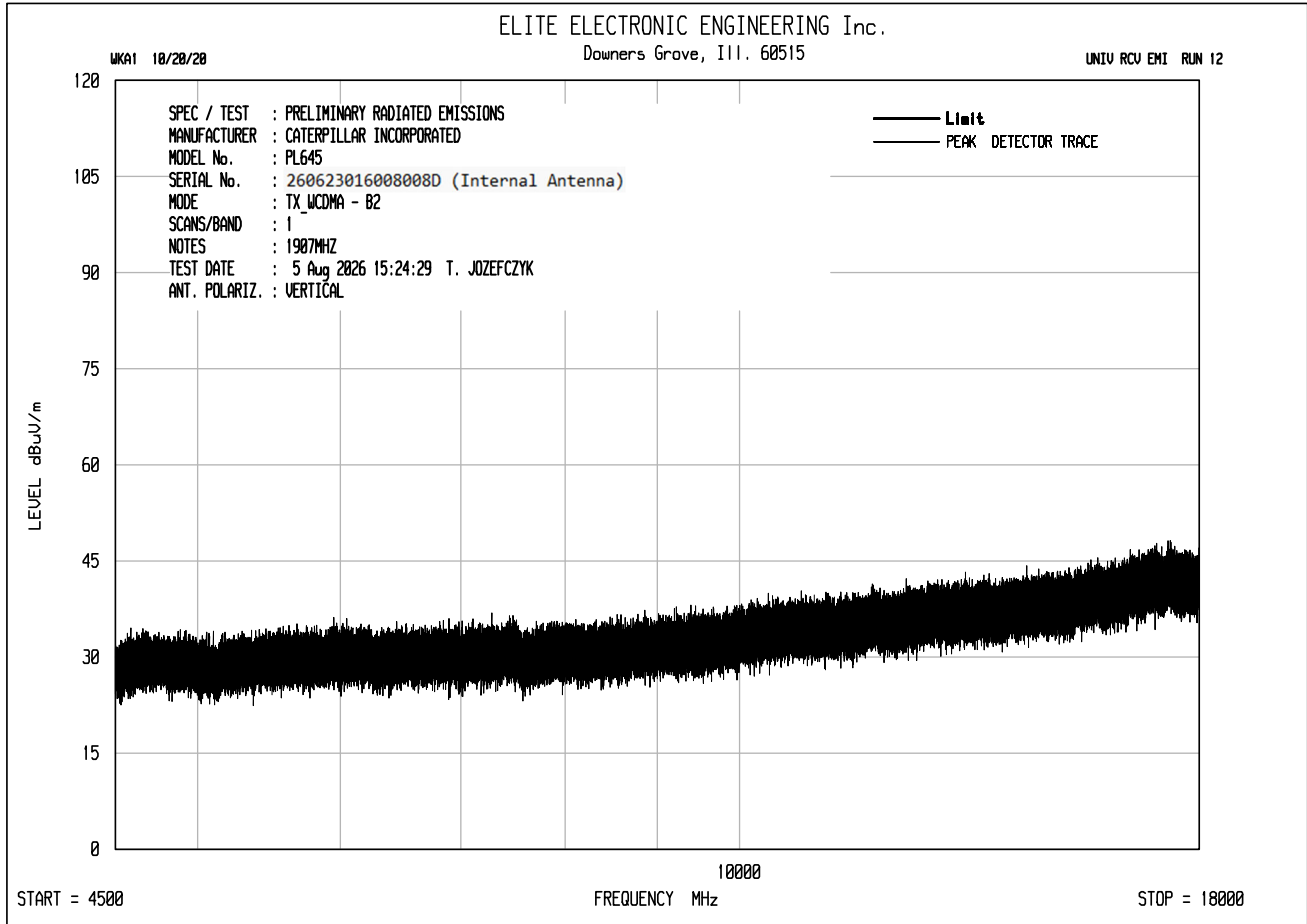


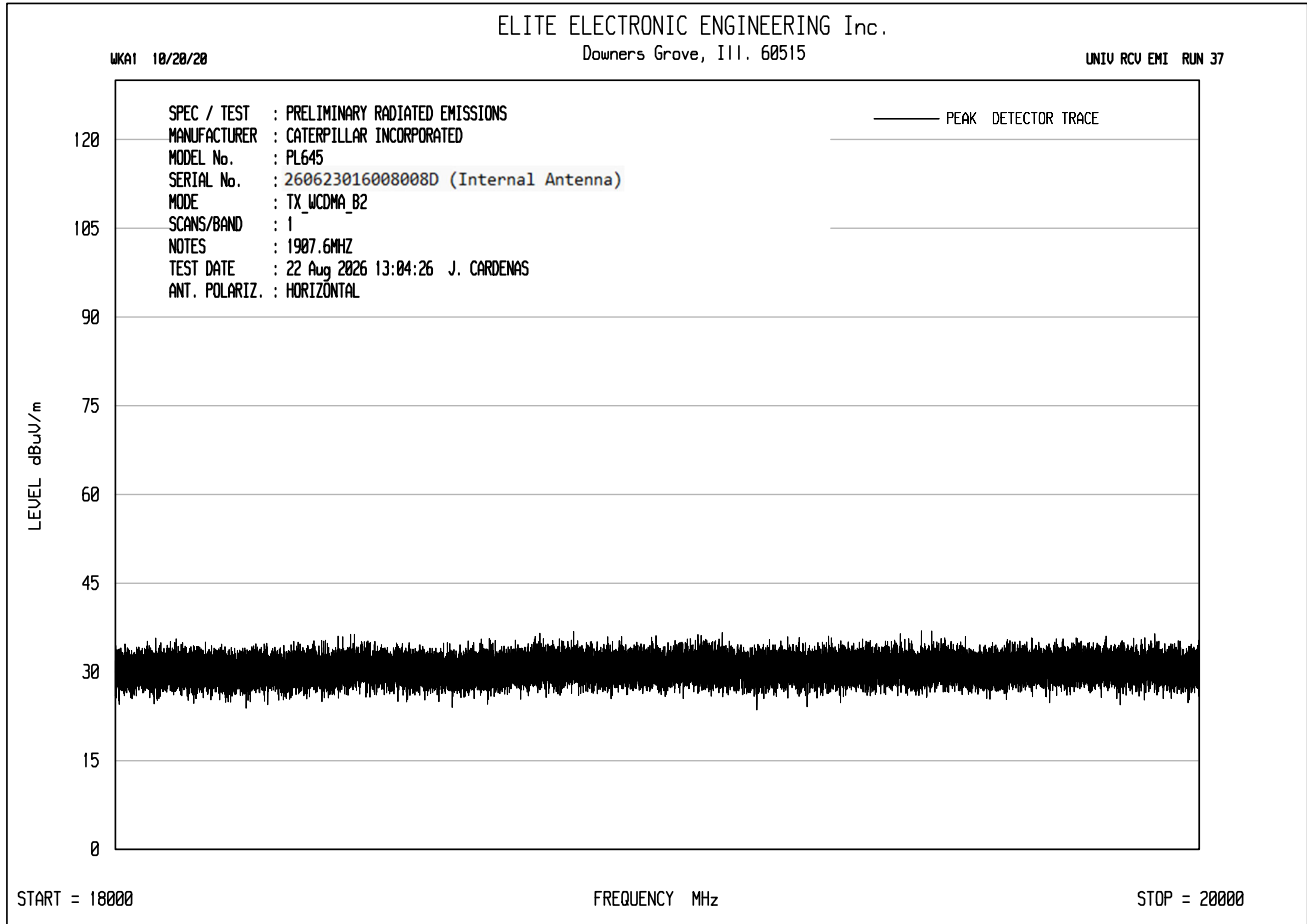


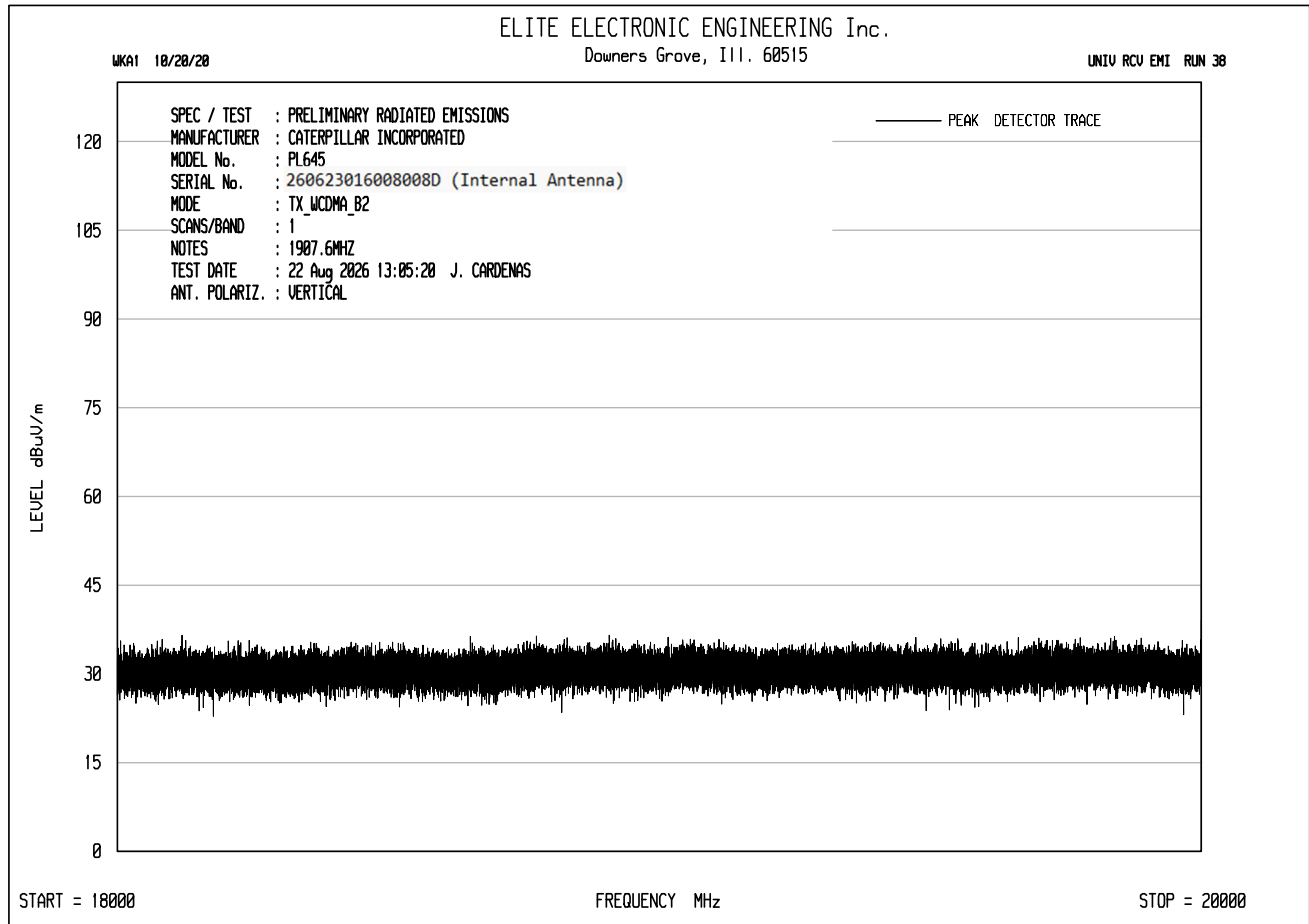






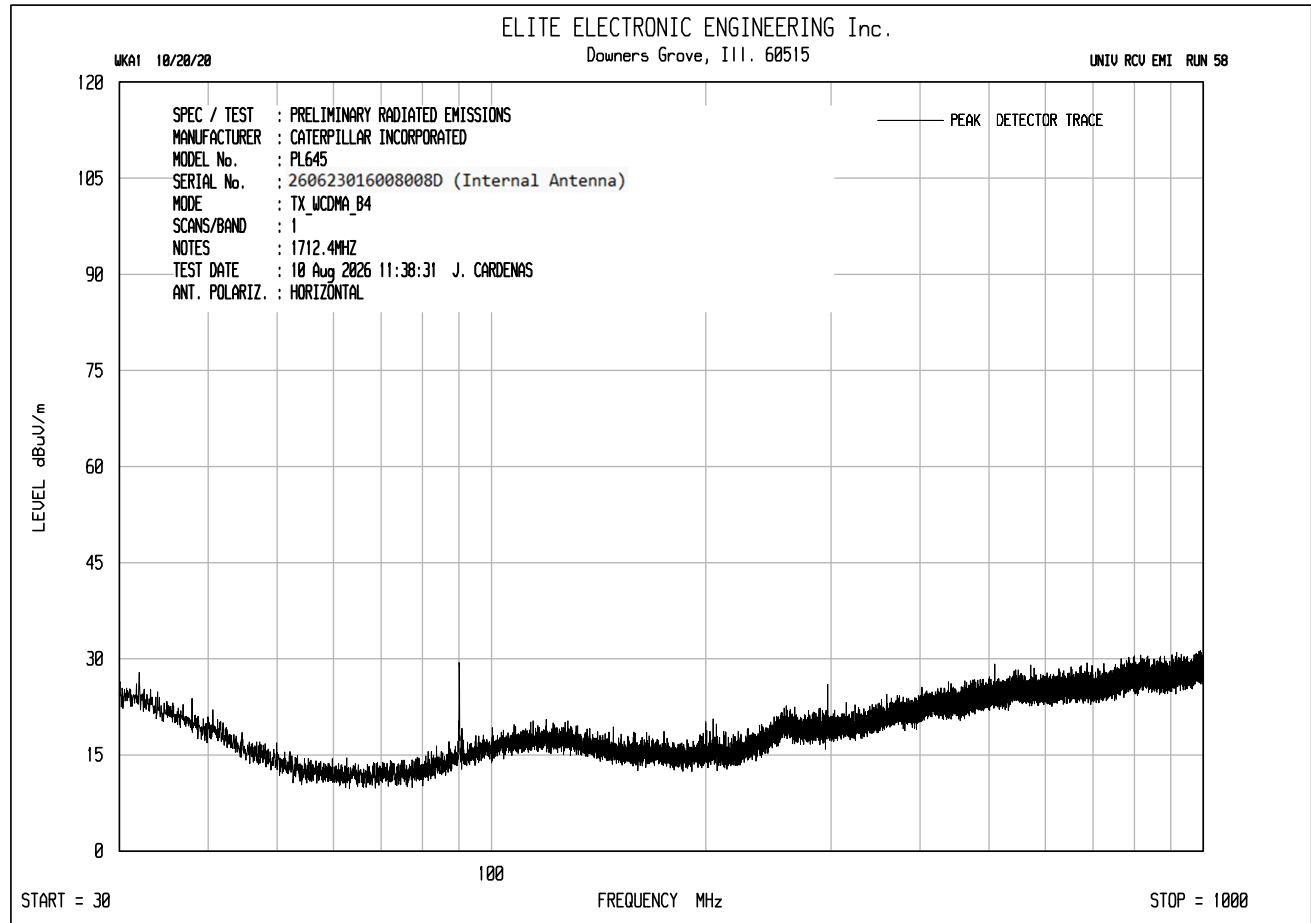


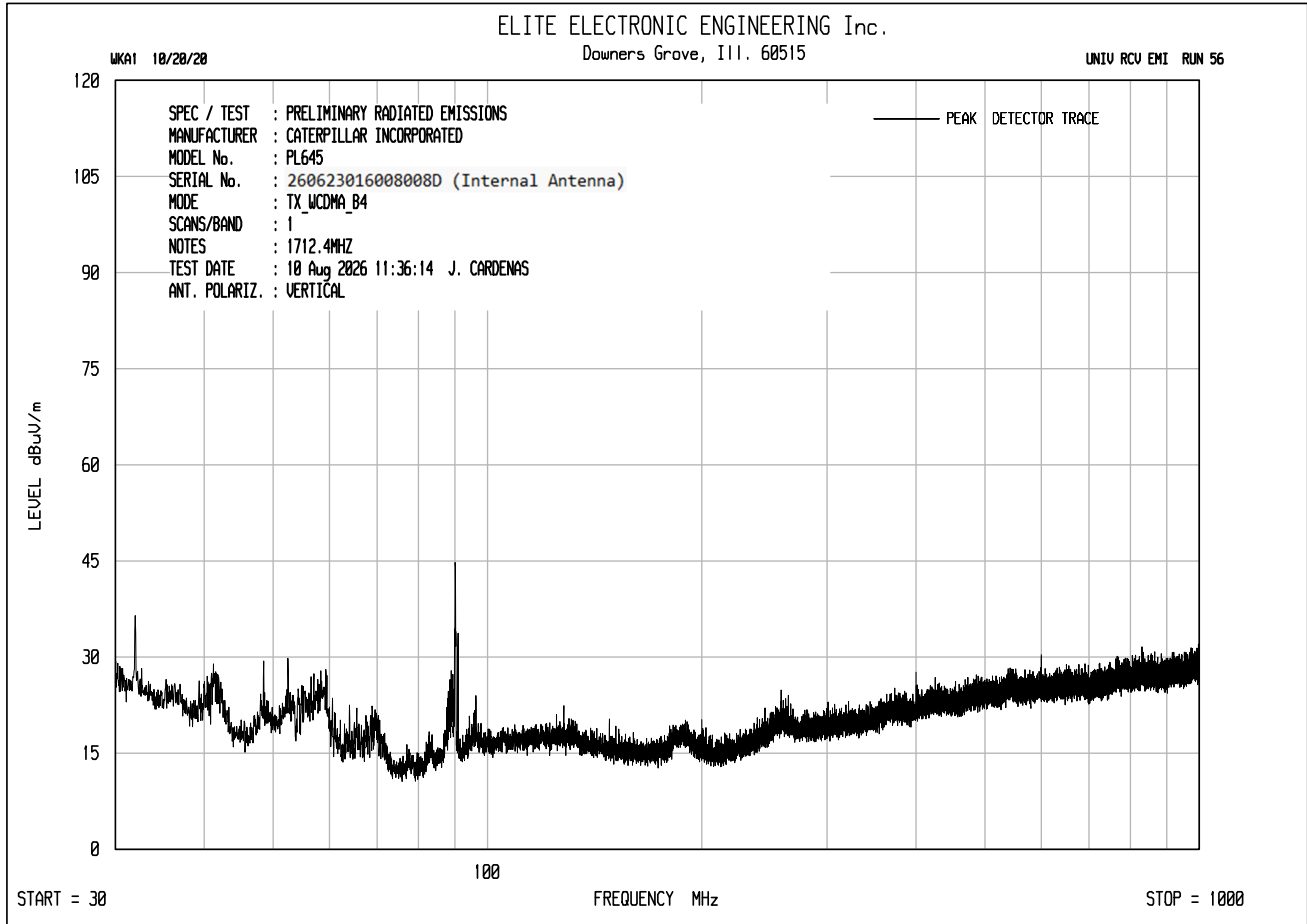


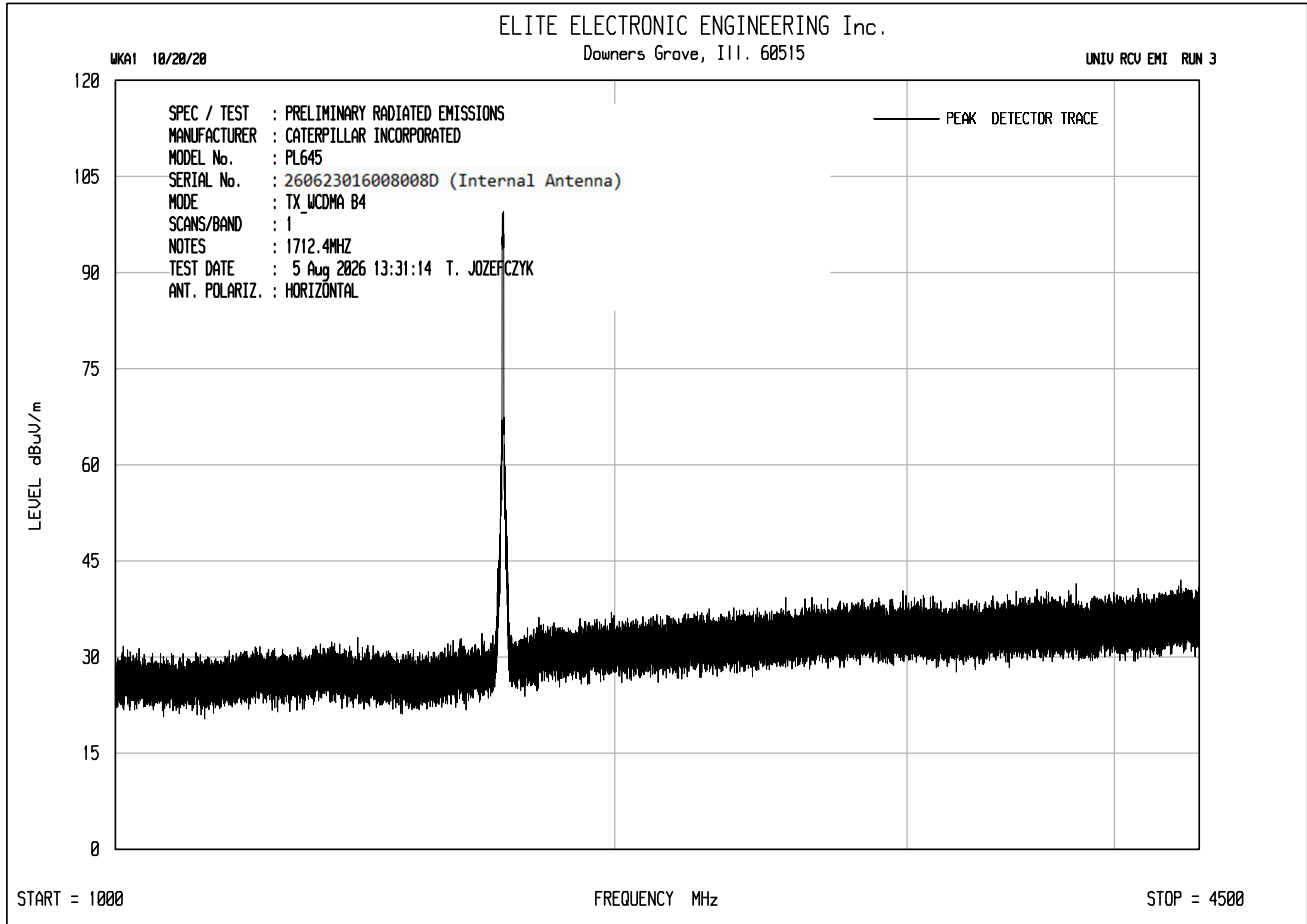


