

FCC Part 15C Compliance Test Report

Test Report no.:	Bej_FCC_0924_05.doc	Date of Report:	18-Jun-2009
Number of pages:	39	Customer's Contact person:	Hu Helen
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FCC listing no.:	975940		
IC recognition no.:	661AH-1		
Tested devices/ accessories:	Phone RM-520 / Battery BL-4CT / AC-charger AC-3E / Headset HS-105		
FCC ID:	QTLRM-520	IC:	661AB-RM520
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), Public Notice DA 00-705, DTS procedures KDB 558074, IC standards RSS-GEN (Issue 2, June 2007) and RSS-210 (Issue 7, June 2007). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test Results:	The EUT complies with the requirements in respect of all parameters subject to the test. The test results relate only to devices specified in this document.		
Date and signature for the contents:			

Jia Dongsheng, Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	22-May-2009
Testing completed	17-Jun-2009
The customer's contact person	Hu Helen
Test Plan referred to	T:\Projects\RM-520\TestPlan_RS\RS_testplan_RM-520.xls
Notes	-
Document name	T:\Projects\RM-520\EMC\Results\FCC\Bej_FCC_0924_05.doc

1.1. EUT and Accessory Information

The EUT is a 2-band (GSM850/1900) mobile phone with GPRS and Bluetooth. Bluetooth is tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-520	001004003712479	0302	-	bf07w41_09 w19.1	51292
Phone	RM-520	001004003712172	0302	-	bf07w41_09 w19.1	51295
Battery	BL-4CT	3820668386175416726;0670565	-	-	-	51293
AC-charger	AC-3E	4868678473711316688;0675370	-	-	-	51098
AC-charger	AC-3U	4868678281331102456;0675372	-	-	-	51297
Headset	HS-105	0694287750202100415	0.2	0.4	-	51299
Headset	HS-105	0694287750202100397	0.2	0.4	-	51300

1.2. Summary of Test Results

Bluetooth:

Section in CFR 47	Section in RSS-GEN or RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (2)	Conducted peak output power	PASSED
15.247(d)	A8.5	Band edge compliance of RF emissions	PASSED
15.247(d)	A8.5	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8.5	Spurious radiated emissions	PASSED
15.207	7.2.2	AC powerline conducted emissions	PASSED
15.247(a)(1)	A8.1 (a)	20 dB bandwidth	PASSED
15.247(a)(1)	A8.1 (b)	Carrier frequency separation	PASSED
15.247(a)(1)(iii)	A8.1 (d)	Number of hopping frequencies	PASSED
15.247(a)(1)(iii)	A8.1 (d)	Time of occupancy	PASSED

PASSED

FAILED

NP

The EUT complies with the essential requirements in the standard.

The EUT does not comply with the essential requirements in the standard.

The test was not performed by the TCC Nokia Beijing Laboratory.

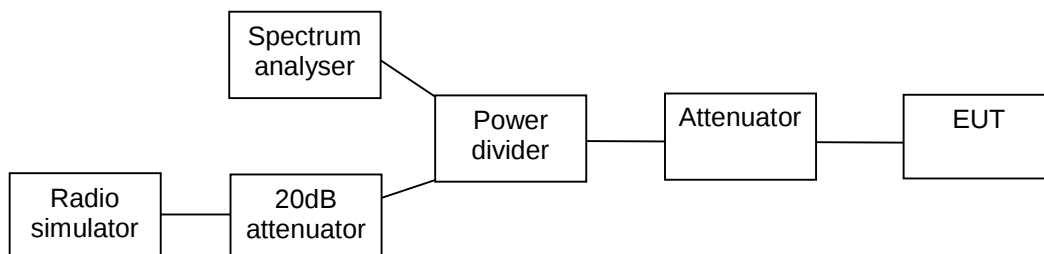
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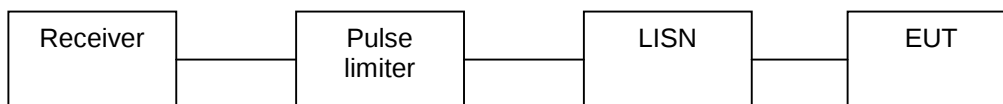
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2. Test setups

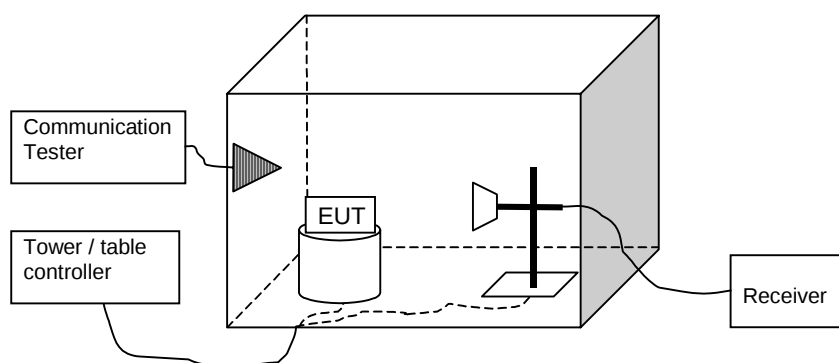
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Radiated test setup



3. Conducted peak output power (FCC §15.247(b)(1), RSS-210 A8.4 (2))

EUT with DUT number	RM-520, DUT51295
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 99.6
Date of measurements	10-Jun-2009
Measured by	Jia Dongsheng

3.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for conducted peak output power measurements

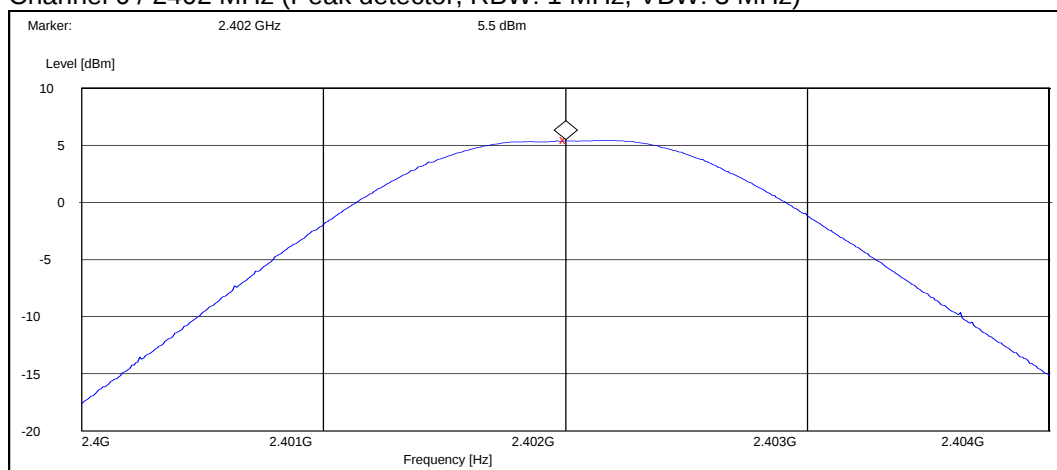
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2. Bluetooth Test results

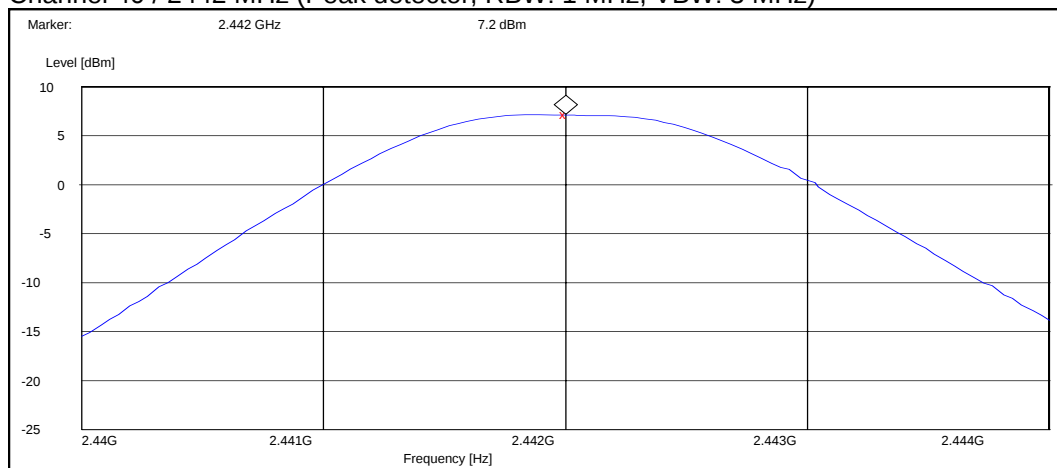
3.2.1 GFSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	5.50	3.548	PASSED
40 / 2442	7.20	5.248	PASSED
78 / 2480	7.20	5.248	PASSED

