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Report Reference ID	159427-1TRFWL

Test specification	Title 47 - Telecommunication Chapter I - Federal Communications Commission Subchapter A - General Part 15 - Radio Frequency Devices Subpart C - Intentional Radiators **§15.247** - Operation within the bands 902–928 MHz, 2400–2483.5 MHz and 5725–5850 MHz

Applicant	SMART Technologies ULC. 3636 Research Road NW Calgary, AB, Canada T2L 1Y1
Apparatus	Bluetooth Adapter
Model	20-01423-20
FCC ID	QCIWC8A

Testing laboratory	Nemko Canada Inc. 303 River Road Ottawa, ON, Canada K1V 1H2 Telephone: (613) 737-9680 Facsimile: (613) 737-9691

	Name and title	Date
Tested by	David Duchesne, Wireless/EMC Specialist	February 25, 2011
Reviewed by	 Sim Jagpal, General Manager	February 25, 2011

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Section 1: Report summary

1.1 Test specification

FCC Part 15 Subpart C, 15.247

Operation within the bands 902–928 MHz, 2400–2483.5 MHz and 5725–5850 MHz.

1.2 Statement of compliance

In the configuration tested the EUT was found compliant

This report contains an assessment of apparatus against specifications based upon tests carried out on samples submitted at Nemko Canada Inc. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15; Subpart C. Radiated tests were conducted in accordance with ANSI C63.4-2003.

1.3 Exclusions

None

1.4 Registration number

Test site FCC ID number: 176392 (3 m Semi anechoic chamber)

1.5 Test report revision history

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

1.6 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.

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Section 2: Summary of test results

2.1 FCC Part 15 Subpart C – Intentional Radiators, test results

General requirements for FCC Part 15

Part	Test description	Verdict
§15.31(e)	Variation of power source	See Notes 1
§15.31(m)	Number of operating frequencies	See Notes 2
§15.203	Antenna requirement	See Notes 2
§15.207(a)	Conducted limits	Pass

Specific requirements for FCC Part 15 Subpart C, 15.247

Part	Test description	Verdict
§15.247(a)(1)(i)	Frequency hopping systems operating in the 902–928 MHz band	N/A
§15.247(a)(1)(ii)	Frequency hopping systems operating in the 5725–5850 MHz band	N/A
§15.247(a)(1)(iii)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Pass
§15.247(a)(2)	Minimum 6 dB bandwidth for systems using digital modulation techniques	N/A
§15.247(b)(1)	Maximum peak output power of frequency hopping systems operating in the 2400–2483.5 MHz band and 5725–5850 MHz band	Pass
§15.247(b)(2)	Maximum peak output power of Frequency hopping systems operating in the 902–928 MHz band	N/A
§15.247(b)(3)	Maximum peak output power of systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands	N/A
§15.247(b)(4)	Maximum peak output power	N/A
§15.247(c)(1)	Fixed point-to-point operation with directional antenna gains greater than 6 dBi	N/A
§15.247(c)(2)	Transmitters operating in the 2400–2483.5 MHz band that emit multiple directional beams	N/A
§15.247(d)	Spurious emissions	Pass
§15.247(e)	Power spectral density for digitally modulated devices	N/A
§15.247(f)	Time of occupancy for hybrid systems	N/A

Notes:

1. Transmit output power was measured while supply voltage was varied from 102 to 138 VAC (85 to 115 % of the nominal rated supply voltage). No change in transmit output power was observed.
2. The frequency range over which the device operates is greater than 10 MHz. Tests were performed on three operating channels. (low, mid and high)
3. The antenna used for this product is Internal Patch antenna that no antenna other than that furnished by the responsible party shall be used with the device, The maximum peak gain of this antenna is 2dBi.

Section 3: Equipment under test (EUT) and application details

3.1 Product details

Product name	Bluetooth Adapter
Model	20-01423-20
Serial number	Pre-production unit

3.2 Sample information

Receipt date	November 5, 2010
Nemko sample ID number	Item # 13

3.3 EUT technical specifications

Operating band	2400 – 2483.5 MHz
Operating frequency	2402 – 2480 MHz
Modulation type	Bluetooth (GFSK, PI/4 DQPSK, and 8DPSK)
Number of channels	79
Channel spacing	1 MHz
Antenna type	Integral (2 dBi)
Power source	120/60Hz VAC

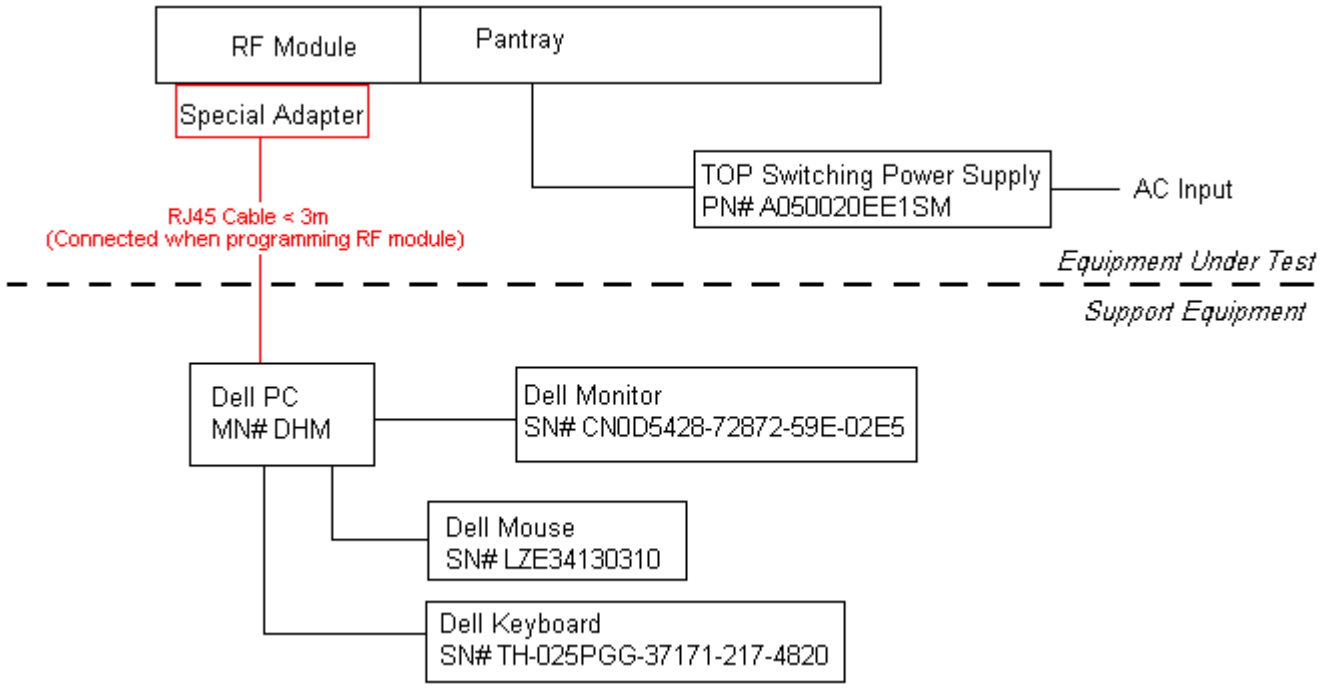
3.4 EUT description

The WC8 Bluetooth accessory provides wireless connectivity between the PC and the SMART Board, eliminating the need for a USB, Cat 5, or RS232 cable.

