

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15C_RM-356_01.doc	Date of Report:	22-Sep-2009
Number of pages:	25	Customer's Contact person:	Niina Upola
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FCC listing no.:	533467		
IC recognition no.:	661V-1		
Tested devices/ accessories:	Phone RM-356, Battery BL-5J, Headset HS-45, Audio Adapter AD-54, AC-Charger AC-8E		
FCC ID:	LJPRM-356X	IC:	661E-RM356
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:			

Jari Jantunen, Test System Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	17-Jun-2009
Testing completed	
The customer's contact person	Niina Upola
Test Plan referred to	T:\Projects\RM-356\TestPlan_RS\RS_Testplan_RM-356_CR_HW1105.xls
Notes	
Document name	T:\Projects\RM-356\EMC\FCC15C_RM-356_01.doc

1.1. EUT and Accessory Information

The EUT is a 6-band (GSM850/900/1800/1900 and WCDMA Band I/VIII) mobile phone with GPRS, EGPRS, Bluetooth and WLAN. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-356	354216038115840	1105	-	21.0.025	13937
Phone	RM-356	354216038115923	1105	-	21.0.025	13938
Battery	BL-5J	4620409176J10100041;0670573	-	-	-	13942
Battery	BL-5J	4620409176J10100039;0670573	-	-	-	13941
Audio Adapter	AD-54	0750838803452104277	-	-	-	13945
Headset	HS-45	06942357231M1901222	-	-	-	13947
AC-Charger	AC-8E	1103338477200316260;0675387	-	-	-	13944

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	NP
15.247(a)(1)	A8.1 (a)	20 dB bandwidth	NP
15.247(a)(1)	A8.1 (b)	Carrier frequency separation	NP
15.247(a)(1)(iii)	A8.1 (d)	Number of hopping frequencies	NP
15.247(a)(1)(iii)	A8.1 (d)	Time of occupancy	NP

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.

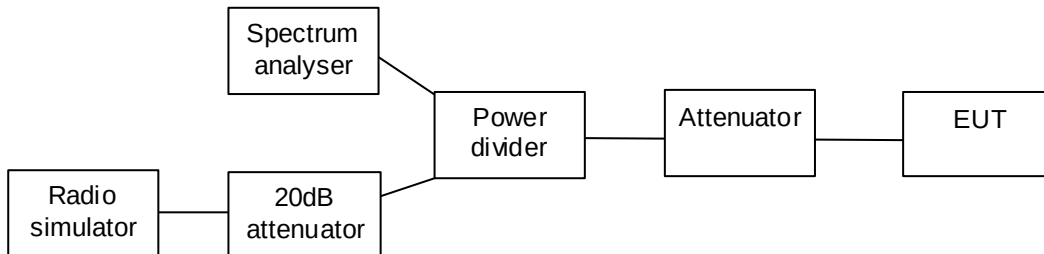
The test was not performed by the TCC Nokia Salo Laboratory.

CONTENTS

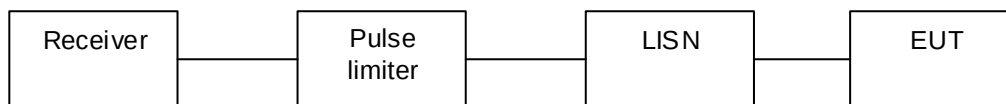
1. Summary for FCC Part 15C Compliance Test Report.....	2
1.1. EUT and Accessory Information	2
1.2. Summary of Test Results	2
2. Test setups.....	4
2.1. Conducted RF test setup	4
2.2. AC powerline conducted emissions test setup.....	4
2.3. Radiated test setup	4
3. Conducted peak output power (FCC §15.247(b)(1), RSS-210 A8.4 (2))	5
3.1. Test method and limit.....	5
3.2. Bluetooth Test results	6
4. Band edge compliance of RF emissions (FCC §15.247(d), RSS-210 A8.5).....	9
4.1. Test method and limit.....	9
4.2. Bluetooth Test results	10
5. Spurious RF conducted emissions (FCC §15.247(d), RSS-A8.5).....	14
5.1. Test method and limit.....	14
5.2. Bluetooth Test results	15
6. Spurious radiated emissions (FCC §15.247(d), §15.209, RSS-210 A8.5).....	19
6.1. Test method and limit.....	19
6.2. Bluetooth Test results	20
7. Test Equipment.....	24
7.1. Conducted measurements	24
7.2. Radiated measurements	24

2. Test setups

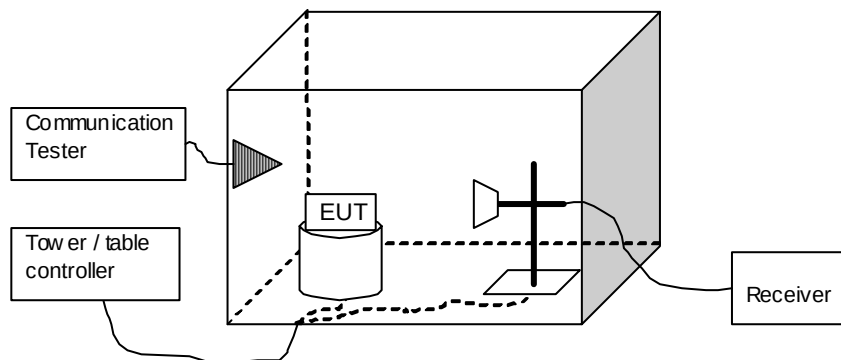
2.1. Conducted RF test setup



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-356, DUT 13937
Accessories with DUT numbers	BL-5J, DUT 13942; AD-54, DUT 13945, HS-45, DUT 13947; AC-8E, DUT 13944
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22,2 / 45 / 102
Date of measurements	01-Jul-2009
Measured by	Sami Lehtonen / Jouko Kaivonen