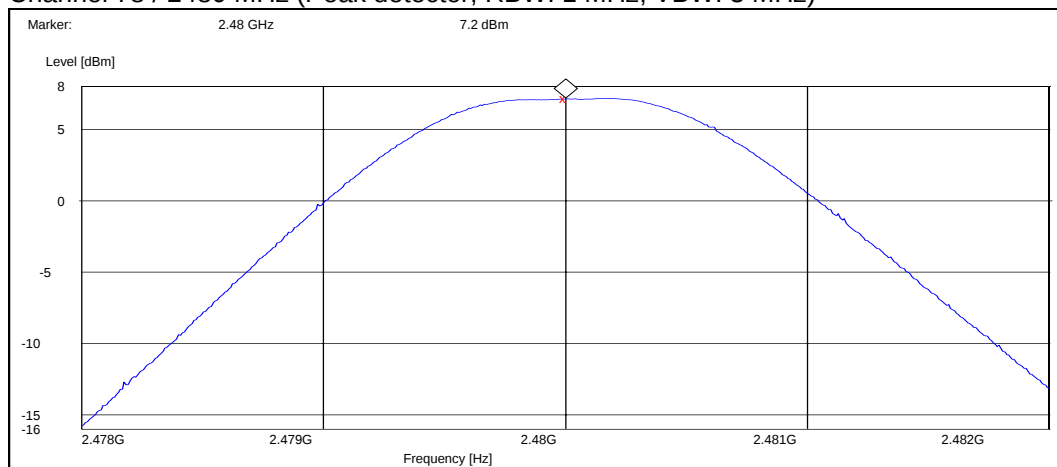
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



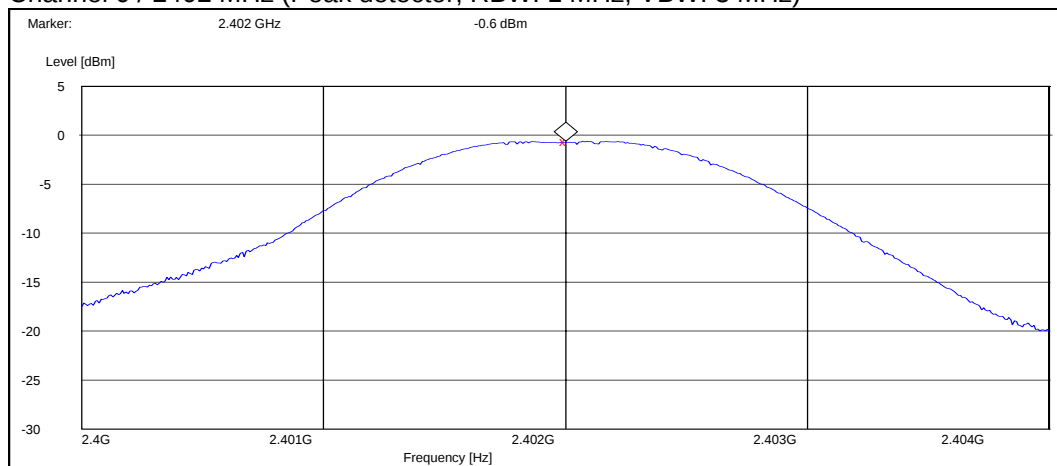
Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



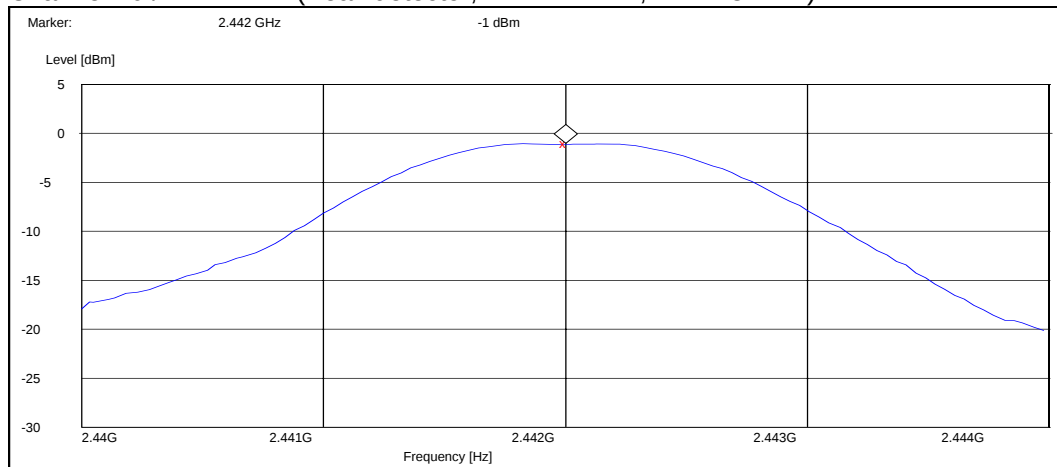
3.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-0.60	0.871	PASSED
40 / 2442	-1.00	0.794	PASSED
78 / 2480	-0.40	0.912	PASSED

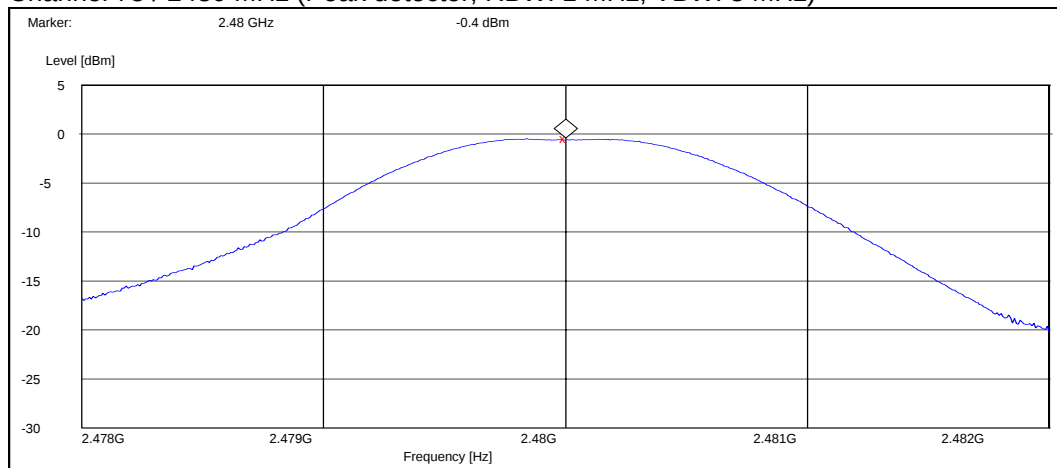
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



4. Band edge compliance of RF emissions (FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-520, DUT51292
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3U, DUT51297; HS-105, DUT51299
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	Phone was tested in flip open mode.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 62 / 100.1
Date of measurements	15-Jun-2009
Measured by	Jia DongSheng

4.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

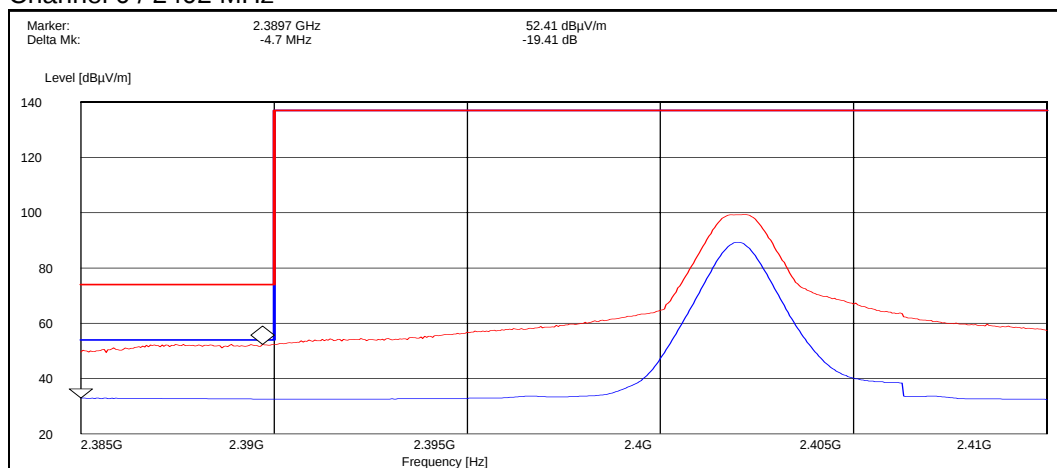
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit Average [dBμV/m]	Limit Peak [dBμV/m]
Below 2390 and above 2483.5	≤ 54	≤ 74

4.2. Bluetooth Test results

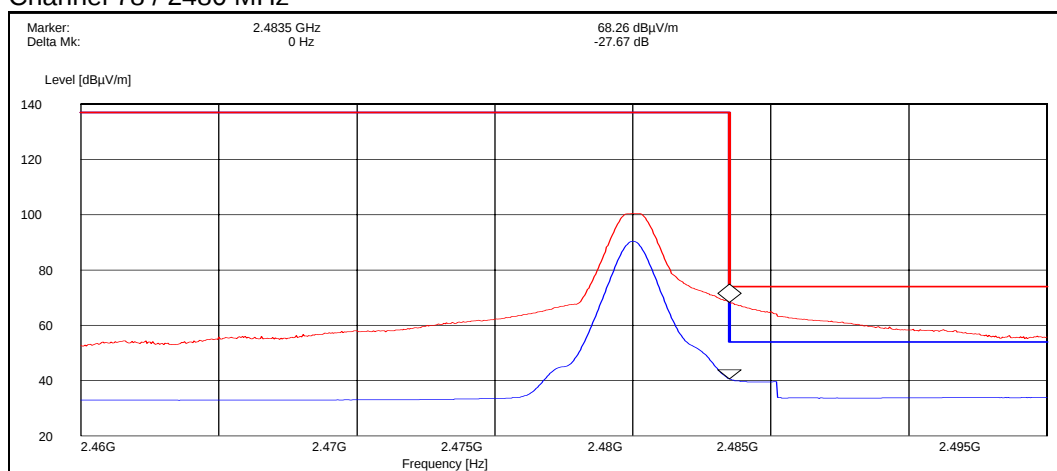
4.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



