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Test report

314637-1TRFWL

Date of issue: September 12, 2016

Applicant:

Thomas and Betts Corporation

Product:

Nexus RF Area Controller V2

Model:

199.0904
199.0907
199.0905

FCC ID:

W3BNEXUSAC

IC Registration number:

8100A-NEXUSAC

Specifications:

FCC 47 CFR Part 15.249

Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHZ, and 24.0–24.25 GHz.

RSS-210, Issue 9, December 2016, Annex F

Devices Operating in the Bands 902-928 MHz, 2435-2465 MHz, 5785‑5815 MHz, 10.5-10.55 GHz, 24.075-24.175 GHz and 33.4-36 GHz

Test location

Company name	Nemko Canada Inc.
Address	292 Labrosse Avenue
City	Pointe-Claire
Province	QC
Postal code	H9R 5L8
Country	Canada
Telephone	+1 514 694 2684
Facsimile	+1 514 694 3528
Toll free	+1 800 563 6336
Website	www.nemko.com
Site number	FCC: 722545; IC: 2040G-5 (3 m semi anechoic chamber)

Tested by	Yong Huang, Wireless/EMC Specialist
Reviewed by	Kevin Rose, Wireless/EMC Specialist
Date	September 12, 2016
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 Canada's ISO/IEC 17025 accreditation.

Copyright notification

Table of contents

Section 1. Report summary

1.1 Applicant and manufacturer

Company name	Thomas and Betts Corporation
Address	8155 T&B Blvd
City	Memphis
Province/State	TN
Postal/Zip code	38125-8888
Country	USA

1.2 Test specifications

FCC 47 CFR Part 15, Subpart C, Clause 15.249	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHz, and 24.0–24.25 GHz.
RSS-210, Issue 9 Annex B.10	Devices operating in frequency bands 902–928, 2400–2483.5 and 5725–5875 MHz for any application

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was completed 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 Exclusions

As per customer’s quotation, this report is for purpose of class II permissive change; hence only related tests were performed. All other tests were covered by original test report(148158-1TRFWL).

1.5 Test report revision history

Revision #	Details of changes made to test report
TRF	Original report issued

Section 2. Summary of test results

2.1 FCC Part 15 Subpart C, general requirements test results

Part	Test description	Verdict
§15.207(a)	Conducted limits	Pass
§15.31(e)	Variation of power source	Not tested[1]
§15.203	Antenna requirement	Pass[2]
§15.215(c)	20 dB bandwidth	Pass

Notes: [1] Not tested as per customer's request.

[2] As per client's statement, the EUT's Antenna must be professional installed.

2.2 FCC Part 15 Subpart C, intentional radiators test results

Part	Test description	Verdict
§15.249(a)	Radiated emissions not in restricted bands	Pass
§15.249(b)	Fixed Point-to-Point operation in the 24.0–24.25 GHz band	Not applicable
§15.249(d)	Spurious emissions (except harmonics)	Pass

Notes: None

2.3 IC RSS-GEN, Issue 4, test results

Part	Test description	Verdict
6.6	Occupied bandwidth	Not tested[2]
7.1.2	Receiver radiated emission limits	Not applicable
7.1.3	Receiver conducted emission limits	Not applicable
8.8	Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus	Pass

Notes: [1] According to sections 5.2 and 5.3 of RSS-Gen, Issue 4 the EUT does not have a stand-alone receiver neither scanner receiver, therefore exempt from receiver requirements.

[2] Not tested as per customer's request.

2.4 IC RSS-210, Issue 9, test results

Part	Test description	Verdict
§B.10 (a)	Field strength of fundamental and harmonics emissions	Pass
§B.10 (b)	Spurious emissions (except harmonics)	Pass

Notes: None

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	August 9, 2016
Nemko sample ID number	133002276

3.2 EUT information

Product name	Nexus RF Area Controller V2
Model	199.0904 199.0907 199.0905
Serial number	n/a

3.3 Technical information

Operating band	902–928 MHz
Operating frequencies	918–925.8 MHz
Modulation type	GFSK and MSK (MSK modulation is only used for backdoor mode)
Occupied bandwidth (99 %)	99 % BW:432.7 kHz (Backdoor Mode) and 66.7kHz (Normal Mode)
Emission designator	G1D and F1D
Power requirements	Powered via an external AC adapter, input 100–240 VAC 50–60 Hz, output 12 VDC
Antenna information	The EUT uses a Detachable/ External Dipole Omni Directional antenna. Antenna will be professionally installed as per client. Antenna Model Number => 199.0906

3.4 Product description and theory of operation

The Nexus Area Controller was assessed as a representative sample. The Nexus Area Router is a de-feature variant of the Nexus Area Controller. Both units have the same RF circuit.
The NACR (Router) is the same as the NAC but without these options:
- Keyboard
- Display
- Battery backup

These two new units have the same:
- mother board
- software
- processor
- memory
- supply
- RF modem
- RF configuration (antenna output power and frequency operation)

The NACR (Router) is a cheaper version of the NAC. It is only used for expanding the RF network. An Area controller could manage up to 100 nodes. For a bigger network we must add other(s) controller(s). It is the reason why we created this de-populated version of controller, for reducing the cost of this network.
See the Diagram Block (Diagram Block NAC & NACR.jpg).

3.5 EUT exercise details

The EUT was controlled to transmit or receive continuously by special test mode. Powers setting are as follow: -7 dBm for regular mode and -10 dBm for back door mode.

3.6 EUT setup diagram

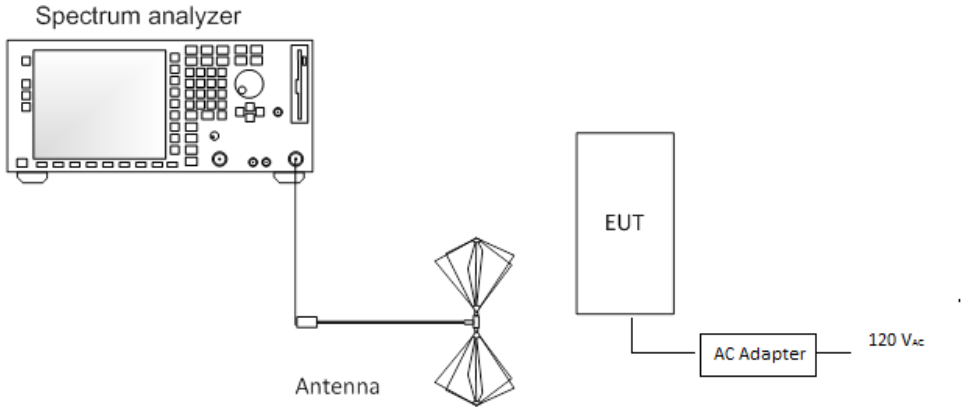


Figure 3.6-1: *Setup diagram*

3.7 EUT sub assemblies

Table 3.7-1: *EUT sub assemblies*

Description	Brand name	Model/Part number	Serial number
NEXUS Area Controller Router	Thomas&Betts	LEILA SAMPLE	—
AC adapter	MEAN WELL	gs18u12	R121209095

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

This report is for purpose of class II permissive change; hence only related tests were performed. All other tests were covered by original test report (148158-1TRFWL).

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	860–1060 mbar

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

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55
Conducted spurious emissions	1.13
Radiated spurious emissions	3.78
AC power line conducted emissions	3.55

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: *Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	Aug. 25/16
Flush mount turntable	Sunol	FM2022	FA002082	—	NCR
Controller	Sunol	SC104V	FA002060	—	NCR
Antenna mast	Sunol	TLT2	FA002061	—	NCR
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 40	FA002071	1 year	March 23/17
Spectrum analyzer	Rohde & Schwarz	FSV 40	FA002731	1 year	Apr 06/17
Bilog antenna (20–2000 MHz)	Sunol	JB1	FA002517	1 year	Sept. 29/16
Horn antenna (1–18 GHz)	EMCO	3115	FA001451	1 year	Feb. 22/17
Pre-amplifier (0.5–18 GHz)	COM-POWER	PAM-118A	FA002561	1 year	May 6/17
High Pass Filter (> 1100 MHz)	Microwave Circuits	H1G212G1	FA002689	—	VOU
50 Ω coax cable	C.C.A.	None	FA002603	—	VOU
50 Ω coax cable	C.C.A.	None	FA002605	—	VOU
50 Ω coax cable	C.C.A.	None	FA002607	—	VOU
LISN	Rohde & Schwarz	ENV216	FA002514	1 year	Nov. 20/16
Single phase power system	TESEQ	ProfLine 2105	FA002824	1 Year	May 26/17

Note: NCR - no calibration required, VOU - verify on use

Section 8. Testing data

8.1 FCC 15.207(a) and RSS-Gen 8.8 AC power line conducted emissions limits

8.1.1 Definitions and limits

FCC:
Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

IC:
A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz, shall not exceed the limits in table below.

