4.5 HOPPING CHANNEL SEPARATION

4.5.1 LIMIT OF HOPPING CHANNEL SEPARATION

At least 25 kHz or 20dB hopping channel bandwidth (whichever is greater).

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

1.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURES

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range.
3. By using the MaxHold function record the separation of two adjacent channels.
4. Measure the frequency difference of these two adjacent channels by SA MARK function. And then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP

4.5.6 TEST RESULTS(MODE B)

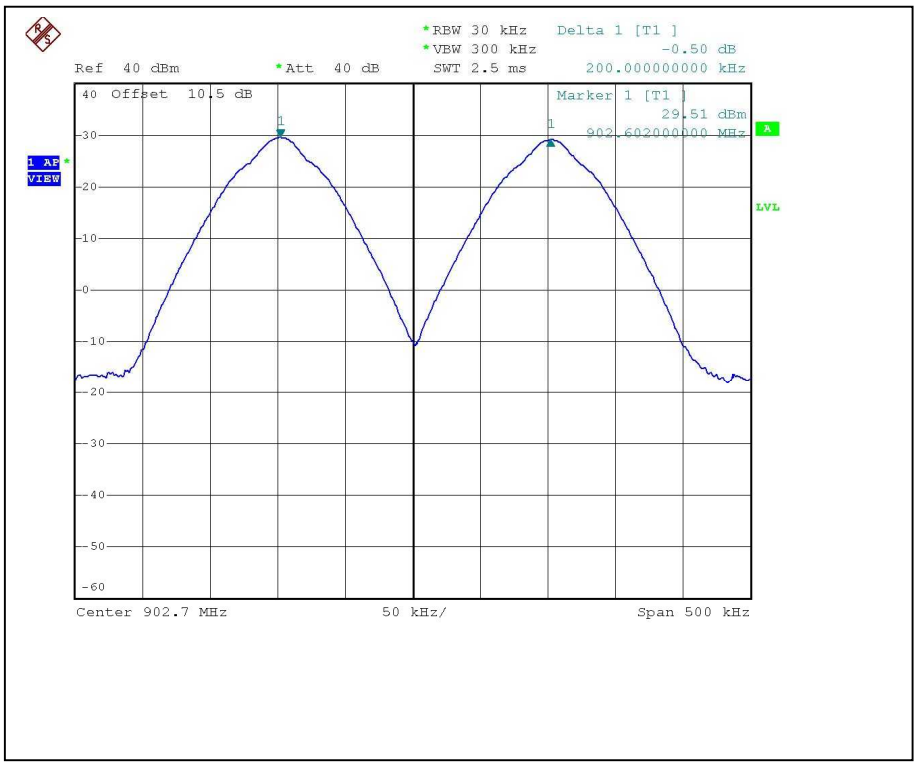
For PR-ASK(XRM) – High Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

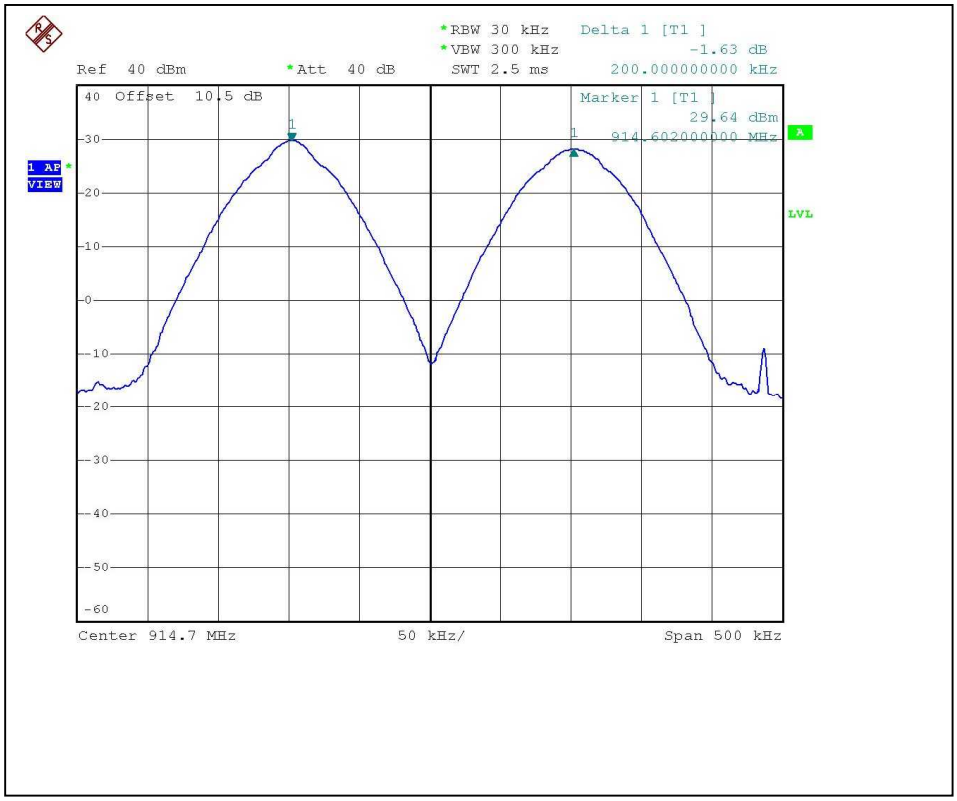
Channel	Frequency (MHz)	Adjacent Channel Separation(kHz)	Minimum Limit (kHz)	Pass / Fail
0	902.6	200	129	PASS
60	914.6	200	130	PASS
124	927.4	204	129	PASS

The minimum limit is 20dB bandwidth. Test results please refer to below.

