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FCC RADIO TEST REPORT

Applicant's company	**Lite-On Technology Corp.**
Applicant Address	Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C
FCC ID	**PPQ-WCBN4506R**
Manufacturer's company	**LITE-ON TECHNOLOGY (Changzhou) CO., LTD**
Manufacturer Address	A9 Building, No.88 Yanghu Road, Wujin Hi-Tech Industrial Development Zone, Changzhou City, Jiangsu Province 213100 China

Product Name	WLAN + BT Combo Module
Brand Name	LITE-ON
Model Name	WCBN4506R
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2402 ~ 2480MHz
Received Date	Sep. 08, 2015
Final Test Date	Oct. 08, 2015
Submission Type	Original Equipment

Statement

Test result included is only for the Bluetooth BR/EDR of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013, DA-00705** and **47 CFR FCC Part 15 Subpart C**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.

Testing Laboratory
1190

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR590501AC	Rev. 01	Initial issue of report	Nov. 04, 2015

1. VERIFICATION OF COMPLIANCE

Product Name	:	WLAN + BT Combo Module
Brand Name	:	LITE-ON
Model No.	:	WCBN4506R
Applicant	:	Lite-On Technology Corp.
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Sep. 08, 2015 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	15.35 dB
4.2	15.247(b)(1)	Maximum Conducted Output Power	Complies	11.42 dB
4.3	15.247(a)(1)	Hopping Channel Separation	Complies	-
4.4	15.247(b)(1)	Number of Hopping Frequency	Complies	-
4.5	15.247(a)(1)	Dwell Time	Complies	-
4.6	15.247(d)	Radiated Emissions	Complies	3.23 dB
4.7	15.247(d)	Band Edge Emissions	Complies	14.15 dB
4.8	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Power Type	From host system
Modulation	FHSS (GFSK / π/4-DQPSK / 8DPSK)
Data Rate (Mbps)	GFSK: 1 ; π/4-DQPSK: 2 ; 8DPSK: 3
Frequency Range	2402 ~ 2480MHz
Channel Number	79
Channel Band Width (99%)	BR (GFSK) 1 Mbps: 0.9040 MHz EDR (π/4-DQPSK) 2 Mbps: 1.2160 MHz EDR (8DPSK) 3 Mbps: 1.2160 MHz
Maximum Conducted Peak Output Power	BR (GFSK) 1 Mbps: 9.58 dBm EDR (π/4-DQPSK) 2 Mbps: 8.85 dBm EDR (8DPSK) 3 Mbps: 8.94 dBm
Maximum Conducted Average Output Power	BR (GFSK) 1 Mbps: 8.52 dBm EDR (π/4-DQPSK) 2 Mbps: 8.02 dBm EDR (8DPSK) 3 Mbps: 7.88 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3
Note 1: Bluetooth BR uses a combination of GFSK (1Mbps). Note 2: Bluetooth EDR uses a combination of π/4-DQPSK (2Mbps) and 8DPSK (3Mbps).	

3.2. Accessories

N/A

3.3. Table for Filed Antenna

Set	Ant.	Brand Holder	Model Name	Antenna Type	Connector	Remark
1	1	SONY corporation	WCBN4506R	PIFA Antenna	N/A	Only for EUT 2 WiFi use
	2	SONY corporation	WCBN4506R	PIFA Antenna	N/A	Only for EUT 2 WiFi use
2	3	SONY corporation	WCBN4506R	Dipole Antenna	I-PEX	For EUT 1 WiFi and BT use For EUT 2 BT use
	4	SONY corporation	WCBN4506R	Dipole Antenna	I-PEX	For EUT 1 WiFi and BT use For EUT 2 BT use
3	5	Waka manufacturing Co.,Ltd.	01S1072-00	Dipole Antenna	I-PEX	Only for EUT 1 WiFi use
	6	Waka manufacturing Co.,Ltd.	01S1072-00	Dipole Antenna	I-PEX	Only for EUT 1 WiFi use

Set	Ant.	Gain (dBi)						
		BT-2.4GHz	WiFi-2.4GHz	WiFi-5GHz Band 1	WiFi-5GHz Band 2	WiFi-5GHz Band 3	WiFi-5GHz Band 4	Cable Length [mm]
1	1	-	0.71	1.81	1.81	2.14	1.8	N/A
	2	-	0.13	0.72	1.78	2.12	1.67	N/A
2 Note1	3	1.61	1.61	2.13	2.13	2.31	2.68	100-910mm Note2
	4	1.61	1.61	2.13	2.13	2.31	2.68	100-910mm Note2
3 Note1	5	-	2.06	2.41	2.87	1.89	2.7	90mm
	6	-	2.06	2.41	2.87	1.89	2.7	90mm

Note:

1. Gain with cable loss

2. Table for Cable loss Information

I-PEX Plug : Normal Type

Cable No.	Model Cable Color : Black	Cable No.	Model Cable Color : Gray	Cable No.	Model Cable Color : White	Brand	Cable Length [mm]	Phi [mm]	Connector Type	Cable Loss					
										2.4 GHz	2.45 GHz	2.5 GHz	5.15 GHz	5.5 GHz	5.85 GHz
1	822EKQ1000000001H1	83	822EKR1000000001H1	165	822EKP1000000001H1	I-PEX	100	1.13	MHF	0.51	0.51	0.52	0.79	0.80	0.82
2	822EKQ1100000001H1	84	822EKR1100000001H1	166	822EKP1100000001H1	I-PEX	110	1.13	MHF	0.54	0.54	0.55	0.84	0.85	0.87
3	822EKQ1200000001H1	85	822EKR1200000001H1	167	822EKP1200000001H1	I-PEX	120	1.13	MHF	0.57	0.57	0.58	0.88	0.90	0.92
4	822EKQ1300000001H1	86	822EKR1300000001H1	168	822EKP1300000001H1	I-PEX	130	1.13	MHF	0.60	0.60	0.62	0.93	0.94	0.97
5	822EKQ1400000001H1	87	822EKR1400000001H1	169	822EKP1400000001H1	I-PEX	140	1.13	MHF	0.63	0.64	0.65	0.98	0.99	1.02
6	822EKQ1500000001H1	88	822EKR1500000001H1	170	822EKP1500000001H1	I-PEX	150	1.13	MHF	0.67	0.67	0.68	1.02	1.04	1.07
7	822EKQ1600000001H1	89	822EKR1600000001H1	171	822EKP1600000001H1	I-PEX	160	1.13	MHF	0.70	0.70	0.71	1.07	1.09	1.12
8	822EKQ1700000001H1	90	822EKR1700000001H1	172	822EKP1700000001H1	I-PEX	170	1.13	MHF	0.73	0.73	0.74	1.11	1.14	1.17
9	822EKQ1800000001H1	91	822EKR1800000001H1	173	822EKP1800000001H1	I-PEX	180	1.13	MHF	0.76	0.76	0.77	1.16	1.18	1.22
10	822EKQ1900000001H1	92	822EKR1900000001H1	174	822EKP1900000001H1	I-PEX	190	1.13	MHF	0.79	0.79	0.81	1.21	1.23	1.27
11	822EKQ2000000001H1	93	822EKR2000000001H1	175	822EKP2000000001H1	I-PEX	200	1.13	MHF	0.82	0.83	0.84	1.25	1.28	1.32
12	822EKQ2100000001H1	94	822EKR2100000001H1	176	822EKP2100000001H1	I-PEX	210	1.13	MHF	0.85	0.86	0.87	1.30	1.33	1.37
13	822EKQ2200000001H1	95	822EKR2200000001H1	177	822EKP2200000001H1	I-PEX	220	1.13	MHF	0.88	0.89	0.90	1.35	1.37	1.42
14	822EKQ2300000001H1	96	822EKR2300000001H1	178	822EKP2300000001H1	I-PEX	230	1.13	MHF	0.91	0.92	0.93	1.39	1.42	1.47
15	822EKQ2400000001H1	97	822EKR2400000001H1	179	822EKP2400000001H1	I-PEX	240	1.13	MHF	0.95	0.95	0.96	1.44	1.47	1.52
16	822EKQ2500000001H1	98	822EKR2500000001H1	180	822EKP2500000001H1	I-PEX	250	1.13	MHF	0.98	0.98	1.00	1.48	1.52	1.57
17	822EKQ2600000001H1	99	822EKR2600000001H1	181	822EKP2600000001H1	I-PEX	260	1.13	MHF	1.01	1.02	1.03	1.53	1.57	1.62
18	822EKQ2700000001H1	100	822EKR2700000001H1	182	822EKP2700000001H1	I-PEX	270	1.13	MHF	1.04	1.05	1.06	1.58	1.61	1.67
19	822EKQ2800000001H1	101	822EKR2800000001H1	183	822EKP2800000001H1	I-PEX	280	1.13	MHF	1.07	1.08	1.09	1.62	1.66	1.72
20	822EKQ2900000001H1	102	822EKR2900000001H1	184	822EKP2900000001H1	I-PEX	290	1.13	MHF	1.10	1.11	1.12	1.67	1.71	1.77
21	822EKQ3000000001H1	103	822EKR3000000001H1	185	822EKP3000000001H1	I-PEX	300	1.13	MHF	1.13	1.14	1.15	1.72	1.76	1.82
22	822EKQ3100000001H1	104	822EKR3100000001H1	186	822EKP3100000001H1	I-PEX	310	1.13	MHF	1.16	1.17	1.19	1.76	1.81	1.87
23	822EKQ3200000001H1	105	822EKR3200000001H1	187	822EKP3200000001H1	I-PEX	320	1.13	MHF	1.19	1.21	1.22	1.81	1.85	1.92
24	822EKQ3300000001H1	106	822EKR3300000001H1	188	822EKP3300000001H1	I-PEX	330	1.13	MHF	1.23	1.24	1.25	1.85	1.90	1.97
25	822EKQ3400000001H1	107	822EKR3400000001H1	189	822EKP3400000001H1	I-PEX	340	1.13	MHF	1.26	1.27	1.28	1.90	1.95	2.02
26	822EKQ3500000001H1	108	822EKR3500000001H1	190	822EKP3500000001H1	I-PEX	350	1.13	MHF	1.29	1.30	1.31	1.95	2.00	2.07
27	822EKQ3600000001H1	109	822EKR3600000001H1	191	822EKP3600000001H1	I-PEX	360	1.13	MHF	1.32	1.33	1.34	1.99	2.05	2.12
28	822EKQ3700000001H1	110	822EKR3700000001H1	192	822EKP3700000001H1	I-PEX	370	1.13	MHF	1.35	1.36	1.38	2.04	2.09	2.17
29	822EKQ3800000001H1	111	822EKR3800000001H1	193	822EKP3800000001H1	I-PEX	380	1.13	MHF	1.38	1.39	1.41	2.09	2.14	2.22
30	822EKQ3900000001H1	112	822EKR3900000001H1	194	822EKP3900000001H1	I-PEX	390	1.13	MHF	1.41	1.43	1.44	2.13	2.19	2.27
31	822EKQ4000000001H1	113	822EKR4000000001H1	195	822EKP4000000001H1	I-PEX	400	1.13	MHF	1.44	1.46	1.47	2.18	2.24	2.32
32	822EKQ4100000001H1	114	822EKR4100000001H1	196	822EKP4100000001H1	I-PEX	410	1.13	MHF	1.47	1.49	1.50	2.23	2.28	2.37
33	822EKQ4200000001H1	115	822EKR4200000001H1	197	822EKP4200000001H1	I-PEX	420	1.13	MHF	1.51	1.52	1.53	2.27	2.33	2.42
34	822EKQ4300000001H1	116	822EKR4300000001H1	198	822EKP4300000001H1	I-PEX	430	1.13	MHF	1.54	1.55	1.57	2.32	2.38	2.47
35	822EKQ4400000001H1	117	822EKR4400000001H1	199	822EKP4400000001H1	I-PEX	440	1.13	MHF	1.57	1.58	1.60	2.36	2.43	2.52
36	822EKQ4500000001H1	118	822EKR4500000001H1	200	822EKP4500000001H1	I-PEX	450	1.13	MHF	1.60	1.62	1.63	2.41	2.48	2.57
37	822EKQ4600000001H1	119	822EKR4600000001H1	201	822EKP4600000001H1	I-PEX	460	1.13	MHF	1.63	1.65	1.66	2.46	2.52	2.62
38	822EKQ4700000001H1	120	822EKR4700000001H1	202	822EKP4700000001H1	I-PEX	470	1.13	MHF	1.66	1.68	1.69	2.50	2.57	2.67
39	822EKQ4800000001H1	121	822EKR4800000001H1	203	822EKP4800000001H1	I-PEX	480	1.13	MHF	1.69	1.71	1.72	2.55	2.62	2.72
40	822EKQ4900000001H1	122	822EKR4900000001H1	204	822EKP4900000001H1	I-PEX	490	1.13	MHF	1.72	1.74	1.76	2.60	2.67	2.77
41	822EKQ5000000001H1	123	822EKR5000000001H1	205	822EKP5000000001H1	I-PEX	500	1.13	MHF	1.75	1.77	1.79	2.64	2.72	2.82
42	822EKQ5100000001H1	124	822EKR5100000001H1	206	822EKP5100000001H1	I-PEX	510	1.13	MHF	1.79	1.81	1.82	2.69	2.76	2.87
43	822EKQ5200000001H1	125	822EKR5200000001H1	207	822EKP5200000001H1	I-PEX	520	1.13	MHF	1.82	1.84	1.85	2.73	2.81	2.92
44	822EKQ5300000001H1	126	822EKR5300000001H1	208	822EKP5300000001H1	I-PEX	530	1.13	MHF	1.85	1.87	1.88	2.78	2.86	2.97
45	822EKQ5400000001H1	127	822EKR5400000001H1	209	822EKP5400000001H1	I-PEX	540	1.13	MHF	1.88	1.90	1.91	2.83	2.91	3.02
46	822EKQ5500000001H1	128	822EKR5500000001H1	210	822EKP5500000001H1	I-PEX	550	1.13	MHF	1.91	1.93	1.95	2.87	2.96	3.07
47	822EKQ5600000001H1	129	822EKR5600000001H1	211	822EKP5600000001H1	I-PEX	560	1.13	MHF	1.94	1.96	1.98	2.92	3.00	3.12
48	822EKQ5700000001H1	130	822EKR5700000001H1	212	822EKP5700000001H1	I-PEX	570	1.13	MHF	1.97	2.00	2.01	2.97	3.05	3.17
49	822EKQ5800000001H1	131	822EKR5800000001H1	213	822EKP5800000001H1	I-PEX	580	1.13	MHF	2.00	2.03	2.04	3.01	3.10	3.22
50	822EKQ5900000001H1	132	822EKR5900000001H1	214	822EKP5900000001H1	I-PEX	590	1.13	MHF	2.03	2.06	2.07	3.06	3.15	3.27
51	822EKQ6000000001H1	133	822EKR6000000001H1	215	822EKP6000000001H1	I-PEX	600	1.13	MHF	2.07	2.09	2.11	3.11	3.20	3.32
52	822EKQ6100000001H1	134	822EKR6100000001H1	216	822EKP6100000001H1	I-PEX	610	1.13	MHF	2.10	2.12	2.14	3.15	3.24	3.36
53	822EKQ6200000001H1	135	822EKR6200000001H1	217	822EKP6200000001H1	I-PEX	620	1.13	MHF	2.13	2.15	2.17	3.20	3.29	3.41
54	822EKQ6300000001H1	136	822EKR6300000001H1	218	822EKP6300000001H1	I-PEX	630	1.13	MHF	2.16	2.18	2.20	3.24	3.34	3.46
55	822EKQ6400000001H1	137	822EKR6400000001H1	219	822EKP6400000001H1	I-PEX	640	1.13	MHF	2.19	2.22	2.23	3.29	3.39	3.51
56	822EKQ6500000001H1	138	822EKR6500000001H1	220	822EKP6500000001H1	I-PEX	650	1.13	MHF	2.22	2.25	2.26	3.34	3.43	3.56
57	822EKQ6600000001H1	139	822EKR6600000001H1	221	822EKP6600000001H1	I-PEX	660	1.13	MHF	2.25	2.28	2.30	3.38	3.48	3.61
58	822EKQ6700000001H1	140	822EKR6700000001H1	222	822EKP6700000001H1	I-PEX	670	1.13	MHF	2.28	2.31	2.33	3.43	3.53	3.66
59	822EKQ6800000001H1	141	822EKR6800000001H1	223	822EKP6800000001H1	I-PEX	680	1.13	MHF	2.31	2.34	2.36	3.48	3.58	3.71
60	822EKQ6900000001H1	142	822EKR6900000001H1	224	822EKP6900000001H1	I-PEX	690	1.13	MHF	2.34	2.37	2.39	3.52	3.63	3.76
61	822EKQ7000000001H1	143	822EKR7000000001H1	225	822EKP7000000001H1	I-PEX	700	1.13	MHF	2.38	2.41	2.42	3.57	3.67	3.81
62	822EKQ7100000001H1	144	822EKR7100000001H1	226	822EKP7100000001H1	I-PEX	710	1.13	MHF	2.41	2.44	2.45	3.61	3.72	3.86
63	822EKQ7200000001H1	145	822EKR7200000001H1	227	822EKP7200000001H1	I-PEX	720	1.13	MHF	2.44	2.47	2.49	3.66	3.77	3.91
64	822EKQ7300000001H1	146	822EKR7300000001H1	228	822EKP7300000001H1	I-PEX	730	1.13	MHF	2.47	2.50	2.52	3.71	3.82	3.96
65	822EKQ7400000001H1	147	822EKR7400000001H1	229	822EKP7400000001H1	I-PEX	740	1.13	MHF	2.50	2.53	2.55	3.75	3.87	4.01
66	822EKQ7500000001H1	148	822EKR7500000001H1	230	822EKP7500000001H1	I-PEX	750	1.13	MHF	2.53	2.56	2.58	3.80	3.91	4.06
67	822EKQ7600000001H1	149	822EKR7600000001H1	231	822EKP7600000001H1	I-PEX	760	1.13	MHF	2.56	2.60	2.61	3.85	3.96	4.11
68	822EKQ7700000001H1	150	822EKR7700000001H1	232	822EKP7700000001H1	I-PEX	770	1.13	MHF	2.59	2.63	2.64	3.89	4.01	4.16
69	822EKQ7800000001H1	151	822EKR7800000001H1	233	822EKP7800000001H1	I-PEX	780	1.13	MHF	2.62	2.66	2.68	3.94	4.06	4.21
70	822EKQ7900000001H1	152	822EKR7900000001H1	234	822EKP7900000001H1	I-PEX	790	1.13	MHF	2.66	2.69	2.71	3.98	4.11	4.26
71	822EKQ8000000001H1	153	822EKR8000000001H1	235	822EKP8000000001H1	I-PEX	800	1.13	MHF	2.69	2.72	2.74	4.03	4.15	4.31
72	822EKQ8100000001H1	154	822EKR8100000001H1	236	822EKP8100000001H1	I-PEX	810	1.13	MHF	2.72	2.75	2.77	4.08	4.20	4.36
73	822EKQ8200000001H1	155	822EKR8200000001H1	237	822EKP8200000001H1	I-PEX	820	1.13	MHF	2.75	2.79	2.80	4.12	4.25	4.41
74	822EKQ8300000001H1	156	822EKR8300000001H1	238	822EKP8300000001H1	I-PEX	830	1.13	MHF	2.78	2.82	2.83	4.17	4.30	4.46
75	822EKQ8400000001H1	157	822EKR8400000001H1	239	822EKP8400000001H1	I-PEX	840	1.13	MHF	2.81	2.85	2.87	4.22	4.34	4.51
76	822EKQ8500000001H1	158	822EKR8500000001H1	240	822EKP8500000001H1	I-PEX	850	1.13	MHF	2.84	2.88	2.90	4.26	4.39	4.56
77	822EKQ8600000001H1	159	822EKR8600000001H1	241	822EKP8600000001H1	I-PEX	860	1.13	MHF	2.87	2.91	2.93	4.31	4.44	4.61
78	822EKQ8700000001H1	160	822EKR8700000001H1	242	822EKP8700000001H1	I-PEX	870	1.13	MHF	2.90	2.94	2.96	4.36	4.49	4.66
79	822EKQ8800000001H1	161	822EKR8800000001H1	243	822EKP8800000001H1	I-PEX	880	1.13	MHF	2.94	2.97	2.99	4.40	4.54	4.71
80	822EKQ8900000001H1	162	822EKR8900000001H1	244	822EKP8900000001H1	I-PEX	890	1.13	MHF	2.97	3.01	3.02	4.45	4.58	4.76
81	822EKQ9000000001H1	163	822EKR9000000001H1	245	822EKP9000000001H1	I-PEX	900	1.13	MHF	3.00	3.04	3.06	4.49	4.63	4.81
82	822EKQ9100000001H1	164	822EKR9100000001H1	246	822EKP9100000001H1	I-PEX	910	1.13	MHF	3.03	3.07	3.09	4.54	4.68	4.86