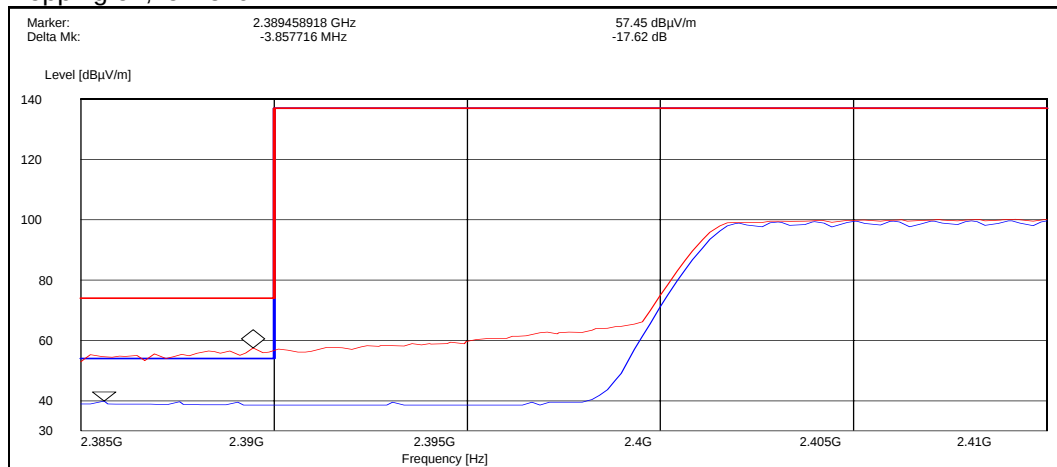
Detector (RBW: 1 MHz)	E [dBμV/m]	Result
Peak	52.40	PASSED
Average	33.00	PASSED

Channel 78 / 2480 MHz



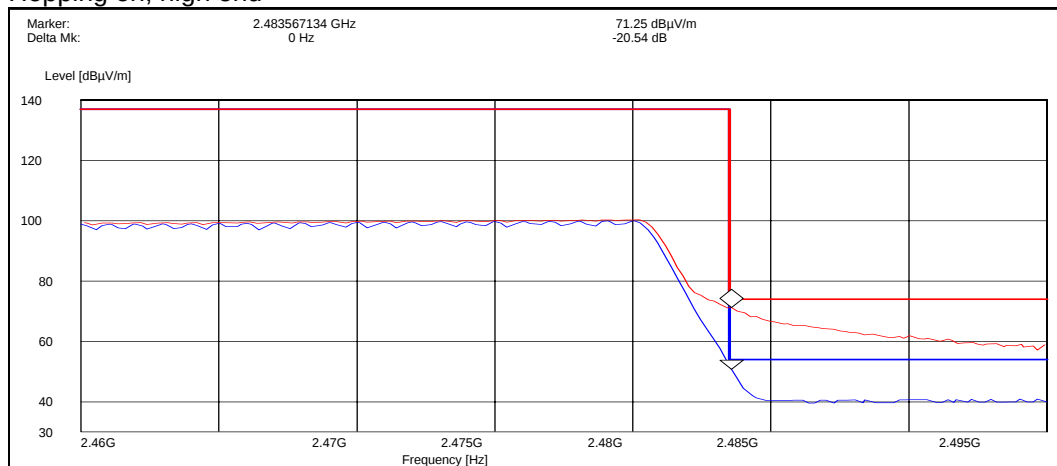
Detector (RBW: 1 MHz)	E [dBμV/m]	Result
Peak	68.30	PASSED
Average	40.60	PASSED

Hopping on, low end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	57.50	PASSED
Average	39.80	PASSED

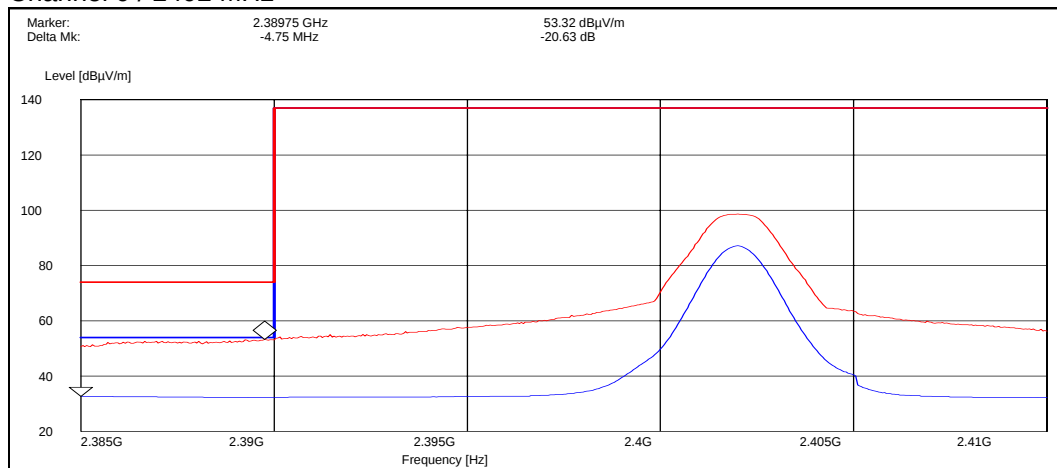
Hopping on, high end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	71.30	PASSED
Average	50.70	PASSED

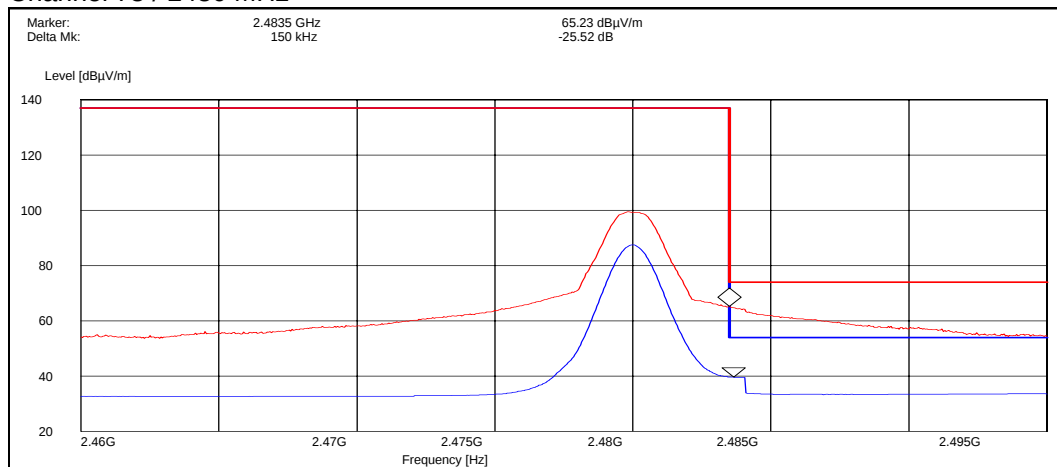
4.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



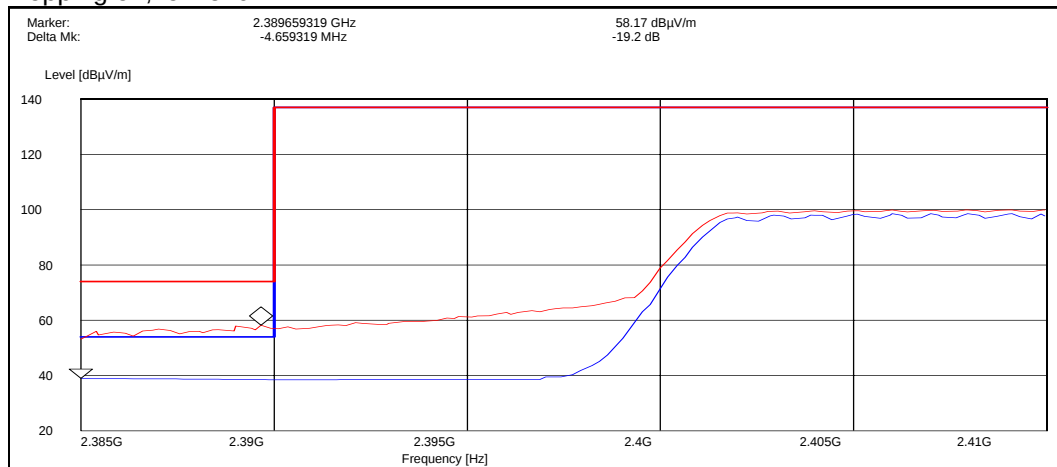
Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	53.30	PASSED
Average	32.70	PASSED

Channel 78 / 2480 MHz



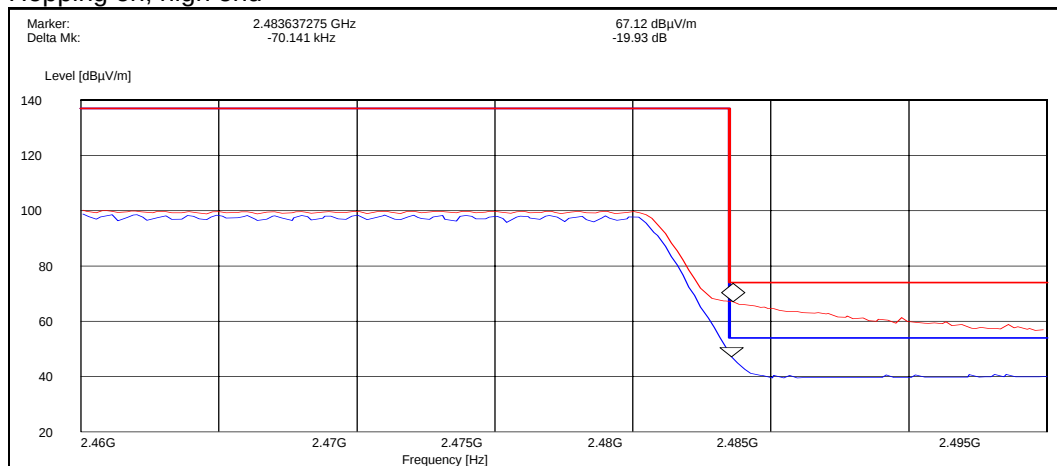
Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	65.20	PASSED
Average	39.70	PASSED