3.5 Operation of the EUT during testing

The EUT was controlled to transmit or receive at desired frequency from remote PC

3.6 EUT setup diagram



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

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory test procedures.

Section 5: Test conditions

5.1 Power source and ambient temperatures

Normal temperature, humidity and air pressure test 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.

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

Nemko Canada measurement uncertainty has been calculated using guidance of UKAS LAB 34:2003 and TIA-603-B Nov 7, 2002. All calculations have been performed to provide a confidence level of 95 % and can be found in Nemko Canada document MU-003.

Section 7: Test equipment

7.1 Test equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	Mar. 09/11
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 26	FA002043	1 year	Jan. 14/11
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 40	FA002071	1 year	Nov. 30/10
Bilog antenna	Sunol	JB3	FA002108	1 year	Jan. 18/11
Horn antenna #2	Emco	3115	FA000825	1 year	Jan. 18/11
Horn antenna #1	Emco	3115	FA000649	1 year	Feb 09/11
Horn 18–26.5 GHz	Electro-metrics	SH-50/60-1	FA000479	—	COU
1–18 GHz amplifier	JCA	JCA118-503	FA002091	1 year	Sept. 23/11
18–26 GHz amplifier	Narda	BBS-1826N612	FA001550	—	COU
50 coax cable	Huber + Suhner	NONE	FA002013	1 year	Sept. 01/11
50 coax cable	Huber + Suhner	NONE	FA002074	1 year	July 13/11
LISN	Tegam	95300-50	FA000986	1 year	Jan. 22/11
LISN	Tegam	95300-50	FA000987	1 year	Jan. 22/11
Temperature chamber	Thermotron	SM-16C	FA001030	1 year	NCR
Multimeter	Fluke	16	FA001831	1 year	Jan. 12/11
Air probe	Fluke	NONE	FA001561	—	NCR

Note: N/A = not applicable, NCR = no cal required, COU = cal on use, OUT = out for cal/repair

Section 8: Testing data

8.1 Clause 15.207(a) Conducted limits

§ 15.207 Conducted limits.

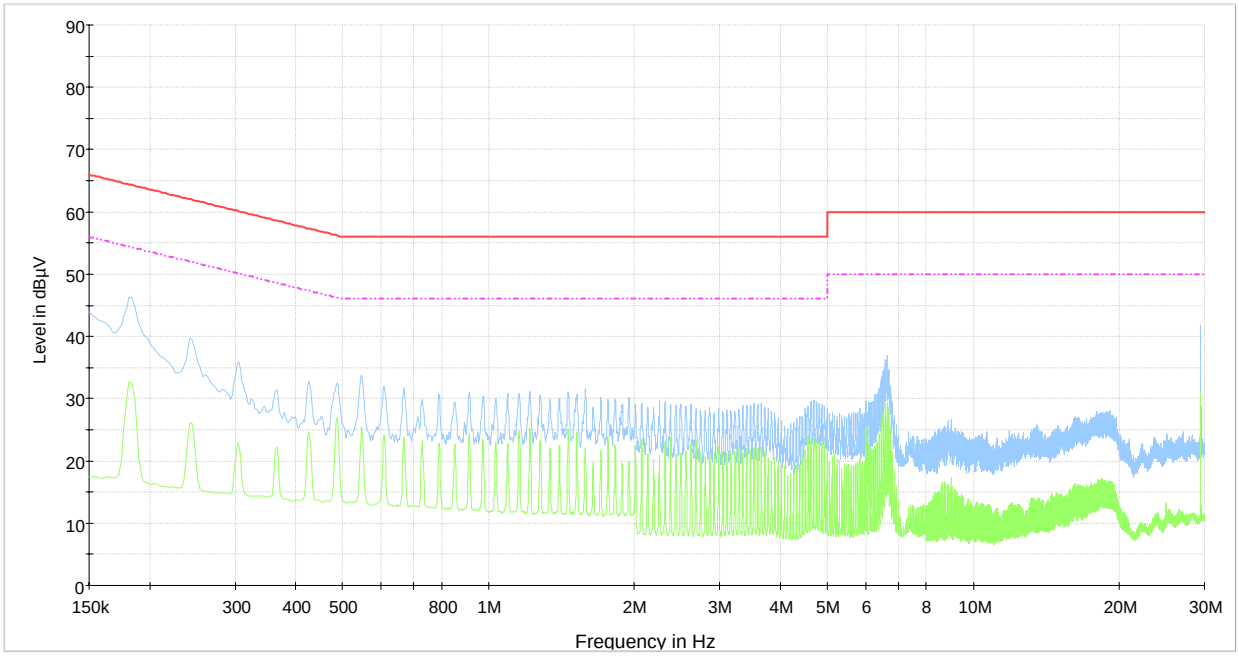
(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms 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.

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
*-Decreases with the logarithm of the frequency.		

Special notes

None

Test data



120VAC/60Hz, Phase (Modified power supply)

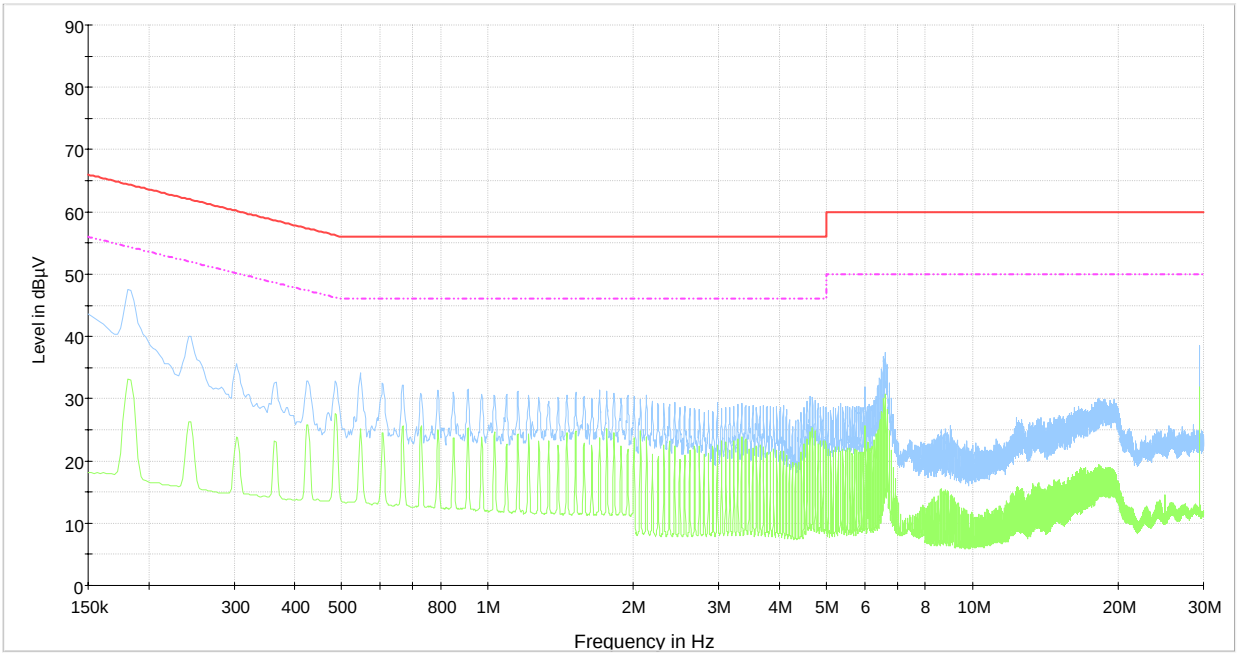
- CISPR 22 Mains QP Class B Limit
- CISPR 22 Mains AV Class B Limit
- Preview Peak Detector
- Preview Average Detector

