

BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



BLE 2M Ant1 2402 0~Reference

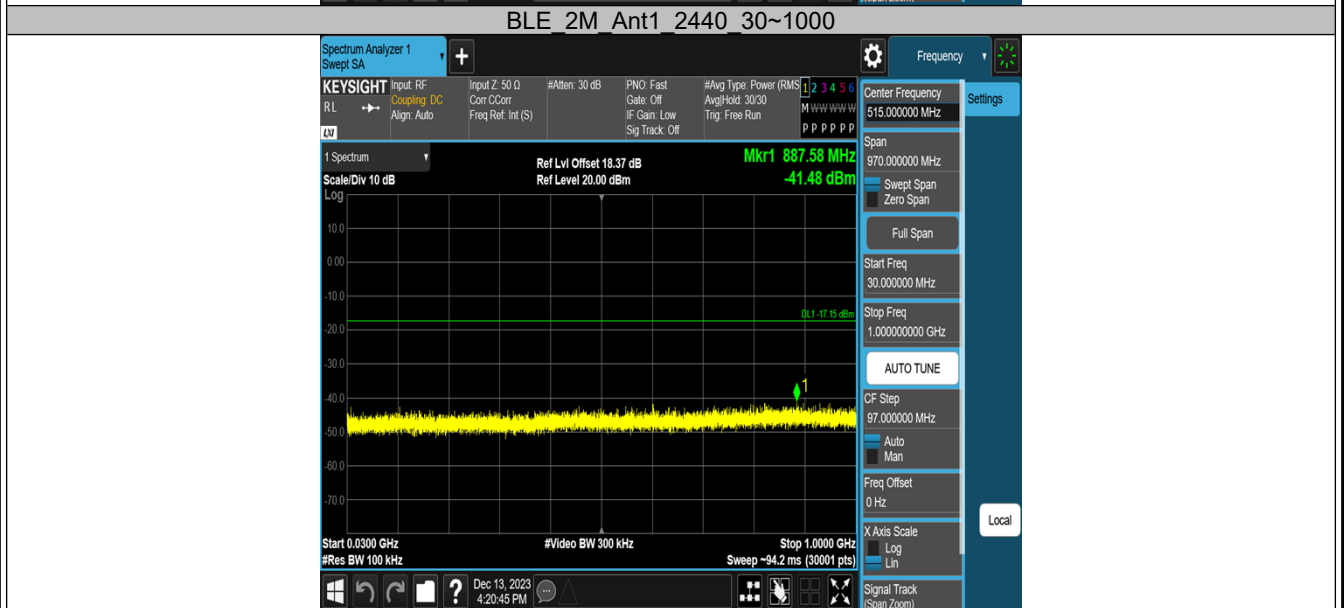
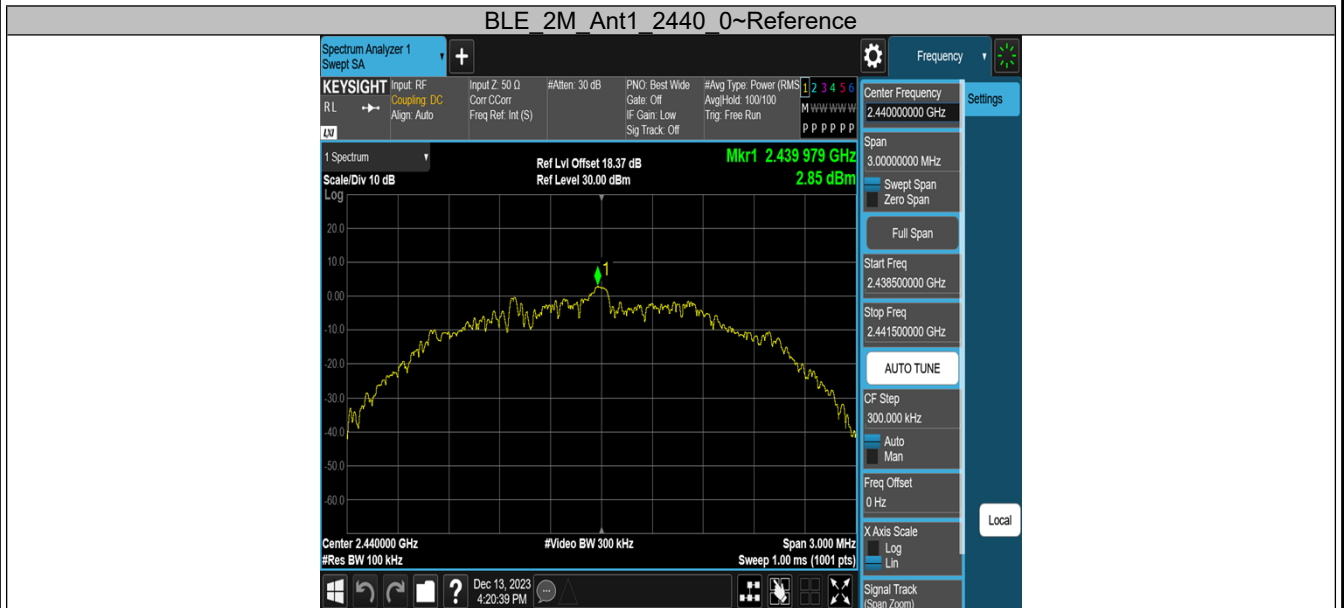