Hopping on, low end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	58.20	PASSED
Average	39.00	PASSED

Hopping on, high end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	67.10	PASSED
Average	47.20	PASSED

5. Spurious RF conducted emissions (FCC §15.247(d), RSS-A8.5)

EUT with DUT number	RM-520, DUT51295
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 99.6
Date of measurements	10-Jun-2009
Measured by	Jia Dongsheng

5.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

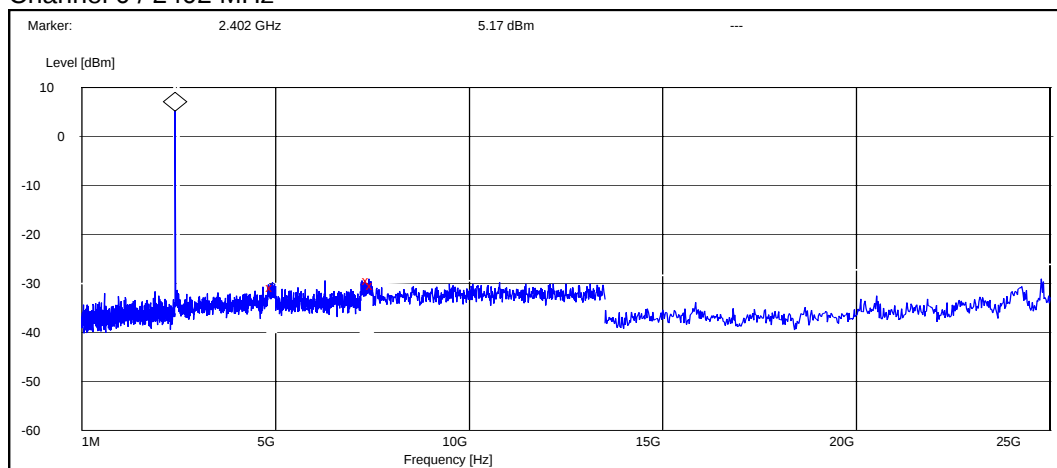
Limits for spurious RF conducted emissions measurements

Frequency range [MHz]	Limit [dBc]
1 – 25000	≤ -20

5.2. Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

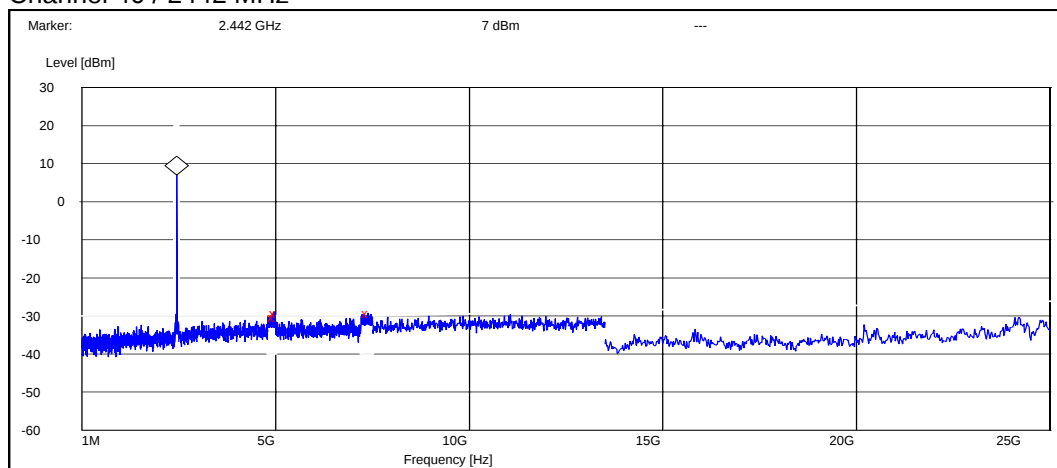
Channel 0 / 2402 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4925.600000	-35.874823	PASSED
7402.800000	-34.474823	PASSED
7500.000000	-35.674823	PASSED

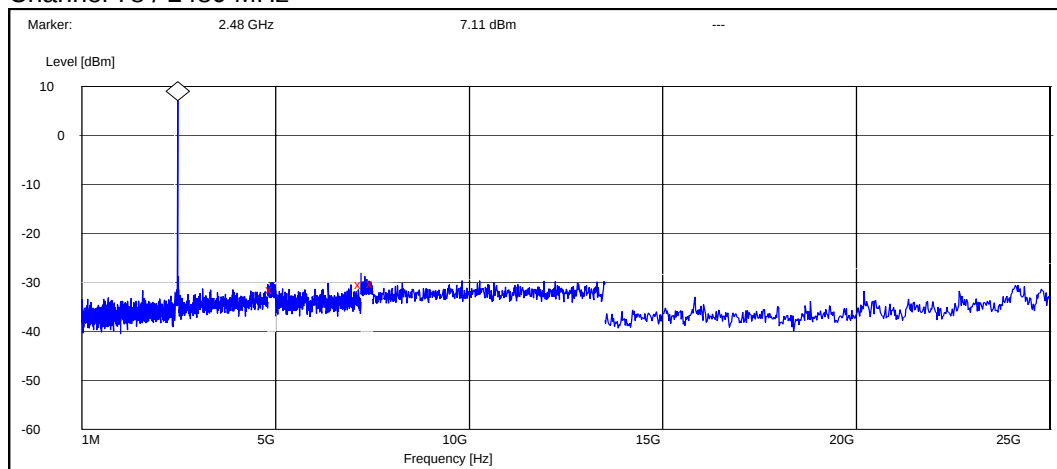
Channel 40 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4962.800000	-37.405275	PASSED
5000.000000	-36.305275	PASSED
7375.800000	-36.405275	PASSED

Channel 78 / 2480 MHz

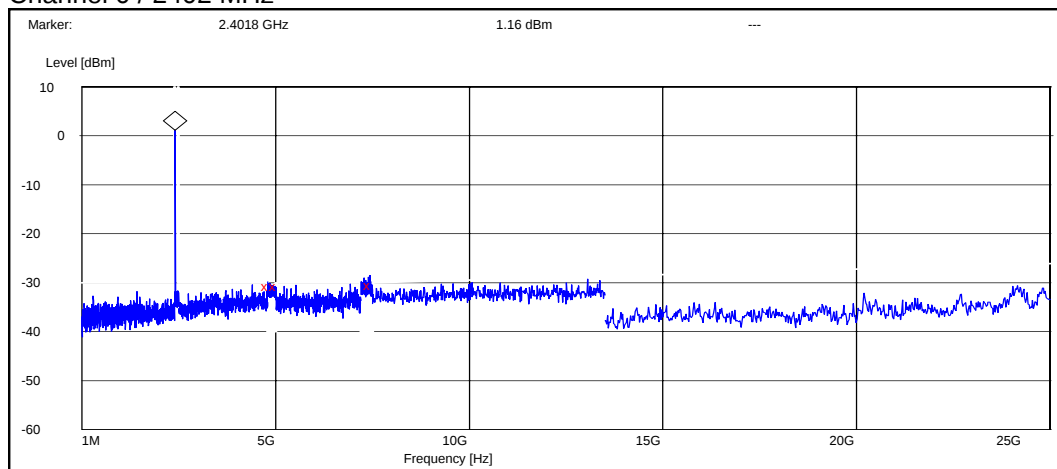


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4910.400000	-38.506944	PASSED
7204.200000	-37.606944	PASSED
7500.000000	-37.306944	PASSED

5.2.2 8DPSK modulation, PRBS packet type

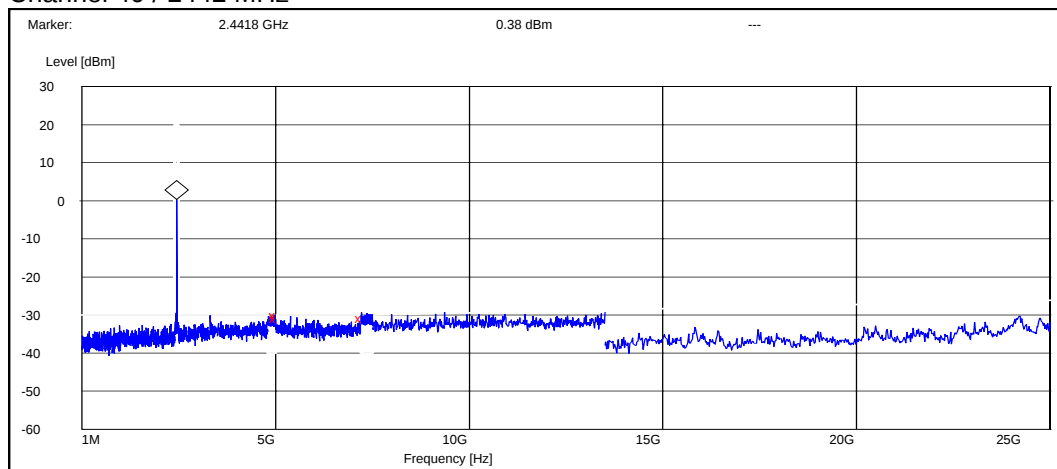
Channel 0 / 2402 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4801.600000	-31.963846	PASSED
5000.000000	-31.863846	PASSED
7437.000000	-31.763846	PASSED