Unless the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in table below. The more stringent limit applies at the frequency range boundaries.

Table 8.1-1: *Conducted emissions limit*

Frequency of emission, MHz	Conducted limit, dBµV	
	Quasi-peak	Average**
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

Note: * - The level decreases linearly with the logarithm of the frequency.
** - A linear average detector is required.

8.1.2 Test summary

Test date	August 10, 2016	Temperature	23 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	55 %

8.1.3 Observations, settings and special notes

The EUT was set up as tabletop configuration.

The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

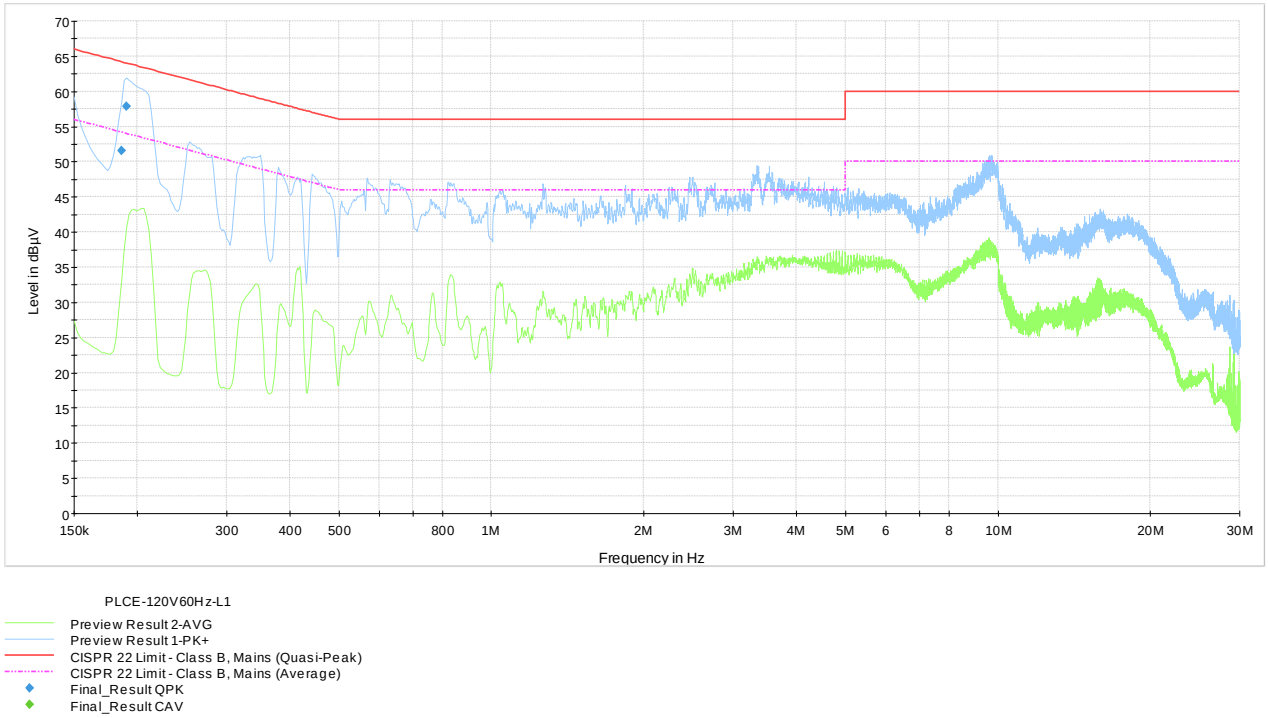
A preview measurement was generated with the receiver in continuous scan mode. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

As per provided by customer, a Ferrite (WE742 711 42)was installed on the power cable between EUT and AC adapter.

Test receiver settings:

Frequency span	150 kHz to 30 MHz
Detector mode	Peak and Average (preview mode); Quasi-Peak (final measurements)
Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Trace mode	Max Hold
Measurement time	160 ms

8.1.4 Test data



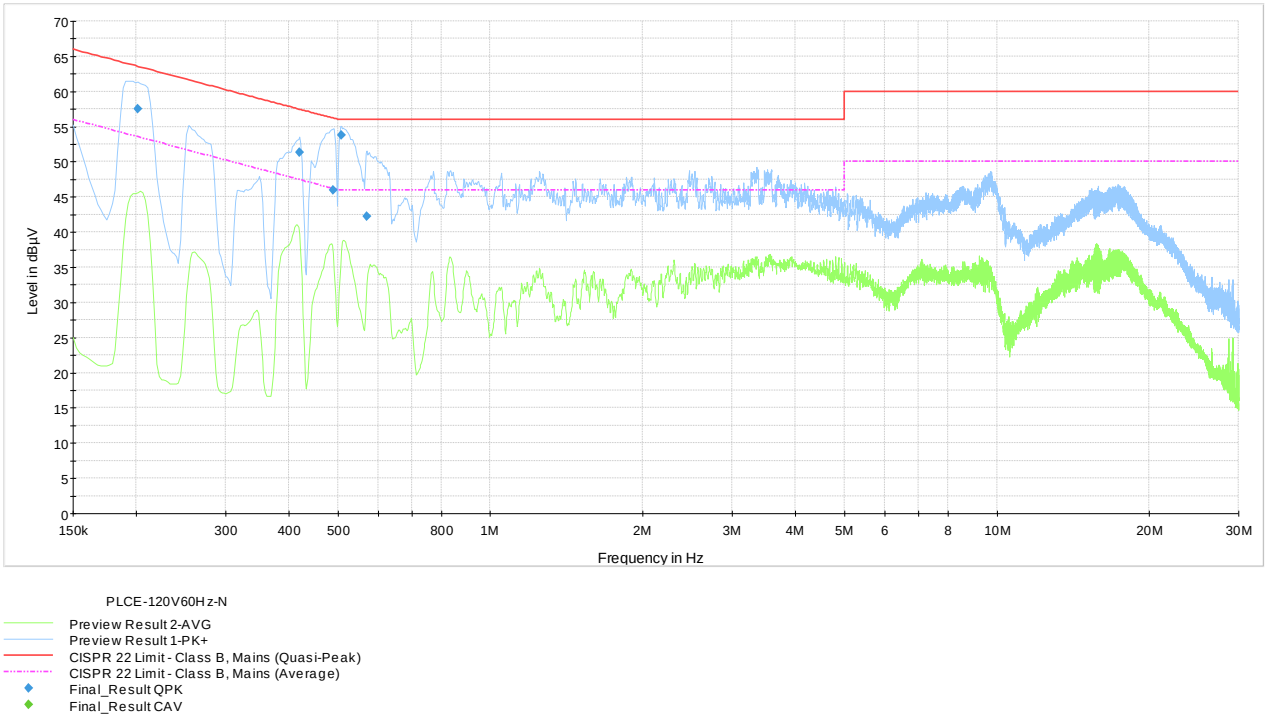
Plot 8.1-1: *Conducted emissions on phase line*

Table 8.1-2: *Quasi-Peak conducted emissions results on phase line*

Frequency, MHz	Q-Peak result, dBµV	Meas. Time, ms	Bandwidth, kHz	Filter	Correction, dB	Margin, dB	Limit, dBµV
0.18600	51.6	160	9	On	10.2	12.6	64.2
0.19050	57.8	160	9	On	10.1	6.2	64.0

