ONE WORLD ○ OUR APPROVAL

Test report

341567D-R2TRFWL

Invention Planet Radar Module

Date of issue: September 10, 2018

Applicant:

Invention Planet, LLC

Product:

Smart Coach Radar Module

Models:

SR1100

Specifications:

- FCC 47 CFR Part 15, Subpart C – §15.207
- FCC 47 CFR Part 15, Subpart C – §15.209

Lab and test locations

Company name	Nemko USA Inc.
Address	2210 Faraday Ave, Suite 150
City	Carlsbad
State	California
Postal code	92008
Country	USA
Telephone	+1 760 444 3500
Website	www.nemko.com

Tested by	Nikolay Shtin, Senior Wireless Engineer
Reviewed by	Chip Fleury, Wireless and Certification Supervisor
Review date	September 10, 2018
Reviewer signature	

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.
This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko USA's ISO/IEC 17025 accreditation.

Table of Contents

Section 1 Report summary

1.1 Test specifications

FCC 47 CFR Part 15, Subpart C – §15.207	Conducted emission limits; general requirements.
FCC 47 CFR Part 15, Subpart C – §15.209	Radiated emission limits; general requirements.

1.2 Exclusions

None

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was performed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See "Summary of test results" for full details.

1.4 Test report revision history

Table 1.4-1: Test report revision history

Revision #	Details of changes made to test report
TRF	Original report issued
R1	Added measurement distance of 1.5m for 26 to 40GHz page 13 of report
R2	New 26 to 40GHz data and picture

Notes: None

Section 2 Summary of test results

2.1 Emissions Test results

Table 2.1-1: FCC 47 CFR Part 15, Subpart C §15.207 & §15.209

Test description	Verdict
Radiated disturbance [1]	Pass
Conducted disturbance [1]	Pass

Notes: [1] EUT contains two approved modules: a low power radio operating in the 2.4-2.4835 GHZ Band "FCC ID WZK-PR-1002" + a 24 GHz Doppler Radar "FCC ID WZK-PR-1001". Both radios were active during the test.

Section 3 Equipment under test (EUT) details

3.1 Applicant

Company name	Invention Planet, LLC
Address	3535 Industrial Ave., Suite A4
City	Santa Rosa
State	CA
Postal/Zip code	95403
Country	U.S.A.

3.2 Manufacturer

Company name	Invention Planet, LLC
Address	3535 Industrial Ave., Suite A4
City	Santa Rosa
State	CA
Postal/Zip code	95403
Country	U.S.A.

3.3 Sample information

Receipt date	December 11, 2017 and January 4, 2018
Nemko sample ID number	20104

3.4 EUT information

Product name	Smart Coach Radar Module
Model	SR1100
Model variant	N/A
Serial number	Eng. Sample
Power requirements	3 VDC from 2xAAA batteries or 5 VDC through USB interface
Description/theory of operation	The Equipment Under Test (EUT) was an Invention Planet, LLC Smart Coach Radar Module. The coach radar module is a pocket-sized general purpose speed doppler radar gun in the 24GHZ range that can be used for many uses including traffic safety, radio controlled hobbies, motorsports, neighborhood safety, industrial safety, scientific research and much more. You decide what to measure and when, using one of two modes – snapshot or repeating – to accurately monitor the speeds of vehicles, radio controlled planes/cars, runners and any other moving object from 7-375 MPH (11-600 KPH). The EUT also incorporates a low power radio operating in the 2400-2483.5 MHz ISM band. During testing the Radar Module was transmitting continuously at both radios to simulate the worst scenario when the radios are co-located in the final product
Operational frequencies	24GHz & 2.403-2.4835GHZ
Software details	N/A

3.5 EUT exercise and monitoring details

EUT was running with 2.4GHZ + 24GHZ and both signals enabled at max power (One representative/worst case channel of each radio)

3.6 EUT setup details

Table 3.6-1: EUT sub assemblies

Description	Brand name	Model/Part number	Serial number

Table 3.6-2: EUT interface ports

Description	Qty.
USB	2

Table 3.6-3: Support equipment

Description	Brand name	Model/Part number	Serial number	Rev.
AC/DC Adaptor	Phihong	PSA10F-050Q	N/A	N/A

Table 3.6-4: Inter-connection cables

Cable description	From	To	Length (m)
USB	Display	AC-DC(USB) adaptor	<2n
USB	Radar	Display	<2m

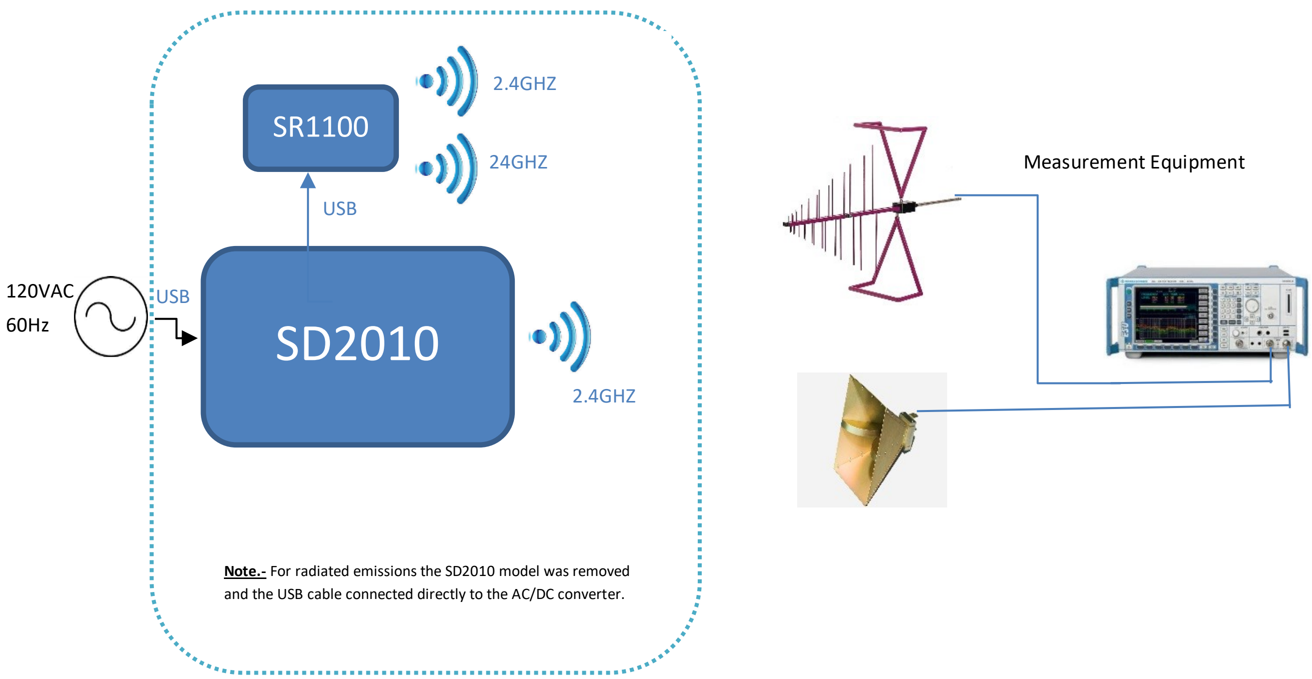


Figure 3.6-1: EUT Set up (For This test all TX were enabled)

Section 4 Engineering considerations

4.1 Modifications incorporated in the EUT

None

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5 Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	86–106 kPa

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6 Measurement uncertainty

6.1 Uncertainty of measurement

Nemko USA Inc. has calculated measurement uncertainty and is documented in EMC/MUC/001 "Uncertainty in EMC measurements." Measurement uncertainty was calculated using the methods described in CISPR 16-4 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC measurements; as well as described in UKAS LAB34: The expression of Uncertainty in EMC Testing. Measurement uncertainty calculations assume a coverage factor of K=2 with 95% certainty.

