

RADIO TEST REPORT

Report ID

REP072015

Project ID

PRJ0063189

Type of assessment:

Class II Permissive Change

Applicant:

Exfo Inc.

Product:

Data Terminal Module

Model(s):

LE910C4-WWX, LE910C4-WWXD

FCC ID:

2AYQH-LE910CXWWX

ISED Certification number:

26882-LE910CXWWX

Specifications:

- | | |
|---------------------------------|--------------------------|
| ◆ FCC 47 CFR Part 22, Subpart H | ◆ ISED RSS - 130 Issue 2 |
| ◆ FCC 47 CFR Part 24, Subpart E | ◆ ISED RSS - 132 Issue 4 |
| ◆ FCC 47 CFR Part 27, Subpart C | ◆ ISED RSS - 133 Issue 7 |
| ◆ FCC 47 CFR Part 90, Subpart S | ◆ ISED RSS - 139 Issue 4 |
| ◆ ISED RSS - 140 Issue 1 | ◆ ISED RSS - 199 Issue 4 |

Date of issue: November 6, 2025

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ANAB File Number: AT-3195 (Ottawa); AT-3193 (Pointe-Claire); AT-3194 (Cambridge)

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Test site registration	Organization	Recognition numbers and location	
	FCC/ISED	FCC: CA2040; IC: 2040A-4 (Ottawa/Almonte); FCC: CA2041; IC: 2040G-5 (Montreal); CA0101 (Cambridge)	
Website	www.nemko.com		

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 contained in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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Section 1 Report summary

1.1 Test specifications

FCC 47 CFR Part 22, Subpart H	Public Mobile Services - Cellular Radiotelephone Service
FCC 47 CFR Part 24, Subpart E	Personal Communications Services - Broadband PCS
FCC 47 CFR Part 27, Subpart C	Miscellaneous wireless communications services – Technical Standards
FCC 47 CFR Part 90, Subpart S	Private Land Mobile Radio Services - Regulations Governing Licensing and Use of Frequencies in the 806–824, 851–869, 896–901, and 935–940 MHz Bands
ISED RSS -140 Issue 1, Apr 2018	Equipment Operating in the Public Safety Broadband Frequency Bands 758-768 MHz and 788-798 MHz
ISED RSS -130 Issue 2, Feb 2019	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
ISED RSS -132 Issue 4, Jan 2023	Cellular Systems Operating in the Bands 824-849 MHz and 869-894 MHz
ISED RSS -133 Issue 7, July 2024	Personal Communications Service Equipment Operating in the Bands 1850-1915 MHz and 1930-1995 MHz
ISED RSS -139 Issue 4, Sep 2022	Advanced Wireless Services Equipment Operating in the Bands 1710-1780 MHz and 2110-2200 MHz
ISED RSS -199 Issue 4, July 2023	Broadband Radio Service (BRS) Equipment Operating in the Band 2500-2690 MHz

1.2 Test methods

ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
FCC 47 CFR Part 2, Subpart J	Equipment authorization procedures
RSS-Gen Issue 5, March 2019	General Requirements for Compliance of Radio Apparatus

1.3 Exclusions

Partial test report to demonstrate compliance for C2PC update with new antenna.

1.4 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was performed against all relevant requirements of the test standard except as noted in section 1.3 above. 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.

1.5 Test report revision history

Table 1.5-1: Test report revision history

Revision #	Date of issue	Details of changes made to test report
REP072015	November 6, 2025	Original report issued

Section 2 Engineering considerations

2.1 Modifications incorporated in the EUT for compliance

No modifications were made on unit.

2.2 Technical judgment

None

2.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 3 Test conditions

3.1 Atmospheric conditions

Temperature	15 °C – 35 °C
Relative humidity	20 % – 75 %
Air pressure	86 kPa (860 mbar) – 106 kPa (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.

3.2 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 $\pm 5\%$, for which the equipment was designed.

Section 4 Information provided by the applicant

4.1 Disclaimer

This section contains information provided by the applicant and has been utilized to support the test plan. Inaccurate information provided by the applicant can affect the validity of the results contained within this test report. Nemko accepts no responsibility for the information contained within this section and the impact it may have on the test plan and resulting measurements.

4.2 Applicant/Manufacturer

Applicant name	EXFO Inc.
Applicant address	400 Godin Avenue, Quebec City, Quebec G1M 2K2, Canada
Manufacturer name	EXFO Inc. / EXFO Telecom Equipment (Shenzhen) Ltd./ EXFO Products, S. de R.L. de C.V.
Manufacturer address	400 Godin Avenue, Quebec City, Quebec G1M 2K2, Canada/ 1/F to 3/F, No. 71-3, Xintian Avenue, Xintian Community, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong 518103, China Parque Tecnológico Innovación Querétaro, Carretera Estatal 431 Km 2+200, interior 112, Municipio El Marqués, Código QRO 76246, Mexico

4.3 EUT information

Product	Data Terminal Module
Model	LE910C4-WWX, LE910C4-WWXD
Serial number	1809827
Power requirements	5 V _{DC} to 20 V _{DC} USB-C powered (via external 100–240 VAC, 50/60 Hz power adapter)
Description/theory of operation	The EUT is an IoT 2G, 3G, 4G RF cellular module.
Operational frequencies	Highest digital clock frequency: 4 GHz
Software details	image version: 0.0.0.24298.1

4.4 Technical information, GSM

Frequency band	GSM 850 (B05), PCS1900 (B02)
Frequency Min (MHz)	B02, channel 512: 1850.2 MHz B05, channel 128: 824.2 MHz
Frequency Max (MHz)	B02, channel 809: 1909.6 MHz B05, channel 251: 848.8 MHz
FCC Rule Parts	B02, FCC 24E B05, FCC 22H
ISED Rule Parts	B02, RSS-133 B05, RSS-132
RF power Max (W), Conducted	0.9462 (29.76 dBm) B02, 1.625 (32.18 dBm) B05
Measured BW (kHz), 99% OBW	245.78 kHz
Type of modulation	GMSK/8-PSK
Antenna information	PIFA types, main Tx/Rx: 4.5 dBi (1.8 GHz band 3.24 dBi max), diversity Rx - 4 dBi

4.5 Technical information, WCDMA

Frequency band	B02, B04, B05
Frequency Min (MHz)	B02, channel 9262: 1852.4 MHz B04, channel 1312: 1712.4 MHz B05, channel 4132: 826.4 MHz
Frequency Max (MHz)	B02, channel 9538: 1907.6 MHz B04, channel 1513: 1752.6 MHz B05, channel 4233: 846.6 MHz
FCC Rule Parts	B02, FCC 24E B04, FCC 27C B05, FCC 22H
ISED Rule Parts	B02, RSS-133 B04, RSS-139 B05, RSS-132
RF power Max (W), Conducted	0.270(24.31 dBm) B02, 0.245(23.89 dBm) B04, 0.247(23.93 dBm) B05
Measured BW (MHz), 99% OBW	4.2 MHz
Type of modulation	QPSK, 16QAM
Antenna information	PIFA types, main Tx/Rx: 4.5 dBi (1.8 GHz band 3.24 dBi max), diversity Rx: 4 dBi