Sample calculation:
Correction factor (dB) = LISN factor IL (dB) + cable loss (dB) + attenuator (dB)
Result (dBµV) = XX dBµV (reading from receiver) + XX dB (Correction factor)

Example:
43.5 dBµV = 23.2 dBµV (receiver reading) + 10.1 dB (LISN factor IL) + 0.2 dB (cable loss) + 10 dB (attenuator)



Plot 8.1-2: *Conducted emissions on neutral line*

Table 8.1-3: *Quasi-Peak conducted emissions results on neutral line*

Frequency, MHz	Q-Peak result, dBµV	Meas. Time, ms	Bandwidth, kHz	Filter	Correction, dB	Margin, dB	Limit, dBµV
0.20175	57.6	160	9	On	10.0	5.9	63.5
0.42000	51.3	160	9	On	10.0	6.1	57.4
0.48975	45.9	160	9	On	10.0	10.3	56.2
0.50775	53.8	160	9	On	10.0	2.2	56.0
0.57075	42.2	160	9	On	10.0	13.8	56.0

Sample calculation:
Correction factor (dB) = LISN factor IL (dB) + cable loss (dB) + attenuator (dB)
Result (dBµV) = XX dBµV (reading from receiver) + XX dB (Correction factor)

Example:
43.5 dBµV = 23.2 dBµV (receiver reading) + 10.1 dB (LISN factor IL) + 0.2 dB (cable loss) + 10 dB (attenuator)

8.2 FCC 15.215(c) and RSS-Gen 6.6 Occupied (Emission) bandwidth

8.2.1 Definitions and limits

FCC
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80 % of the permitted band in order to minimize the possibility of out-of-band operation.

IC
When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

8.2.2 Test summary

Test date	August 10, 2016	Temperature	23 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	55 %

8.2.3 Observations, settings and special notes

Spectrum analyzer settings:

Detector mode	Peak
Resolution bandwidth	1 % to 5 % of OBW
Video bandwidth	RBW × 3
Trace mode	Max Hold

8.2.4 Test data

Table 8.2-1: *20 dB bandwidth results*

Channel setting	Frequency, MHz	20 dB bandwidth, kHz	99% bandwidth, kHz
Back door mode	918.0	499.4	432.7
Low	918.5	78.2	65.7
High	925.8	67.0	66.7

8.2.4 Test data, continued

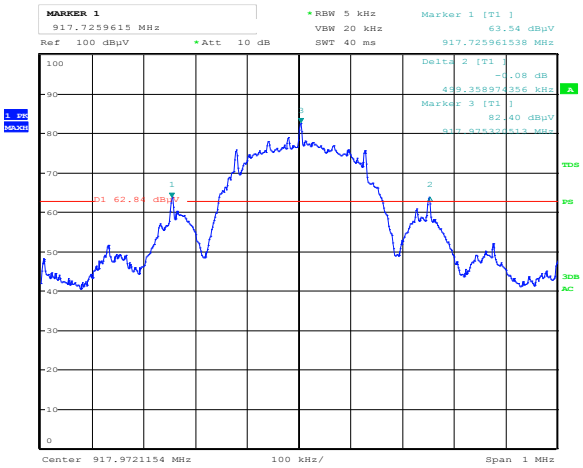


Figure 8.2-1: *20 dB bandwidth , tx on back door mode*

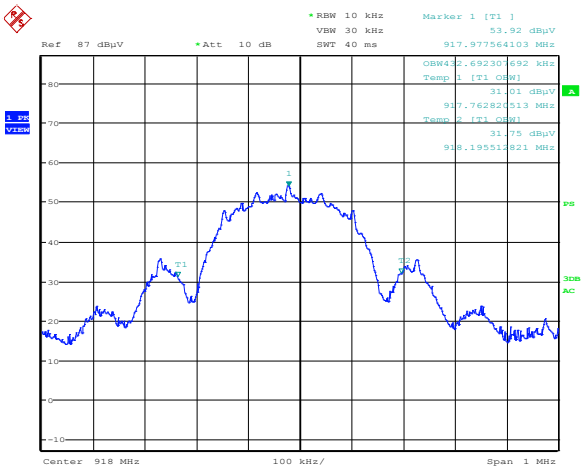


Figure 8.2-2: *99% dB bandwidth , tx on back door mode*

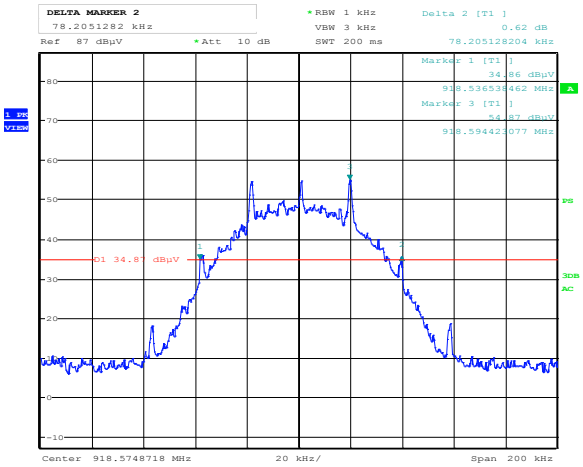


Figure 8.2-3: *20 dB bandwidth , tx on low channel*

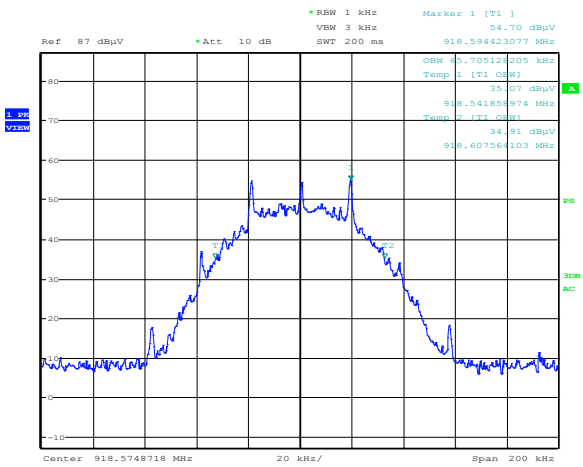


Figure 8.2-4: *99% dB bandwidth, , tx on low channel*

8.2.4 Test data, continued

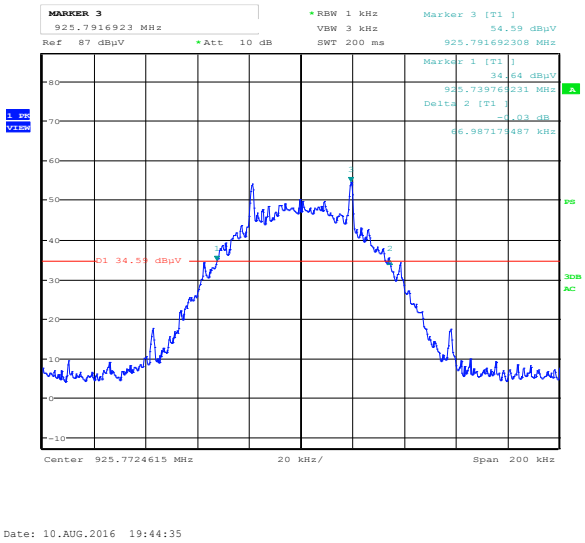


Figure 8.2-5: *20 dB bandwidth, , tx on high channel*

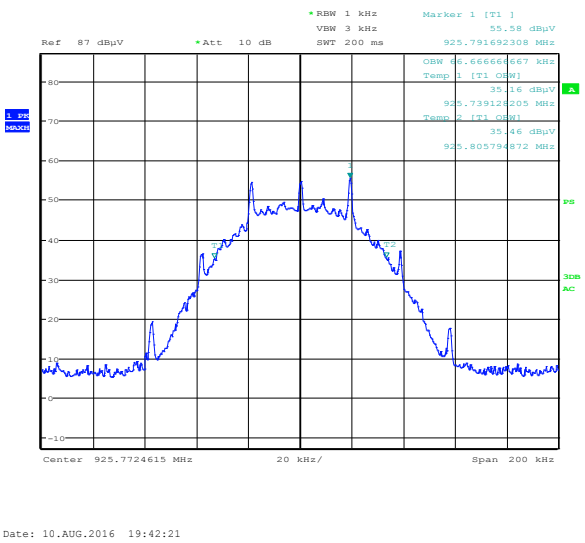


Figure 8.2-6: *99% dB bandwidth, , tx on high channel*

8.3 FCC 15.249(a) and RSS 210 B.10(a) Field strength of fundamental and harmonics outside restricted bands

8.3.1 Definitions and limits

FCC:
The field strength of emissions from intentional radiators shall comply with the following table. Field strength limits are specified at a distance of 3 meters.
IC:
The field strength measured at 3 metres shall not exceed the limits in the following table.