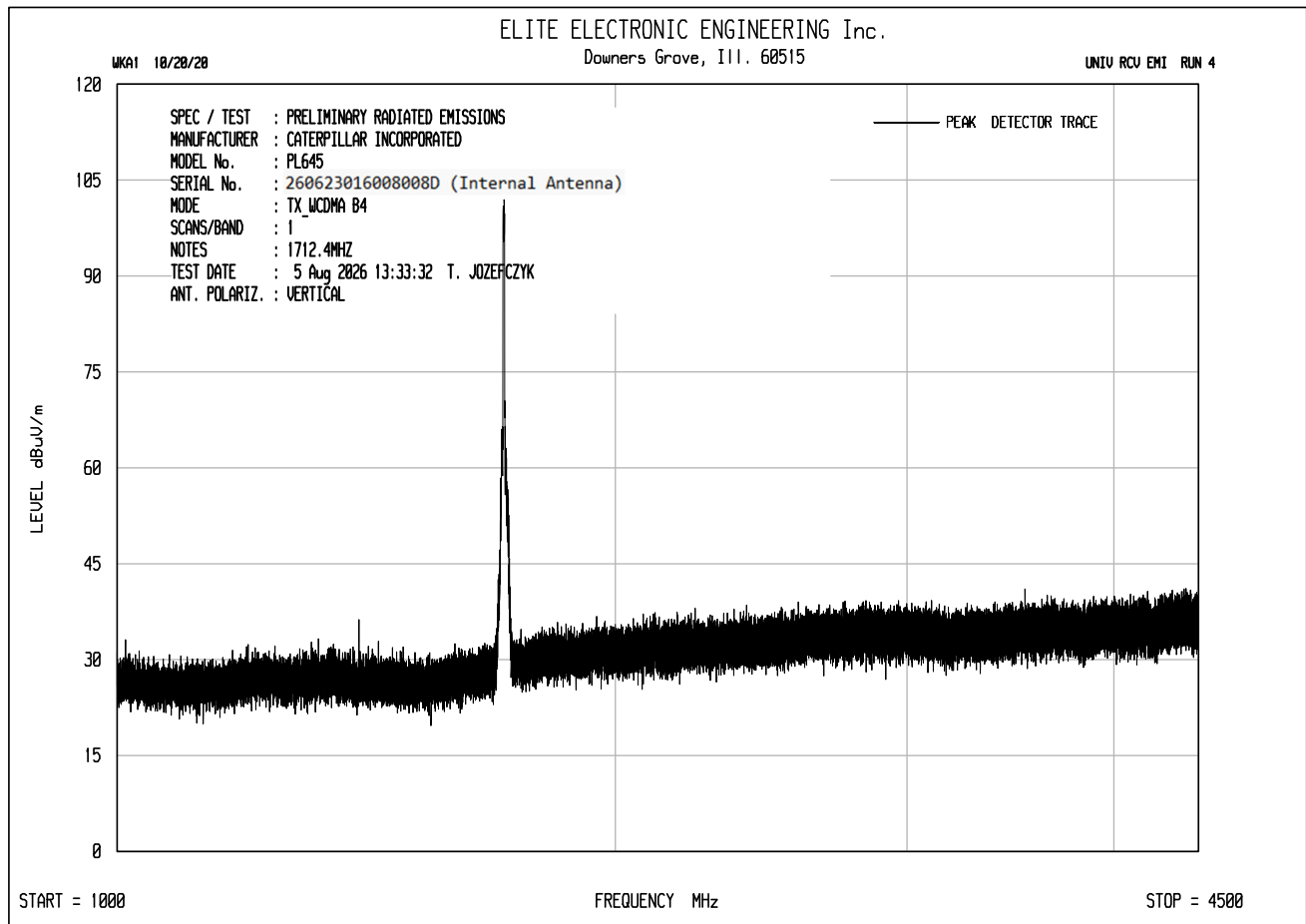
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3815.20	H	24.73	Ambient	-38.18	4.92	4.37	-37.63	59.67	35.04
3815.20	V	24.20	Ambient	-37.54	4.92	4.37	-36.99	59.03	35.04