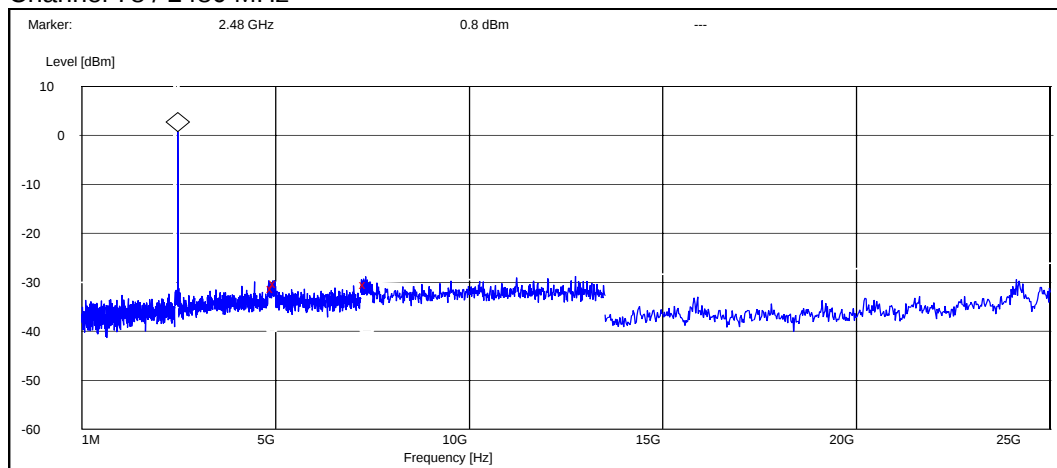
Channel 40 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4996.000000	-30.376998	PASSED
5000.000000	-31.076998	PASSED
7218.000000	-31.276998	PASSED

Channel 78 / 2480 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4936.000000	-32.095200	PASSED
5000.000000	-30.995200	PASSED
7332.000000	-31.295200	PASSED

6. Spurious radiated emissions (FCC §15.247(d), §15.209, RSS-210 A8.5)

EUT with DUT number	RM-520, DUT51292
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3U, DUT51297; HS-105, DUT51299
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	Phone was tested on flip open mode.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 62 / 100.1
Date of measurements	15-Jun-2009
Measured by	Jia DongSheng

6.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210 as follows:

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.

The measurement results are obtained as described below:

$$E [\mu V/m] = U_{RX} + A_{TOT}$$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable loss, antenna factor and preamplifier gain ($A_{TOT} = L_{CABLES} + AF - G_{PREAMP}$).

Limits for spurious radiated emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit [$\mu\text{V/m}$]	Limit [dB $\mu\text{V/m}$]	Detector
30 – 88	100	40	Quasi peak
88 – 216	150	43.5	Quasi peak
216 – 960	200	46	Quasi peak
960 – 1000	500	54	Quasi peak
Above 1000	500	54	Average
Above 1000	5000	74	Peak

6.2. Bluetooth Test results

6.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	43.30	146.22	43.20	0.1	VERTICAL	PASSED
7206.000000	44.30	164.06	40.10	4.2	HORIZONTAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	31.30	36.73	31.20	0.1	VERTICAL	PASSED
7206.000000	31.80	38.90	27.60	4.2	HORIZONTAL	PASSED

Channel 40 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
37.635872	15.00	5.62	30.10	-15.1	VERTICAL	PASSED
47.795591	12.20	4.07	35.10	-22.9	VERTICAL	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
2831.040080	52.50	421.70	41.90	10.6	VERTICAL	PASSED
4883.769539	42.70	136.46	42.30	0.4	HORIZONTAL	PASSED
7327.651303	43.60	151.36	39.20	4.4	VERTICAL	PASSED
17466.437876	52.80	436.52	36.10	16.7	HORIZONTAL	PASSED
17952.905812	56.00	630.96	36.20	19.8	HORIZONTAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
2837.040080	39.50	94.41	29.20	10.3	VERTICAL	PASSED
4884.269539	29.30	29.17	28.90	0.4	HORIZONTAL	PASSED
7325.651303	31.10	35.89	26.70	4.4	VERTICAL	PASSED
17469.937876	40.20	102.33	23.50	16.7	HORIZONTAL	PASSED
17952.405812	43.20	144.54	23.40	19.8	HORIZONTAL	PASSED

Channel 78 / 2480 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	41.70	121.62	41.00	0.7	VERTICAL	PASSED
7440.000000	45.30	184.08	41.30	4.0	HORIZONTAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	29.60	30.20	28.90	0.7	HORIZONTAL	PASSED
7440.000000	31.90	39.36	27.90	4.0	HORIZONTAL	PASSED

6.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	42.40	131.83	42.30	0.1	VERTICAL	PASSED
7206.000000	44.30	164.06	40.10	4.2	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	30.30	32.73	30.20	0.1	VERTICAL	PASSED
7206.000000	31.10	35.89	26.90	4.2	HORIZONTAL	PASSED

Channel 40 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
32.785772	17.10	7.16	28.60	-11.5	VERTICAL	PASSED
37.995391	16.50	6.68	31.90	-15.4	VERTICAL	PASSED
50.300401	16.60	6.76	41.20	-24.6	VERTICAL	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2866.912826	52.40	416.87	42.00	10.4	VERTICAL	PASSED
4882.769539	41.50	118.85	41.10	0.4	HORIZONTAL	PASSED
7281.061122	43.70	153.11	39.40	4.3	VERTICAL	PASSED
17483.463928	53.70	484.17	36.90	16.8	HORIZONTAL	PASSED
17995.989980	56.20	645.65	36.40	19.8	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2869.912826	39.30	92.26	28.90	10.4	VERTICAL	PASSED
4884.269539	29.60	30.20	29.20	0.4	HORIZONTAL	PASSED

7279.561122	31.10	35.89	26.80	4.3	VERTICAL	PASSED
17482.963928	40.00	100.00	23.20	16.8	HORIZONTAL	PASSED
17997.489980	43.00	141.25	23.20	19.8	VERTICAL	PASSED

Channel 78 / 2480 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4960.000000	42.30	130.32	41.60	0.7	VERTICAL	PASSED
7440.000000	43.50	149.62	39.50	4.0	HORIZONTAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4960.000000	31.00	35.48	30.30	0.7	VERTICAL	PASSED
7440.000000	31.40	37.15	27.40	4.0	HORIZONTAL	PASSED

7. AC powerline conducted emissions (FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-520, DUT51292
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 66 / 100.4
Date of measurements	17-Jun-2009
Measured by	Jia Dongsheng

7.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-GEN as follows:

The EUT is placed on a wooden table 80 cm above the reference groundplane.

The EUT is connected via LISN to a test power supply.

The measurement results are obtained as described below:

$$U [dB\mu V] = U_{RX} + A_{TOT}$$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

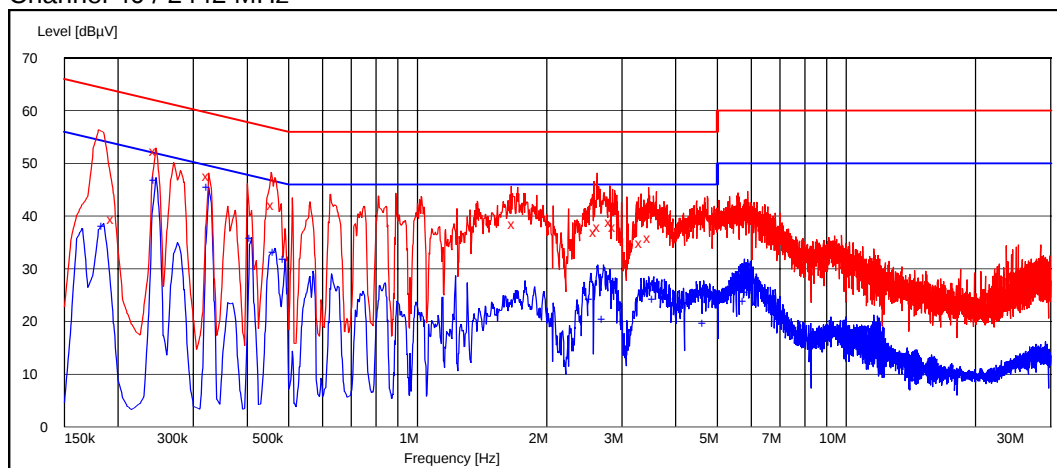
CISPR 22 Class B limits

Frequency range [MHz]	Quasi peak limit [dBμV]	Average limit [dBμV]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