Section 7 Terms and definitions

7.1.1 Equipment type

Multimedia Equipment (MME)	Equipment that is information technology equipment, audio equipment, video equipment, broadcast receiver equipment, entertainment lighting control equipment or combinations of these.
Information technology equipment [ITE]	Equipment having a primary function of either (or a combination of) entry, storage, display, retrieval, transmission, processing, switching, or control of data and/or telecommunication messages and which may be equipped with one or more ports typically for information transfer. - Examples include data processing equipment, office machines, electronic business equipment and telecommunication equipment.
Audio equipment	Equipment which has a primary function of either (or a combination of) generation, input, storage, play, retrieval, transmission, reception, amplification, processing, switching or control of audio signals
Video equipment	Equipment which has a primary function of either (or a combination of) generation, input, storage, display, play, retrieval, transmission, reception, amplification, processing, switching, or control of video signals.
Broadcast receiver equipment	Equipment containing a tuner that is intended for the reception of broadcast services - These broadcast services are typically television and radio services, including terrestrial broadcast, satellite broadcast and/or cable transmission.
Entertainment lighting control equipment	Equipment generating or processing electrical signals for controlling the intensity, color, nature or direction of the light from a luminaire, where the intention is to create artistic effects in theatrical, televisual or musical productions and visual presentations.

7.2 General definitions

7.2.1 Port type

AC mains power port	Port used to connect to the mains supply network - Equipment with a DC power port which is powered by a dedicated AC/DC power converter is defined as AC mains powered equipment
Antenna port	Port, other than a broadcast receiver tuner port (3.1.8), for connection of an antenna used for intentional transmission and/or reception of radiated RF energy.
Broadcast receiver tuner port	Port intended for the reception of a modulated RF signal carrying terrestrial, satellite and/or cable transmissions of audio and/or video broadcast and similar services - This port may be connected to an antenna, a cable distribution system, a VCR or similar device.
DC network power port	Port, not powered by a dedicated AC/DC power converter and not supporting communication, that connects to a DC supply network. - Equipment with a DC power port which is powered by a dedicated AC/DC power converter is considered to be AC mains powered equipment. - DC power ports supporting communications are considered to be wired networks ports, for example Ethernet ports which include Power Over Ethernet (POE).
Enclosure port	Physical boundary of the EUT through which electromagnetic fields may radiate.
Optical fibre port	Port at which an optical fibre is connected to an equipment.
RF modulator output port	Port intended to be connected to a broadcast receiver tuner port in order to transmit a signal to the broadcast receiver.
Signal/control port	Port intended for the interconnection of components of an equipment under test, or between an equipment under test and local associated equipment and used in accordance with relevant functional specifications (for example for the maximum length of cable connected to it) - Examples include RS-232, Universal Serial Bus (USB), High-Definition Multimedia Interface (HDMI), IEEE Standard 1394 (“Fire Wire”)
Wired network port	Point of connection for voice, data and signaling transfers intended to interconnect widely-dispersed systems by direct connection to a single-user of multi-user communication network (for example CATV, PSTN, ISDN, xDSL, LAN and similar networks) - These ports may support screened or unscreened cables and may also carry AC or DC power where this is an integral part of the telecommunication specification.

Section 8 Testing data

8.1 Radiated disturbance

8.1.1 References

ANSI C63.4-2014

8.1.2 Test summary

Verdict	Pass		
Test date	February 9, 2018	Temperature	22 °C
Test engineer	Nikolay Shtin, SR. Wireless Engineer	Air pressure	1000 mbar
Test location	10m semi anechoic chamber	Relative humidity	56 %

8.1.3 Notes

None

8.1.4 Setup details

EUT setup configuration	Table top
Test facility	10m Semi Anechoic Chamber(SAC)
Measuring distance	3 m up to 26GHz, 1.5m for 26 – 40 GHz
Antenna height variation	1–4 m
Turn table position	0–360°
Measurement details	A preview measurement was generated with receiver in continuous scan or sweep mode while the EUT was rotated and antenna adjusted to maximize radiated emission. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

Receiver/spectrum analyzer settings for frequencies below 1 GHz:

Resolution bandwidth	120 kHz
Video bandwidth	300 kHz
Detector mode	– Peak (Preview measurement) – Quasi-peak (Final measurement)
Trace mode	Max Hold
Measurement time	– 100 ms (Peak preview measurement) – 1000 ms (Quasi-peak final measurement)

Receiver/spectrum analyzer settings for frequencies above 1 GHz:

Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Detector mode	Peak (Preview measurement) Peak and CAverage (Final measurement)
Trace mode	Max Hold
Measurement time	– 100 ms (Peak preview measurement) – 100 ms (Peak and CAverage final measurement)

8.1.4 Setup details, continued

Table 8.1-1: Radiated disturbance equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
EMC Test Receiver	Rohde & Schwarz	ESU 40	E1121	1 yr.	4-28-2018
Antenna, Bilog	Schaffner-Chase	CBL6111C	1480	1 yr.	07-21-2018
Antenna, Horn	EMCO	3115	1033	1 yr.	7-27-2018
Antenna, Horn	EMCO	3116	E1013	2yr	02-18-2018

