

7.4. Test Results

Ambient temperature	:	(23 1	- 1) ℃
Relative humidity	:	47	% R.H.

7.4.1. Left

7.4.1.1. Packet Type: DH1, 3DH1

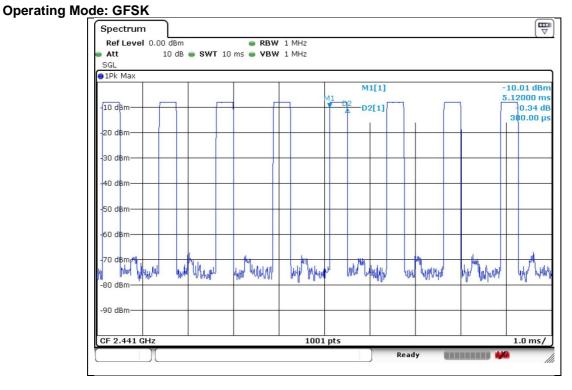
Operation Mode	Frequency (쌘)	Dwell Time (ms)	Time of occupancy on the Tx Channel in 31.6 sec (IIIS)	Limit for time of occupancy on the Tx Channel in 31.6 sec (ms)
GFSK	2 441	0.38	121.60	400
8DPSK	2 441	0.39	124.80	400

Remark;

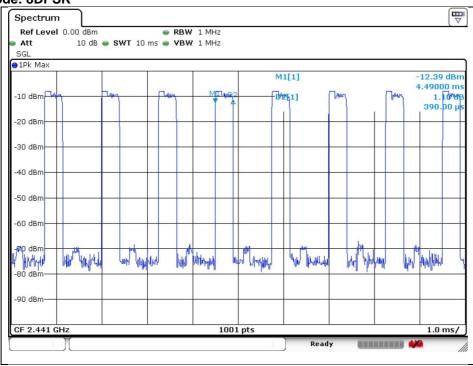
Time of occupancy on the TX channel in 31.6 sec In case of GFSK: 0.38 × {(1 600 \div 2) / 79} × 31.6 = 121.60 ms In case of 8DPSK: 0.39 × {(1 600 \div 2) / 79} × 31.6 = 124.80 ms



- Test plots



Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sg</u>



7.4.1.2. Packet Type: DH3, 3DH3

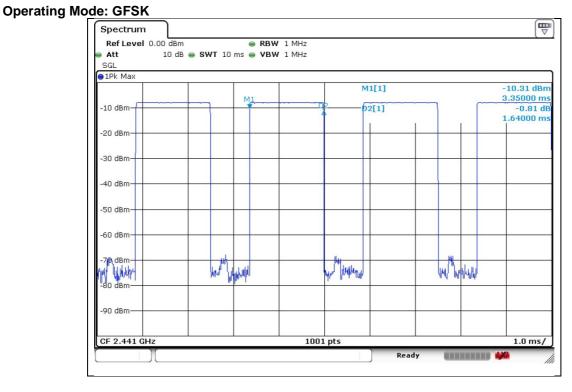
Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 31.6 sec (ﷺ)	Limit for time of occupancy on the Tx Channel in 31.6 sec (ms)
GFSK	2 441	1.64	262.40	400
8DPSK	2 441	1.65	264.00	400

Remark;

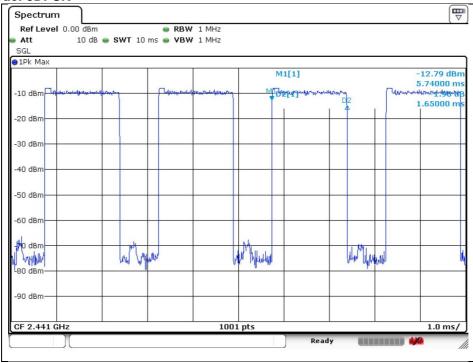
Time of occupancy on the TX channel in 31.6 sec In case of GFSK: $1.64 \times \{(1\ 600 \div 4) / 79\} \times 31.6 = 262.40$ ms In case of 8DPSK: $1.65 \times \{(1\ 600 \div 4) / 79\} \times 31.6 = 264.00$ ms



