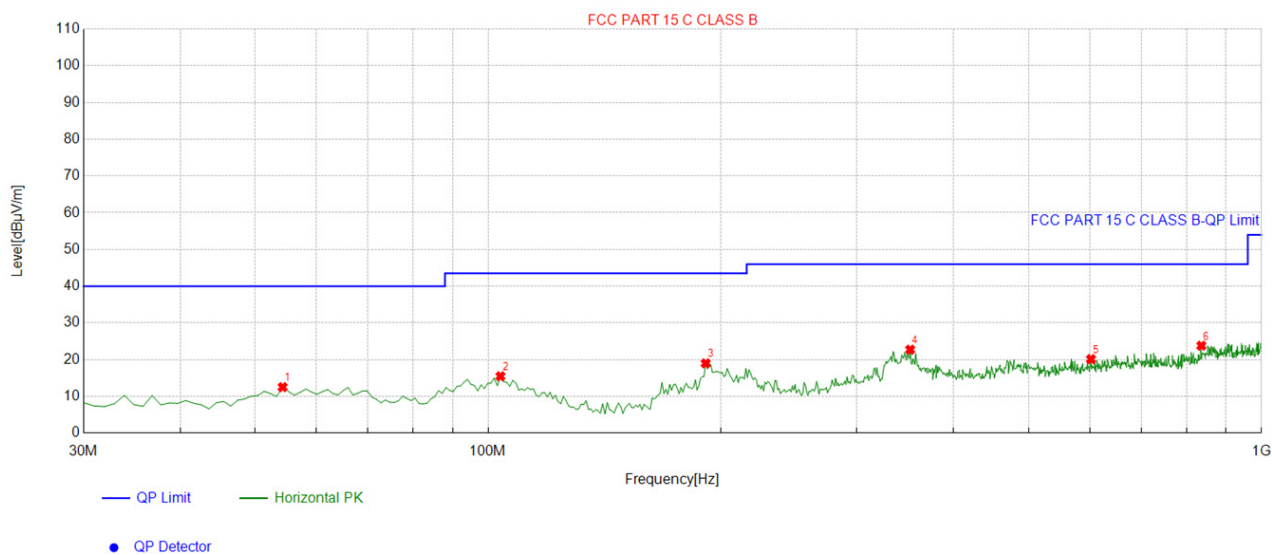**HUAK TESTING**

Series Model No.:   C24 Ultra
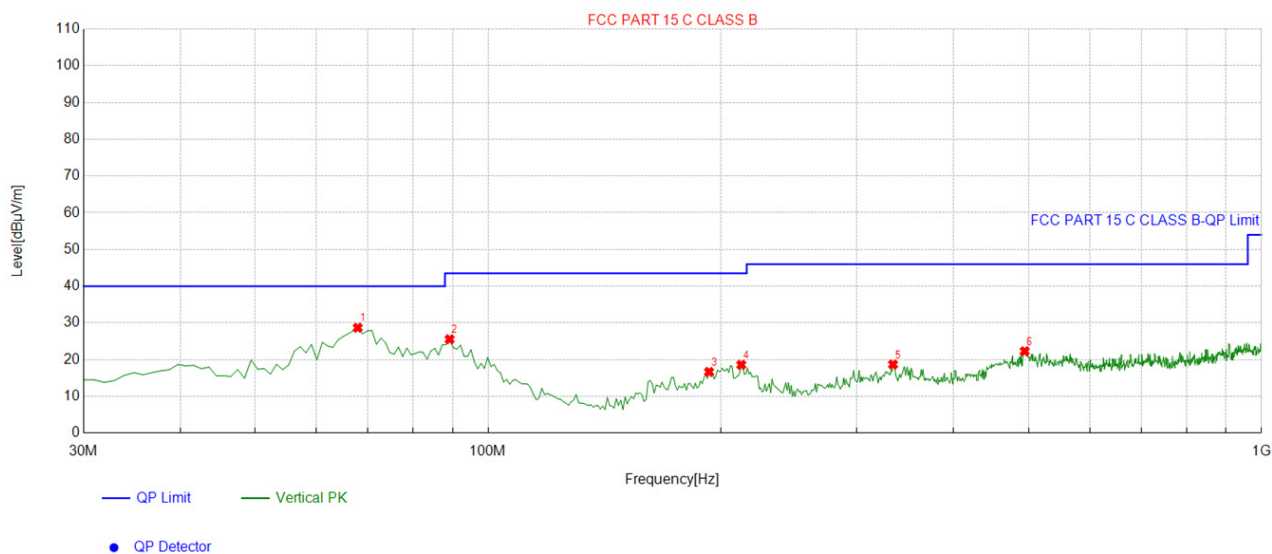
Horizontal

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	54.274274	-13.50	26.02	12.52	40.00	27.48	100	290	Horizontal
2	103.79379	-14.69	30.17	15.48	43.50	28.02	100	327	Horizontal
3	191.18118	-15.86	34.85	18.99	43.50	24.51	100	70	Horizontal
4	351.39139	-10.10	32.82	22.72	46.00	23.28	100	105	Horizontal
5	601.90190	-5.23	25.36	20.13	46.00	25.87	100	330	Horizontal
6	835.90590	-2.59	26.39	23.80	46.00	22.20	100	37	Horizontal

Suspected List

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level
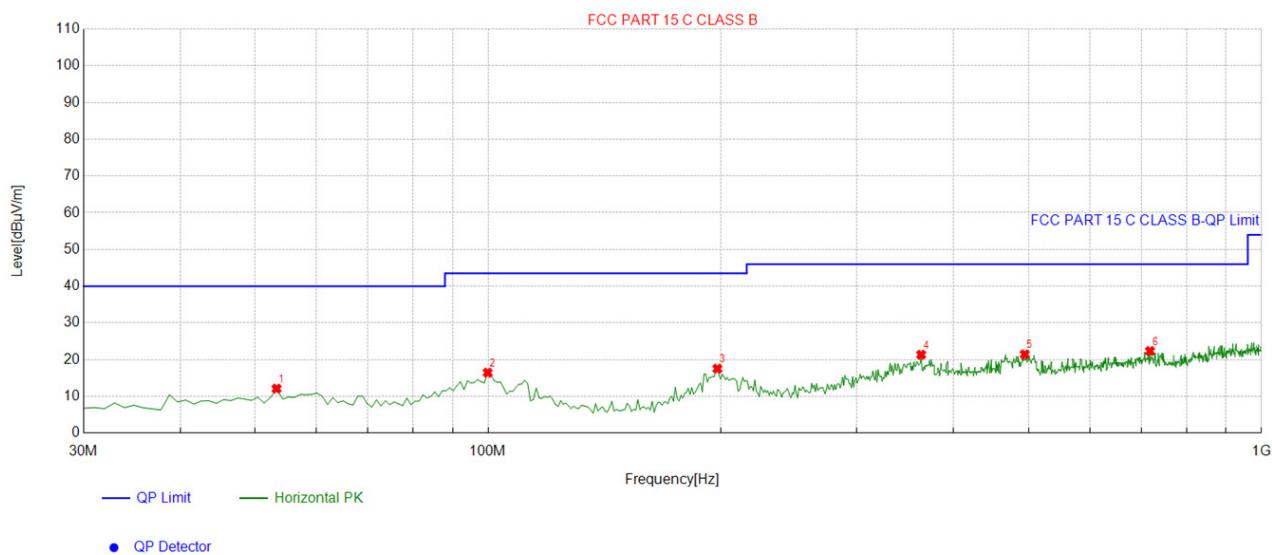
Vertical

Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	67.867868	-16.02	44.70	28.68	40.00	11.32	100	340	Vertical
2	89.229229	-16.75	42.29	25.54	43.50	17.96	100	255	Vertical
3	193.12312	-15.59	32.26	16.67	43.50	26.83	100	7	Vertical
4	212.54254	-14.82	33.42	18.60	43.50	24.90	100	2	Vertical
5	333.91391	-10.67	29.35	18.68	46.00	27.32	100	18	Vertical
6	494.12412	-7.84	30.14	22.30	46.00	23.70	100	245	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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Series Model No.: C25

Horizontal

Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	53.303303	-13.66	25.77	12.11	40.00	27.89	100	157	Horizontal
2	99.90991	-14.70	31.16	16.46	43.50	27.04	100	346	Horizontal
3	197.97797	-14.86	32.41	17.55	43.50	25.95	100	52	Horizontal
4	363.04304	-9.68	31.02	21.34	46.00	24.66	100	86	Horizontal
5	494.12412	-7.84	29.28	21.44	46.00	24.56	100	137	Horizontal
6	717.44744	-4.22	26.57	22.35	46.00	23.65	100	43	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level
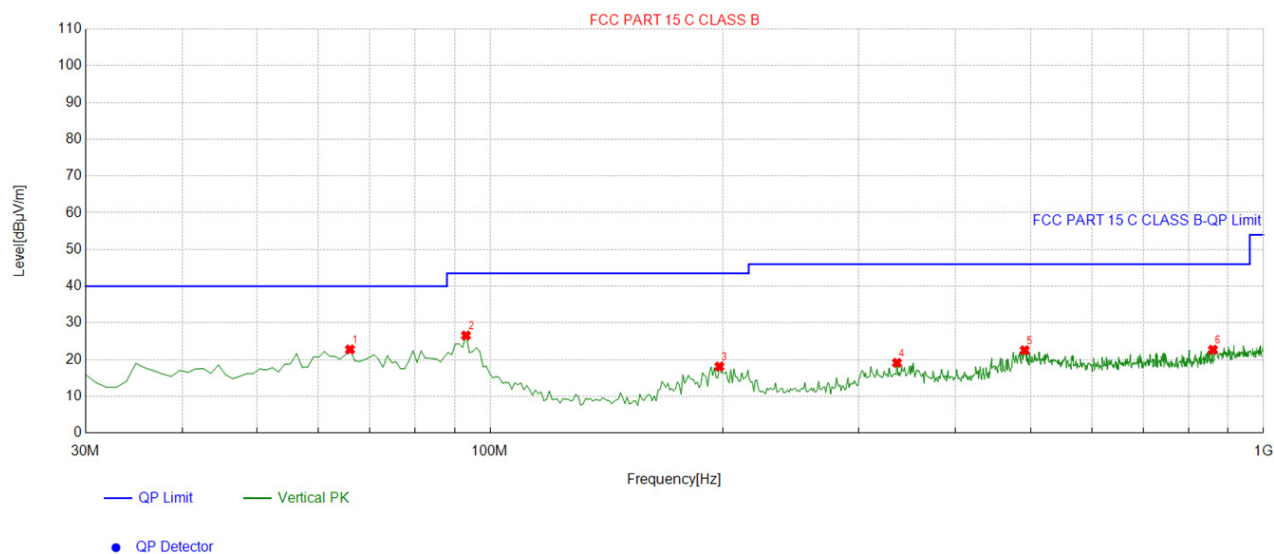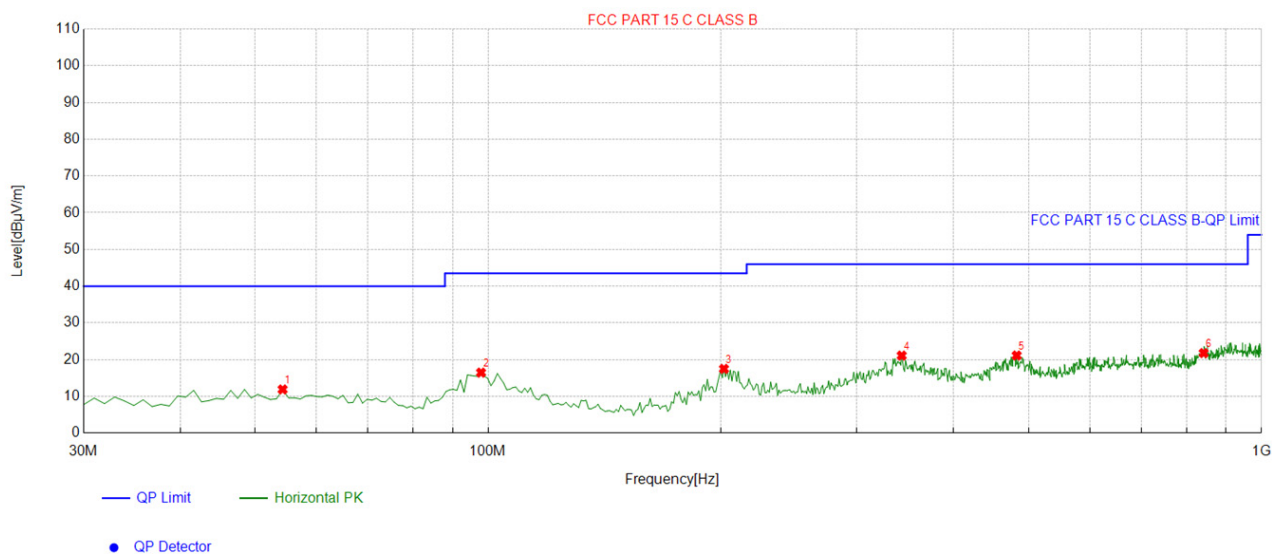
Vertical

Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	65.925926	-15.95	38.72	22.77	40.00	17.23	100	102	Vertical
2	93.113113	-15.92	42.49	26.57	43.50	16.93	100	256	Vertical
3	197.97797	-14.86	32.98	18.12	43.50	25.38	100	3	Vertical
4	335.85585	-10.57	29.70	19.13	46.00	26.87	100	42	Vertical
5	491.21121	-7.88	30.43	22.55	46.00	23.45	100	320	Vertical
6	860.18018	-1.84	24.52	22.68	46.00	23.32	100	292	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level
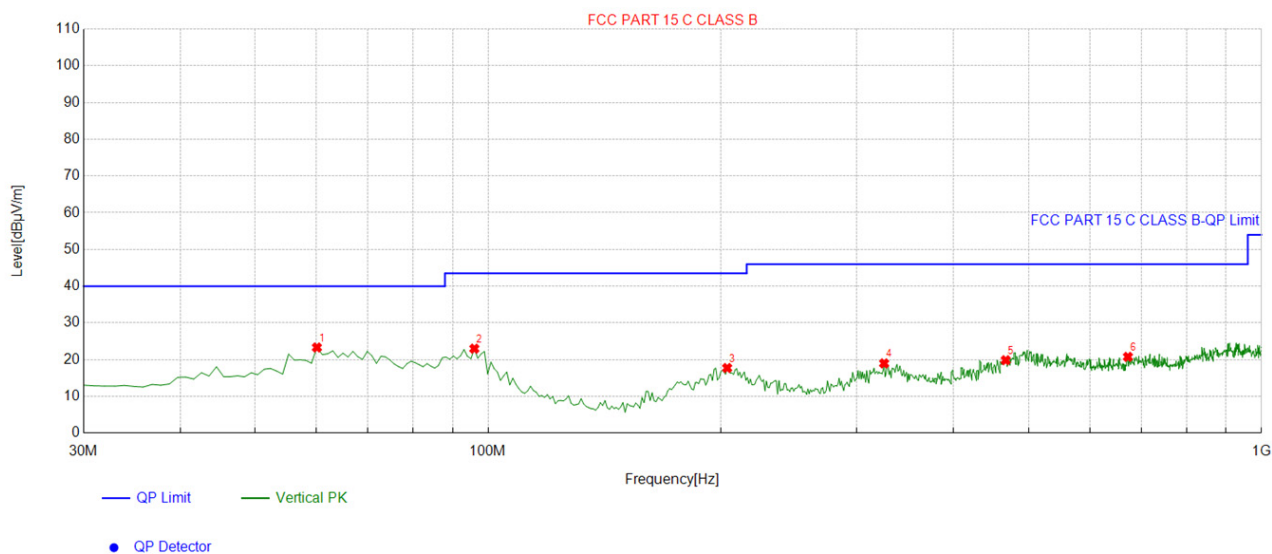
Series Model No.:　I15 Ultra

Horizontal

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	54.274274	-13.50	25.39	11.89	40.00	28.11	100	142	Horizontal
2	97.967968	-15.12	31.59	16.47	43.50	27.03	100	20	Horizontal
3	201.86186	-15.19	32.69	17.50	43.50	26.00	100	64	Horizontal
4	342.65265	-10.22	31.32	21.10	46.00	24.90	100	98	Horizontal
5	482.47247	-8.11	29.24	21.13	46.00	24.87	100	98	Horizontal
6	841.73173	-1.92	23.70	21.78	46.00	24.22	100	280	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level
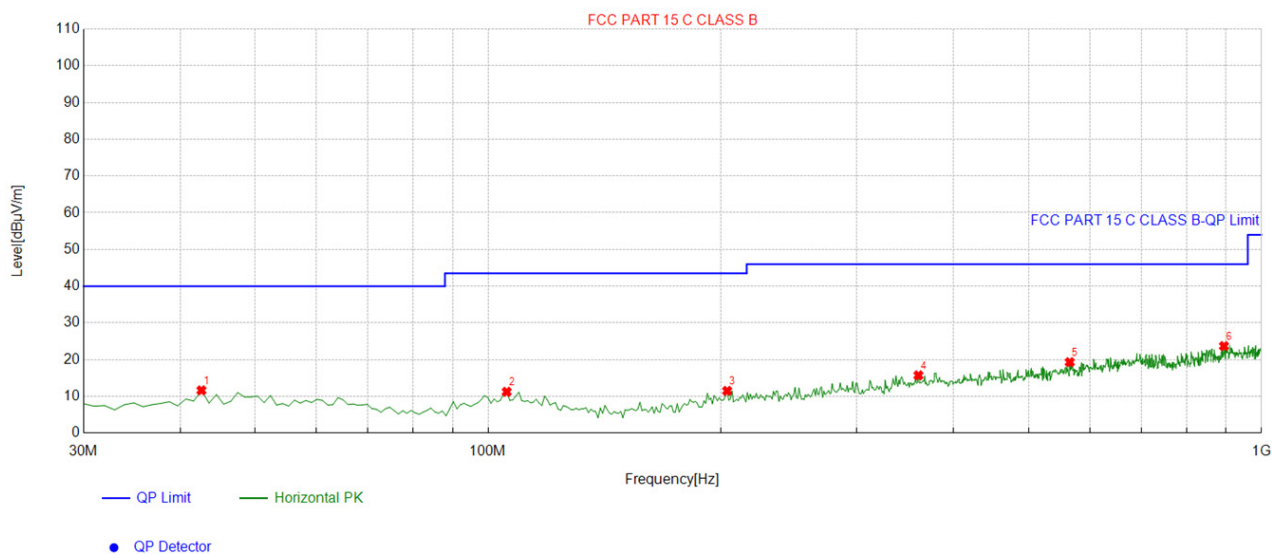
Vertical

Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	60.1001	-13.96	37.27	23.31	40.00	16.69	100	308	Vertical
2	96.026026	-15.55	38.54	22.99	43.50	20.51	100	203	Vertical
3	203.80380	-15.27	33.00	17.73	43.50	25.77	100	351	Vertical
4	325.17517	-11.00	29.98	18.98	46.00	27.02	100	24	Vertical
5	466.93693	-8.64	28.49	19.85	46.00	26.15	100	311	Vertical
6	671.81181	-4.50	25.27	20.77	46.00	25.23	100	287	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level
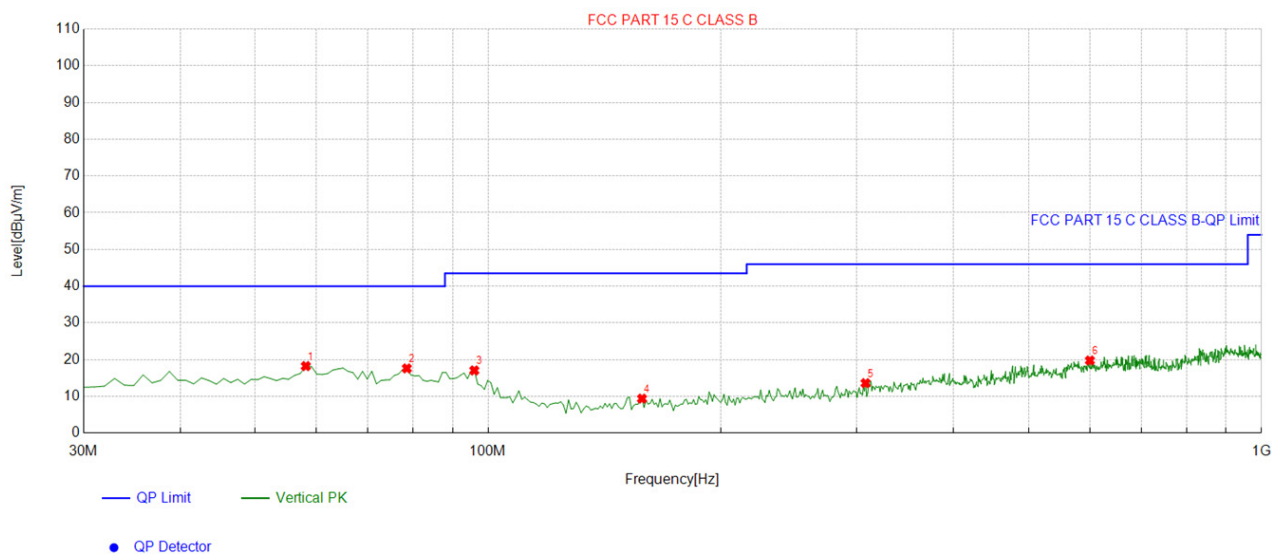
Series Model No.:　C7 Ultra

Horizontal

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	42.622623	-13.31	24.95	11.64	40.00	28.36	100	156	Horizontal
2	105.73573	-14.49	25.74	11.25	43.50	32.25	100	99	Horizontal
3	203.80380	-15.27	26.77	11.50	43.50	32.00	100	52	Horizontal
4	360.13013	-9.86	25.59	15.73	46.00	30.27	100	213	Horizontal
5	565.00500	-6.22	25.53	19.31	46.00	26.69	100	30	Horizontal
6	894.16416	-1.20	24.90	23.70	46.00	22.30	100	81	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

HUAK TESTING

Vertical

Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	58.158158	-14.00	32.24	18.24	40.00	21.76	100	348	Vertical
2	78.548549	-17.92	35.54	17.62	40.00	22.38	100	326	Vertical
3	96.026026	-15.55	32.61	17.06	43.50	26.44	100	344	Vertical
4	158.16816	-17.83	27.22	9.39	43.50	34.11	100	351	Vertical
5	307.69769	-11.88	25.48	13.60	46.00	32.40	100	256	Vertical
6	599.95996	-5.33	25.11	19.78	46.00	26.22	100	63	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level
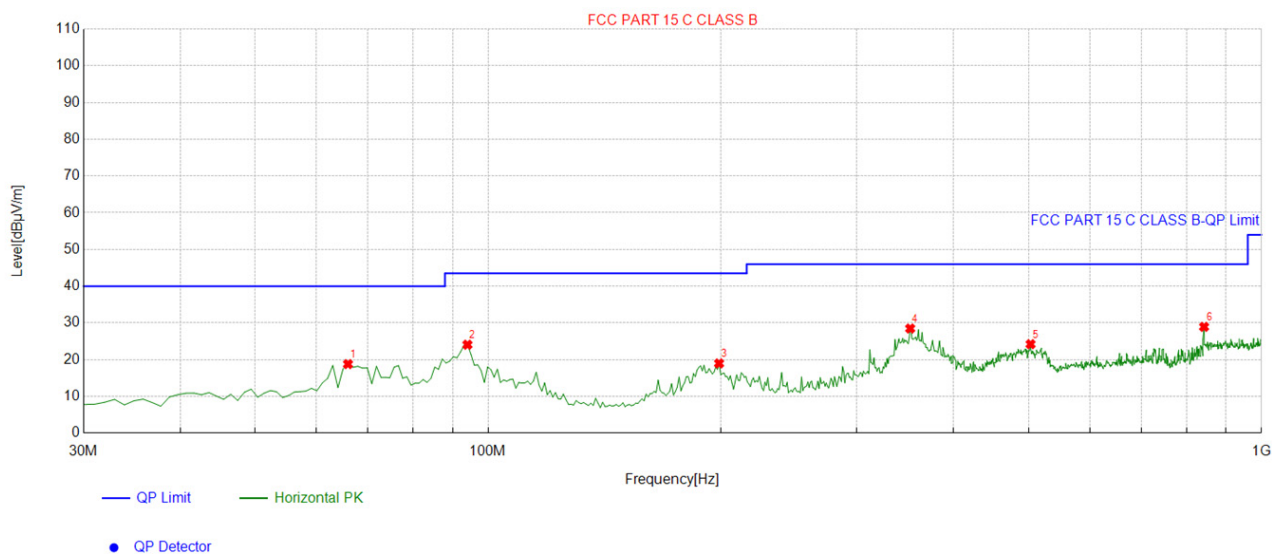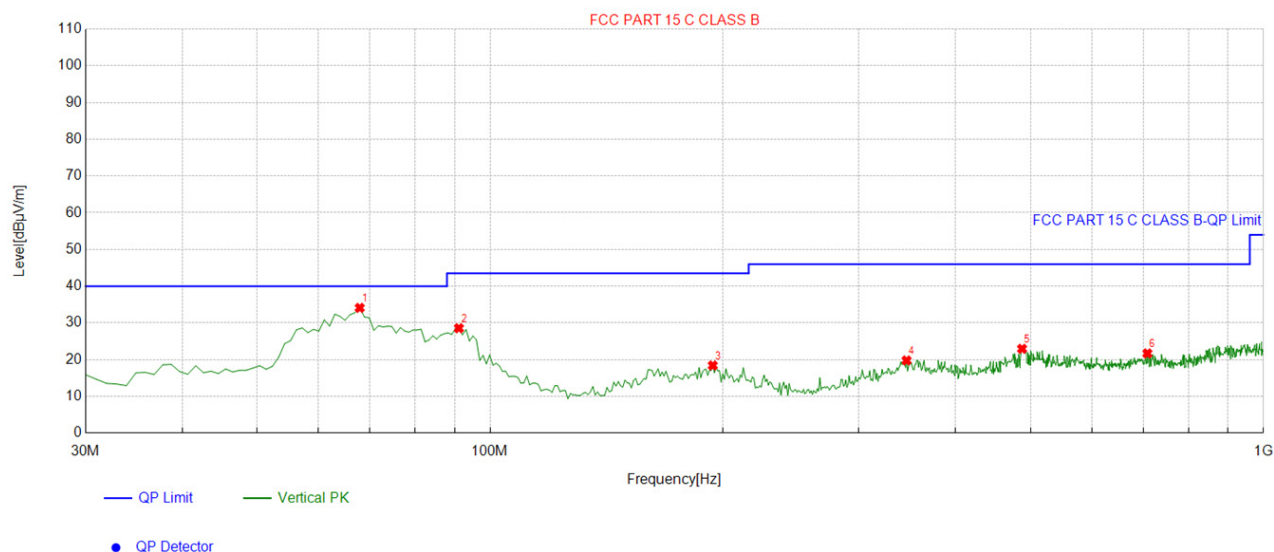
Series Model No.:　S24 Ultra