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

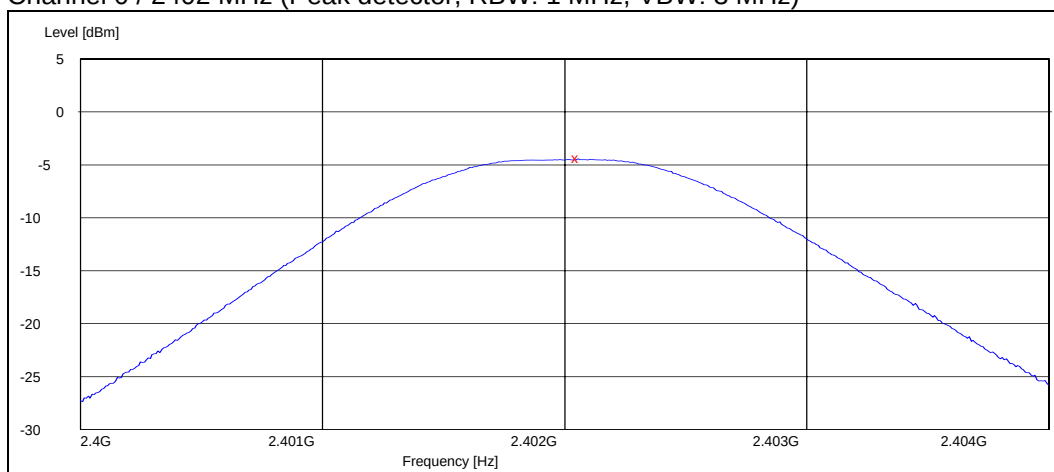
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2. Bluetooth Test results

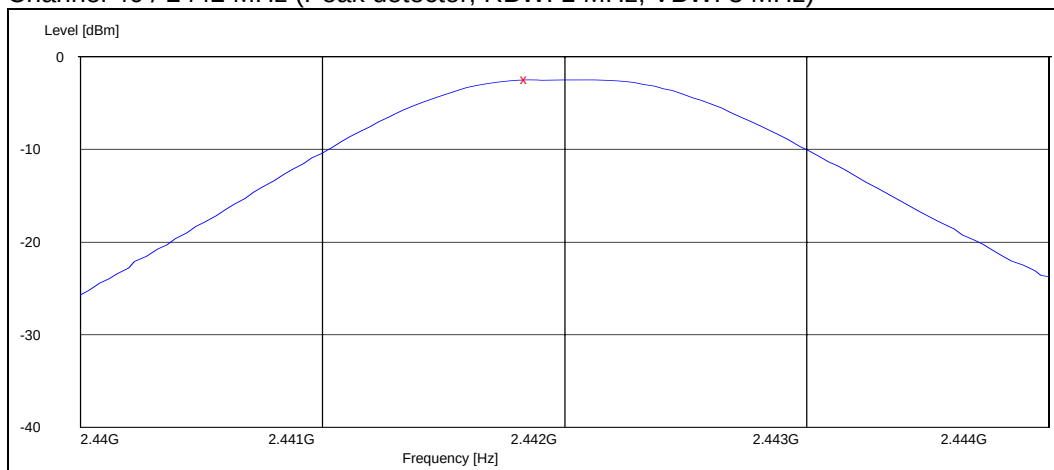
3.2.1 GFSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-4.40	0.363	PASSED
40 / 2442	-2.40	0.575	PASSED
78 / 2480	-3.20	0.479	PASSED

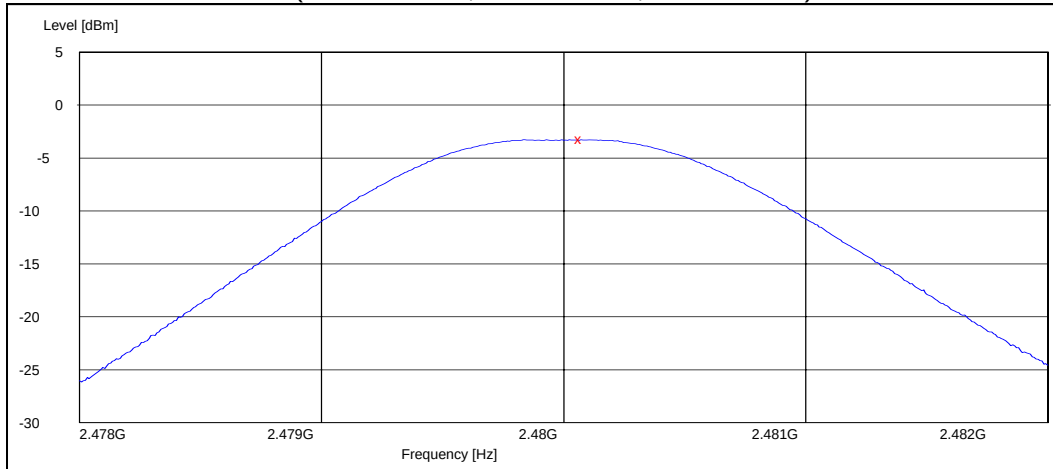
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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



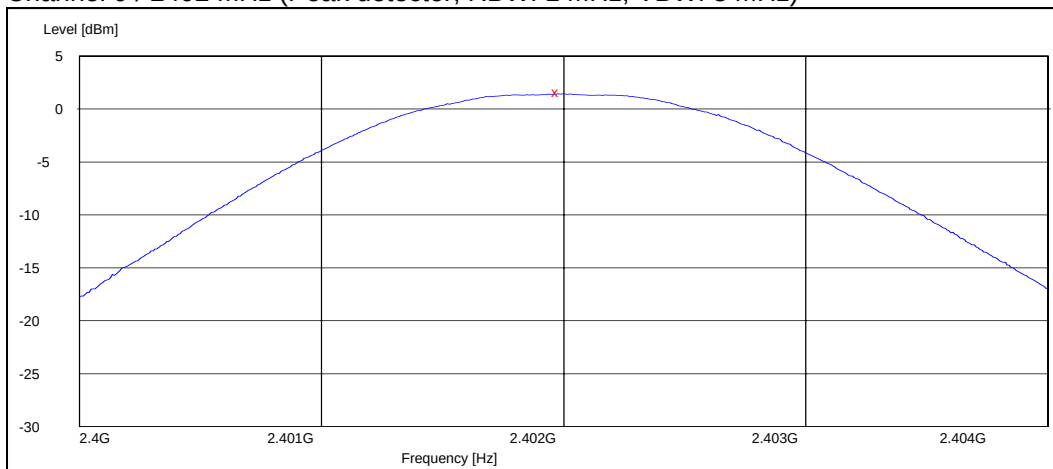
Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