BLE 2M Ant1 2402 30~1000



BLE 2M Ant1 2402 1000~26500

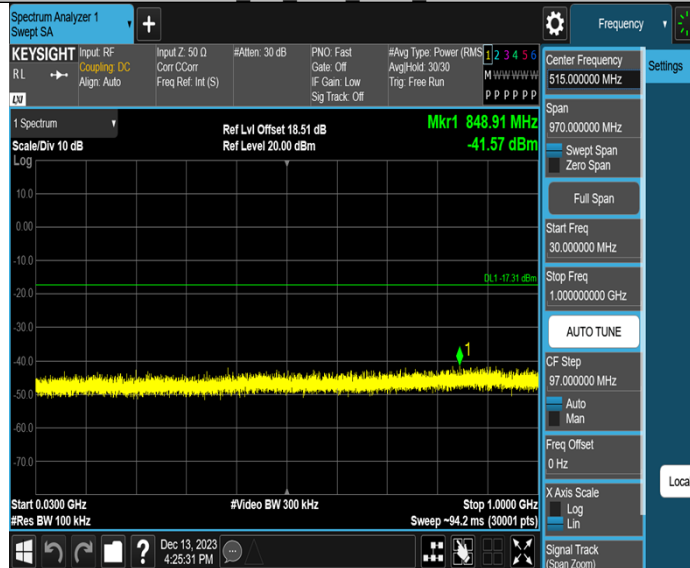




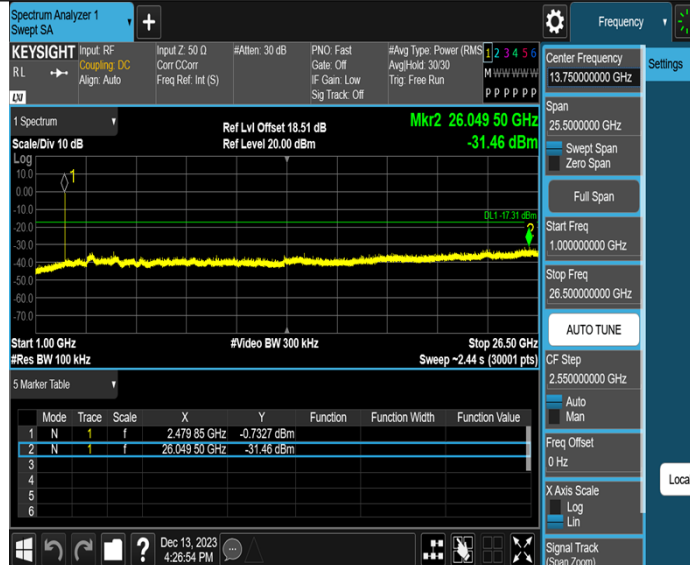
BLE 2M Ant1 2480 0~Reference



BLE 2M Ant1 2480 30~1000

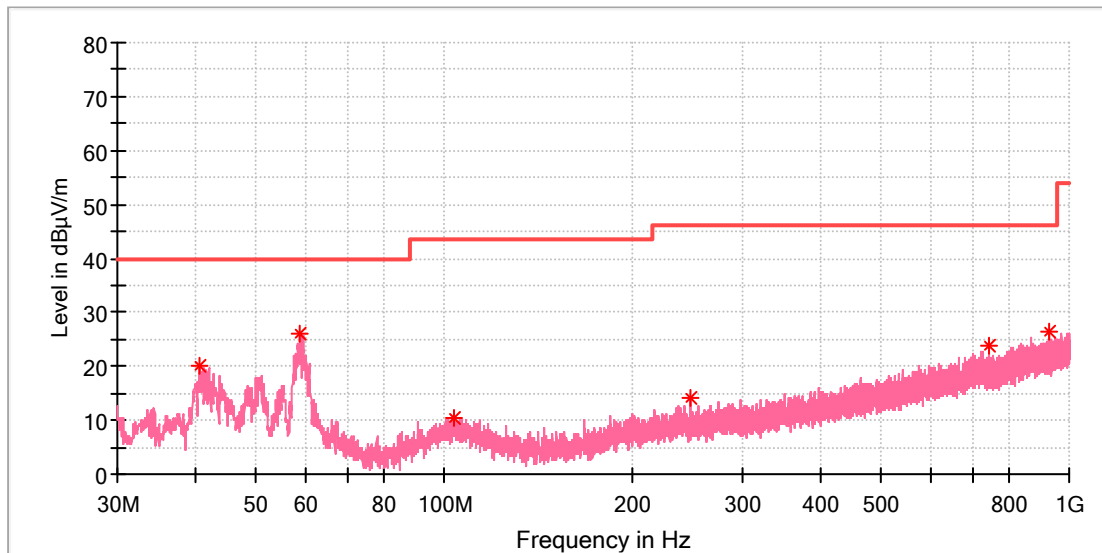


BLE 2M Ant1 2480 1000~26500



EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_Mid channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
40.595385	20.06	40.00	19.94	100.0	V	343.0	-20.3
58.913462	25.95	40.00	14.05	100.0	V	108.0	-19.2
103.346923	10.49	43.50	33.01	100.0	V	203.0	-19.2
247.653077	14.11	46.00	31.89	100.0	V	193.0	-17.8
744.778077	23.96	46.00	22.04	100.0	V	91.0	-7.7
931.801539	26.48	46.00	19.52	100.0	V	125.0	-5.1