Horizontal

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	65.925926	-15.95	34.74	18.79	40.00	21.21	100	55	Horizontal
2	94.084084	-15.78	39.85	24.07	43.50	19.43	100	2	Horizontal
3	198.94894	-14.75	33.73	18.98	43.50	24.52	100	84	Horizontal
4	351.39139	-10.10	38.57	28.47	46.00	17.53	100	78	Horizontal
5	502.86286	-8.20	32.41	24.21	46.00	21.79	100	121	Horizontal
6	842.70270	-1.79	30.72	28.93	46.00	17.07	100	55	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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Vertical

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	67.867868	-16.02	50.12	34.10	40.00	5.90	100	34	Vertical
2	91.171171	-16.91	45.47	28.56	43.50	14.94	100	274	Vertical
3	194.09409	-15.23	33.64	18.41	43.50	25.09	100	12	Vertical
4	345.56556	-10.12	29.91	19.79	46.00	26.21	100	46	Vertical
5	487.32732	-7.91	30.86	22.95	46.00	23.05	100	297	Vertical
6	707.73773	-4.11	25.80	21.69	46.00	24.31	100	254	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBμV/m)	Limit@3m (dBμV/m)
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*Note:*1. Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor.

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

For 1GHz to 25GHz

CH Low (2402MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4804	53.19	-3.65	49.54	74.00	-24.46	peak
4804	44.58	-3.65	40.93	54.00	-13.07	AVG
7206	51.82	-0.95	50.87	74.00	-23.13	peak
7206	42.27	-0.95	41.32	54.00	-12.68	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4804	54.18	-3.65	50.53	74.00	-23.47	peak
4804	41.77	-3.65	38.12	54.00	-15.88	AVG
7206	52.31	-0.95	51.36	74.00	-22.64	peak
7206	40.05	-0.95	39.10	54.00	-14.90	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

CH Middle (2440MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4880.00	53.85	-3.54	50.31	74.00	-23.69	peak
4880.00	43.05	-3.54	39.51	54.00	-14.49	AVG
7320.00	51.68	-0.81	50.87	74.00	-23.13	peak
7320.00	40.29	-0.81	39.48	54.00	-14.52	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4880.00	53.72	-3.54	50.18	74.00	-23.82	peak
4880.00	41.55	-3.54	38.01	54.00	-15.99	AVG
7320.00	51.01	-0.81	50.20	74.00	-23.80	peak
7320.00	40.59	-0.81	39.78	54.00	-14.22	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

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CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	55.19	-3.43	51.76	74.00	-22.24	peak
4960	44.11	-3.44	40.67	54.00	-13.33	AVG
7440	52.34	-0.77	51.57	74.00	-22.43	peak
7440	42.28	-0.77	41.51	54.00	-12.49	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	53.09	-3.43	49.66	74.00	-24.34	peak
4960	42.22	-3.44	38.78	54.00	-15.22	AVG
7440	51.68	-0.77	50.91	74.00	-23.09	peak
7440	41.46	-0.77	40.69	54.00	-13.31	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

HUAK TESTING

Series Model No.: X24 Ultra

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
4960	53.76	-3.43	50.33	74.00	-23.67	peak
4960	42.77	-3.44	39.33	54.00	-14.67	AVG
7440	52.34	-0.77	51.57	74.00	-22.43	peak
7440	41.14	-0.77	40.37	54.00	-13.63	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
4960	52.69	-3.43	49.26	74.00	-24.74	peak
4960	41.61	-3.44	38.17	54.00	-15.83	AVG
7440	51.09	-0.77	50.32	74.00	-23.68	peak
7440	41.22	-0.77	40.45	54.00	-13.55	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

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Series Model No.: C24 Ultra

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
4960	54.16	-3.43	50.73	74.00	-23.27	peak
4960	43.39	-3.44	39.95	54.00	-14.05	AVG
7440	51.19	-0.77	50.42	74.00	-23.58	peak
7440	42.19	-0.77	41.42	54.00	-12.58	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
4960	52.51	-3.43	49.08	74.00	-24.92	peak
4960	42.48	-3.44	39.04	54.00	-14.96	AVG
7440	51.22	-0.77	50.45	74.00	-23.55	peak
7440	41.34	-0.77	40.57	54.00	-13.43	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Series Model No.: C25