I-PEX Plug : Smooth Insert Type

Cable No.	Model Cable Color : Black	Cable No.	Model Cable Color : Gray	Cable No.	Model Cable Color : White	Brand	Cable Length [mm]	Phi [mm]	Connector Type	Cable Loss					
										2.4 GHz	2.45 GHz	2.5 GHz	5.15 GHz	5.5 GHz	5.85 GHz
247	822EKQ1000000001H3	329	822EKR1000000001H3	411	822EKP1000000001H3	I-PEX	100	1.13	MHF	0.51	0.51	0.52	0.79	0.80	0.82
248	822EKQ1100000001H3	330	822EKR1100000001H3	412	822EKP1100000001H3	I-PEX	110	1.13	MHF	0.54	0.54	0.55	0.84	0.85	0.87
249	822EKQ1200000001H3	331	822EKR1200000001H3	413	822EKP1200000001H3	I-PEX	120	1.13	MHF	0.57	0.57	0.58	0.88	0.90	0.92
250	822EKQ1300000001H3	332	822EKR1300000001H3	414	822EKP1300000001H3	I-PEX	130	1.13	MHF	0.60	0.60	0.62	0.93	0.94	0.97
251	822EKQ1400000001H3	333	822EKR1400000001H3	415	822EKP1400000001H3	I-PEX	140	1.13	MHF	0.63	0.64	0.65	0.98	0.99	1.02
252	822EKQ1500000001H3	334	822EKR1500000001H3	416	822EKP1500000001H3	I-PEX	150	1.13	MHF	0.67	0.67	0.68	1.02	1.04	1.07
253	822EKQ1600000001H3	335	822EKR1600000001H3	417	822EKP1600000001H3	I-PEX	160	1.13	MHF	0.70	0.70	0.71	1.07	1.09	1.12
254	822EKQ1700000001H3	336	822EKR1700000001H3	418	822EKP1700000001H3	I-PEX	170	1.13	MHF	0.73	0.73	0.74	1.11	1.14	1.17
255	822EKQ1800000001H3	337	822EKR1800000001H3	419	822EKP1800000001H3	I-PEX	180	1.13	MHF	0.76	0.76	0.77	1.16	1.18	1.22
256	822EKQ1900000001H3	338	822EKR1900000001H3	420	822EKP1900000001H3	I-PEX	190	1.13	MHF	0.79	0.79	0.81	1.21	1.23	1.27
257	822EKQ2000000001H3	339	822EKR2000000001H3	421	822EKP2000000001H3	I-PEX	200	1.13	MHF	0.82	0.83	0.84	1.25	1.28	1.32
258	822EKQ2100000001H3	340	822EKR2100000001H3	422	822EKP2100000001H3	I-PEX	210	1.13	MHF	0.85	0.86	0.87	1.30	1.33	1.37
259	822EKQ2200000001H3	341	822EKR2200000001H3	423	822EKP2200000001H3	I-PEX	220	1.13	MHF	0.88	0.89	0.90	1.35	1.37	1.42
260	822EKQ2300000001H3	342	822EKR2300000001H3	424	822EKP2300000001H3	I-PEX	230	1.13	MHF	0.91	0.92	0.93	1.39	1.42	1.47
261	822EKQ2400000001H3	343	822EKR2400000001H3	425	822EKP2400000001H3	I-PEX	240	1.13	MHF	0.95	0.95	0.96	1.44	1.47	1.52
262	822EKQ2500000001H3	344	822EKR2500000001H3	426	822EKP2500000001H3	I-PEX	250	1.13	MHF	0.98	0.98	1.00	1.48	1.52	1.57
263	822EKQ2600000001H3	345	822EKR2600000001H3	427	822EKP2600000001H3	I-PEX	260	1.13	MHF	1.01	1.02	1.03	1.53	1.57	1.62
264	822EKQ2700000001H3	346	822EKR2700000001H3	428	822EKP2700000001H3	I-PEX	270	1.13	MHF	1.04	1.05	1.06	1.58	1.61	1.67
265	822EKQ2800000001H3	347	822EKR2800000001H3	429	822EKP2800000001H3	I-PEX	280	1.13	MHF	1.07	1.08	1.09	1.62	1.66	1.72
266	822EKQ2900000001H3	348	822EKR2900000001H3	430	822EKP2900000001H3	I-PEX	290	1.13	MHF	1.10	1.11	1.12	1.67	1.71	1.77
267	822EKQ3000000001H3	349	822EKR3000000001H3	431	822EKP3000000001H3	I-PEX	300	1.13	MHF	1.13	1.14	1.15	1.72	1.76	1.82
268	822EKQ3100000001H3	350	822EKR3100000001H3	432	822EKP3100000001H3	I-PEX	310	1.13	MHF	1.16	1.17	1.19	1.76	1.81	1.87
269	822EKQ3200000001H3	351	822EKR3200000001H3	433	822EKP3200000001H3	I-PEX	320	1.13	MHF	1.19	1.21	1.22	1.81	1.85	1.92
270	822EKQ3300000001H3	352	822EKR3300000001H3	434	822EKP3300000001H3	I-PEX	330	1.13	MHF	1.23	1.24	1.25	1.85	1.90	1.97
271	822EKQ3400000001H3	353	822EKR3400000001H3	435	822EKP3400000001H3	I-PEX	340	1.13	MHF	1.26	1.27	1.28	1.90	1.95	2.02
272	822EKQ3500000001H3	354	822EKR3500000001H3	436	822EKP3500000001H3	I-PEX	350	1.13	MHF	1.29	1.30	1.31	1.95	2.00	2.07
273	822EKQ3600000001H3	355	822EKR3600000001H3	437	822EKP3600000001H3	I-PEX	360	1.13	MHF	1.32	1.33	1.34	1.99	2.05	2.12
274	822EKQ3700000001H3	356	822EKR3700000001H3	438	822EKP3700000001H3	I-PEX	370	1.13	MHF	1.35	1.36	1.38	2.04	2.09	2.17
275	822EKQ3800000001H3	357	822EKR3800000001H3	439	822EKP3800000001H3	I-PEX	380	1.13	MHF	1.38	1.39	1.41	2.09	2.14	2.22
276	822EKQ3900000001H3	358	822EKR3900000001H3	440	822EKP3900000001H3	I-PEX	390	1.13	MHF	1.41	1.43	1.44	2.13	2.19	2.27
277	822EKQ4000000001H3	359	822EKR4000000001H3	441	822EKP4000000001H3	I-PEX	400	1.13	MHF	1.44	1.46	1.47	2.18	2.24	2.32
278	822EKQ4100000001H3	360	822EKR4100000001H3	442	822EKP4100000001H3	I-PEX	410	1.13	MHF	1.47	1.49	1.50	2.23	2.28	2.37
279	822EKQ4200000001H3	361	822EKR4200000001H3	443	822EKP4200000001H3	I-PEX	420	1.13	MHF	1.51	1.52	1.53	2.27	2.33	2.42
280	822EKQ4300000001H3	362	822EKR4300000001H3	444	822EKP4300000001H3	I-PEX	430	1.13	MHF	1.54	1.55	1.57	2.32	2.38	2.47
281	822EKQ4400000001H3	363	822EKR4400000001H3	445	822EKP4400000001H3	I-PEX	440	1.13	MHF	1.57	1.58	1.60	2.36	2.43	2.52
282	822EKQ4500000001H3	364	822EKR4500000001H3	446	822EKP4500000001H3	I-PEX	450	1.13	MHF	1.60	1.62	1.63	2.41	2.48	2.57
283	822EKQ4600000001H3	365	822EKR4600000001H3	447	822EKP4600000001H3	I-PEX	460	1.13	MHF	1.63	1.65	1.66	2.46	2.52	2.62
284	822EKQ4700000001H3	366	822EKR4700000001H3	448	822EKP4700000001H3	I-PEX	470	1.13	MHF	1.66	1.68	1.69	2.50	2.57	2.67
285	822EKQ4800000001H3	367	822EKR4800000001H3	449	822EKP4800000001H3	I-PEX	480	1.13	MHF	1.69	1.71	1.72	2.55	2.62	2.72
286	822EKQ4900000001H3	368	822EKR4900000001H3	450	822EKP4900000001H3	I-PEX	490	1.13	MHF	1.72	1.74	1.76	2.60	2.67	2.77
287	822EKQ5000000001H3	369	822EKR5000000001H3	451	822EKP5000000001H3	I-PEX	500	1.13	MHF	1.75	1.77	1.79	2.64	2.72	2.82
288	822EKQ5100000001H3	370	822EKR5100000001H3	452	822EKP5100000001H3	I-PEX	510	1.13	MHF	1.79	1.81	1.82	2.69	2.76	2.87
289	822EKQ5200000001H3	371	822EKR5200000001H3	453	822EKP5200000001H3	I-PEX	520	1.13	MHF	1.82	1.84	1.85	2.73	2.81	2.92
290	822EKQ5300000001H3	372	822EKR5300000001H3	454	822EKP5300000001H3	I-PEX	530	1.13	MHF	1.85	1.87	1.88	2.78	2.86	2.97
291	822EKQ5400000001H3	373	822EKR5400000001H3	455	822EKP5400000001H3	I-PEX	540	1.13	MHF	1.88	1.90	1.91	2.83	2.91	3.02
292	822EKQ5500000001H3	374	822EKR5500000001H3	456	822EKP5500000001H3	I-PEX	550	1.13	MHF	1.91	1.93	1.95	2.87	2.96	3.07
293	822EKQ5600000001H3	375	822EKR5600000001H3	457	822EKP5600000001H3	I-PEX	560	1.13	MHF	1.94	1.96	1.98	2.92	3.00	3.12
294	822EKQ5700000001H3	376	822EKR5700000001H3	458	822EKP5700000001H3	I-PEX	570	1.13	MHF	1.97	2.00	2.01	2.97	3.05	3.17
295	822EKQ5800000001H3	377	822EKR5800000001H3	459	822EKP5800000001H3	I-PEX	580	1.13	MHF	2.00	2.03	2.04	3.01	3.10	3.22
296	822EKQ5900000001H3	378	822EKR5900000001H3	460	822EKP5900000001H3	I-PEX	590	1.13	MHF	2.03	2.06	2.07	3.06	3.15	3.27
297	822EKQ6000000001H3	379	822EKR6000000001H3	461	822EKP6000000001H3	I-PEX	600	1.13	MHF	2.07	2.09	2.11	3.11	3.20	3.32
298	822EKQ6100000001H3	380	822EKR6100000001H3	462	822EKP6100000001H3	I-PEX	610	1.13	MHF	2.10	2.12	2.14	3.15	3.24	3.36
299	822EKQ6200000001H3	381	822EKR6200000001H3	463	822EKP6200000001H3	I-PEX	620	1.13	MHF	2.13	2.15	2.17	3.20	3.29	3.41
300	822EKQ6300000001H3	382	822EKR6300000001H3	464	822EKP6300000001H3	I-PEX	630	1.13	MHF	2.16	2.18	2.20	3.24	3.34	3.46
301	822EKQ6400000001H3	383	822EKR6400000001H3	465	822EKP6400000001H3	I-PEX	640	1.13	MHF	2.19	2.22	2.23	3.29	3.39	3.51
302	822EKQ6500000001H3	384	822EKR6500000001H3	466	822EKP6500000001H3	I-PEX	650	1.13	MHF	2.22	2.25	2.26	3.34	3.43	3.56
303	822EKQ6600000001H3	385	822EKR6600000001H3	467	822EKP6600000001H3	I-PEX	660	1.13	MHF	2.25	2.28	2.30	3.38	3.48	3.61
304	822EKQ6700000001H3	386	822EKR6700000001H3	468	822EKP6700000001H3	I-PEX	670	1.13	MHF	2.28	2.31	2.33	3.43	3.53	3.66
305	822EKQ6800000001H3	387	822EKR6800000001H3	469	822EKP6800000001H3	I-PEX	680	1.13	MHF	2.31	2.34	2.36	3.48	3.58	3.71
306	822EKQ6900000001H3	388	822EKR6900000001H3	470	822EKP6900000001H3	I-PEX	690	1.13	MHF	2.34	2.37	2.39	3.52	3.63	3.76
307	822EKQ7000000001H3	389	822EKR7000000001H3	471	822EKP7000000001H3	I-PEX	700	1.13	MHF	2.38	2.41	2.42	3.57	3.67	3.81
308	822EKQ7100000001H3	390	822EKR7100000001H3	472	822EKP7100000001H3	I-PEX	710	1.13	MHF	2.41	2.44	2.45	3.61	3.72	3.86
309	822EKQ7200000001H3	391	822EKR7200000001H3	473	822EKP7200000001H3	I-PEX	720	1.13	MHF	2.44	2.47	2.49	3.66	3.77	3.91
310	822EKQ7300000001H3	392	822EKR7300000001H3	474	822EKP7300000001H3	I-PEX	730	1.13	MHF	2.47	2.50	2.52	3.71	3.82	3.96
311	822EKQ7400000001H3	393	822EKR7400000001H3	475	822EKP7400000001H3	I-PEX	740	1.13	MHF	2.50	2.53	2.55	3.75	3.87	4.01
312	822EKQ7500000001H3	394	822EKR7500000001H3	476	822EKP7500000001H3	I-PEX	750	1.13	MHF	2.53	2.56	2.58	3.80	3.91	4.06
313	822EKQ7600000001H3	395	822EKR7600000001H3	477	822EKP7600000001H3	I-PEX	760	1.13	MHF	2.56	2.60	2.61	3.85	3.96	4.11
314	822EKQ7700000001H3	396	822EKR7700000001H3	478	822EKP7700000001H3	I-PEX	770	1.13	MHF	2.59	2.63	2.64	3.89	4.01	4.16
315	822EKQ7800000001H3	397	822EKR7800000001H3	479	822EKP7800000001H3	I-PEX	780	1.13	MHF	2.62	2.66	2.68	3.94	4.06	4.21
316	822EKQ7900000001H3	398	822EKR7900000001H3	480	822EKP7900000001H3	I-PEX	790	1.13	MHF	2.66	2.69	2.71	3.98	4.11	4.26
317	822EKQ8000000001H3	399	822EKR8000000001H3	481	822EKP8000000001H3	I-PEX	800	1.13	MHF	2.69	2.72	2.74	4.03	4.15	4.31
318	822EKQ8100000001H3	400	822EKR8100000001H3	482	822EKP8100000001H3	I-PEX	810	1.13	MHF	2.72	2.75	2.77	4.08	4.20	4.36
319	822EKQ8200000001H3	401	822EKR8200000001H3	483	822EKP8200000001H3	I-PEX	820	1.13	MHF	2.75	2.79	2.80	4.12	4.25	4.41
320	822EKQ8300000001H3	402	822EKR8300000001H3	484	822EKP8300000001H3	I-PEX	830	1.13	MHF	2.78	2.82	2.83	4.17	4.30	4.46
321	822EKQ8400000001H3	403	822EKR8400000001H3	485	822EKP8400000001H3	I-PEX	840	1.13	MHF	2.81	2.85	2.87	4.22	4.34	4.51
322	822EKQ8500000001H3	404	822EKR8500000001H3	486	822EKP8500000001H3	I-PEX	850	1.13	MHF	2.84	2.88	2.90	4.26	4.39	4.56
323	822EKQ8600000001H3	405	822EKR8600000001H3	487	822EKP8600000001H3	I-PEX	860	1.13	MHF	2.87	2.91	2.93	4.31	4.44	4.61
324	822EKQ8700000001H3	406	822EKR8700000001H3	488	822EKP8700000001H3	I-PEX	870	1.13	MHF	2.90	2.94	2.96	4.36	4.49	4.66
325	822EKQ8800000001H3	407	822EKR8800000001H3	489	822EKP8800000001H3	I-PEX	880	1.13	MHF	2.94	2.97	2.99	4.40	4.54	4.71
326	822EKQ8900000001H3	408	822EKR8900000001H3	490	822EKP8900000001H3	I-PEX	890	1.13	MHF	2.97	3.01	3.02	4.45	4.58	4.76
327	822EKQ9000000001H3	409	822EKR9000000001H3	491	822EKP9000000001H3	I-PEX	900	1.13	MHF	3.00	3.04	3.06	4.49	4.63	4.81
328	822EKQ9100000001H3	410	822EKR9100000001H3	492	822EKP9100000001H3	I-PEX	910	1.13	MHF	3.03	3.07	3.09	4.54	4.68	4.86

3. The EUT has three sets of antennas and there are two antennas for each set.

For 2.4GHz function:

For IEEE 802.11b/g/n mode (2TX/2RX)

Chain 1 and Chain 2 can be used as transmitting/receiving antenna.

Chain 1 and Chain 2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n mode (2TX/2RX)

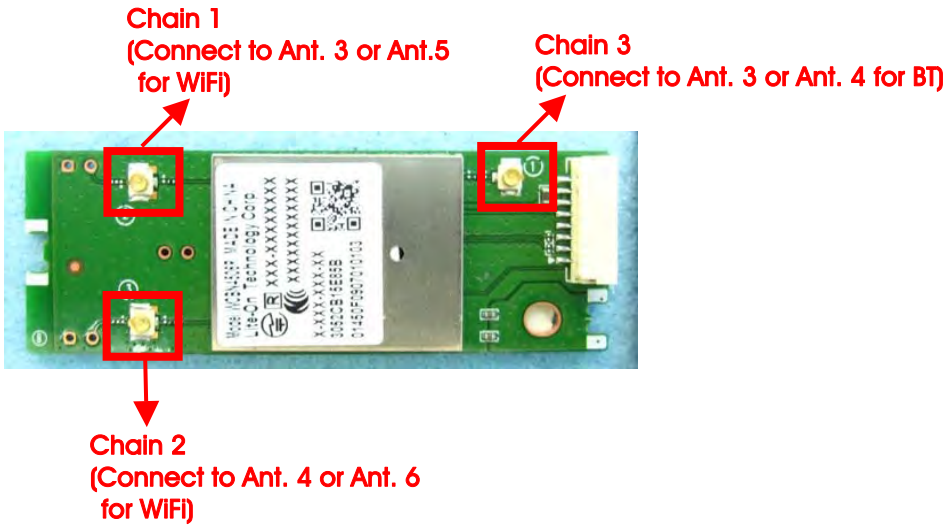
Chain 1 and Chain 2 can be used as transmitting/receiving antenna.

Chain 1 and Chain 2 could transmit/receive simultaneously.

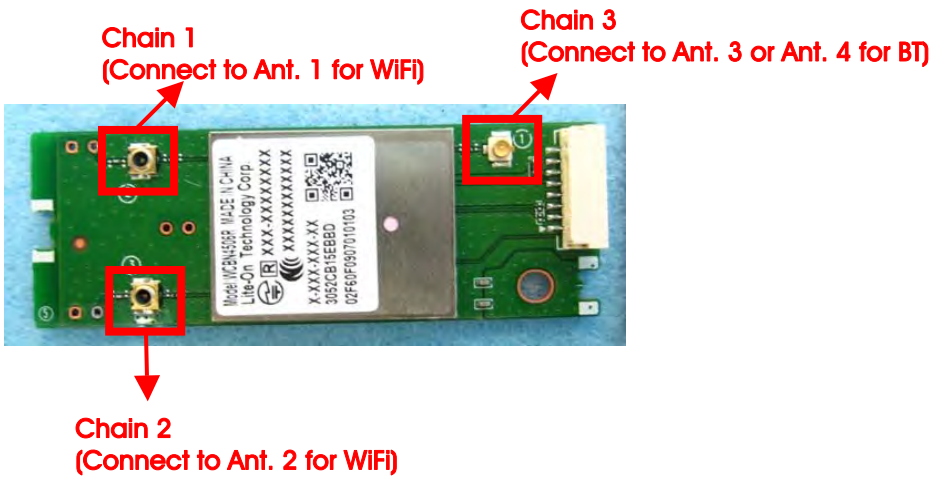
For Bluetooth function: (1TX/1RX)

Only Chain 3 can be used as transmitting/receiving antenna.

For EUT 1:



For EUT 2:



3.4. Table for Carrier Frequencies

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	0	2402 MHz	40	2442 MHz
	1	2403 MHz	:	:
	:	:	77	2479 MHz
	38	2440 MHz	78	2480 MHz
	39	2441 MHz	-	-

3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel	Chain
AC Power Conducted Emissions	Normal Link	-	-	-
Maximum Conducted Output Power	BR (GFSK)	1 Mbps	0/39/78	3
	EDR (π/4-DQPSK)	2 Mbps	0/39/78	3
	EDR (8DPSK)	3 Mbps	0/39/78	3
Hopping Channel Separation	BR (GFSK)	1 Mbps	0~1 39~40 77~78	3
	EDR (π/4-DQPSK)	2 Mbps	0~1 39~40 77~78	3
	EDR (8DPSK)	3 Mbps	0~1 39~40 77~78	3
Number of Hopping Frequency	EDR (8DPSK)	3 Mbps	0~78	3
Dwell Time	BR (GFSK) (DH1, DH3, DH5)	1 Mbps	0/39/78	3
Radiated Emissions Below 1GHz	Normal Link	-	-	-
Radiated Emissions Above 1GHz	BR (GFSK)	1 Mbps	0/39/78	3
	EDR (8DPSK)	3 Mbps	0/39/78	3
Band Edge Emissions	BR (GFSK)	1 Mbps	0/39/78	3
	EDR (8DPSK)	3 Mbps	0/39/78	3

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. Place EUT 1 in Z axis + Set 3 antenna (2.4GHz function) + Set 2 antenna (BT function)

Mode 2. Place EUT 1 in Z axis + Set 3 antenna (5GHz function) + Set 2 antenna (BT function)

Mode 3. Place EUT 2 in Z axis + Set 1 antenna (2.4GHz function) + Set 2 antenna (BT function)

Mode 4. Place EUT 2 in Z axis + Set 1 antenna (5GHz function) + Set 2 antenna (BT function)

Mode 2 is the worst case, so it was selected to record in this test report.

For Radiated Emission test below 1GHz:

Mode 1. Place EUT 1 in Z axis + Set 3 antenna (2.4GHz function) + Set 2 antenna (BT function)

Mode 2. Place EUT 1 in Z axis + Set 3 antenna (5GHz function) + Set 2 antenna (BT function)

Mode 3. Place EUT 2 in Z axis + Set 1 antenna (2.4GHz function) + Set 2 antenna (BT function)

Mode 4. Place EUT 2 in Z axis + Set 1 antenna (5GHz function) + Set 2 antenna (BT function)

Mode 1 is the worst case, so it was selected to record in this test report.

For Radiated Emission test above 1GHz:

The EUT 2 was performed at X axis, Y axis and Z axis position. The worst case was found at Z axis, so it was selected to perform test and its test result was written in the report.

Mode 1. Place EUT 2 in Z axis + Set 2 antenna

For Radiated Emission Co-location test:

Place EUT 1 in Z axis generated the worst test result for Radiated emission below 1GHz test, thus the measurement for Radiated emission co-location test will follow this same test configuration.

Mode 1. Place EUT 1 in Z axis + Set 3 antenna (2.4GHz function) + Set 2 antenna (BT function)

Mode 2. Place EUT 1 in Z axis + Set 3 antenna (5GHz function) + Set 2 antenna (BT function).

For Co-location MPE and Radiated Emission Co-location Test:

The EUT could be applied with 2.4GHz WLAN function + BT function and 5GHz WLAN function + BT function; therefore Co-location Maximum Permissible Exposure (Please refer to FA590501) and Radiated Emission Co-location (please refer to Appendix B) tests are added for simultaneously transmit between 2.4GHz WLAN function + BT function and 5GHz WLAN function + BT function.

3.6. Table for Testing Locations

Test Site Location					
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.				
TEL:	886-3-656-9065				
FAX:	886-3-656-9085				
Test Site No.	**Site Category**	**Location**	**FCC Reg. No.**	**IC File No.**	**VCCI Reg. No**
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

3.7. Table for Multiple List

The brand/model names in the following table are all refer to the identical product.

EUT	Model Name	WiFi Antenna (Internal)	WiFi Antenna (External)	BT Antenna (External)
1	WCBN4506R	X	V	V
2		V	X	V

Note: EUT 1 and EUT 2's BT function are the same, so only EUT 2 was tested and recorded in this report.