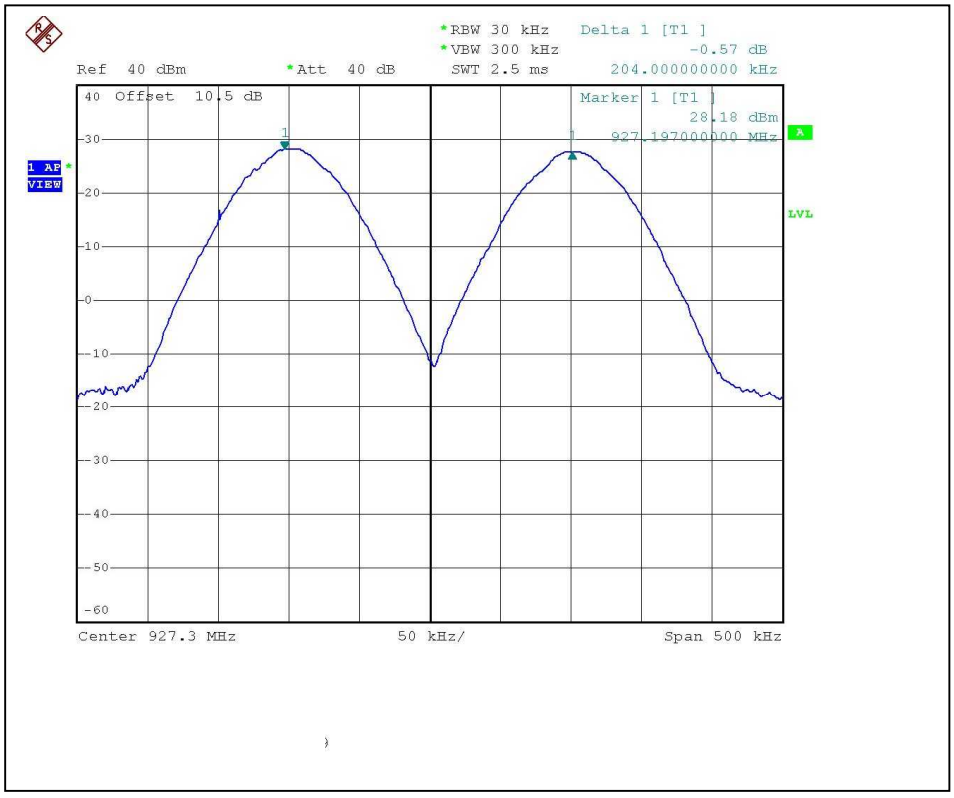
Channel 0



Channel 60



Channel 124



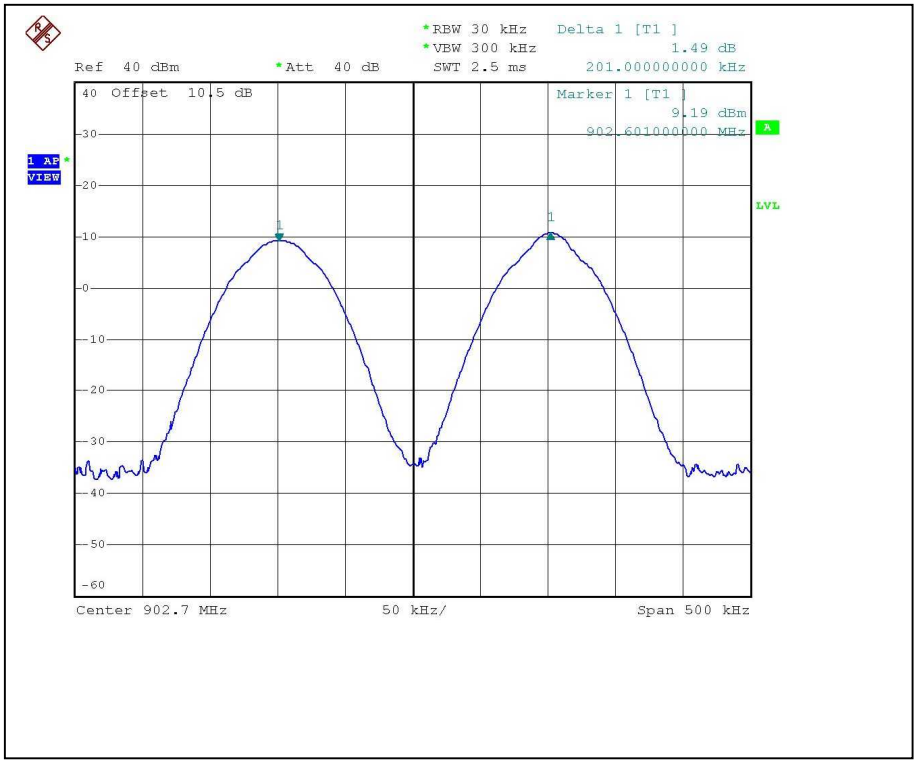
For PR-ASK(XRM) – Low Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Wen Yu		

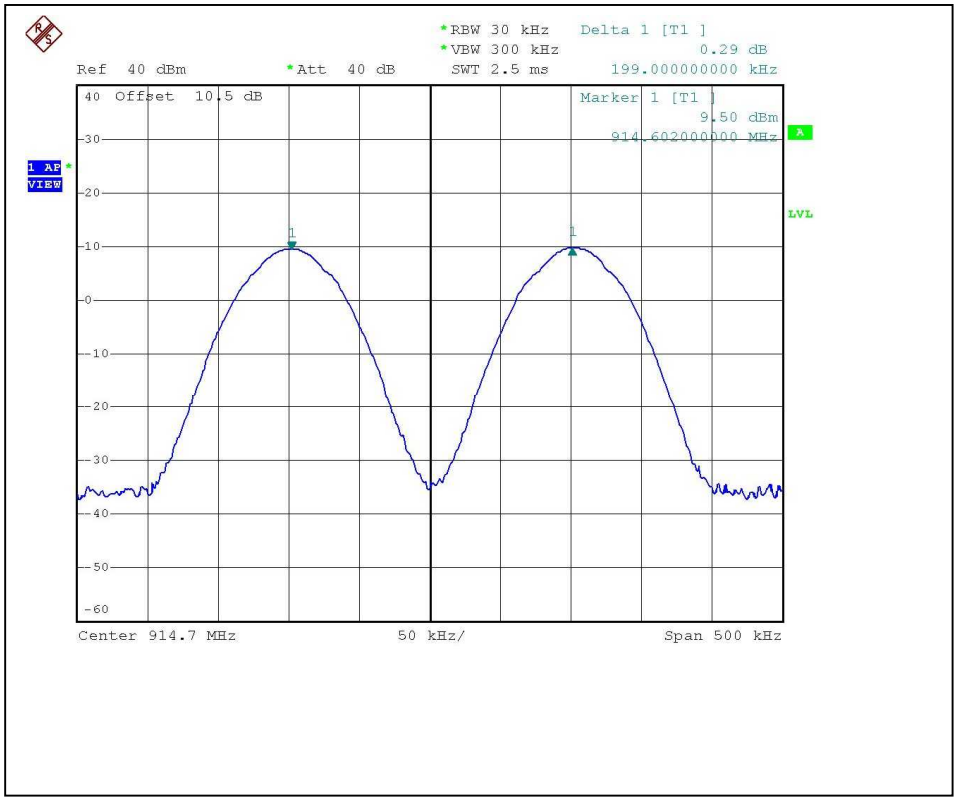
Channel	Frequency (MHz)	Adjacent Channel Separation(kHz)	Minimum Limit (kHz)	Pass / Fail
0	902.6	201	117	PASS
60	914.6	199	116	PASS
124	927.4	202	116	PASS

The minimum limit is 20dB bandwidth. Test results please refer to below.