4.6 Technical information, LTE

Frequency bands	B02, B04, B05, B07, B08, B12, B13, B14, B25 and B26
Operational Freq. range	B02:1850 -1910 MHz B04: 1710- 1755 MHz B05: 824-849 MHz B07: 2500 - 2570 B08: 880 – 915 MHz B12: 699 – 716 MHz B13: 777 – 787 MHz B14: 788 – 798 MHz B25: 1850 – 1915 MHz B26: 814 – 849 MHz
FCC Rule Parts	B02, FCC 24E B04, FCC 27C B05, FCC 22H B07: FCC 27C B08: FCC 27C B12: FCC 27C B13: FCC 27C B14: FCC 90 B25, FCC 24E B26_1, FCC 90S B26_2, FCC 22H
ISED Rule Parts	B02, RSS-133 B04, RSS-139 B05, RSS-132 B07: RSS-199 B08: RSS-132 B12, RSS-130 B13:RSS-130 B14: RSS-130 B25, RSS-133 B26_1, RSS-119 B26_2, RSS-132
RF power Max (W), Conducted ¹	0.230(23.62 dBm) B04 0.240(23.81 dBm) B07, 0.231(23.63 dBm) B08, 0.225(23.52 dBm) B13, 0.235(23.71 dBm) B12, 0.234(23.69 dBm) B14, 0.245(23.89 dBm) B25, 0.238(23.77 dBm) B26
BW (MHz), 99% OBW	1.4,3,5,10,15,20 MHz
Type of modulation	QPSK, 16QAM
Antenna information	PIFA types, main Tx/Rx: 4.5 dBi, (1.8 GHz band 3.24 dBi max) diversity Rx: 4 dBi

Note: ¹ Band 2 and 5 are subsets of B 25 and 26 respectively.

4.7 EUT setup details

Radio exercise details

Operating conditions	EUT is made to transmit LTE/GPRS and GSM band frequency signals as per test plan at recommended power settings from manufacturer using AT command software
Transmitter state	Continuous transmission
Receiver state	Standby mode
Tested configuration	LTE band- B12 channel 23095 at 707.5 MHz LTE band B4 channel 20175 at 1732.5 MHz LTE band B7 channel 21100 at 2535 MHz GPRS B26 channel 251 at 848.8 MHz GSM B25 channel 809 at 1909.6 MHz

EUT setup configuration

Table 4.7-1: EUT sub-assemblies

Description	Brand name	Serial number, Part number, Model, Revision level
Field testing platform for optical components and tools	EXFO	SN: 1809827, MN: FTB-LITE
Power adaptor	EDAC Power ELEC.	MN: EA1045SCR

Table 4.7-2: EUT interface ports

Description	Qty.
USB-C	1
USB-A	2
Ethernet	1

Table 4.7-3: Support equipment

Description	Brand name	Serial number, Part number, Model, Revision level
Laptop	Lenovo	SN: PC-0E93NM, MN: ThinkPad
Router	D-Link	MN: DIR-605LB2

Table 4.7-4: Inter-connection cables

Cable description	From	To	Length (m)
USB-C cable	EUT	Power adaptor	<3
AC cable	Power adaptor	AC mains	<3
Ethernet cable	EUT	laptop	>3

EUT test configuration continued

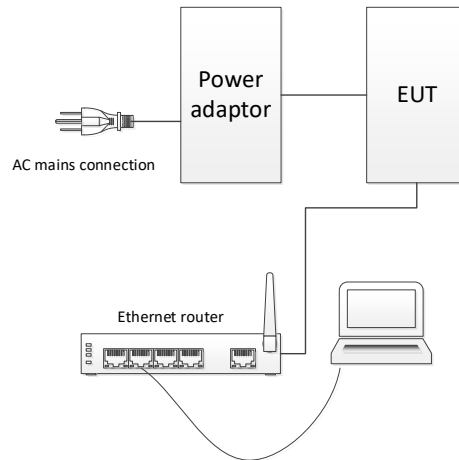


Figure 4.7-1: Block diagram

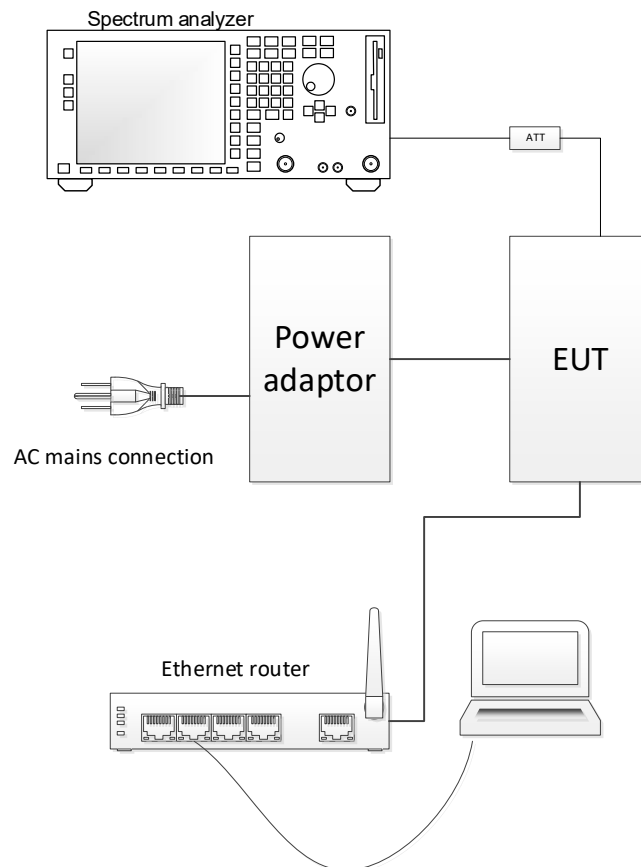


Figure 4.7-2: Antenna port testing block diagram

4.8 ERP/EIRP verification

Frequency Range (MHz)	Output power, W	Output power, dBm	Antenna gain, dBi	EIRP/ERP, dBm	EIRP/ERP limit, dBm	Margin, dB
824.2 - 848.8	1.652	32.18	4.5	34.53	38.50	3.97
824.2 - 848.8	0.500	26.99	4.5	29.34	38.50	9.16
826.4 - 846.6	0.247	23.93	4.5	26.28	38.50	12.22
1712.4 - 1752.6	0.245	23.89	4.5	28.39	30.00	1.61
1850.2 - 1909.8	0.946	29.76	3.24	33.00	33.00	0.00
1850.2 - 1909.8	0.394	25.95	3.24	29.19	33.00	3.81
1852.4 - 1907.6	0.270	24.31	3.24	27.55	33.00	5.45
699.0 - 716.0	0.235	23.71	4.5	26.06	34.77	8.71
699.0 - 716.0	0.184	22.65	4.5	25.00	34.77	9.77
777.0 - 787.0	0.225	23.52	4.5	25.87	34.77	8.90
777.0 - 787.0	0.179	22.54	4.5	24.89	34.77	9.88
788.0 - 798.0	0.174	22.41	4.5	24.76	34.77	10.01
788.0 - 798.0	0.142	21.52	4.5	23.87	34.77	10.90
814.0 - 824.0	0.207	23.16	4.5	25.51	50.00	24.49
814.0 - 824.0	0.162	22.10	4.5	24.45	50.00	25.55
821.5 - 821.5	0.206	23.14	4.5	25.49	38.50	13.01
821.5 - 821.5	0.182	22.61	4.5	24.96	38.50	13.54
824.0 - 849.0	0.193	22.86	4.5	25.21	38.50	13.29
824.0 - 849.0	0.168	22.25	4.5	24.60	38.50	13.90
897.5 - 900.5	0.231	23.63	4.5	25.98	34.77	8.79
897.5 - 900.5	0.181	22.58	4.5	24.93	34.77	9.84
1710.0 - 1755.0	0.230	23.62	4.5	28.12	30.00	1.88
1710.0 - 1755.0	0.183	22.63	4.5	27.13	30.00	2.87
1850.0 - 1915.0	0.245	23.89	3.24	27.13	33.00	5.87
1850.0 - 1915.0	0.193	22.85	3.24	26.09	33.00	6.91
2500.0 - 2570.0	0.365	25.62	4.5	30.12	33.00	2.88
2500.0 - 2570.0	0.291	24.64	4.5	29.14	33.00	3.86