Notes: None

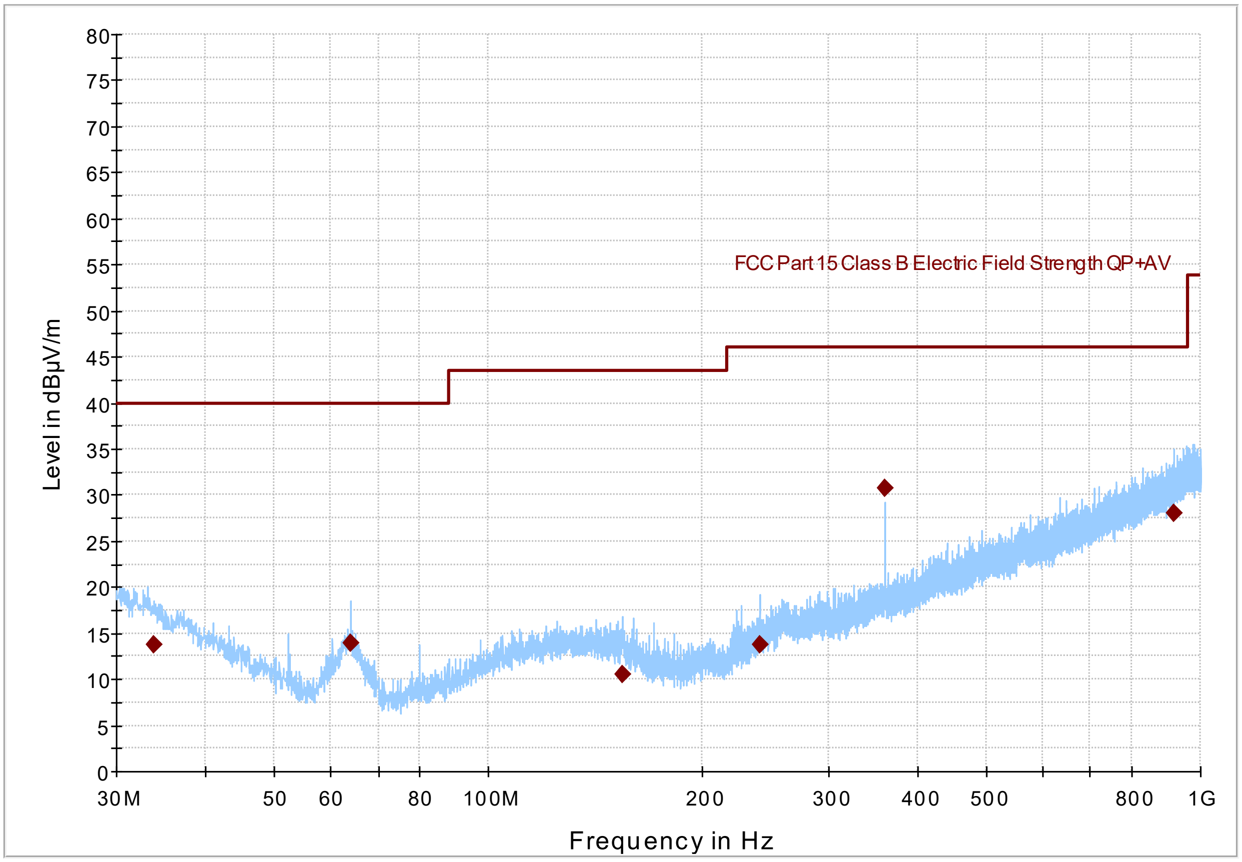
Table 8.1-2: Radiated disturbance test software details

Manufacturer of Software	Details
R&S	EMC32 V10.00.00

Notes: None

8.1.5 Test data

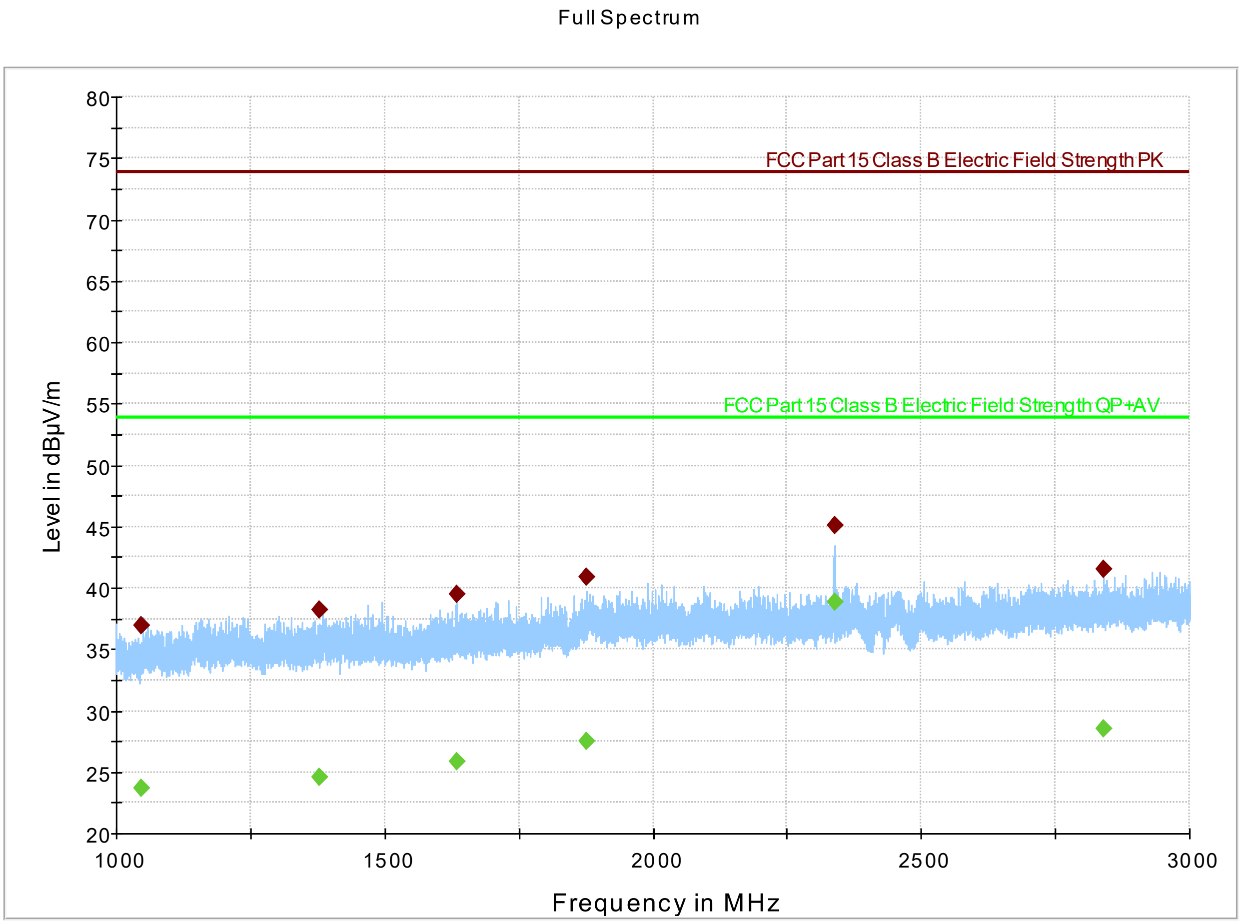
Full Spectrum



The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators.

Figure 8.1-1: Radiated disturbance spectral plot (30 to 1000 MHz)