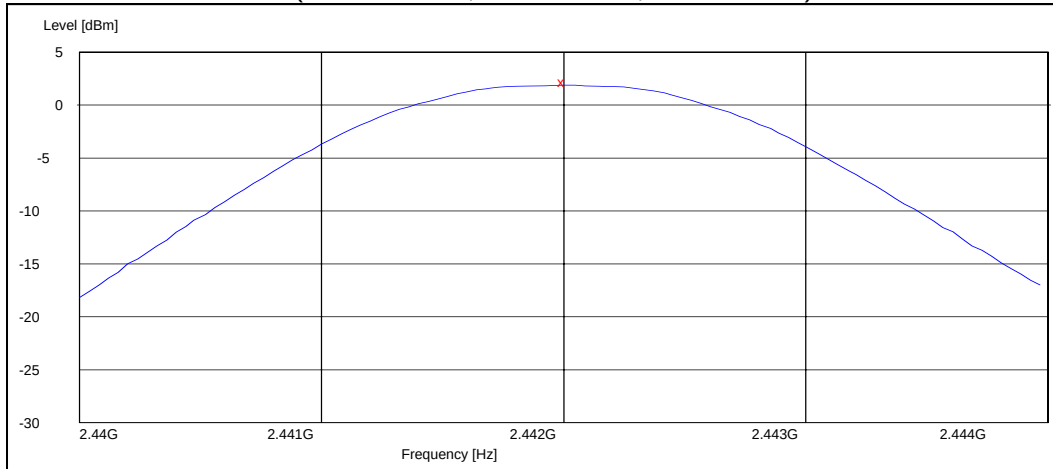
3.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	1.60	1.445	PASSED
40 / 2442	2.20	1.660	PASSED
78 / 2480	2.00	1.585	PASSED

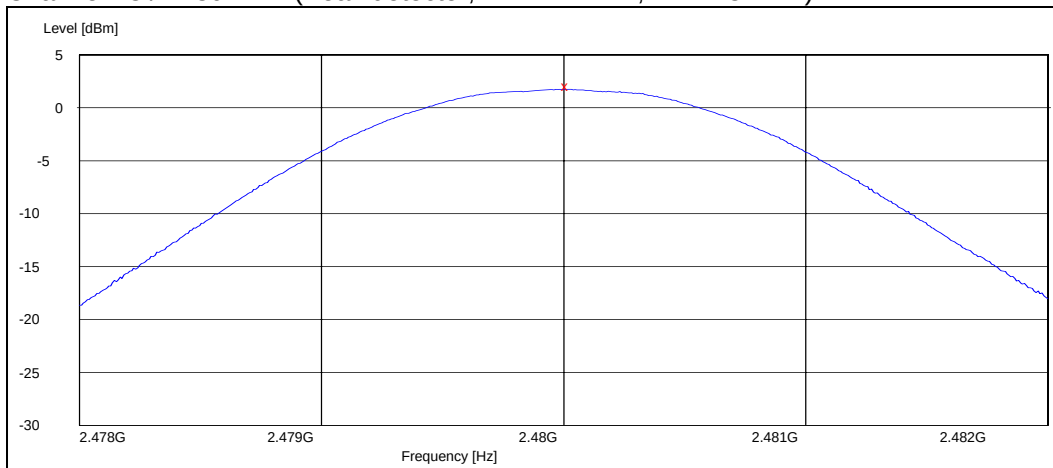
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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-356, DUT 13938
Accessories with DUT numbers	BL-5J, DUT 13941; HS-45, DUT 13947; AD-54, DUT 13945; AC-8E, DUT 13944
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 42 / 100.1
Date of measurements	06-Jul-2009
Measured by	Kalle Hannila

4.1. Test method and limit

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

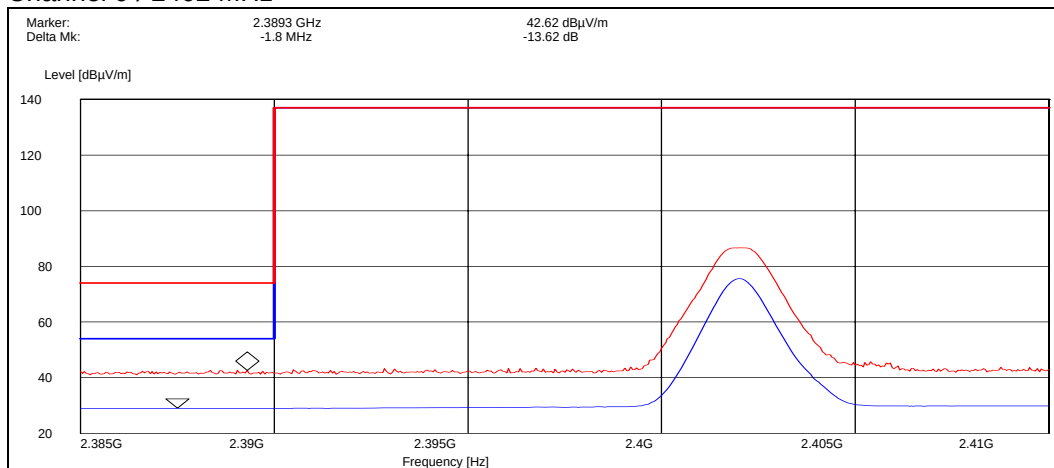
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

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

4.2. Bluetooth Test results

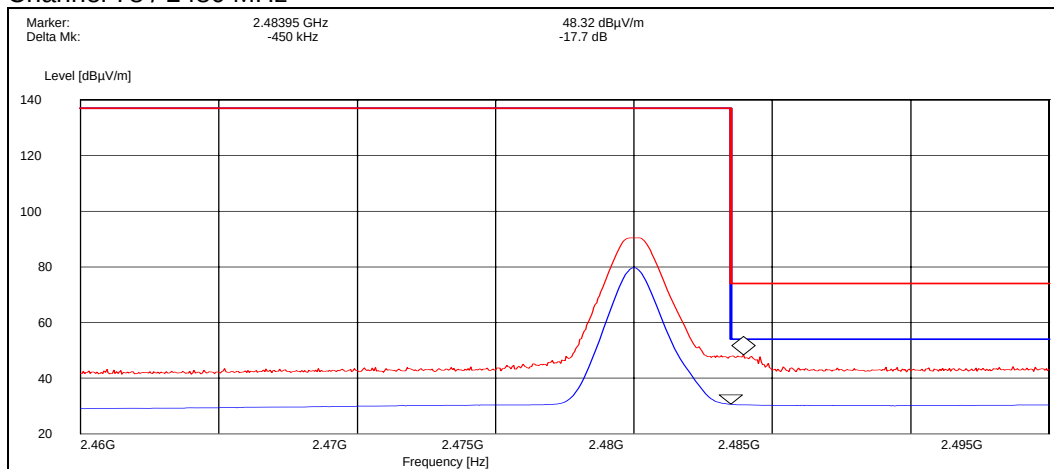
4.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