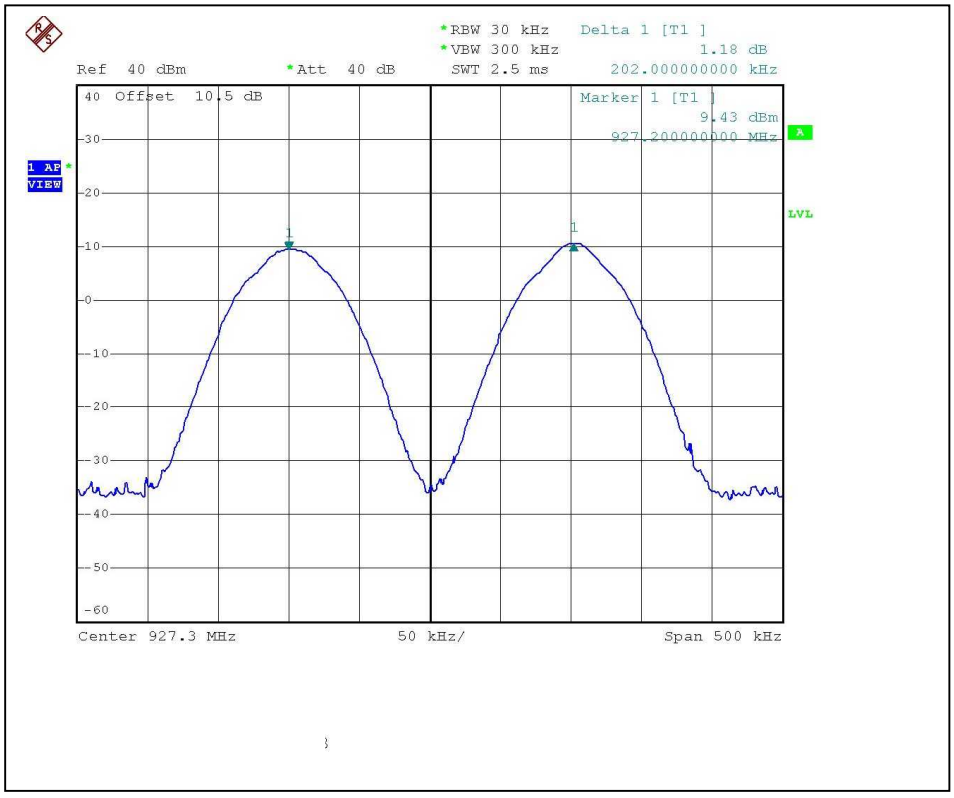
Channel 0



Channel 60



Channel 124



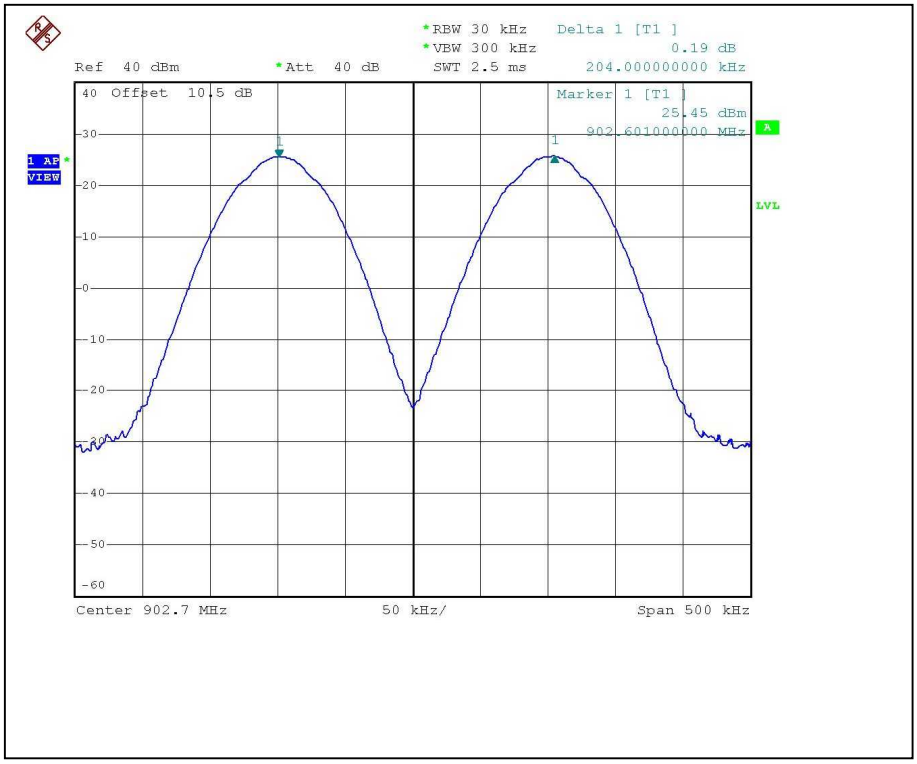
For PR-ASK(DRM) – High Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

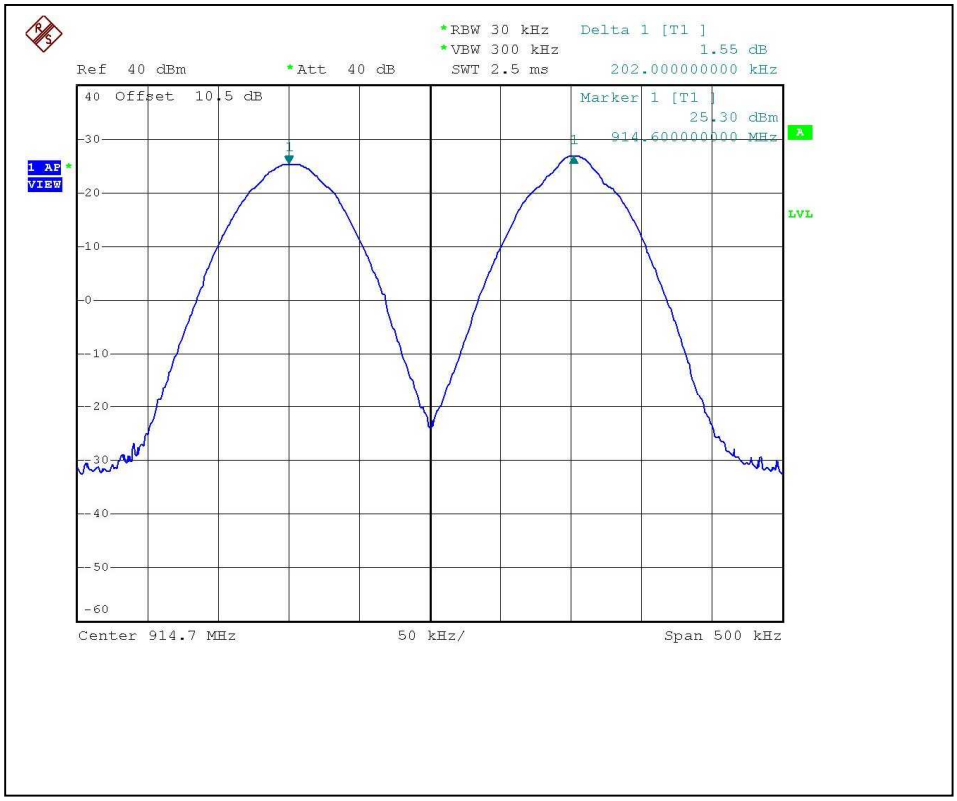
Channel	Frequency (MHz)	Adjacent Channel Separation(kHz)	Minimum Limit (kHz)	Pass / Fail
0	902.6	204	124	PASS
60	914.6	202	120	PASS
124	927.4	198	119	PASS

The minimum limit is 20dB bandwidth. Test results please refer to below.

