

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.660	2402.336	0.5	PASS
		2440	0.676	2439.664	2440.340	0.5	PASS
		2480	0.672	2479.664	2480.336	0.5	PASS

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0261	2401.492	2402.519	---	---
		2440	1.0295	2439.490	2440.519	---	---
		2480	1.0279	2479.492	2480.520	---	---

Test Graphs

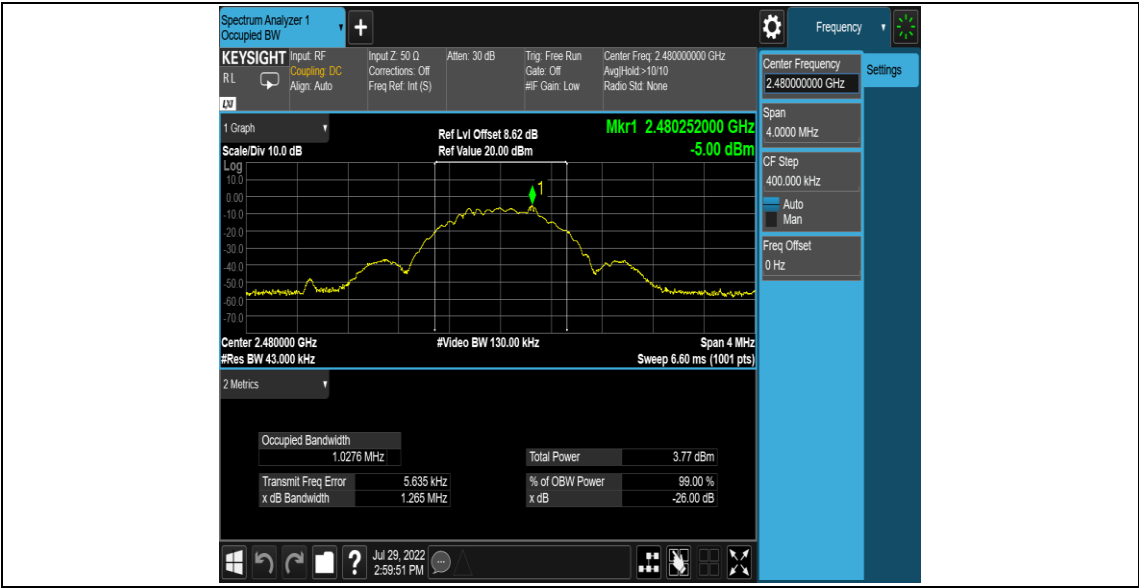
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.46	≤30	PASS
		2440	-3.1	≤30	PASS
		2480	-2.82	≤30	PASS

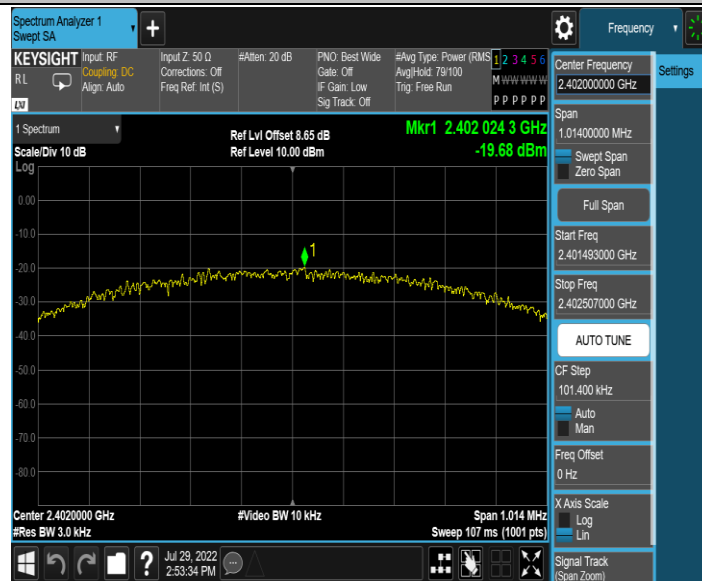
Appendix D: Maximum power spectral density

Test Result

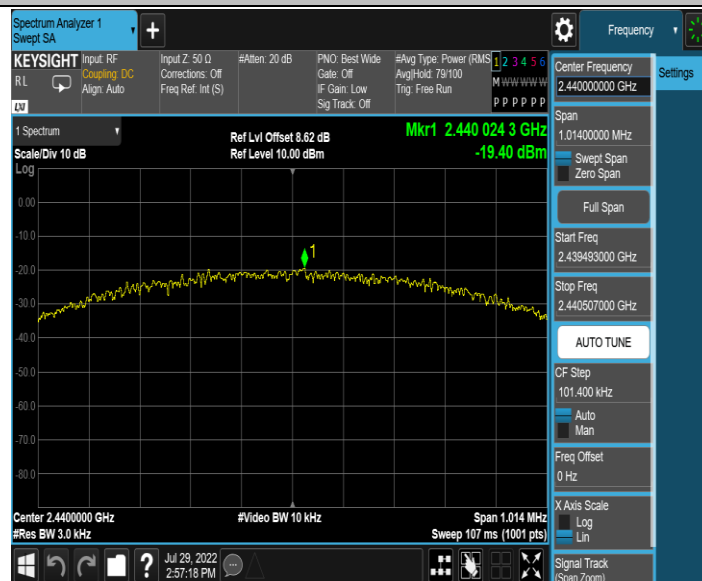
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.68	≤8.00	PASS
		2440	-19.4	≤8.00	PASS
		2480	-19.1	≤8.00	PASS