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.

Receiver/Spectrum analyzer settings:	
Preview measurements	**Final measurement**
Receiver: 9 kHz RBW, Peak and Average detector, max hold	Receiver: 9 kHz RBW, Quasi-peak and Average detector
Measurement time 100 ms	

Test data, continued



120VAC/60Hz, Neutral (Modified supply)

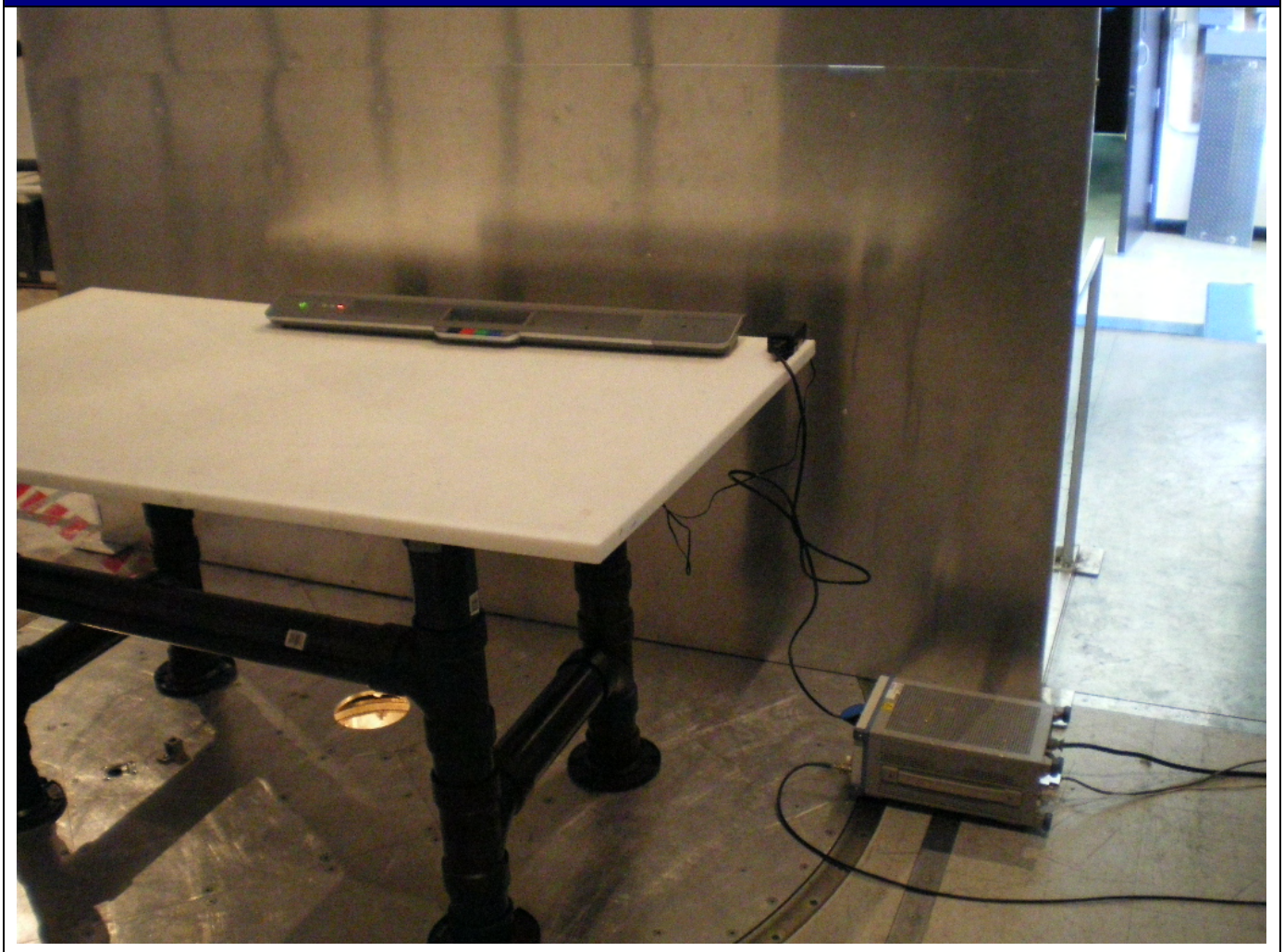
- CISPR 22 Mains QP Class B Limit
- CISPR 22 Mains AV Class B Limit
- Preview Peak Detector
- Preview Average Detector

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.

Receiver/Spectrum analyzer settings:	
Preview measurements	**Final measurement**
Receiver: 9 kHz RBW, Peak and Average detector, max hold	Receiver: 9 kHz RBW, Quasi-peak and Average detector
Measurement time 100 ms	

Setup photos



8.2 Clause 15.247(a)(1) (iii) Frequency hopping requirements

§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

(iii) Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Special notes

- Tests performed with modulation enabled.
- RF power level is not user adjustable, all measurements were made with the highest power level available to the user for that combination.
- Client provided a temporary antenna connector.

