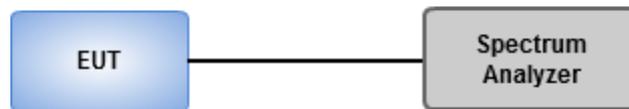## 3.4 Emission Mask

3.4.1 Limit of Emission Mask

The power of any emission must be attenuated below the unmodulated carrier power (P) as follows.

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

3.4.2 Test Procedures

1. Set RBW=1% of 26dBc bandwidth, VBW=3 X RBW, detector=RMS, Sweep time = Auto.

2. Set EUT to transmit modulation signal to spectrum analyzer and confirm that the signal complies the limit or not.

3. Record the max trace value and capture the test plot.

3.4.3 Test Setup

3.4.4 Test Result of Emission Mask

Mode	CB: 10MHz, QPSK	Mode	CB: 10MHz, 16QAM
Low Channel, Full RB		**Low Channel, Full RB**	
Mid. Channel, Full RB		**Mid. Channel, Full RB**	
High Channel, Full RB		**High Channel, Full RB**	

Mode	CB: 10MHz, 64QAM	---
Low Channel, Full RB		---

Mid. Channel, Full RB		---

High Channel, Full RB		---

Mode	CB: 20MHz, QPSK	Mode	CB: 20MHz, 16QAM
Low Channel, Full RB		Low Channel, Full RB	

| Mid. Channel, Full RB | | Mid. Channel, Full RB | |

| High Channel, Full RB | | High Channel, Full RB | |

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Mode	CB: 20MHz, 64QAM	---
Low Channel, Full RB		---

Mid. Channel, Full RB	---

High Channel, Full RB	---

3.5 26dBc Bandwidth

3.5.1 Test Procedures

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth=300kHz.

2. Detector = Peak, Trace mode = max hold.

3. Sweep = auto couple, Allow the trace to stabilize.

4. Using 26dBc and occupied bandwidth measurement function of spectrum analyzer to measure 26dBc and occupied bandwidth.

3.5.2 Test Setup
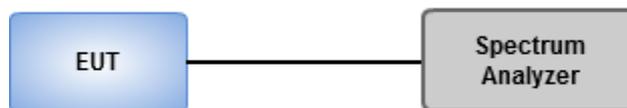
3.5.3 Test Result of 26dBc Bandwidth

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
10	QPSK	44140	3655	9.696	8.9215
10	QPSK	44340	3675	9.627	8.9249
10	QPSK	44540	3695	9.635	8.9225
10	16QAM	44140	3655	9.802	8.9444
10	16QAM	44340	3675	9.593	8.8973
10	16QAM	44540	3695	9.759	8.9427
10	64QAM	44140	3655	9.564	8.9301
10	64QAM	44340	3675	9.853	8.9495
10	64QAM	44540	3695	9.530	8.9077
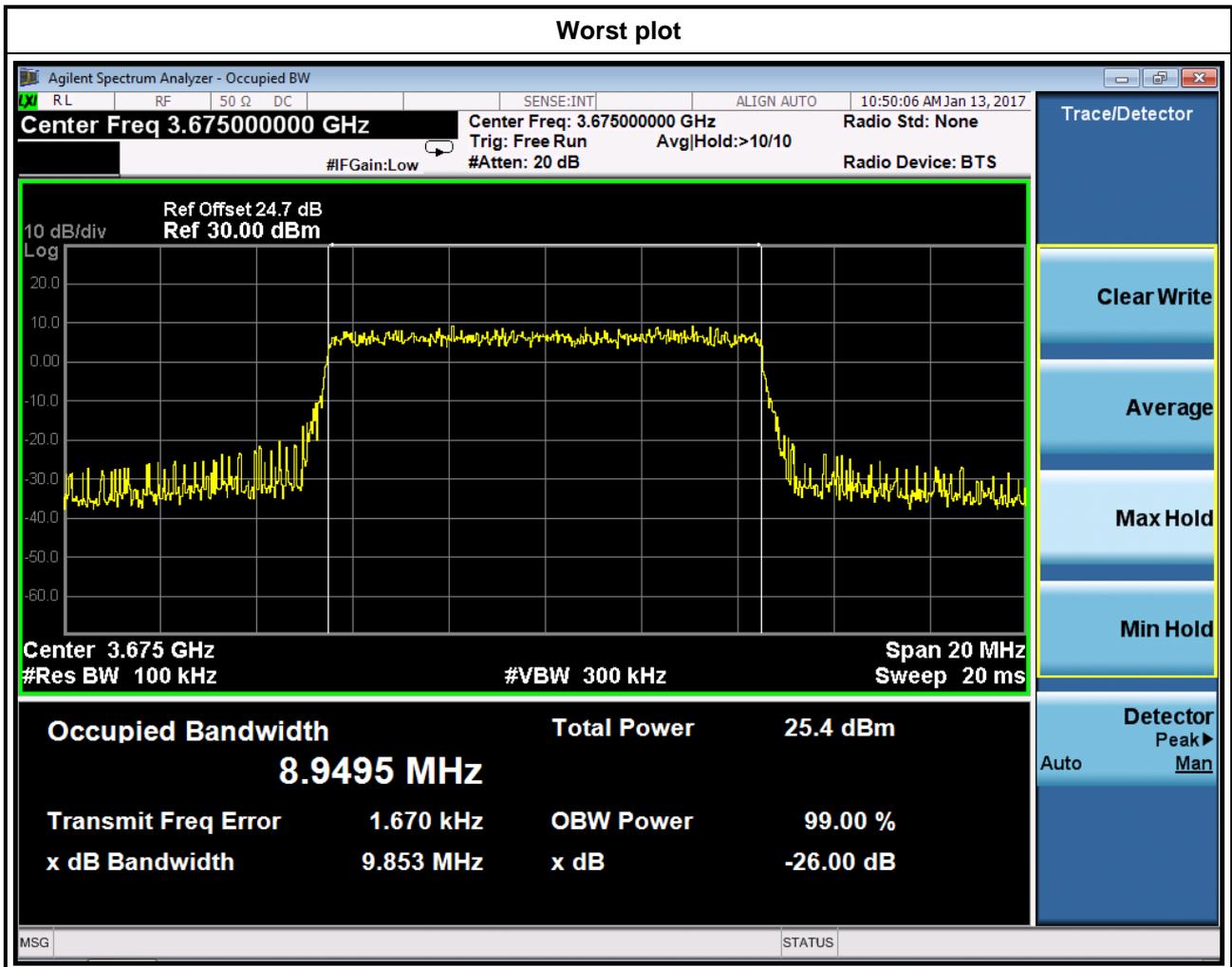
Worst plot