3.8. Table for Supporting Units

For Test Site No: 03CH01-CB

For Radiated Emission test below 1GHz

Support Unit	Brand	Model	FCC ID
NB	DELL	E6300	DoC
CBT Bluetooth tester	Anritsu	MT8852B	N/A
Mouse	HP	FM100	DoC
Earphone	SHYARO CHI	MIC-04	N/A
Wireless ac AP	Netgear	R6300V2	PY313200227
Fixtute	Liteon	TB006	N/A

For Radiated Emission test above 1GHz

Support Unit	Brand	Model	FCC ID
NB	DELL	E6300	DoC
Fixtute	Liteon	TB006	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
AP Router	Planex	GW-AP54SGX	KA220030603014-1
NB	DELL	E6430	DoC
CBT Bluetooth tester	Anritsu	MT8852B	N/A
Fixture	Liteon	TB006	N/A
Mouse	HP	FM100	DoC
Earphone	e-Power	S90W	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	E6300	DoC
Fixture	Liteon	TB006	N/A

3.9. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters of Bluetooth

For BR (GFSK) 1 Mbps:

Test Software Version	WCN_Combol_Tool		
Frequency	2402 MHz	2441 MHz	2480 MHz
Power Parameters	7	7	7

For EDR (π/4-DQPSK) 2 Mbps:

Test Software Version	WCN_Combol_Tool		
Frequency	2402 MHz	2441 MHz	2480 MHz
Power Parameters	7	7	7

For EDR (8DPSK) 3 Mbps:

Test Software Version	WCN_Combol_Tool		
Frequency	2402 MHz	2441 MHz	2480 MHz
Power Parameters	7	7	7

3.10. EUT Operation during Test

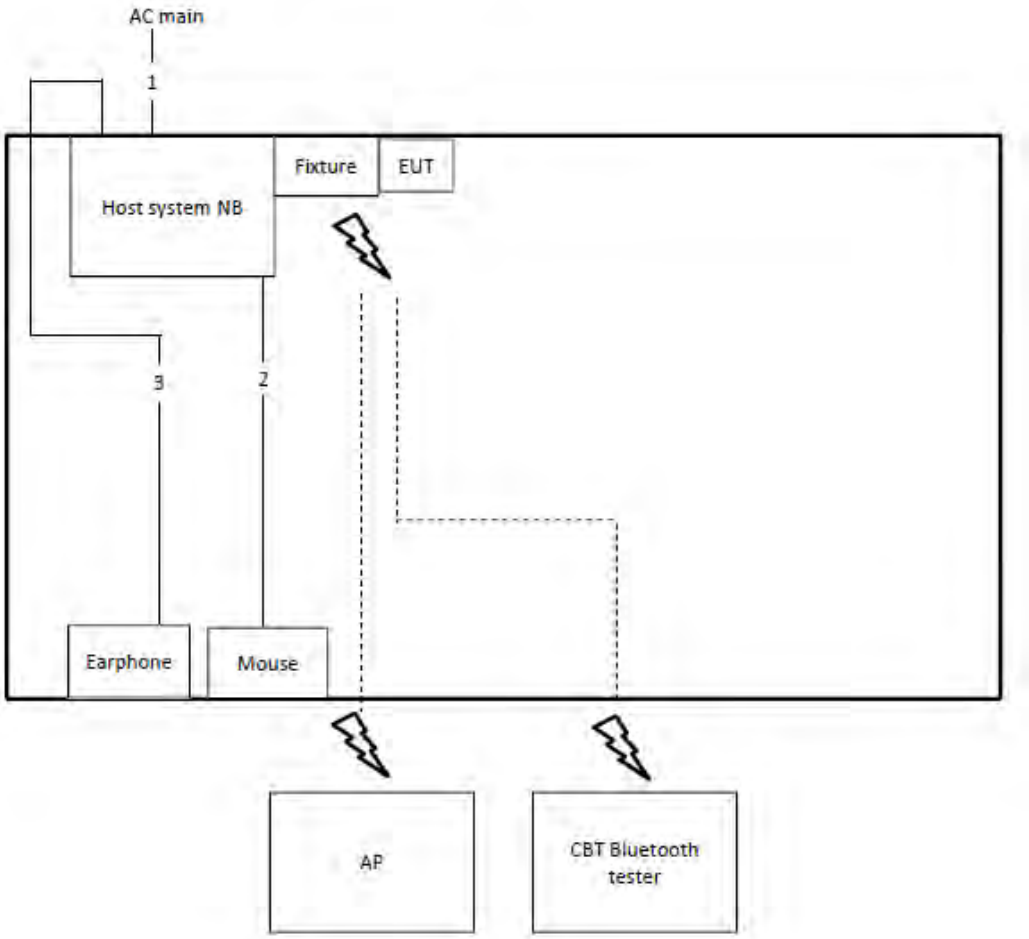
The EUT was programmed to be in continuously transmitting mode.

3.11. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
BR (GFSK)	5.765	100.000	5.77%	12.39	0.17
EDR (8DPSK)	5.765	100.000	5.77%	12.39	0.17

3.12. Test Configurations

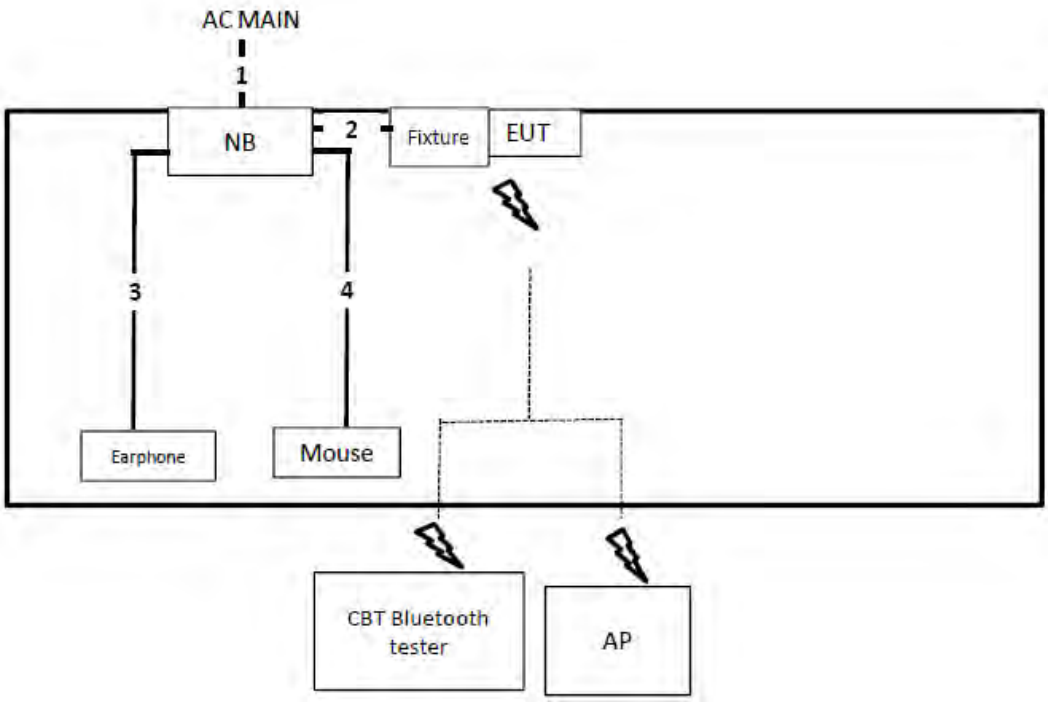
3.12.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	USB cable	No	1.8m
3	Audio cable	No	1.1m

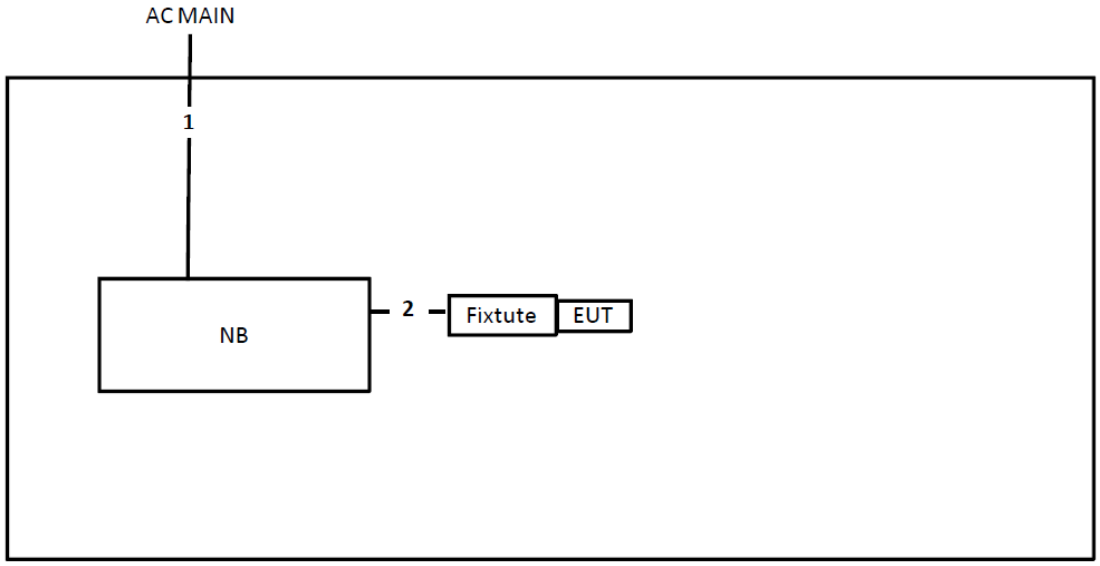
3.12.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	USB cable	No	0.1m
3	Audio cable	No	1.1m
4	USB cable	No	1.8m

Test Configuration: above 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	USB cable	No	0.1m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For a Low-power Radio-frequency Device which is designed to be connected to the 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 below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

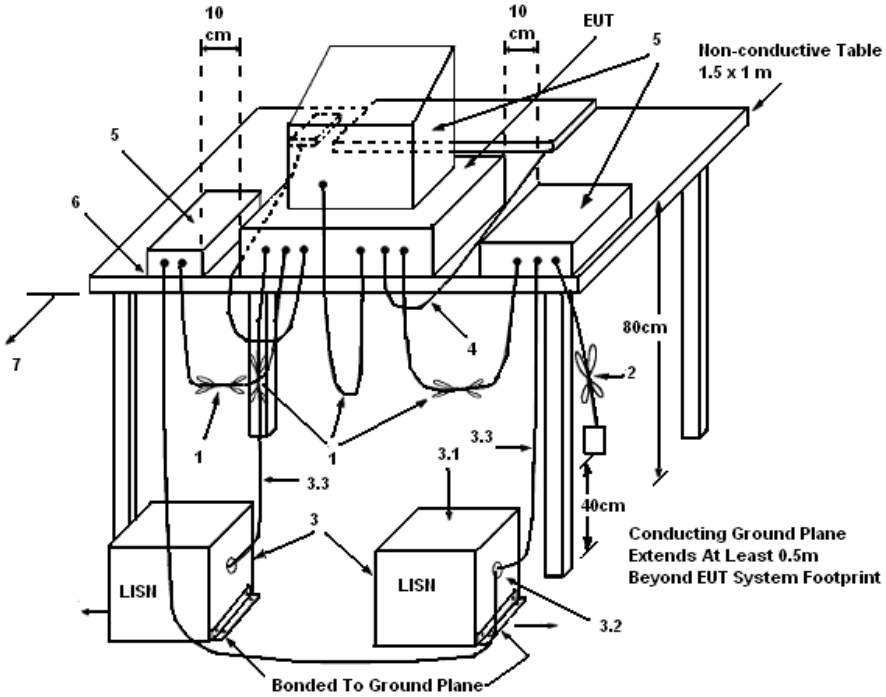
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

(1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

(2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

(3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω. LISN can be placed on top of, or immediately beneath, reference ground plane.

(3.1) All other equipment powered from additional LISN(s).

(3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.

(3.3) LISN at least 80 cm from nearest part of EUT chassis.

(4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.

(5) Non-EUT components of EUT system being tested.

(6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.

(7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

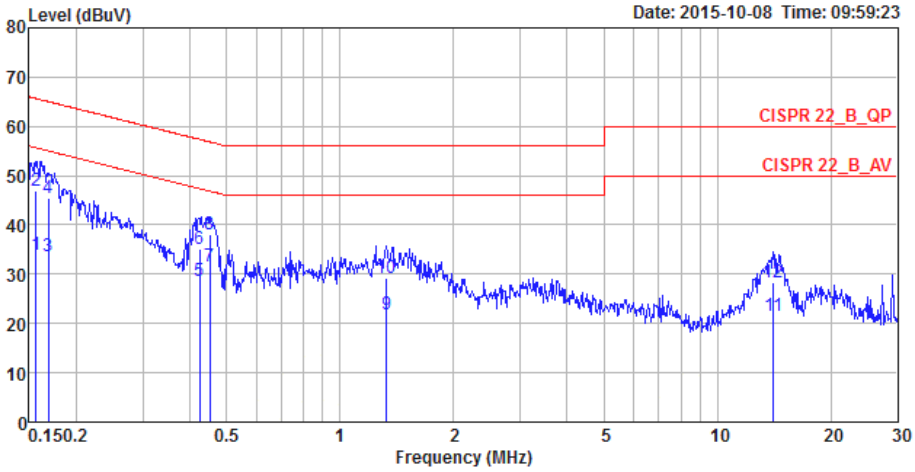
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

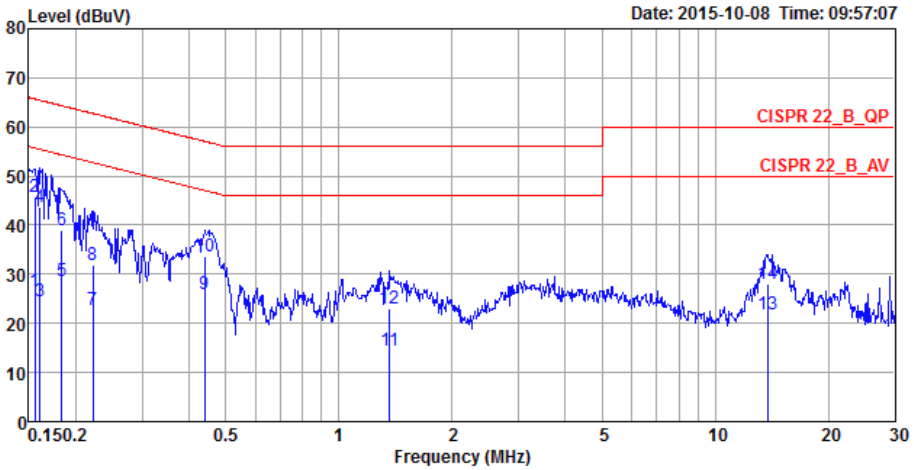
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	24°C	Humidity	59%
Test Engineer	Ryo Fan	Phase	Line
Configuration	Normal Link	Test Mode	Mode 2



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1565	34.08	-21.57	55.65	24.13	9.93	0.02	LINE	Average
2	0.1565	47.08	-18.57	65.65	37.13	9.93	0.02	LINE	QP
3	0.1685	33.53	-21.50	55.03	23.58	9.93	0.02	LINE	Average
4	0.1685	45.56	-19.47	65.03	35.61	9.93	0.02	LINE	QP
5	0.4237	28.66	-18.71	47.37	18.69	9.93	0.04	LINE	Average
6	0.4237	35.04	-22.33	57.37	25.07	9.93	0.04	LINE	QP
7	0.4516	31.50	-15.35	46.85	21.53	9.93	0.04	LINE	Average
8	0.4516	38.14	-18.71	56.85	28.17	9.93	0.04	LINE	QP
9	1.3308	21.99	-24.01	46.00	11.97	9.97	0.05	LINE	Average
10	1.3308	29.12	-26.88	56.00	19.10	9.97	0.05	LINE	QP
11	14.0629	21.68	-28.32	50.00	11.12	10.31	0.25	LINE	Average
12	14.0629	28.21	-31.79	60.00	17.65	10.31	0.25	LINE	QP

Temperature	24°C	Humidity	59%
Test Engineer	Ryo Fan	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 2



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1557	26.49	-29.20	55.69	16.69	9.78	0.02	NEUTRAL	Average
2	0.1557	45.69	-20.00	65.69	35.89	9.78	0.02	NEUTRAL	QP
3	0.1607	24.53	-30.90	55.43	14.73	9.78	0.02	NEUTRAL	Average
4	0.1607	43.63	-21.80	65.43	33.83	9.78	0.02	NEUTRAL	QP
5	0.1835	28.75	-25.58	54.33	18.94	9.79	0.02	NEUTRAL	Average
6	0.1835	38.90	-25.43	64.33	29.09	9.79	0.02	NEUTRAL	QP
7	0.2220	22.82	-29.92	52.74	13.00	9.79	0.03	NEUTRAL	Average
8	0.2220	31.80	-30.94	62.74	21.98	9.79	0.03	NEUTRAL	QP
9	0.4397	25.85	-21.22	47.07	16.02	9.79	0.04	NEUTRAL	Average
10	0.4397	33.58	-23.49	57.07	23.75	9.79	0.04	NEUTRAL	QP
11	1.3665	14.45	-31.55	46.00	4.58	9.82	0.05	NEUTRAL	Average
12	1.3665	22.93	-33.07	56.00	13.06	9.82	0.05	NEUTRAL	QP
13	13.7680	21.77	-28.23	50.00	11.43	10.09	0.25	NEUTRAL	Average
14	13.7680	28.01	-31.99	60.00	17.67	10.09	0.25	NEUTRAL	QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, the limit for peak output power is 1Watt (30dBm). For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts (21dBm).

4.2.2. Measuring Instruments and Setting

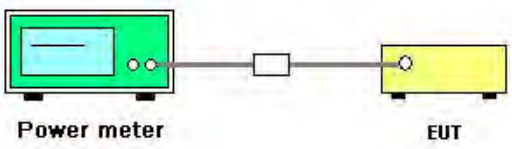
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Bandwidth	50MHz bandwidth is greater than the EUT emission bandwidth
Detector	Peak and Average

4.2.3. Test Procedures

This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Conducted Output Power

Temperature	24°C	Humidity	65%
Test Engineer	Clemens Fang & Andy Tsai & Lucas Huang	Configurations	GFSK, π/4-DQPSK, 8DPSK
Test Date	Sep. 14, 2015		

For BR (GFSK) 1 Mbps:

Channel	Frequency	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Result
0	2402 MHz	9.58	8.52	21.00	Complies
39	2441 MHz	9.56	8.46	21.00	Complies
78	2480 MHz	9.54	8.51	21.00	Complies

For EDR (π/4-DQPSK) 2 Mbps:

Channel	Frequency	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Result
0	2402 MHz	8.85	8.01	21.00	Complies
39	2441 MHz	8.78	7.98	21.00	Complies
78	2480 MHz	8.69	8.02	21.00	Complies

For EDR (8DPSK) 3 Mbps:

Channel	Frequency	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Result
0	2402 MHz	8.88	7.88	21.00	Complies
39	2441 MHz	8.94	7.82	21.00	Complies
78	2480 MHz	8.82	7.87	21.00	Complies

4.3. Hopping Channel Separation Measurement

4.3.1. Limit

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.

4.3.2. Measuring Instruments and Setting

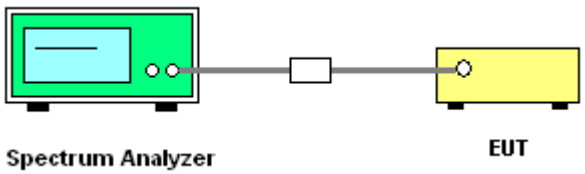
Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RBW	30 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
VBW	100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilized for 20 dB bandwidth measurement.
3. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were utilized for channel separation measurement.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Hopping Channel Separation

Temperature	24°C	Humidity	65%
Test Engineer	Clemens Fang & Andy Tsai & Lucas Huang	Configurations	GFSK, π/4-DQPSK, 8DPSK

For BR (GFSK) 1 Mbps:

Frequency	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Ch. Separation (MHz)	Two-Thirds of 20dB Bandwidth (MHz)	Result
2402 MHz	0.9640	0.9000	1.00	0.643	Complies
2441 MHz	1.0200	0.9040	1.00	0.680	Complies
2480 MHz	1.0240	0.8880	1.00	0.683	Complies

Ch. Separation Limits: >20dB bandwidth or > Two-Thirds of 20dB bandwidth

For EDR (π/4-DQPSK) 2 Mbps:

Frequency	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Ch. Separation (MHz)	Two-Thirds of 20dB Bandwidth (MHz)	Result
2402 MHz	1.3480	1.2160	1.00	0.899	Complies
2441 MHz	1.3200	1.2040	1.00	0.880	Complies
2480 MHz	1.3120	1.1340	1.00	0.875	Complies

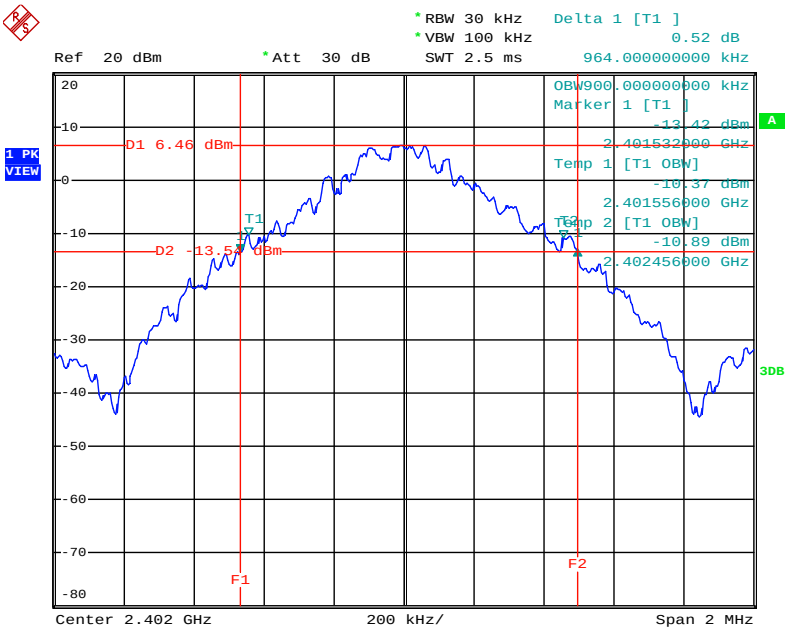
Ch. Separation Limits: >20dB bandwidth or > Two-Thirds of 20dB bandwidth

For EDR (8DPSK) 3 Mbps:

Frequency	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Ch. Separation (MHz)	Two-Thirds of 20dB Bandwidth (MHz)	Result
2402 MHz	1.2920	1.2000	1.00	0.861	Complies
2441 MHz	1.3120	1.2160	1.00	0.875	Complies
2480 MHz	1.3120	1.2080	1.00	0.875	Complies

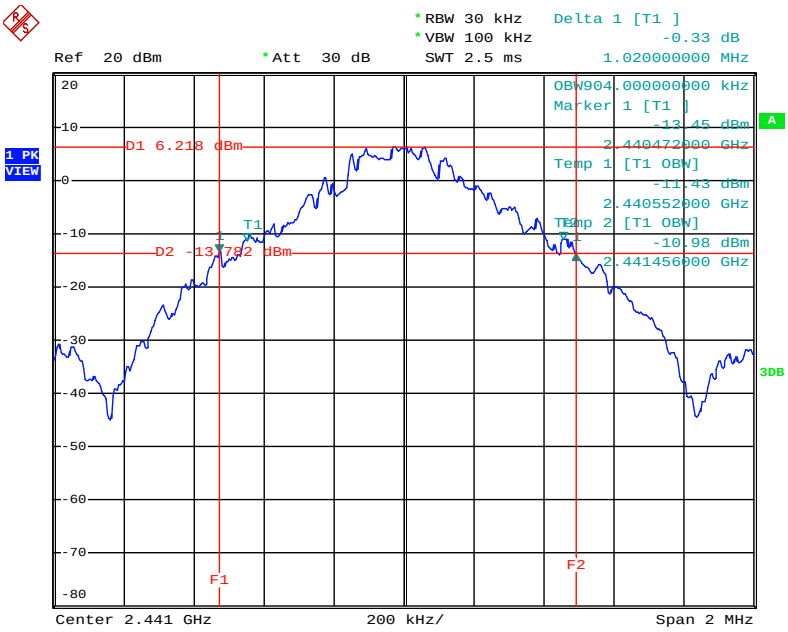
Ch. Separation Limits: >20dB bandwidth or > Two-Thirds of 20dB bandwidth

20 dB Bandwidth Plot on BR (GFSK) 1 Mbps / Channel 0 / 2402 MHz



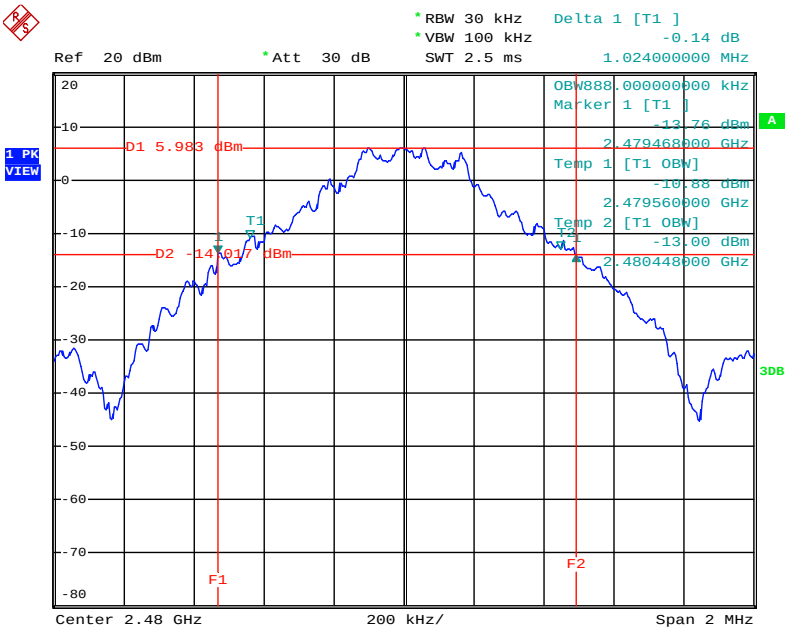
Date: 14.SEP.2015 22:38:59

20 dB Bandwidth Plot on BR (GFSK) 1 Mbps / Channel 39 / 2441 MHz



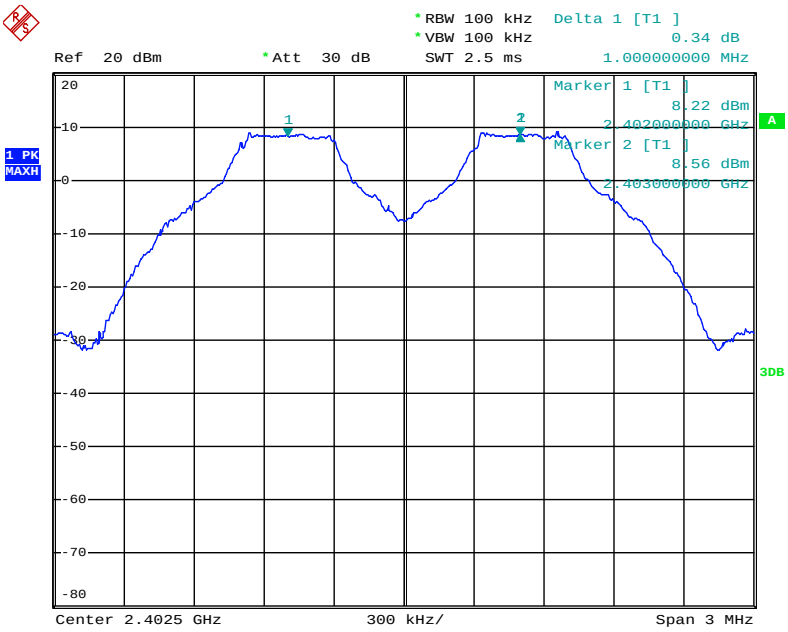
Date: 14.SEP.2015 22:40:23

20 dB Bandwidth Plot on BR (GFSK) 1 Mbps / Channel 78 / 2480 MHz



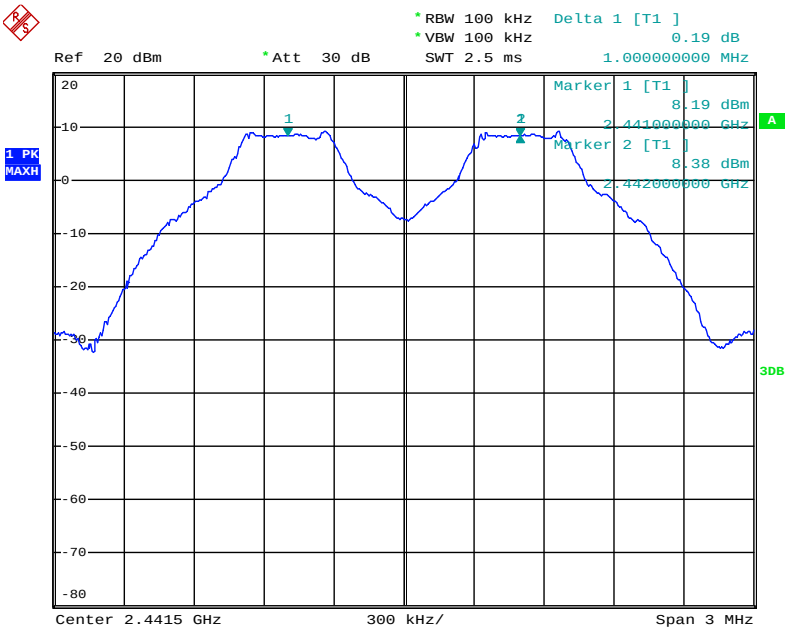
Date: 14.SEP.2015 22:41:07

Channel Separation Plot on BR (GFSK) 1 Mbps / Channel 0~1 / 2402 MHz ~ 2403 MHz



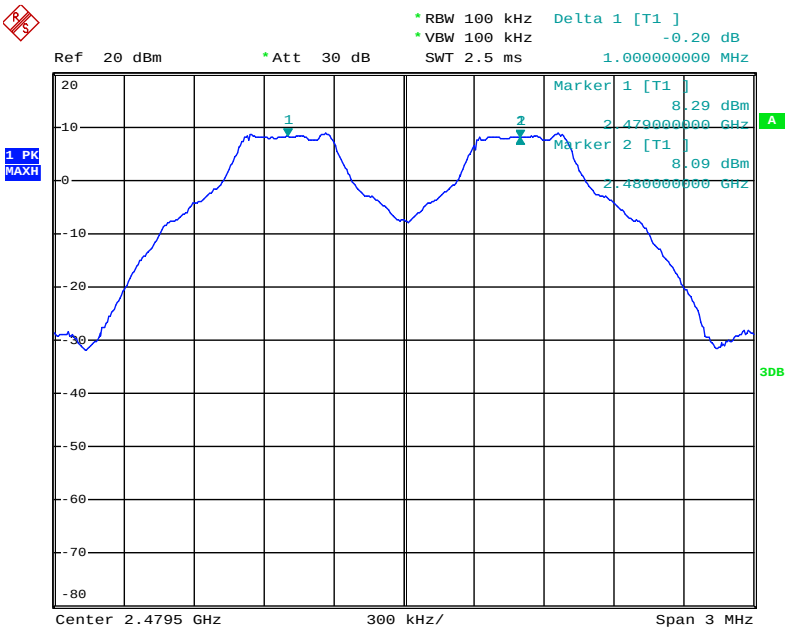
Date: 14.SEP.2015 22:51:41

Channel Separation Plot on BR (GFSK) 1 Mbps / Channel 39~40 / 2441 MHz ~ 2442 MHz



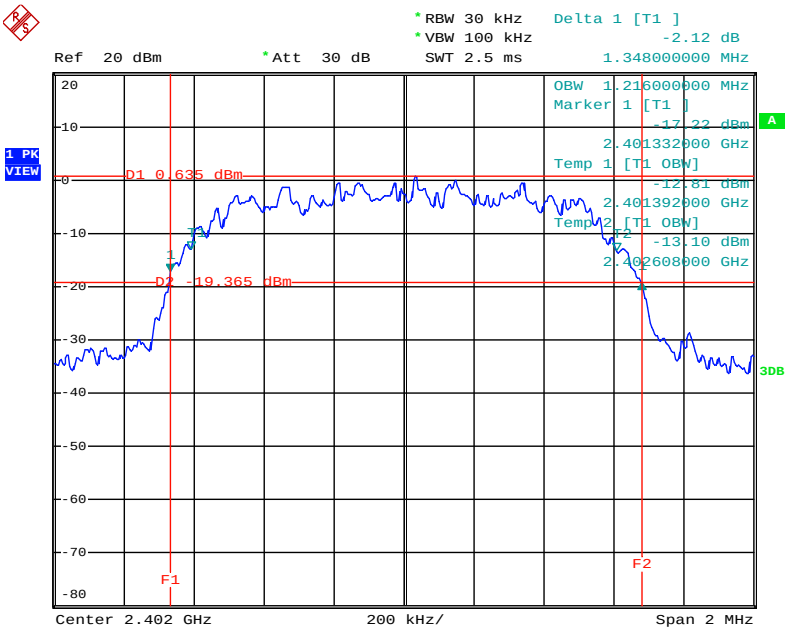
Date: 14.SEP.2015 23:03:24

Channel Separation Plot on BR (GFSK) 1 Mbps / Channel 77~78 / 2479 MHz ~ 2480 MHz



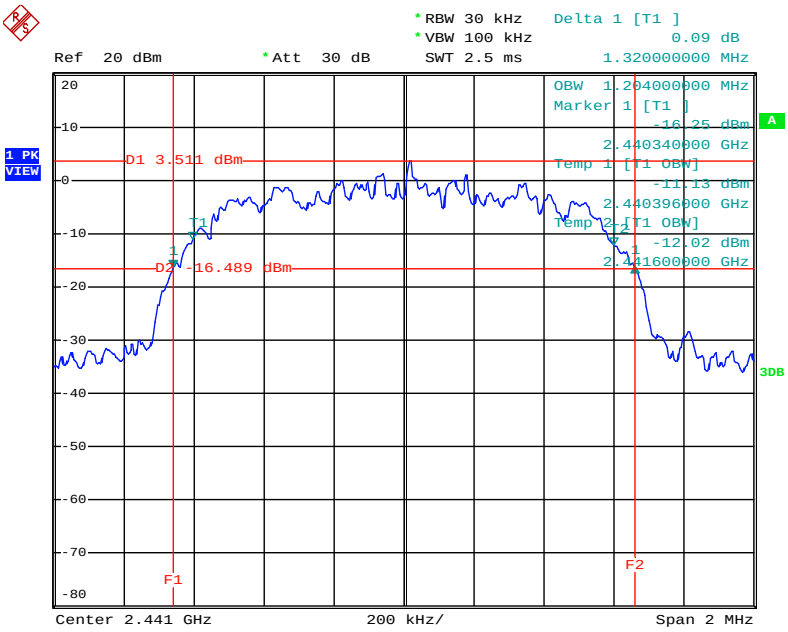
Date: 14.SEP.2015 23:04:51

20 dB Bandwidth Plot on EDR (π/4-DQPSK) 2 Mbps / Channel 0 / 2402 MHz



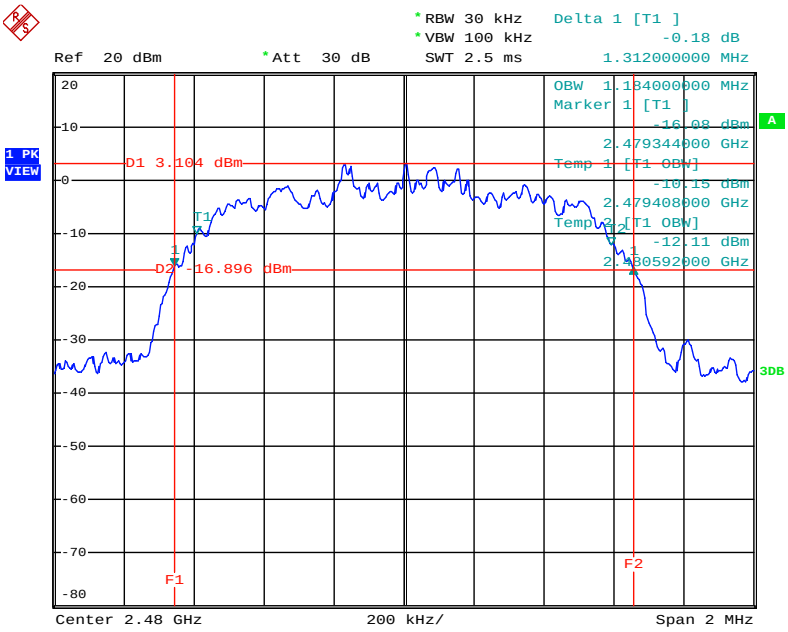
Date: 14.SEP.2015 22:46:28

20 dB Bandwidth Plot on EDR (π/4-DQPSK) 2 Mbps / Channel 39 / 2441 MHz



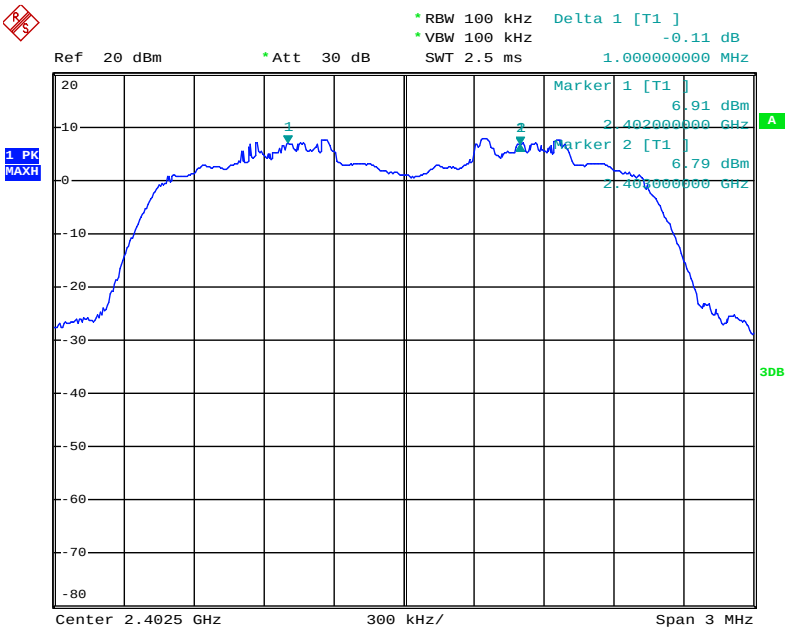
Date: 14.SEP.2015 22:45:45

20 dB Bandwidth Plot on EDR (π/4-DQPSK) 2 Mbps / Channel 78 / 2480 MHz



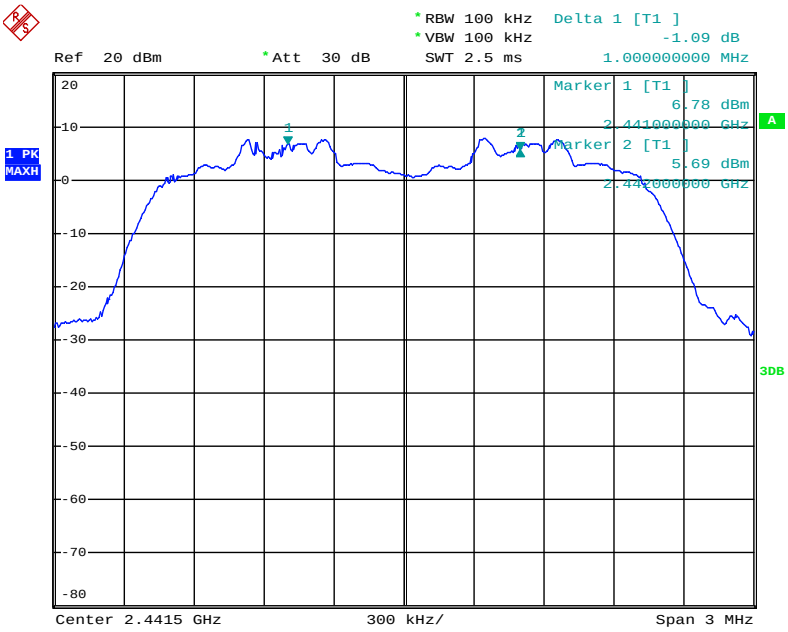
Date: 14.SEP.2015 22:45:04

Channel Separation Plot on EDR (π/4-DQPSK) 2 Mbps / Channel 0~1 / 2402 MHz ~ 2403 MHz



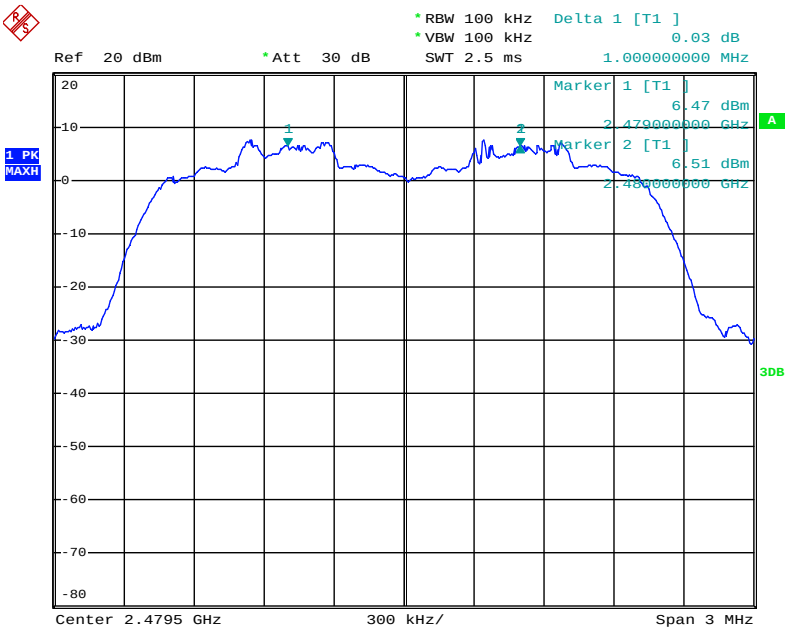
Date: 14.SEP.2015 23:08:21

Channel Separation Plot on EDR (π/4-DQPSK) 2 Mbps / Channel 39~40 / 2441 MHz ~ 2442 MHz



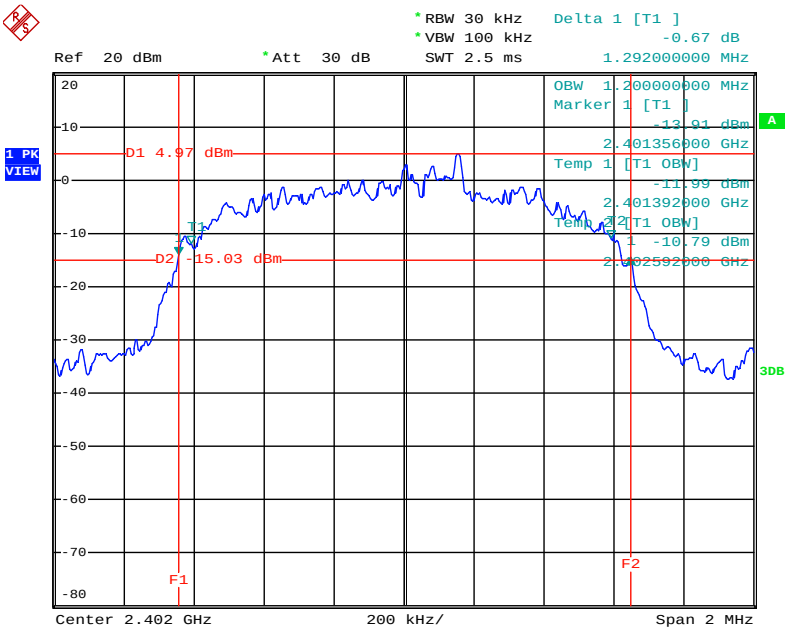
Date: 14.SEP.2015 23:07:10

Channel Separation Plot on EDR (π/4-DQPSK) 2 Mbps / Channel 77~78 / 2479 MHz ~ 2480 MHz



