



Test Results for the Motorola Canopy PMP5400

Test data collected for 10.5 release candidate

(November 16th, 2010)

This data collection presents information gained from a test program conducted internally by Motorola's PMP test team.

INTRODUCTION

The primary data collected in the below charts focus on the in-session state of the P11 Canopy 5400 product. The test consisted of testing the dynamic frequency selection (DFS) functionality of the Motorola devices for in-session to show that we meet the worst case scenario of 75% downlink and is an add-on to the tests conducted at CCS report 09U12355-1. The data is presented in the below document.

The below table provides the specifics of the first Motorola device, such as model number, Federal Communications Commission (FCC) ID, and firmware revision.

Table 1. Key parameters and identification tags for the Motorola Canopy 5400 device

Model #	Canopy 5400 (P11 - FSK)
Serial #	0a-00-3e-53-fb-61
FCC ID	ABZ89FT7623
Firmware Revision	CANOPY 10.5 (Build 6) AP-DES
Firmware Revision	CANOPY 10.5 (Build 6) AP-DES
Communication Protocol	Frame Based
talk/listen ratio	75%/25% (greatest allowable configuration)
Channel Bandwidth	20MHz
Interference Threshold value	-64dBm

TEST DATA for in-session detections (MOTOROLA CANOPY 5400)

The Motorola 5400 U-NII device was configured in an in-session mode using its only allowable configuration of 20 MHz channel bandwidth with an operating frequency of 5550 MHz. The radar signal was set to 5550 MHz and was co-channel (on-tune) with the U-NII operating frequency for the tests described below. The radar power level was adjusted to be -64 dBm at the port of the connectorized board. All tests were conducted in a connectorized fashion. The Motorola Canopy device had the talk/listen ratio set to 75%/25%. This talk/listen ratio is the largest ratio configurable by an end user and, therefore, represents the worst case detection scenario.

The results of these tests are provided in Tables 2, 3, and 4 respectively. A “Yes” means the device successfully detected and “No” means it failed to detect the radar signal. In this mode, channel bandwidth, and talk/listen ratio, the Motorola Canopy 5400 U-NII device detected the required percentages for all proposed radar type waveforms. The data collected below is an addition to the testing done at CCS to so that we meet the in-session worst case requirements of 75%/25% configurable settings for the Canopy 5400 product.

Table 2. Results of radar detection tests in the in-service mode, channel BW = 20MHz, using bin1-4 short pulse requirements for FCC0696. Radar f_0 = U-NII operating frequency = 5550 MHz.

Bin 1 Trial #	Detection	Bin 2 Trial #	Detection	Bin 3 Trial #	Detection	Bin 4 Trial #	Detection
1	Yes	1	Yes	1	No	1	Yes
2	No	2	Yes	2	Yes	2	Yes
3	No	3	Yes	3	No	3	Yes
4	No	4	Yes	4	No	4	Yes
5	Yes	5	Yes	5	Yes	5	Yes
6	Yes	6	Yes	6	Yes	6	Yes
7	No	7	Yes	7	No	7	Yes
8	Yes	8	Yes	8	No	8	Yes
9	Yes	9	Yes	9	Yes	9	Yes
10	Yes	10	Yes	10	Yes	10	Yes
11	No	11	No	11	Yes	11	Yes
12	No	12	Yes	12	Yes	12	Yes
13	No	13	Yes	13	Yes	13	Yes
14	No	14	Yes	14	Yes	14	Yes
15	No	15	Yes	15	Yes	15	Yes
16	No	16	Yes	16	Yes	16	Yes
17	Yes	17	Yes	17	Yes	17	Yes
18	Yes	18	Yes	18	Yes	18	Yes
19	Yes	19	Yes	19	Yes	19	Yes
20	Yes	20	Yes	20	Yes	20	Yes
21	Yes	21	Yes	21	Yes	21	Yes
22	No	22	No	22	Yes	22	Yes
23	Yes	23	Yes	23	Yes	23	Yes
24	Yes	24	Yes	24	Yes	24	Yes
25	Yes	25	Yes	25	Yes	25	Yes
26	Yes	26	Yes	26	Yes	26	Yes
27	Yes	27	Yes	27	Yes	27	Yes
28	Yes	28	Yes	28	Yes	28	Yes
29	Yes	29	Yes	29	Yes	29	Yes
30	Yes	30	Yes	30	Yes	30	Yes
% detected	63.33%	% detected	93.33%	% detected	83.33%	% detected	100%