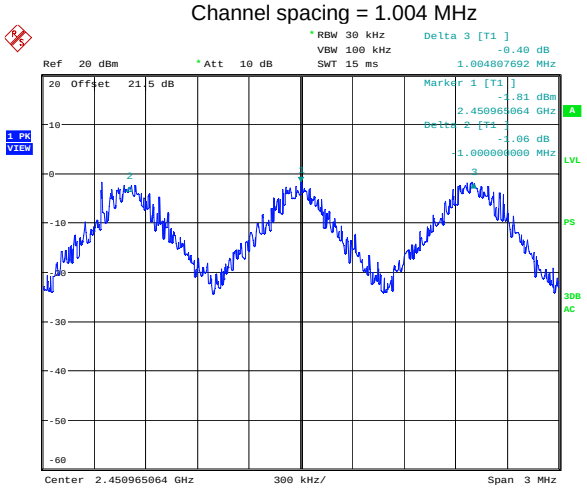
Test data

Carrier frequency separation

Measured result

Sample plots

Channel spacing = 1.004 MHz



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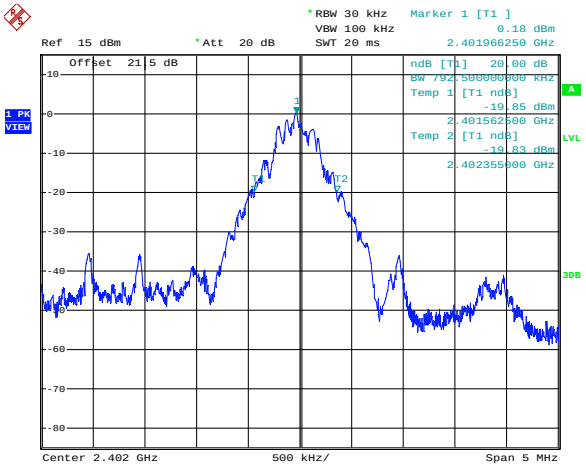
20 dB bandwidth



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Note: Plot provided to show measurement settings and technique only; the plots do not necessary reflect actual measurement.

Channel spacing = 1.004 MHz

Low Channel: 20 dB Bandwidth = 0.792 MHz
Mid Channel: 20 dB Bandwidth = 0.790 MHz
High Channel: 20 dB Bandwidth = 0.783 MHz

Measurement details

Carrier Frequency Separation

- The EUT's hopping function was enabled.
- Spectrum analyzer settings:
  - Span = wide enough to capture the peaks of two adjacent channels
  - Resolution Bandwidth (RBW) ≥ 1% of the span
  - Video (or Average) Bandwidth (VBW) ≥ RBW
  - Sweep = auto
  - Detector function = peak
  - Trace = max hold

20 dB Bandwidth

Spectrum analyzer settings:

- Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
- RBW ≥ 1% of the 20 dB bandwidth
- VBW ≥ RBW
- Sweep = auto
- Detector function = peak
- Trace = max hold

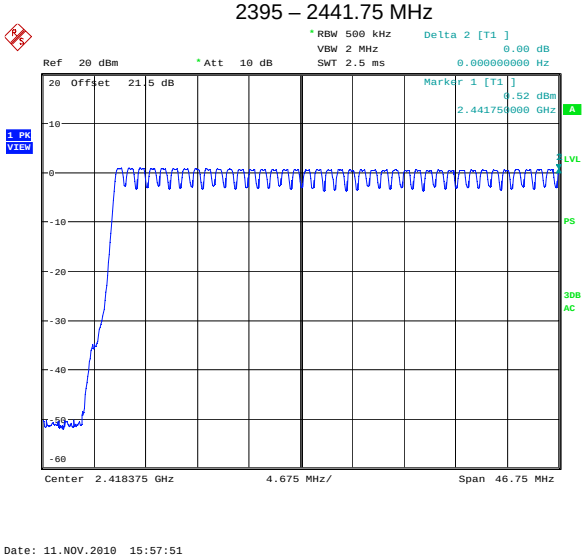
Test data

Number of hopping frequencies

Measured result

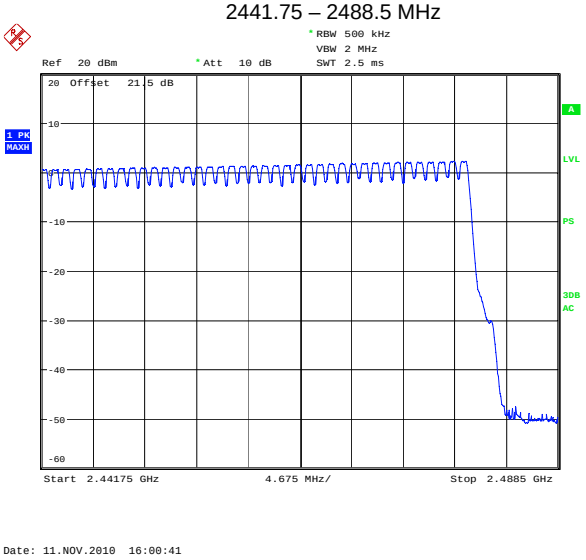
Spectral plots

2395 – 2441.75 MHz



40 channels

2441.75 – 2488.5 MHz



39 channels

EUT utilizes 79 (40 +39) hopping channels (limit is 15)

Measurement details

- The EUT's hopping function enabled.
- Spectrum analyzer settings:
  - Span = the frequency band of operation
  - RBW = 500 kHz
  - VBW ≥ RBW
  - Sweep = auto
  - Detector function = peak
  - Trace = max hold

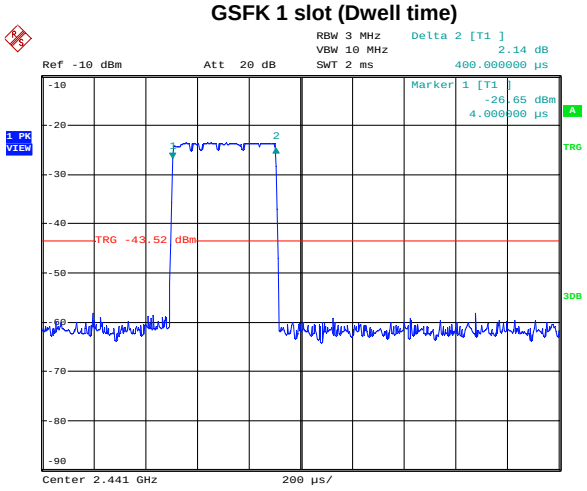
Test data, continued

Average time of occupancy

Measured result

Spectral plots

GSFK 1 slot (Dwell time)



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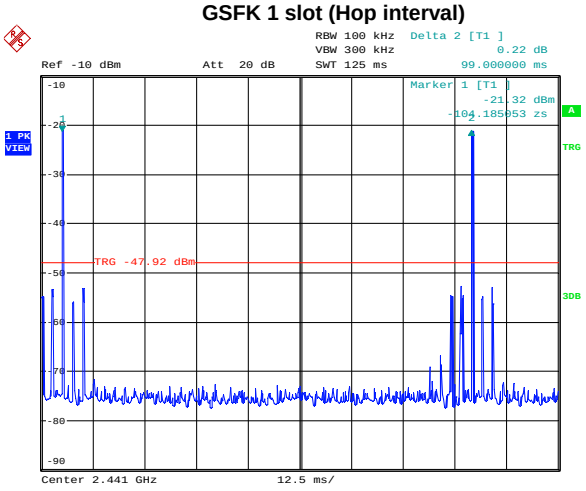
GSFK 1 slot (Hop interval)