Test Graphs

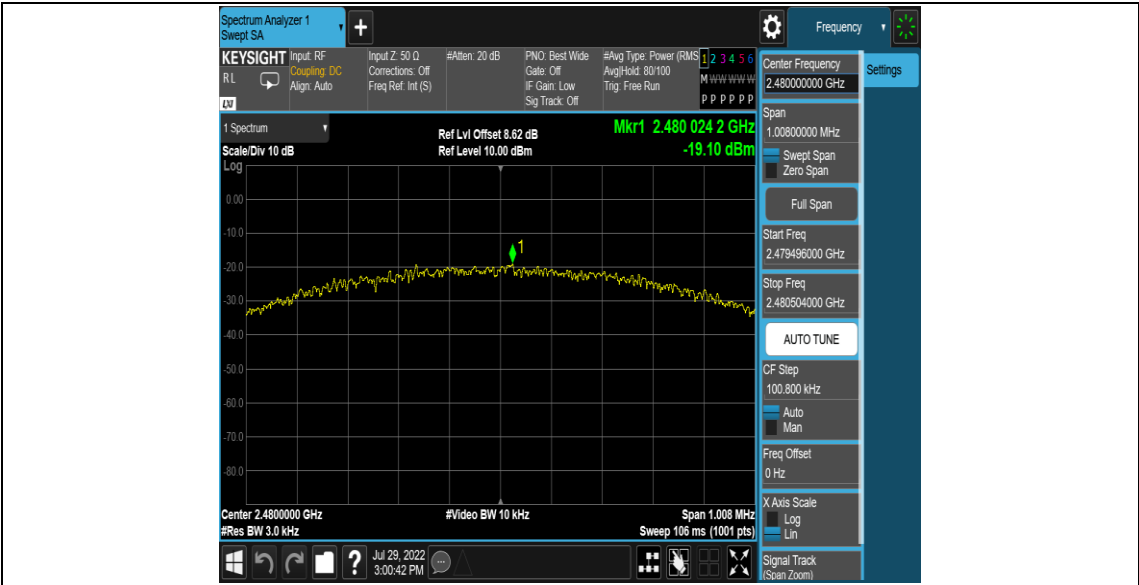
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Reference level measurement

Test Result

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.25	-3.75
		2440	2440.26	-3.39
		2480	2480.26	-3.10

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



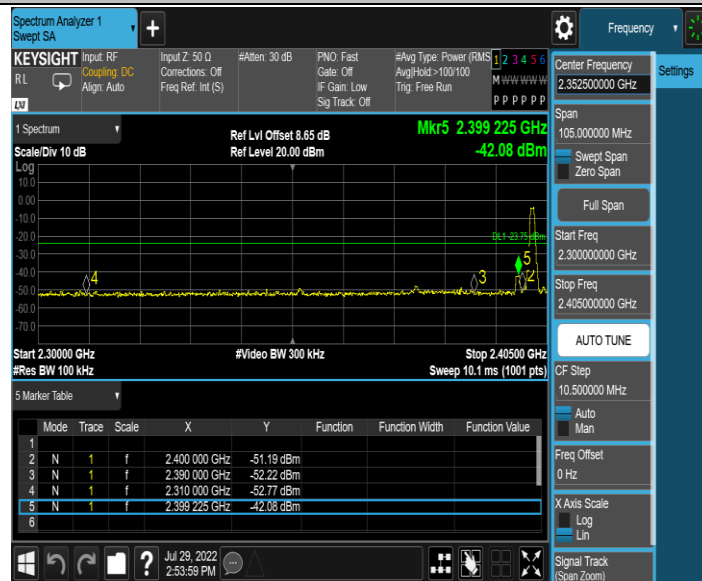
Appendix E: Band edge measurements

Test Result

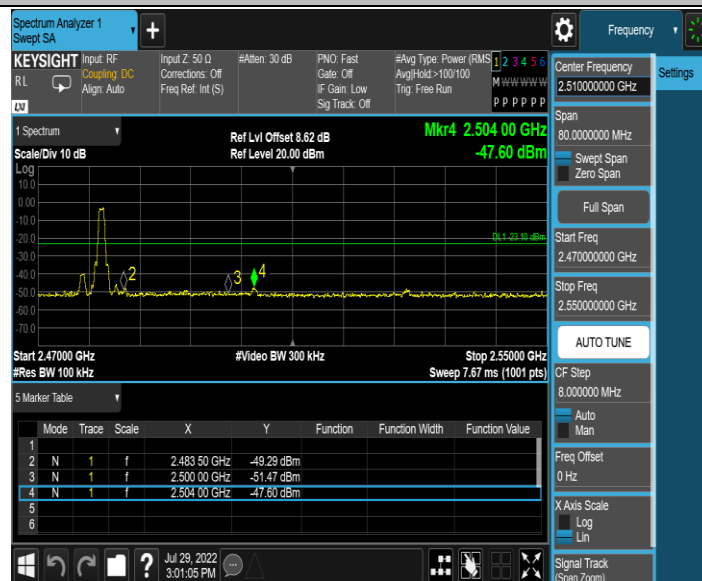
TestMod e	Antenn a	ChNam e	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE_1M	Ant1	Low	2402	-3.75	-42.08	≤-23.75	PASS
		High	2480	-3.10	-47.6	≤-23.1	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