Note, for bands below 1 GHz the ERP was calculated as output power + antenna in dBd, and for frequencies above 1 GHz the EIRP was calculated as output power + antenna in dBi. The maximum declared antenna gain for 1.8 GHz band is 3.24 dBi.

Section 5 Summary of test results

5.1 Testing location

Test location (s) Cambridge

5.2 Testing period

Test start date November 20, 2024 Test end date November 21, 2024

5.3 Sample information

Receipt date October 17, 2024 Nemko sample ID number(s) PRJ00631890002

5.4 FCC Part 2, 22, 24, 27 and 90 test requirements result

Table 5.4-1: FCC requirements result

Part	Test description	Verdict
§22.913	Effective radiated power limits	Pass
§24.232	Power and antenna height limits	Pass
§27.50	Power limits and duty cycle	Pass
§90.635	Limitations on power and antenna height	Pass
§22.917	Emission limitations for cellular equipment	Pass
§24.238	Emission limitations for Broadband PCS equipment	Pass
§27.53	Emission limits	Pass
§90.691	Emission mask requirements for EA-based systems	Pass
§2.1053	Measurements required: Field strength of spurious radiation	Pass

Notes: - ¹ Only limited assessment test were performed on unit as per test plan.
- ² EUT conducted output power is performed and is found to be within limits of original report. Only spurious emissions results are provided in report.

5.5 ISED RSS-130, RSS-132, RSS-133, RSS-139, RSS-140, RSS-199 and RSS-Gen test requirements results

Table 5.5-1: ISED requirements results

Clause	Test description	Verdict
RSS-130, 4.6	Transmitter output power and effective radiated power (e.r.p.)	Pass
RSS-132, 5.4	Transmitter output power and equivalent radiated power	Pass
RSS-133, 6.4	Transmitter Output Power and Equivalent Isotropically Radiated Power	Pass
RSS-139, 5.5	Transmitter output power	Pass
RSS-199, 5.5	Transmitter power	Pass
RSS-119, 5.8	Transmitter Unwanted Emissions	Pass
RSS-130, 4.7	Transmitter unwanted emissions	Pass
RSS-132, 5.5	Transmitter unwanted emissions	Pass
RSS-133, 6.5	Transmitter Unwanted Emissions	Pass
RSS-139, 5.6	Unwanted emission limits	Pass
RSS-199, 5.6	Unwanted emissions limits	Pass

Notes: - ¹ Only limited assessment test were performed on unit as per test plan
- ² EUT conducted output power is performed and is found to be within limits of original report. Only spurious emission test data is provided in report.

Section 6 Test equipment

6.1 Test equipment list

Table 6.1-1: Equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA003012	1 year	January 18, 2025
Flush mount turntable	SUNAR	FM2022	FA003006	—	NCR
Controller	SUNAR	SC110V	FA002976	—	NCR
Antenna mast	SUNAR	TLT2	FA003007	—	NCR
Receiver/spectrum analyzer	Rohde & Schwarz	ESR26	FA002969	1 year	May 17 2025
Bilog antenna (30–2000 MHz)	SUNAR	JB1	FA003010	1 year	March 27 2025
Horn antenna (1–18 GHz)	ETS Lindgren	3117	FA002911	1 year	May 16, 2025
Preamplifier (1–18 GHz)	ETS Lindgren	124334	FA002956	1 year	April 02 2025
Spectrum analyzer	Rohde & Schwarz	FSW43	FA002971	1 year	November 30, 2025
50 Ω coax cable	Huber + Suhner	None	FA003047	1 year	July 27, 2025
50 Ω coax cable	Huber + Suhner	None	FA003402	1 year	July 27, 2025

Notes: NCR - no calibration required

Table 6.1-2: Automation software details

Test description	Manufacturer of Software	Details
Software for Radio/EMC Measurements	Rohde & Schwarz	EMC32, Software for EMC Measurements, Version 10.60.00

Table 6.1-3: Measurement uncertainty calculations based on equipment list

Measurement	Measurement uncertainty, $\pm$ dB
Radiated spurious emissions (30 MHz to 1 GHz)	4.27
Radiated spurious emissions (1 GHz to 6 GHz)	4.74
Radiated spurious emissions (6 GHz to 18 GHz)	5.04
Radiated spurious emissions (18 GHz to 26 GHz)	4.47
Radiated spurious emissions (26 GHz to 40 GHz)	4.78
RF Output power measurement using Spectrum Analyzer	0.71

Notes: UKAS Lab 34, TIA-603 and ETSI TR 100 028-1&2 have been used as guidance for measurement uncertainty reasonable estimations with regards to previous experience and validation of data. Nemko Canada Inc. follows these test methods in order to satisfy ISO/IEC 17025 requirements for estimation of uncertainty of measurement for wireless products. Measurement uncertainty calculations assume a coverage factor of $K = 2$ with 95% certainty.

Section 7 Testing data

7.1 Spurious emissions

References, definitions and limits

FCC §22.917:

- (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

FCC §24.238:

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

- (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

FCC §27.53:

- (h) AWS emission limits
- (1) General protection levels. Except as otherwise specified below, for operations in the 1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 1915–1920 MHz, 1995–2000 MHz, 2000–2020 MHz, 2110–2155 MHz, 2155–2180 MHz, and 2180–2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.
- *(2) Additional protection levels. Notwithstanding the foregoing paragraph (h)(1) of this section:
 - (i) Operations in the 2180–2200 MHz band are subject to the out-of-band emission requirements set forth in §27.1134 for the protection of federal government operations operating in the 2200–2290 MHz band.

FCC §90.691:

- (a) (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

RSS-119, Clause 5.8.9.2:

On any frequency outside of the ranges specified in the ACP tables 13 to 16, the power of any emission shall be attenuated below the mean output power P (dBW) by at least $43 + 10 \log_{10}(p)$, measured in a 100 kHz bandwidth for frequencies less than or equal to 1 GHz, and in a 1 MHz bandwidth for frequencies greater than 1 GHz.