5722.80	H	49.48	Ambient	-49.16	5.50	5.30	-48.96	71.00	35.04
5722.80	V	49.76	Ambient	-48.99	5.50	5.30	-48.79	70.83	35.04

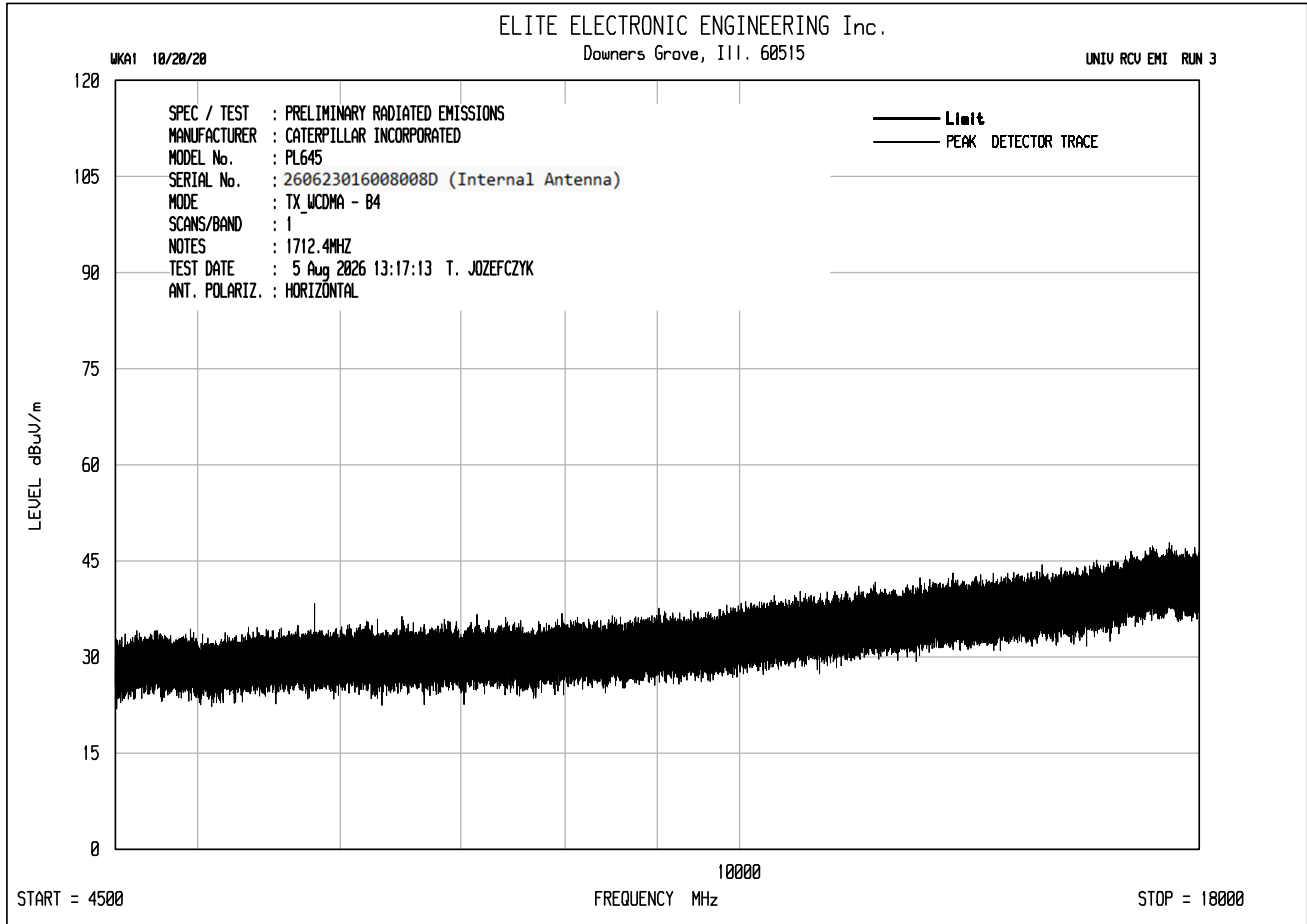
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 4
Frequency Tested	1712.4MHz
Notes	None