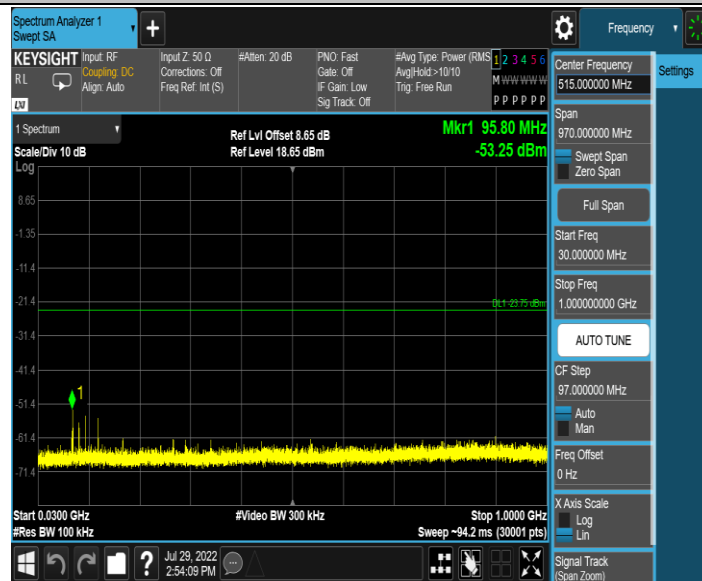
Appendix F: Conducted Spurious Emission

Test Result

TestMod e	Antenn a	Frequency[MHz]	FreqRange [MHz]	RefLeve l [dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE	Ant1	2402	30~1000	-3.75	-53.25	≤-23.75	PASS
			1000~2650 0	-3.75	-52.85	≤-23.75	PASS
		2440	30~1000	-3.39	-53.5	≤-23.39	PASS
			1000~2650 0	-3.39	-52.32	≤-23.39	PASS
		2480	30~1000	-3.10	-53.5	≤-23.1	PASS
			1000~2650 0	-3.10	-51.08	≤-23.1	PASS

Test Graphs

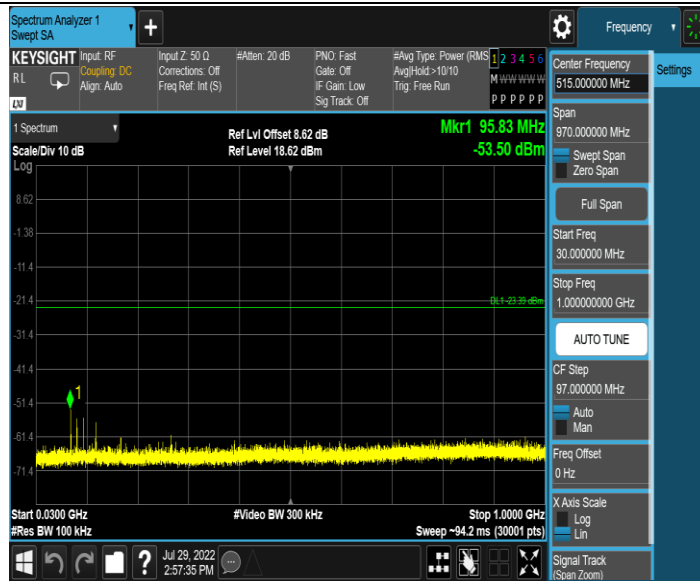
BLE_1M_Ant1_2402_30~1000



BLE_1M_Ant1_2402_1000~26500



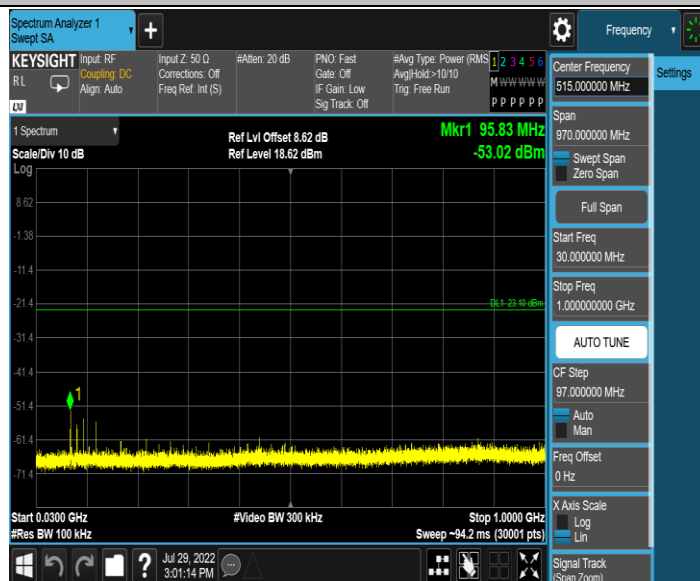
BLE_1M_Ant1_2440_30~1000



BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



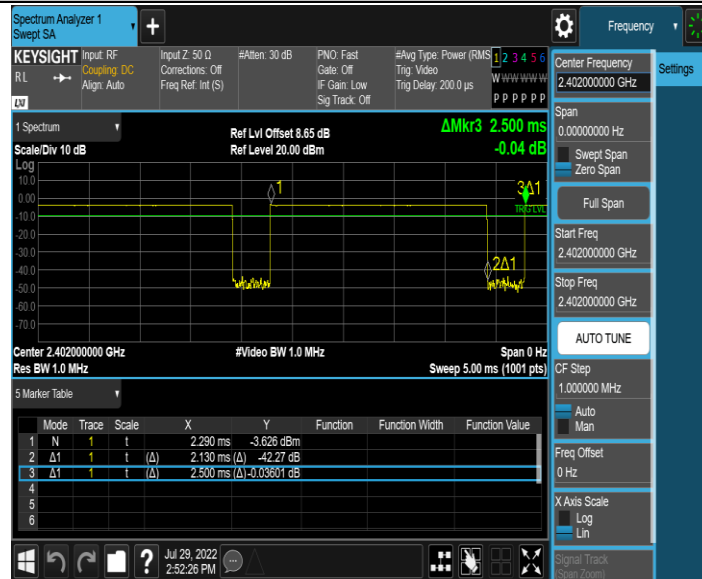
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	2.13	2.50	85.20	0.70
		2440	2.13	2.50	85.20	0.70
		2480	2.13	2.50	85.20	0.70