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
20	QPSK	44190	3660	19.34	17.888
20	QPSK	44340	3675	19.30	17.838
20	QPSK	44490	3690	19.93	17.888
20	16QAM	44190	3660	19.32	17.825
20	16QAM	44340	3675	19.27	17.855
20	16QAM	44190	3690	19.35	17.845
20	64QAM	44190	3660	19.14	17.824
20	64QAM	44340	3675	19.40	17.825
20	64QAM	44190	3690	19.38	17.836

Worst plot
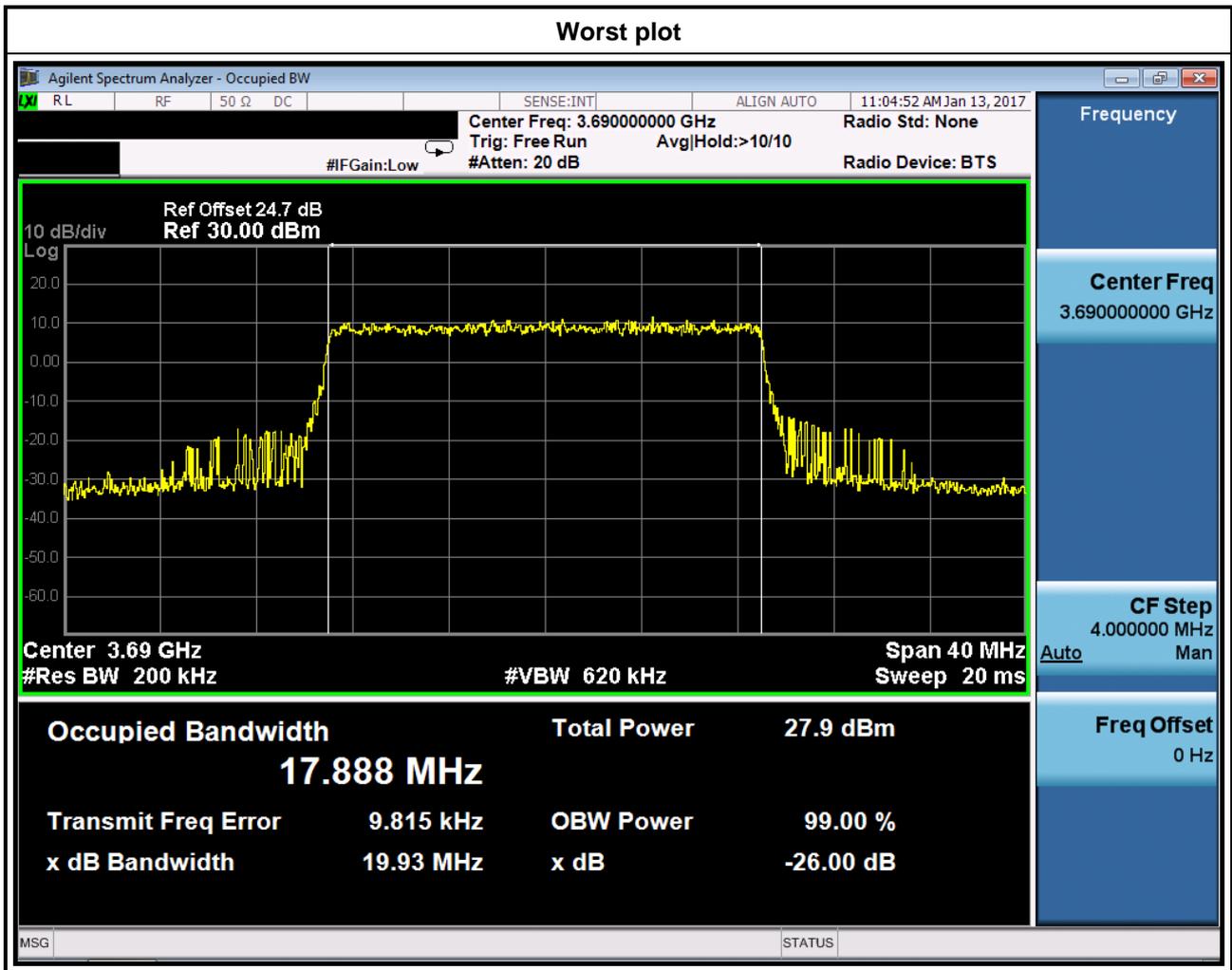
3.6 Frequency Stability

3.6.1 Limit of Frequency Stability

The frequency stability shall be less +/- 2.5ppm.

3.6.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from -40~60°C and voltage range is from lowest to highest working voltage.
4. Tem Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.6.3 Test Setup
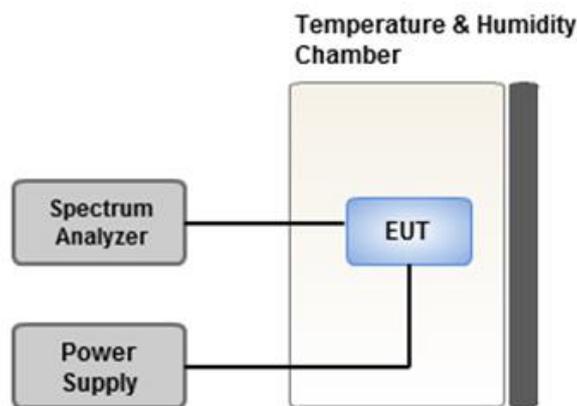
3.6.4 Test Result of Frequency Stability

Channel Bandwidth: 10MHz

Frequency: 3675MHz	Frequency Drift (ppm)	
Temperature (^{o}C)	Frequency Error (ppm)	Limit (ppm)
T20°CVmax	0.014	2.5
T20°CVmin	0.013	2.5