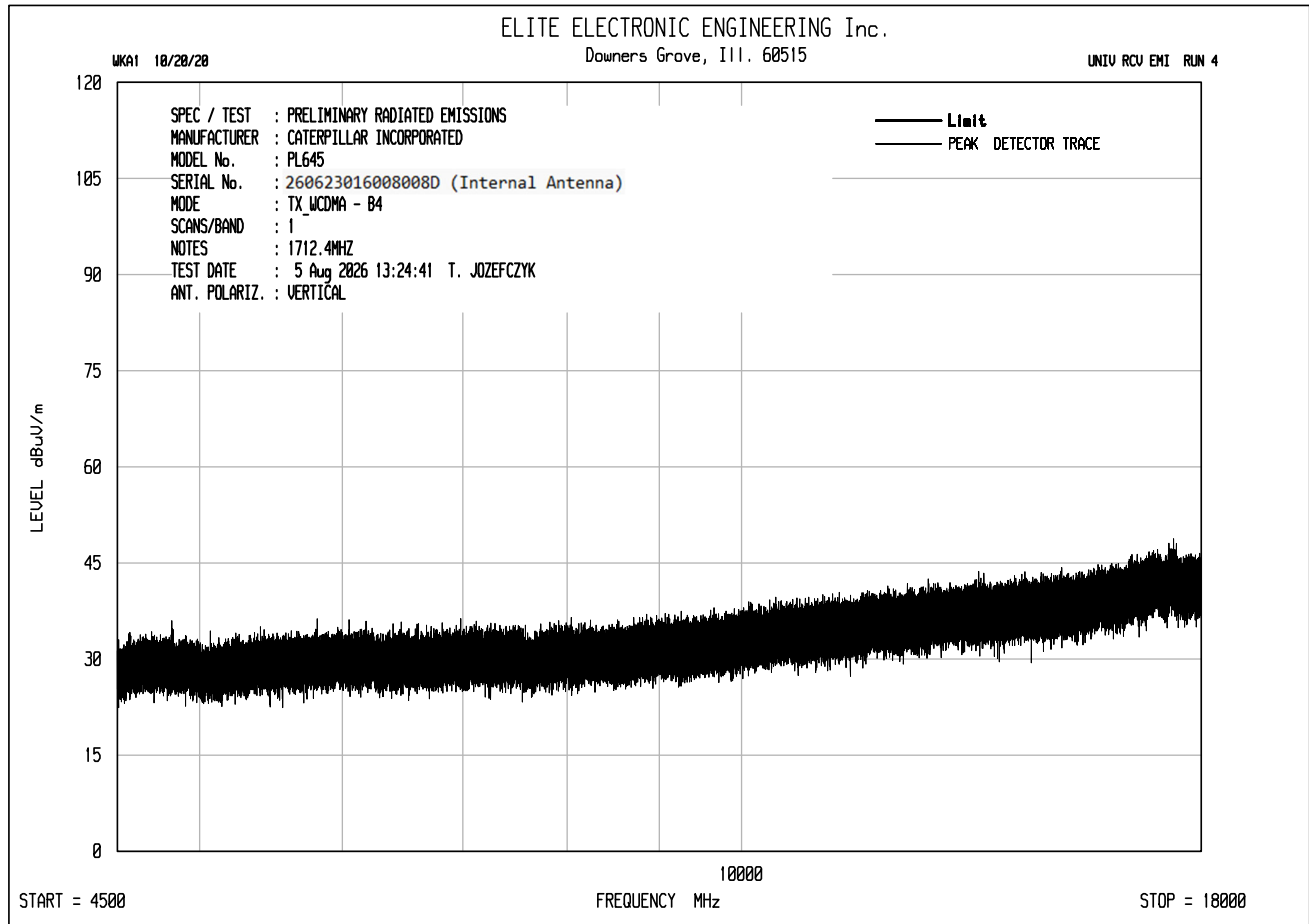






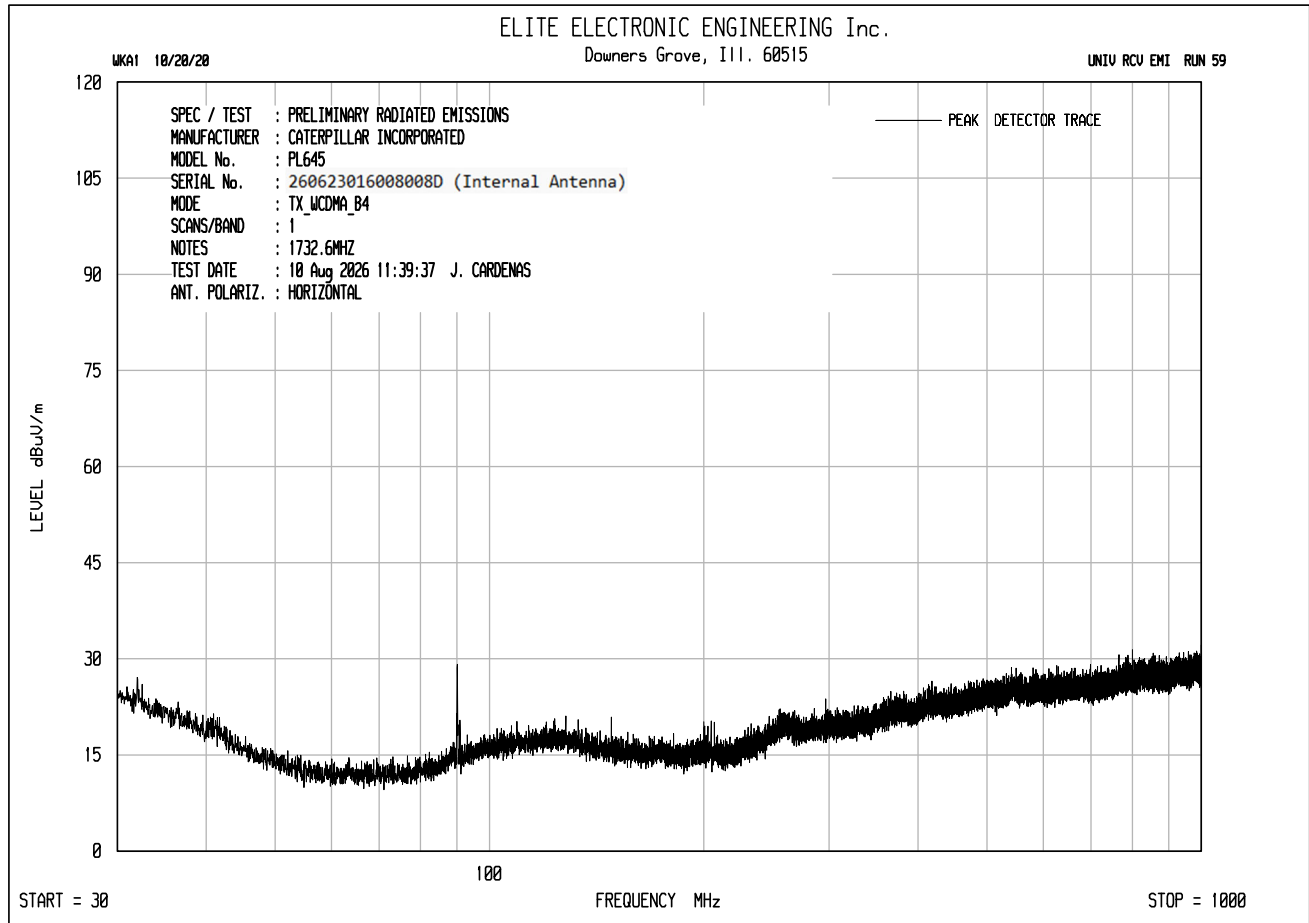


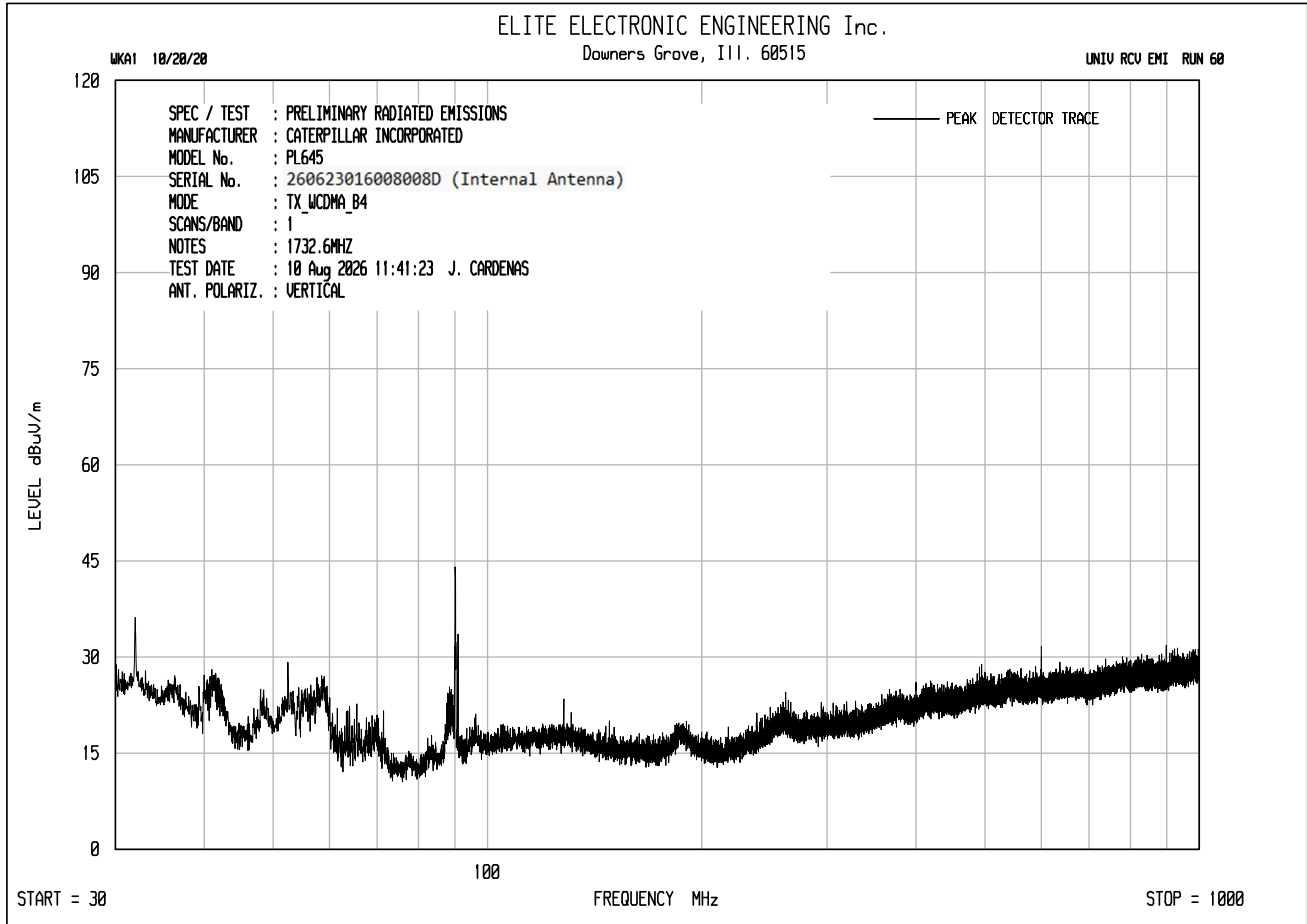


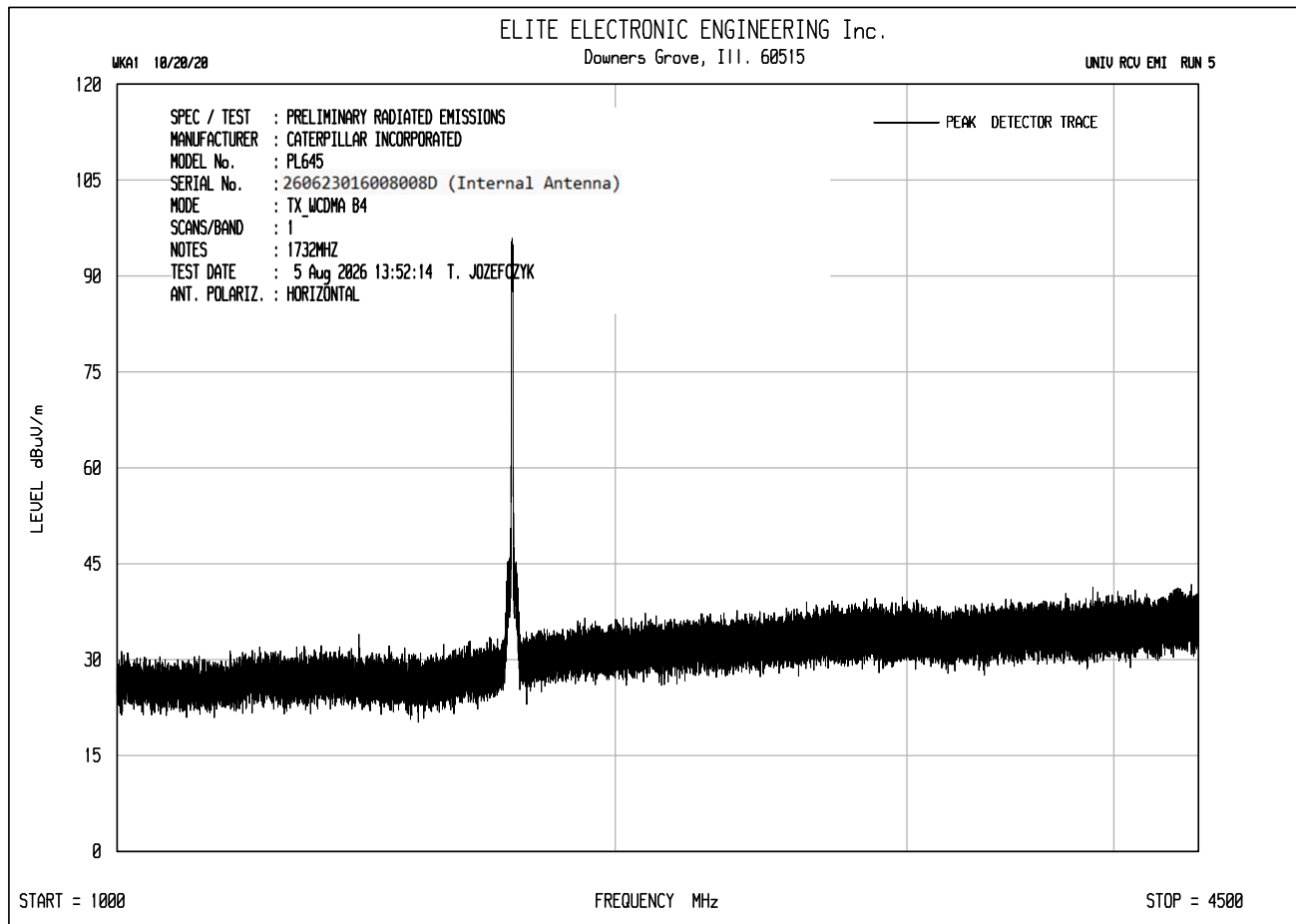


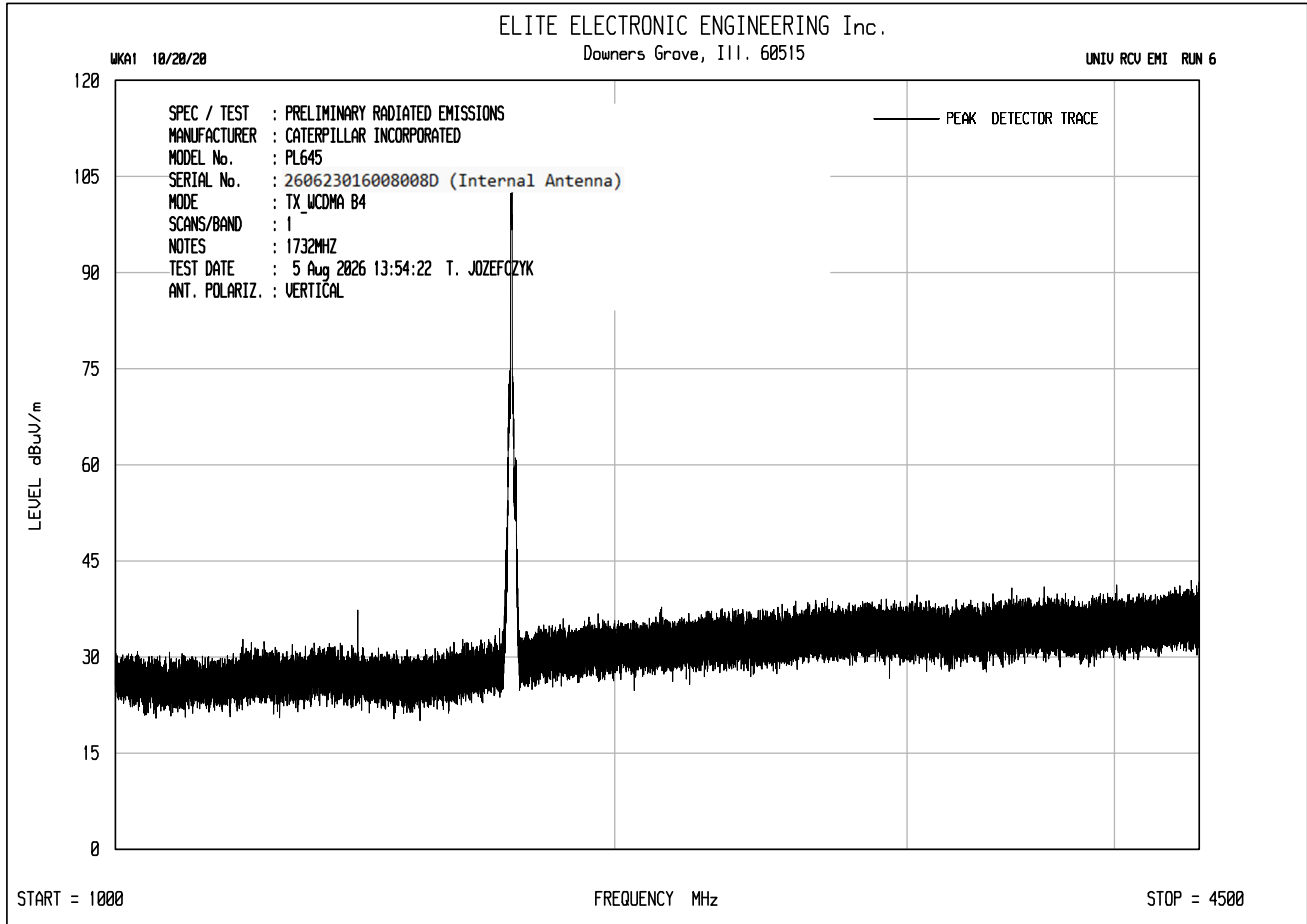
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3424.80	H	23.85	Ambient	-41.31	5.01	4.15	-40.46	62.65	35.19
3424.80	V	24.47	Ambient	-38.80	5.01	4.15	-37.95	60.14	35.19
5137.20	H	49.88	Ambient	-49.10	5.07	5.00	-49.02	71.21	35.19
5137.20	V	49.11	Ambient	-49.49	5.07	5.00	-49.41	71.60	35.19