Test Graphs

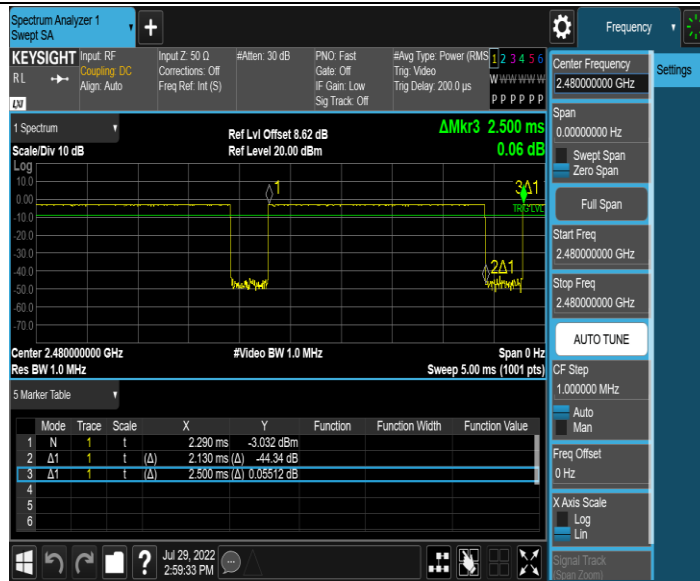
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix J: Radiated emissions for transmitter& Emissions in Restricted Bands

Emissions in Restricted Bands

Mode:	2402
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	2310.000	63.56	42.44	-21.12	74.00	31.56	Horizontal	PASS
2	2328.578	64.72	43.63	-21.09	74.00	30.37	Horizontal	PASS
3	2341.871	65.06	44.00	-21.06	74.00	30.00	Horizontal	PASS
4	2363.573	64.32	43.30	-21.02	74.00	30.70	Horizontal	PASS
5	2379.349	64.49	43.50	-20.99	74.00	30.50	Horizontal	PASS
6	2390.000	62.84	41.87	-20.97	74.00	32.13	Horizontal	PASS

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	2310.000	63.50	42.38	-21.12	74.00	31.62	Vertical	PASS
2	2338.428	65.21	44.14	-21.07	74.00	29.86	Vertical	PASS
3	2361.891	67.67	46.64	-21.03	74.00	27.36	Vertical	PASS
4	2372.942	66.95	45.94	-21.01	74.00	28.06	Vertical	PASS
5	2378.308	64.70	43.70	-21.00	74.00	30.30	Vertical	PASS
6	2390.000	63.25	42.28	-20.97	74.00	31.72	Vertical	PASS

Mode:	2480
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PK Final Data List										
NO.	Freq. [MHz]	PK Reading [dBμV/m]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	2483.5	72.40	54.38	-18.02	74.00	19.62	150	186	Horizont	PASS
2	2483.9125	74.37	56.24	-18.13	74.00	17.76	150	180	Horizont	PASS
3	2485.513	70.93	52.47	-18.46	74.00	21.53	150	186	Horizont	PASS
4	2485.711	70.86	52.37	-18.49	74.00	21.63	150	186	Horizont	PASS
5	2487.0805	69.28	50.64	-18.64	74.00	23.36	150	186	Horizont	PASS
6	2500	63.19	44.34	-18.85	74.00	29.66	150	80	Horizont	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	2483.500	66.85	-18.02	48.83	54.00	5.17	150	186	Horizont	PASS
2	2483.912	69.97	-18.13	51.84	54.00	2.16	150	180	Horizont	PASS

PK Final Data List										
NO.	Freq. [MHz]	PK Reading [dBμV/m]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	2483.599	72.24	54.19	-18.05	74.00	19.81	150	275	Vertical	PASS
2	2483.962	71.86	53.72	-18.14	74.00	20.28	150	272	Vertical	PASS
3	2486.305	69.31	50.76	-18.55	74.00	23.24	150	272	Vertical	PASS
4	2488.1035	68.05	49.29	-18.76	74.00	24.71	150	266	Vertical	PASS
5	2491.486	66.32	47.36	-18.96	74.00	26.64	150	272	Vertical	PASS
6	2500	63.09	44.24	-18.85	74.00	29.76	150	298	Vertical	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	2483.599	65.19	-18.05	47.14	54.00	6.86	150	275	Vertical	PASS
2	2483.962	67.07	-18.14	48.93	54.00	5.07	150	272	Vertical	PASS

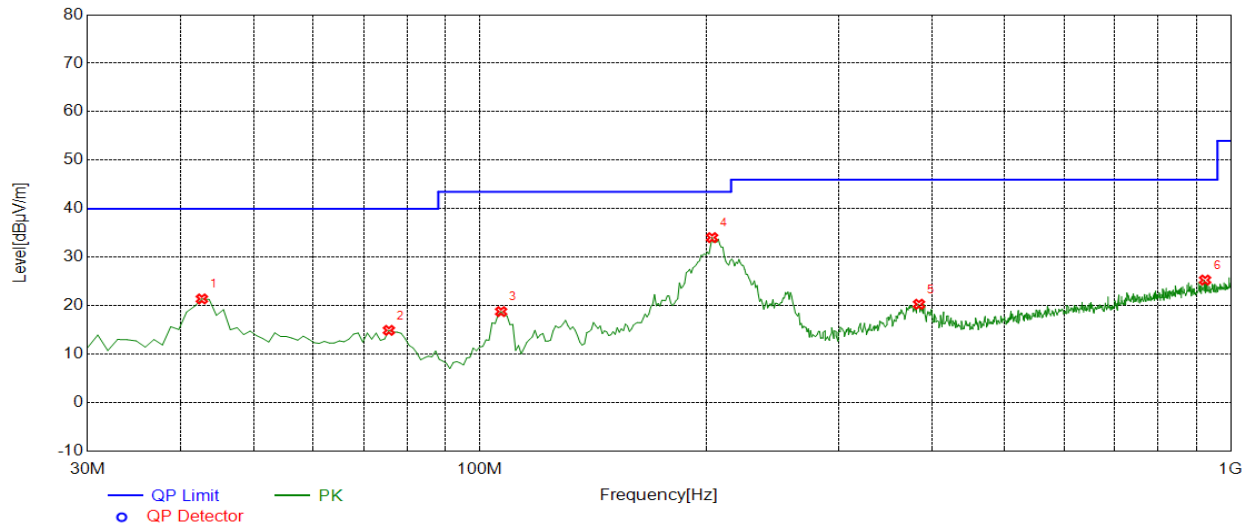
Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Radiated emissions for transmitter