Final Result

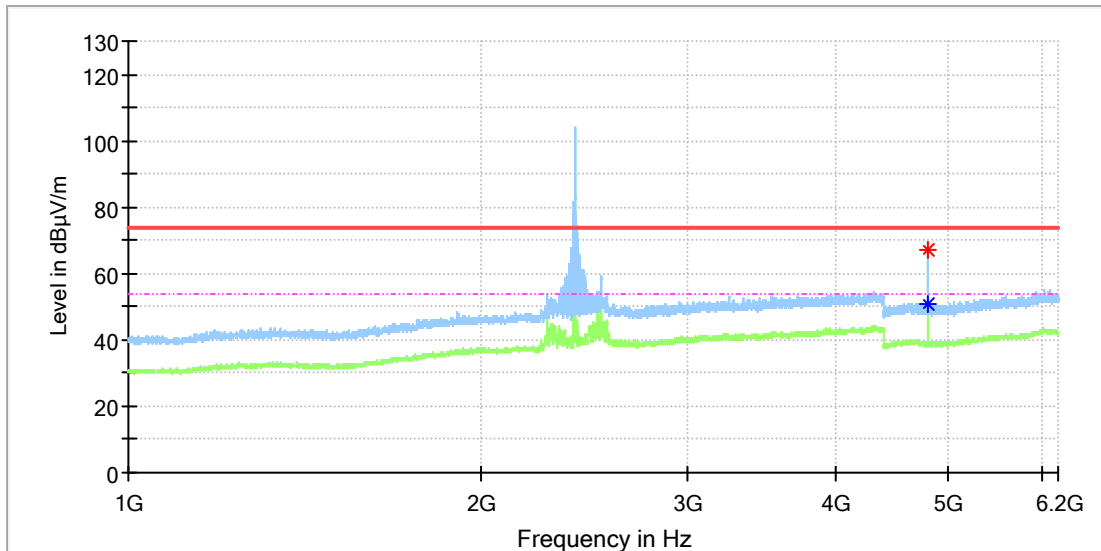
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

1GHz - 18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental.

EUT Information

EUT Name:	Industrial Handheld Barcode Scanner
Model:	NLS-NVH220B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168450776/A003594201-004
Test Voltage:	Battery
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

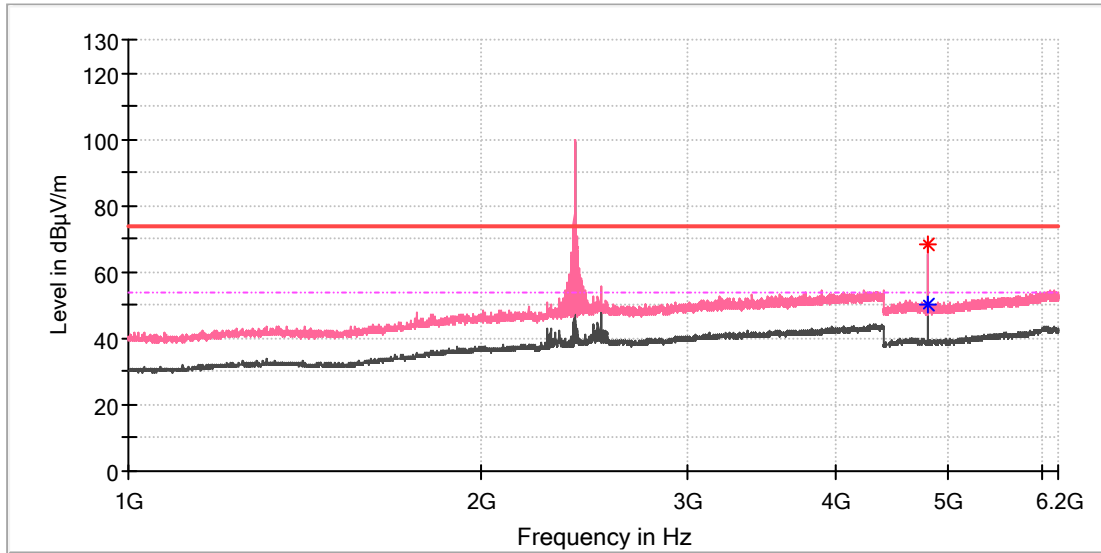
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	67.06	---	74.00	6.94	150.0	H	341.0	11.8
4805.500000	---	50.54	54.00	3.46	150.0	H	341.0	11.8

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_Low channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