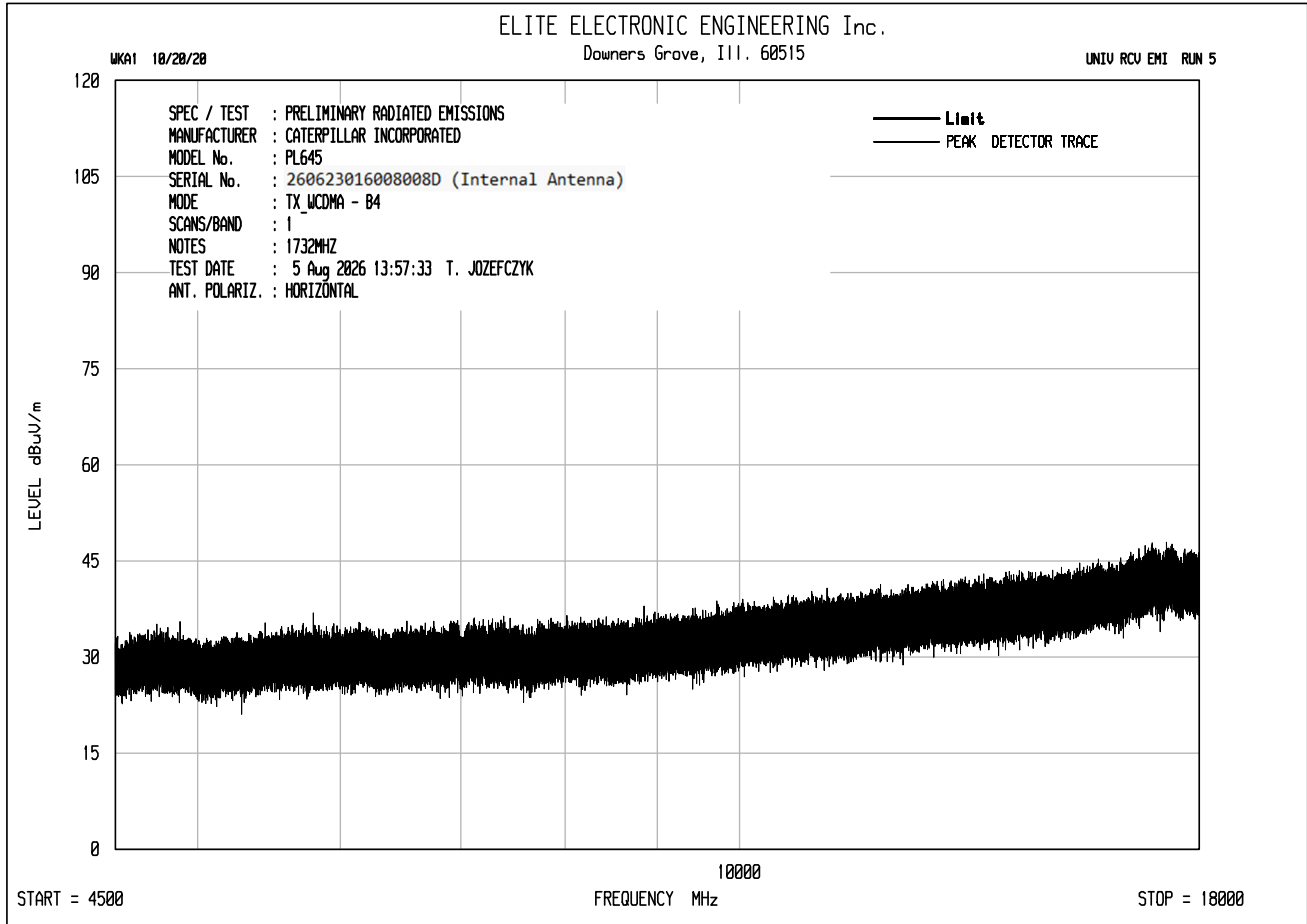
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 4
Frequency Tested	1732.6MHz
Notes	None