7.2. Bluetooth Test results

7.2.1 GFSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

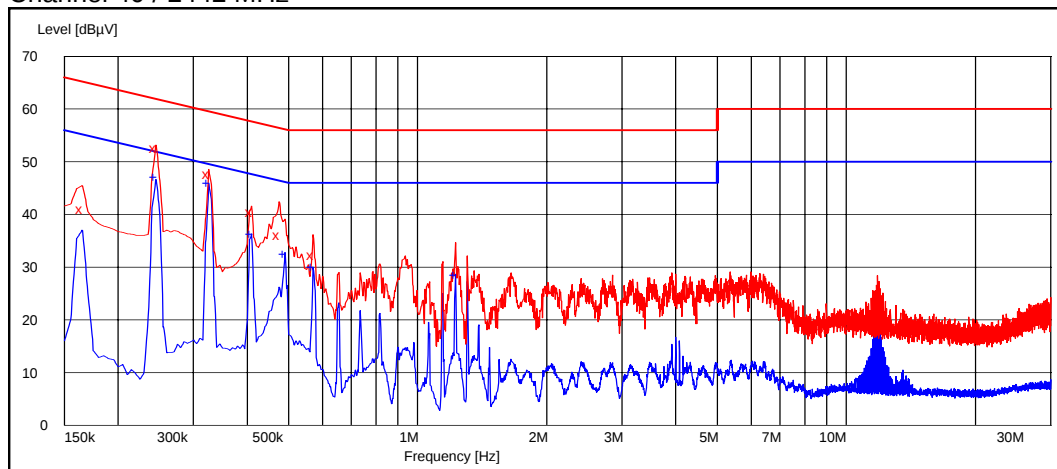
Frequency [MHz]	U [dBμV]	Line	Result
0.195000	39.40	L1	PASSED
0.245000	52.30	N	PASSED
0.325000	47.50	N	PASSED
0.460000	42.00	L1	PASSED
1.680000	38.50	L1	PASSED
2.605000	37.00	L1	PASSED
2.660000	37.90	L1	PASSED
2.830000	38.90	L1	PASSED
2.885000	37.90	L1	PASSED
3.335000	35.00	L1	PASSED
3.490000	35.80	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.185000	38.10	L1	PASSED
0.245000	46.90	N	PASSED
0.325000	45.60	N	PASSED
0.410000	35.80	N	PASSED
0.465000	33.20	L1	PASSED
0.490000	31.90	N	PASSED
2.545000	24.30	L1	PASSED
2.720000	20.40	N	PASSED
3.570000	24.20	L1	PASSED
4.670000	19.80	N	PASSED
5.805000	23.90	L1	PASSED
5.865000	25.60	L1	PASSED

7.2.2 8DPSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.165000	41.00	N	PASSED
0.245000	52.60	N	PASSED
0.325000	47.70	N	PASSED
0.410000	40.40	N	PASSED
0.475000	36.00	L1	PASSED
0.570000	32.40	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.245000	47.10	N	PASSED
0.325000	46.00	N	PASSED
0.410000	36.20	N	PASSED
0.490000	32.50	N	PASSED
0.570000	29.90	N	PASSED
1.225000	28.60	N	PASSED

8. 20 dB bandwidth (FCC §15.247(a)(1), RSS-210 A8.1 (a))

EUT with DUT number	RM-520, DUT51295
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 99.6
Date of measurements	10-Jun-2009
Measured by	Jia Dongsheng

8.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for 20 dB bandwidth measurements

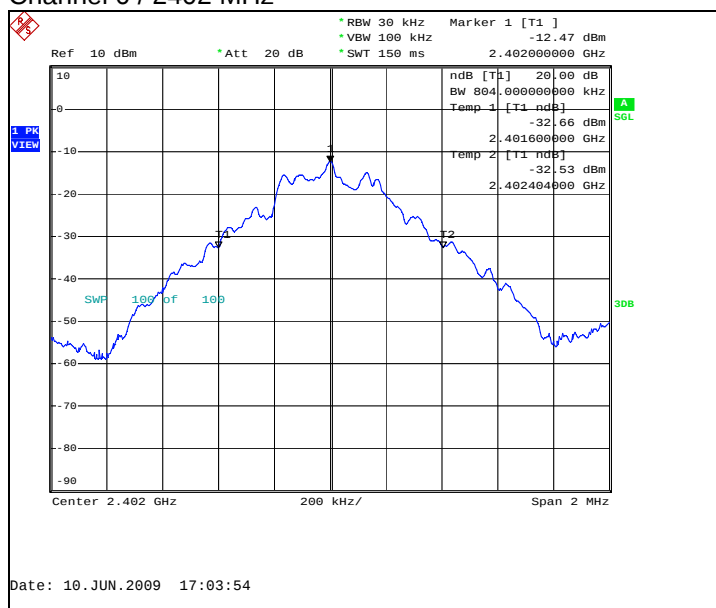
Limit [MHz]
N/A

8.2. Bluetooth Test results

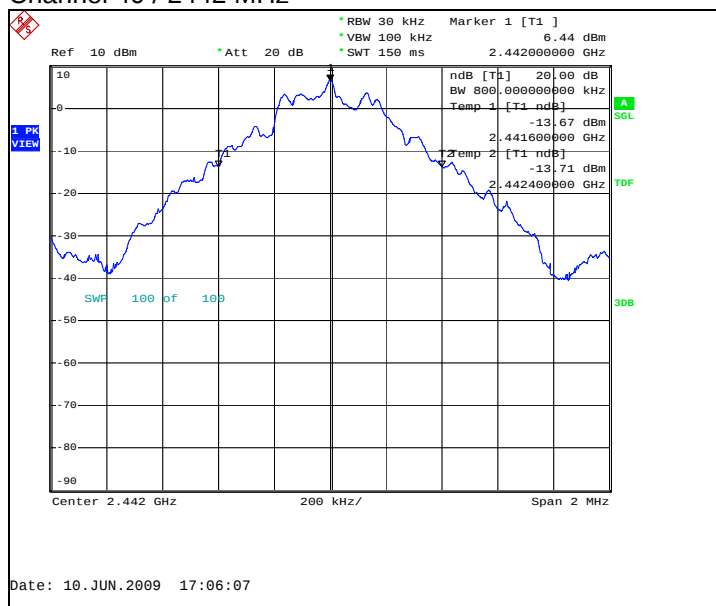
8.2.1 GFSK modulation, PRBS packet type

Channel / f_c [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	804.000	PASSED
40 / 2442	800.000	PASSED
78 / 2480	800.000	PASSED

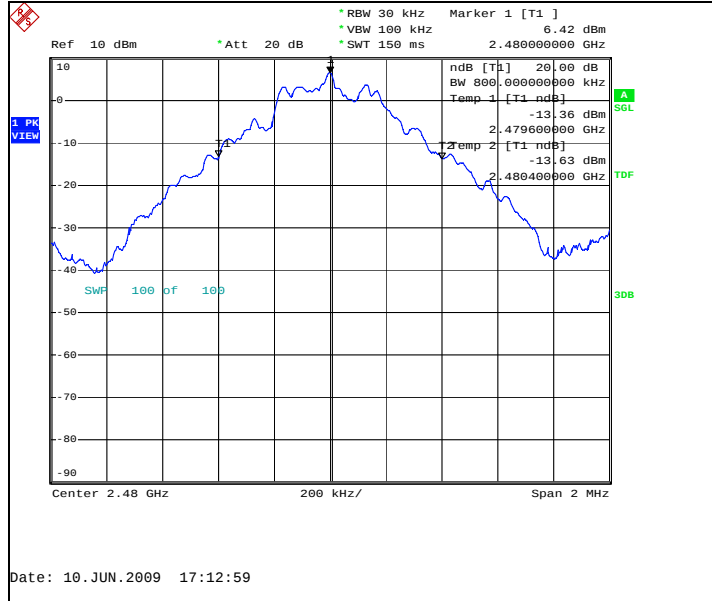
Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



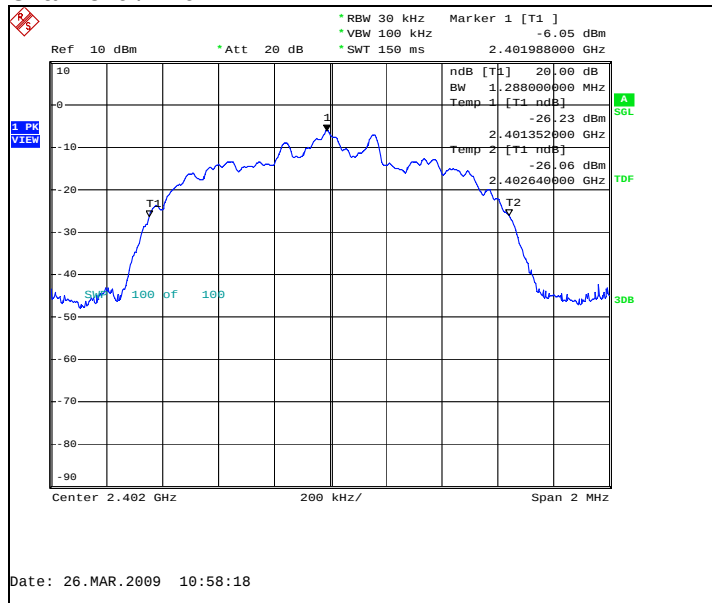
Channel 78 / 2480 MHz



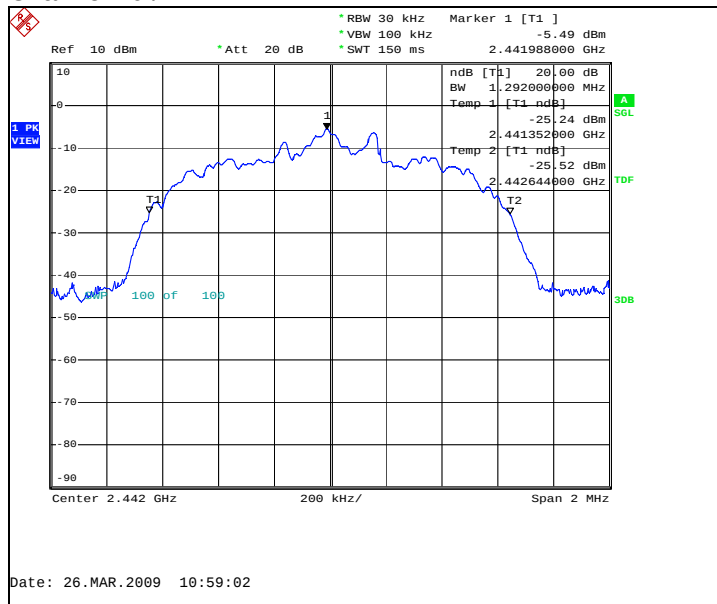
8.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	1288.000	PASSED
40 / 2442	1292.000	PASSED
78 / 2480	1292.000	PASSED