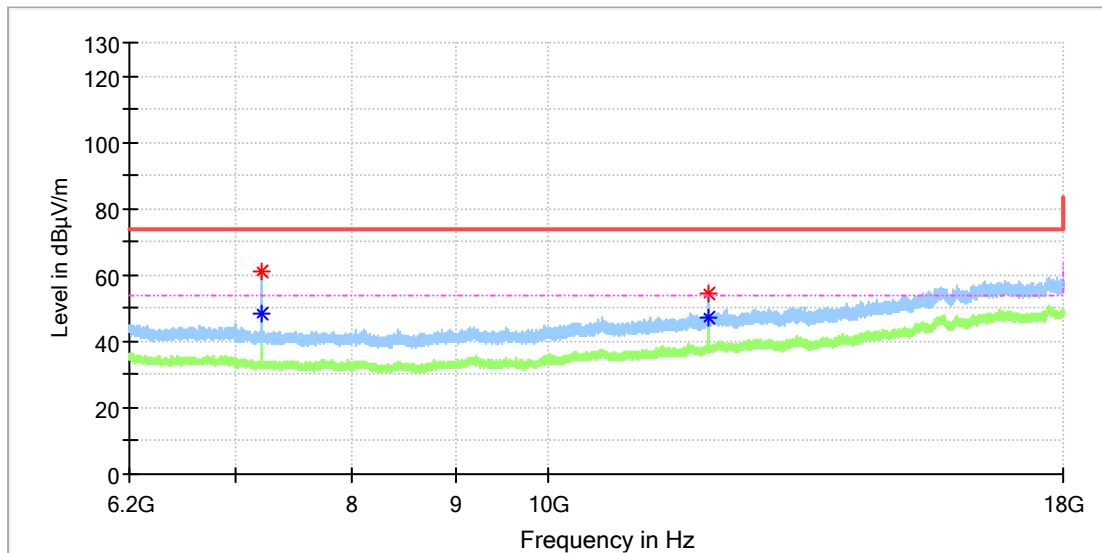
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.000000	68.51	---	74.00	5.49	150.0	V	5.0	11.8
4805.500000	---	50.35	54.00	3.65	150.0	V	257.0	11.8

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_Low channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

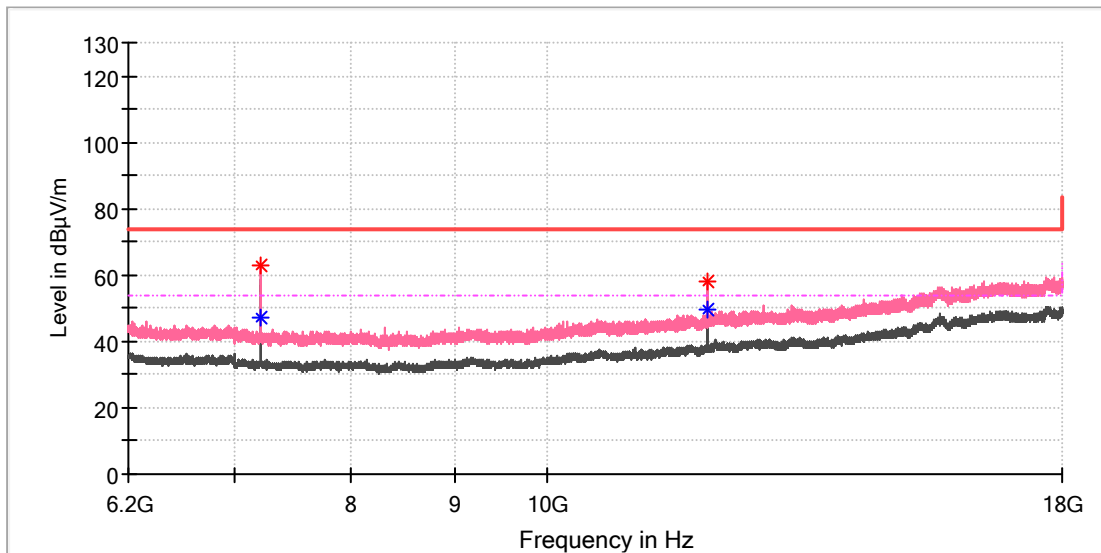
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7206.441667	60.84	---	74.00	13.16	150.0	H	296.0	8.8
7207.425000	---	48.10	54.00	5.90	150.0	H	296.0	8.8
12009.041667	54.50	---	74.00	19.50	150.0	H	134.0	14.0
12010.516667	---	47.39	54.00	6.61	150.0	H	134.0	14.0

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_Low channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

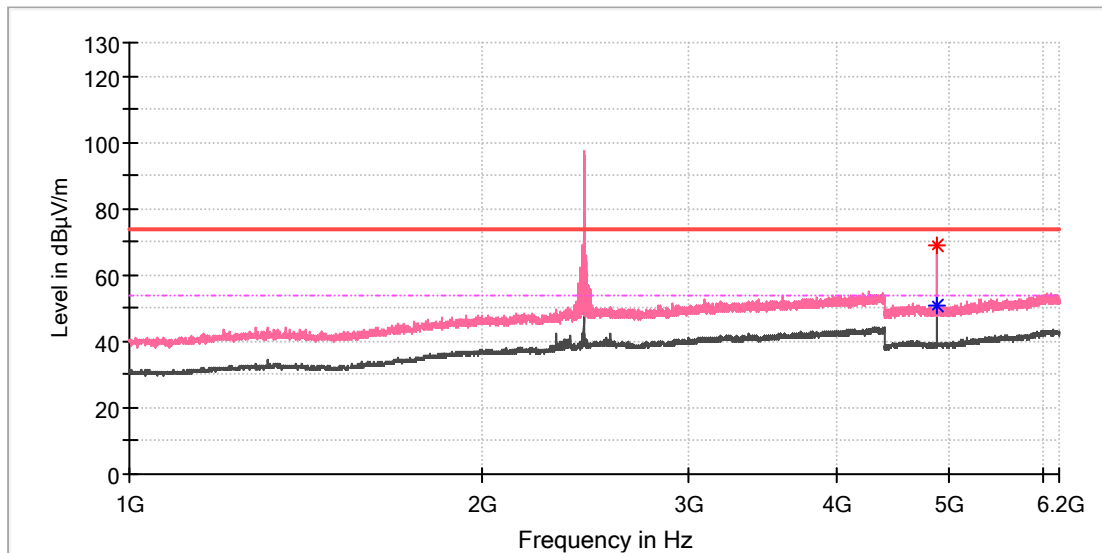
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7204.966667	62.75	---	74.00	11.25	150.0	V	293.0	8.8
7207.425000	---	47.39	54.00	6.61	150.0	V	293.0	8.8
12008.058333	---	49.56	54.00	4.44	150.0	V	330.0	14.0
12011.500000	58.24	---	74.00	15.76	150.0	V	330.0	14.0