8.1.6 Test data, continued

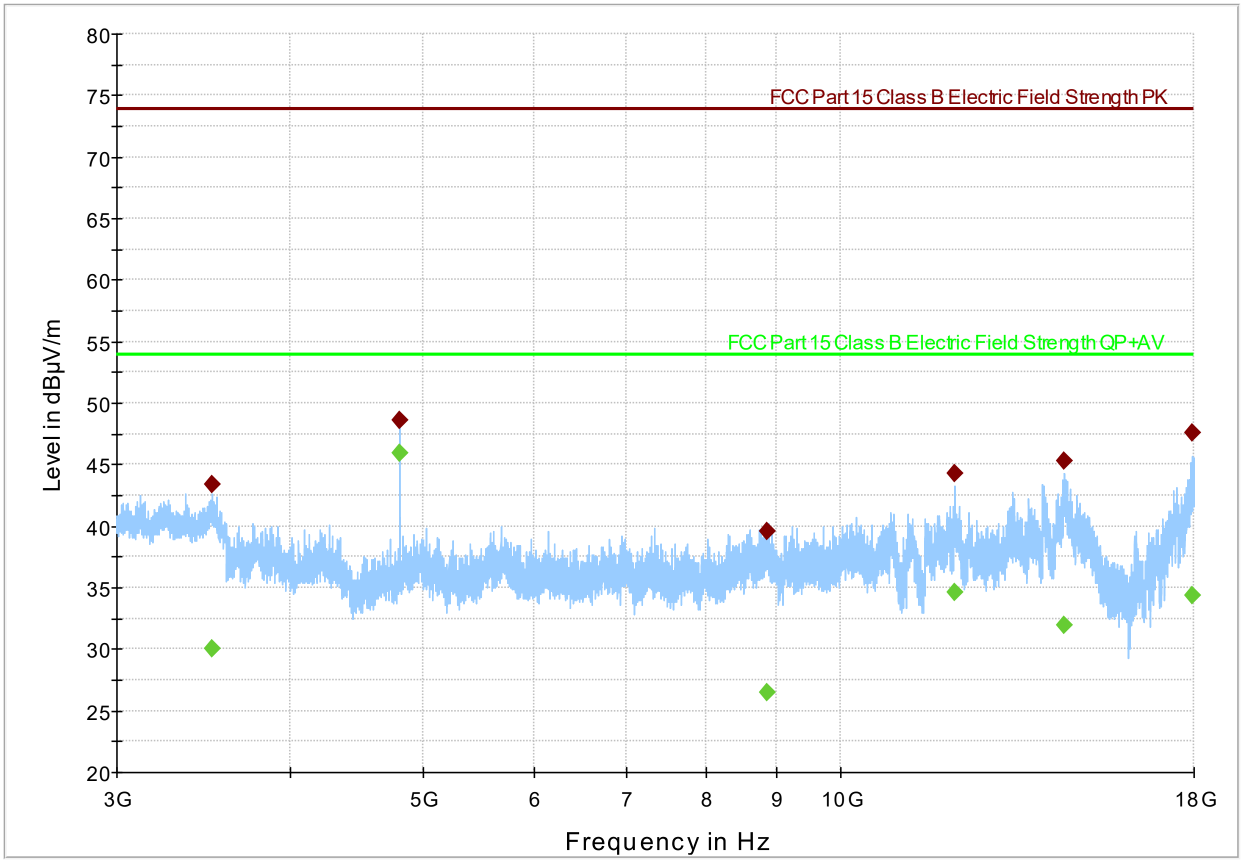


The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators.

Figure 8.1-2: Radiated disturbance spectral plot (1 to 3 GHz)

8.1.7 Test data, continued

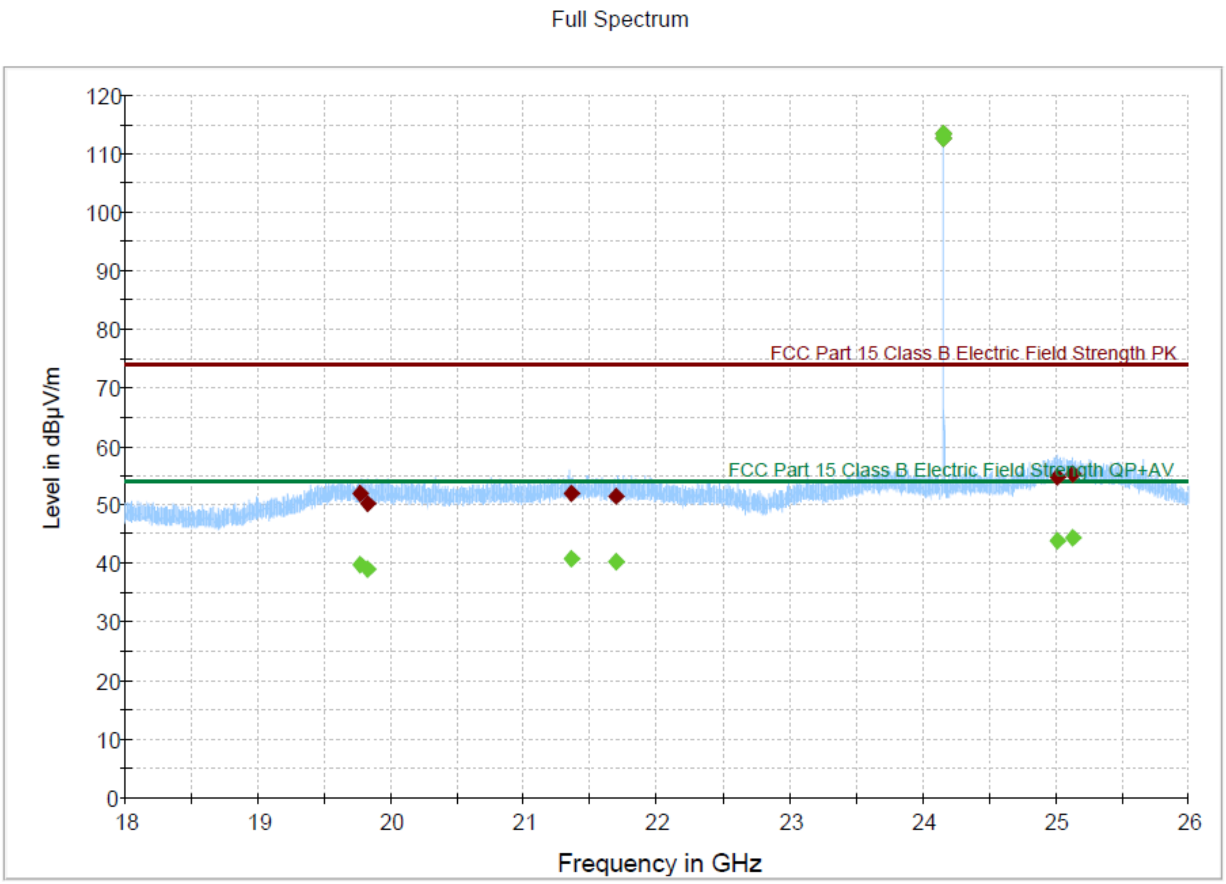
Full Spectrum



The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators.

Figure 8.1-3: Radiated disturbance spectral plot (3 to 18 GHz)