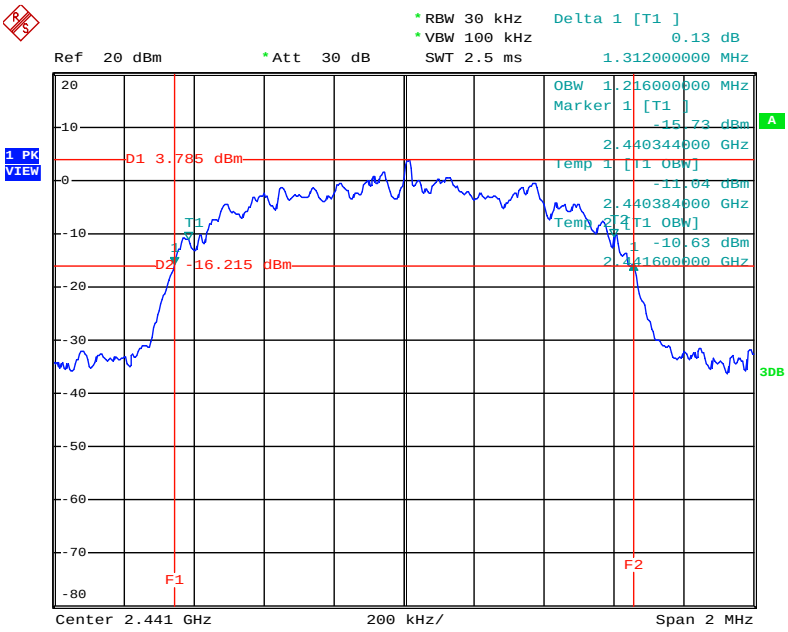
Date: 14.SEP.2015 23:05:56

20 dB Bandwidth Plot on EDR (8DPSK) 3 Mbps / Channel 0 / 2402 MHz



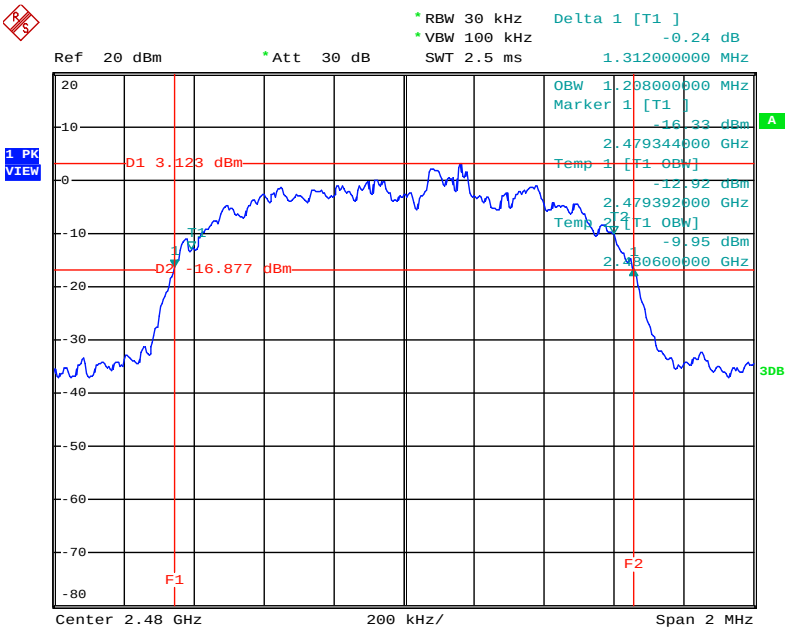
Date: 14.SEP.2015 22:47:05

20 dB Bandwidth Plot on EDR (8DPSK) 3 Mbps / Channel 39 / 2441 MHz



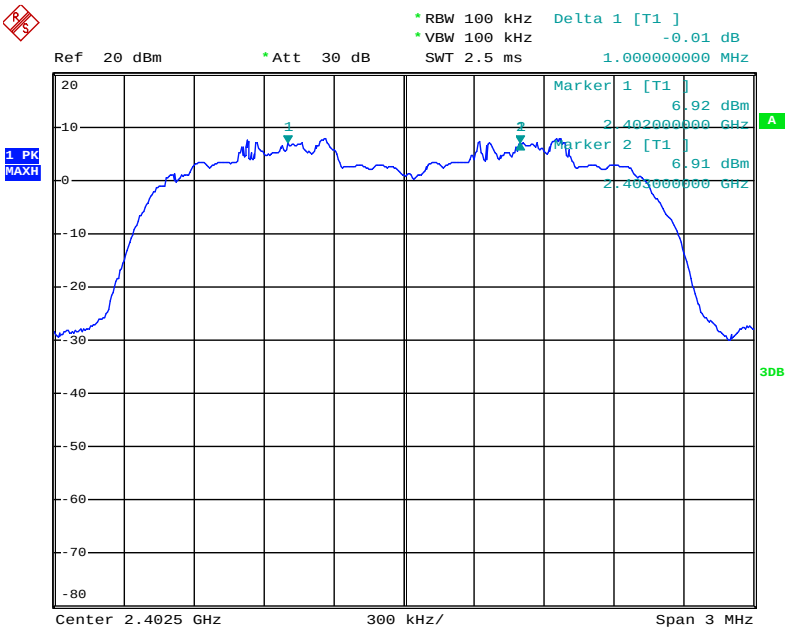
Date: 14.SEP.2015 22:47:50

20 dB Bandwidth Plot on EDR (8DPSK) 3 Mbps / Channel 78 / 2480 MHz



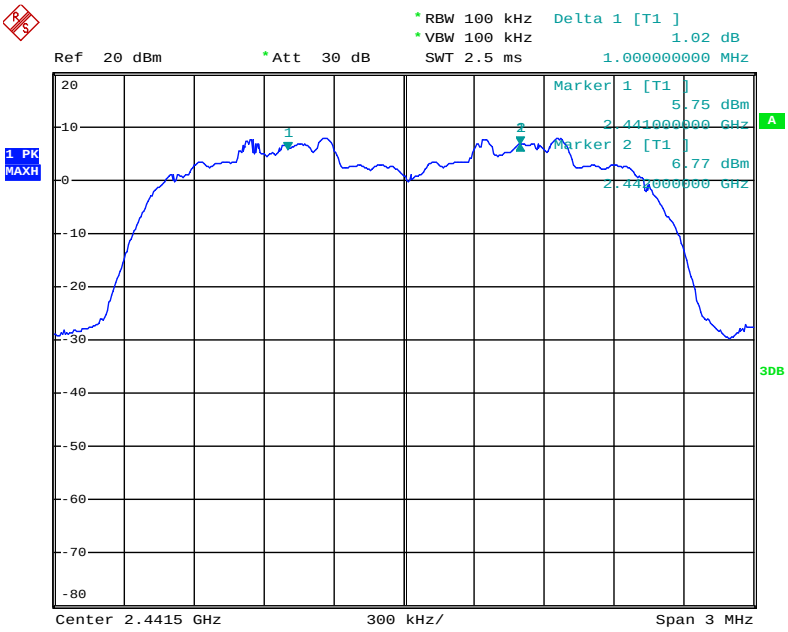
Date: 14.SEP.2015 22:48:36

Channel Separation Plot on EDR (8DPSK) 3 Mbps / Channel 0~1 / 2402 MHz ~ 2403 MHz



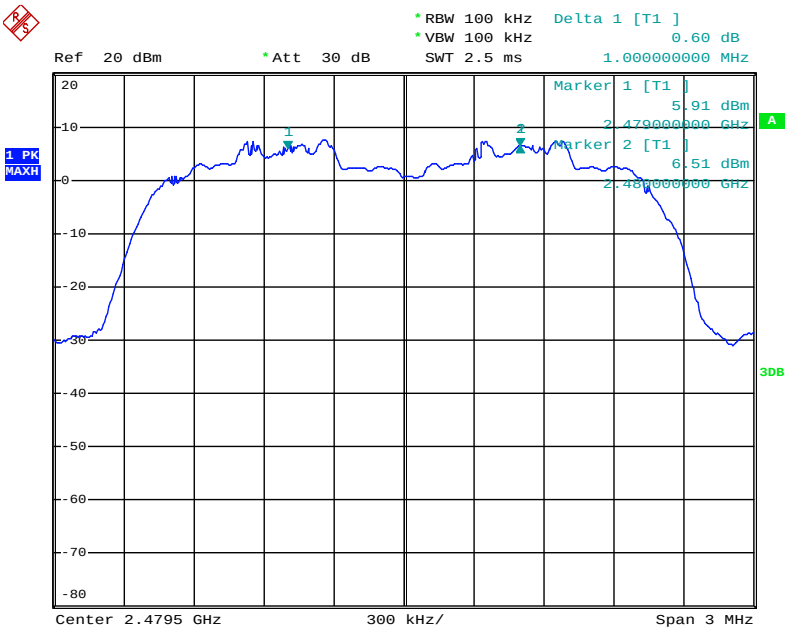
Date: 14.SEP.2015 23:09:36

Channel Separation Plot on EDR (8DPSK) 3 Mbps / Channel 39~40 / 2441 MHz ~ 2442 MHz



Date: 14.SEP.2015 23:11:20

Channel Separation Plot on EDR (8DPSK) 3 Mbps / Channel 77~78 / 2479 MHz ~ 2480 MHz



Date: 14.SEP.2015 23:12:44

4.4. Number of Hopping Frequency Measurement

4.4.1. Limit

At least 15 hopping frequencies, and should be equally spaced.

4.4.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RBW	1000 kHz
VBW	1000 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. The resolution bandwidth of 1000 kHz and the video bandwidth of 1000 kHz were utilized.
3. Observe frequency hopping in 2400MHz~2483.5MHz, there are at least 75 non-overlapping channels.

4.4.4. Test Setup Layout

4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

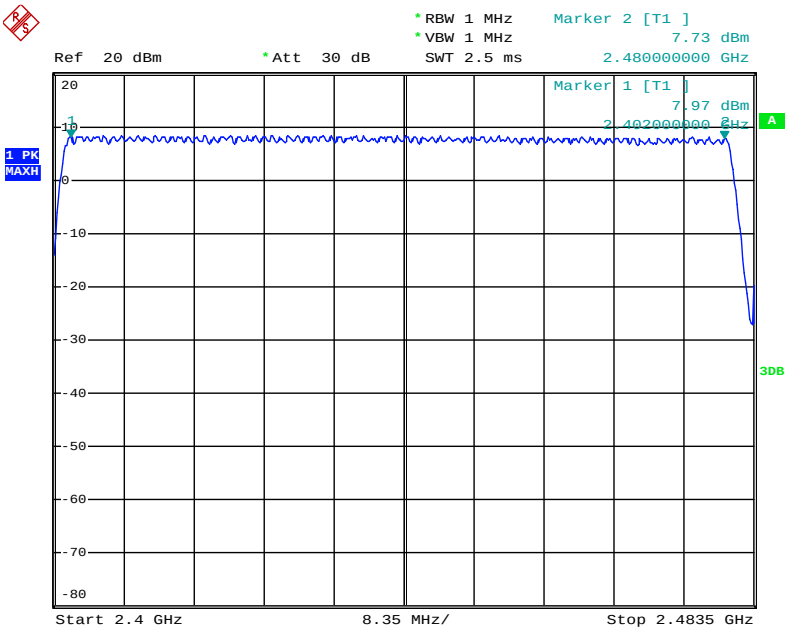
The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Number of Hopping Frequency

Temperature	24°C	Humidity	65%
Test Engineer	Clemens Fang & Andy Tsai & Lucas Huang	Configurations	EDR (8DPSK)

Modulation Type	Channel No.	Frequency (MHz)	Hopping Ch. (Channels)	Min. Limit (Channels)	Test Result
EDR (8DPSK)	0 ~ 78	2402 ~ 2480MHz	79	15	Complies

Number of Hopping Channel Plot on EDR (8DPSK) / Channel 0~78 / 2402 MHz ~ 2480 MHz



Date: 14.SEP.2015 23:33:15

4.5. Dwell Time Measurement

4.5.1. Limit

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.

4.5.2. Measuring Instruments and Setting

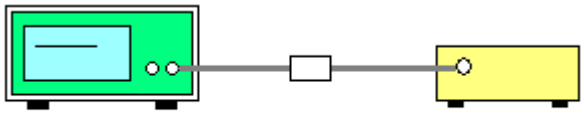
Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 MHz
RBW	1000 kHz
VBW	1000 kHz
Detector	Peak
Trace	Single Trigger

4.5.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer
2. Set RBW of spectrum analyzer to 1000kHz and VBW to 1000kHz.
3. Use a video trigger with the trigger level set to enable triggering only on full pulses.
4. Sweep Time is more than once pulse time.
5. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
6. Measure the maximum time duration of one single pulse.
7. Set the EUT for DH1, DH3, DH5 packet transmitting.
8. Measure the maximum time duration of one single pulse.

4.5.4. Test Setup Layout



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Dwell Time

Temperature	24°C	Humidity	65%
Test Engineer	Clemens Fang & Andy Tsai & Lucas Huang	Configurations	BR (GFSK) / DH1, DH3, DH5

Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limits (s)	Test Result
DH1	2402 MHz	0.3800	0.1216	0.4000	Complies
DH3	2402 MHz	1.6300	0.2608	0.4000	Complies
DH5	2402 MHz	2.8900	0.3083	0.4000	Complies
DH1	2441 MHz	0.3800	0.1216	0.4000	Complies
DH3	2441 MHz	1.6300	0.2608	0.4000	Complies
DH5	2441 MHz	2.8900	0.3083	0.4000	Complies
DH1	2480 MHz	0.3800	0.1216	0.4000	Complies
DH3	2480 MHz	1.6300	0.2608	0.4000	Complies
DH5	2480 MHz	2.8900	0.3083	0.4000	Complies

Note: Pulse Duration * Number of Pulses*(Dwell time / measure time)

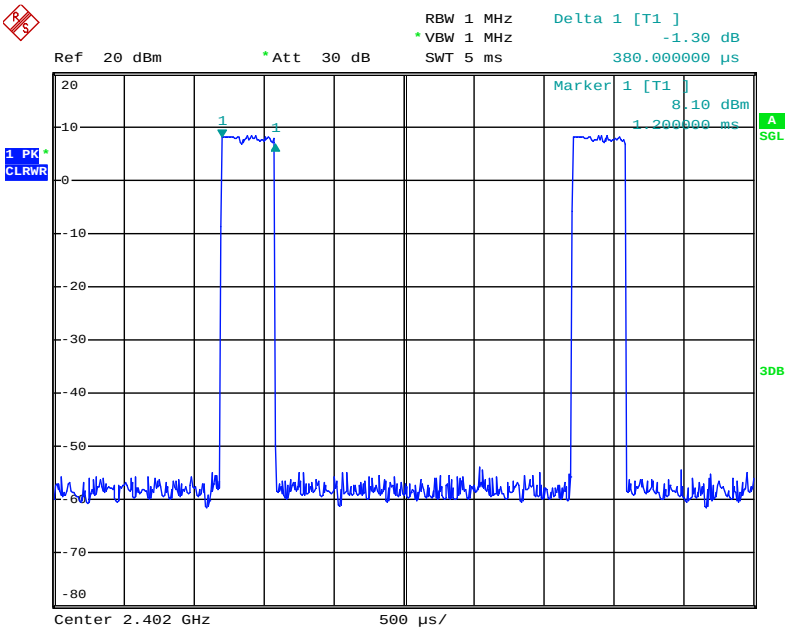
Remark:

Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time (us)

79 channels come from the Hopping Channel number.

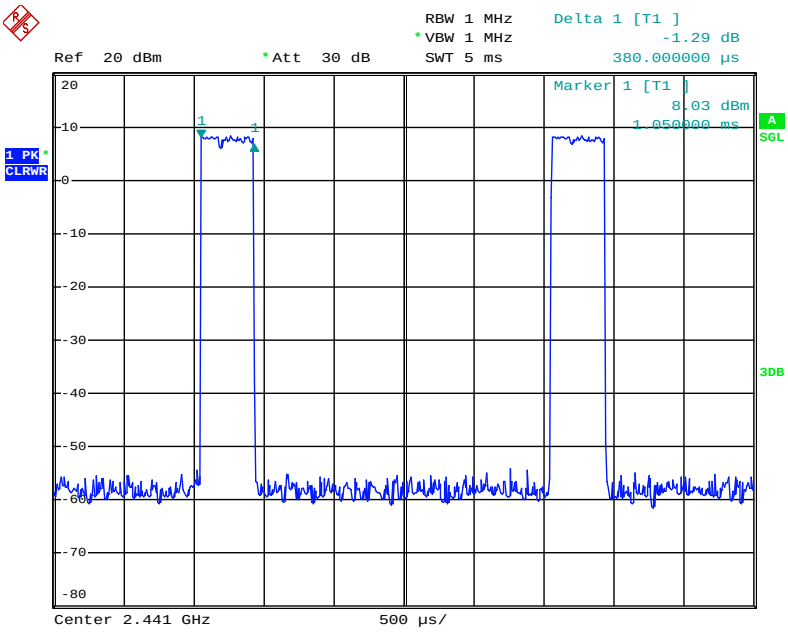
Average Hopping Channel = hops / sweep time