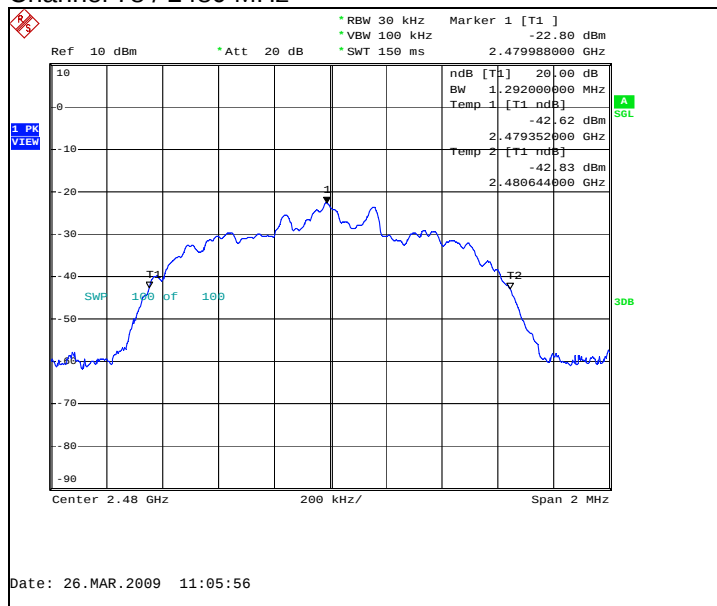
Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



Channel 78 / 2480 MHz



9. Carrier frequency separation (FCC §15.247(a)(1), RSS-210 A8.1 (b))

EUT with DUT number	RM-520, DUT51295
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 99.6
Date of measurements	10-Jun-2009
Measured by	Jia Dongsheng

9.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for carrier frequency separation measurements

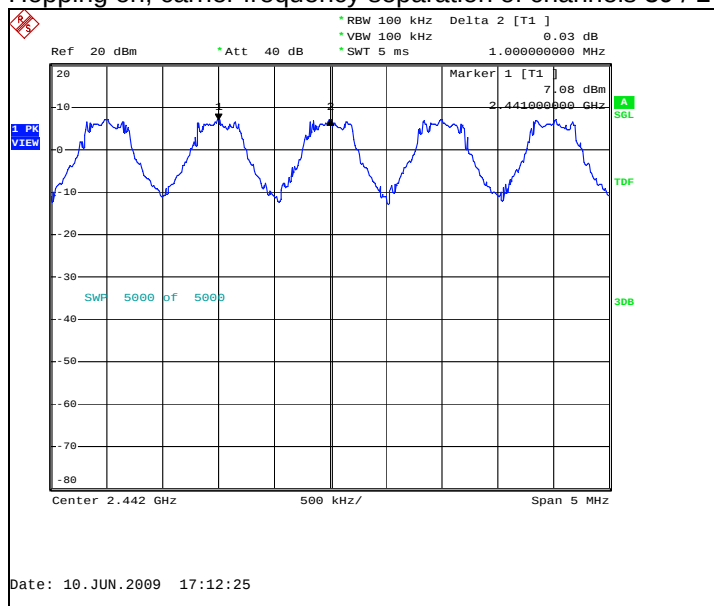
Limit [MHz]
≥ 0.025 or $2/3$ of the 20 dB bandwidth

9.2. Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1000	PASSED

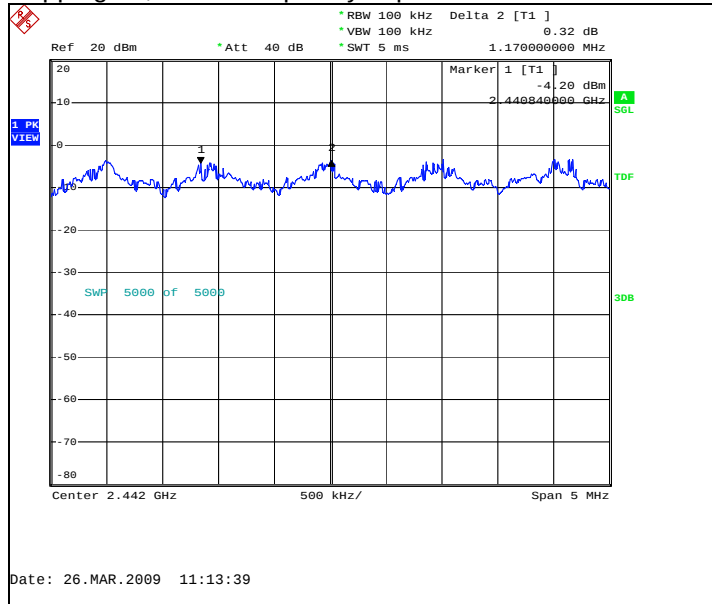
Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



9.2.2 8DPSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1170	PASSED

Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



10. Number of hopping frequencies (FCC §15.247(a)(1)(iii), RSS-210 A8.1 (d))

EUT with DUT number	RM-520, DUT51295
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 99.6
Date of measurements	10-Jun-2009
Measured by	Jia Dongsheng

10.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for number of hopping frequencies measurements

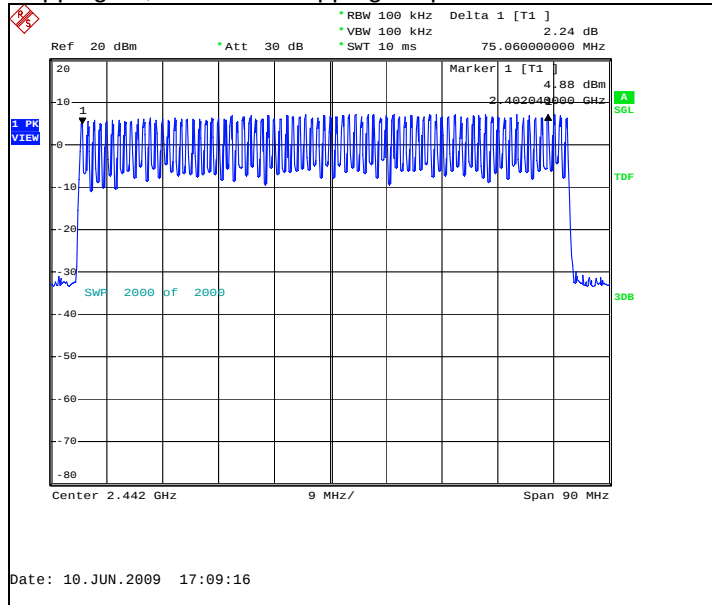
Limit [number]
≥ 15

10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
78	PASSED

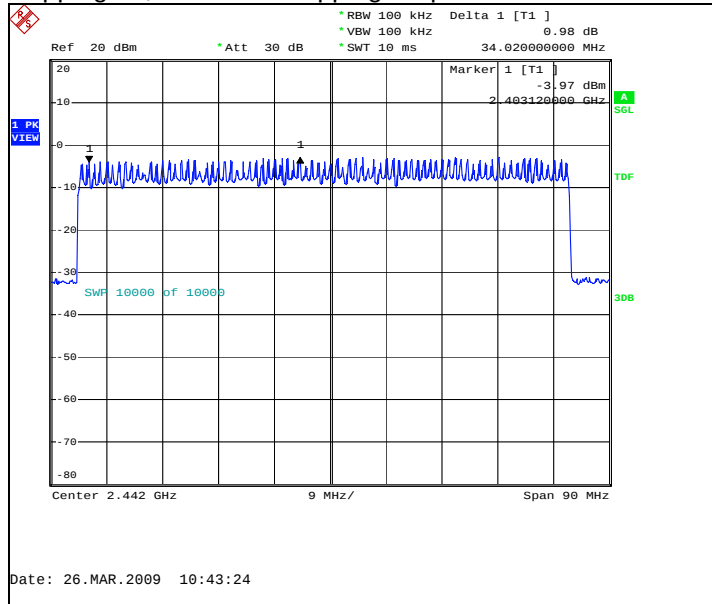
Hopping on, number of hopping frequencies



10.2.2 8DPSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
78	PASSED

Hopping on, number of hopping frequencies



11. Time of occupancy (FCC §15.247(a)(1)(iii), RSS-210 A8.1 (d))

EUT with DUT number	RM-520, DUT51295
Accessories with DUT numbers	BL-4CT, DUT51293; AC-3E, DUT51098; HS-105, DUT51300
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 99.6
Date of measurements	10-Jun-2009
Measured by	Jia Dongsheng

11.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210 as follows:

The total time of occupancy is get by multiplying the measured number of transmissions occurred during 31.6 second period with the duration of one transmission.