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- Dwell time = 0.4 ms
- Hop interval = 99 ms
- Period = 0.4 (seconds/channel) x 79 (channel) = 31.6 s

Average time of occupancy = (Period / hop interval) * Dwell time
Average time of occupancy = (31.6 s/0.099 s) * 0.0004 s
Average time of occupancy = 127.67 ms

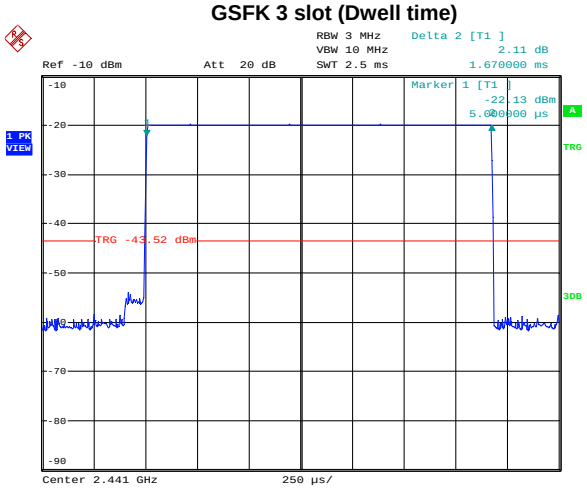
Test data, continued

Average time of occupancy, continued

Measured result, continued

Spectral plots

GSFK 3 slot (Dwell time)



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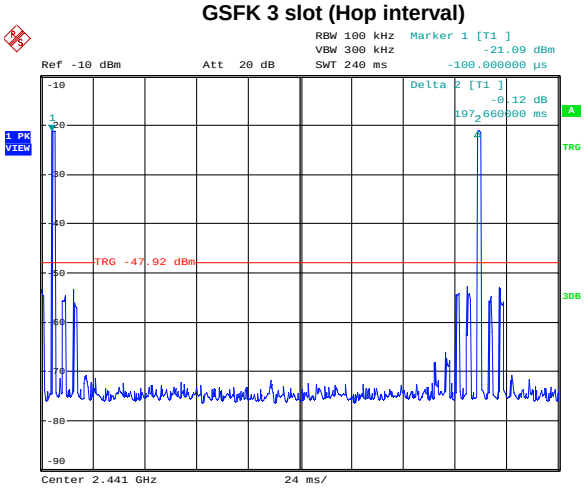
GSFK 3 slot (Hop interval)



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- Dwell time = 1.67 ms
- Hop interval = 197.66 ms
- Period = 0.4 (seconds/channel) x 79 (channel) = 31.6 s

Average time of occupancy = (Period / hop interval) * Dwell time
Average time of occupancy = (31.6 s/0.19766 s) * 0.00167 s
Average time of occupancy = 267 ms

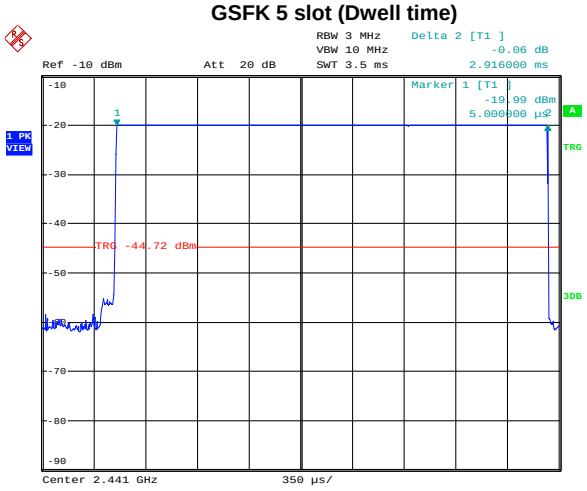
Test data, continued

Average time of occupancy, continued

Measured result, continued

Spectral plots

GSFK 5 slot (Dwell time)



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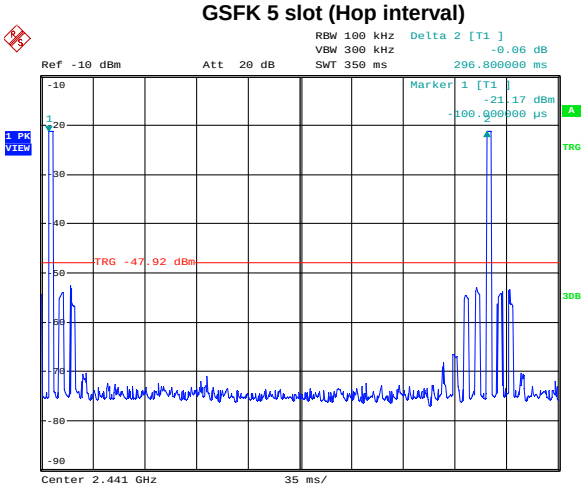
GSFK 5 slot (Hop interval)



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- Pulse width = 2.916 ms
- Hopping rate = 296.8 ms
- Period = 0.4 (seconds/channel) x 79 (channel) = 31.6 s

Average time of occupancy = (Period / hop interval) * Dwell time
Average time of occupancy = (31.6 s/0.2968 s) * 0.002916 s
Average time of occupancy = 310.5 ms

Measurement details

- The EUT's hopping function enabled.
- Spectrum analyzer settings:
  - Span = zero span, centered on a hopping channel
  - RBW = 1 MHz, VBW ≥ RBW
  - Sweep = as necessary to capture the entire dwell time per hopping channel
  - Detector function = peak
  - Trace = max hold

8.3 Clause 15.247(b) (1) Maximum peak conducted output power

§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following:

(1) For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

Special notes

- Tests performed with modulation enabled.
- RF power level is not user adjustable, all measurements were made with the highest power level available to the user for that combination.
- Client provided a temporary antenna connector.

Test data

Measured results

Conducted output power

Frequency (MHz)	Modulation	Conducted output power (dBm)	Limit (dBm)	Margin (dB)
2402	GFSK (1 - slot)	0.71	30	29.29
2441	GFSK (1 - slot)	0.83	30	29.17
2480	GFSK (1 - slot)	1.99	30	28.01

EIRP calculation

Frequency (MHz)	Modulation	Conducted output power (dBm)	Antenna factor (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
2402	GFSK (1 - slot)	0.71	2	2.71	36	33.29
2441	GFSK (1 - slot)	0.83	2	2.83	36	33.17
2480	GFSK (1 - slot)	1.99	2	3.99	36	32.01

EIRP = Conducted output power [dBm] + antenna gain [dBi]
Antenna gain = 2 dBi

Maximum output power = 1.99 dBm Limit = 30 dBm
Maximum EIRP = 3.99 dBm Limit = 36 dBm

All test modulation and data rates were verified. Only the worst-case results have been recorded.