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	54.98	-3.43	51.55	74.00	-22.45	peak
4960	43.21	-3.44	39.77	54.00	-14.23	AVG
7440	50.88	-0.77	50.11	74.00	-23.89	peak
7440	42.09	-0.77	41.32	54.00	-12.68	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	53.21	-3.43	49.78	74.00	-24.22	peak
4960	41.41	-3.44	37.97	54.00	-16.03	AVG
7440	50.69	-0.77	49.92	74.00	-24.08	peak
7440	41.26	-0.77	40.49	54.00	-13.51	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

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Series Model No.: I15 Ultra

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	54.52	-3.43	51.09	74.00	-22.91	peak
4960	43.74	-3.44	40.30	54.00	-13.70	AVG
7440	52.13	-0.77	51.36	74.00	-22.64	peak
7440	41.66	-0.77	40.89	54.00	-13.11	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	52.45	-3.43	49.02	74.00	-24.98	peak
4960	41.65	-3.44	38.21	54.00	-15.79	AVG
7440	50.94	-0.77	50.17	74.00	-23.83	peak
7440	41.44	-0.77	40.67	54.00	-13.33	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

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HUAK TESTING

Series Model No.: C7 Ultra

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	52.45	-3.43	49.02	74.00	-24.98	peak
4960	41.65	-3.44	38.21	54.00	-15.79	AVG
7440	50.94	-0.77	50.17	74.00	-23.83	peak
7440	41.44	-0.77	40.67	54.00	-13.33	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	52.59	-3.43	49.16	74.00	-24.84	peak
4960	41.47	-3.44	38.03	54.00	-15.97	AVG
7440	51.61	-0.77	50.84	74.00	-23.16	peak
7440	41.31	-0.77	40.54	54.00	-13.46	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

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Series Model No.: S24 Ultra

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	54.81	-3.43	51.38	74.00	-22.62	peak
4960	43.62	-3.44	40.18	54.00	-13.82	AVG
7440	52.61	-0.77	51.84	74.00	-22.16	peak
7440	42.22	-0.77	41.45	54.00	-12.55	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4960	52.29	-3.43	48.86	74.00	-25.14	peak
4960	42.53	-3.44	39.09	54.00	-14.91	AVG
7440	51.96	-0.77	51.19	74.00	-22.81	peak
7440	41.53	-0.77	40.76	54.00	-13.24	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz.
(2) "F" denotes fundamental frequency; "H" denotes spurious frequency; "E" denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All modes of operation were investigated and the worst-case emissions are reported.

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Radiated Band Edge Test:

Operation Mode: TX CH Low (2402MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2310.00	55.23	-5.81	49.42	74	-24.58	peak
2310.00	/	-5.81	/	54	/	AVG
2390.00	54.18	-5.84	48.34	74	-25.66	peak
2390.00	/	-5.84	/	54	/	AVG
2400.00	52.91	-5.84	47.07	74	-26.93	peak
2400.00	/	-5.84	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2310.00	55.34	-5.81	49.53	74	-24.47	peak
2310.00	/	-5.81	/	54	/	AVG
2390.00	54.19	-5.84	48.35	74	-25.65	peak
2390.00	/	-5.84	/	54	/	AVG
2400.00	51.77	-5.84	45.93	74	-28.07	peak
2400.00	/	-5.84	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

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Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
2483.50	55.26	-5.81	49.45	74	-24.55	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	54.18	-6.06	48.12	74	-25.88	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
2483.50	53.29	-5.81	47.48	74	-26.52	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	51.48	-6.06	45.42	74	-28.58	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

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All modes have been tested, and the report only reflects the worst mode:

Series Model No.: X24 Ultra

Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.50	54.26	-5.81	48.45	74	-25.55	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.33	-6.06	46.27	74	-27.73	peak
2500.00	/	-6.06	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.50	56.32	-5.81	50.51	74	-23.49	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.44	-6.06	46.38	74	-27.62	peak
2500.00	/	-6.06	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Series Model No.: C24 Ultra

Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.50	54.19	-5.81	48.38	74	-25.62	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.62	-6.06	46.56	74	-27.44	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.50	55.13	-5.81	49.32	74	-24.68	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.47	-6.06	46.41	74	-27.59	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

Series Model No.: C25

Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	54.72	-5.81	48.91	74	-25.09	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.19	-6.06	46.13	74	-27.87	peak
2500.00	/	-6.06	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	53.62	-5.81	47.81	74	-26.19	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.88	-6.06	46.82	74	-27.18	peak
2500.00	/	-6.06	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

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Series Model No.: I15 Ultra

Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	54.19	-5.81	48.38	74	-25.62	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.69	-6.06	46.63	74	-27.37	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	55.32	-5.81	49.51	74	-24.49	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	54.08	-6.06	48.02	74	-25.98	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

Series Model No.: C7 Ultra

Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.50	54.22	-5.81	48.41	74	-25.59	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.19	-6.06	46.13	74	-27.87	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.50	55.22	-5.81	49.41	74	-24.59	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	53.08	-6.06	47.02	74	-26.98	peak
2500.00	/	-6.06	/	54	/	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

Series Model No.: S24 Ultra

Operation Mode: TX CH High (2480MHz)

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.50	53.41	-5.81	47.6	74	-26.4	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.19	-6.06	46.13	74	-27.87	peak
2500.00	/	-6.06	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.50	54.16	-5.81	48.35	74	-25.65	peak
2483.50	/	-5.81	/	54	/	AVG
2500.00	52.77	-6.06	46.71	74	-27.29	peak
2500.00	/	-6.06	/	54	/	AVG

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Remark:

1. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

2. In restricted bands of operation, the spurious emissions below the permissible value more than 20dB.

3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

4.4 Maximum Output Power Measurement

4.4.1 Limit

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 Test Procedure

The maximum peak conducted output power may be measured using a broadband peak RF automatic control unit. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

The maximum Average conducted output power may be measured using a wideband RF automatic control unit with a thermocouple detector or equivalent. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

4.4.3 Deviation From Standard

No deviation.

4.4.4 Test Setup

RF automatic control unit   EUT

4.4.5 Test Results

Channel	Channel Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Result
Low	2402	-4.58		Pass
Middle	2440	-4.45	30	Pass
High	2480	-3.70		Pass

Note: 1.The test results including the cable lose.