RSS-130, Clause 4.7.1:

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10}(p)$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

RSS-140, Clause 4.4

For any frequency between 775–788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log(p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758–768 MHz and 788–798 MHz, a resolution bandwidth of 30 kHz may be employed.

References, definitions and limits, continued

RSS-132, Clause 5.5:

Equipment shall meet the unwanted emission limits specified below:

- i. In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB.
- ii. After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-133, Clause 6.5.1:

Equipment shall comply with the limits in (i) and (ii) below.

- i. In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10}(p(\text{watts}))$.
- ii. After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10}(p(\text{watts}))$. If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS-139, Clause 5.6:

Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the below limits.

Offset from the edge of the frequency block or frequency block group	Unwanted emission limits
1 MHz	-13 dBm/ (1% of OBW)
>1 MHz	-13 dBm/MHz

RSS-199, Clause 5.6:

Unwanted emissions shall be measured in terms of average values when the transmitter is operating at the manufacturer's rated power and modulated as specified in RSS-Gen.

Equipment shall meet the unwanted emission limits, specified below, outside each frequency block group. For each channel bandwidth supported by the equipment under test, the unwanted emissions shall be measured and reported for two channel frequencies: one located as close as possible to the low end and one located as close as possible to the high end of the equipment's operating frequency range.

For the unwanted emission limits, in the 1 MHz band immediately outside and adjacent to the frequency block group, the power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for fixed stations, base stations, and fixed subscriber equipment, and 2% for subscriber equipment other than fixed subscriber equipment. Beyond this 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors), where applicable, of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in the tables below.

Table 4: Unwanted emission limits for fixed station, base station and fixed subscriber equipment	
Offset from the edge of the frequency block or frequency block group (MHz)	Unwanted emission limits
≤ 1	-13 dBm/(1% of OBW)
> 1	-13 dBm/MHz

**Section 7****Test name****Specification***Testing data**spurious emissions**FCC Part 22,24,27,90 and ISSED RSS-140,130,132,133,139,199*

Test summary

Verdict	Pass		
Test date	November 20, 2024	Temperature	21 °C
Tested by	Fahar Abdul Sukkoor	Air pressure	974 mbar
Test location	Cambridge	Relative humidity	33 %

Observations, settings and special notes

- The spectrum was searched from 30 MHz to the 10th harmonic.
- All measurements were performed using an average (RMS) detector per ANSI C63.26 Paragraph 5.7.3 method.
- Spurious emissions tests were performed in radiated mode.
- All harmonic emissions are well 20 db below limit line.

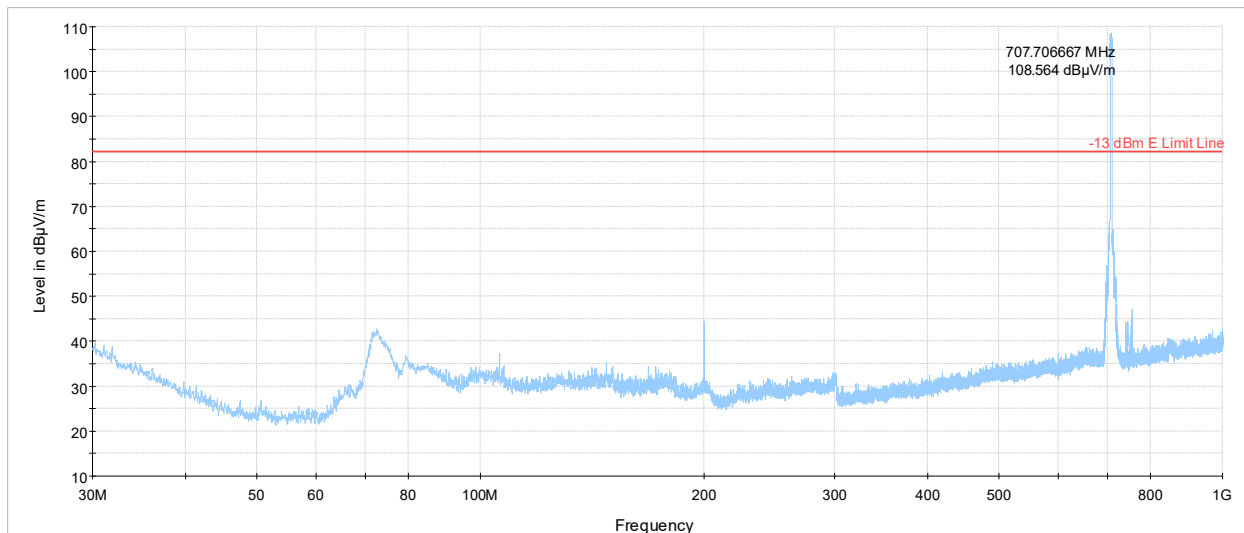
Spectrum analyser settings for out of band emissions:

Resolution bandwidth:	1 MHz (Signals greater than 1 GHz) 100 kHz (Signals below 1 GHz)
Video bandwidth:	> RBW
Detector mode:	RMS
Trace mode:	Averaging

Spectrum analyser settings for spurious emissions in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block:

Resolution bandwidth:	At least 1% of EBW
Video bandwidth:	> RBW
Detector mode:	RMS
Trace mode:	Averaging

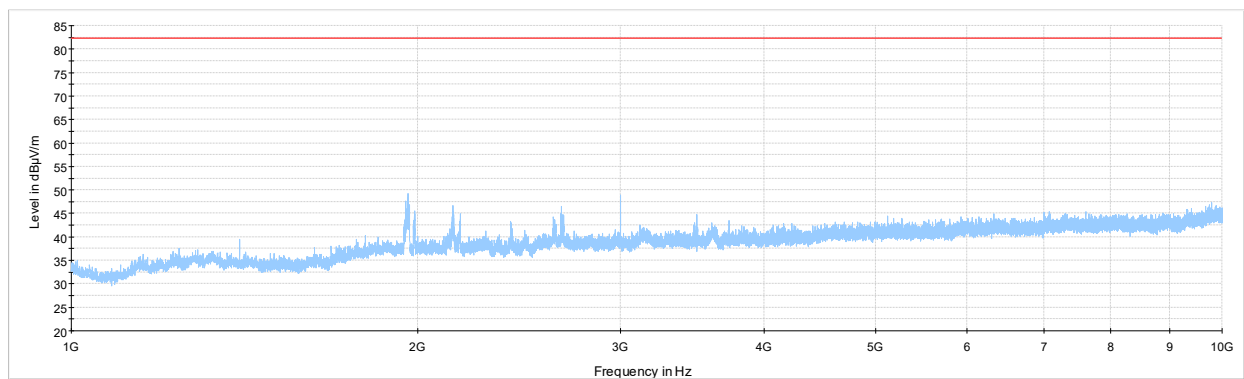
Test data



PRJ0063189 Radiated spurious 30 MHz-1 GHz B12

— Preview Result 1-PK+
— -13 dBm E Limit Line
◆ Final_Result QPK
◆ Final_Result PK+

Figure 7.2 98: Radiated spurious emissions below 1GHz, B12 channel 23095 at 707.5 MHz