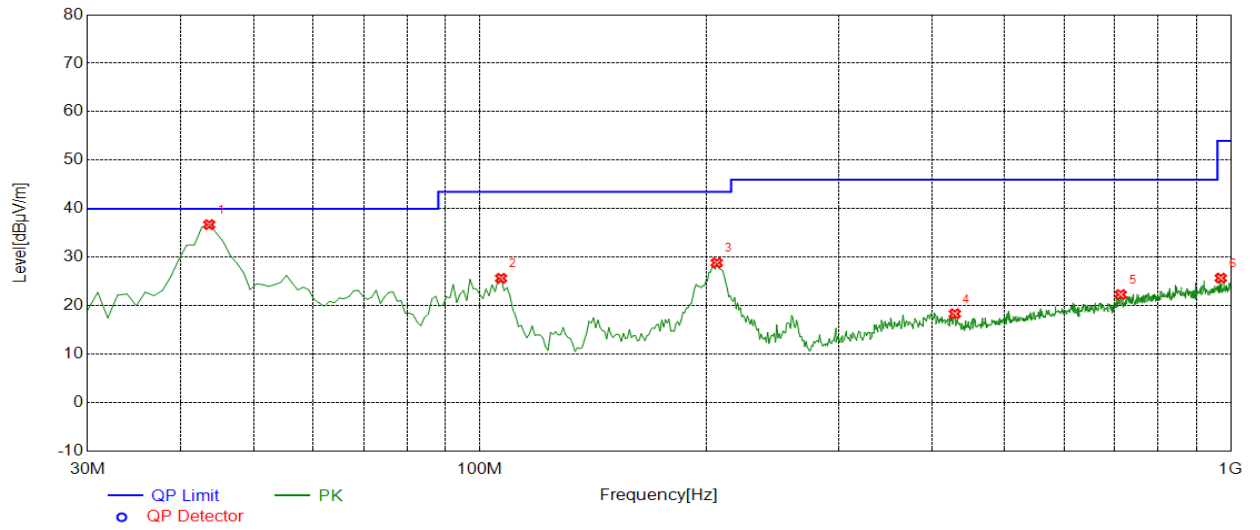
Below 1GHz

Mode:	2402
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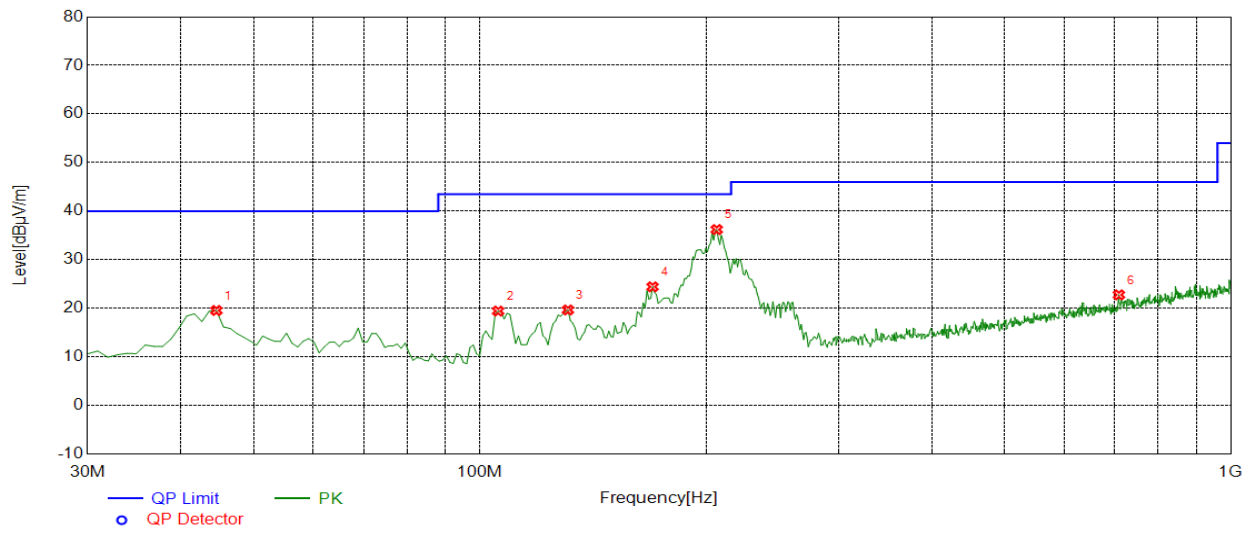
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	42.6226	21.40	-15.73	40.00	18.60	100	66	Horizontal
2	75.6356	14.92	-19.56	40.00	25.08	100	50	Horizontal
3	106.706	18.79	-19.66	43.50	24.71	100	22	Horizontal
4	203.803	34.05	-19.03	43.50	9.45	100	160	Horizontal
5	384.404	20.31	-13.89	46.00	25.69	100	285	Horizontal
6	924.264	25.30	-5.41	46.00	20.70	100	190	Horizontal