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Industrial Handheld Barcode Scanner
Model:	NLS-NVH220B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168450776/A003594201-004
Test Voltage:	Battery
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

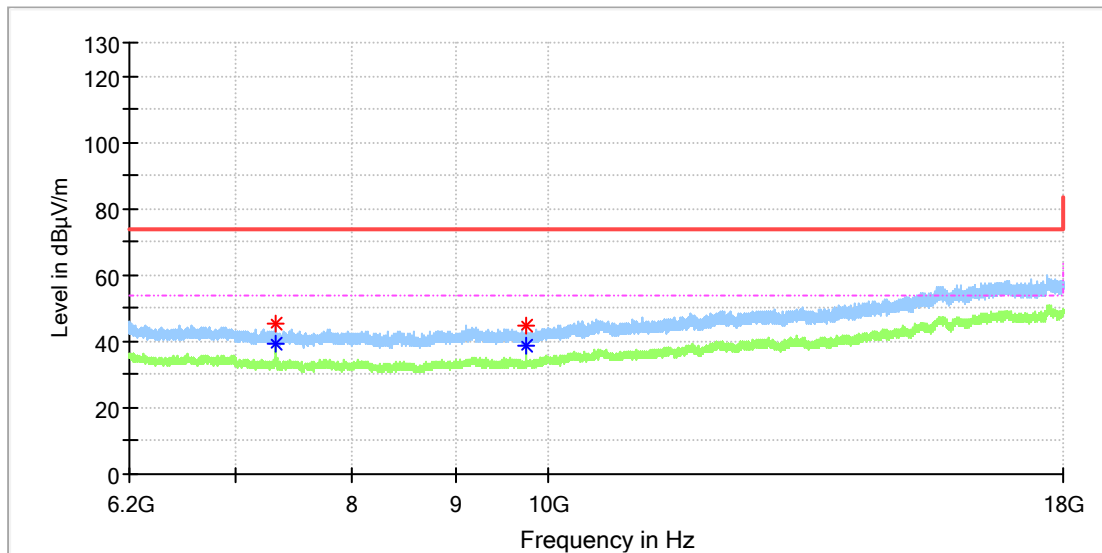
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4879.000000	68.88	---	74.00	5.12	150.0	V	5.0	11.8
4881.500000	---	50.58	54.00	3.42	150.0	V	246.0	11.8

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_Mid channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

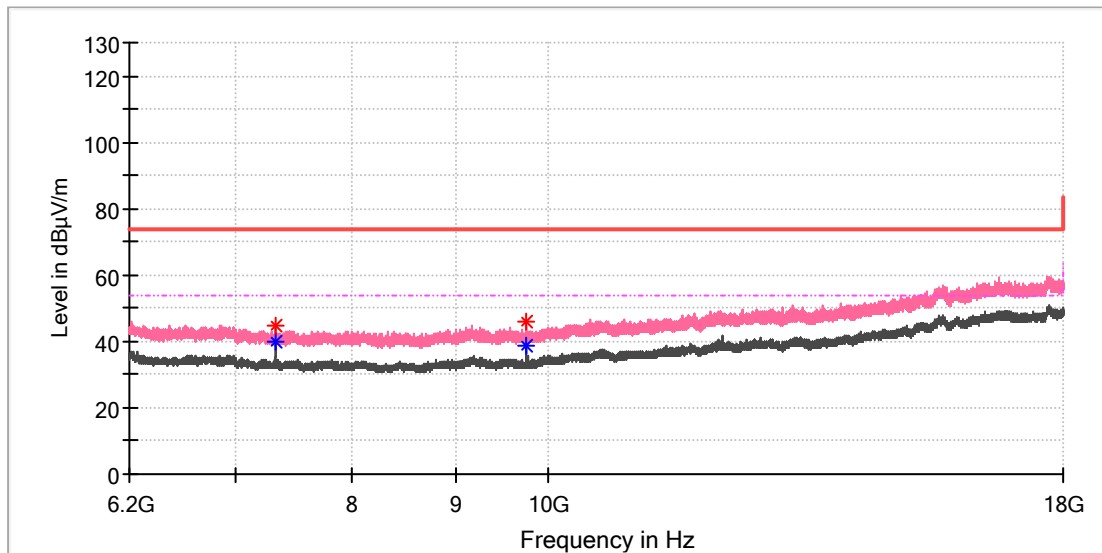
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7319.525000	45.48	---	74.00	28.52	150.0	H	293.0	8.2
7319.525000	---	39.54	54.00	14.46	150.0	H	293.0	8.2
9760.158333	44.61	---	74.00	29.39	150.0	H	232.0	10.4
9760.158333	---	38.59	54.00	15.41	150.0	H	232.0	10.4