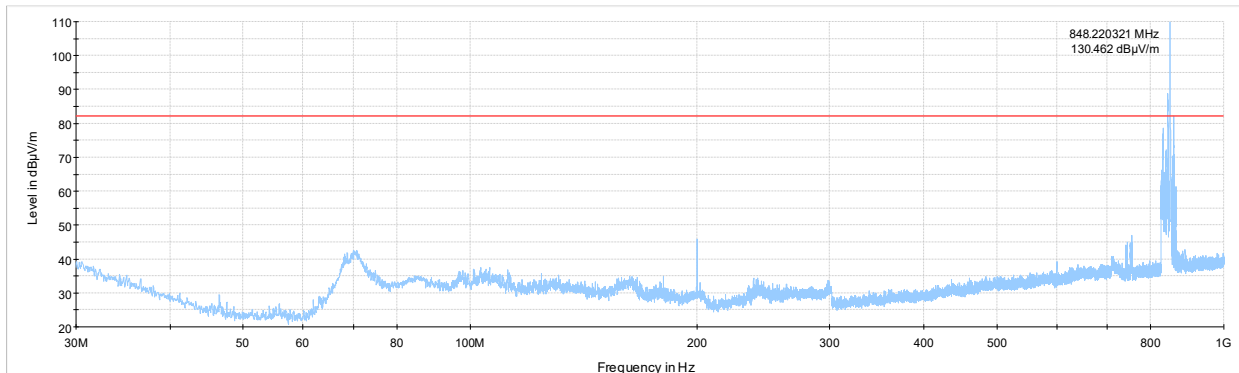


PRJ0063189 Radiated spurious 1 -10 GHz B12

— Preview Result 1-PK+
— -13 dBm E Limit Line
◆ Final_Result PK+
◆ Final_Result CAV

Figure 7.2 99: Radiated spurious emissions 1 – 10 GHz B12 channel 23095 at 707.5 MHz

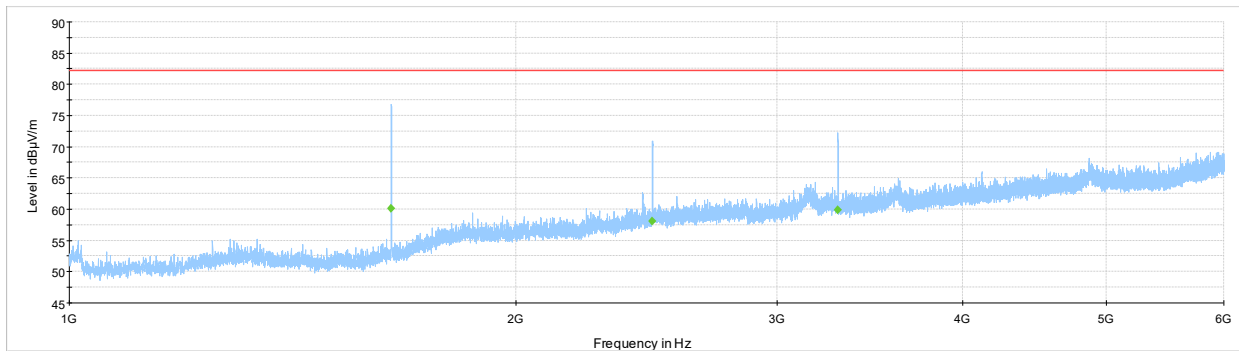
Test data, Radiated Spurious Emissions, continued



PRJ0063189 Radiated spurious 30 MHz - 1 GHz B26 CH251

— Preview Result 1-PK+
 — -13 dBm E Limit Line
 ◆ Final_Result QPK
 ◆ Final_Result PK+

Figure 7.1-100: Radiated spurious emissions below 1GHz, B05 GPRS channel 251 at 848.4 MHz



PRJ0063189 Radiated spurious 1 - 6 GHz B26 GPRS

— Preview Result 1-PK+
 — -13 dBm E Limit Line
 ◆ Final_Result RMS Max

Figure 7.2 101: Radiated spurious emissions 1 – 6 GHz, B05 GPRS channel 251 at 848.4 MHz

Test data, Radiated Spurious Emissions, continued

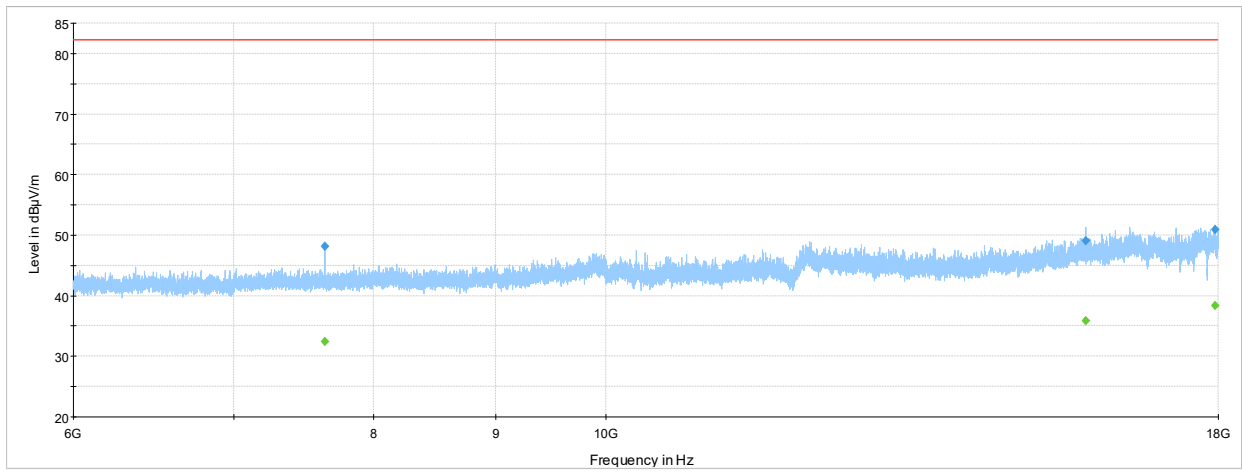


Figure 7.2 102: Radiated spurious emissions 6 – 18 GHz, B05 GPRS channel 251 at 848.4 MHz