4.5 Power Spectral Density

4.5.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.5.2 Test Procedure

Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
Set the RBW =10 kHz.
Set the VBW =30 KHz.
Set the span to 1.5 times the DTS channel bandwidth.
Detector = peak.
Sweep time = auto couple.
Trace mode = max hold.
Allow trace to fully stabilize.
Use the peak marker function to determine the maximum power level.
If measured value exceeds limit, reduce RBW(no less than 3 kHz)and repeat.
The resulting peak PSD level must be 8 dBm.

4.5.3 Deviation From Standard

No deviation.

4.5.4 Test Setup

```
┌──────────┐          ┌──────────────┐
│          │          │  SPECTRUM    │
│   EUT    │──────────│  ANALYZER    │
│          │          │              │
└──────────┘          └──────────────┘
```

4.5.5 Test Results

Channel	Channel frequency (MHz)	Test Result (dBm/ 10kHz)	10log (3/10)	Test Result (dBm/ 3kHz)	Limit (dBm/ 3KHz)	Result
Low	2402	-15.31	-5.23	-20.54		Pass
Middle	2440	-15.22	-5.23	-20.45	8.00	Pass
High	2480	-14.33	-5.23	-19.56		Pass
Note: PSD test result (dBm/3kHz)= PSD test result (dBm/10kHz)+10log(3/10)						

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4.6 6db Bandwidth

4.6.1 Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.6.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300 KHz.
The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.6.3 Deviation From Standard

No deviation.

4.6.4 Test Setup

EUT — SPECTRUM ANALYZER

4.6.5 Test Result

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
Low	2402	0.664		Pass
Middle	2440	0.676	≥500	Pass
High	2480	0.712		Pass

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4.7   Occupied Bandwidth

4.7.1 Test Procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

RBW=1% to 5% of the OBW
VBW=approximately 3 X RBW
Detector=Peak
Trace Mode: Max Hold
Use the 99% power bandwidth function of the instrument to measure the Occupied Bandwidth and recorded.

4.7.2 Deviation From Standard

No deviation.

4.7.3 Test Setup

4.7.4 Test Result

N/A

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4.8 Band Edge

4.8.1 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under FCC rules in section 5.8.1, the attenuation required shall be 30 dB instead of 20 dB.

4.8.2 Test Procedure

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW $\geq$ 1% of the span, VBW $\geq$ RBW, Sweep = auto,
Detector function = peak, Trace = max hold.
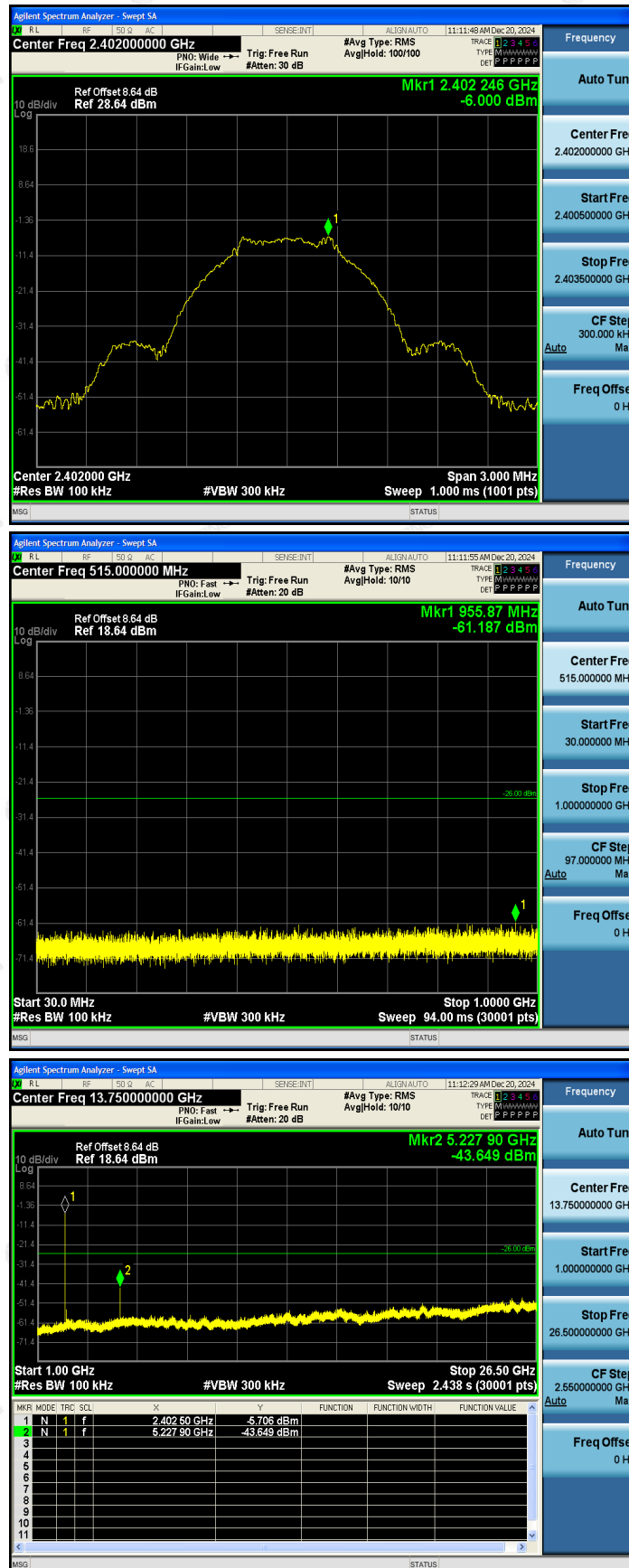
4.8.3 Deviation From Standard