- Test plots



Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sgs</u>



7.4.1.3. Packet Type: DH5, 3DH5

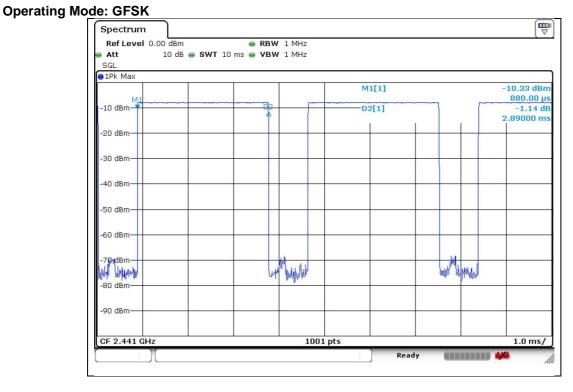
Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 31.6 sec (IIIS)	Limit for time of occupancy on the Tx Channel in 31.6 sec (ms)
GFSK	2 441	2.89	308.27	400
8DPSK	2 441	2.90	309.33	400

Remark;

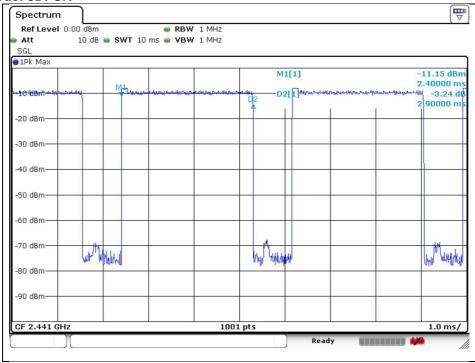
Time of occupancy on the TX channel in 31.6 sec In case of GFSK: $2.89 \times \{(1\ 600 \div 6) / 79\} \times 31.6 = 308.27 \text{ ms}$ In case of 8DPSK: $2.90 \times \{(1\ 600 \div 6) / 79\} \times 31.6 = 309.33 \text{ ms}$



- Test plots



Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sgs</u>



7.4.1.4. Packet Type: DH1, 3DH1 (Adaptive Frequency Hopping)

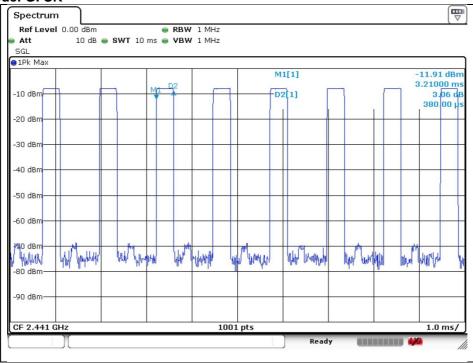
Operation Mode	Frequency (∰)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 8 sec (ﷺ)	Limit for time of occupancy on the Tx Channel in 8 sec (ms)
GFSK	2 441	0.38	60.80	400
8DPSK	2 441	0.40	64.00	400

Remark;

Time of occupancy on the TX channel in 8 sec In case of GFSK: $0.38 \times \{(800 \div 2) / 20\} \times 8 = 60.80$ ms In case of 8DPSK: $0.40 \times \{(800 \div 2) / 20\} \times 8 = 64.00$ ms

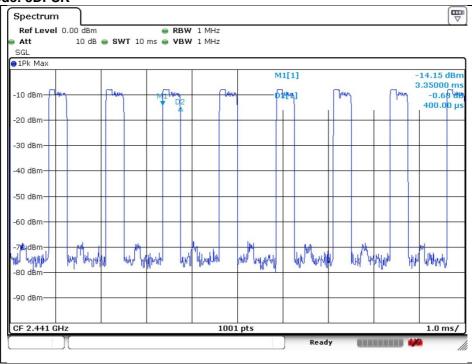


- Test plots



Operating Mode: GFSK

Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 A4(210 mm × 297 mm)