8.1.8 Test data, continued

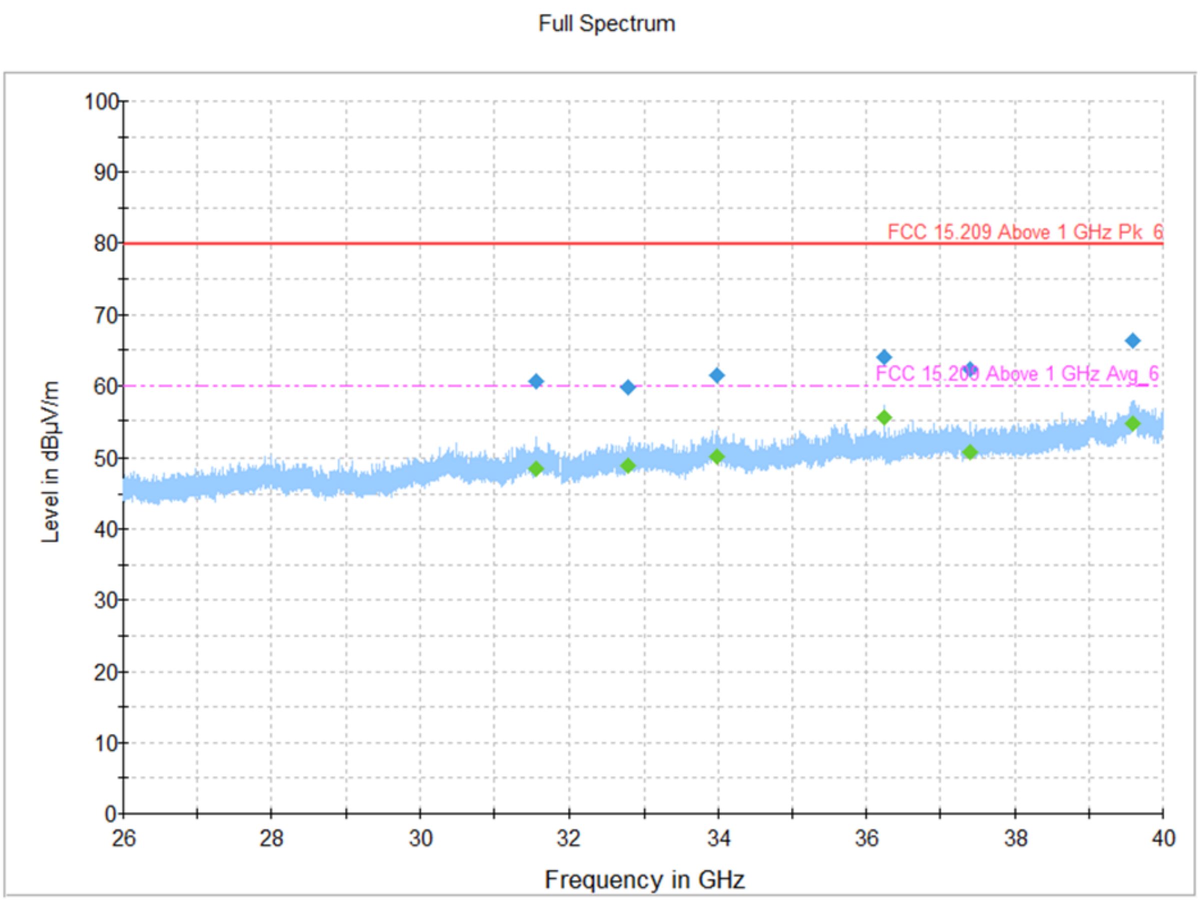


The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators.

Note. - the 24.155GHz is the fundamental frequency and out of the scope of this evaluation.

Figure 8.1-4: Radiated disturbance spectral plot (18 to 26 GHz)

8.1.9 Test data, continued



The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains and attenuators.

Figure 8.1-5: Radiated disturbance spectral plot (26 GHz to 40 GHz)

8.1.10 Test data, continued

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.801000	13.70	40.00	26.30	5000.0	120.000	155.0	H	55.0	18.8
64.030000	13.87	40.00	26.13	5000.0	120.000	134.9	V	296.0	7.3
153.997500	10.59	43.50	32.91	5000.0	120.000	181.2	V	296.0	13.9
240.005000	13.71	46.00	32.29	5000.0	120.000	204.1	V	34.0	14.9
359.994000	30.70	46.00	15.30	5000.0	120.000	147.5	V	263.0	19.5
916.448000	27.97	46.00	18.03	5000.0	120.000	255.7	V	253.0	30.6

Table 8.1-3: Radiated disturbance (Quasi-Peak) results 30M-1GHz

Notes:

[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] An inverse proportionality factor of 20 dB per decade (20 log (10/3) = 10.5 dB) has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.
[4] The maximum measured value observed over a period of 15 seconds was recorded.

Sample calculation: 44.64 dBµV/m (field strength) = 29.04 dBµV (receiver reading) + 15.6 dB (Correction factor)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1046.133333	---	23.66	53.90	30.24	5000.0	1000.000	118.3	V	132.0	-0.7
1046.133333	36.95	---	73.90	36.95	5000.0	1000.000	118.3	V	132.0	-0.7
1379.533333	38.27	---	73.90	35.63	5000.0	1000.000	117.8	H	266.0	-0.4
1379.533333	---	24.58	53.90	29.32	5000.0	1000.000	117.8	H	266.0	-0.4
1635.400000	39.50	---	73.90	34.40	5000.0	1000.000	337.6	H	350.0	0.1
1635.400000	---	25.87	53.90	28.03	5000.0	1000.000	337.6	H	350.0	0.1
1876.333333	40.92	---	73.90	32.98	5000.0	1000.000	341.8	H	124.0	2.2
1876.333333	---	27.47	53.90	26.43	5000.0	1000.000	341.8	H	124.0	2.2
2338.000000	---	38.81	53.90	15.09	5000.0	1000.000	109.3	V	176.0	2.6
2338.000000	45.15	---	73.90	28.75	5000.0	1000.000	109.3	V	176.0	2.6
2839.333333	41.55	---	73.90	32.35	5000.0	1000.000	399.9	H	175.0	4.8
2839.333333	---	28.58	53.90	25.32	5000.0	1000.000	399.9	H	175.0	4.8
3519.600000	---	30.06	53.90	23.84	5000.0	1000.000	327.7	H	163.0	6.3
3519.600000	43.45	---	73.90	30.45	5000.0	1000.000	327.7	H	163.0	6.3
4805.800000	48.59	---	73.90	25.31	5000.0	1000.000	132.8	H	203.0	10.2
4805.800000	---	45.99	53.90	7.91	5000.0	1000.000	132.8	H	203.0	10.2
8844.600000	---	26.43	53.90	27.47	5000.0	1000.000	181.1	H	254.0	20.7
8844.600000	39.52	---	73.90	34.38	5000.0	1000.000	181.1	H	254.0	20.7
12078.20000	---	34.62	53.90	19.28	5000.0	1000.000	233.3	H	353.0	22.7
12078.20000	44.34	---	73.90	29.56	5000.0	1000.000	233.3	H	353.0	22.7
14504.20000	45.26	---	73.90	28.64	5000.0	1000.000	359.4	V	56.0	28.9
14504.20000	---	31.89	53.90	22.01	5000.0	1000.000	359.4	V	56.0	28.9
17967.90000	---	34.34	53.90	19.56	5000.0	1000.000	125.3	H	42.0	31.9
17967.90000	47.57	---	73.90	26.33	5000.0	1000.000	125.3	H	42.0	31.9

Table 8.1-4: Radiated disturbance (Average and Peak) results 1-18GHz

Notes:

[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)
[3] The maximum measured value observed over a period of 15 seconds was recorded.

Sample calculation: 46.02 dBµV/m (field strength) = 44.82 dBµV (receiver reading) + 1.2 dB (Correction factor)

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19763.98333	52.02	---	73.90	21.88	10.0	1000.000	115.0	V	-6.0	2.5
19763.98333	---	39.74	53.90	14.16	10.0	1000.000	115.0	V	-6.0	2.5
19821.13333	50.23	---	73.90	23.67	10.0	1000.000	156.0	V	260.0	2.4
19821.13333	---	39.07	53.90	14.83	10.0	1000.000	156.0	V	260.0	2.4
21357.01666	51.89	---	73.90	22.01	10.0	1000.000	115.0	V	20.0	3.1
21357.01666	---	40.68	53.90	13.22	10.0	1000.000	115.0	V	20.0	3.1
21692.03333	51.37	---	73.90	22.53	10.0	1000.000	114.3	V	119.0	2.7
21692.03333	---	40.36	53.90	13.54	10.0	1000.000	114.3	V	119.0	2.7
24155.96153	113.45	---	Fundamental (Radar Signal)							
24155.96153	---	113.39								
25007.48333	54.84	---	73.90	19.06	10.0	1000.000	149.9	V	100.0	7.9
25007.48333	---	43.82	53.90	10.08	10.0	1000.000	149.9	V	100.0	7.9
25133.90000	---	44.29	53.90	9.61	10.0	1000.000	115.0	H	216.0	7.9
25133.90000	55.40	---	73.90	18.50	10.0	1000.000	115.0	H	216.0	7.9

Table 8.1-5: Radiated disturbance (Average and Peak) results 18-26GHz

Notes:

[1] Field strength (dBμV/m) = receiver/spectrum analyzer value (dBμV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)
[3] The maximum measured value observed over a period of 15 seconds was recorded.