Mode:	2402
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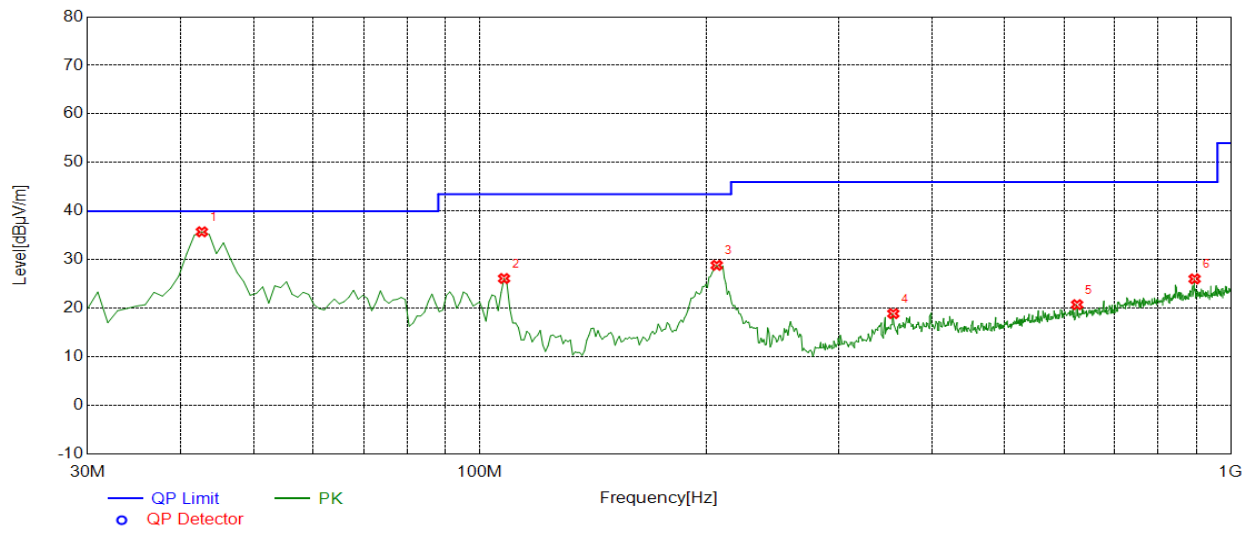
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	43.5936	36.73	-15.69	40.00	3.27	150	114	Vertical
2	106.706	25.66	-19.66	43.50	17.84	150	16	Vertical
3	206.716	28.85	-19.06	43.50	14.65	150	53	Vertical
4	429.069	18.33	-12.95	46.00	27.67	150	359	Vertical
5	713.563	22.30	-8.13	46.00	23.70	150	122	Vertical
6	969.899	25.70	-4.89	54.00	28.30	150	198	Vertical

Mode:	2440
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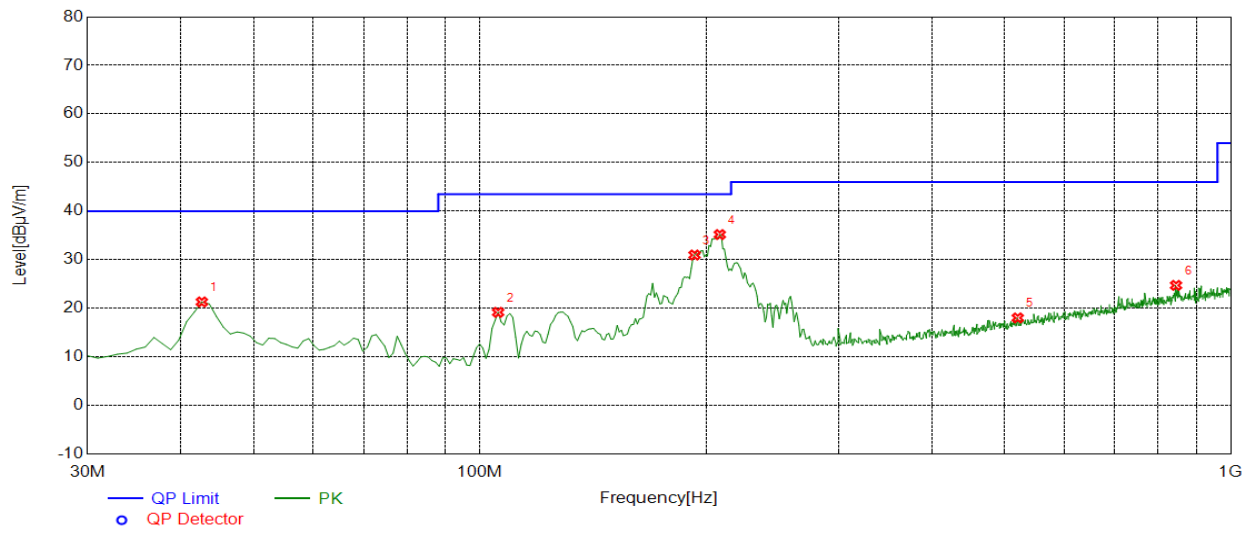
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.5646	19.55	-15.66	40.00	20.45	150	246	Horizontal
2	105.735	19.43	-19.73	43.50	24.07	150	21	Horizontal
3	130.981	19.66	-17.30	43.50	23.84	150	344	Horizontal
4	169.819	24.42	-16.45	43.50	19.08	150	9	Horizontal
5	206.716	36.21	-19.06	43.50	7.29	150	167	Horizontal
6	709.679	22.77	-8.20	46.00	23.23	150	188	Horizontal