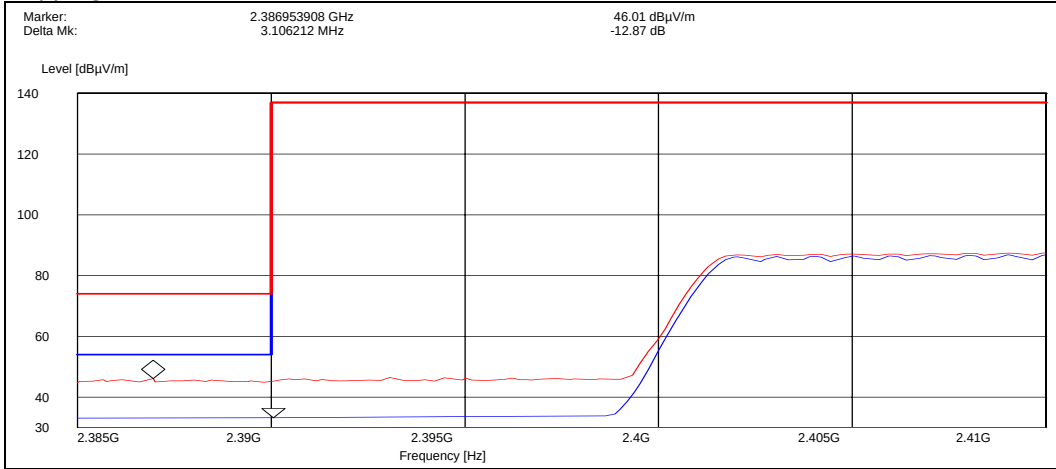
Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	42.60	PASSED
Average	29.00	PASSED

Channel 78 / 2480 MHz



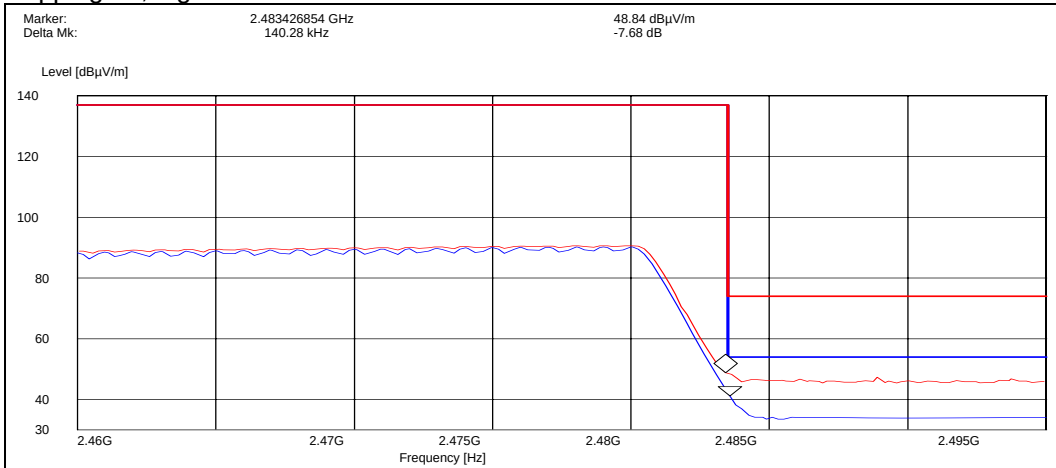
Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	48.30	PASSED
Average	30.60	PASSED

Hopping on, low end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	46.00	PASSED
Average	33.10	PASSED

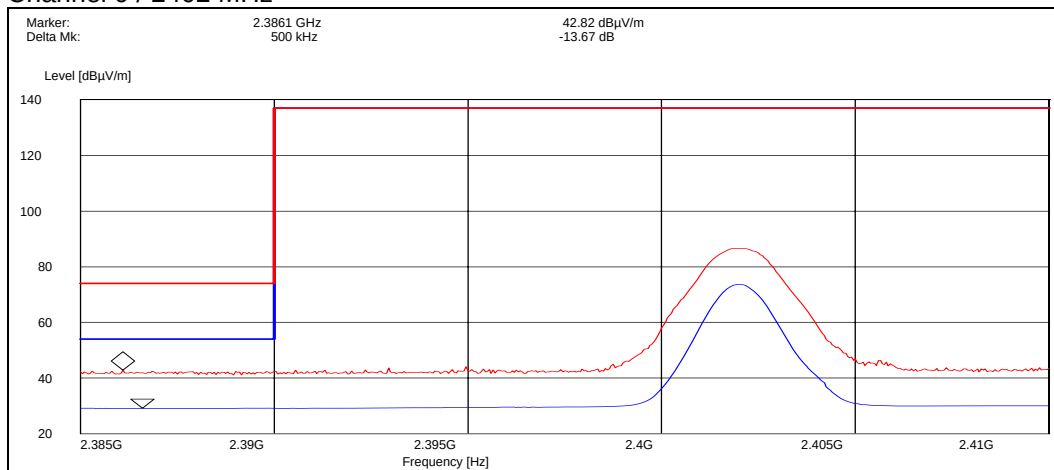
Hopping on, high end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	48.80	PASSED
Average	41.20	PASSED

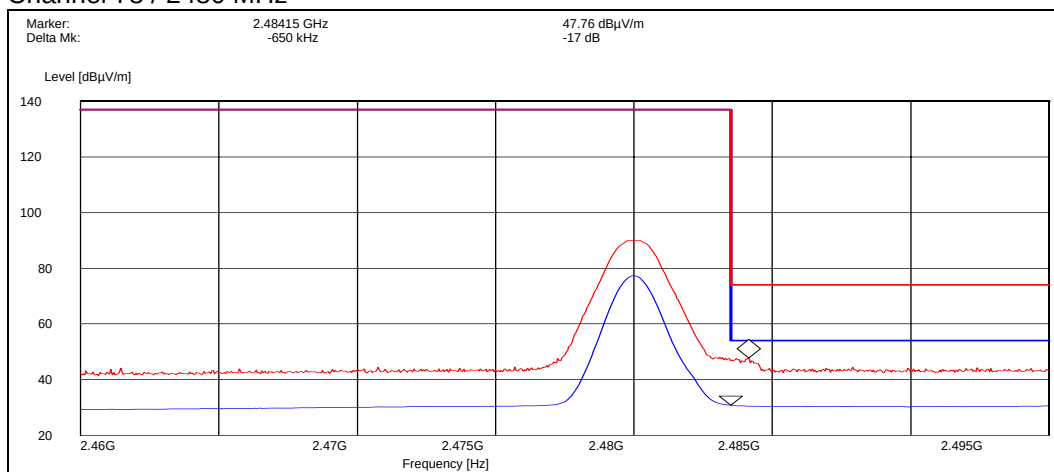
4.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