Limits for time of occupancy measurements

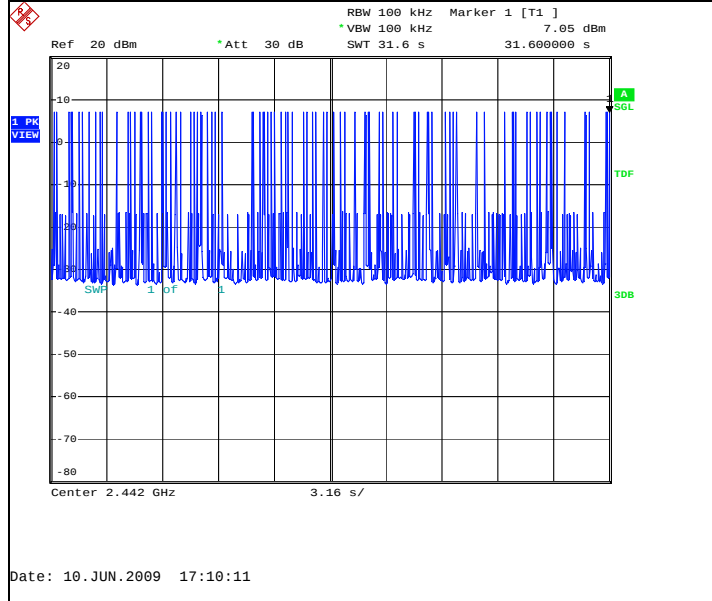
Limit [s]
≤ 0.4

11.2. Bluetooth test results

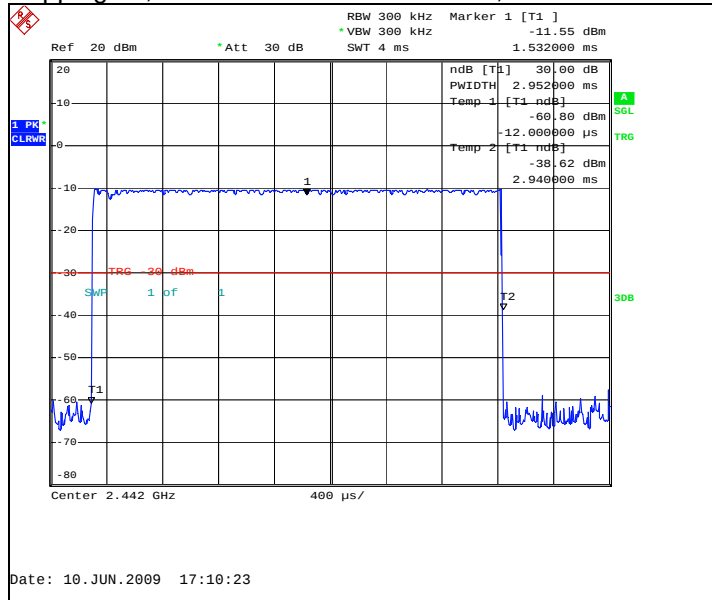
11.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μ s]	Time of occupancy [s]	Result
82	2,952	0.242064	PASSED

Hopping on, number of transmissions, channel 40 / 2442 MHz



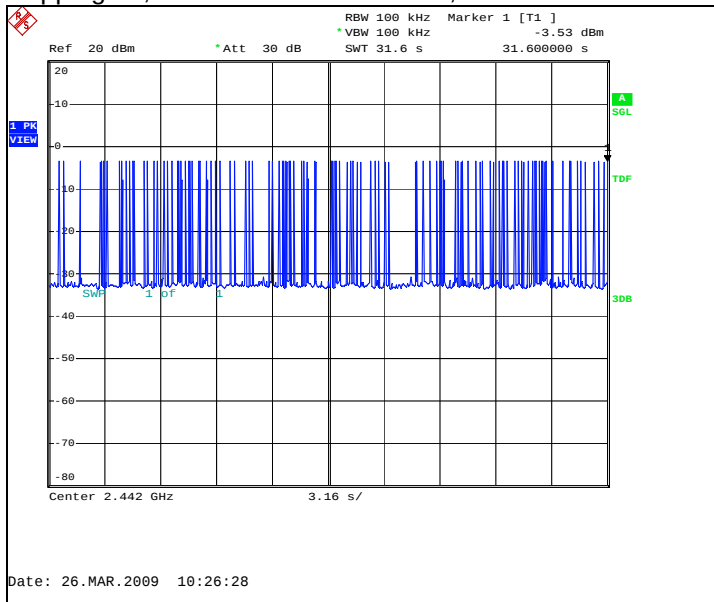
Hopping on, duration of one transmission, channel 40 / 2442 MHz



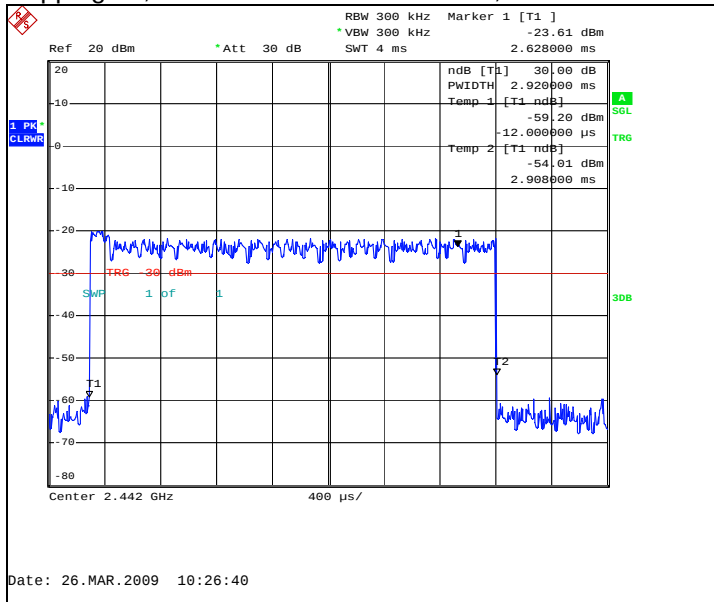
11.2.2 8DPSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μ s]	Time of occupancy [s]	Result
96	2,920	0.280320	PASSED

Hopping on, number of transmissions, channel 40 / 2442 MHz



Hopping on, duration of one transmission, channel 40 / 2442 MHz



12. Test Equipment

12.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCPT0073	SIGNAL GENERATOR	SMR 20	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0055	RADIO COMMUNICATION TESTER	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0039	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
BJPCPT0040	TEST RECEIVER	ESCS30	Rohde&Schwarz	15C, 15B
BJPCPT0069	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
BJPCPT0079	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
BJPCPT0191	PULSE LIMITER	ESH3-Z2	Rohde&Schwarz	15C, 15B
BJPCPT0131	RADIO COMMUNICATION TESTER	CMU200	ROHDE&SCHWARZ	15C, 15B
BJPCTC0089	Temperature Test chamber	VT4002	Vötsch Industrietechnik	22/24/27, 15C
BJPCTC0090	FSP spectrum analyzer	FSP30	R&S	22/24/27, 15C
BJPCTC0067	BLUETOOTH TESTER	CBT	R&S	22/24/27, 15C
BJPCHW0020	Dc Power supply	Hp6632B	HP	22/24/27, 15C
BJPCTC0094	GPB-RS232 convertor	GPB-RS232	National Instruments	22/24/27, 15C

12.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCPT0129	Relay Unit	TS-RSP	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0130	Relay Unit	TS-RSP	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0080	Device Controller	EMCO2090	ETS-EMCO	22/24/27, 15C, 15B
BJPCTC0048	RF Preamplifier 10MHz-3GHz (Metal chassis)	AFS4-00100300-10-10P-4	MITEQ	22/24/27, 15C, 15B
BJPCTC0007	Ultra Broadband Antenna 30MHz-3000MHz	HL562	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0162	Horn Antenna 1GHz-18GHz	HF906	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0029	Horn Antenna 1GHz-18GHz	HF906	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0049	RF preamplifier 3GHz-18GHz	BLMA-0118-1A-BT	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0072	3m anechoic chamber	-	ETS-Lindgren	22/24/27, 15C, 15B
BJPCTC0075	Turntable	Model 2088	ETS-EMCO	22/24/27, 15C, 15B
BJPCPT0072	EMI Test Receiver 20Hz-26.5GHz	ESIB26	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0150	High Pass filter	WHKS 1200-10SS	Wainwright instruments	22/24/27, 15C, 15B
BJPCTC0034	Notch Filter	WRCT800/880-0.2/40-5SSK	Wainwright instruments	22, 15B
BJPCPT0151	Notch Filter	WRCD1800/2000-0.2/40-5SSK	Wainwright instruments	24, 15B
BJPCTC0017	Radio Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0154	Filter	WRCT2402/2480-2400/2483.5-30-20SS	Wainwright instruments	15C, 15B
BJPCTC0058	Bluetooth tester	CBT	Rohde&Schwarz	15C, 15B
BJPCTC0064	WCDMA II FILTER	WRCG1877/1883-1870/1890-40/6SS	Wainwright instruments	24, 15B
BJPCTC0065	WCDMA V FILTER	WRCG832/838-825/845-40/5SS	Wainwright instruments	22, 15B
BJPCTC0066	ANTENNA	SBA9113	SWARZBECK	22/24/27
BJPCTC0096	RF Preamplifier 100MHz-3GHz	AFS4-00100300-20-23P-6	MITEQ	22/24/27, 15C, 15B