



Fig. 75 Hopping channel ch0~39 (GFSK, Ch39)



Fig. 76 Hopping channel ch39~78 (GFSK, Ch39)



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Fig. 78 Hopping channel ch39~78 ( **π** /4 DQPSK, Ch39)









Fig. 80 Hopping channel ch39~78 (8DPSK, Ch39)



## A.8 Carrier Frequency Separation

#### **Measurement Limit:**

Standard	Limit
ECC 47 CEP Part 15 247(a) 8	By a minimum of 25 kHz or two-thirds of the 20 dB
RSS-247 Section 5.1	bandwidth of the hopping channel, whichever is
	greater

#### **Measurement Results:**

Mode	Channel	Packet	Separation of hopping channels	Test result (KHz)	Conclusion
GFSK	39	DH5	Fig.81	1004.25	Р
π /4 DQPSK	39	2-DH5	Fig.82	1147.50	Р
8DPSK	39	3-DH5	Fig.83	1007.25	Р

## See below for test graphs.

## **Conclusion: Pass**



# Fig. 81 Carrier Frequency Separation (GFSK, Ch39)



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Fig. 82 Carrier Frequency Separation ( $\pi$  /4 DQPSK, Ch39)



Fig. 83 Carrier Frequency Separation (8DPSK, Ch39)



## A.9 Occupied Bandwidth

#### Measurement Limit:

Standard	Limit
RSS-Gen Section 4 6.6	/

**Measurement Results:** 

#### For **GFSK**

Channel	Occupied Bar	Conclusion	
0	Fig.84	1012.25	/
39	Fig.85	1012.75	/
78	Fig.86	1012.75	/

#### For π/4 DQPSK

Channel	Occupied Bar	Conclusion	
0	Fig.87	976.76	/
39	Fig.88	959.26	/
78	Fig.89	962.26	/

#### For 8DPSK

Channel	Occupied Bar	Conclusion	
0	Fig.90	1068.23	/
39	Fig.91	1047.74	/
78	Fig.92	1060.74	/

### See below for test graphs.

#### **Conclusion: PASS**



## Fig. 84 Occupied Bandwidth: GFSK, Channel 0









Fig. 86 Occupied Bandwidth: GFSK, Channel 78









Fig. 88 Occupied Bandwidth:  $\pi/4$  DQPSK, Channel 39





Fig. 89 Occupied Bandwidth:  $\pi/4$  DQPSK, Channel 78



Fig. 90 Occupied Bandwidth: 8DPSK, Channel 0





Fig. 91 Occupied Bandwidth: 8DPSK, Channel 39



Fig. 92 Occupied Bandwidth: 8DPSK, Channel 78



## A.10 AC Power line Conducted Emission

#### **Test Condition:**

Voltage (V)	Frequency (Hz)
120	60

#### Measurement Result and limit:

BT (Quasi-peak Limit)

Frequency range	Quasi-peak	Result (dBμV)		Conclusion
(MHz)	Limit (dBμV)	Traffic Idle		Conclusion
0.15 to 0.5	66 to 56			
0.5 to 5	56	Fig.93	Fig.94	Р
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

BT (Average Limit)

Frequency range	Average-peak	Result (dBµV)		Conclusion
(MHz)	Limit (dBµV)	Traffic	Idle	Conclusion
0.15 to 0.5	56 to 46			
0.5 to 5	46	Fig 93	Fig 94	Р
5 to 30	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note: The measurement results include the L1 and N measurements.

See below for test graphs.

**Conclusion: Pass** 





Fig. 93 AC Powerline Conducted Emission (Traffic)

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154000	21.76	65.78	44.02	Ν	ON	9.6
0.270000	18.76	61.12	42.36	Ν	ON	9.6
0.466000	29.48	56.59	27.11	L1	ON	9.7
0.894000	11.20	56.00	44.80	L1	ON	9.7
1.278000	15.63	56.00	40.37	L1	ON	9.7
2.150000	17.36	56.00	38.64	L1	ON	9.7

#### Measurement Results: Quasi Peak

#### **Measurement Results : Average**

Frequency	Average	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBµV)	(dBµV)	(dB)			(dB)
0.414000	10.78	47.57	36.79	N	ON	9.7
0.466000	27.08	46.59	19.50	N	ON	9.7
0.938000	7.00	46.00	39.00	N	ON	9.7
1.394000	11.94	46.00	34.06	Ν	ON	9.7
2.246000	11.57	46.00	34.43	N	ON	9.7
4.302000	5.74	46.00	40.26	N	ON	9.7





Fig. 94 AC Power line Conducted Emission (Idle)

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.170000	37.81	64.96	27.15	Ν	ON	9.6
0.426000	24.15	57.33	33.18	L1	ON	9.7
0.454000	36.38	56.80	20.42	Ν	ON	9.7
0.942000	24.83	56.00	31.17	L1	ON	9.7
1.354000	24.21	56.00	31.79	L1	ON	9.7
4.194000	27.46	56.00	28.54	L1	ON	9.7

#### Measurement Results: Quasi Peak

#### **Measurement Results : Average**

Frequency	Average	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBµV)	(dBµV)	(dB)			(dB)
0.430000	17.23	47.25	30.02	N	ON	9.7
0.458000	35.17	46.73	11.56	Ν	ON	9.6
0.966000	15.62	46.00	30.38	Ν	ON	9.7
1.350000	14.24	46.00	31.76	Ν	ON	9.7
2.414000	15.51	46.00	30.49	Ν	ON	9.7
3.642000	14.60	46.00	31.40	Ν	ON	9.7

\*\*\*END OF REPORT\*\*\*