T60°CVnom	0.012	2.5
T50°CVnom	0.012	2.5
T40°CVnom	0.011	2.5
T30°CVnom	0.012	2.5
T20°CVnom	0.013	2.5
T10°CVnom	0.010	2.5
T0°CVnom	0.014	2.5
T-10°CVnom	0.013	2.5
T-20°CVnom	0.011	2.5
T-30°CVnom	0.013	2.5
T-40°CVnom	0.012	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [℃]: 20	Tmax [℃]: 60	Tmin [℃]: -40

Channel Bandwidth: 20MHz

Frequency: 3675MHz	Frequency Drift (ppm)	
Temperature (^{o}C)	Frequency Error (ppm)	Limit (ppm)
T20°CVmax	0.013	2.5
T20°CVmin	0.012	2.5
T60°CVnom	0.011	2.5
T50°CVnom	0.010	2.5
T40°CVnom	0.012	2.5
T30°CVnom	0.011	2.5
T20°CVnom	0.011	2.5
T10°CVnom	0.013	2.5
T0°CVnom	0.013	2.5
T-10°CVnom	0.014	2.5
T-20°CVnom	0.013	2.5
T-30°CVnom	0.012	2.5
T-40°CVnom	0.011	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [℃]: 20	Tmax [℃]: 60	Tmin [℃]: -40

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C..

If you have any suggestion, please feel free to contact us as below information

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