Sample calculation: 46.02 dBμV/m (field strength) = 44.82 dBμV (receiver reading) + 1.2 dB (Correction factor)

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
31564.500000	**---**	**48.60**	**59.90**	**11.30**	**10.0**	**1000.000**	**141.0**	**V**	**287.0**	**43.9**	
31564.500000	**60.50**	**---**	**79.90**	**19.40**	**10.0**	**1000.000**	**141.0**	**V**	**287.0**	**43.9**	
32791.800000	**---**	**49.03**	**59.90**	**10.87**	**10.0**	**1000.000**	**110.3**	**H**	**143.0**	**44.3**	
32791.800000	**59.69**	**---**	**79.90**	**20.21**	**10.0**	**1000.000**	**110.3**	**H**	**143.0**	**44.3**	
33988.266667	**61.36**	**---**	**79.90**	**18.54**	**10.0**	**1000.000**	**139.1**	**V**	**6.0**	**44.6**	
33988.266667	**---**	**50.19**	**59.90**	**9.71**	**10.0**	**1000.000**	**139.1**	**V**	**6.0**	**44.6**	
36231.633333	**63.98**	**---**	**79.90**	**15.92**	**10.0**	**1000.000**	**158.8**	**H**	**115.0**	**45.4**	
36231.633333	**---**	**55.51**	**59.90**	**4.39**	**10.0**	**1000.000**	**158.8**	**H**	**115.0**	**45.4**	
37399.550000	**62.28**	**---**	**79.90**	**17.62**	**10.0**	**1000.000**	**120.0**	**H**	**285.0**	**45.6**	
37399.550000	**---**	**50.95**	**59.90**	**8.95**	**10.0**	**1000.000**	**120.0**	**H**	**285.0**	**45.6**	
39601.150000	**66.31**	**---**	**79.90**	**13.59**	**10.0**	**1000.000**	**151.3**	**H**	**167.0**	**46.1**	
39601.150000	**---**	**54.65**	**59.90**	**5.25**	**10.0**	**1000.000**	**151.3**	**H**	**167.0**	**46.1**	

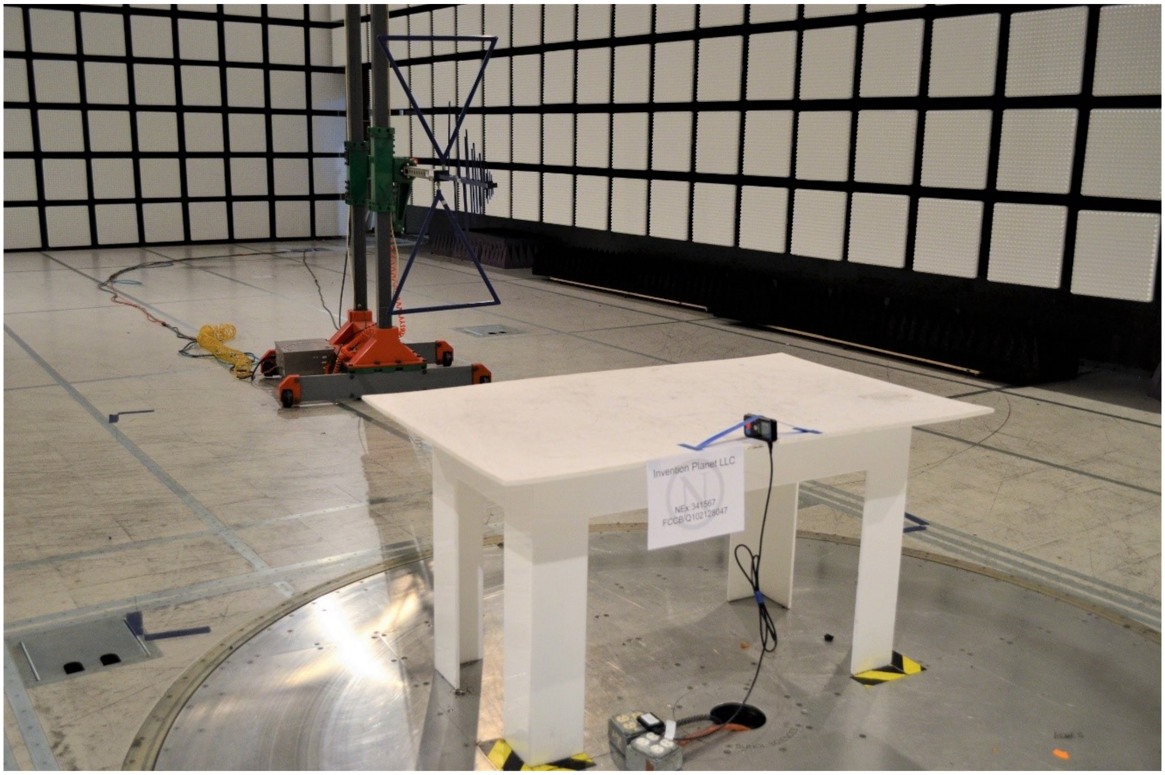
Table 8.1-6: Radiated disturbance (Average and Peak) results 26-40GHz

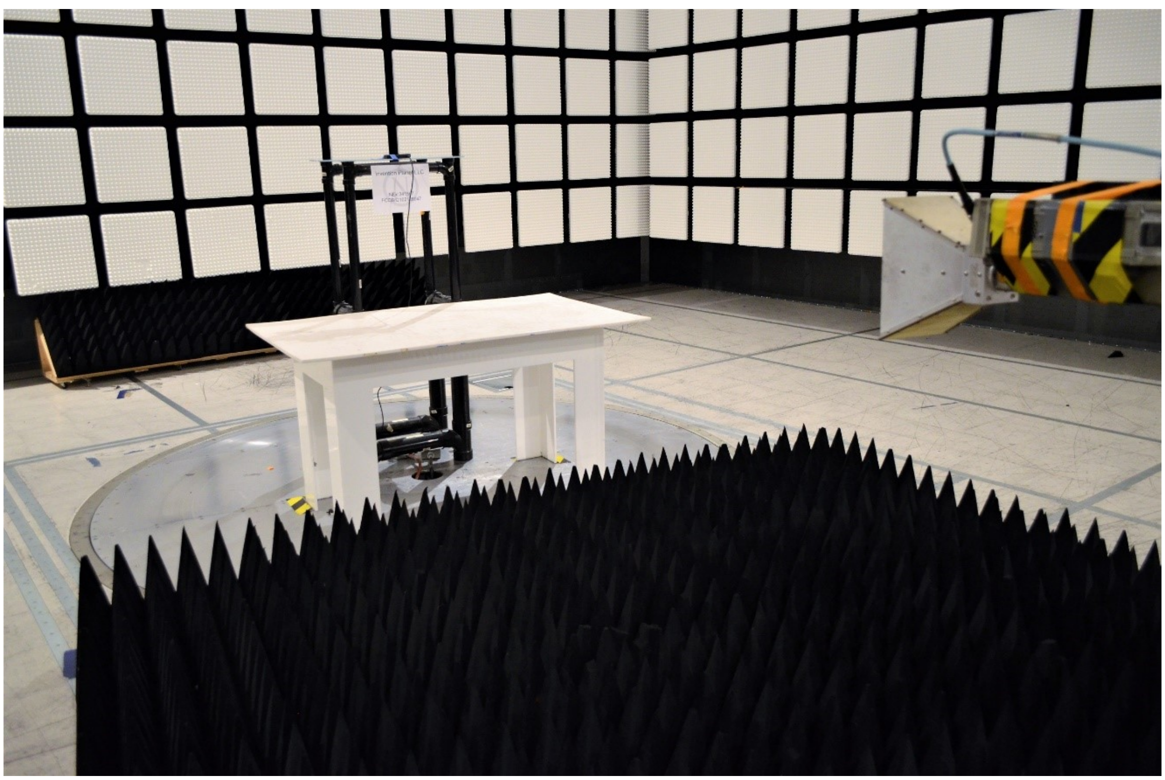
Notes:

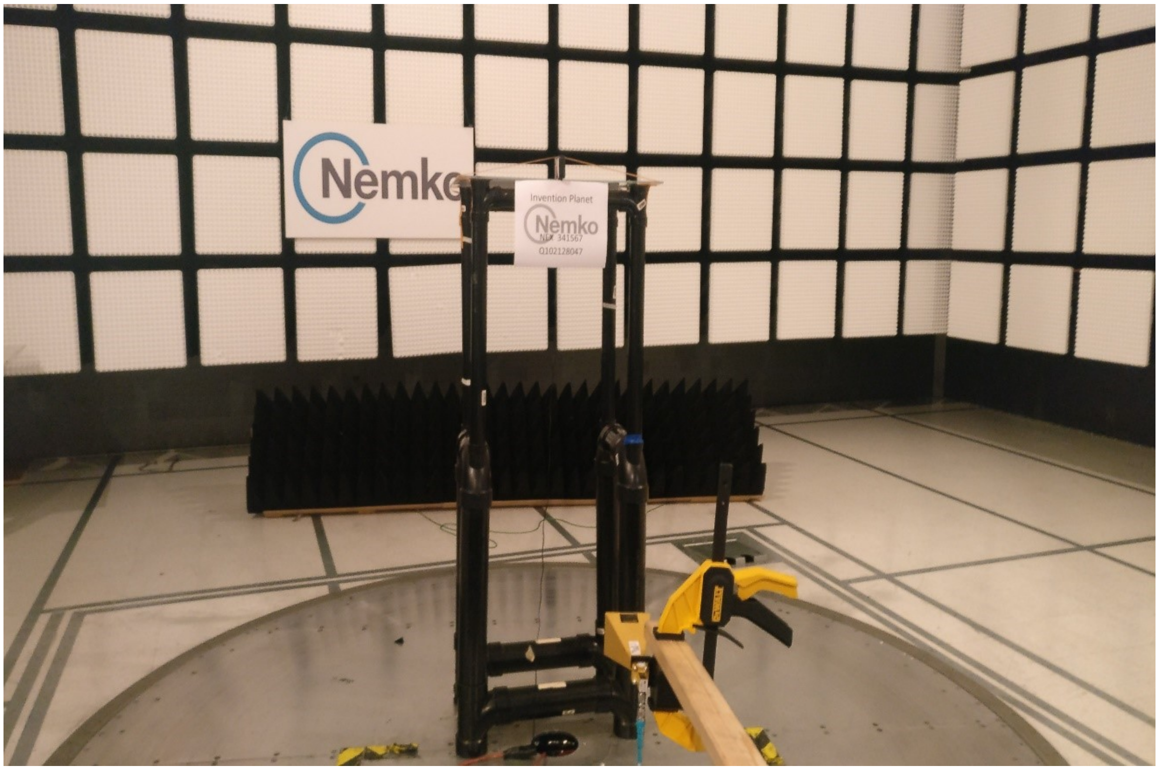
[1] Field strength (dBμV/m) = receiver/spectrum analyzer value (dBμV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)
[3] The maximum measured value observed over a period of 15 seconds was recorded.
[4] The limit was adjusted up by 6dB because the measurement distance was moved from 3m to 1.5m for 26 to 40GHz

Sample calculation: 55.51 dBμV/m (field strength) = 54.31 dBμV (receiver reading) + 1.2 dB (Correction factor)
Limit adjustment 20 Log (3m/1.5m) = 6 as a result the Peak Limit was adjusted from 74.9 to 79.9 and the Average Limit from 53.9 to 59.9

8.1.11 Setup photos






Invention Planet
Nemko
Q102128047

8.2 Conducted disturbance at mains port

8.2.1 References

ANSI C63.4-2014

8.2.2 Test summary

Verdict	Pass		
Test date	February 7, 2018	Temperature	23 °C
Test engineer	Nikolay Shtin, SR. Wireless Engineer	Air pressure	1000 mbar
Test location	Ground Plane	Relative humidity	56

8.2.3 Notes

None

8.2.4 Setup details

Port under test	AC Mains Input
EUT setup configuration	Table top
Measurement details	A preview measurement was generated with the receiver in continuous scan mode. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

Receiver settings:

Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Detector mode	– Peak and Average (Preview measurement) – Quasi-peak and CAverage (Final measurement)
Trace mode	Max Hold
Measurement time	– 100 ms (Peak and Average preview measurement) – 1000 ms (Quasi-peak final measurement) – 160 ms (CAverage final measurement)

Table 8.2-1: Conducted disturbance at mains port equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
EMI Test Receiver 9kHz to 7GHz	Rohde & Schwarz	ESCI 7	E1026	5/23/2017	5/23/2018
Two Line V-Network	Rohde & Schwarz	ENV216	E1019	6/27/2017	6/27/2018