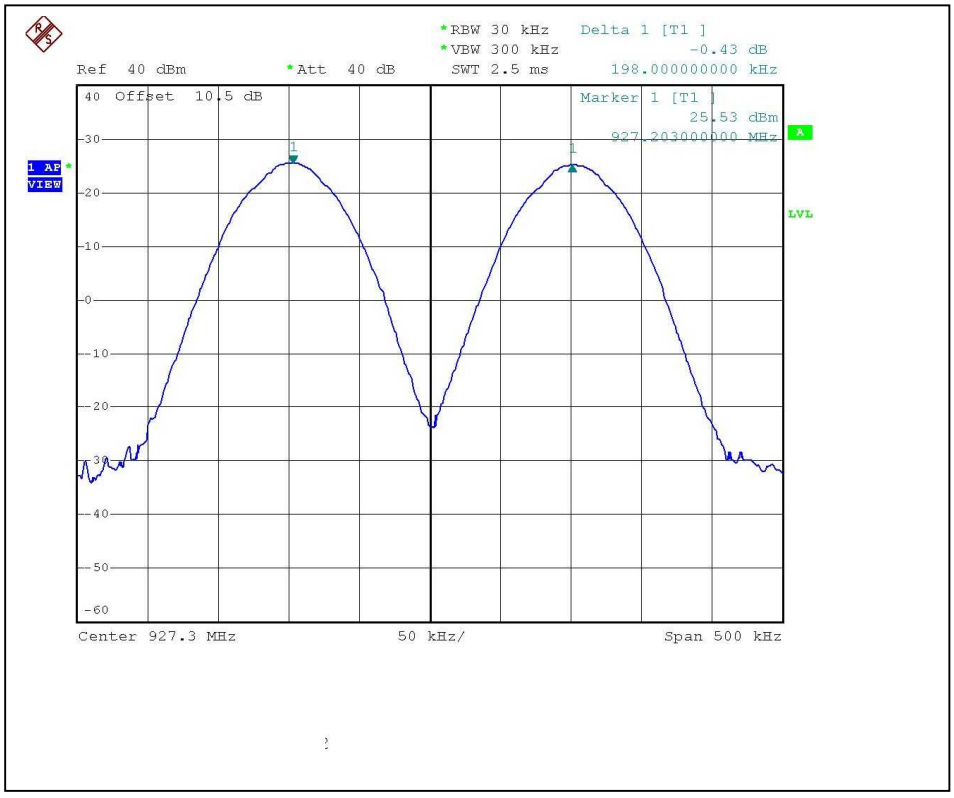
Channel 0



Channel 60



Channel 124



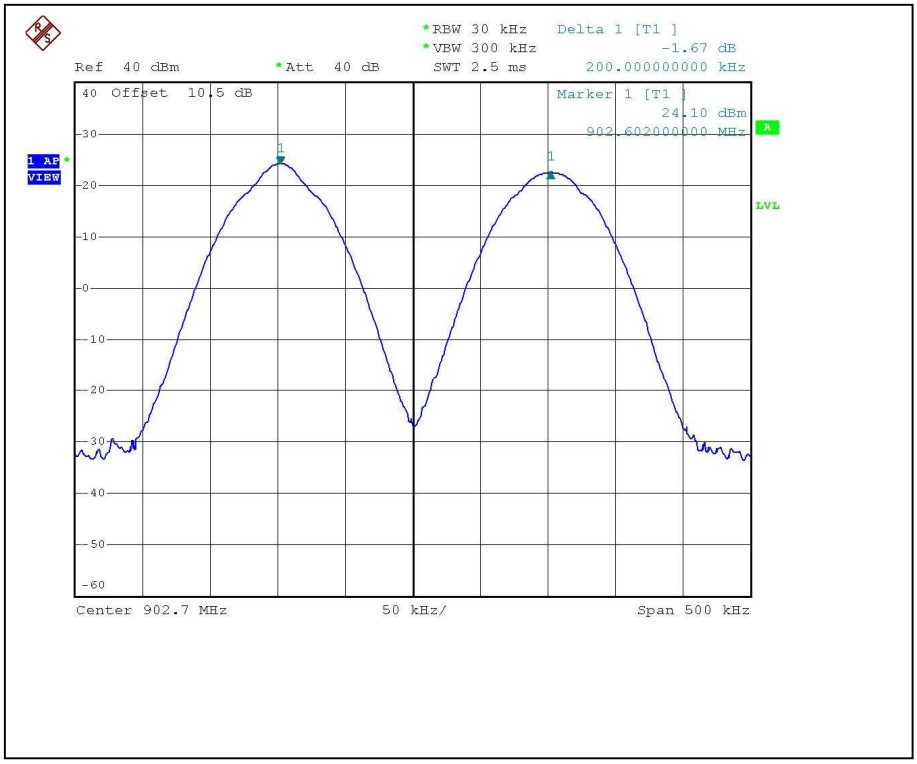
For PR-ASK(DRM) – Low Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Wen Yu		

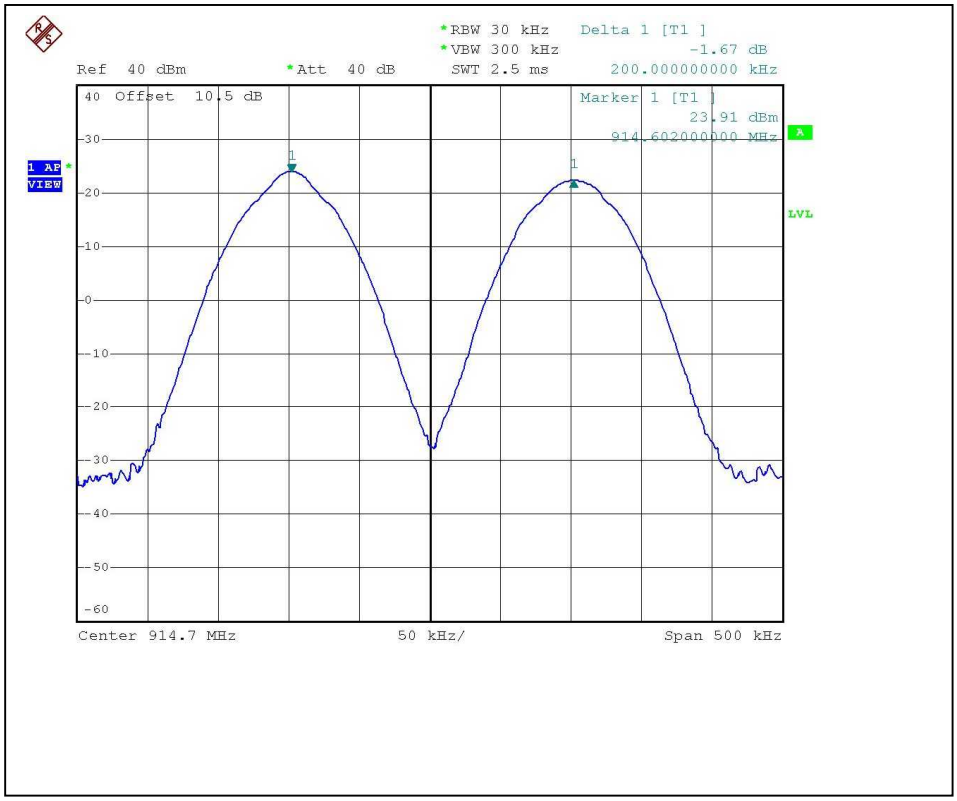
Channel	Frequency (MHz)	Adjacent Channel Separation(kHz)	Minimum Limit (kHz)	Pass / Fail
0	902.6	200	117	PASS
60	914.6	200	113	PASS
124	927.4	201	117	PASS

The minimum limit is 20dB bandwidth. Test results please refer to below.