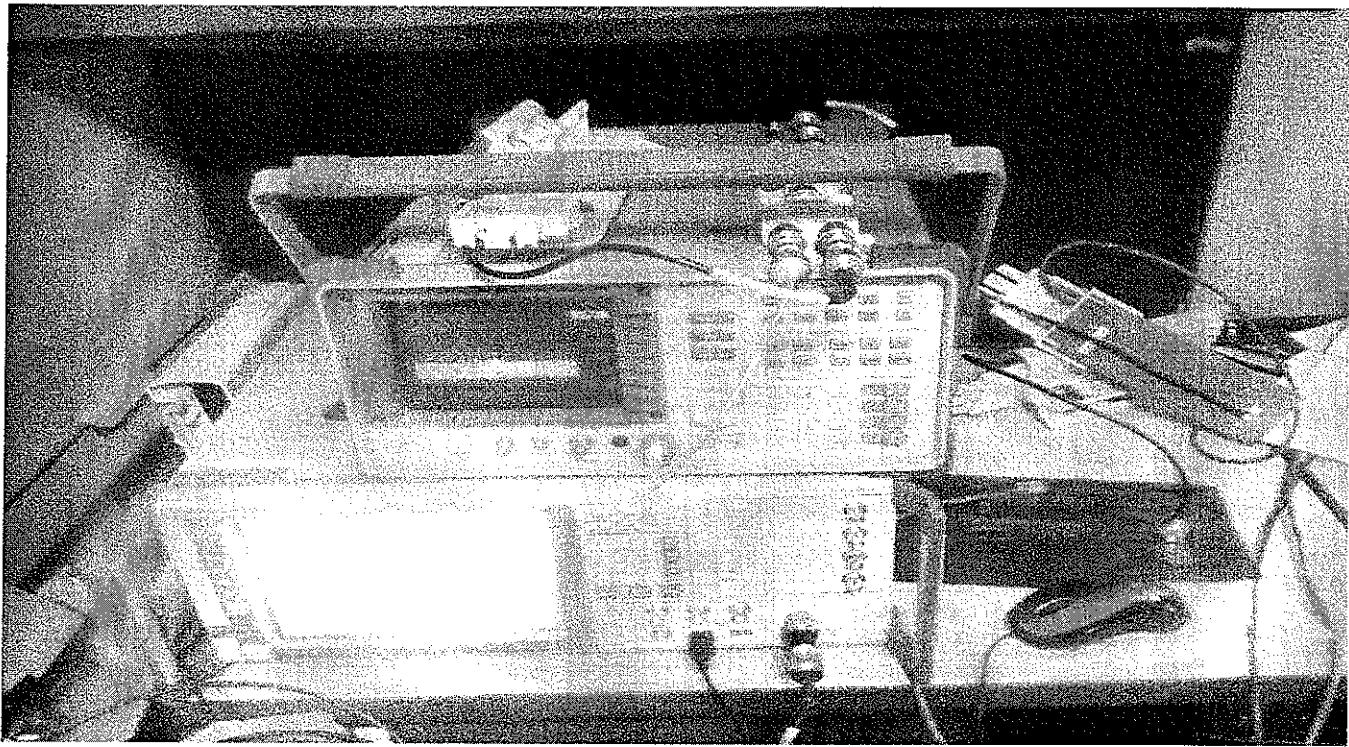
Table 3. Results of radar detection tests in-session mode, channel BW = 20MHz, using 30 Radar Type Bin 5 Waveforms. Radar f_0 = U-NII operating frequency = 5550 MHz.