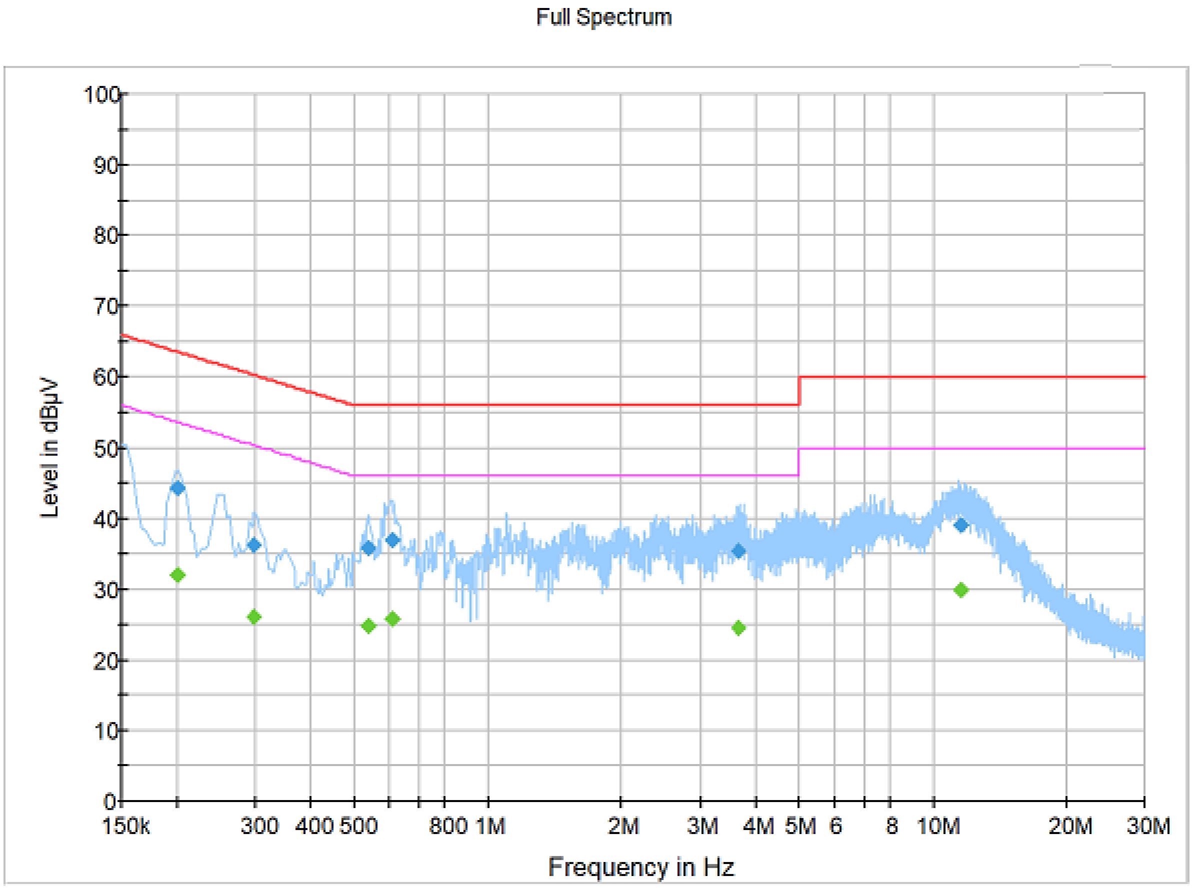
Notes: None

Table 8.2-2: Conducted disturbance at mains port test software details

Manufacturer of Software	Details
Rohde-Schwarz	EMC 32 V10.0

Notes: None

8.2.5 Test data



The spectral plot has been corrected with transducer factors. (i.e. cable loss, LISN factors, and attenuators)

Figure 8.2-1: Conducted disturbance at mains port spectral plot on phase and neutral line

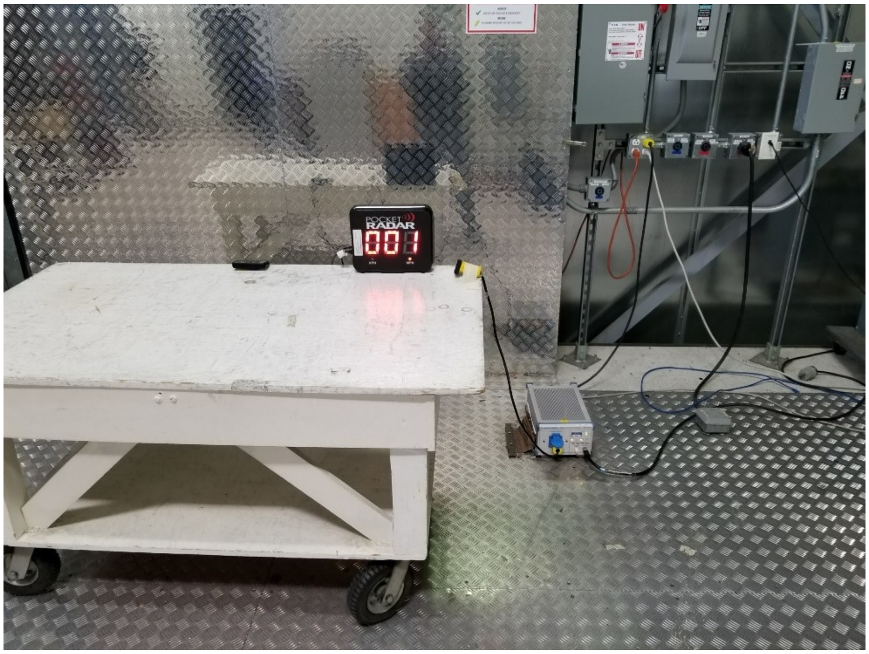
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.200500	---	32.11	53.59	21.48	5000.	9.000	L1	ON	19.5
0.200500	44.29	---	63.59	19.30	5000.	9.000	L1	ON	19.5
0.296500	---	26.14	50.34	24.20	5000.	9.000	L1	ON	19.5
0.296500	36.28	---	60.34	24.06	5000.	9.000	L1	ON	19.5
0.536500	---	24.88	46.00	21.12	5000.	9.000	L1	ON	19.5
0.536500	35.82	---	56.00	20.18	5000.	9.000	L1	ON	19.5
0.608500	---	25.81	46.00	20.19	5000.	9.000	L1	ON	19.5
0.608500	36.85	---	56.00	19.15	5000.	9.000	L1	ON	19.5
3.644500	---	24.61	46.00	21.39	5000.	9.000	L1	ON	19.5
3.644500	35.54	---	56.00	20.46	5000.	9.000	L1	ON	19.5
11.536500	---	29.98	50.00	20.02	5000.	9.000	L1	ON	19.6
11.536500	39.00	---	60.00	21.00	5000.	9.000	L1	ON	19.6

Table 8.2-3: Conducted disturbance at mains port (Quasi-Peak and Average) results for AC Power Main

Notes: [1] Result (dBμV) = receiver/spectrum analyzer value (dBμV) + correction factor (dB)
[2] Correction factor (dB) = LISN factor IL (dB) + cable loss (dB) + attenuator (dB)
[3] The maximum measured value observed over a period of 15 seconds was recorded.

Sample calculation: 63.5 dBμV (result) = 44 dBμV (receiver reading) + 19.5 dB (Correction factor)

8.2.6 Setup photos



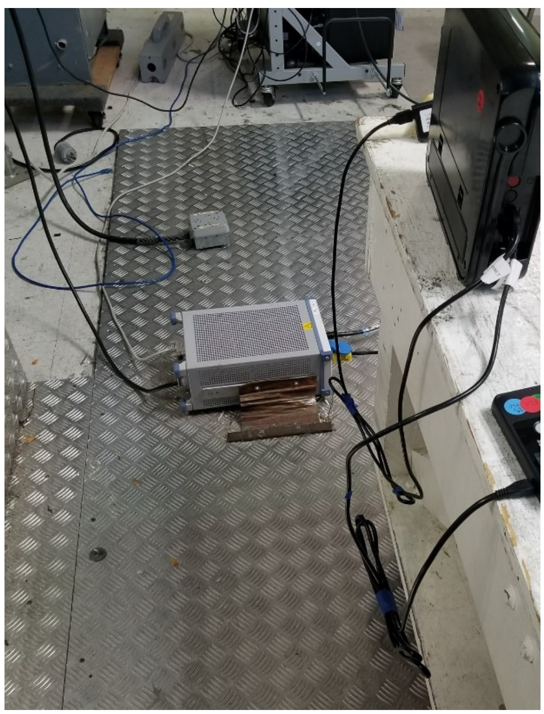


Figure 8.2-2: Conducted disturbance at mains port setup photo

Section 9 EUT photos

9.1 External photos

Figure 9.1-1: Front view photo

Figure 9.1-2: Back view photo