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_Mid channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

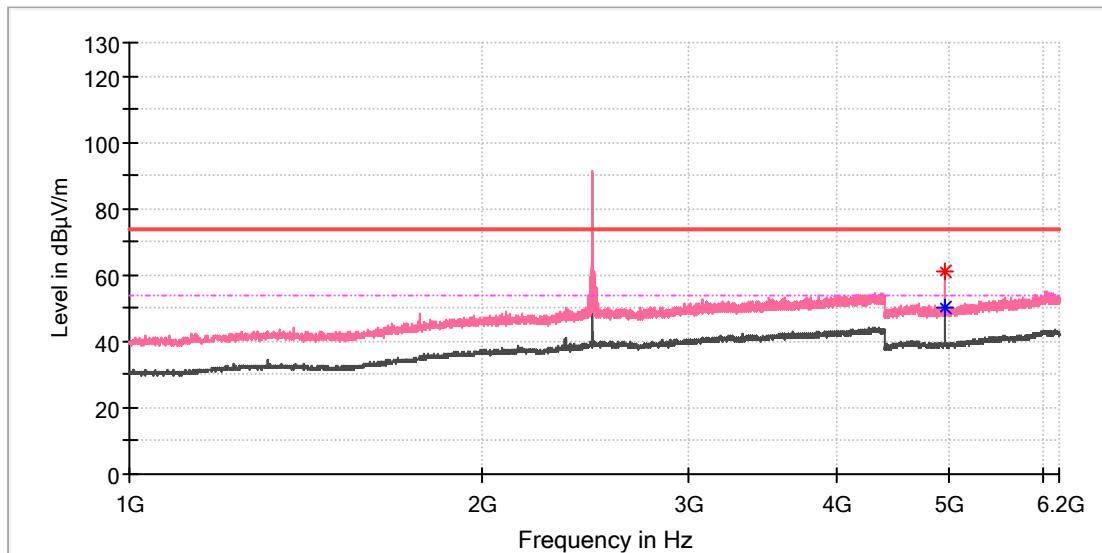
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7320.508333	44.98	---	74.00	29.02	150.0	V	243.0	8.2
7320.508333	---	39.88	54.00	14.12	150.0	V	243.0	8.2
9758.683333	46.10	---	74.00	27.90	150.0	V	60.0	10.4
9759.175000	---	38.67	54.00	15.33	150.0	V	259.0	10.4

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_High channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

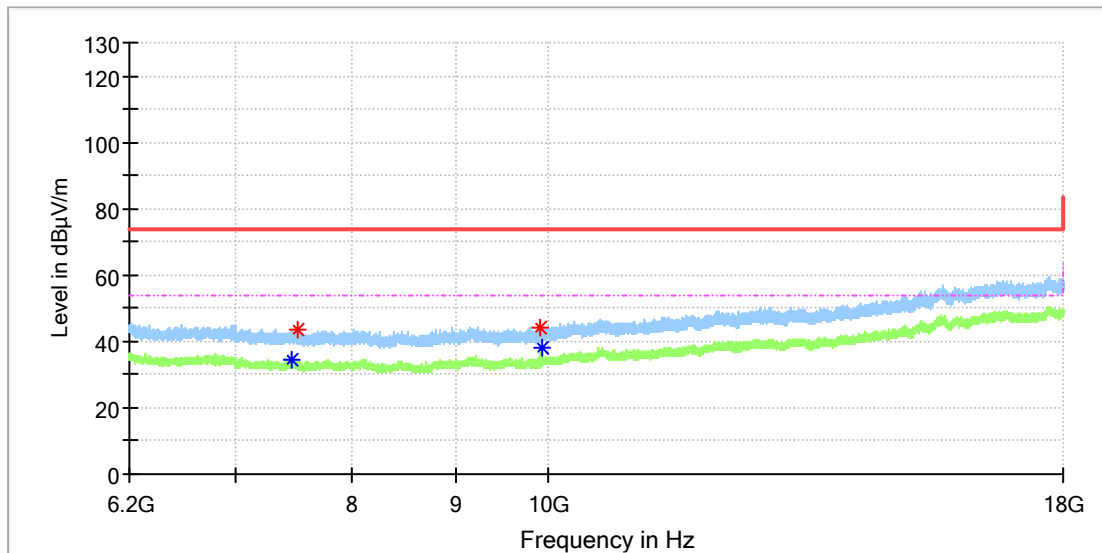
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	60.84	---	74.00	13.16	150.0	V	353.0	11.8
4961.000000	---	49.98	54.00	4.02	150.0	V	353.0	11.8

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_High channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