Mode:	2440
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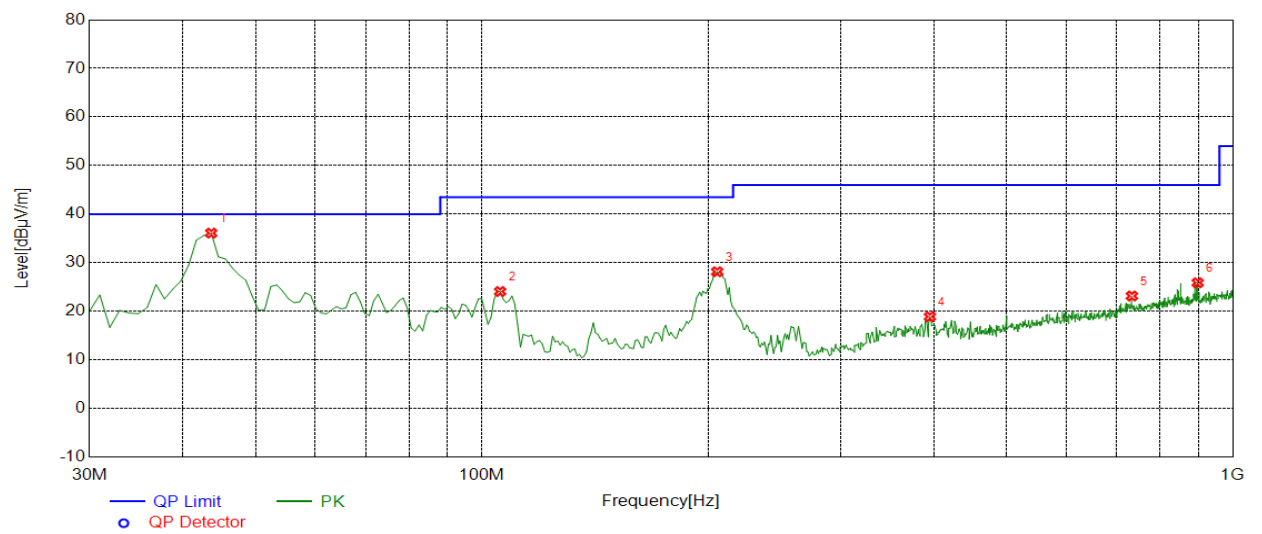
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	42.6226	35.75	-15.73	40.00	4.25	150	115	Vertical
2	107.677	26.13	-19.59	43.50	17.37	150	332	Vertical
3	206.716	28.85	-19.06	43.50	14.65	150	68	Vertical
4	355.275	18.90	-14.50	46.00	27.10	150	311	Vertical
5	624.234	20.75	-9.14	46.00	25.25	150	103	Vertical
6	895.135	26.04	-5.72	46.00	19.96	150	126	Vertical

Mode:	2480
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NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	42.6226	21.31	-15.73	40.00	18.69	150	287	Horizontal
2	105.735	19.17	-19.73	43.50	24.33	150	35	Horizontal
3	193.123	30.97	-18.42	43.50	12.53	150	290	Horizontal
4	208.658	35.18	-19.07	43.50	8.32	150	146	Horizontal
5	520.340	18.02	-11.03	46.00	27.98	150	146	Horizontal
6	845.615	24.72	-6.10	46.00	21.28	150	161	Horizontal

Mode:	2480
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NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	43.5936	36.10	-15.69	40.00	3.90	150	147	Vertical
2	105.735	24.07	-19.73	43.50	19.43	150	330	Vertical
3	205.745	28.14	-19.05	43.50	15.36	150	56	Vertical
4	395.085	18.89	-13.66	46.00	27.11	150	310	Vertical
5	733.954	23.15	-7.73	46.00	22.85	150	264	Vertical
6	898.048	25.87	-5.70	46.00	20.13	150	107	Vertical

Above 1GHz

Mode:	2402
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	1165.08	66.34	40.54	-25.80	74.00	33.46	Horizontal	PASS
2	1954.47	65.89	44.99	-20.90	74.00	29.01	Horizontal	PASS
3	4802.80	64.00	47.53	-16.47	74.00	26.47	Horizontal	PASS
4	7208.20	66.62	53.87	-12.75	74.00	20.13	Horizontal	PASS
5	10973.8	60.98	53.43	-7.55	74.00	20.57	Horizontal	PASS
6	13034.1	59.89	55.78	-4.11	74.00	18.22	Horizontal	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB/m]	AV Value [dBµV/m]	AV Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	13034.17	48.49	-4.11	44.38	54.00	9.62	150	344	Horizont	PASS

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	1312.15	67.41	42.09	-25.32	74.00	31.91	Vertical	PASS
2	2109.55	66.35	46.08	-20.27	74.00	27.92	Vertical	PASS
3	4167.69	63.38	46.29	-17.09	74.00	27.71	Vertical	PASS
4	5887.98	62.69	48.12	-14.57	74.00	25.88	Vertical	PASS
5	7205.70	65.92	53.17	-12.75	74.00	20.83	Vertical	PASS
6	10901.3	60.32	52.64	-7.68	74.00	21.36	Vertical	PASS

Mode:	2440
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBμV/m]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1437.21	65.73	40.76	-24.97	74.00	33.24	Horizontal	PASS
2	1948.47	66.31	45.36	-20.95	74.00	28.64	Horizontal	PASS
3	4880.31	66.66	50.34	-16.32	74.00	23.66	Horizontal	PASS
4	7320.72	68.19	55.30	-12.89	74.00	18.70	Horizontal	PASS
5	10471.2	61.43	52.95	-8.48	74.00	21.05	Horizontal	PASS
6	14619.4	60.12	58.17	-1.95	74.00	15.83	Horizontal	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	7320.720	55.29	-12.89	42.40	54.00	11.60	150	86	Horizont	PASS
2	14619.43	48.78	-1.95	46.83	54.00	7.17	150	299	Horizont	PASS

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBμV/m]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1354.17	66.12	41.04	-25.08	74.00	32.96	Vertical	PASS
2	1971.48	65.77	45.02	-20.75	74.00	28.98	Vertical	PASS
3	3942.65	65.14	47.31	-17.83	74.00	26.69	Vertical	PASS
4	4897.81	64.76	48.45	-16.31	74.00	25.55	Vertical	PASS
5	7320.72	69.38	56.49	-12.89	74.00	17.51	Vertical	PASS
6	10848.8	60.11	52.64	-7.47	74.00	21.36	Vertical	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	7320.720	57.60	-12.89	44.71	54.00	9.29	150	213	Vertical	PASS