Measurement details

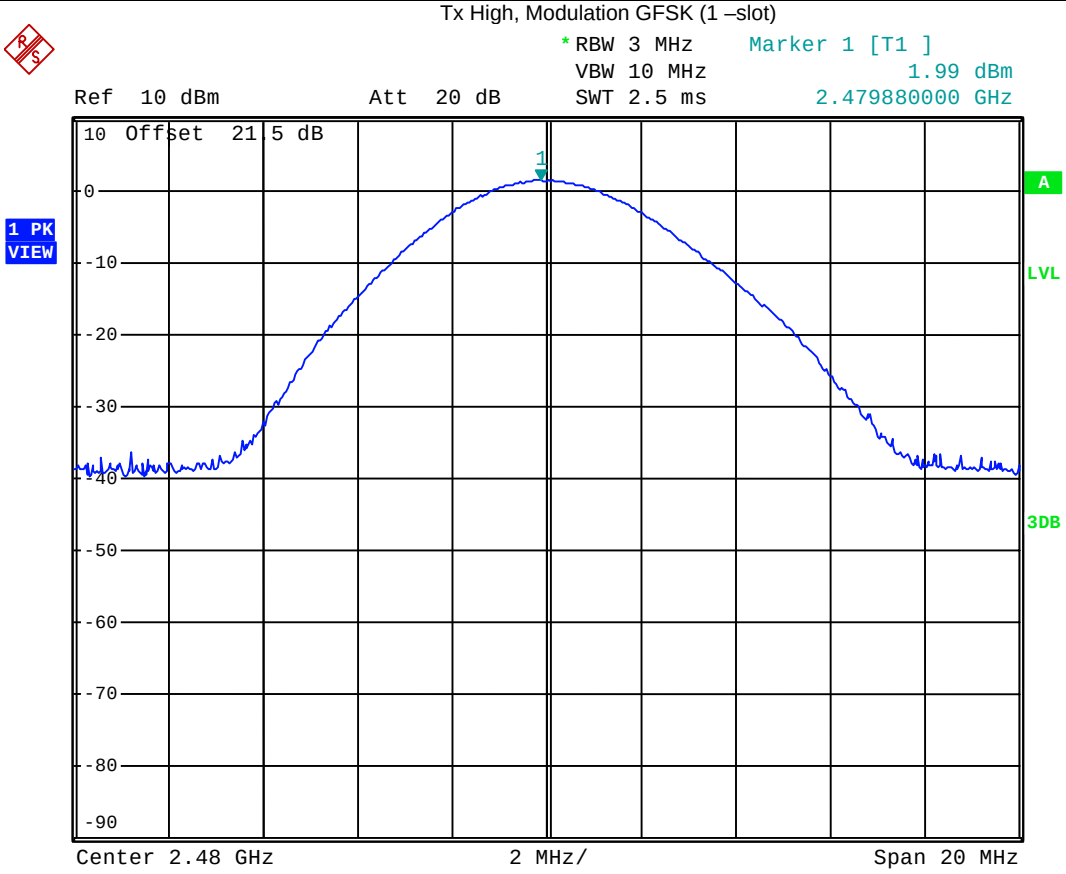
Spectrum analyzer setting:

- Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
- RBW > the 20 dB bandwidth of the emission being measured (Measured 20 dB bandwidth was 0.792 MHz)
- VBW ≥ RBW
- Sweep = auto
- Detector function = peak
- Trace = max hold

Test data

Sample plots

Tx High, Modulation GFSK (1 –slot)



8.4 Clause 15.247(d) Spurious emissions

§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Special notes

- RF power level is not user adjustable, all measurements were made with the highest power level available to the user for that combination.
- Tests performed with modulation enabled.

RF conducted measurements

- The spectrum was searched from 30 MHz to 10th harmonic for low, mid and high carrier frequencies.
- Client provided a temporary antenna connector.

RF Radiated measurements

- The spectrum was searched from 30 MHz to 10th harmonic for low, mid and high carrier frequencies.

Special notes, continued

§15.209 – Radiated emission limits

Frequency (MHz)	Field strength		Measurement distance (m)
	(µV/m)	(dBµV/m)	
0.009–0.490	2400/F	67.6−20log(F)	300
0.490–1.705	24000/F	87.6−20log(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:
- F = fundamental frequency in kHz
- 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.

§15.205 – Restricted bands of operation.

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			

Test data

Spurious RF conducted emissions

Measured results

Sweep 30 MHz to 25 GHz					
Frequency (MHz)	Frequency Hopping	Modulation	Below Tx Fundamental (dB)	Limit (dB)	Margin (dB)
–	On	GFSK (1-slot)	33.05	20	13.05
2402	Off		32.02	20	12.02
2441	Off		33.64	20	13.64
2480	Off		34.6	20	14.6
Band edge – low side					
Frequency (MHz)	Frequency Hopping	Modulation	Below Tx Fundamental (dB)	Limit (dB)	Margin (dB)
–	On	GFSK (1-slot)	36.85	20	16.85
2402	Off		35.8	20	15.8
Band edge – high side					
Frequency (MHz)	Frequency Hopping	Modulation	Below Tx Fundamental (dB)	Limit (dB)	Margin (dB)
–	On	GFSK (1-slot)	51.3	20	31.3
2480	Off		46.58	20	26.58

All test modulation and data rates were verified. Only the worst-case results have been recorded.

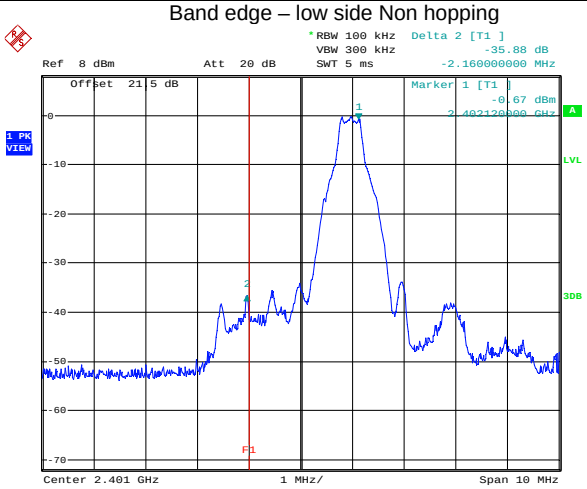
Measurement details

Spectrum analyzer setting:
- RBW = 100 kHz
- VBW ≥ RBW
- Sweep = auto
- Detector function = peak
- Trace = max hold

Test data, continued

Spurious RF conducted emissions – sample plots

Band edge – low side Non hopping



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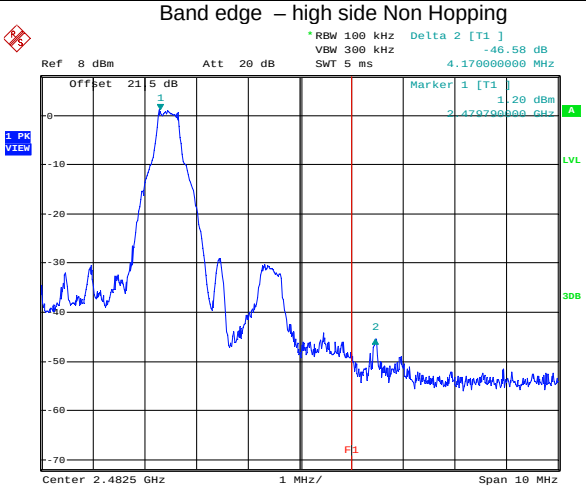
Band edge – high side Non Hopping