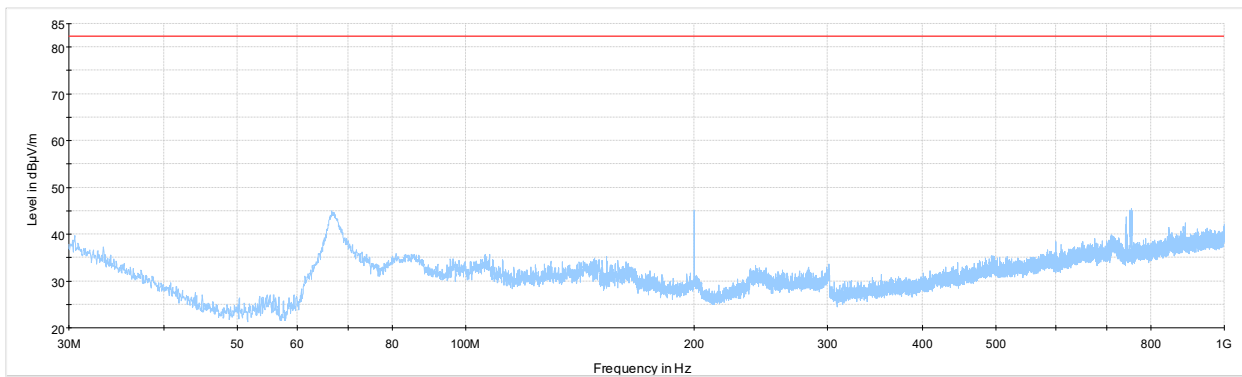
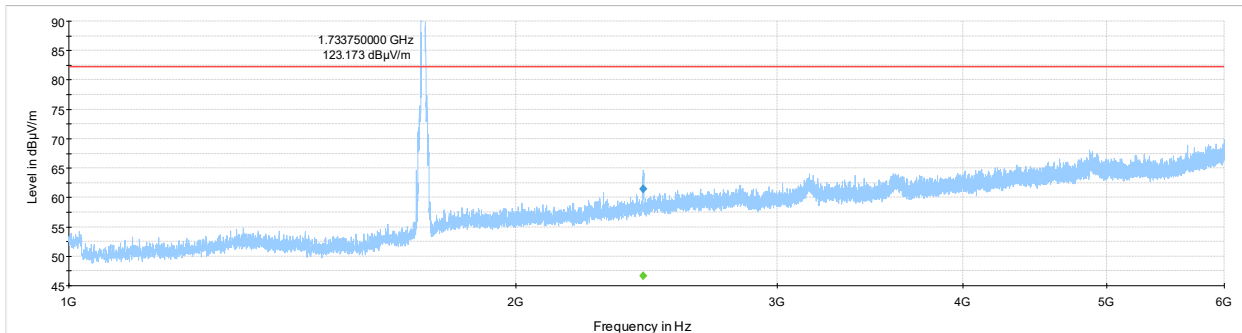


Figure 7.1-100: Radiated spurious emissions below 1GHz, LTE Band 4 channel 20175 at 1732.5 MHz

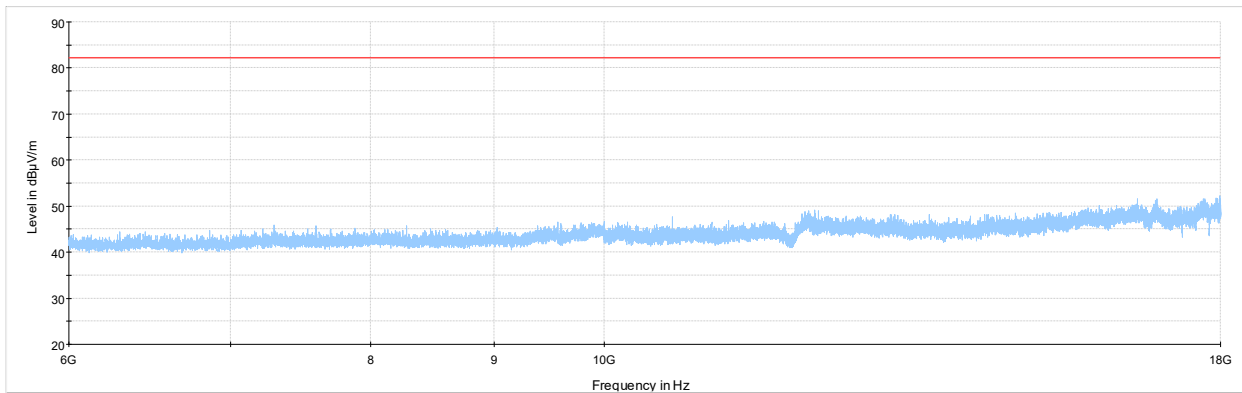
Test data, Radiated Spurious Emissions, continued



PRJ0063189 Radiated spurious 1 - 6 GHz B4 LTE

— Preview Result 1-PK+
 — -13 dBm E Limit Line
 ◆ Final_Result RMS Average
 ◆ Final_Result PK+

Figure 7.2 101: Radiated spurious emissions 1 – 6 GHz, LTE Band 4 channel 20175 at 1732.5 MHz

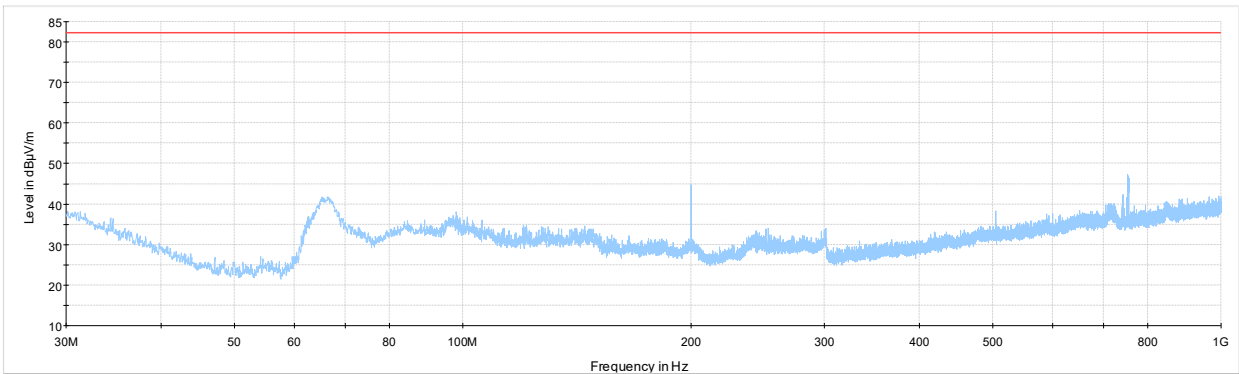


PRJ0063189 Radiated spurious 6 - 18 GHz B4 LTE

— Preview Result 1-PK+
 — -13 dBm E Limit Line
 ◆ Final_Result RMS Average
 ◆ Final_Result PK+

Figure 7.2 101: Radiated spurious emissions 6 – 18 GHz, LTE Band 4 channel 20175 at 1732.5 MHz

Test data, Radiated Spurious Emissions, continued



PRJ0063189 Radiated spurious 30 MHz - 1 GHz B25 GSM

Preview Result 1-PK+
 -13 dBm E Limit Line
 Final_Result QPK
 Final_Result PK+

Figure 7.1-100: Radiated spurious emissions below 1GHz, B25 GSM channel 809 at 1909.6 MHz