Bin 5 Trial #	Detection
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes
% detected	100%

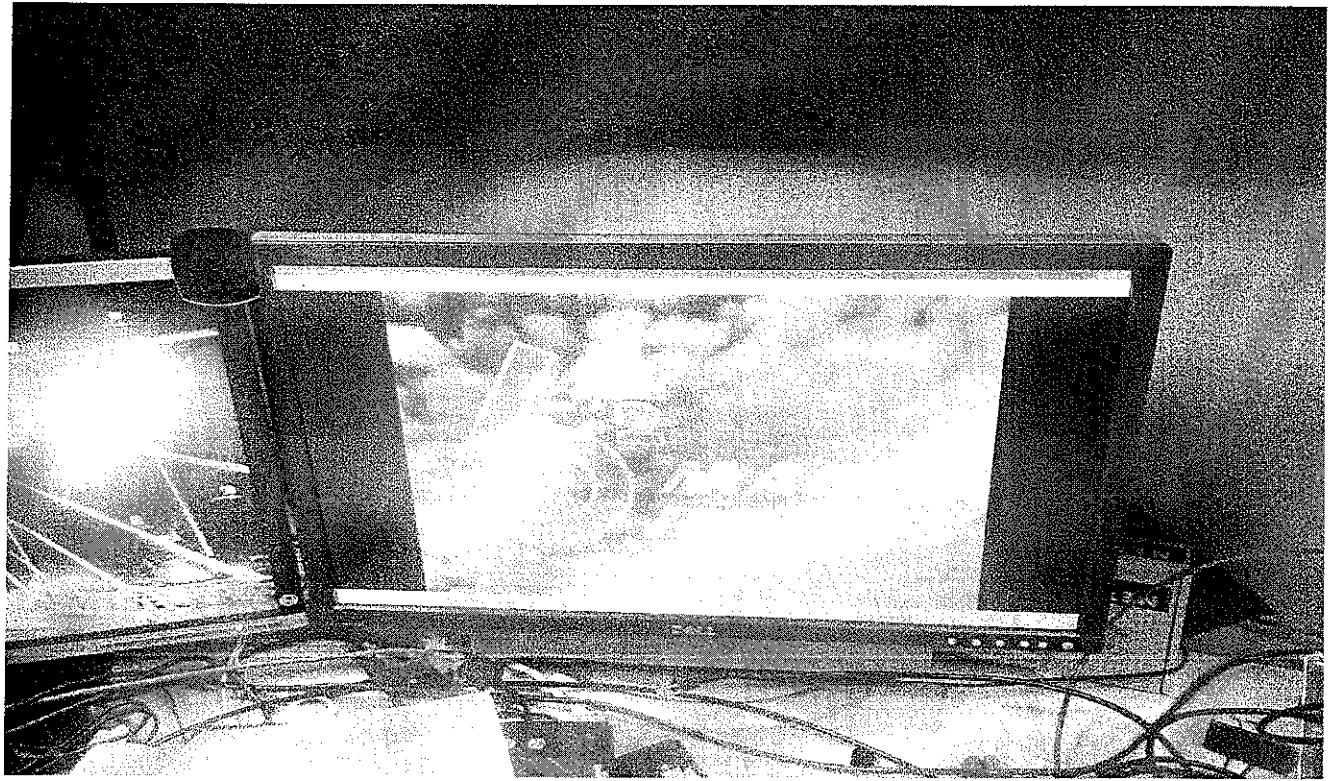
Table 4. Results of radar detection tests in-session mode, channel BW = 20MHz, using the required 30 trials of Radar Type bin 6 hopping waveforms tested.
 PW 1us, PRI 333 us, 1 Burst per Hop. Radar f_0 = U-NII operating frequency = 5550 MHz.

Trial #	Starting Index w/in sequence	Hops w/in detection BW	Detection
1	314	3	Yes
2	789	3	Yes
3	1264	2	Yes
4	1739	2	Yes
5	2214	5	Yes
6	2689	2	Yes
7	3164	3	Yes
8	3639	4	Yes
9	4114	2	Yes
10	4589	1	Yes
11	5064	4	Yes
12	5539	3	Yes
13	6014	4	Yes
14	6489	1	Yes
15	6964	3	Yes
16	7439	4	Yes
17	7914	2	Yes
18	8389	5	Yes
19	8864	3	Yes
20	9339	2	Yes
21	9814	3	Yes
22	10289	6	Yes
23	10764	1	Yes
24	11239	3	Yes
25	11714	3	Yes
26	12189	1	Yes
27	12664	3	Yes
28	13139	2	Yes
29	13614	1	No
30	14089	2	Yes
% detected			96.67%