Dwell Time Plot on BR (GFSK) / Channel 0 / DH1 / 2402 MHz



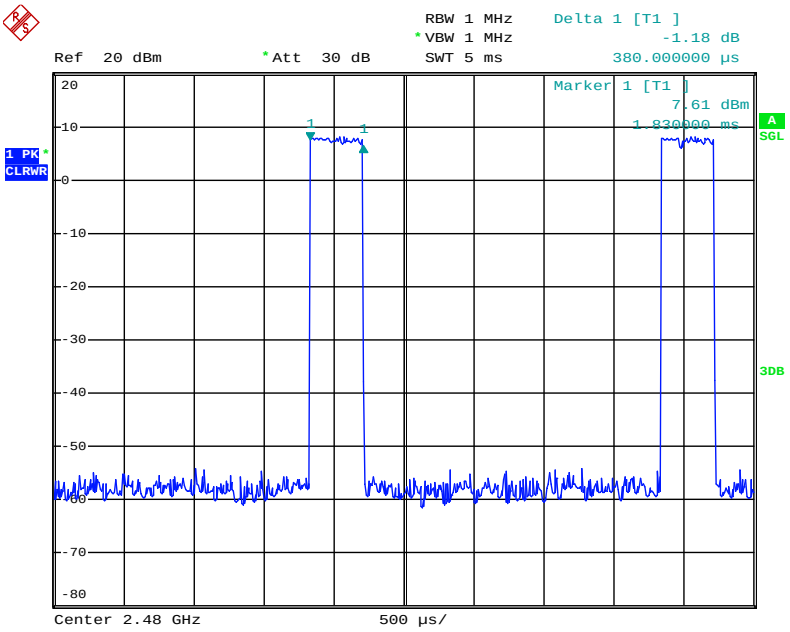
Date: 14.SEP.2015 23:23:05

Dwell Time Plot on BR (GFSK) / Channel 39 / DH1 / 2441 MHz



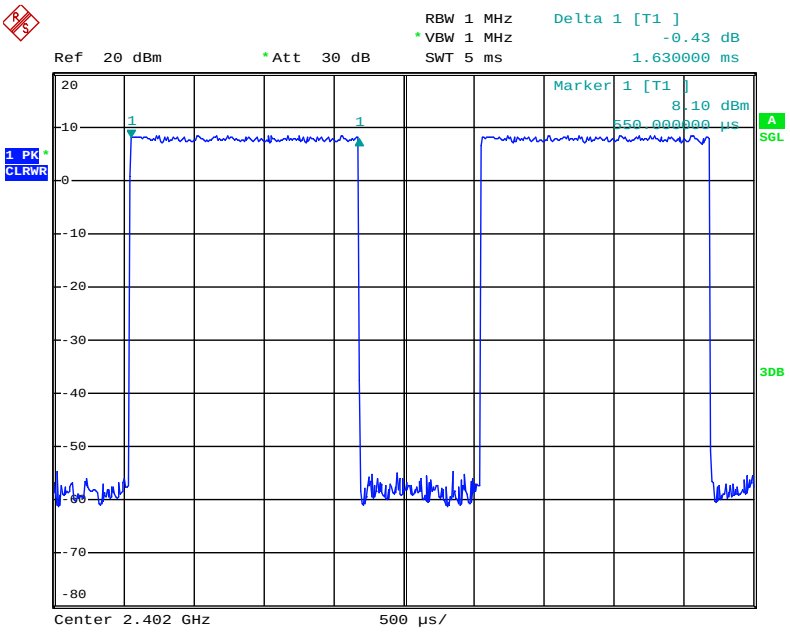
Date: 14.SEP.2015 23:23:52

Dwell Time Plot on BR (GFSK) / Channel 78 / DH1 / 2480 MHz



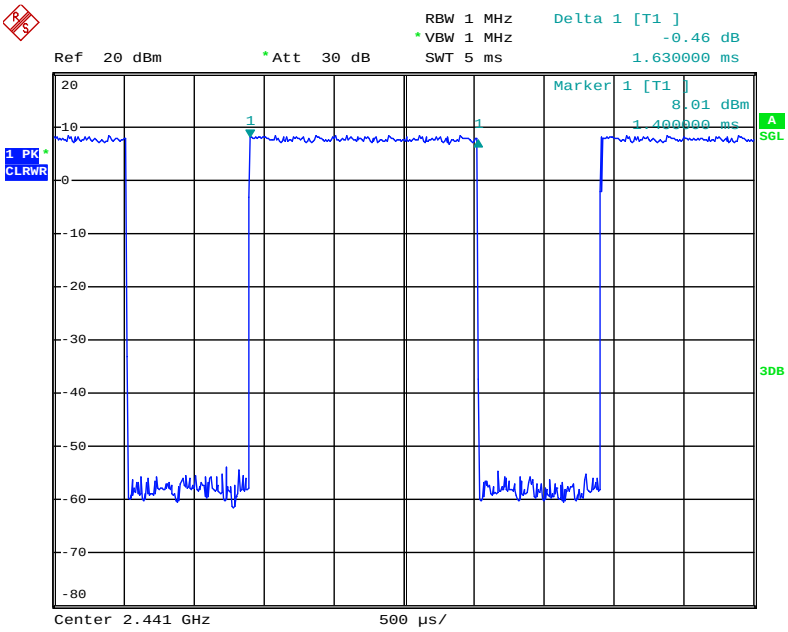
Date: 14.SEP.2015 23:24:57

Dwell Time Plot on BR (GFSK) / Channel 0 / DH3 / 2402 MHz



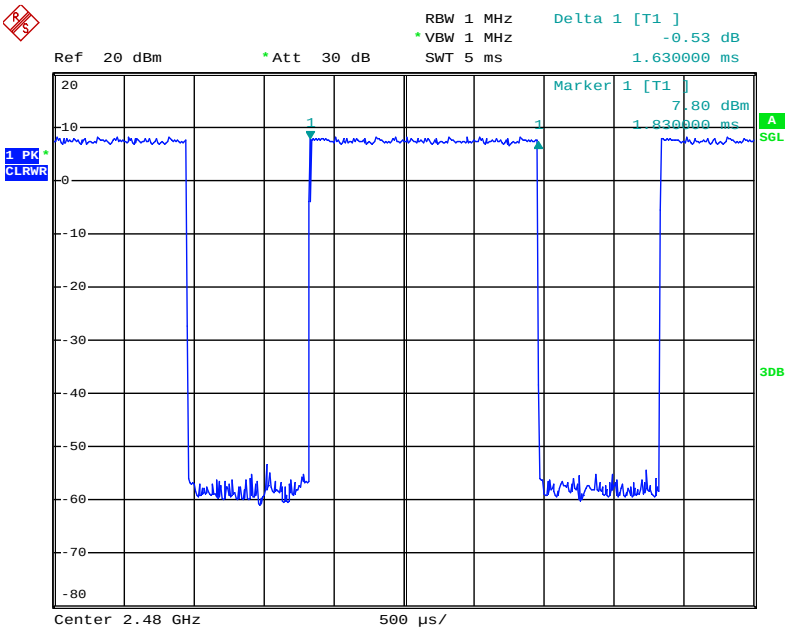
Date: 14.SEP.2015 23:26:50

Dwell Time Plot on BR (GFSK) / Channel 39 / DH3 / 2441 MHz



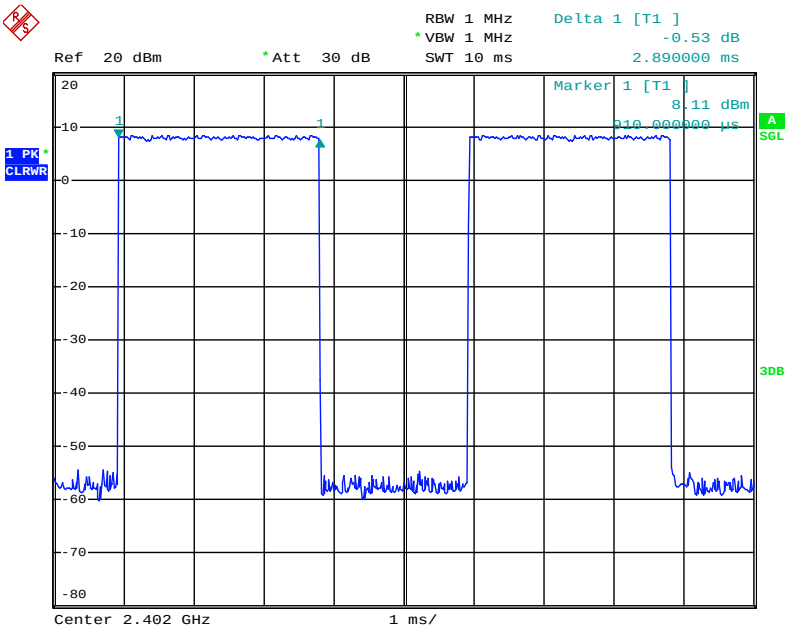
Date: 14.SEP.2015 23:26:22

Dwell Time Plot on BR (GFSK) / Channel 78 / DH3 / 2480 MHz



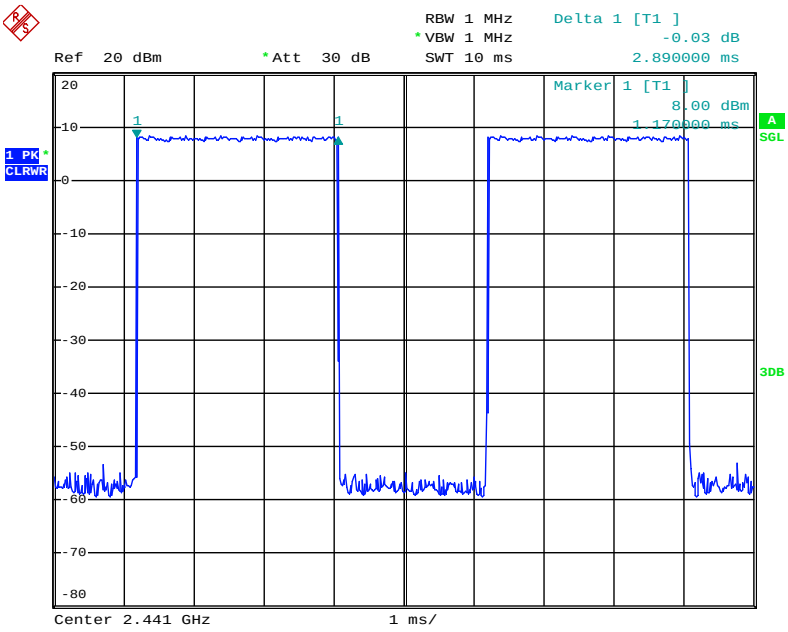
Date: 14.SEP.2015 23:25:36

Dwell Time Plot on BR (GFSK) / Channel 0 / DH5 / 2402 MHz



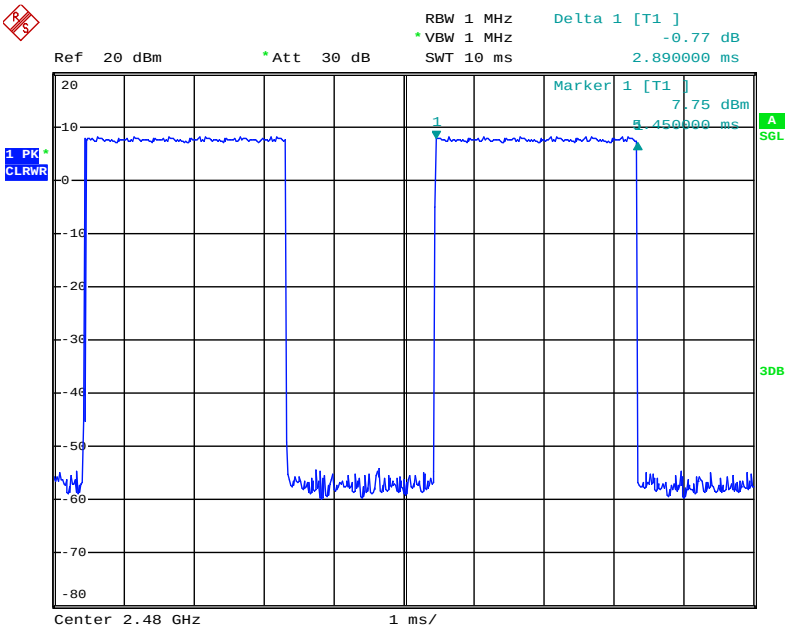
Date: 14.SEP.2015 23:27:33

Dwell Time Plot on BR (GFSK) / Channel 39 / DH5 / 2441 MHz



Date: 14.SEP.2015 23:28:25

Dwell Time Plot on BR (GFSK) / Channel 78 / DH5 / 2480 MHz



Date: 14.SEP.2015 23:29:19

4.6. Radiated Emissions Measurement

4.6.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	100kHz, 300kHz for peak

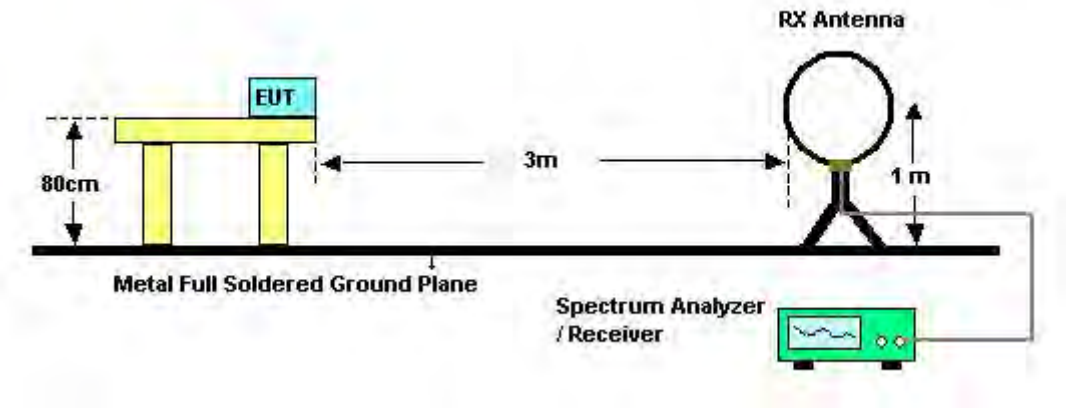
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz, RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz, RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz, RBW 120kHz for QP

4.6.3. Test Procedures

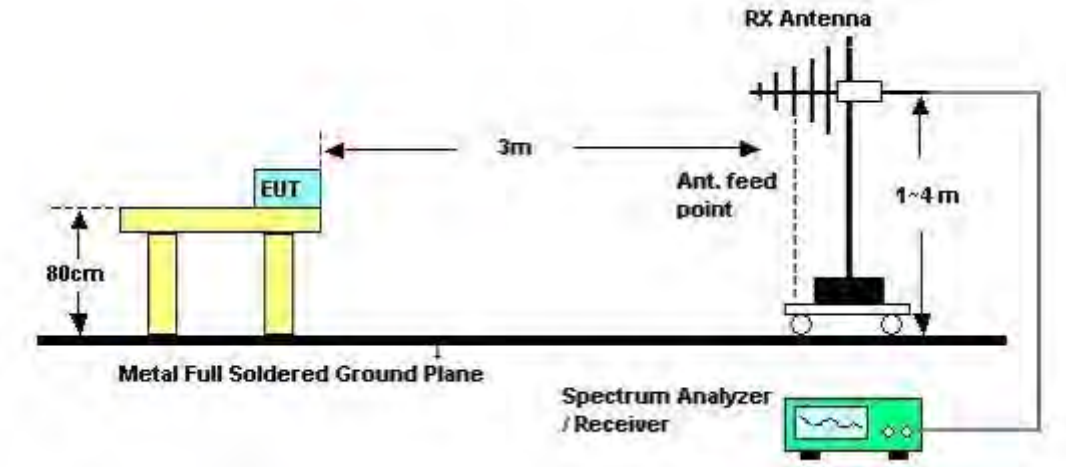
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, 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. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.6.4. Test Setup Layout

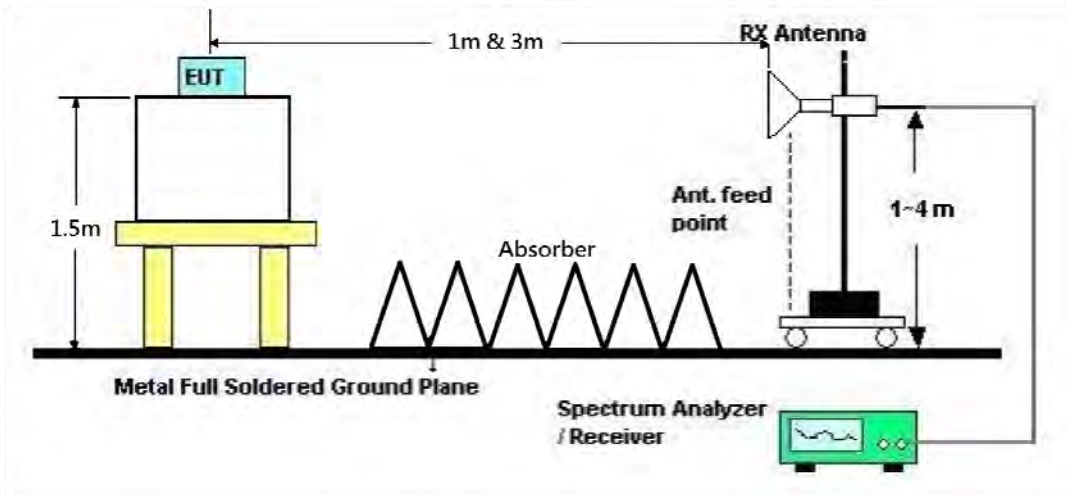
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	25°C	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	Normal Link
Test Date	Sep. 16, 2015	Test Mode	Mode 1

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

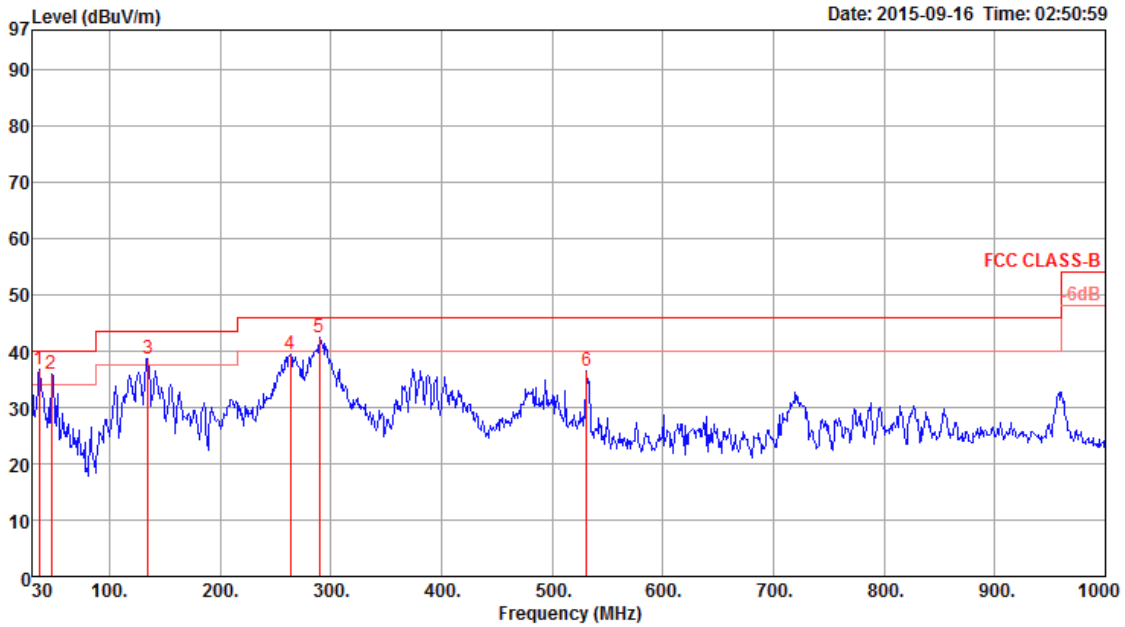
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.6.8. Results of Radiated Emissions (30MHz~1GHz)

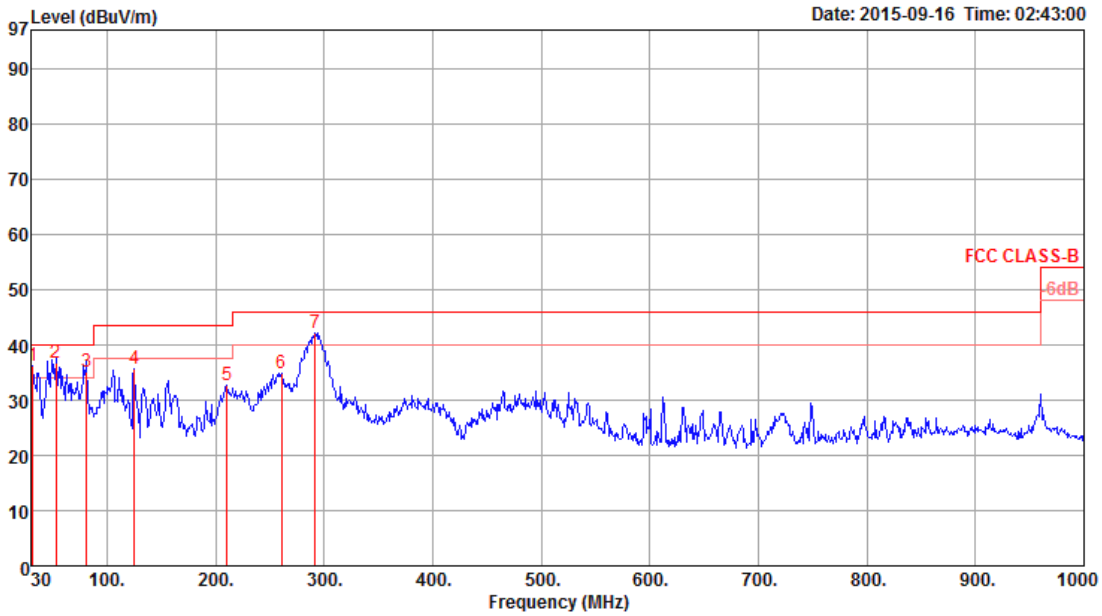
Temperature	25°C	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	Normal Link
Test Mode	Mode 1		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	36.79	36.77	40.00	-3.23	47.57	0.68	16.04	27.52	Peak	100	0	HORIZONTAL
2	47.46	35.92	40.00	-4.08	53.05	0.80	10.35	28.28	Peak	100	0	HORIZONTAL
3	134.76	38.61	43.50	-4.89	53.05	1.40	12.25	28.09	Peak	100	0	HORIZONTAL
4	263.77	39.49	46.00	-6.51	51.31	1.85	13.90	27.57	Peak	100	0	HORIZONTAL
5	289.96	42.30	46.00	-3.70	54.12	1.98	13.70	27.50	Peak	100	0	HORIZONTAL
6	531.49	36.56	46.00	-9.44	44.08	2.74	18.43	28.69	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	31.94	36.16	40.00	-3.84	43.72	0.65	18.94	27.15	Peak	400	0	VERTICAL
2	53.28	36.61	40.00	-3.39	55.71	0.85	8.51	28.46	QP	198	261	VERTICAL
3	81.41	35.15	40.00	-4.85	54.74	1.00	7.77	28.36	QP	158	203	VERTICAL
4	125.06	35.60	43.50	-7.90	49.87	1.33	12.55	28.15	Peak	400	0	VERTICAL
5	210.42	32.59	43.50	-10.91	47.80	1.69	10.80	27.70	Peak	400	0	VERTICAL
6	260.86	34.81	46.00	-11.19	46.51	1.83	14.05	27.58	Peak	400	0	VERTICAL
7	291.90	42.15	46.00	-3.85	53.92	1.99	13.74	27.50	Peak	400	0	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6.9. Results for Radiated Emissions (1GHz~10th Harmonic)

Temperature	25°C	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	BR (GFSK) / Channel 0 / Chain 3
Test Date	Sep. 10, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4804.28	25.56	54.00	-28.44	22.06	5.37	32.52	34.39	100	139	HORIZONTAL	Average
2	4804.28	50.34	74.00	-23.66	46.84	5.37	32.52	34.39	100	139	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4804.28	25.56	54.00	-28.44	22.06	5.37	32.52	34.39	100	139	HORIZONTAL	Average
2	4804.28	50.34	74.00	-23.66	46.84	5.37	32.52	34.39	100	139	HORIZONTAL	Peak

Temperature	25℃	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	BR (GFSK) / Channel 39 / Chain 3
Test Date	Sep. 10, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4881.85	25.88	54.00	-28.12	22.18	5.40	32.68	34.38	105	148	HORIZONTAL	Average
2	4881.85	50.66	74.00	-23.34	46.96	5.40	32.68	34.38	105	148	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4882.20	23.69	54.00	-30.31	19.99	5.40	32.68	34.38	108	154	VERTICAL	Average
2	4882.20	48.47	74.00	-25.53	44.77	5.40	32.68	34.38	108	154	VERTICAL	Peak

Temperature	25℃	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	BR (GFSK) / Channel 78 / Chain 3
Test Date	Sep. 10, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4960.28	23.44	54.00	-30.56	19.55	5.44	32.82	34.37	100	147	HORIZONTAL	Average
2	4960.28	48.22	74.00	-25.78	44.33	5.44	32.82	34.37	100	147	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4960.03	22.34	54.00	-31.66	18.45	5.44	32.82	34.37	108	153	VERTICAL	Average
2	4960.03	47.12	74.00	-26.88	43.23	5.44	32.82	34.37	108	153	VERTICAL	Peak

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25°C	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	EDR (8DPSK) / Channel 0 / Chain 3
Test Date	Sep. 10, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4804.07	26.22	54.00	-27.78	22.72	5.37	32.52	34.39	100	146	HORIZONTAL	Average
2	4804.07	51.00	74.00	-23.00	47.50	5.37	32.52	34.39	100	146	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4803.99	23.24	54.00	-30.76	19.74	5.37	32.52	34.39	100	145	VERTICAL	Average
2	4803.99	48.02	74.00	-25.98	44.52	5.37	32.52	34.39	100	145	VERTICAL	Peak

Temperature	25°C	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	EDR (8DPSK) / Channel 39 / Chain 3
Test Date	Sep. 10, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4881.94	25.31	54.00	-28.69	21.61	5.40	32.68	34.38	106	148	HORIZONTAL	Average
2	4881.94	50.09	74.00	-23.91	46.39	5.40	32.68	34.38	106	148	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4882.01	21.77	54.00	-32.23	18.07	5.40	32.68	34.38	100	140	VERTICAL	Average
2	4882.01	46.55	74.00	-27.45	42.85	5.40	32.68	34.38	100	140	VERTICAL	Peak

Temperature	25℃	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	EDR (8DPSK) / Channel 78 / Chain 3
Test Date	Sep. 10, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4960.84	24.17	54.00	-29.83	20.28	5.44	32.82	34.37	100	146	HORIZONTAL	Average
2	4960.84	48.95	74.00	-25.05	45.06	5.44	32.82	34.37	100	146	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4959.49	21.36	54.00	-32.64	17.47	5.44	32.82	34.37	100	146	VERTICAL	Average
2	4959.49	46.14	74.00	-27.86	42.25	5.44	32.82	34.37	100	146	VERTICAL	Peak

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.7. Emissions Measurement

4.7.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.7.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (20dBc in any 100 kHz bandwidth emission)	100 kHz /100 kHz for Peak

4.7.3. Test Procedures

For Radiated band edges Measurement:

1. The test procedure is the same as section 4.6.3.

For Radiated Out of Band Emission Measurement:

1. The test procedure is follow 15.247(d).

4.7.4. Test Setup Layout

For Radiated band edges Measurement:

This test setup layout is the same as that shown in section 4.6.4.

For Radiated Out of Band Emission Measurement:

This test setup layout is the same as that shown in section 4.6.4.

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

Temperature	25℃	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	BR (GFSK) / Channel 0, 39, 78 / Chain 3
Test Date	Sep. 10, 2015		

Channel 0

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2387.11	33.66	54.00	-20.34	2.01	3.73	27.92	0.00	200	193	HORIZONTAL	Average
2	2387.11	58.44	74.00	-15.56	26.79	3.73	27.92	0.00	200	193	HORIZONTAL	Peak
*3	2402.14	79.02			47.37	3.74	27.91	0.00	200	193	HORIZONTAL	Average
*4	2402.14	103.80			72.15	3.74	27.91	0.00	200	193	HORIZONTAL	Peak

Item 3, 4 are the fundamental frequency at 2402 MHz.