Table 8.3-1: *Field strength limits*

Fundamental frequencies,	Field strength of fundamental		Field strength of harmonics	
MHz	mV/m	dBµV/m	µV/m	dBµV/m
902–928	50	94	500	54
2400–2483.5	50	94	500	54
5725–5875	50	94	500	54
24000–24250	250	108	2500	68

Notes: In the emission table above, the tighter limit applies at the band edges. For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test

8.3.2 Test summary

Test date	August 10, 2016 and August 9, 2016	Temperature	23 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	55 %

8.3.3 Observations, settings and special notes

The spectrum was searched from 30 MHz to 10th harmonic of fundamental frequency.
Radiated measurements were performed at a distance of 3 m.

Spectrum analyzer settings for fundamental frequencies below 1000 MHz:

Detector mode	Peak
Resolution bandwidth	1000 kHz
Video bandwidth	3000 kHz
Trace mode	Max Hold

Spectrum analyzer settings for peak measurements at the frequencies above 1000 MHz:

Detector mode	Peak
Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Trace mode	Max Hold

Spectrum analyzer settings for average measurements at the frequencies above 1000 MHz:

Detector mode	Average
Resolution bandwidth	1 MHz
Video bandwidth	10 Hz
Trace mode	Max Hold

8.3.4 Test data

Table 8.3-2: *Field strength of fundamental results*

Channel setting	Frequency, MHz	Field strength at 3 m, dBµV
Back door mode	918.0	85.36
Low	918.5	92.8
High	925.8	93.0