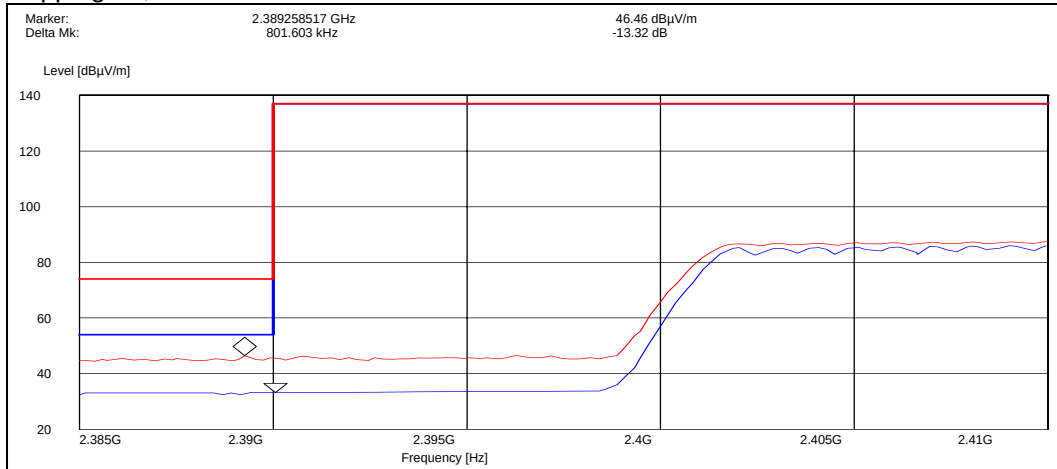
Detector (RBW: 1 MHz)	E [dBμV/m]	Result
Peak	42.80	PASSED
Average	29.10	PASSED

Channel 78 / 2480 MHz



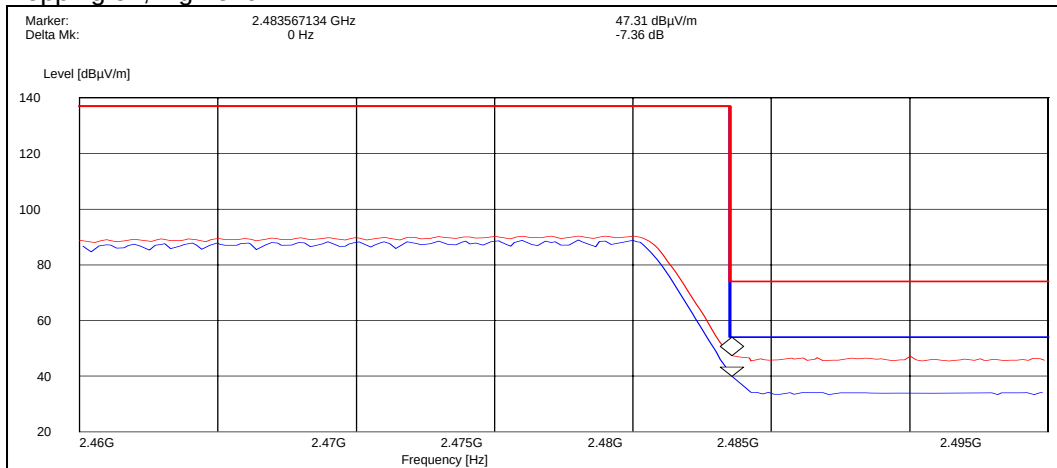
Detector (RBW: 1 MHz)	E [dBμV/m]	Result
Peak	47.80	PASSED
Average	30.80	PASSED

Hopping on, low end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	46.50	PASSED
Average	33.10	PASSED

Hopping on, high end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	47.30	PASSED
Average	40.00	PASSED

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

EUT with DUT number	RM-356, DUT 13937
Accessories with DUT numbers	BL-5J, DUT 13942; AD-54, DUT 13945, HS-45, DUT 13947; AC-8E, DUT 13944
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22,2 / 45 / 102
Date of measurements	01-Jul-2009
Measured by	Sami Lehtonen / Jouko Kaivonen

5.1. Test method and limit

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

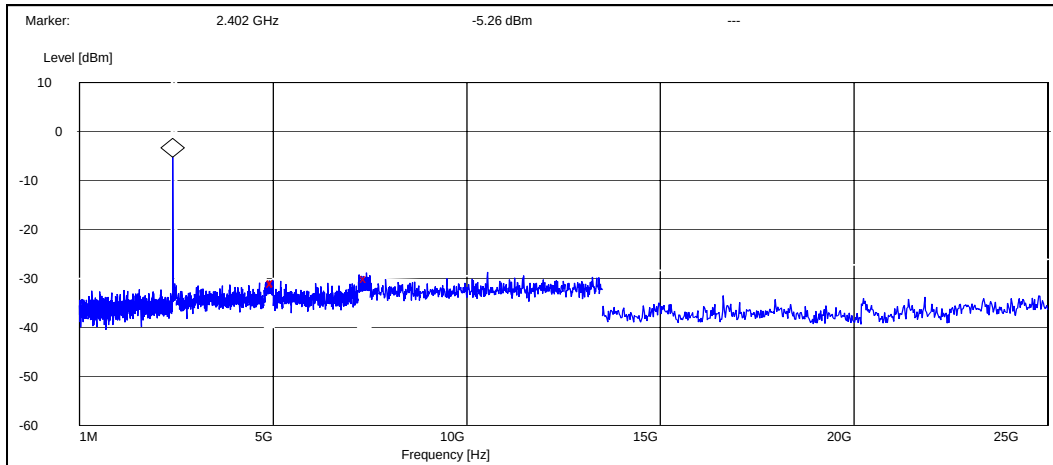
Limits for spurious RF conducted emissions measurements