Channel 39

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2384.60	33.49	54.00	-20.51	1.84	3.73	27.92	0.00	273	189	HORIZONTAL	Average
2	2384.60	58.27	74.00	-15.73	26.62	3.73	27.92	0.00	273	189	HORIZONTAL	Peak
*3	2441.00	78.98			47.34	3.78	27.86	0.00	273	189	HORIZONTAL	Average
*4	2441.00	103.76			72.12	3.78	27.86	0.00	273	189	HORIZONTAL	Peak
5	2488.71	34.69	54.00	-19.31	3.05	3.82	27.82	0.00	273	189	HORIZONTAL	Average
6	2488.71	59.47	74.00	-14.53	27.83	3.82	27.82	0.00	273	189	HORIZONTAL	Peak

Item 3, 4 are the fundamental frequency at 2441 MHz.

Channel 78

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
*1	2480.00	72.27			40.63	3.82	27.82	0.00	300	83	VERTICAL	Average
*2	2480.00	97.05			65.41	3.82	27.82	0.00	300	83	VERTICAL	Peak
3	2490.56	35.07	54.00	-18.93	3.44	3.82	27.81	0.00	300	83	VERTICAL	Average
4	2490.56	59.85	74.00	-14.15	28.22	3.82	27.81	0.00	300	83	VERTICAL	Peak

Item 1, 2 are the fundamental frequency at 2480 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25℃	Humidity	69%
Test Engineer	Paul Chen & Peter Wu	Configurations	EDR (8DPSK) / Channel 0, 39, 78 / Chain 3
Test Date	Sep. 10, 2015		

Channel 0

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2388.40	33.82	54.00	-20.18	2.17	3.73	27.92	0.00	226	175	HORIZONTAL	Average
2	2388.40	58.60	74.00	-15.40	26.95	3.73	27.92	0.00	226	175	HORIZONTAL	Peak
* 3	2402.14	79.81			48.16	3.74	27.91	0.00	226	175	HORIZONTAL	Average
* 4	2402.14	104.59			72.94	3.74	27.91	0.00	226	175	HORIZONTAL	Peak

Item 3, 4 are the fundamental frequency at 2402 MHz.

Channel 39

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2382.24	33.54	54.00	-20.46	1.89	3.72	27.93	0.00	278	87	VERTICAL	Average
2	2382.24	58.32	74.00	-15.68	26.67	3.72	27.93	0.00	278	87	VERTICAL	Peak
* 3	2441.29	73.70			42.06	3.78	27.86	0.00	278	87	VERTICAL	Average
* 4	2441.29	98.48			66.84	3.78	27.86	0.00	278	87	VERTICAL	Peak
5	2490.45	33.95	54.00	-20.05	2.32	3.82	27.81	0.00	278	87	VERTICAL	Average
6	2490.45	58.73	74.00	-15.27	27.10	3.82	27.81	0.00	278	87	VERTICAL	Peak

Item 3, 4 are the fundamental frequency at 2441 MHz.

Channel 78

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
* 1	2480.29	79.39			47.75	3.82	27.82	0.00	299	177	HORIZONTAL	Average
* 2	2480.29	104.17			72.53	3.82	27.82	0.00	299	177	HORIZONTAL	Peak
3	2483.50	35.03	54.00	-18.97	3.39	3.82	27.82	0.00	299	177	HORIZONTAL	Average
4	2483.50	59.81	74.00	-14.19	28.17	3.82	27.82	0.00	299	177	HORIZONTAL	Peak

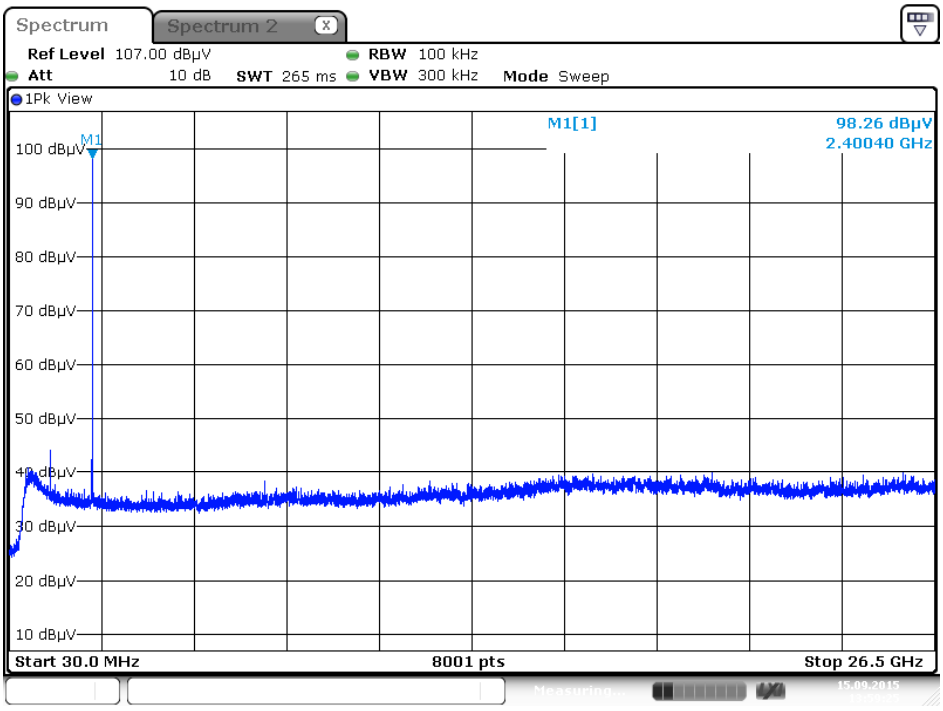
Item 1, 2 are the fundamental frequency at 2480 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

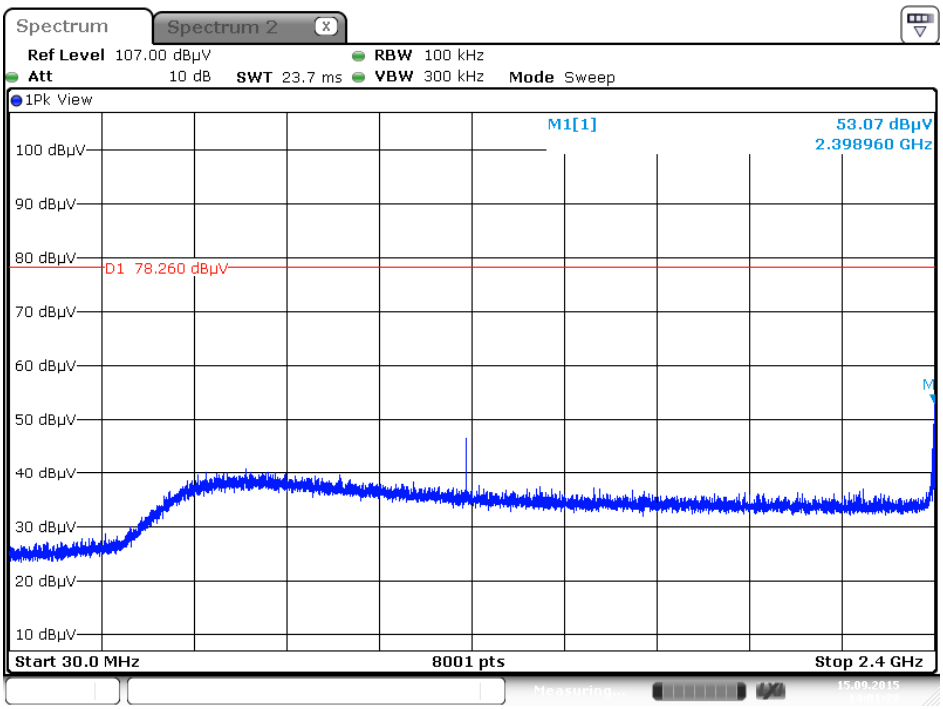
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Plot on Configuration For BR (GFSK) / Channel 0 / Reference Level



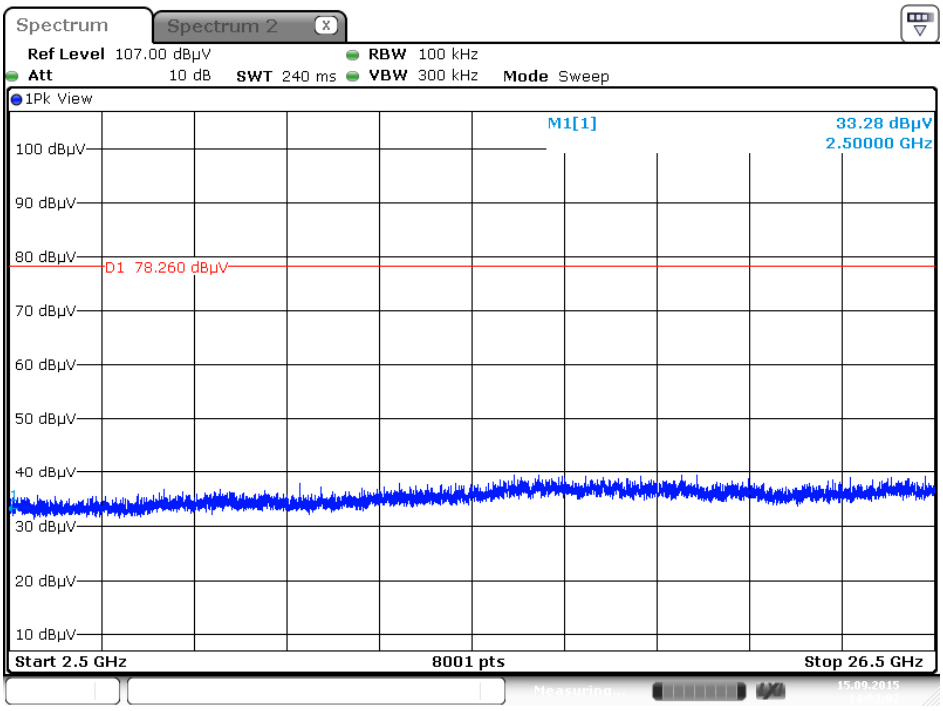
Date: 15.SEP.2015 13:59:25

Plot on Configuration For BR (GFSK) / Channel 0 / 30MHz~2400MHz (down 20dBc)



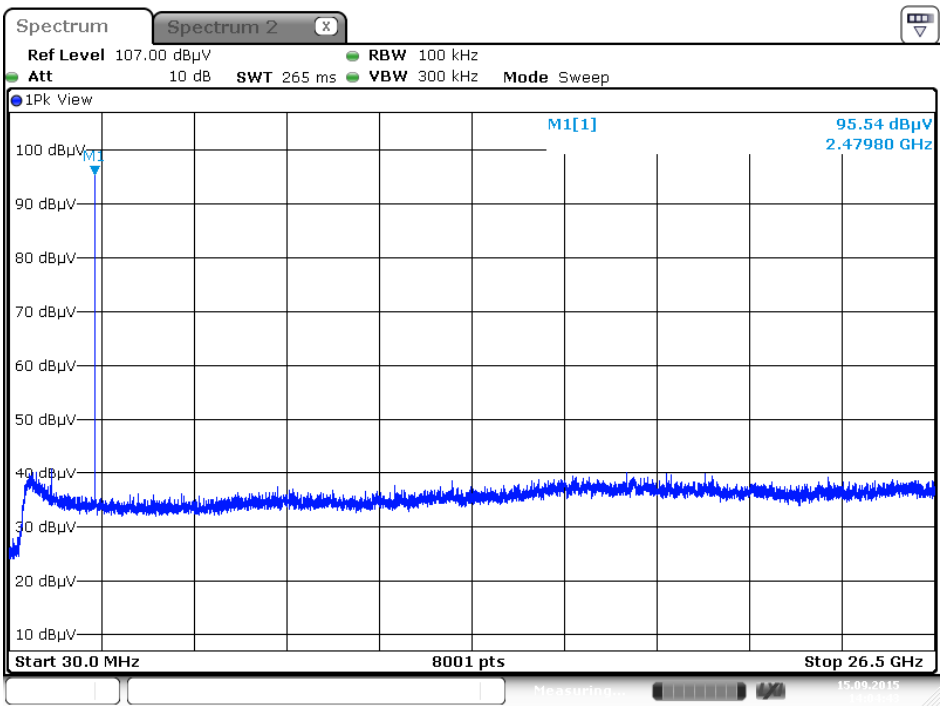
Date: 15.SEP.2015 14:01:28

Plot on Configuration For BR (GFSK) / Channel 0 / 2500MHz~26500MHz (down 20dBc)



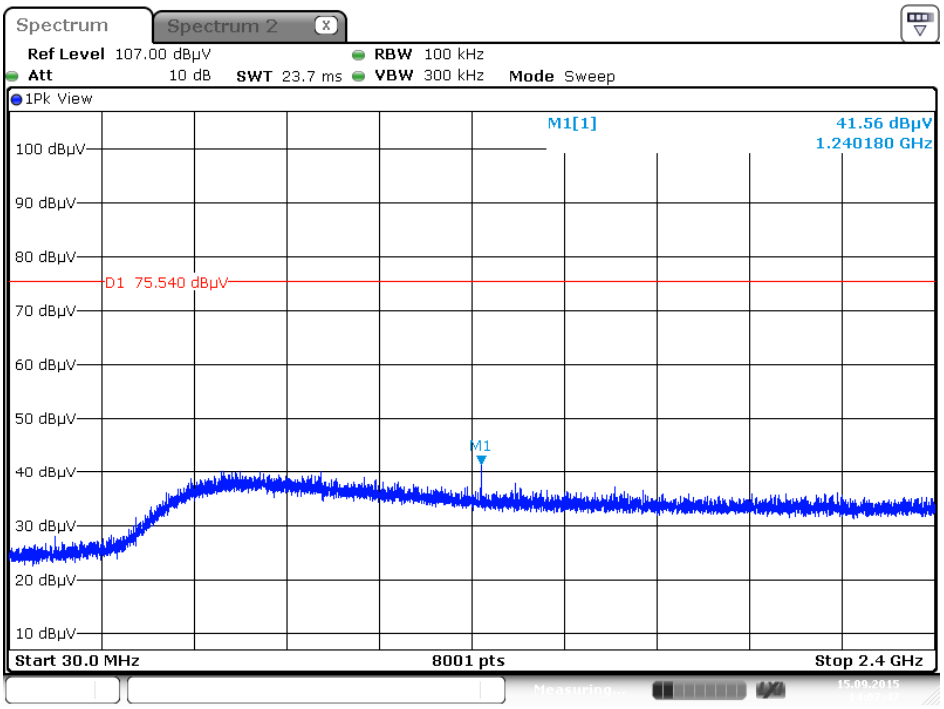
Date: 15.SEP.2015 14:03:03

Plot on Configuration For BR (GFSK) / Channel 78 / Reference Level



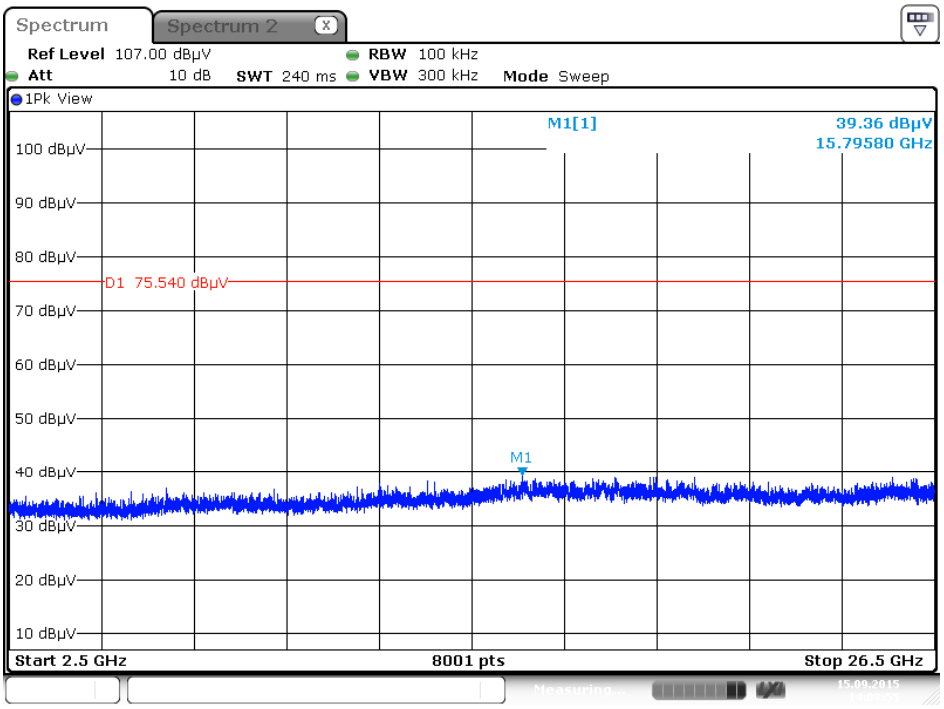
Date: 15.SEP.2015 14:04:43

Plot on Configuration For BR (GFSK) / Channel 78 / 30MHz~2400MHz (down 20dBc)



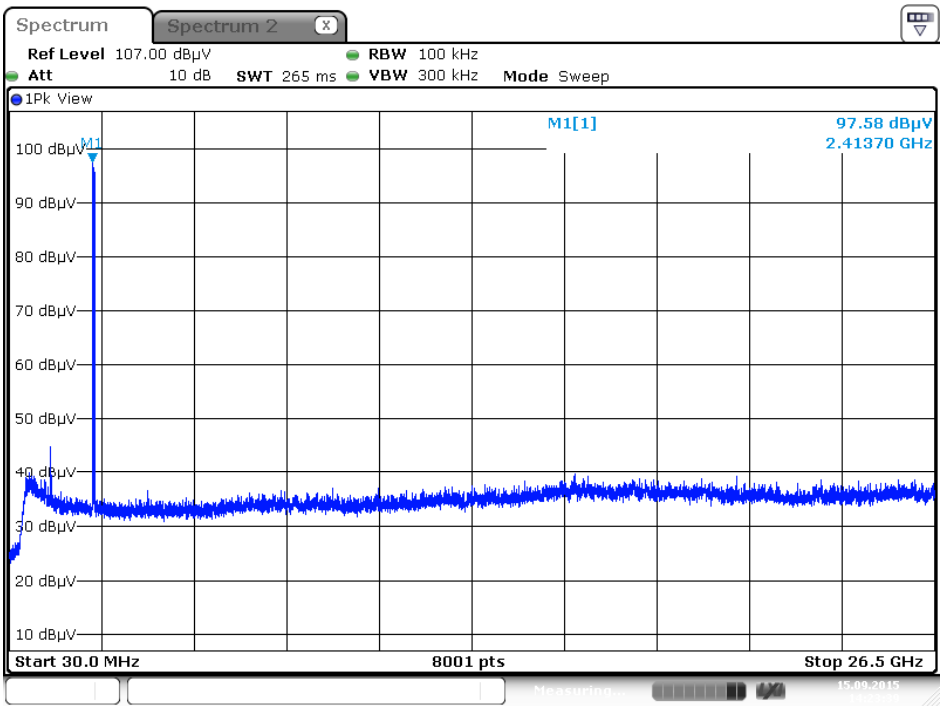
Date: 15.SEP.2015 14:07:48

Plot on Configuration For BR (GFSK) / Channel 78 / 2500MHz~26500MHz (down 20dBc)



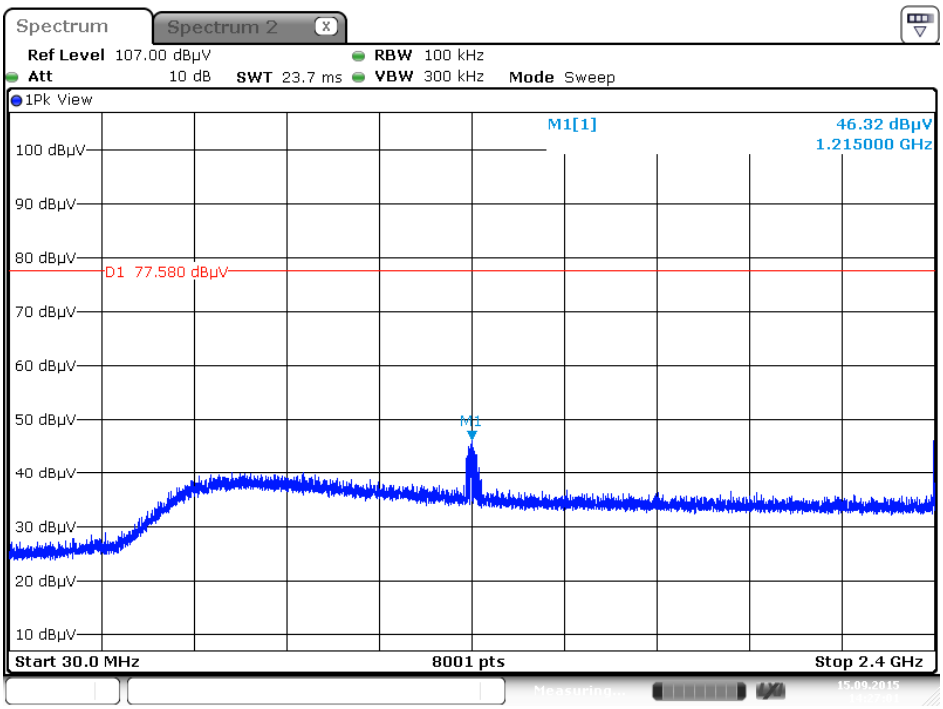
Date: 15.SEP.2015 14:08:55

Plot on Configuration For BR (GFSK) / Hopping / Reference Level



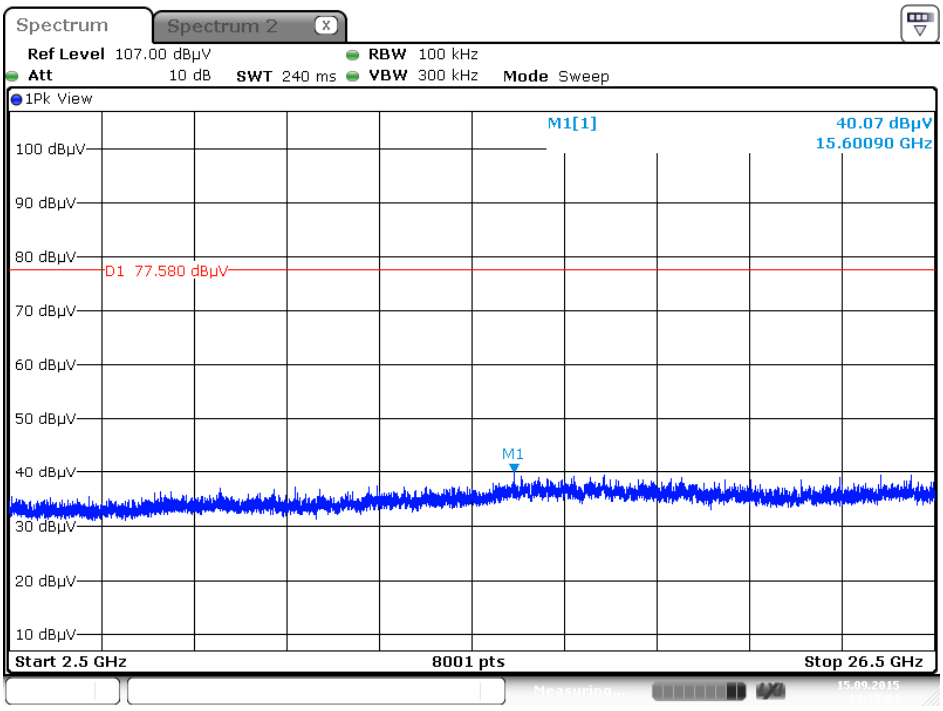
Date: 15.SEP.2015 14:23:40

Plot on Configuration For BR (GFSK) / Hopping / 30MHz~2400MHz (down 20dBc)