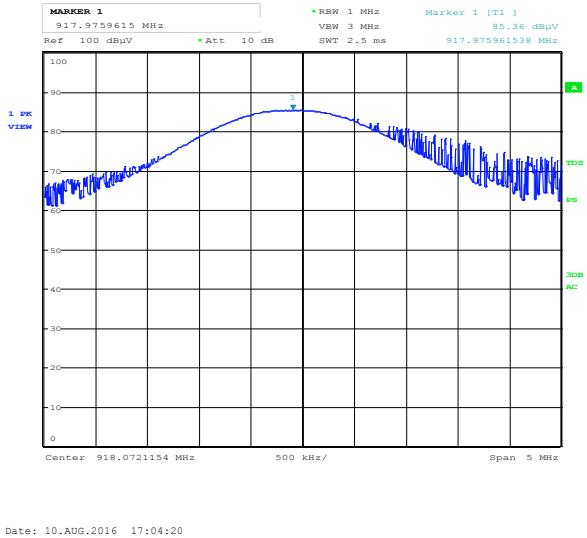


Figure 8.3-1: *Field strength of fundamental, tx on back door mode*

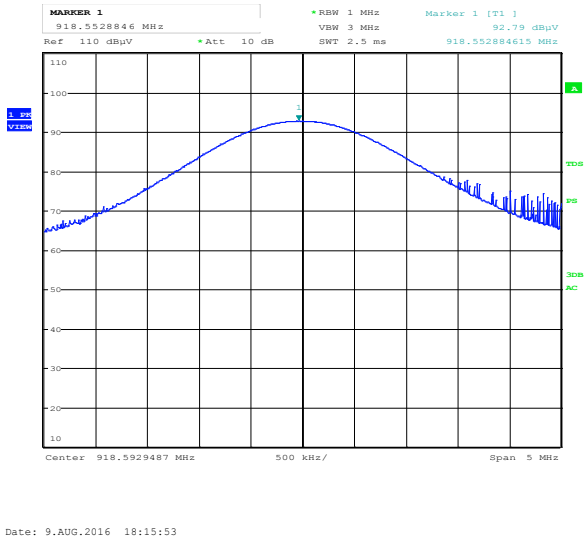


Figure 8.3-2: *Field strength of fundamental, tx on low channel*

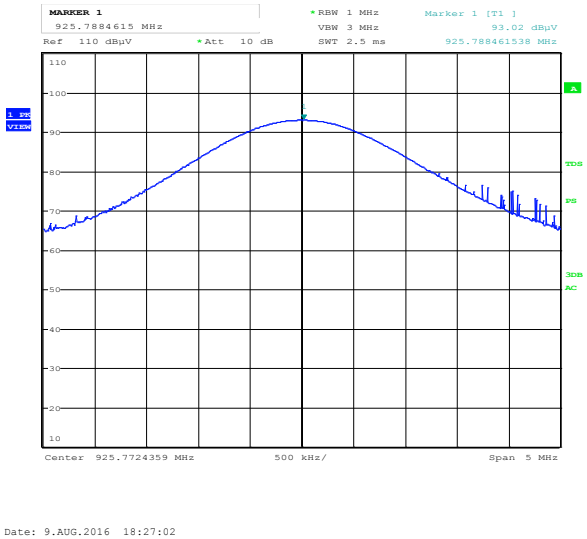


Figure 8.3-3: *Field strength of fundamental, tx on high channel*

8.3.4 Test data, continued

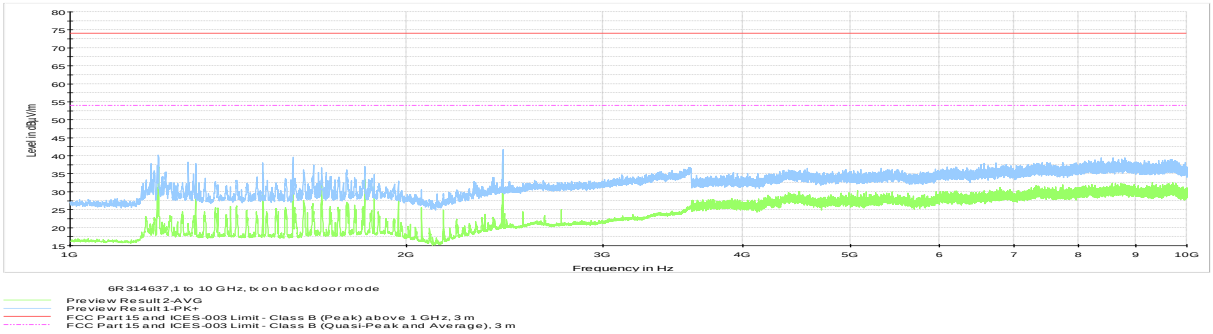


Figure 8.3-4: *Field strength of harmonics, tx on back door mode*

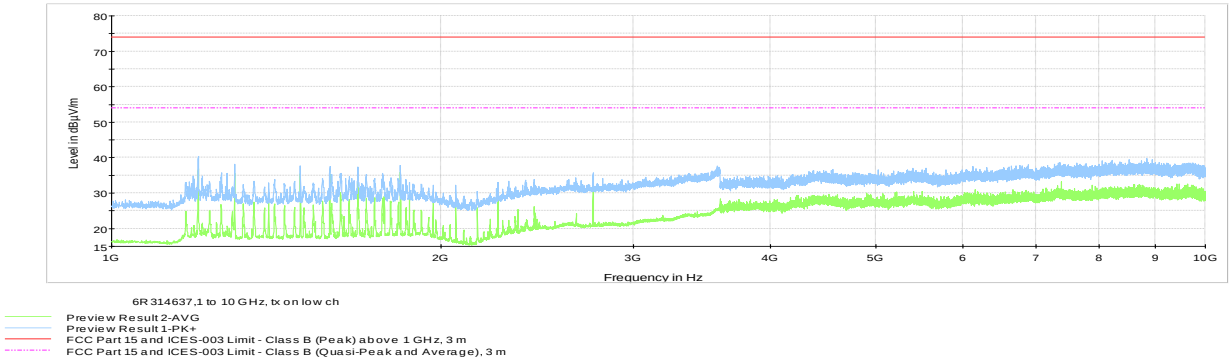


Figure 8.3-5: *Field strength of harmonics, tx on low channel*

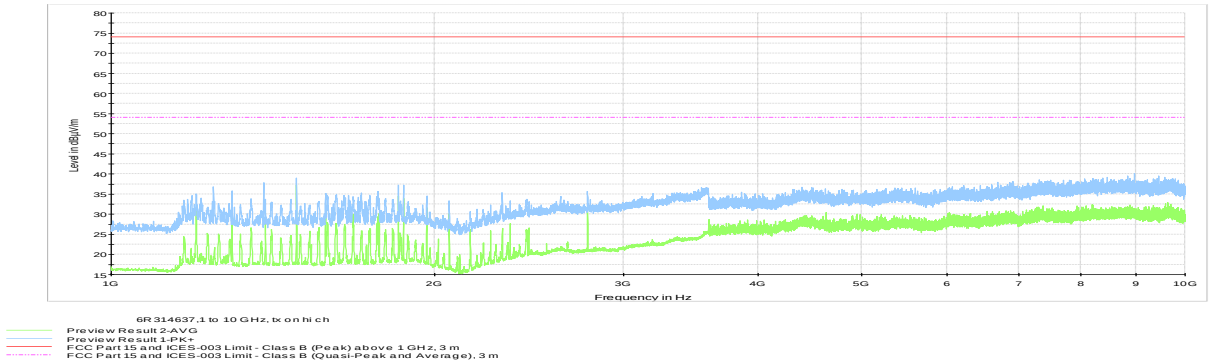


Figure 8.3-6: *Field strength of harmonics, tx on high channel*

8.4 FCC 15.249(d) and RSS-210 B.10(b)Spurious emissions (except for harmonics)

8.4.1 Definitions and limits

FCC
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.
IC
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general field strength limits listed in RSS-Gen, whichever is less stringent.

Table 8.4-1: *15.209 and RSS-Gen emissions field strength limits*

Frequency, MHz	Field strength of emissions		Measurement distance, m
	µV/m	dBµV/m	
0.009–0.490	2400/F	$67.6 - 20 \times \log_{10}(F)$	300
0.490–1.705	24000/F	$87.6 - 20 \times \log_{10}(F)$	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges. For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test

Table 8.4-2: *IC restricted frequency bands*

MHz	MHz	MHz	GHz
0.090–0.110	12.51975–12.52025	399.9–410	5.35–5.46
2.1735–2.1905	12.57675–12.57725	608–614	7.25–7.75
3.020–3.026	13.36–13.41	960–1427	8.025–8.5
4.125–4.128	16.42–16.423	1435–1626.5	9.0–9.2
4.17725–4.17775	16.69475–16.69525	1645.5–1646.5	9.3–9.5
4.20725–4.20775	16.80425–16.80475	1660–1710	10.6–12.7
5.677-5.683	25.5–25.67	1718.8–1722.2	13.25–13.4
6.215–6.218	37.5–38.25	2200–2300	14.47–14.5
6.26775–6.26825	73–74.6	2310–2390	15.35–16.2
6.31175–6.31225	74.8–75.2	2655–2900	17.7–21.4
8.291–8.294	108–138	3260–3267	22.01–23.12
8.362–8.366	156.52475–156.52525	3332–3339	23.6–24.0
8.37625–8.38675	156.7–156.9	3345.8–3358	31.2–31.8
8.41425–8.41475	240–285	3500–4400	36.43–36.5
12.29–12.293	322–335.4	4500–5150	Above 38.6

Note: Certain frequency bands listed in table above and above 38.6 GHz are designated for low-power licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard

Table 8.4-3: *FCC restricted frequency bands*

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	Above 38.6
13.36–13.41			

8.4.2 Test summary

Test date	August 10, 2016 and August 9, 2016	Temperature	23 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	55 %

8.4.3 Observations, settings and special notes

The spectrum was searched from 30 kHz to 10th harmonic of the fundamental frequency.
Radiated measurements were performed at a distance of 3 m.

Spectrum analyzer settings for frequencies below 1000 MHz:

Detector mode	Peak or Quasi-Peak
Resolution bandwidth	100 kHz
Video bandwidth	300 kHz
Trace mode	Max Hold

Spectrum analyzer settings for peak measurements at the frequencies above 1000 MHz:

Detector mode	Peak
Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Trace mode	Max Hold

Spectrum analyzer settings for average measurements at the frequencies above 1000 MHz:

Detector mode	Average
Resolution bandwidth	1 MHz
Video bandwidth	10 Hz
Trace mode	Max Hold

8.4.4 Test data

Table 8.4-4: *Radiated field strength measurement results below 1 GHz*

Channel setting	Frequency, MHz	Q-peak field strength, dBµV/m	3 m Quasi-Peak limit, dBµV/m	Margin, dB
Back door mode	86.07	39.1	40.0	0.9
Back door mode	70.80	38.6	40.0	1.4
Back door mode	494.40	42.5	46.0	3.5
Back door mode	434.43	41.9	46.0	4.1
Back door mode	87.84	34.9	40.0	5.1
Low	168.72	42.7	43.5	0.8
Low	70.77	39.2	40.0	0.8
Low	85.53	39.1	40.0	0.9
Low	48.75	39.1	40.0	0.9
Low	62.79	36.8	40.0	3.2
High	85.50	38.5	40.0	1.5
High	168.75	41.7	43.5	1.8
High	70.80	38.0	40.0	2.0
High	48.72	37.4	40.0	2.6
High	438.93	43.0	46.0	3.0
High	494.91	42.2	46.0	3.8

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

8.4.4 Test data, continued

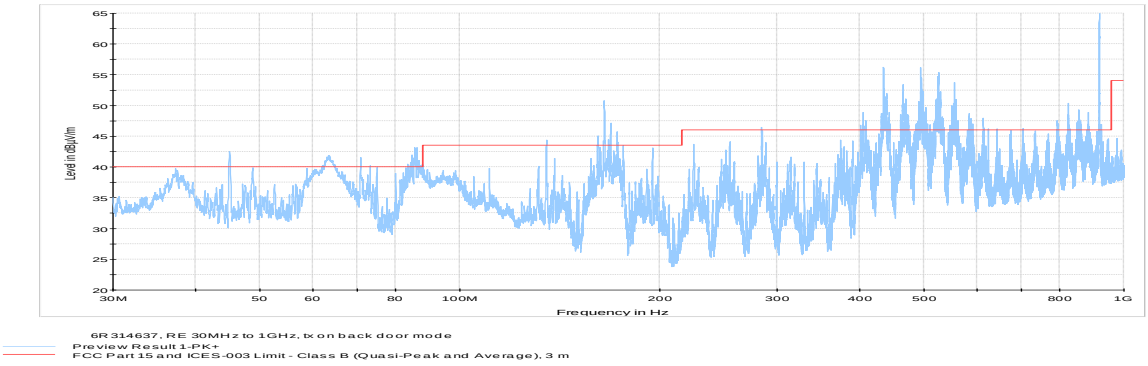


Figure 8.4-1: *Field strength of spurious emissions below 1 GHz, tx on back door mode*

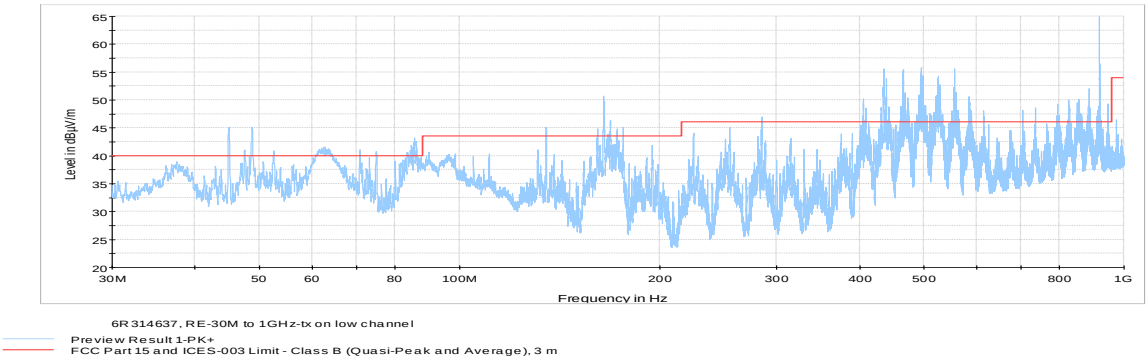


Figure 8.4-2: *Field strength of spurious emissions below 1 GHz, tx on low channel*