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

5.2. Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

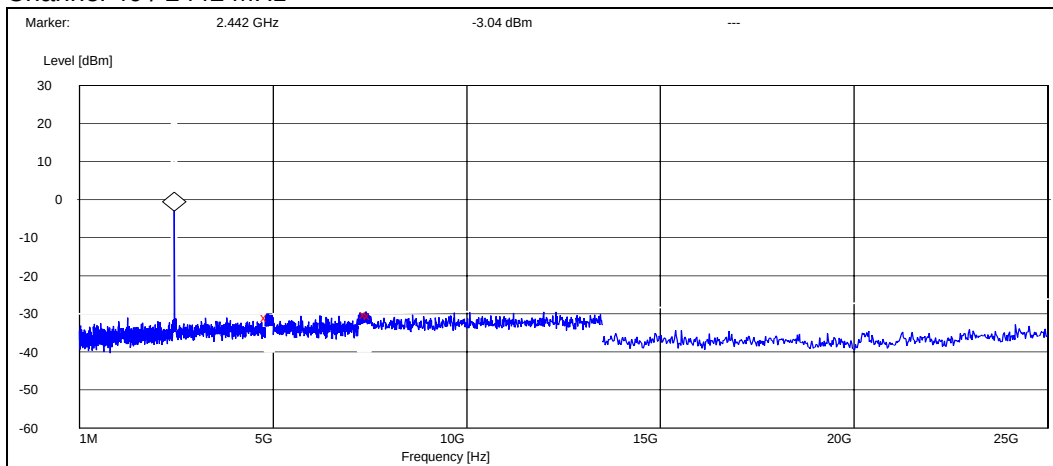
Channel 0 / 2402 MHz



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

Frequency [MHz]	P [dBc]	Result
4989.200000	-25.642693	PASSED
5000.000000	-25.542693	PASSED
7406.400000	-24.742693	PASSED

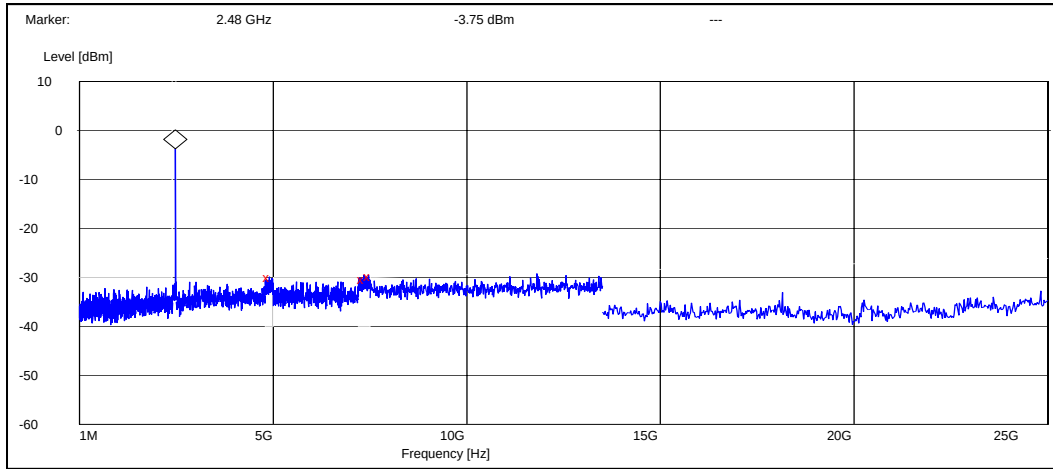
Channel 40 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4838.400000	-27.957245	PASSED
7394.400000	-27.057245	PASSED
7500.000000	-27.257245	PASSED

Channel 78 / 2480 MHz

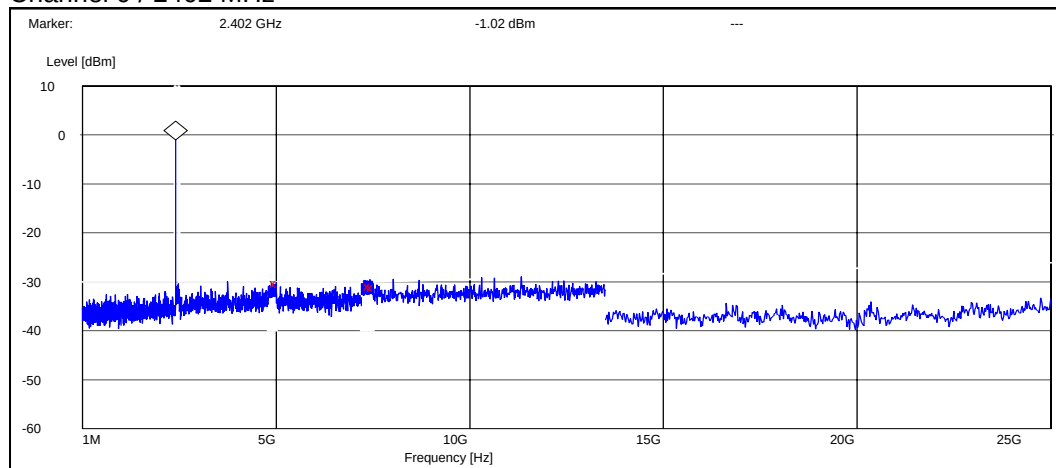


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4906.400000	-26.152896	PASSED
7347.000000	-26.652896	PASSED
7500.000000	-25.952896	PASSED

5.2.2 8DPSK modulation, PRBS packet type

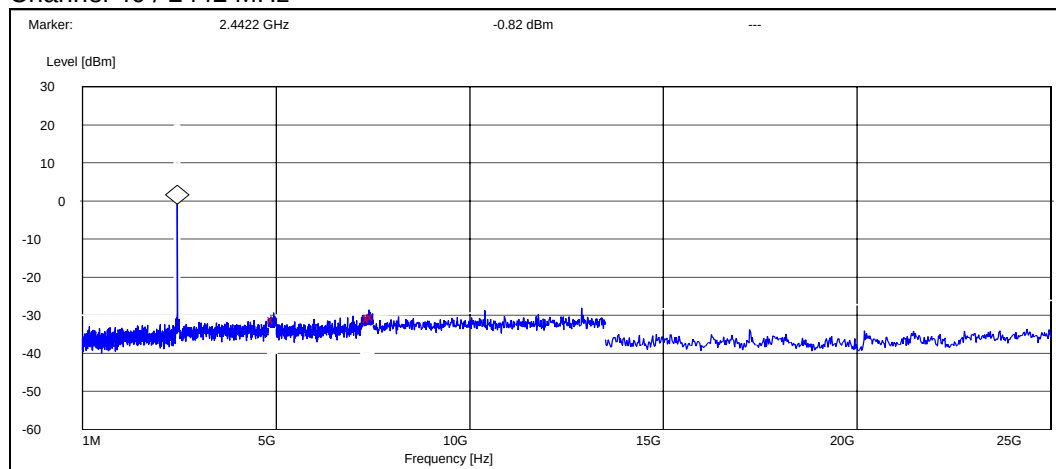
Channel 0 / 2402 MHz



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

Frequency [MHz]	P [dBc]	Result
5000.000000	-29.277090	PASSED
7416.600000	-29.877090	PASSED
7500.000000	-30.077090	PASSED