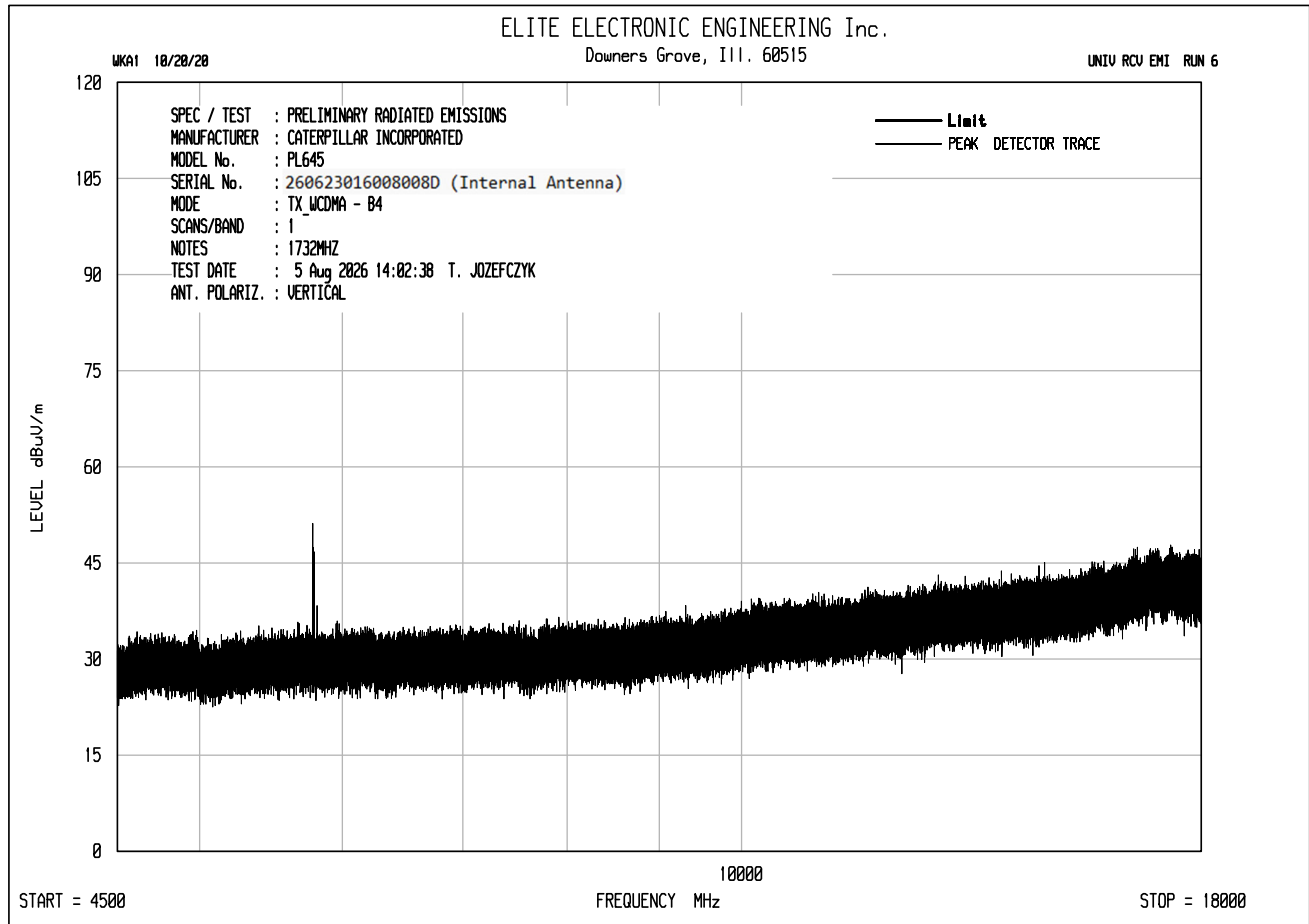






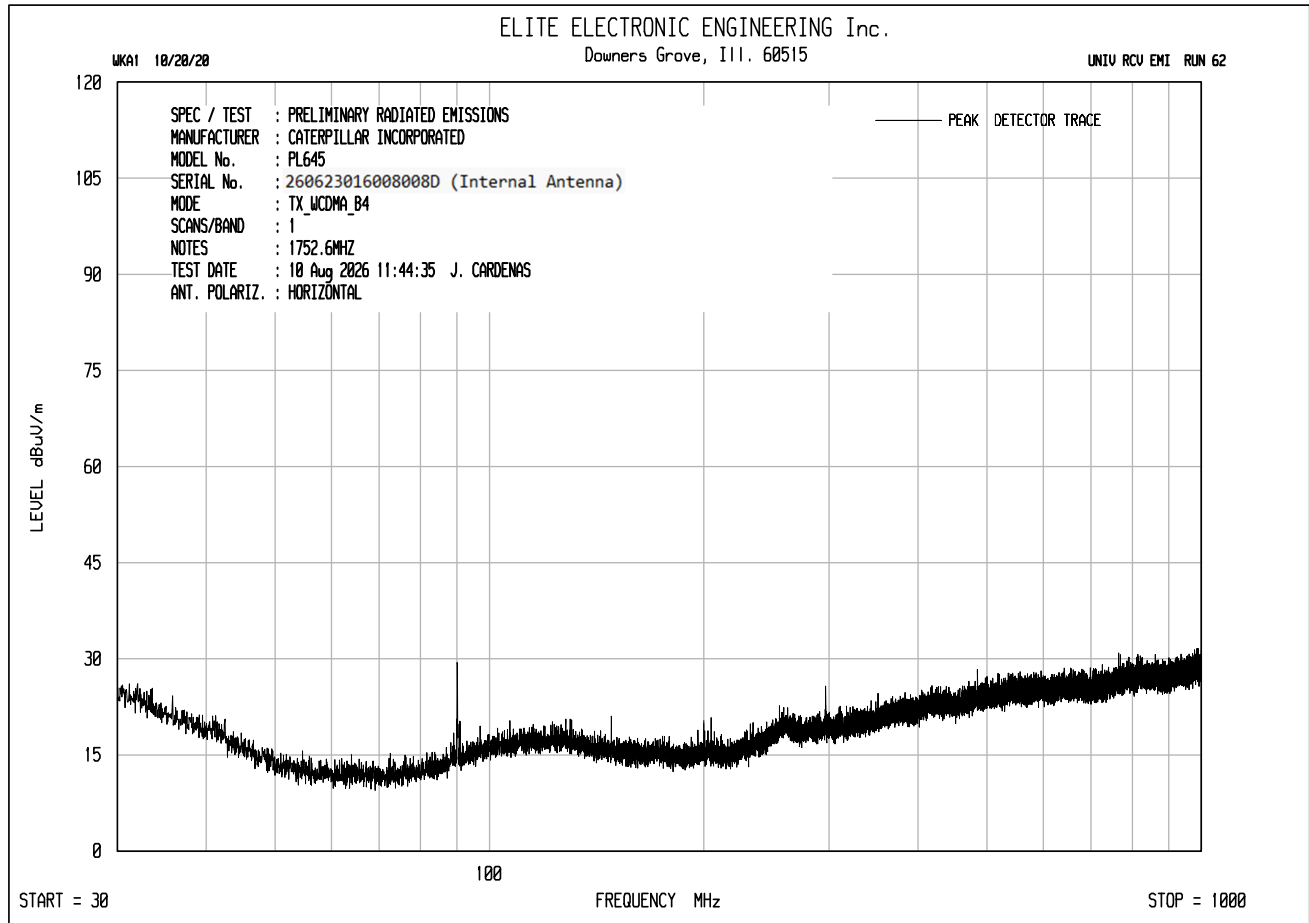


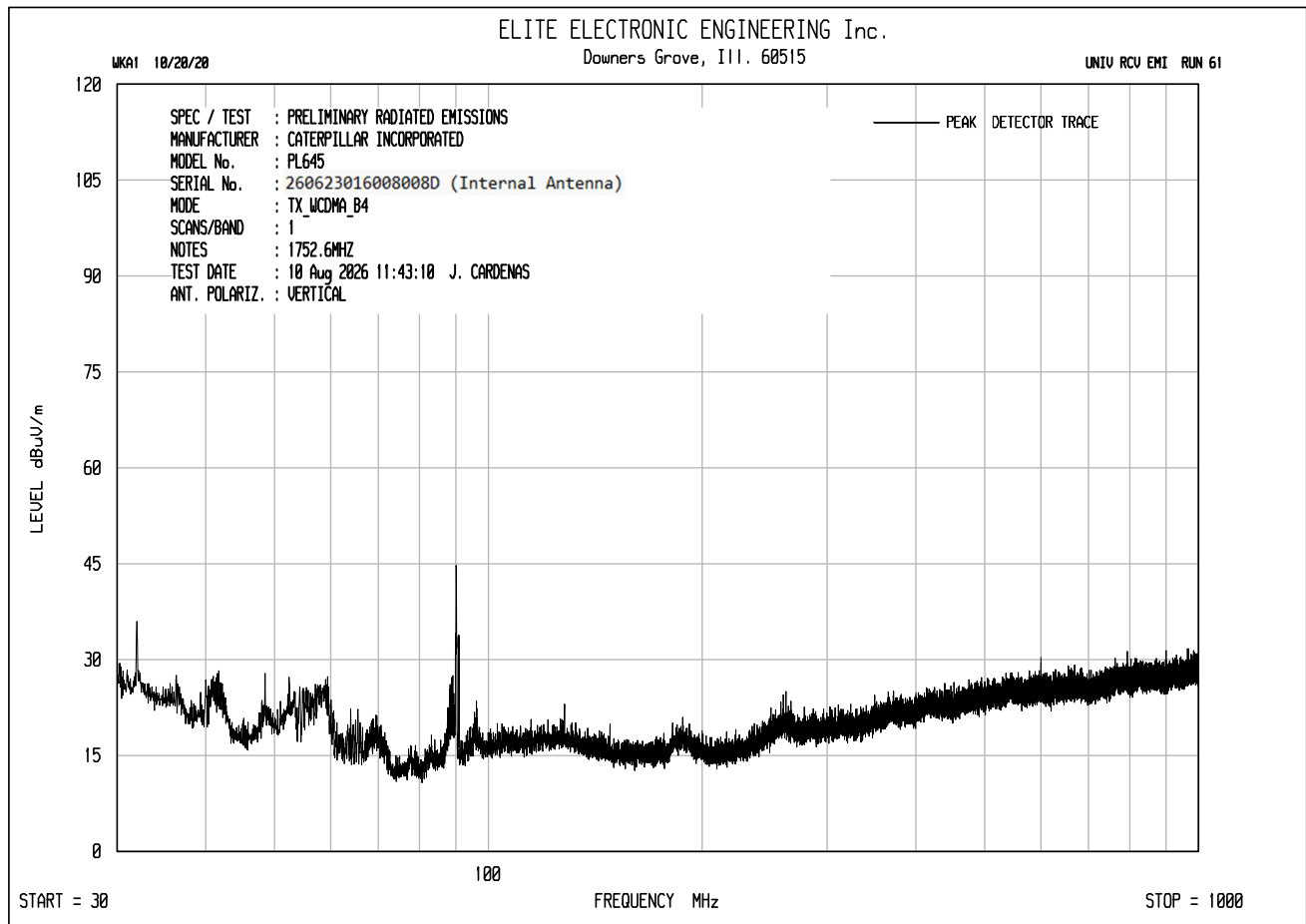


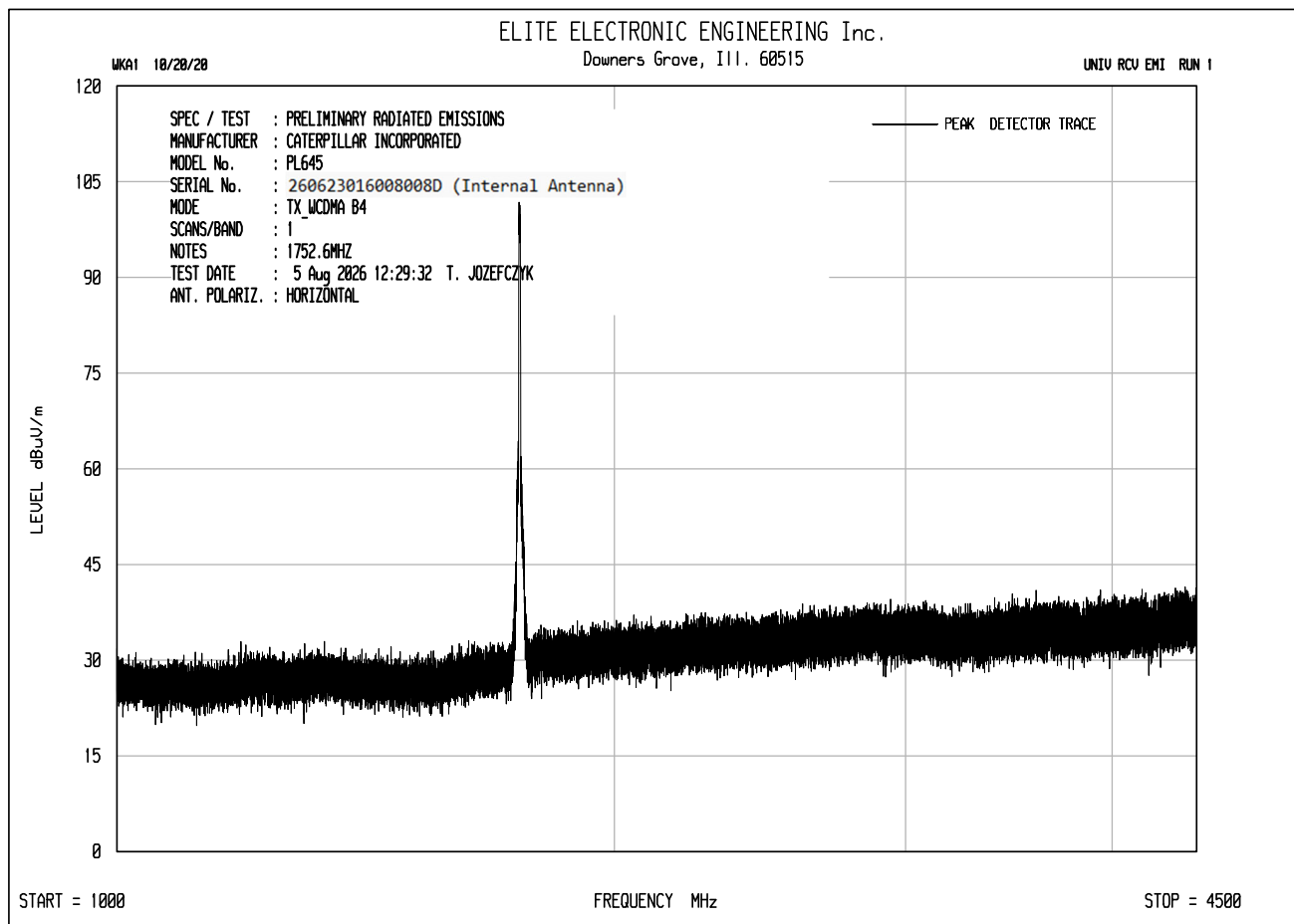


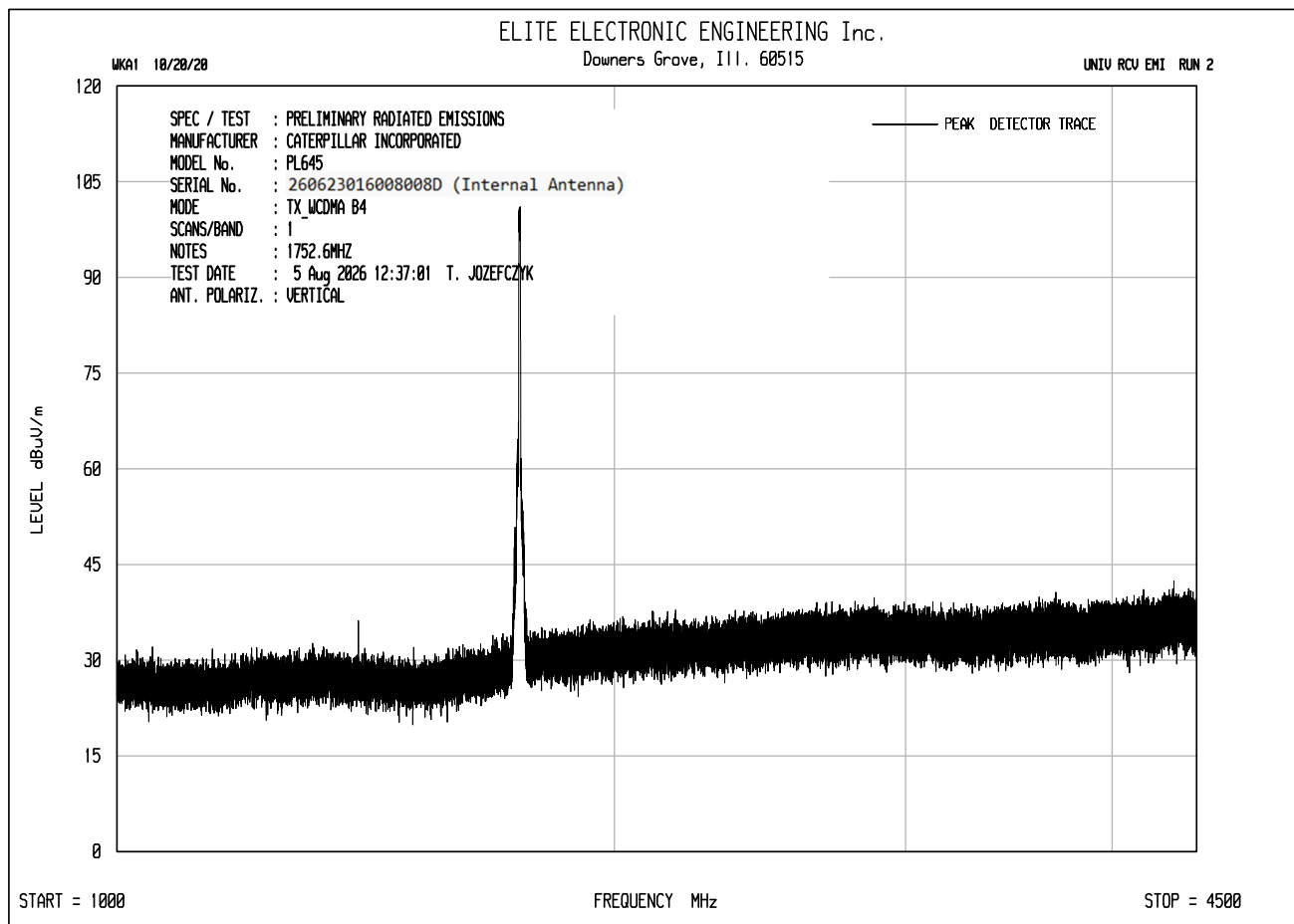
Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3465.20	H	24.52	Ambient	-40.25	4.84	4.18	-39.59	61.78	35.19
3465.20	V	23.91	Ambient	-39.16	4.84	4.18	-38.49	60.68	35.19
5197.80	H	49.56	Ambient	-48.95	4.99	5.03	-48.99	71.18	35.19
5197.80	V	49.74	Ambient	-48.92	4.99	5.03	-48.96	71.15	35.19