7.4.1.5. Packet Type: DH3, 3DH3 (Adaptive Frequency Hopping)

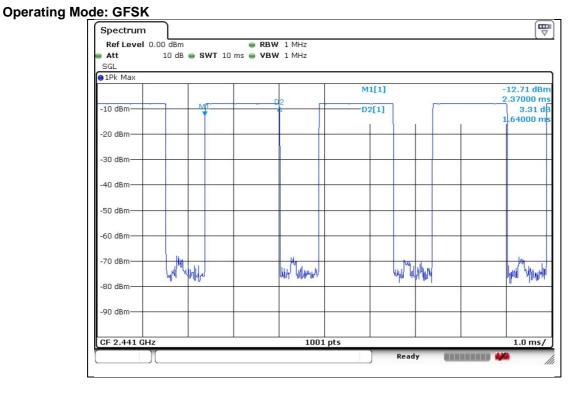
Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 8 sec (ɪɪs)	Limit for time of occupancy on the Tx Channel in 8 sec (ms)
GFSK	2 441	1.64	131.20	400
8DPSK	2 441	1.65	132.00	400

Remark;

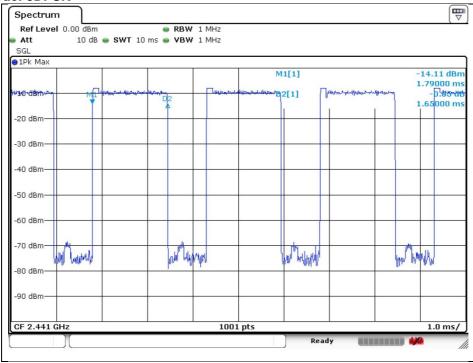
Time of occupancy on the TX channel in 8 sec In case of GFSK: 1.64 x { $(800 \div 4) / 20$ } x 8 = 131.20 ms In case of 8DPSK: 1.65 x { $(800 \div 4) / 20$ } x 8 = 132.00 ms



- Test plots



Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sg</u>



7.4.1.6. Packet Type: DH5, 3DH5 (Adaptive Frequency Hopping)

Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 8 sec (ɪɪs)	Limit for time of occupancy on the Tx Channel in 8 sec (ms)
GFSK	2 441	2.89	154.13	400
8DPSK	2 441	2.90	154.67	400

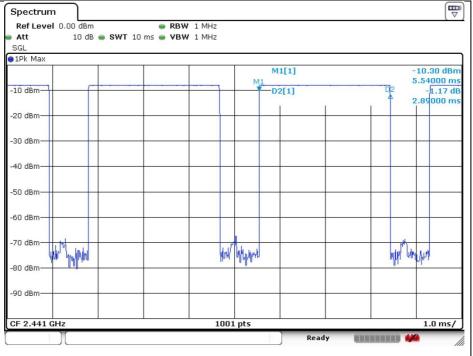
Remark;

Time of occupancy on the TX channel in 8 sec In case of GFSK: 2.89 x { $(800 \div 6) / 20$ } x 8 = 154.13 ms In case of 8DPSK: 2.90 x { $(800 \div 6) / 20$ } x 8 = 154.67 ms