No deviation.
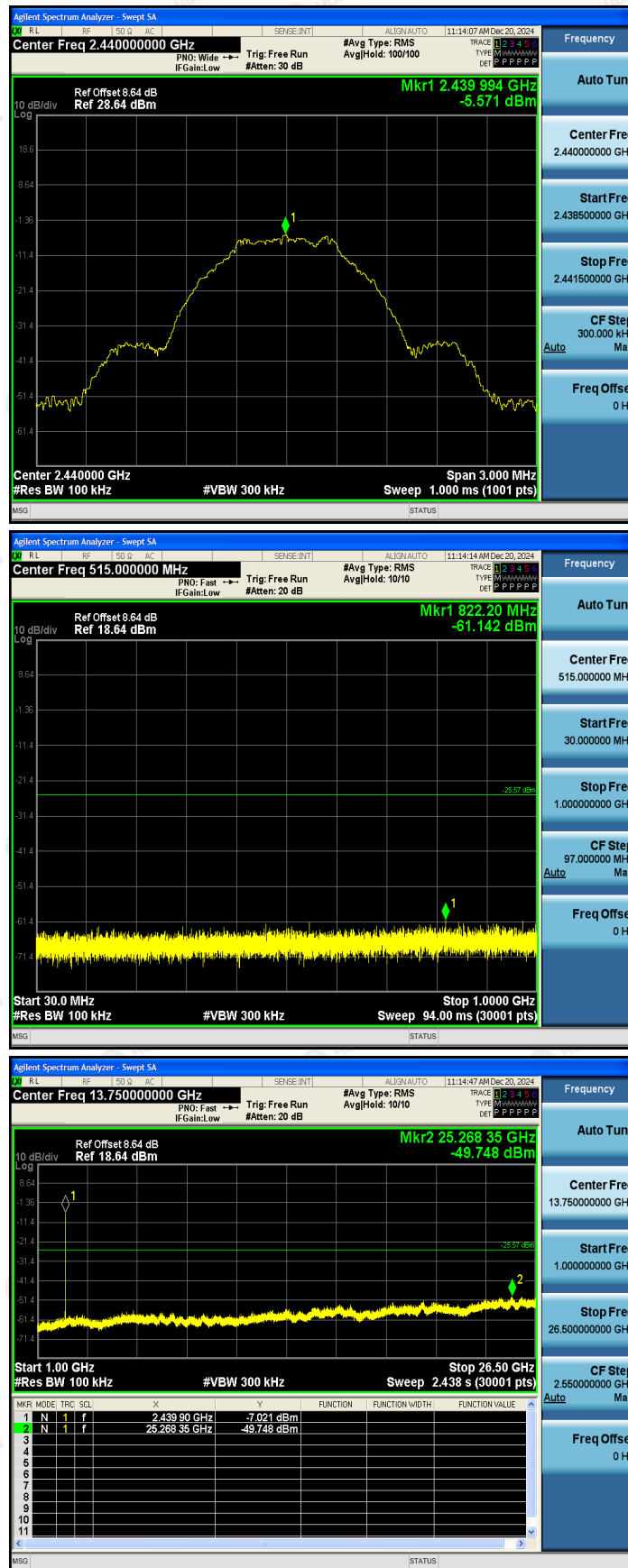
4.8.4 Test Setup

4.8.5 Test Results

PASS

2402

2480

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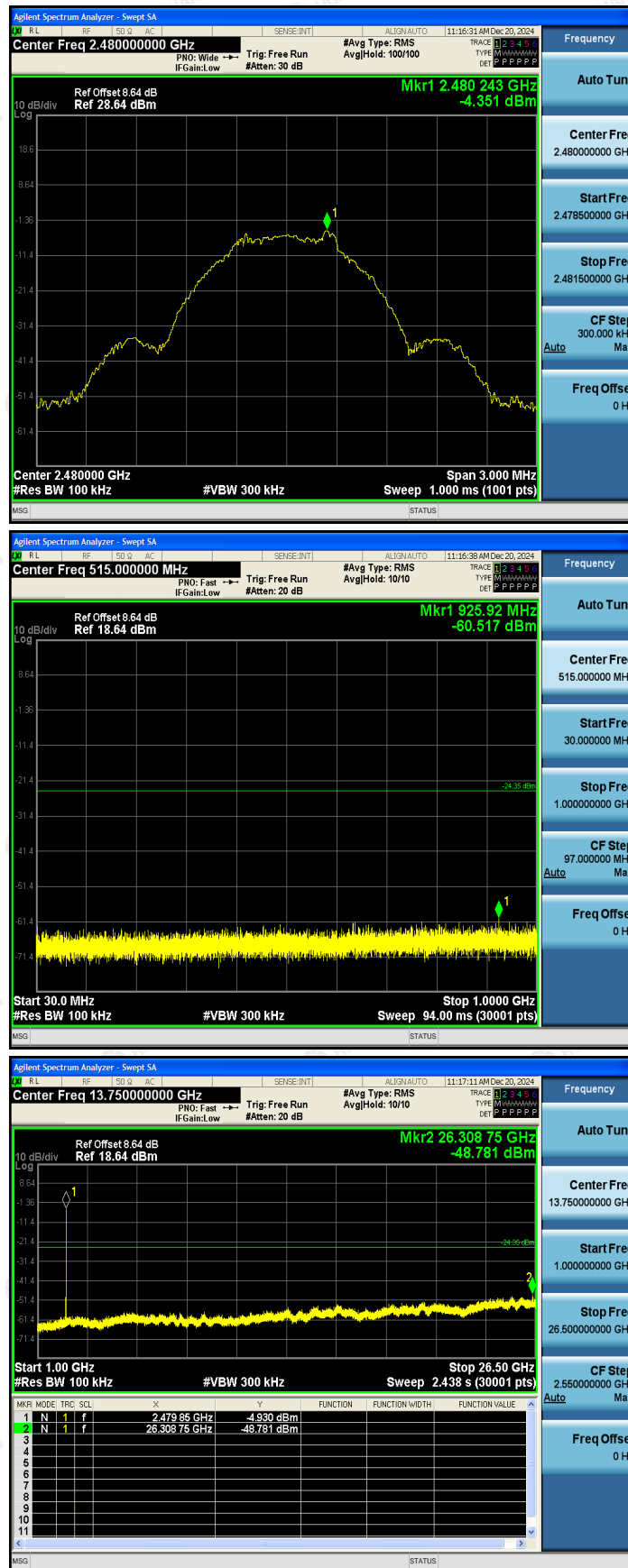
4.9 Conducted Spurious Emissions

4.9.1   Applied Procedures / Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section (b)(3) of RSS 5.4(4), the attenuation required shall be 30 dB instead of 20 dB.
For below 30MHz,For 9KHz-150kHz,150K-10MHz,We use the RBW 1KHz,10KHz, So the limit need to calculated by "10lg(BW1/BW2)". for example For9KHz-150kHz,RBW 1KHz, The Limit= the highest emission level-20-10log(100/1)= the highest emission level-40.

4.9.2   Test Procedure

a.The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b.Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW ≥ 1% of the span, VBW ≥ RBW, Sweep = auto,
Detector function = peak, Trace = max hold.

4.9.3 Deviation From Standard

No deviation.

4.9.4   Test Setup

4.9.5 Test Results

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TEL : +86-755 2302 9901   FAX : +86-755 2302 9901   E-mail : service@cer-mark.com

Add: 1-2F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China