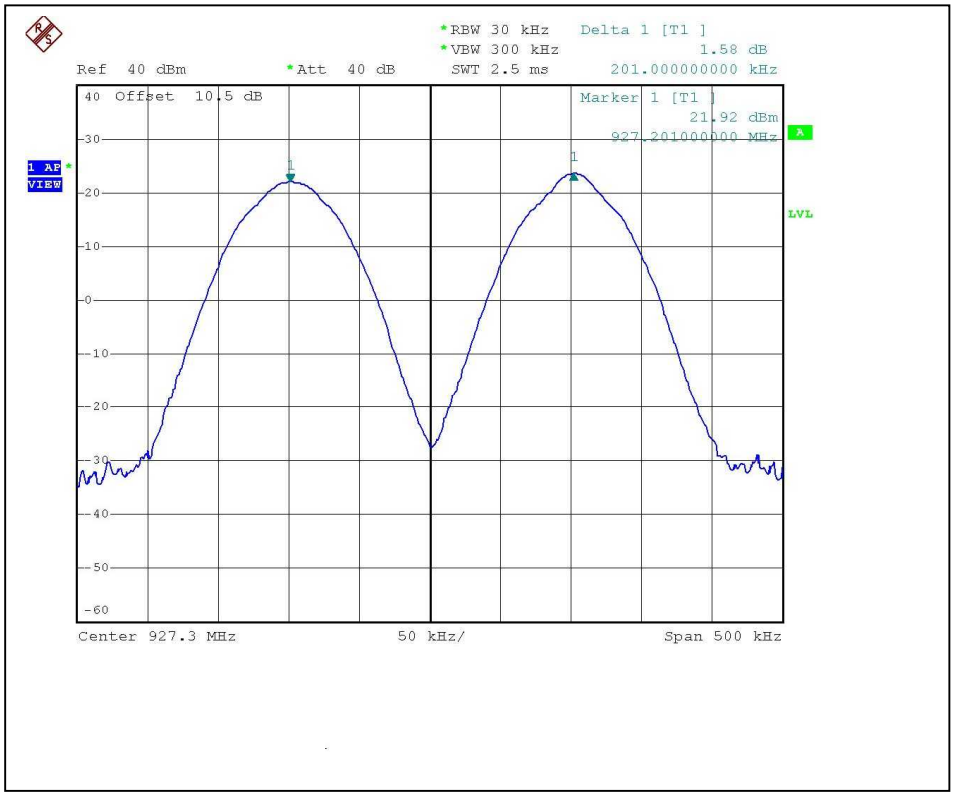
Channel 0



Channel 60



Channel 124



4.6 MAXIMUM PEAK OUTPUT POWER

4.6.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.6.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

1.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURES

a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.

c. The center frequency of the spectrum analyzer is set to the fundamental frequency and using 3MHz RBW and 3 MHz VBW.

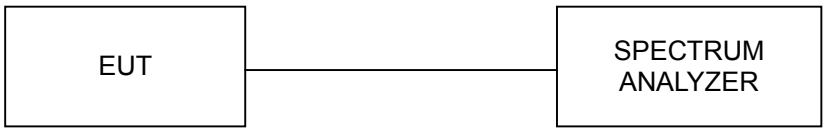
d. Measure the captured power within the band and recording the plot.

e. Repeat above procedures until all frequencies required were complete.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

4.6.6 EUT OPERATING CONDITION

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

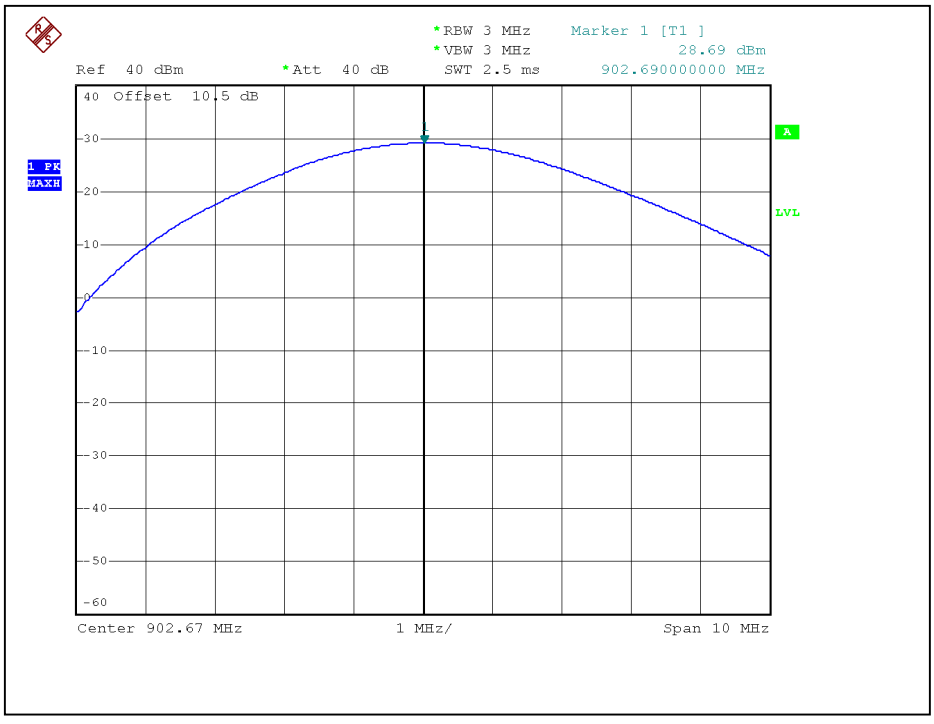
4.6.7 TEST RESULTS (MODE A)

For PR-ASK(XRM) – High Power:

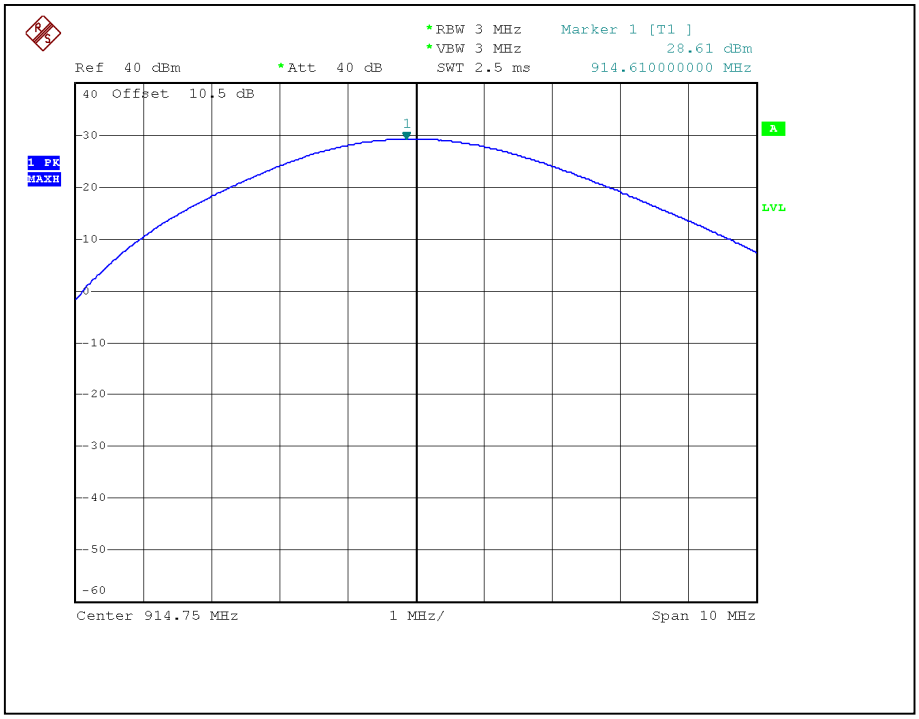
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.75	741.3	28.7	30	PASS
24	914.75	724.4	28.6	30	PASS
49	927.25	812.8	29.1	30	PASS

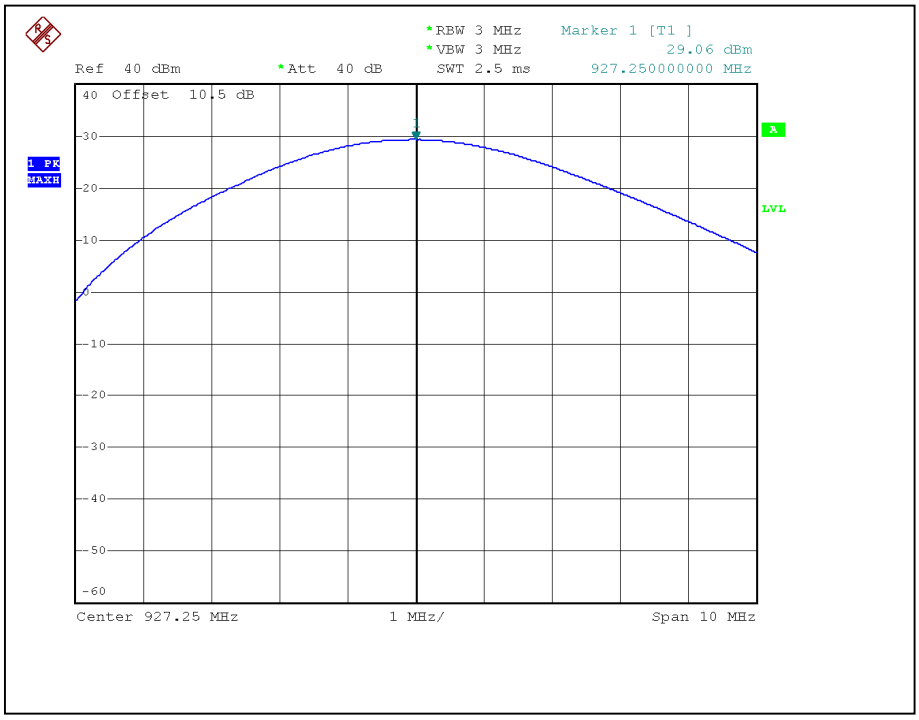
Channel 0



Channel 24



Channel 49

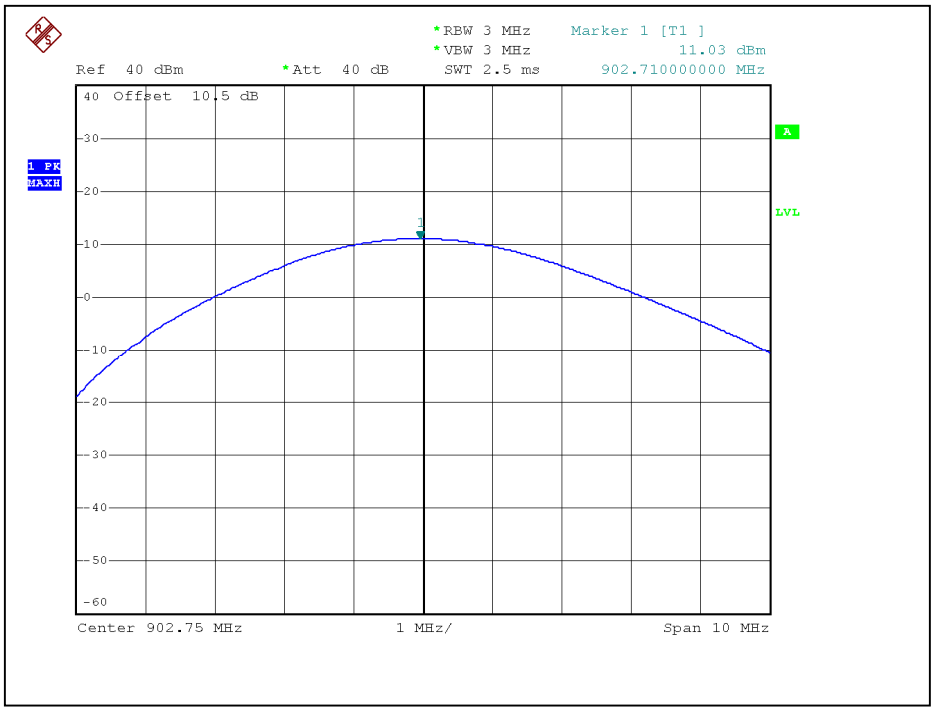


For PR-ASK(XRM) – Low Power:

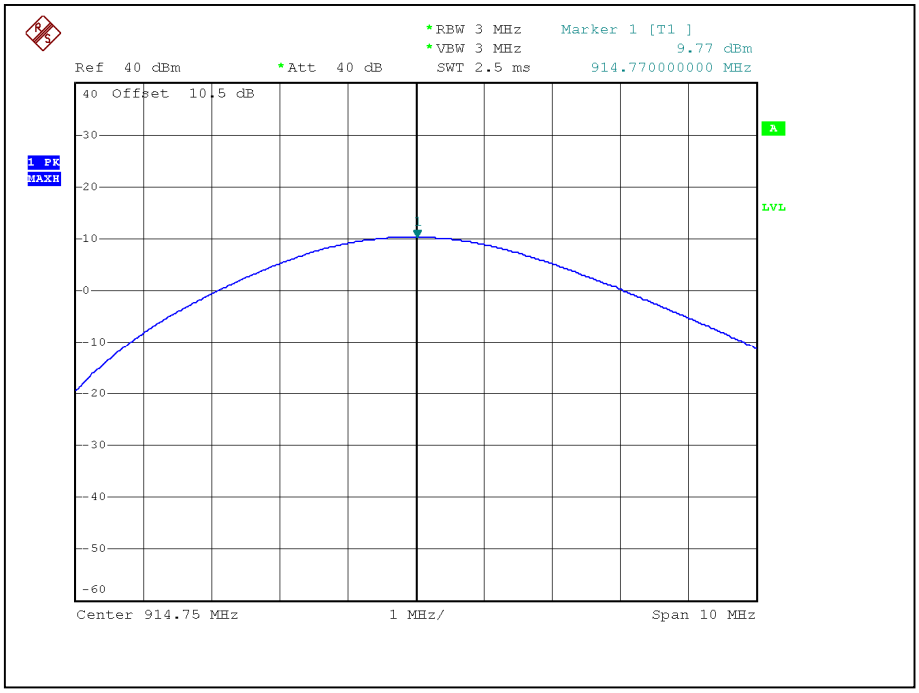
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.75	12.6	11.0	30	PASS
24	914.75	9.5	9.8	30	PASS
49	927.25	11.5	10.6	30	PASS