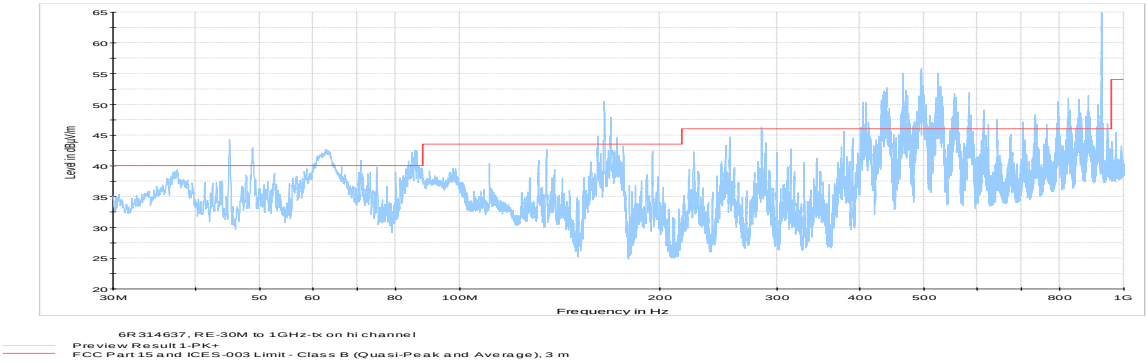


Figure 8.4-3: *Field strength of spurious emissions below 1 GHz, tx on high channel*

8.4.4 Test data, continued

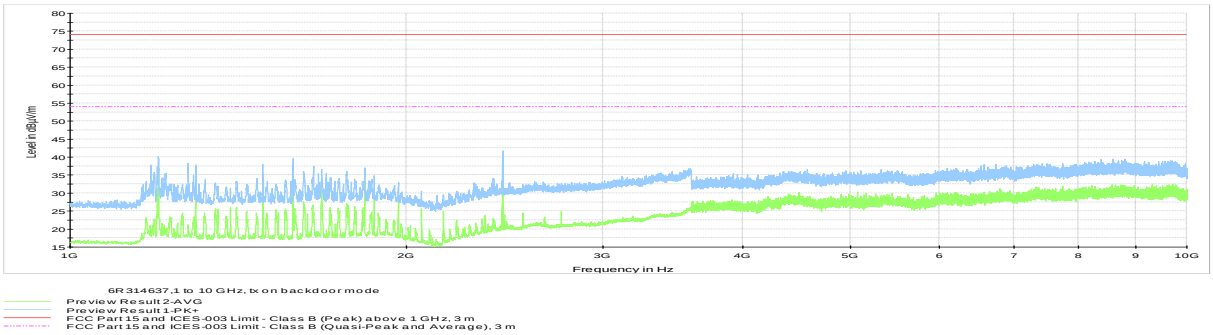


Figure 8.4-4: *Field strength of spurious emissions above 1 GHz, tx on back door mode*

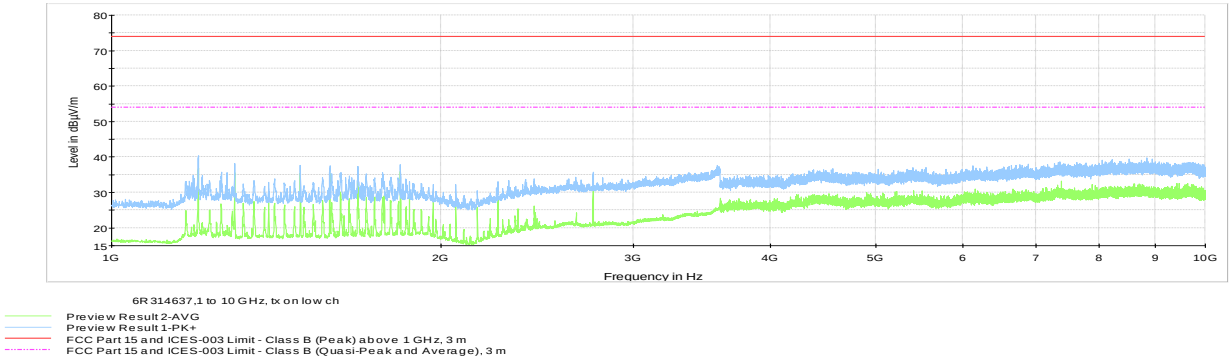


Figure 8.4-5: *Field strength of spurious emissions above 1 GHz, tx on low channel*

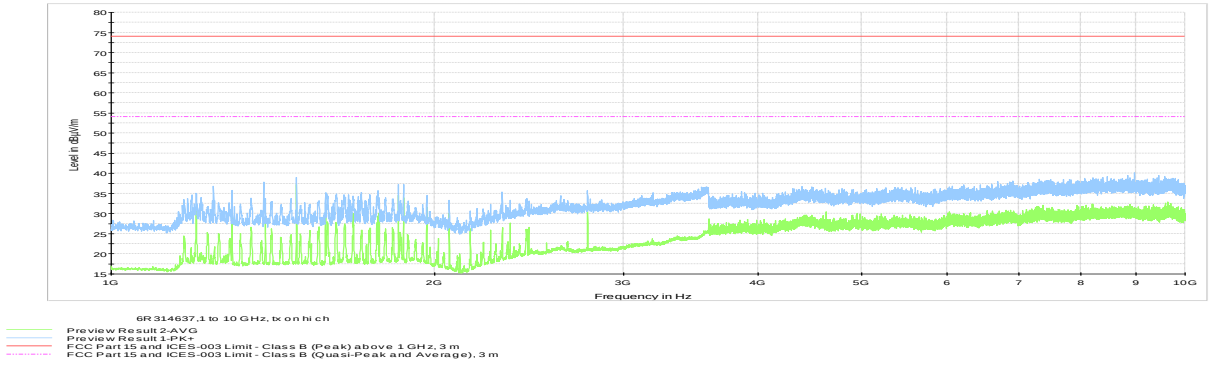
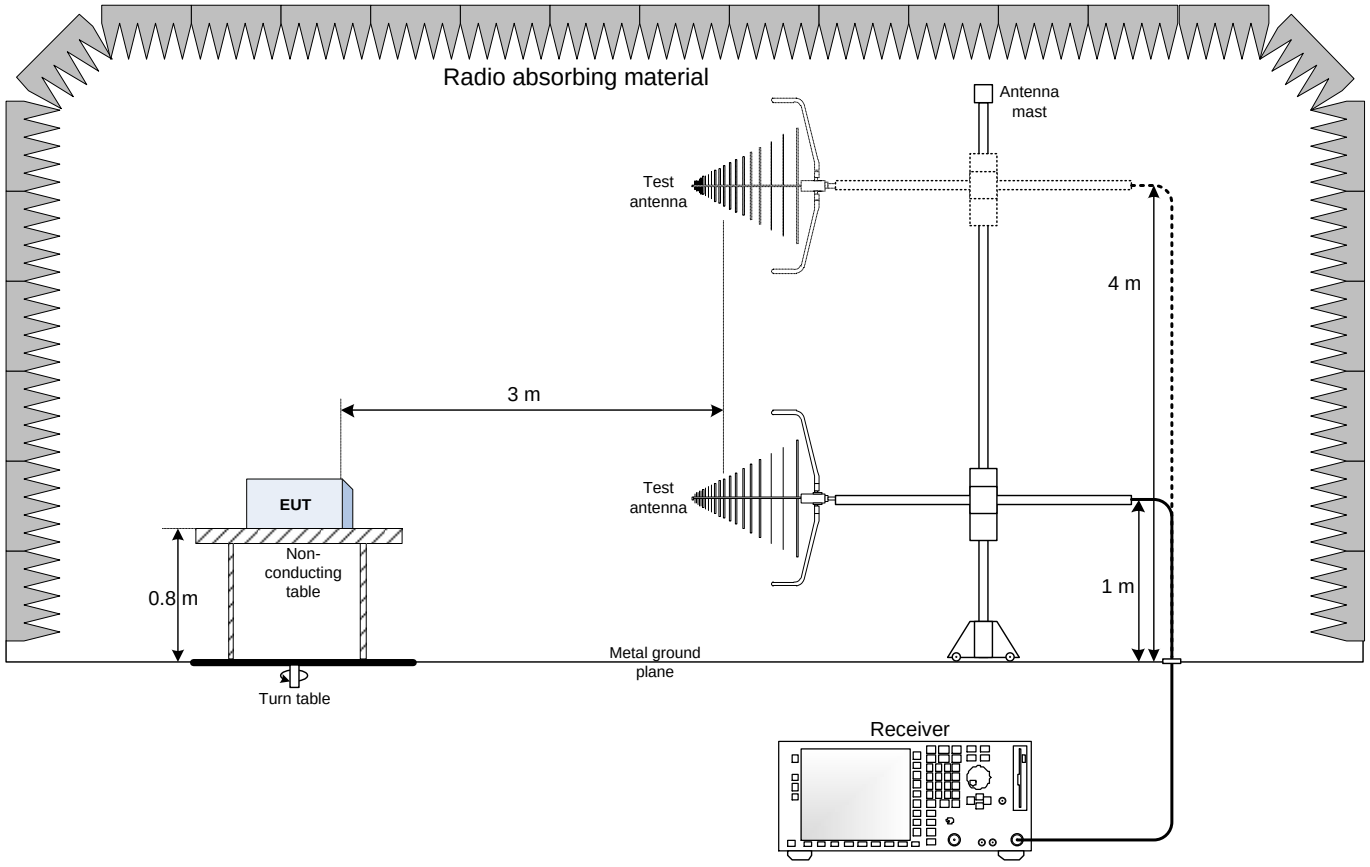