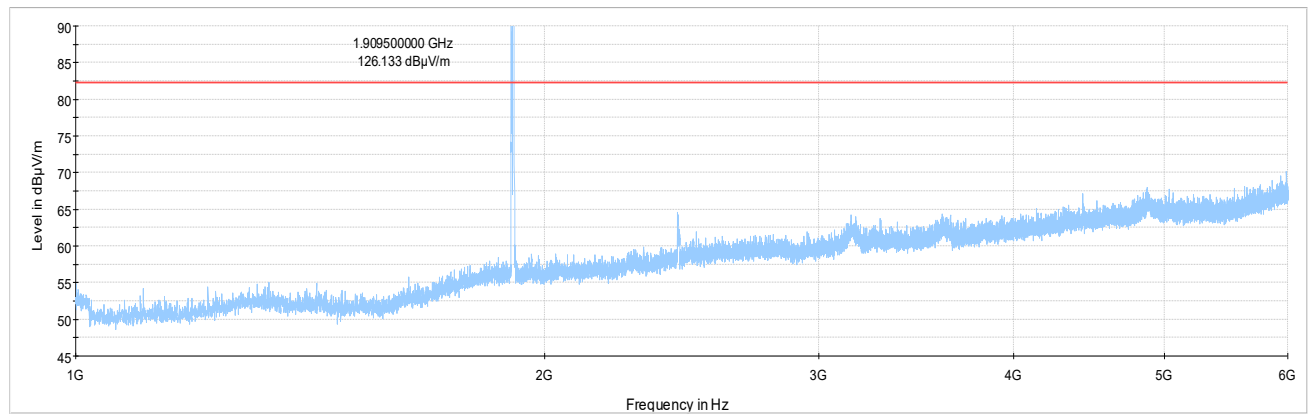


Figure 7.2 101: Radiated spurious emissions 1 – 6 GHz, B25 GSM channel 809 at 1909.6 MHz

Test data, Radiated Spurious Emissions, continued

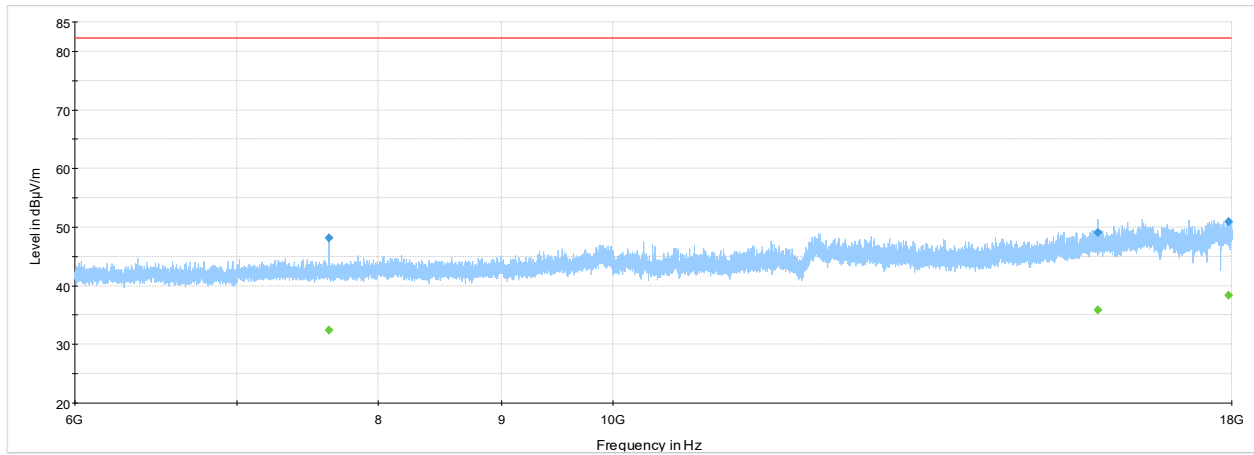


Figure 7.2 102: Radiated spurious emissions 6 – 18 GHz, B25 GSM channel 809 at 1909.6 MHz

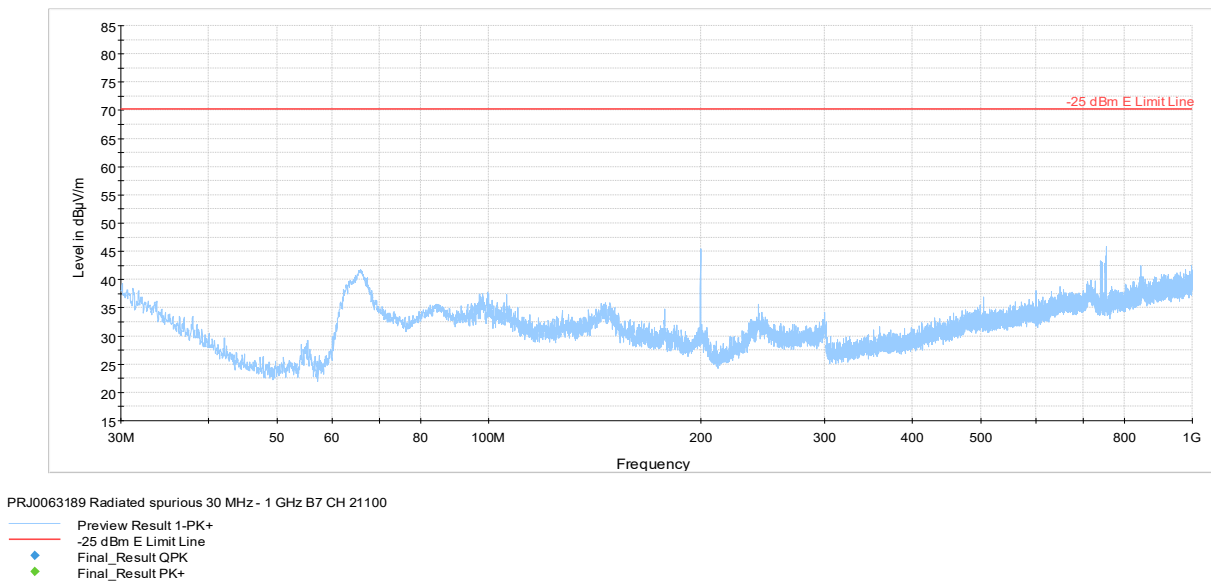
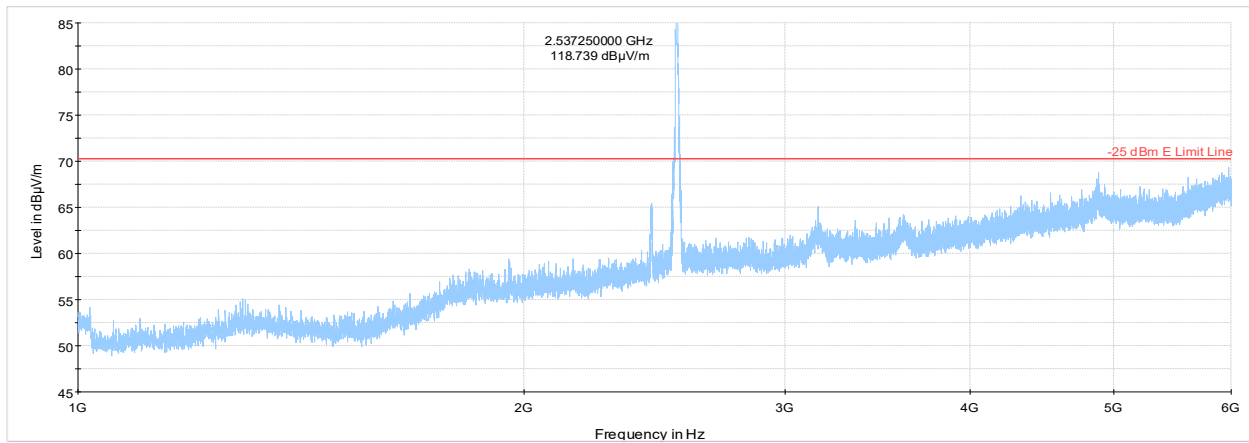