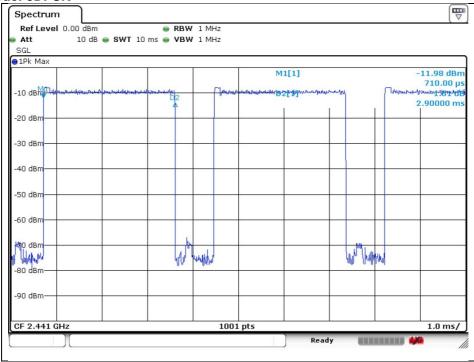


- Test plots





Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.s</u>



7.4.2. Right

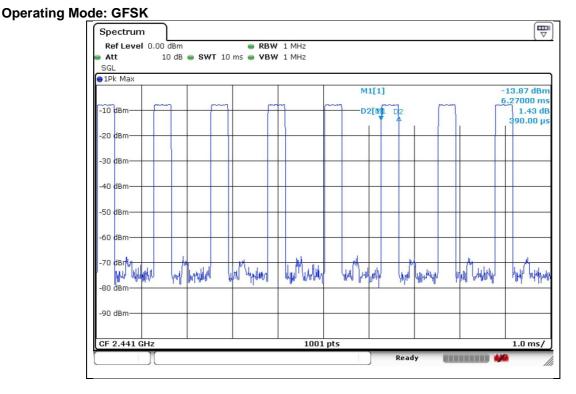
7.4.2.1. Packet Type: DH1, 3DH1

Operation Mode	Frequency (쌘)	Dwell Time (ms)	Time of occupancy on the Tx Channel in 31.6 sec (ms)	Limit for time of occupancy on the Tx Channel in 31.6 sec (ms)
GFSK	2 441	0.39	124.80	400
8DPSK	2 441	0.39	124.80	400

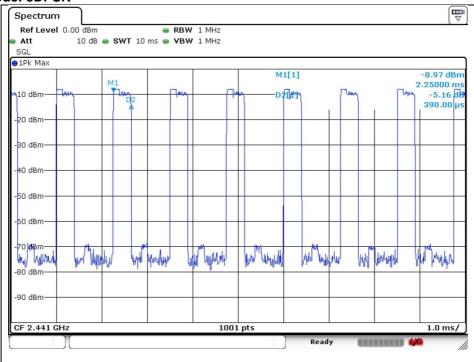
Remark;

Time of occupancy on the TX channel in 31.6 sec In case of GFSK and 8DPSK: $0.39 \times \{(1\ 600 \div 2) / 79\} \times 31.6 = 124.80$ ms





Operating Mode: 8DPSK





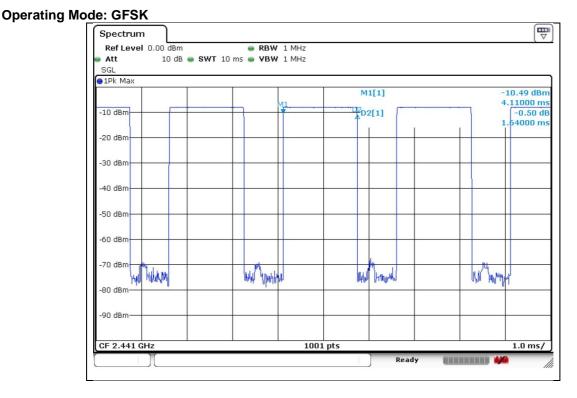
7.4.2.2. Packet Type: DH3, 3DH3

Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 31.6 sec (ﷺ)	Limit for time of occupancy on the Tx Channel in 31.6 sec (ms)
GFSK	2 441	1.64	262.40	400
8DPSK	2 441	1.65	264.00	400

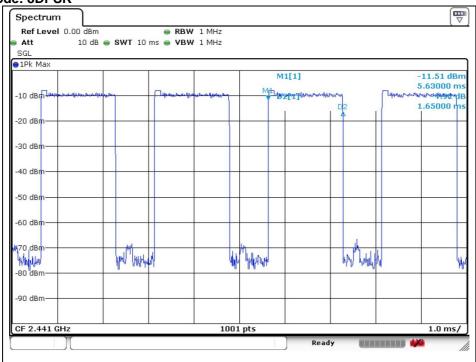
Remark;

Time of occupancy on the TX channel in 31.6 sec In case of GFSK: $1.64 \times \{(1\ 600 \div 4) / 79\} \times 31.6 = 262.40$ ms In case of 8DPSK: $1.65 \times \{(1\ 600 \div 4) / 79\} \times 31.6 = 264.00$ ms





Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sgsgroup.kr</u>



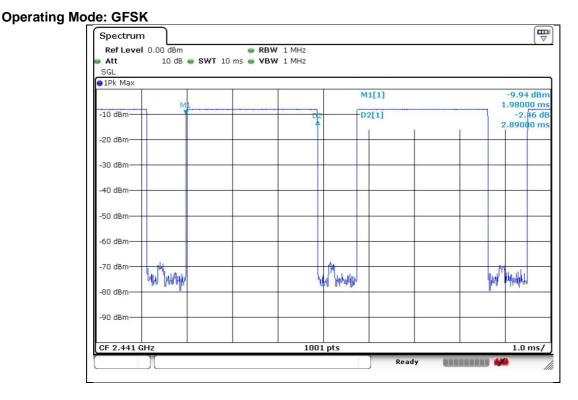
7.4.2.3. Packet Type: DH5, 3DH5

Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 31.6 sec (ﷺ)	Limit for time of occupancy on the Tx Channel in 31.6 sec (Ins)
GFSK	2 441	2.89	308.27	400
8DPSK	2 441	2.90	309.33	400

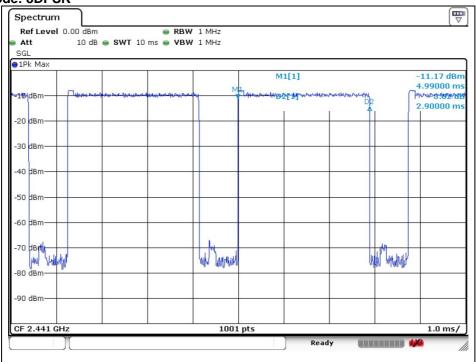
Remark;

Time of occupancy on the TX channel in 31.6 sec In case of GFSK: $2.89 \times \{(1\ 600 \div 6)\ /\ 79\} \times 31.6 = 308.27 \text{ ms}$ In case of 8DPSK: $2.90 \times \{(1\ 600 \div 6)\ /\ 79\} \times 31.6 = 309.33 \text{ ms}$





Operating Mode: 8DPSK





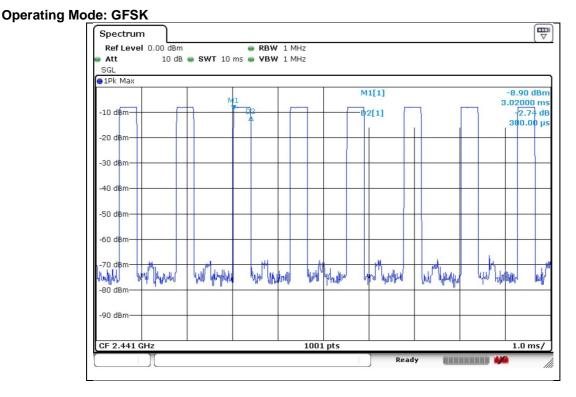
7.4.2.4. Packet Type: DH1, 3DH1 (Adaptive Frequency Hopping)

Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 8 sec (ɪɪs)	Limit for time of occupancy on the Tx Channel in 8 sec (ms)
GFSK	2 441	0.38	60.80	400
8DPSK	2 441	0.39	62.40	400

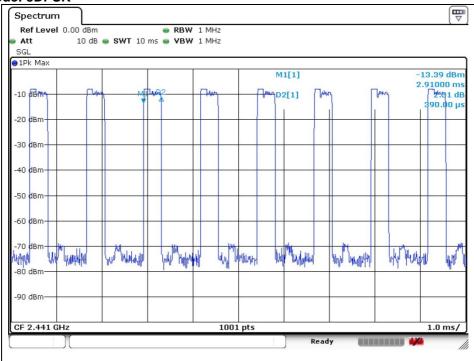
Remark;

Time of occupancy on the TX channel in 8 sec In case of GFSK: $0.38 \times \{(800 \div 2) / 20\} \times 8 = 60.80$ ms In case of 8DPSK: $0.39 \times \{(800 \div 2) / 20\} \times 8 = 62.40$ ms





Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 http://www.sgsgroup.kr



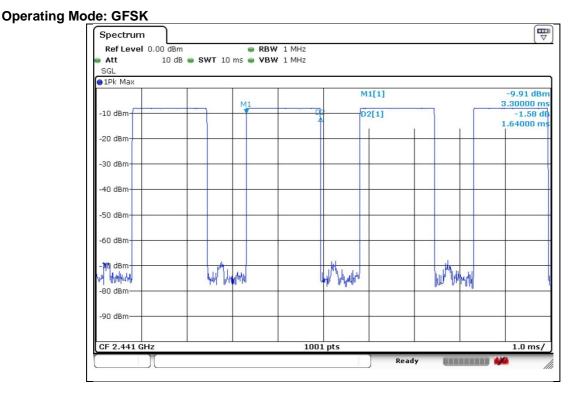
7.4.2.5. Packet Type: DH3, 3DH3 (Adaptive Frequency Hopping)

Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 8 sec (᠋ាន)	Limit for time of occupancy on the Tx Channel in 8 sec (ms)
GFSK	2 441	1.64	131.20	400
8DPSK	2 441	1.65	132.00	400

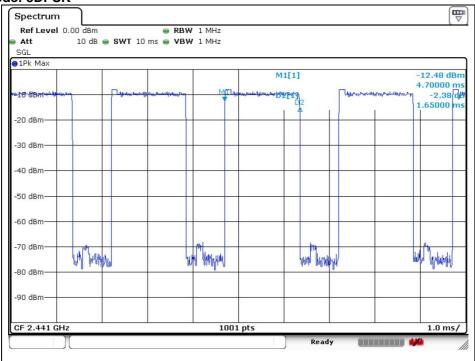
Remark;

Time of occupancy on the TX channel in 8 sec In case of GFSK: 1.64 x { $(800 \div 4) / 20$ } x 8 = 131.20 ms In case of 8DPSK: 1.65 x { $(800 \div 4) / 20$ } x 8 = 132.00 ms





Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 http://www.sgsgroup.kr A4(210 mm × 297 mm)



7.4.2.6. Packet Type: DH5, 3DH5 (Adaptive Frequency Hopping)

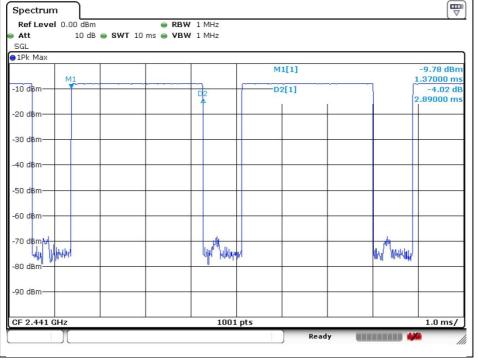
Operation Mode	Frequency (Mb)	Dwell Time (ns)	Time of occupancy on the Tx Channel in 8 sec (᠋ាន)	Limit for time of occupancy on the Tx Channel in 8 sec (ms)
GFSK	2 441	2.89	154.13	400
8DPSK	2 441	2.90	154.67	400

Remark;

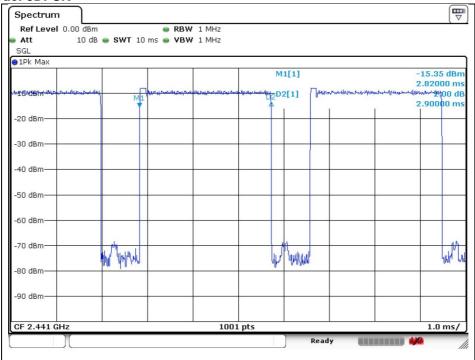
Time of occupancy on the TX channel in 8 sec In case of GFSK: 2.89 x { $(800 \div 6) / 20$ } x 8 = 154.13 ms In case of 8DPSK: 2.90 x { $(800 \div 6) / 20$ } x 8 = 154.67 ms



Operating Mode: GFSK



Operating Mode: 8DPSK



The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sgsgroup.kr</u>



8. Antenna Requirement

8.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section §15.203, 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. And according to FCC 47 CFR Section §15.247(b) if transmitting antennas of directional gain greater than 6 dB i are used, the power shall be reduced by the amount in dB that the gain of the antenna exceeds 6 dB i.

8.2. Antenna Connected Construction

Antenna used in this product is FPC antenna and peak max gain of antenna as below.

Туре	Left	Right
Gain	-3.58 dBi	-3.36 dB i

- End of the Test Report -

The results of this test report are effective only to the items tested. The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <u>http://www.sgsgroup.kr</u>

RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370