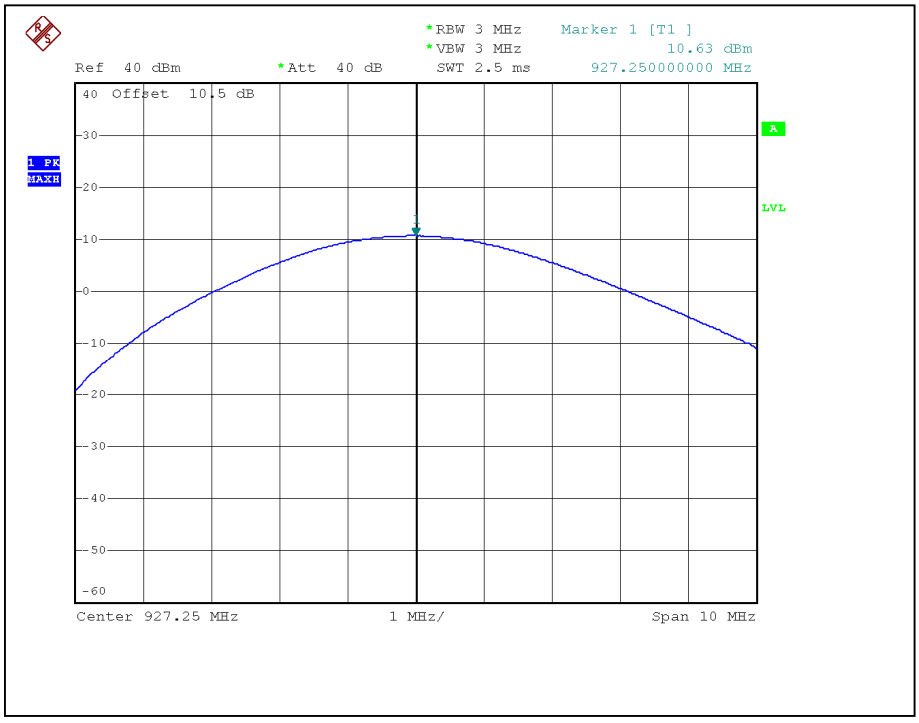
Channel 0



Channel 24



Channel 49

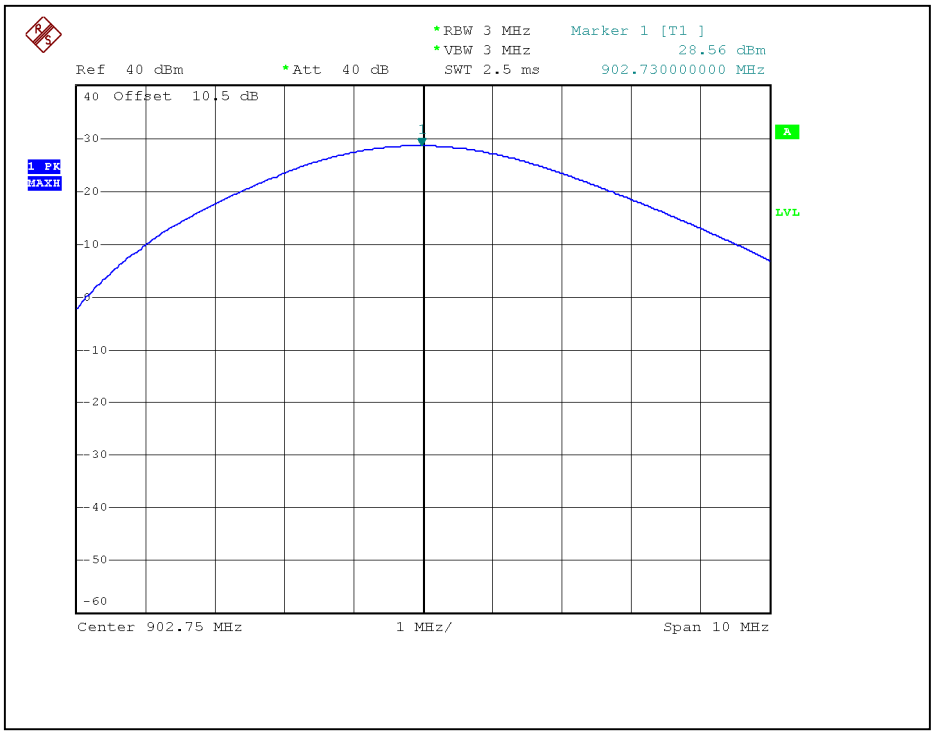


For DSB-ASK(MRM) – High Power:

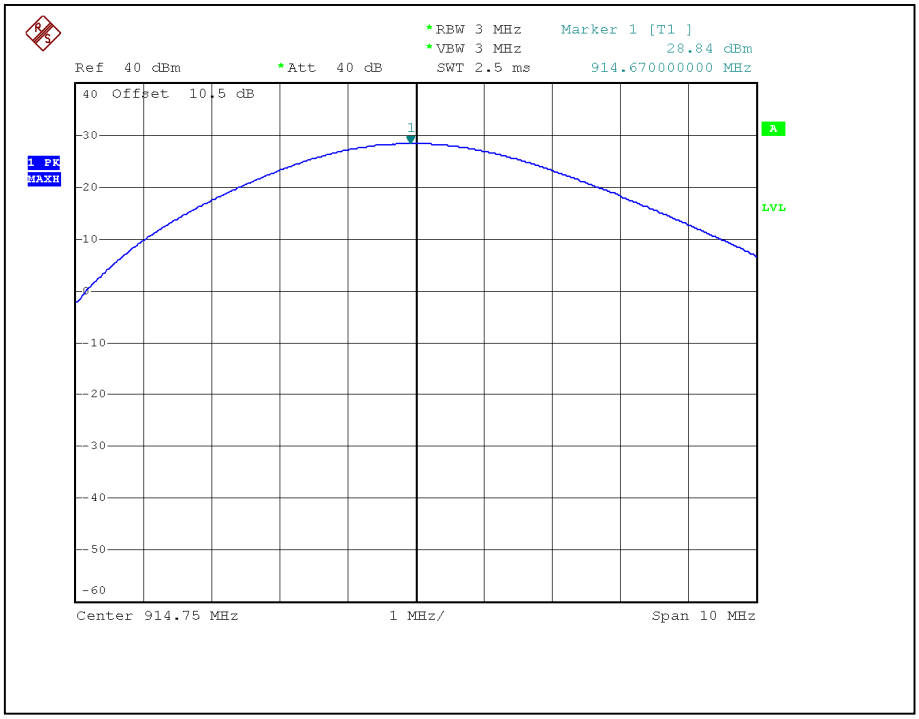
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.75	724.4	28.6	30	PASS
24	914.75	758.6	28.8	30	PASS
49	927.25	776.2	28.9	30	PASS