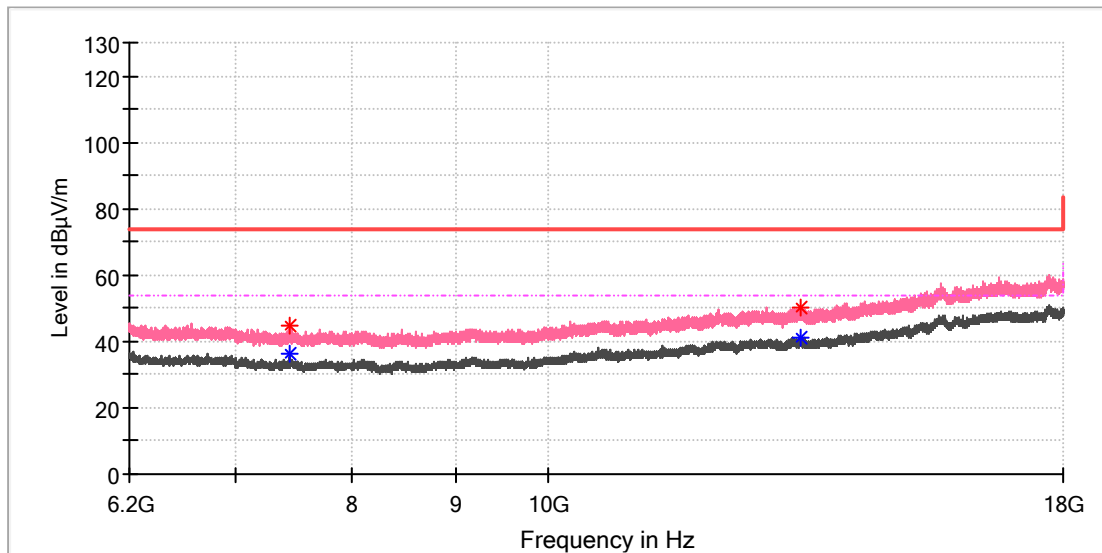
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7464.075000	---	34.27	54.00	19.73	150.0	H	91.0	8.6
7512.750000	43.24	---	74.00	30.76	150.0	H	67.0	8.7
9919.950000	44.37	---	74.00	29.63	150.0	H	1.0	10.8
9920.933333	---	38.25	54.00	15.75	150.0	H	20.0	10.8

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name: Industrial Handheld Barcode Scanner
 Model: NLS-NVH220B
 Test Mode: BLE 1M_High channel
 Order No/Sample No: 168450776/A003594201-004
 Test Voltage: Battery
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7439.983333	44.63	---	74.00	29.37	150.0	V	268.0	8.4
7439.983333	---	36.17	54.00	17.83	150.0	V	268.0	8.4
13340.966667	---	41.33	54.00	12.67	150.0	V	281.0	15.5
13353.258333	49.94	---	74.00	24.06	150.0	V	306.0	15.5

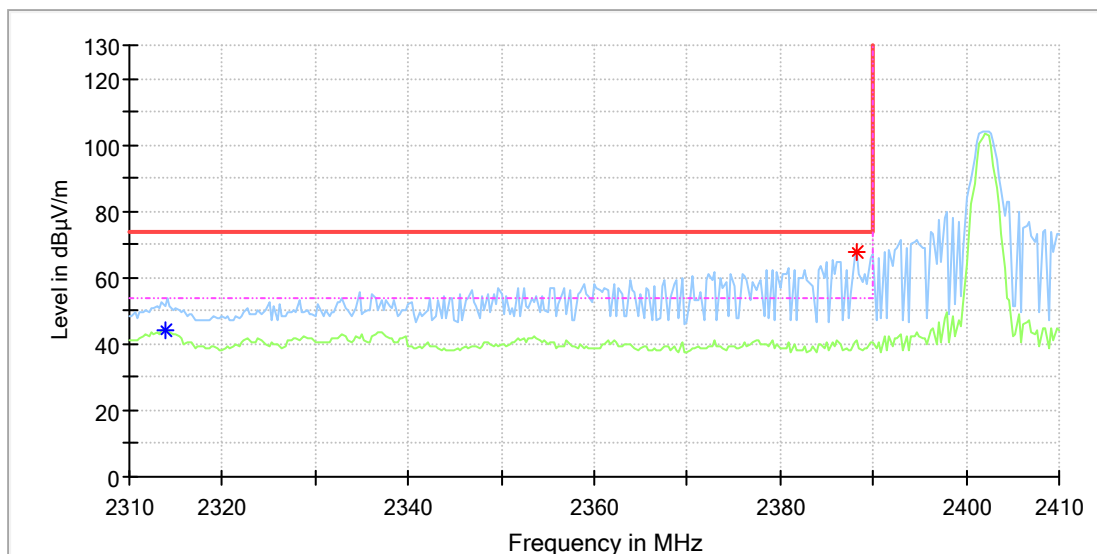
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Appendix A.6: Test Results of Radiated Emissions in Restricted Bands

EUT Information

EUT Name:	Industrial Handheld Barcode Scanner
Model:	NLS-NVH220B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168450776/A003594201-004
Test Voltage:	Battery
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2313.823529	---	44.19	54.00	9.81	150.0	H	150.0	6.5
2388.235294	67.91	---	74.00	6.09	150.0	H	166.0	7.0