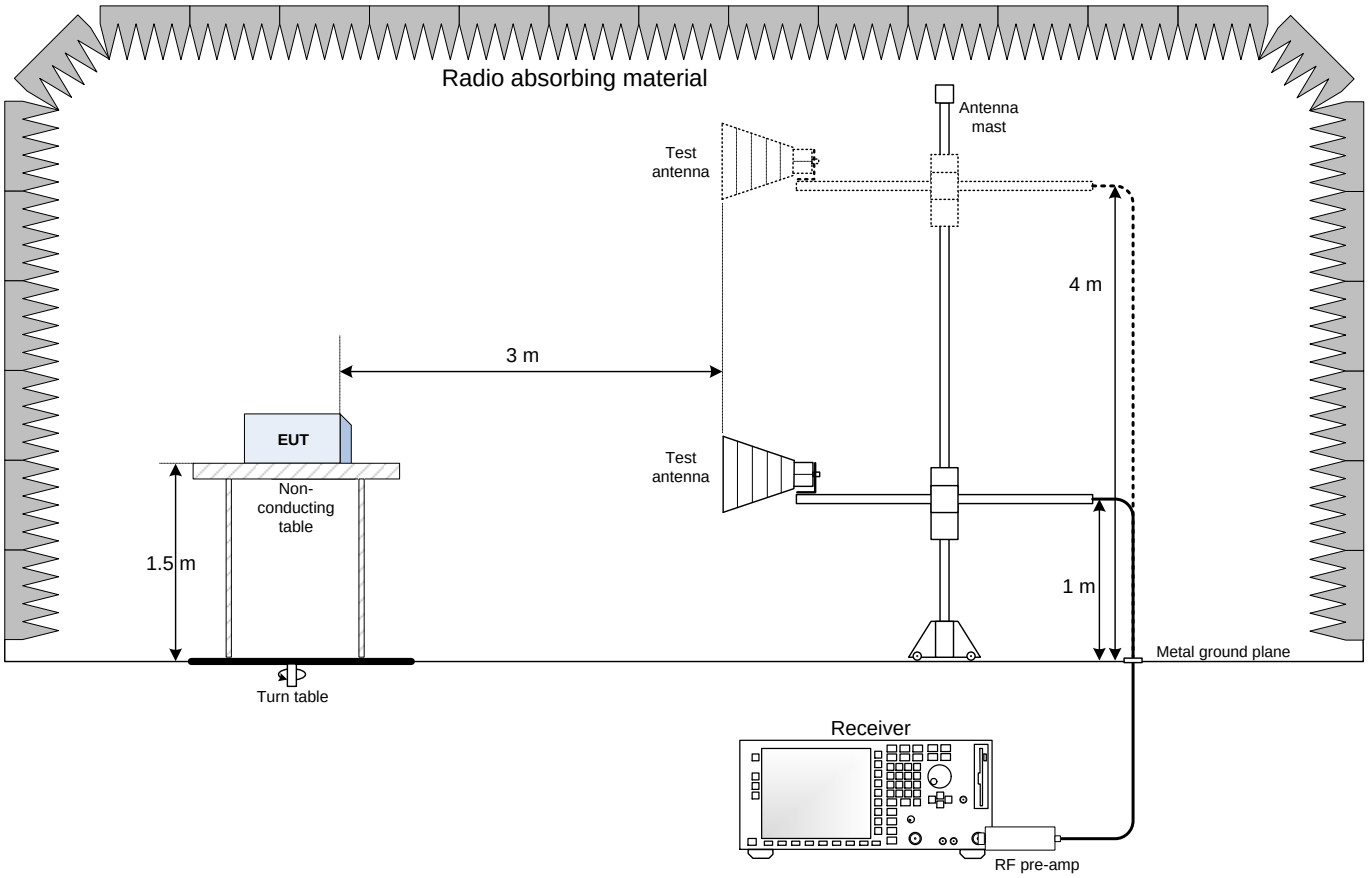
Figure 8.4-6: *Field strength of spurious emissions above 1 GHz, tx on high channel*

Section 9. Block diagrams of test set-ups

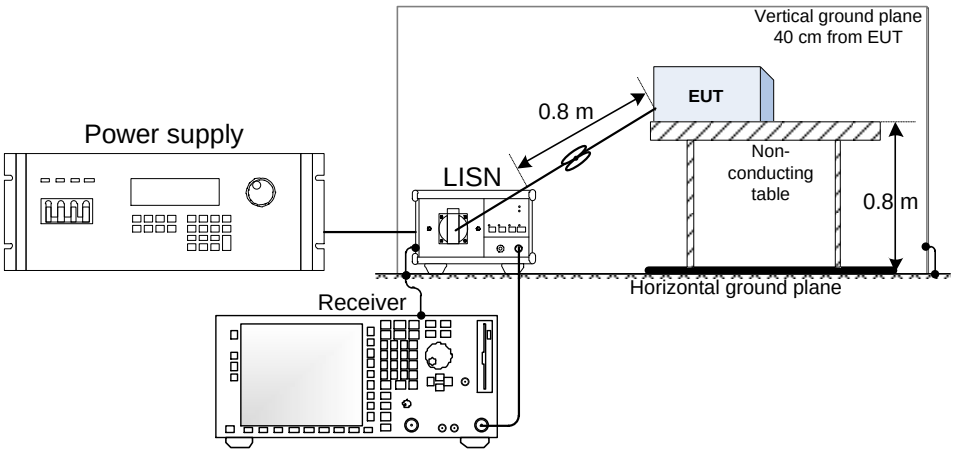
9.1 Radiated emissions set-up for frequencies below 1 GHz