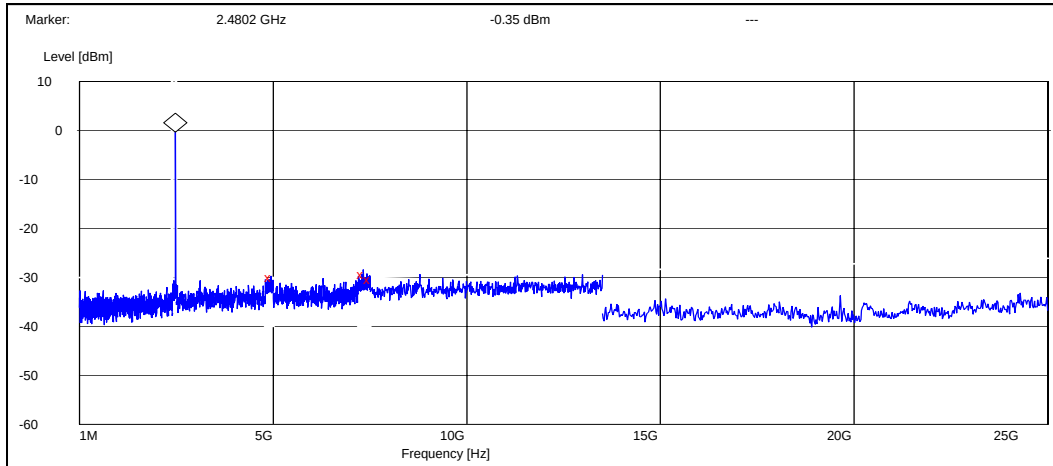
Channel 40 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4939.200000	-30.181711	PASSED
7393.800000	-30.081711	PASSED
7500.000000	-29.381711	PASSED

Channel 78 / 2480 MHz



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

Frequency [MHz]	P [dBc]	Result
4952.000000	-29.751934	PASSED
7326.600000	-28.951934	PASSED
7500.000000	-30.051934	PASSED

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

EUT with DUT number	RM-356, DUT 13938
Accessories with DUT numbers	BL-5J, DUT 13941; HS-45, DUT 13947; AD-54, DUT 13945; AC-8E, DUT 13944
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 42 / 100.1
Date of measurements	06-Jul-2009
Measured by	Kalle Hannila

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	46.10	201.84	45.10	1.0	HORIZONTAL	PASSED
7206.000000	50.40	331.13	47.50	2.9	VERTICAL	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	33.00	44.67	32.00	1.0	HORIZONTAL	PASSED
7206.000000	36.50	66.83	33.60	2.9	VERTICAL	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
38.195391	18.90	8.81	37.80	-18.9	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
4883.769539	46.70	216.27	45.40	1.3	HORIZONTAL	PASSED
7326.153307	51.60	380.19	48.30	3.3	VERTICAL	PASSED
12466.927856	53.70	484.17	42.00	11.7	HORIZONTAL	PASSED
13395.785571	53.70	484.17	40.20	13.5	HORIZONTAL	PASSED
15378.255511	56.10	638.26	37.80	18.3	VERTICAL	PASSED
15884.269539	55.40	588.84	38.00	17.4	HORIZONTAL	PASSED
16046.586172	57.20	724.44	36.50	20.7	HORIZONTAL	PASSED
17724.446894	57.20	724.44	38.20	19.0	VERTICAL	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
4884.269539	33.40	46.77	32.10	1.3	HORIZONTAL	PASSED
7326.153307	37.80	77.62	34.50	3.3	VERTICAL	PASSED
12462.927856	40.10	101.16	28.40	11.7	HORIZONTAL	PASSED
13394.285571	40.90	110.92	27.40	13.5	HORIZONTAL	PASSED

15376.755511	43.50	149.62	25.20	18.3	VERTICAL	PASSED
15885.769539	42.50	133.35	25.10	17.4	HORIZONTAL	PASSED
16042.586172	44.40	165.96	23.90	20.5	HORIZONTAL	PASSED
17721.446894	44.20	162.18	25.20	19.0	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	47.00	223.87	46.80	0.2	HORIZONTAL	PASSED
7440.000000	52.70	431.52	48.30	4.4	VERTICAL	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	33.80	48.98	33.60	0.2	HORIZONTAL	PASSED
7440.000000	38.90	88.10	34.50	4.4	VERTICAL	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	45.90	197.24	44.90	1.0	HORIZONTAL	PASSED
7206.000000	50.70	342.77	47.80	2.9	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	33.60	47.86	32.60	1.0	HORIZONTAL	PASSED
7206.000000	37.70	76.74	34.80	2.9	VERTICAL	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
32.485772	16.30	6.53	31.80	-15.5	VERTICAL	PASSED
37.776353	12.80	4.37	31.50	-18.7	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
4883.767535	47.30	231.74	46.00	1.3	HORIZONTAL	PASSED
7326.153307	51.70	384.59	48.40	3.3	VERTICAL	PASSED
12073.140281	54.30	518.80	42.20	12.1	VERTICAL	PASSED
13318.639279	53.20	457.09	40.40	12.8	HORIZONTAL	PASSED
15489.979960	55.20	575.44	37.80	17.4	HORIZONTAL	PASSED
15829.157315	55.70	609.54	37.30	18.4	VERTICAL	PASSED
16050.098196	57.50	749.89	36.80	20.7	VERTICAL	PASSED
17923.847695	58.10	803.53	38.40	19.7	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
4884.267535	33.80	48.98	32.50	1.3	HORIZONTAL	PASSED
7325.653307	38.10	80.35	34.80	3.3	VERTICAL	PASSED
12072.140281	40.10	101.16	28.00	12.1	VERTICAL	PASSED
13317.639279	40.50	105.93	27.70	12.8	HORIZONTAL	PASSED
15489.979960	42.40	131.83	25.00	17.4	HORIZONTAL	PASSED
15825.657315	42.90	139.64	24.40	18.5	VERTICAL	PASSED
16050.598196	44.60	169.82	23.90	20.7	VERTICAL	PASSED
17922.347695	44.10	160.32	24.50	19.6	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	46.30	206.54	46.10	0.2	HORIZONTAL	PASSED
7440.000000	52.40	416.87	48.00	4.4	VERTICAL	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	34.70	54.33	34.50	0.2	HORIZONTAL	PASSED
7440.000000	39.50	94.41	35.10	4.4	VERTICAL	PASSED