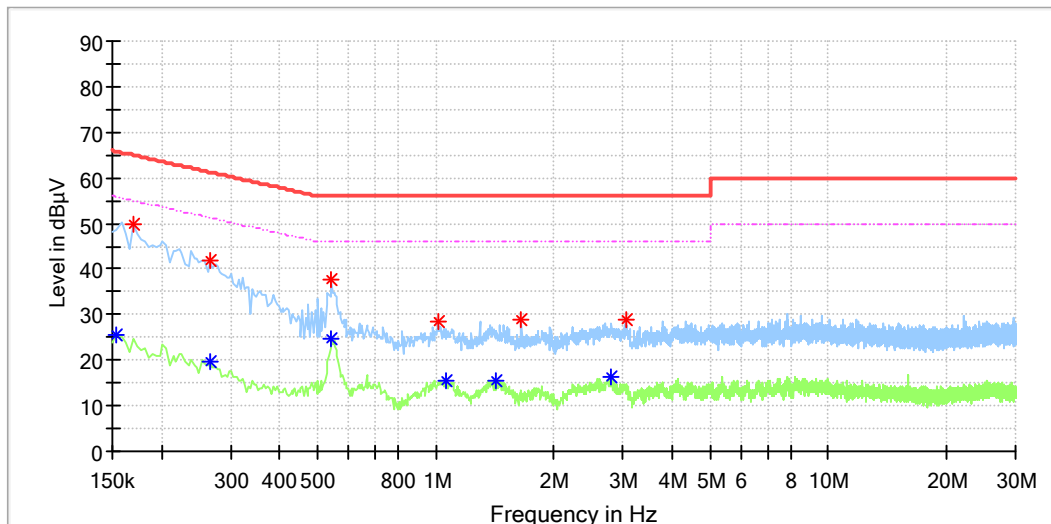
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Appendix A.7: Test Results of Conducted Emission on AC Mains

EUT Information

EUT Name:	Industrial Handheld Barcode Scanner
Order Number:	168450776
Model:	NLS-NVH220B
Test Mode:	Charging by Base with BT communicating
Test Voltage:	AC 120V/60Hz
Test Standard:	FCC Part 15
Test By:/Review By:	Junhua Sun/ Gary Chen
Tem./Hum./Pressure:	25.0°C/51.2%/101kPa
Remark:	SR1

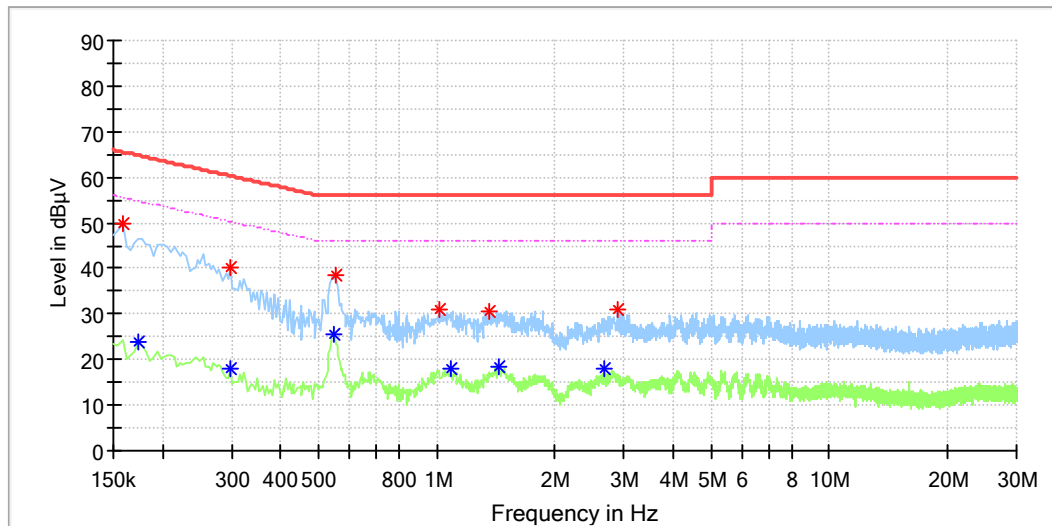


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.154000	---	25.71	55.78	30.07	L1	9.9
0.170000	50.02	---	64.96	14.94	L1	9.9
0.266000	---	19.80	51.24	31.44	L1	9.9
0.266000	41.97	---	61.24	19.27	L1	9.9
0.542000	---	24.68	46.00	21.32	L1	10.0
0.542000	37.55	---	56.00	18.45	L1	10.0
1.010000	28.41	---	56.00	27.59	L1	10.0
1.066000	---	15.49	46.00	30.51	L1	10.0
1.422000	---	15.62	46.00	30.38	L1	10.1
1.654000	28.84	---	56.00	27.16	L1	10.1
2.802000	---	16.43	46.00	29.57	L1	10.2
3.042000	28.77	---	56.00	27.23	L1	10.2

EUT Information

EUT Name:	Industrial Handheld Barcode Scanner
Order Number:	168450776
Model:	NLS-NVH220B
Test Mode:	Charging by Base with BT communicating
Test Voltage:	AC 120V/60Hz
Test Standard:	FCC Part 15
Test By:/Review By:	Junhua Sun/ Gary Chen
Tem./Hum./Pressure:	25.0°C/51.2%/101kPa
Remark:	SR1



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.158000	49.71	---	65.57	15.85	N	9.8
0.174000	---	23.72	54.77	31.05	N	9.8
0.298000	---	18.10	50.30	32.20	N	9.8
0.298000	40.19	---	60.30	20.11	N	9.8
0.546000	---	25.49	46.00	20.51	N	9.8
0.550000	38.62	---	56.00	17.38	N	9.8
1.018000	31.04	---	56.00	24.96	N	9.8
1.086000	---	17.90	46.00	28.10	N	9.8
1.366000	30.66	---	56.00	25.34	N	9.8
1.446000	---	18.28	46.00	27.72	N	9.8
2.670000	---	17.82	46.00	28.18	N	9.9
2.902000	31.00	---	56.00	25.00	N	9.9