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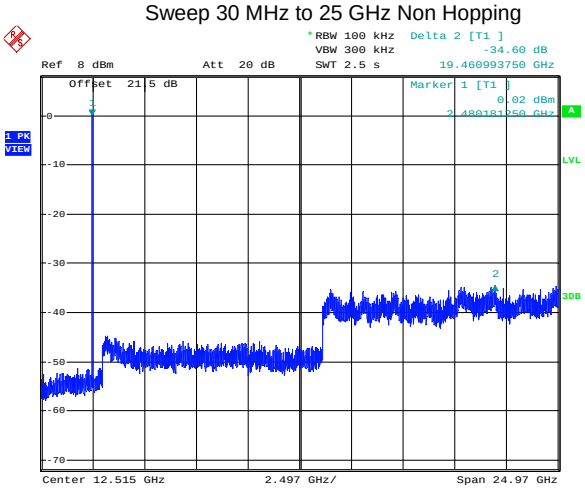
Sweep 30 MHz to 25 GHz Non Hopping



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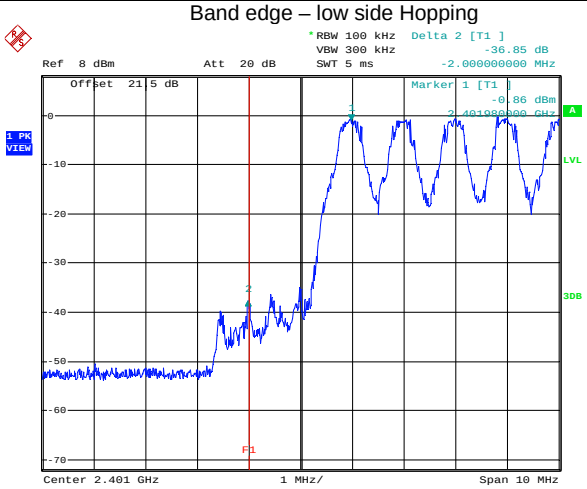
Test data, continued

Spurious RF conducted emissions – Sample plots

Band edge – low side Hopping



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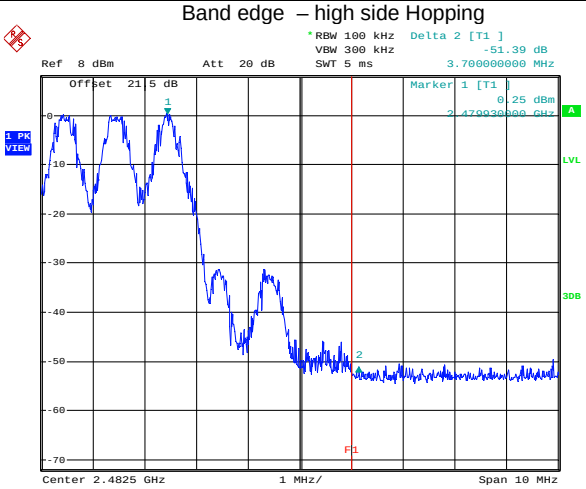
Band edge – high side Hopping



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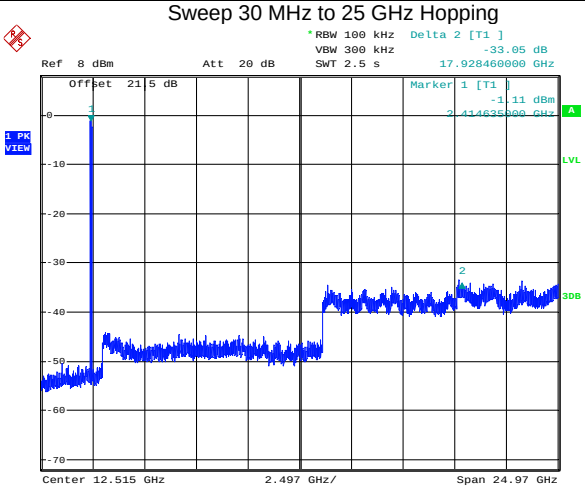
Sweep 30 MHz to 25 GHz Hopping



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Test data, continued

Radiated spurious emissions found in the Restricted bands defined in FCC Part 15 Subpart C, 15.205

Measured results

Fundamental Freq. (MHz)	Frequency (MHz)	Antenna Polarization	Peak field strength (dBmV/m)	Peak limit (dBµV/m)	Peak margin (dB)	Duty cycle corr. (dB)	Avg field strength (dBµV/m)	Avg limit (dBµV/m)	Avg margin (dB)
2402	2389	V	58.58	74	15.42	30.7	27.88	54	26.12
2402	4804	V	61.00	74	13	30.7	30.3	54	23.7
2441	4882	V	59.40	74	14.6	30.7	28.7	54	25.3
2480	2483.58	V	62.71	74	11.29	30.7	32.01	54	21.99
2480	4960	V	63.50	74	10.5	30.7	32.8	54	21.2

All test modulation and data rates were verified. Only the worst-case results have been recorded.

Measurement details

- The EUT was placed at 80 cm height on a non-conducting support above ground plane inside a semi-anechoic chamber.
- Measurement antenna was located 3m from EUT.
- The EUT were rotated 0 to 360 degree and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded.
- All measurements performed:
  - within 30–1000 MHz range: using a peak detector with 100 kHz/300 kHz RBW/VBW
  - above 1 GHz: using peak detector with 1 MHz/3 MHz RBW/VBW for peak results
  - and using average detector with 1 MHz/3 MHz RBW/VBW for average results