Mode:	2480
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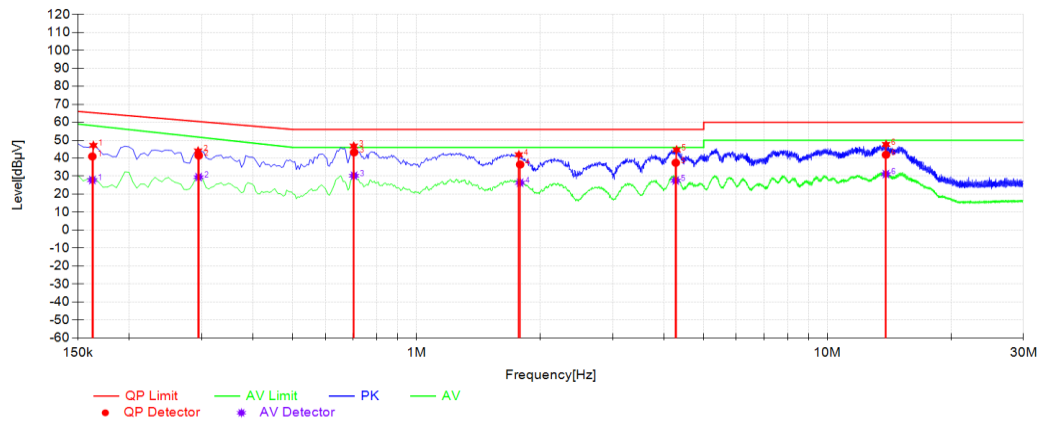
PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBμV/m]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1354.17	66.35	41.27	-25.08	74.00	32.73	Horizontal	PASS
2	2145.57	66.35	46.24	-20.11	74.00	27.76	Horizontal	PASS
3	3872.64	64.00	45.89	-18.11	74.00	28.11	Horizontal	PASS
4	4960.32	70.20	53.86	-16.34	74.00	20.14	Horizontal	PASS
5	7440.74	67.73	55.01	-12.72	74.00	18.99	Horizontal	PASS
6	12911.6	59.96	55.80	-4.16	74.00	18.20	Horizontal	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	7440.740	56.76	-12.72	44.04	54.00	9.96	150	88	Horizont	PASS
2	12911.65	46.69	-4.16	42.53	54.00	11.47	150	301	Horizont	PASS

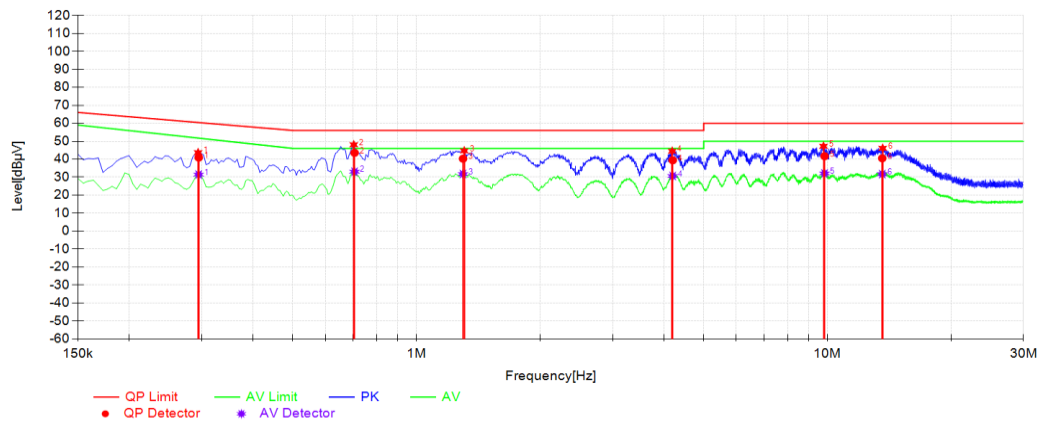
PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBμV/m]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1318.15	66.35	41.07	-25.28	74.00	32.93	Vertical	PASS
2	2019.50	65.94	45.51	-20.43	74.00	28.49	Vertical	PASS
3	4960.32	67.62	51.28	-16.34	74.00	22.72	Vertical	PASS
4	7438.23	70.30	57.59	-12.71	74.00	16.41	Vertical	PASS
5	9073.51	62.65	51.92	-10.73	74.00	22.08	Vertical	PASS
6	10943.8	61.32	53.67	-7.65	74.00	20.33	Vertical	PASS

AV Final Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	7438.239	51.04	-12.71	38.33	54.00	15.67	150	203	Vertical	PASS

Appendix I: Conducted emission AC power port



Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Type	Verdict
1	0.1625	10.26	40.98	65.33	24.35	27.83	58.13	30.30	L	PASS
2	0.2949	10.27	41.48	60.38	18.90	29.47	51.70	22.23	L	PASS
3	0.7046	10.28	43.24	56.00	12.76	30.24	46.00	15.76	L	PASS
4	1.7870	10.29	36.48	56.00	19.52	26.33	46.00	19.67	L	PASS
5	4.2742	10.32	37.45	56.00	18.55	27.55	46.00	18.45	L	PASS
6	13.8839	10.54	41.89	60.00	18.11	31.15	50.00	18.85	L	PASS



Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Type	Verdict
1	0.2949	10.27	40.91	60.38	19.47	31.44	51.70	20.26	N	PASS
2	0.7065	10.28	43.55	56.00	12.45	33.04	46.00	12.96	N	PASS
3	1.2973	10.28	40.28	56.00	15.72	31.75	46.00	14.25	N	PASS
4	4.2023	10.41	39.41	56.00	16.59	30.64	46.00	15.36	N	PASS
5	9.8421	10.44	41.68	60.00	18.32	32.08	50.00	17.92	N	PASS
6	13.5993	10.53	40.52	60.00	19.48	31.68	50.00	18.32	N	PASS