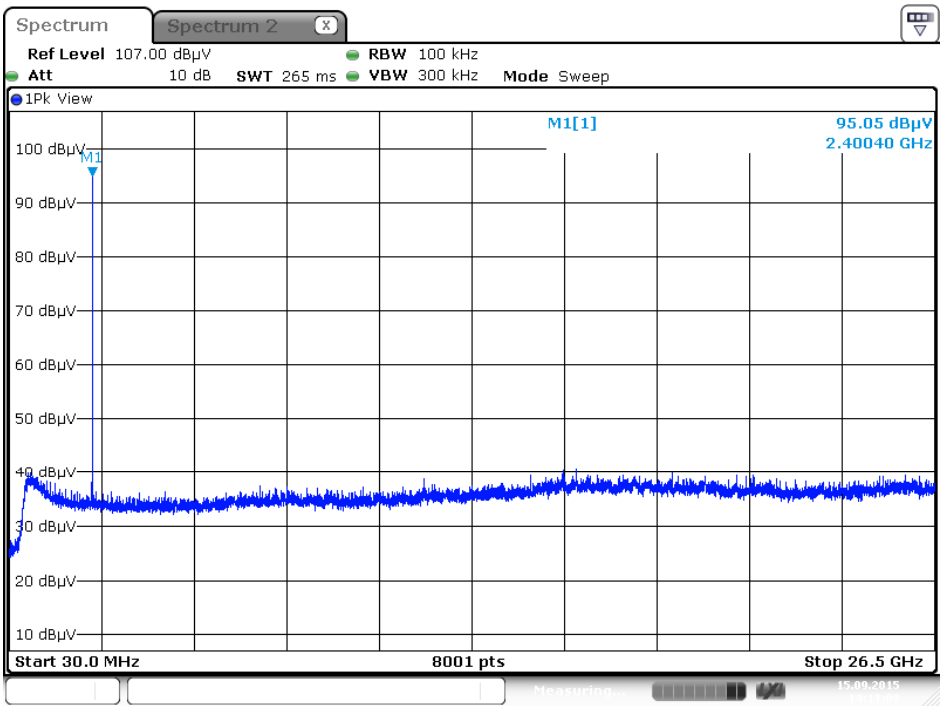
Date: 15.SEP.2015 14:27:01

Plot on Configuration For BR (GFSK) / Hopping / 2500MHz~26500MHz (down 20dBc)



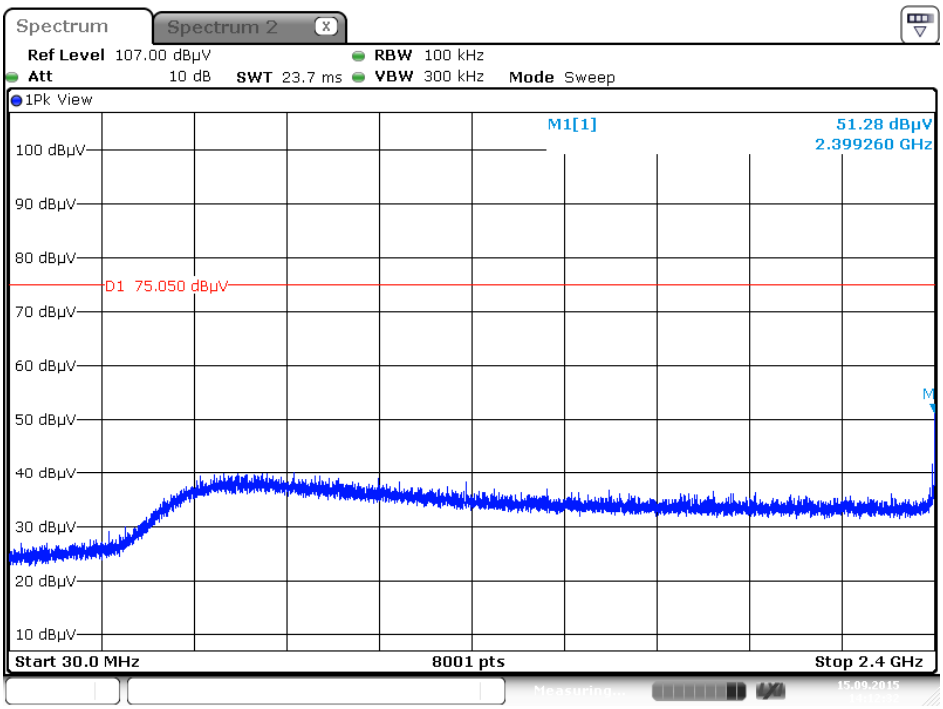
Date: 15.SEP.2015 14:28:05

Plot on Configuration For EDR (8DPSK) / Channel 0 / Reference Level



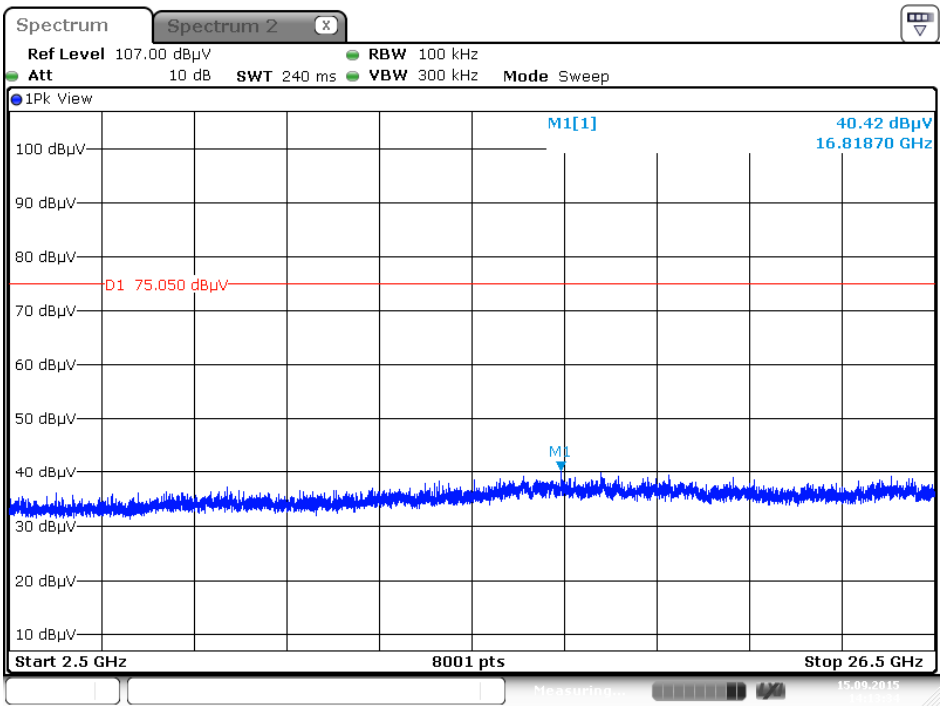
Date:15.SEP.2015 14:11:10

Plot on Configuration For EDR (8DPSK) / Channel 0 / 30MHz~2400MHz (down 20dBc)



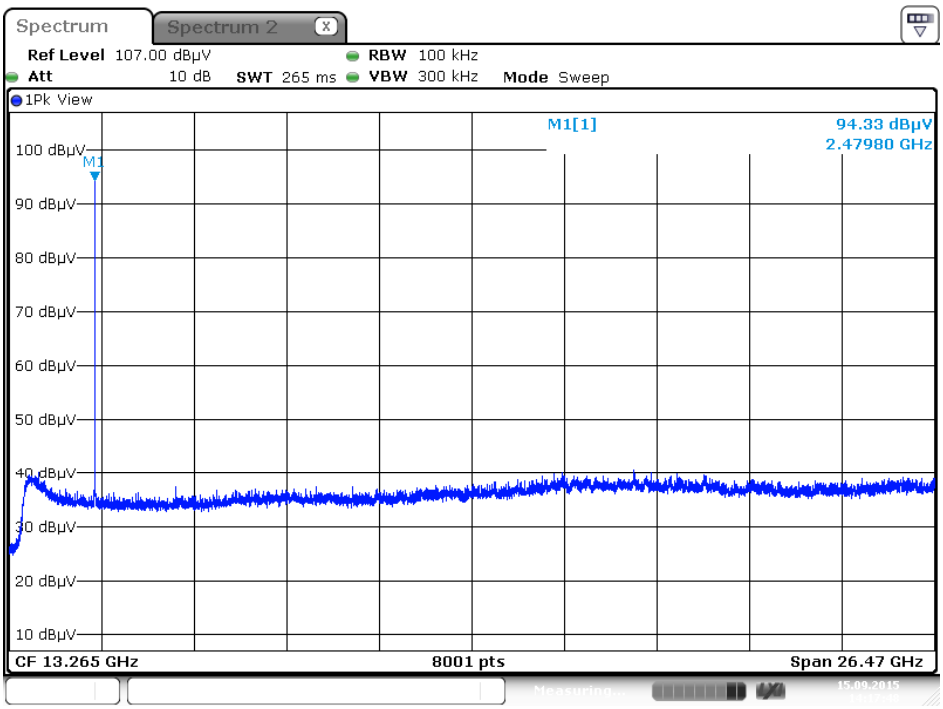
Date:15.SEP.2015 14:12:32

Plot on Configuration For EDR (8DPSK) / Channel 0 / 2500MHz~26500MHz (down 20dBc)



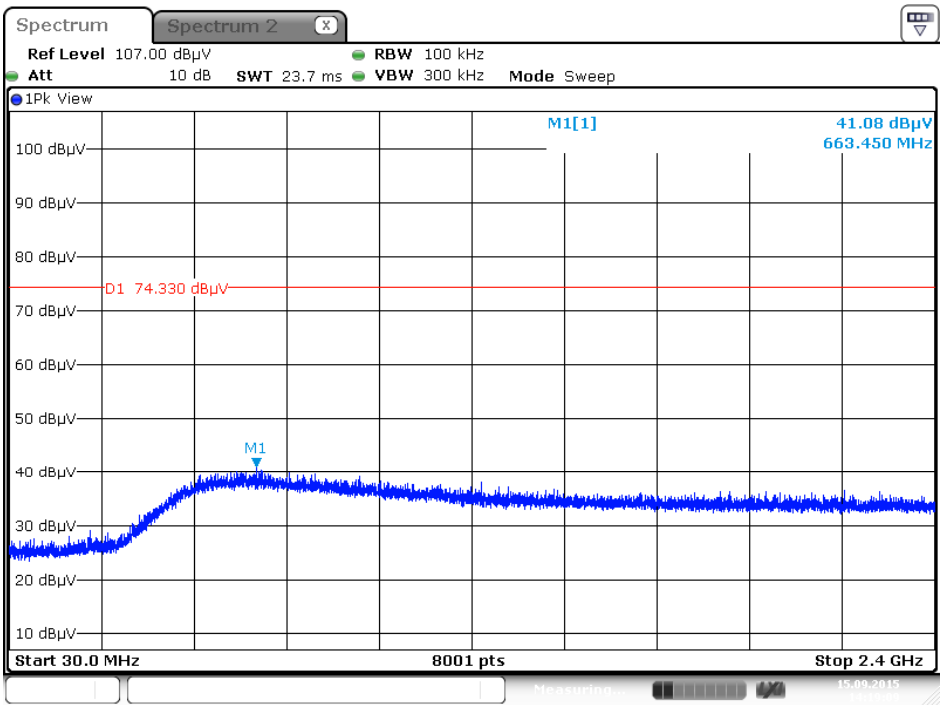
Date: 15.SEP.2015 14:13:34

Plot on Configuration For EDR (8DPSK) / Channel 78 / Reference Level



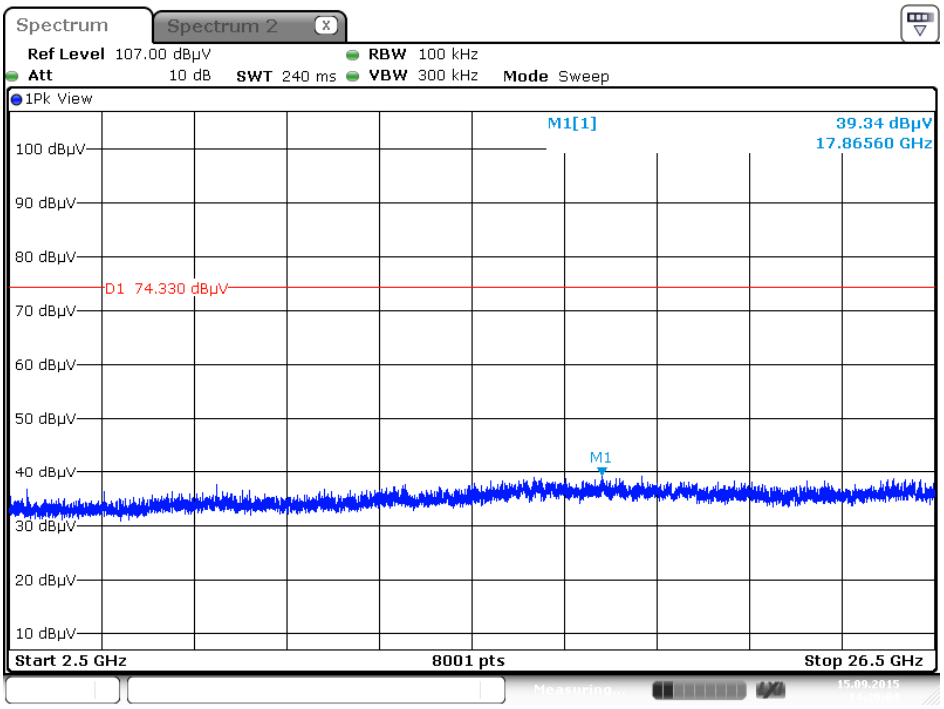
Date: 15.SEP.2015 14:17:48

Plot on Configuration For EDR (8DPSK) / Channel 78 / 30MHz~2400MHz (down 20dBc)



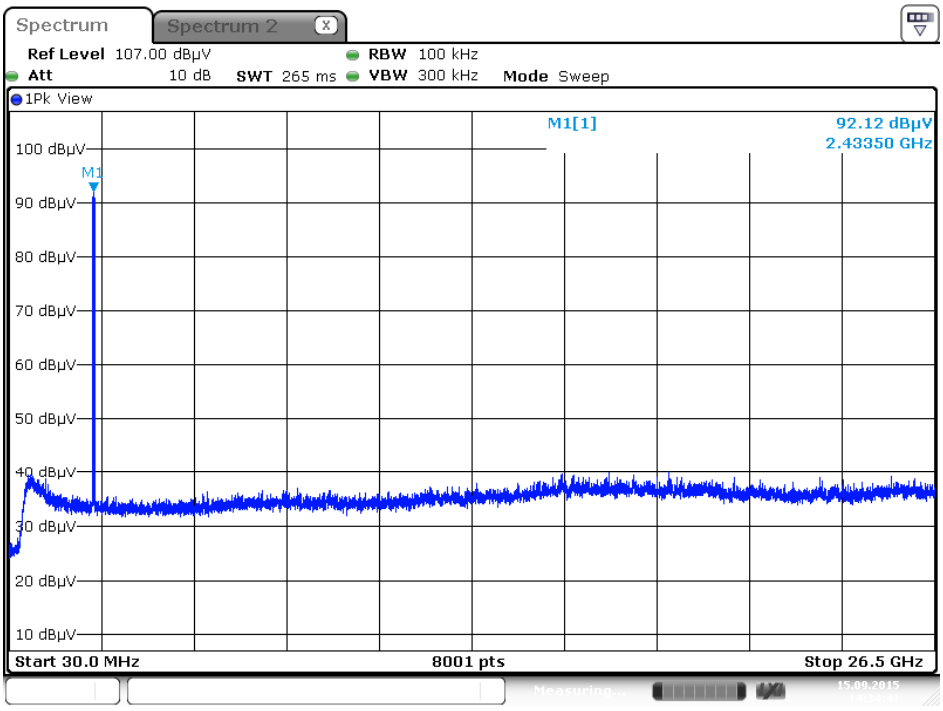
Date: 15.SEP.2015 14:19:08

Plot on Configuration For EDR (8DPSK) / Channel 78 / 2500MHz~26500MHz (down 20dBc)



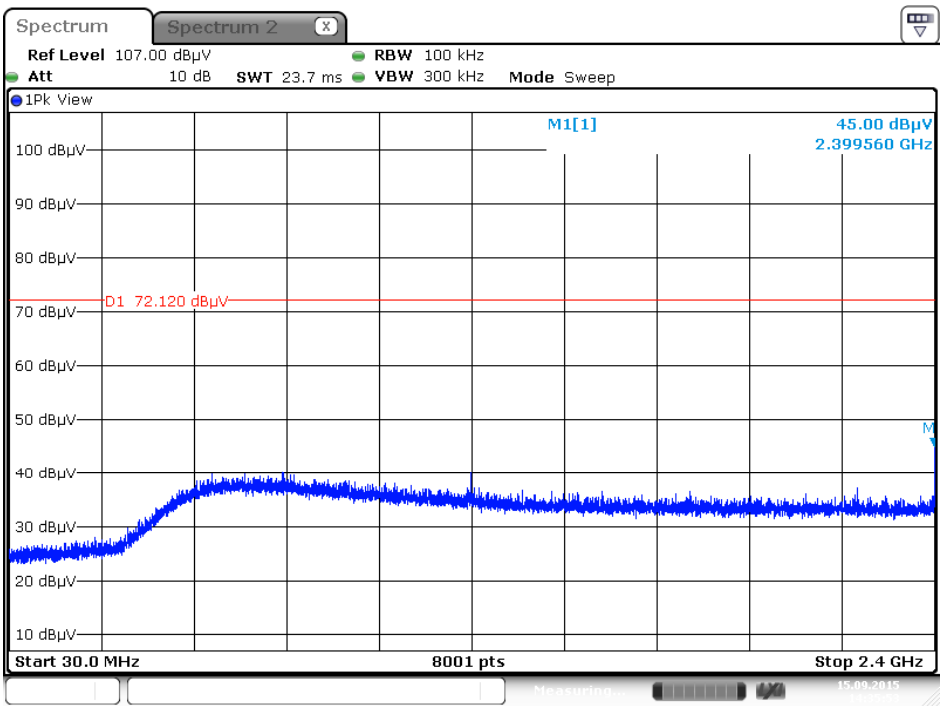
Date: 15.SEP.2015 14:20:05

Plot on Configuration For EDR (8DPSK) / Hopping / Reference Level



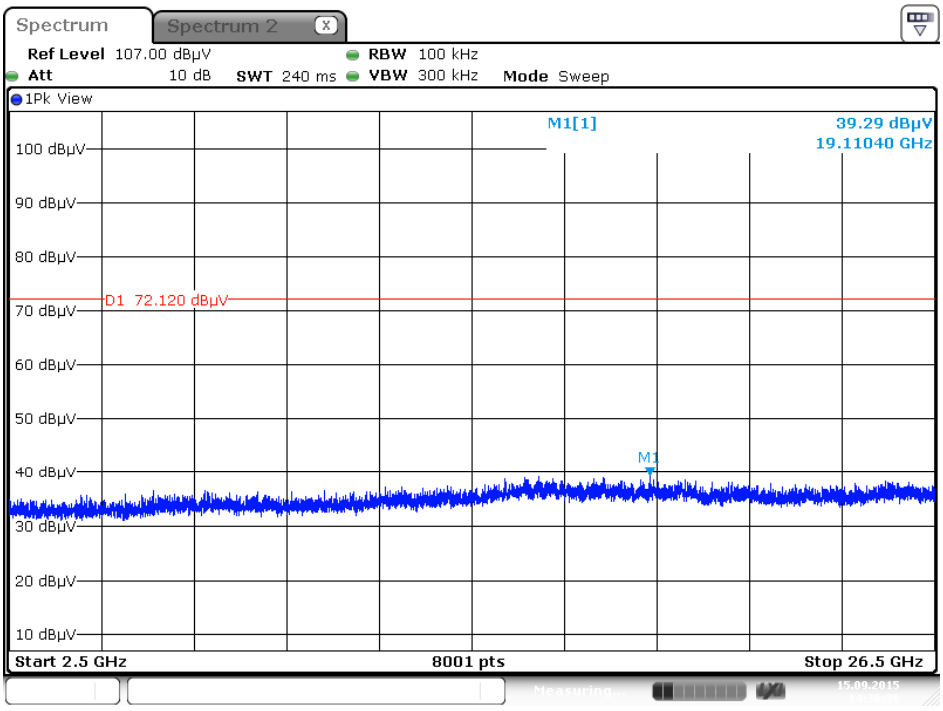
Date: 15.SEP.2015 14:34:40

Plot on Configuration For EDR (8DPSK) / Hopping / 30MHz~2400MHz (down 20dBc)



Date: 15.SEP.2015 14:35:52

Plot on Configuration For EDR (8DPSK) / Hopping / 2500MHz~26500MHz (down 20dBc)



Date: 15.SEP.2015 14:36:37

4.8. Antenna Requirements

4.8.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited.

4.8.2. Antenna Connector Construction

Please refer to section 3.3 in this test report, antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 22, 2015	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 02, 2014	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 02, 2014	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	Dec. 03, 2014	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	May 06, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 28, 2014	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 25, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
EMI Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8.4GHz	Jan. 21, 2015	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015*	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100979	9kHz~40GHz	Dec. 12, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%