Figure 7.1-100: Radiated spurious emissions below 1GHz, LTE band 7 channel 21100 at 2535 MHz

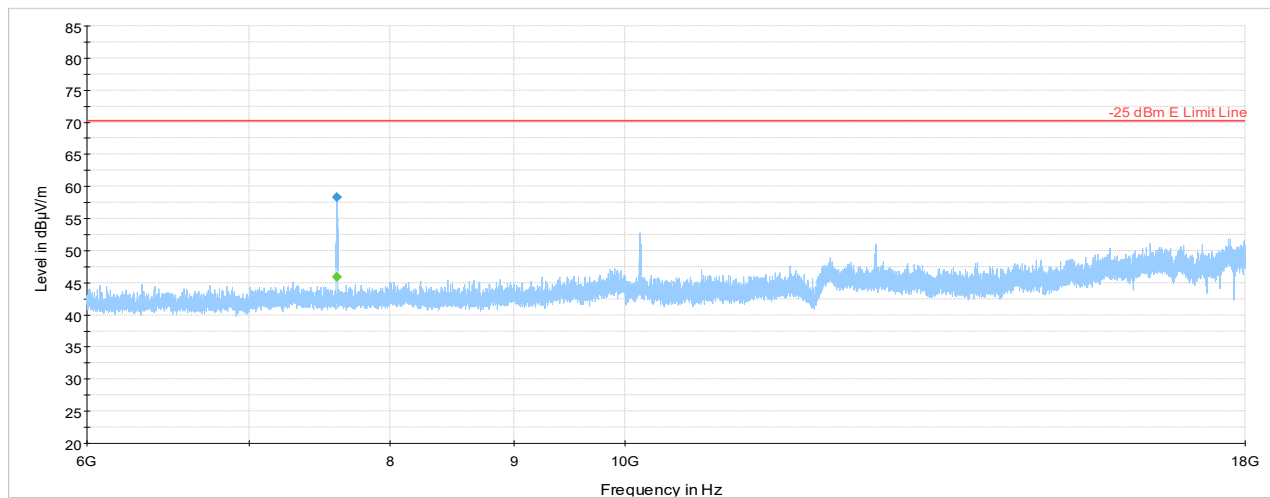
Test data, Radiated Cabinet Spurious Emissions, continued



PRJ0063189 Radiated spurious 1 - 6 GHz B7 LTE

Preview Result 1-PK+
-25 dBm E Limit Line
Final_Result RMS Average

Figure 7.2 101: Radiated spurious emissions 1 – 6 GHz, LTE band 7 channel 21100 at 2535 MHz



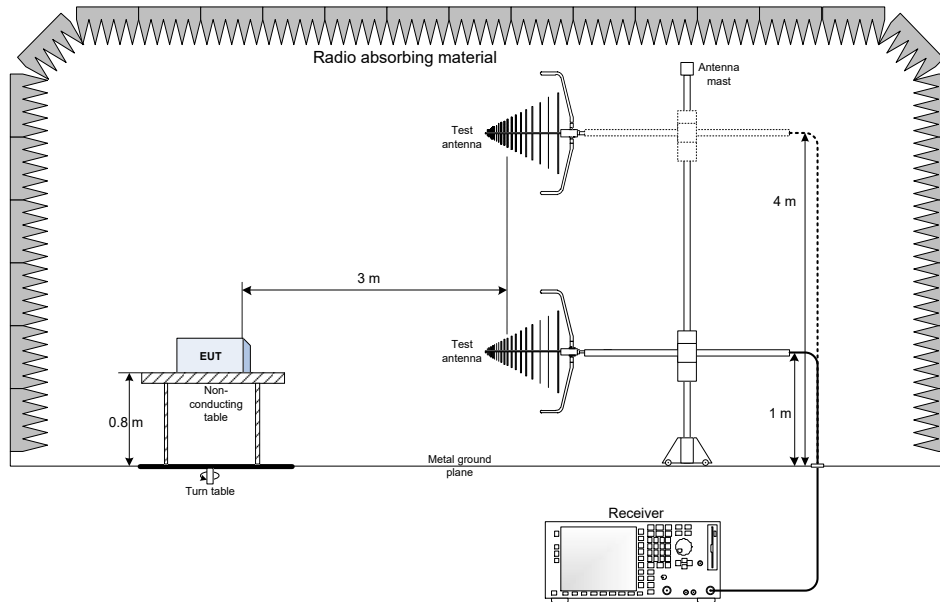
PRJ0063189 Radiated spurious 6 - 18 GHz B7 LTE

Preview Result 1-PK+
-25 dBm E Limit Line
Final_Result PK+
Final_Result RMSAverage

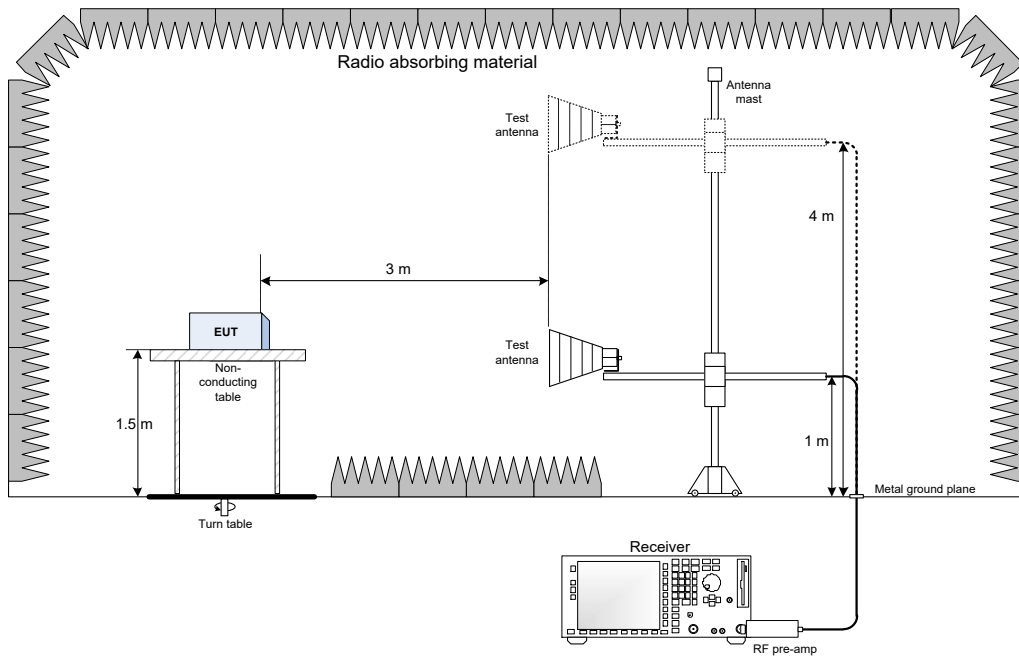
Figure 7.2 102: Radiated spurious emissions 6 – 18 GHz, LTE band 7 channel 21100 at 2535 MHz

Section 8 Test setup diagrams

8.1 Radiated emissions set-up for frequencies below 1 GHz



8.2 Radiated emissions set-up for frequencies above 1 GHz



End of the test report