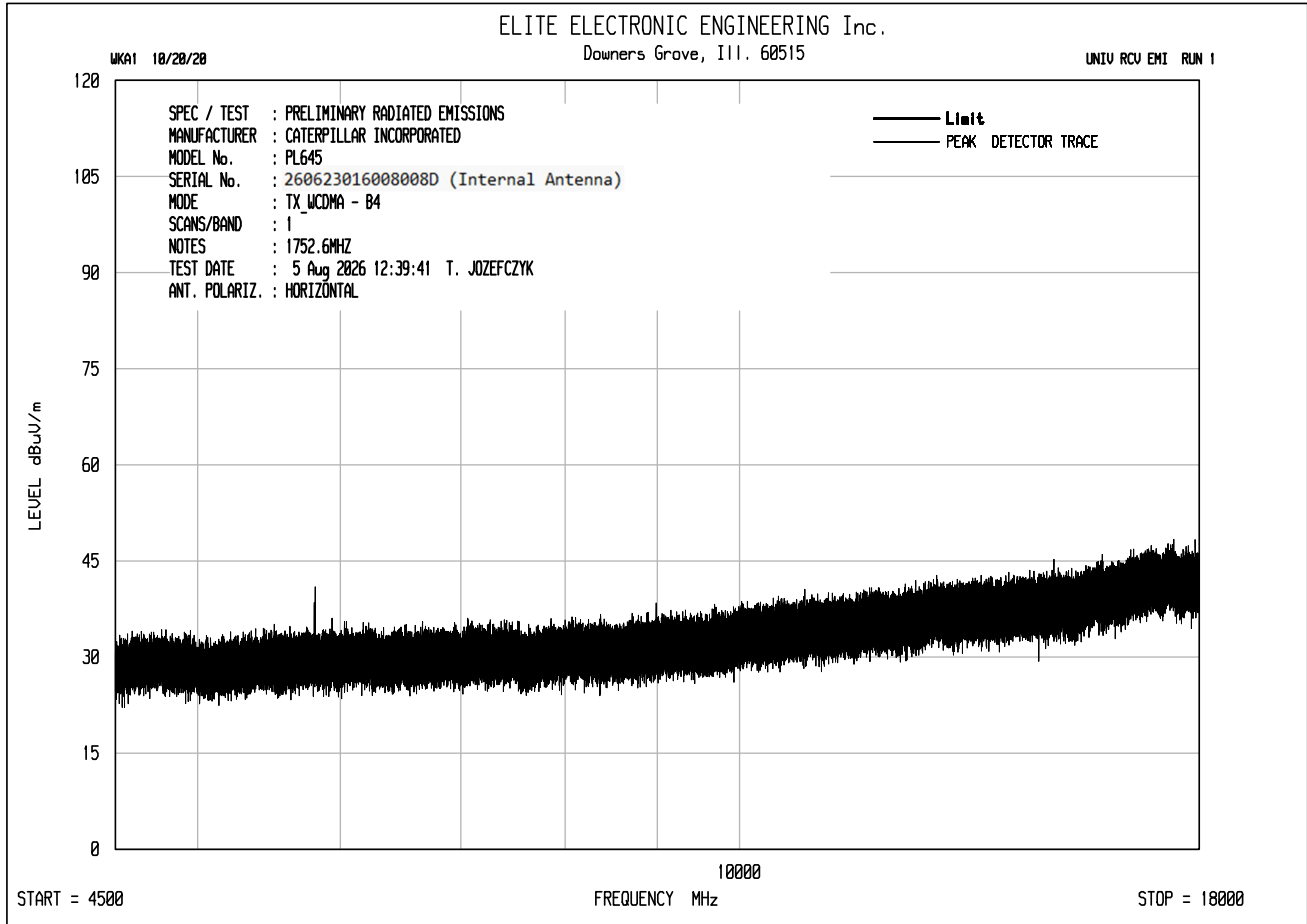
Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 4
Frequency Tested	1752.6MHz
Notes	None

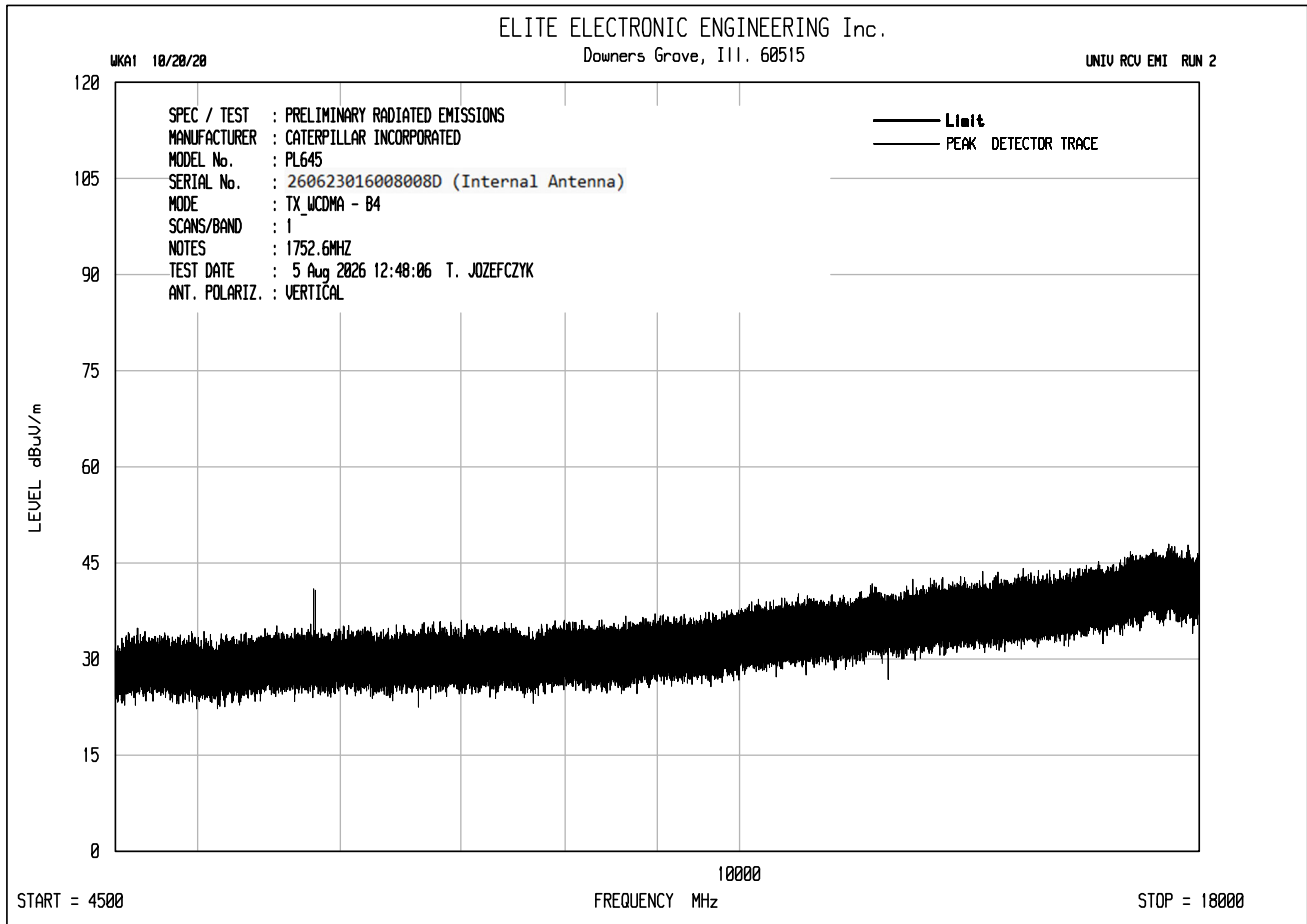












Freq. MHz	Ant Pol	Meter Reading (dBμV)	Ambient	Calculated Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Attenuation Below Output Power (dB)	Minimum Attenuation (dB)
3505.20	H	24.98	Ambient	-39.41	4.84	4.20	-38.76	60.95	35.19
3505.20	V	25.29	Ambient	-37.58	4.84	4.20	-36.93	59.12	35.19
5257.80	H	49.95	Ambient	-48.22	5.01	5.06	-48.26	70.45	35.19
5257.80	V	49.60	Ambient	-49.15	5.01	5.06	-49.20	71.39	35.19

Test Details	
Manufacturer	Caterpillar Inc
Equipment Under Test	5G Telematics Radio
Model No.	PL645
Part No.	661-9821
Serial No.	260619016008008D (Internal Antenna)
Mode	WCDMA Band 5
Frequency Tested	826.4MHz
Notes	None