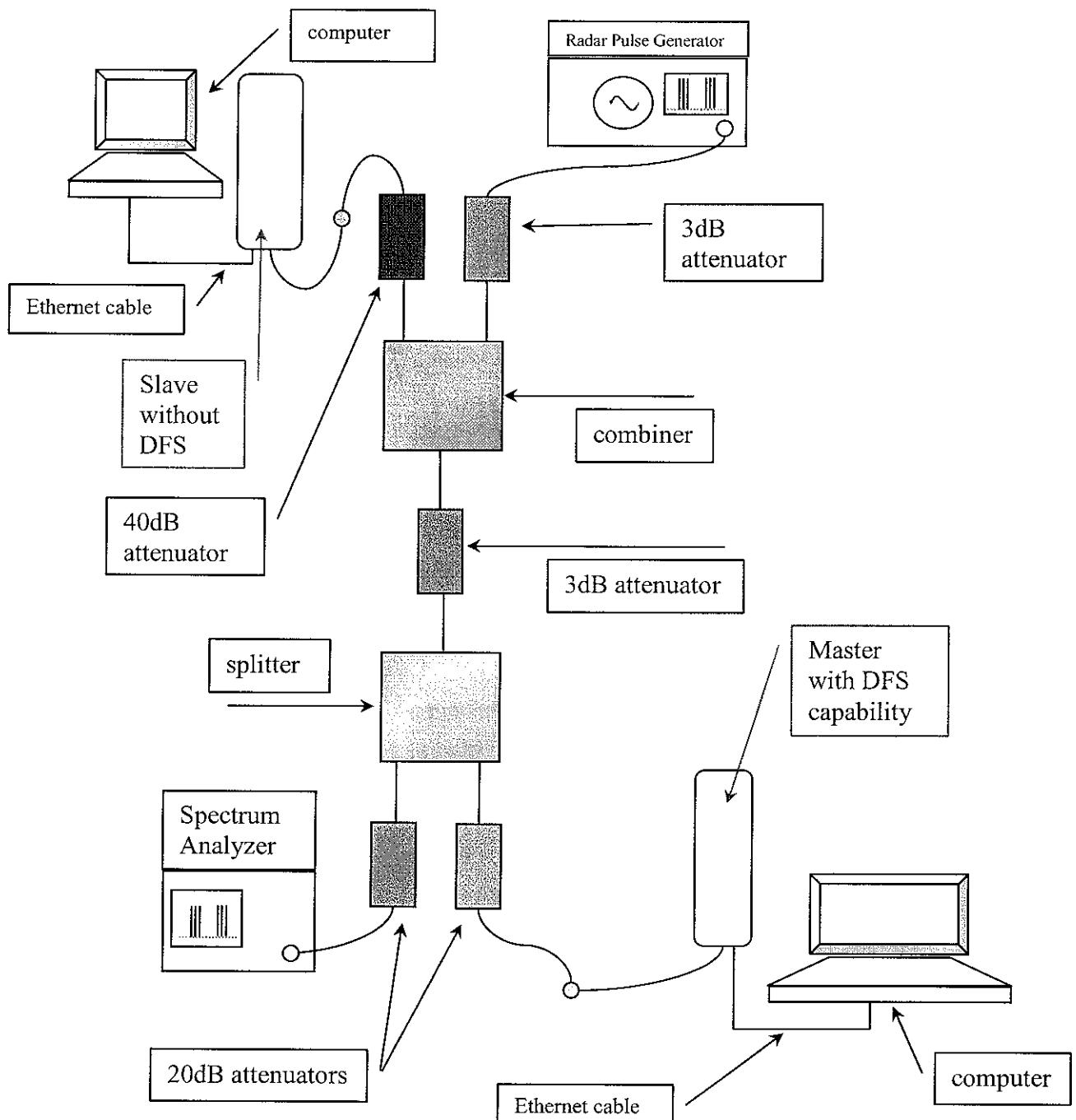
Conclusion: Motorola Canopy Model 5400 FSK (DFS MASTER)
 FCCID: ABZ89FT7623 complies with KDB 443999 dated October 2010.



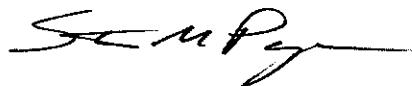
DFS setup
Photos



DFS Block Diagram



Signature Page



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