9.2 Radiated emissions set-up for frequencies above 1 GHz



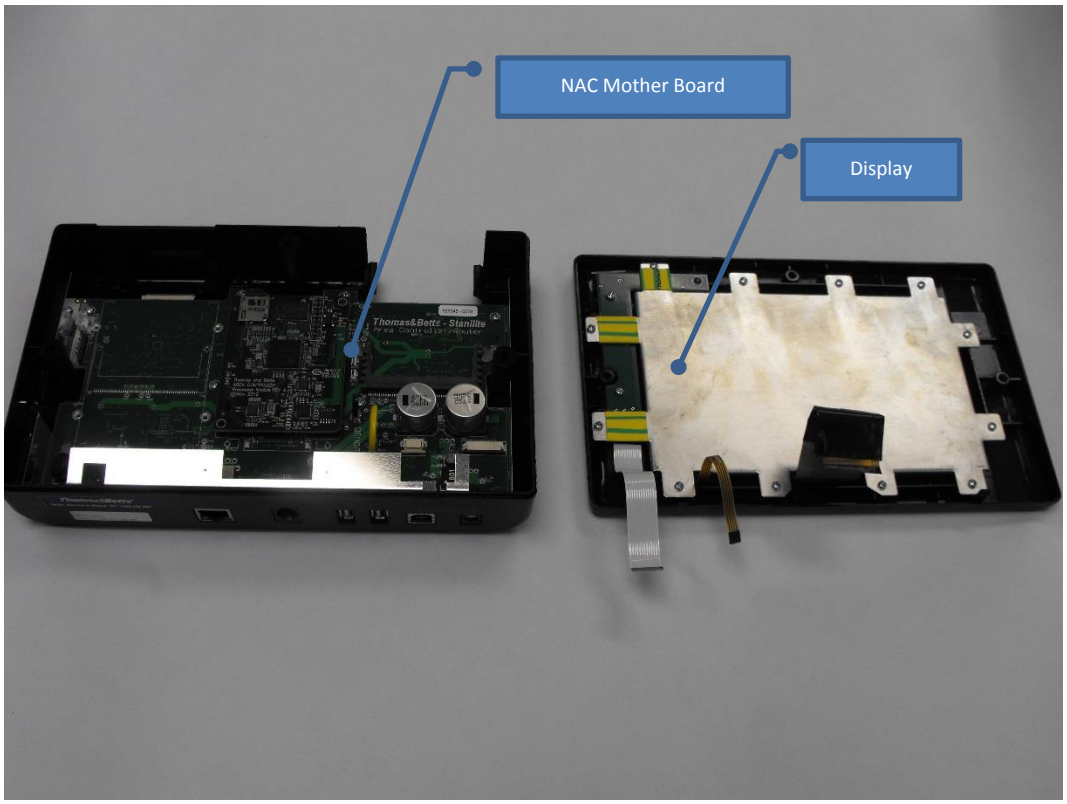
9.3 Conducted emissions set-up



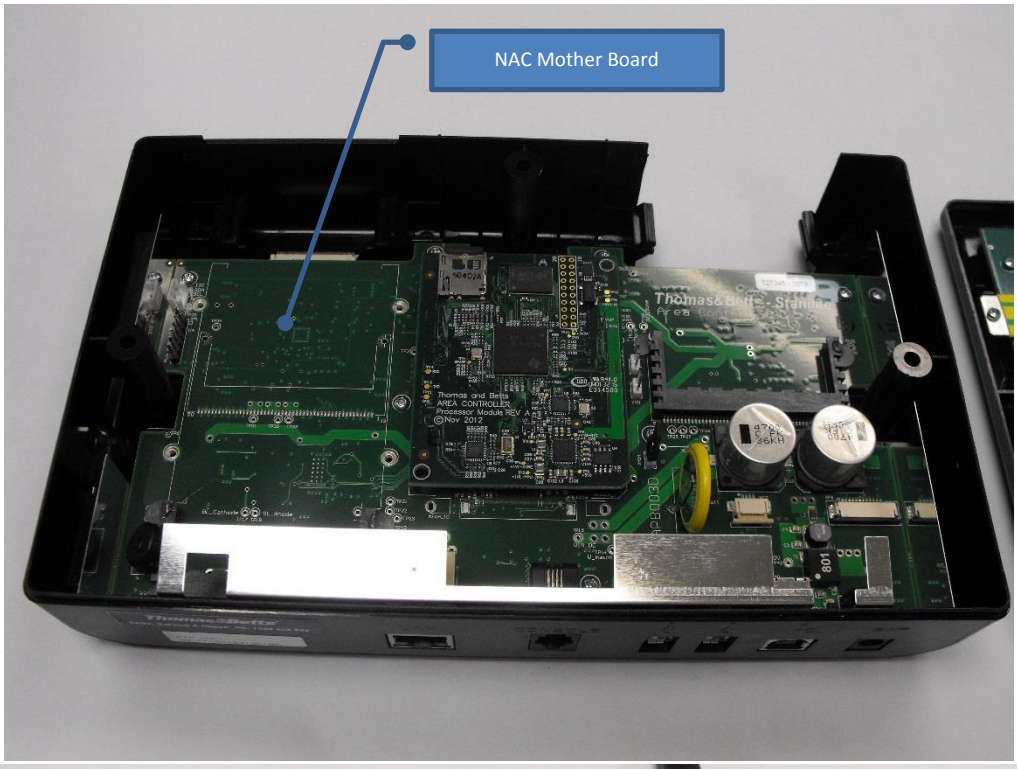
Section 10. EUT photos and Information(provided by client)

Photos new NAC & NACR

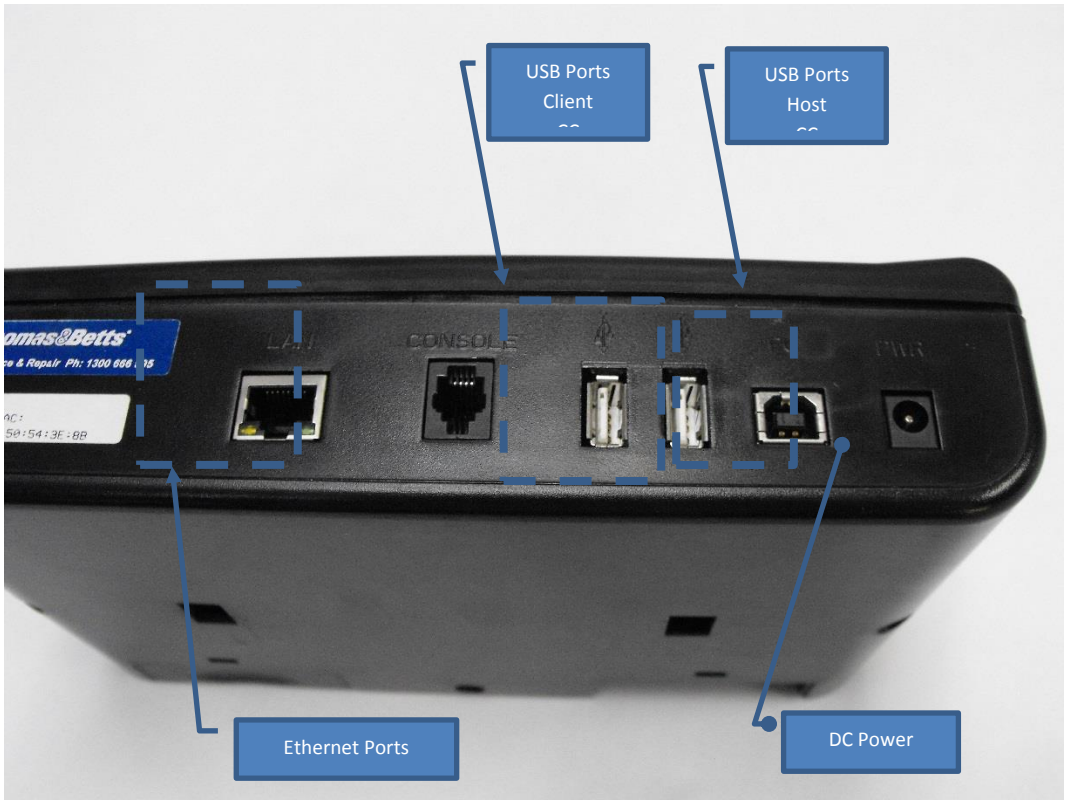
NAC Front view


NAC Mother Board
Display

NAC Inside view



NAC Ports


USB Ports
Client
USB Ports
Host
Ethernet Ports
DC Power


LAN
CONSOLE


PWR

NACR Front

NACR Inside view

NACR + RF Modem