7. Test Equipment

7.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1742	EMI Test Receiver	ESMI	R&S	15C, 15B
1759	LISN 50 μ H	ESH3-Z5	R&S	15C, 15B
1872	Thermo- Hygrograph	00.02520.150700	Lambrecht	15C, 15B
1916	Radio Communication tester	CMTA84	R&S	15C, 15B
2039	Power Supply	PL330QMD	THURLBY	15C, 15B
2060	LISN 50 μ H	ESH3-Z5	R&S	15C, 15B
2068	CDN-Antenna line	S1	NMP	15C, 15B
2097	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
2111	Multimeter	TX3	Tektronix	15C, 15B
2156	Digital Radio Communication Tester	CMU200	R&S	15C, 15B
2206	Signal generator	SMX	R&S	15C, 15B
2335	GPIO Switch 2 to 1	-	National Instruments	15C, 15B
2347	Digital Radio Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2352	Spectrum Analyzer	FSP	R&S	22/24/27, 15C
2359	Temperature Test system	VT4002	Vötsch Industrietechnik	22/24/27
2360	Serial Bus Converter	Serial 488A	IO Tech	22/24/27
2362	Power Supply	NGPX 70/5	R&S	22/24/27
2388	Bluetooth Tester	CBT	R&S	15C, 15B
-	RF Emission Software	ES-K1 v.1.71	R&S	22/24/27, 15C, 15B

7.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1748	Log. per. Antenna	HL025	R&S	22/24/27, 15C
1749	Log. per. Antenna	HL025	R&S	22/24/27, 15C
1875	Thermo- Hygrograph	00.02520.150700	Lambrecht	22/24/27, 15C, 15B
1917	Radio Communication tester	CMTA84	R&S	22/24/27, 15C, 15B
1933	Precision half-wave dipole antennas	HZ-13	R&S	22/24/27, 15C
1938	Precision half-wave dipole antennas	HZ-12	R&S	22/24/27, 15C
2006	Radiation Reference Source	VSQ	MEB	22/24/27, 15C, 15B
2009	Signal generator	SMP 22	R&S	22/24/27, 15C, 15B
2019	Multimeter	34401A	HP	22/24/27, 15C, 15B
2027	Coupling and Decoupling Network	M2 (modified) DC1	MEB	22/24/27, 15C, 15B
2028	Coupling and Decoupling Network	M3 (modified) DC2	MEB	22/24/27, 15C, 15B
2029	Power Supply	PL330	THURLBY	22/24/27, 15C, 15B
2043	Band Reject Filter	WRCA824/849-0.2-6SS	Wainwright	22, 15C, 15B
2047	Band Reject Filter	WRCC1800/2000-0.2-10SS	Wainwright	24, 15C, 15B
2048	Band Reject Filter	WRCC1700/1800-0.2-10SS	Wainwright	27, 15C, 15B
2051	High Pass Filter	4HC1700-1-KK	R&S	22/24/27, 15C
2057	Log. per. Antenna	HL025	R&S	22/24/27, 15C
2109	Power Supply	PL330QMD	THURLBY	22/24/27, 15C, 15B
2110	Multimeter	34401A	HP	22/24/27, 15C, 15B
2112	Multimeter	TX3	Tektronix	22/24/27, 15C, 15B
2116	Controller	EMCO MODEL 2090	ETS	22/24/27, 15C, 15B
2133	Power Meter	NRVS	R&S	22/24/27, 15C
2134	Power Sensor	NRV-Z32	R&S	22/24/27, 15C
2135	Coupling and Decoupling Network	CDN 801-M3	LÜTHI	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
2138	Ultra Broadband Antenna	HL562	R&S	22/24/27, 15C, 15B
2140	Biconical Antenna	EMCO93110B	EMCO	22/24/27, 15C
2142	Log.-per.-dipol Antenna	3146	EMCO	22/24/27, 15C
2144	Attenuator	6803.17B	Huber-Suhner	22/24/27, 15C, 15B
2150	High Pass Filter	F-15041	RLC ELECTRONICS	22/24/27, 15C
2176	Coupling and Decoupling Network	CDN 801-M3	LÜTHI	22/24/27, 15C, 15B
2180	Digital Radio Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2188	Preamplifier	AFS4-00100300-20-23P-6	MITEQ	22/24/27, 15C, 15B
2330	EMI Test receiver	ESIB26	R&S	22/24/27, 15C, 15B
2334	GPIB Switch 2 to 1	-	National Instruments	22/24/27, 15C, 15B
2348	Yaesu controller	G-1000DXC	YAESU	22/24/27, 15C, 15B
2349	Computer controller (Yaesu)	GS-232B	YAESU	22/24/27, 15C, 15B
2350	Preamplifier	AMF-6D-020180-29-20P	MITEQ	22/24/27, 15C
2361	Anechoic chamber	3 meter semi/full anechoic chamber	Euroshield	22/24/27, 15C, 15B
2398	Horn antenna	HF906	R&S	22/24/27, 15C
2363	Band Reject Filter	WRCG 832/838-825/845/5SS	Wainwright	22/24/27
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	22/24/27
2365	Relay Switch Unit	TS-RSP	R&S	22/24/27, 15C, 15B
2366	Relay Switch Unit	TS-RSP	R&S	22/24/27, 15C, 15B
2384	Band Reject Filter	WRCG832/838-825/845-40/5SS	Wainwright	22/24/27
2388	Bluetooth Tester	CBT	R&S	15C, 15B
-	RF Emission Software	ES-K1 v.1.71	R&S	22/24/27, 15C, 15B