Duty cycle/average factor calculations

§15.35(c) When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

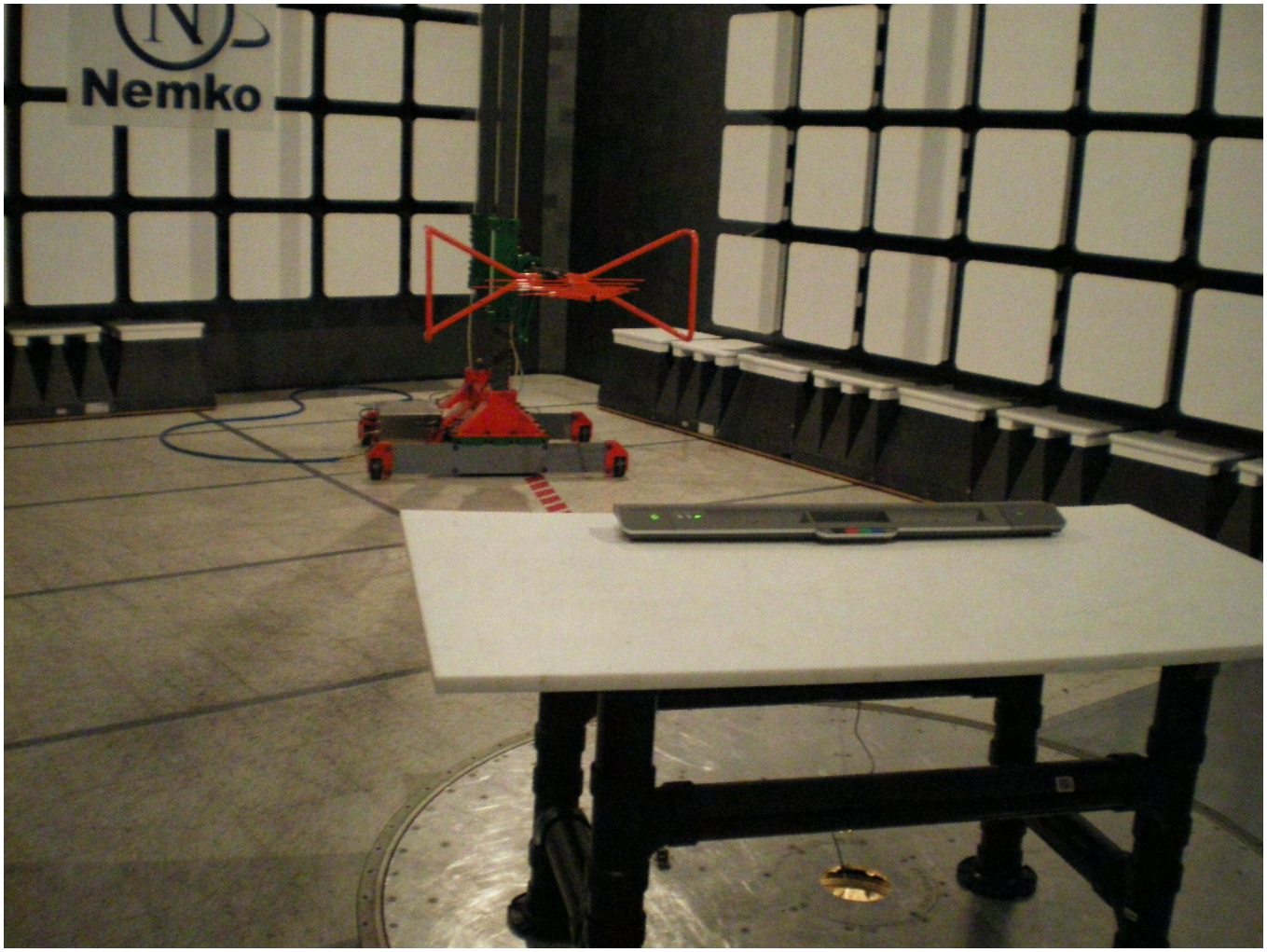
$$Duty\,cycle/average\ factor = 20\times\log_{10}\left(\frac{Tx_{100\,ms}}{100\,ms}\right)$$

GFSK (1-slot)
Dwell time = 0.4 ms
Two pulses per 100 ms
Duty Cycle correction Factor = 20 log (0.8/100)
Duty Cycle correction Factor = -41.93 dB

GFSK (3-slot)
Dwell time = 1.67 ms
One pulse per 100 ms
Duty Cycle correction Factor = 20 log (1.67/100)
Duty Cycle correction Factor = -35.55 dB

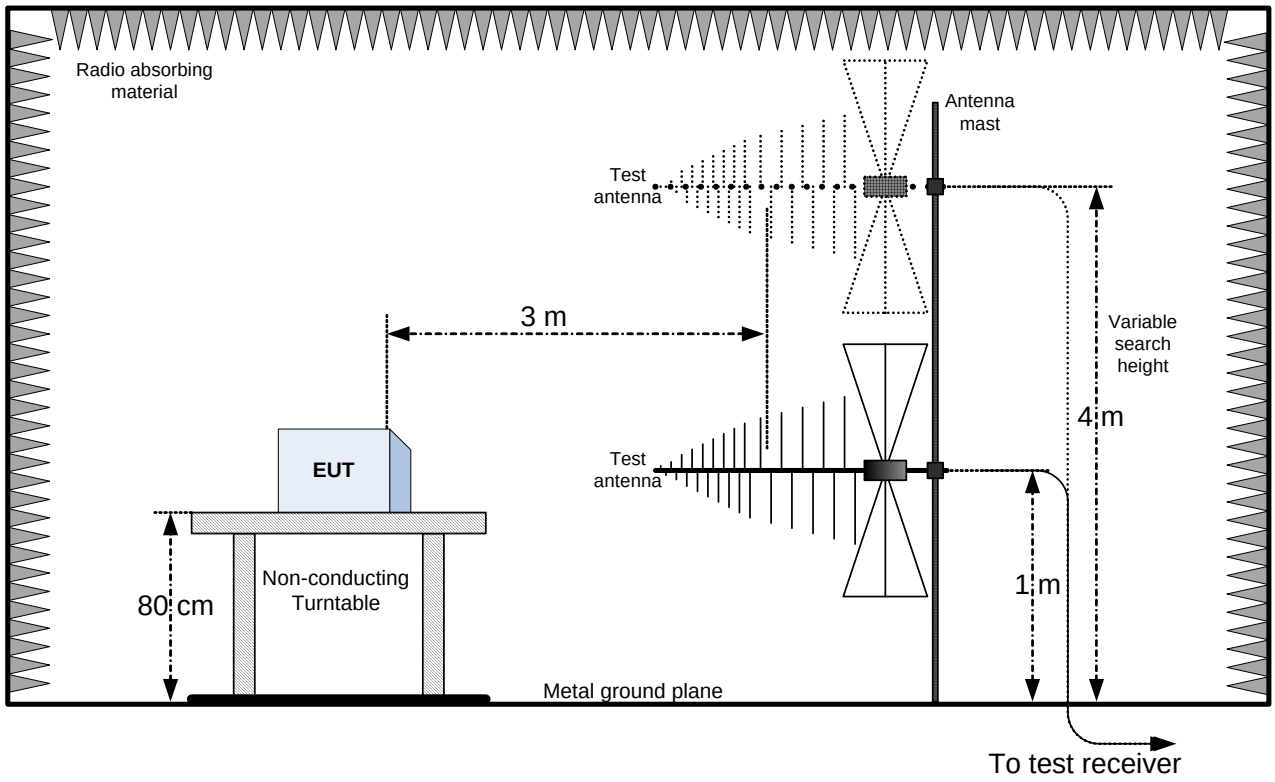
GFSK (5-slot)
Dwell time = 2.916 ms
One pulse per 100 ms
Duty Cycle correction Factor = 20 log (2.916/100)
Duty Cycle correction Factor = -30.70 dB

Setup photos



Section 8: Block diagrams of test set-ups

Radiated emissions set-up



Conducted emissions set-up