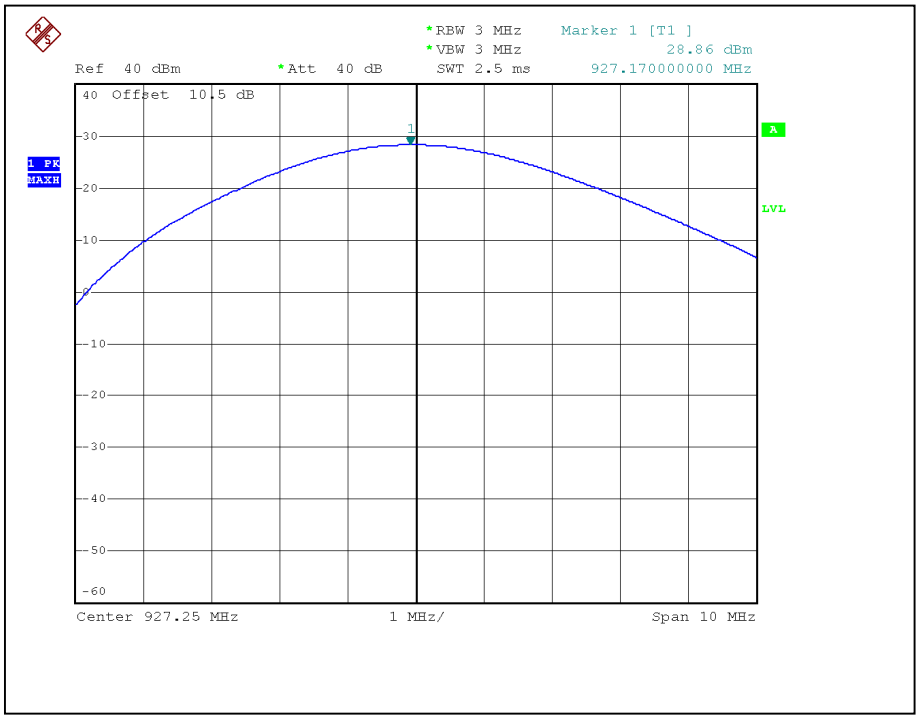
Channel 0



Channel 24



Channel 49

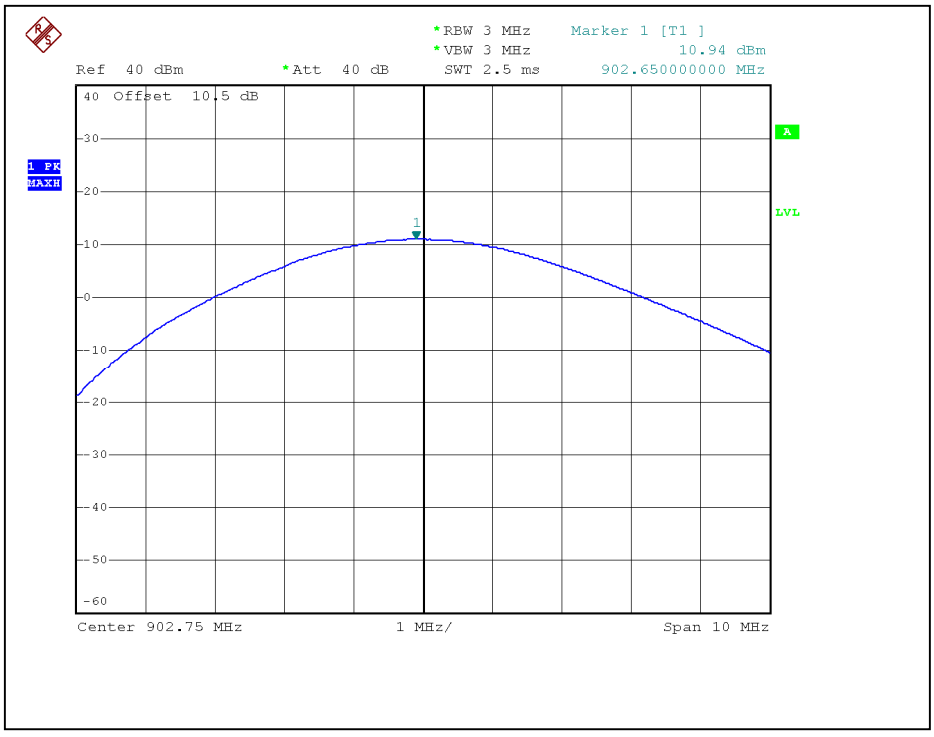


For DSB-ASK(MRM) – Low Power:

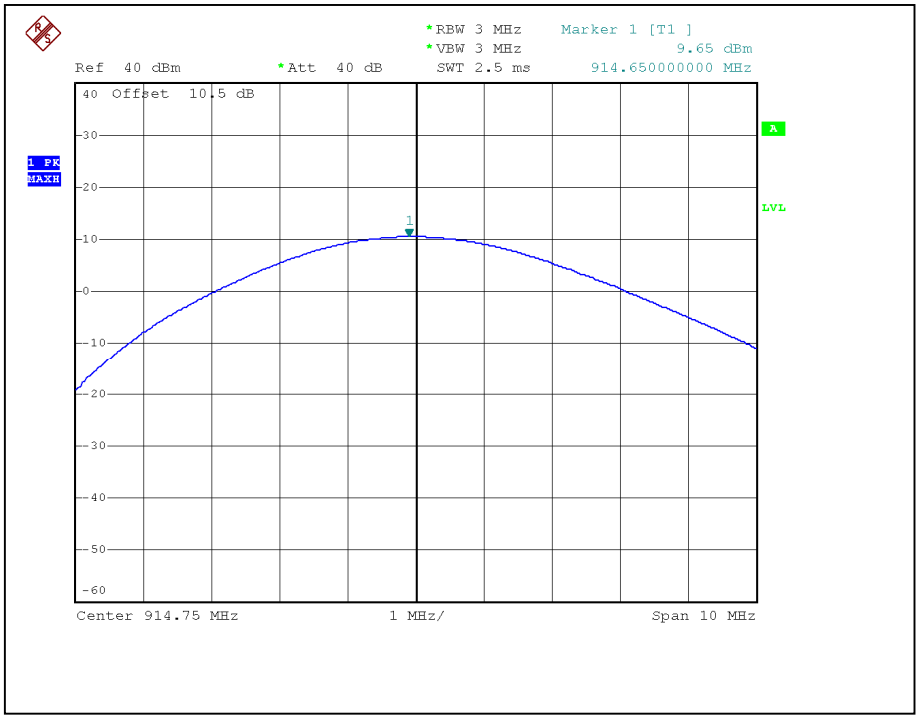
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.75	12.3	10.9	30	PASS
24	914.75	9.3	9.7	30	PASS
49	927.25	9.1	9.6	30	PASS

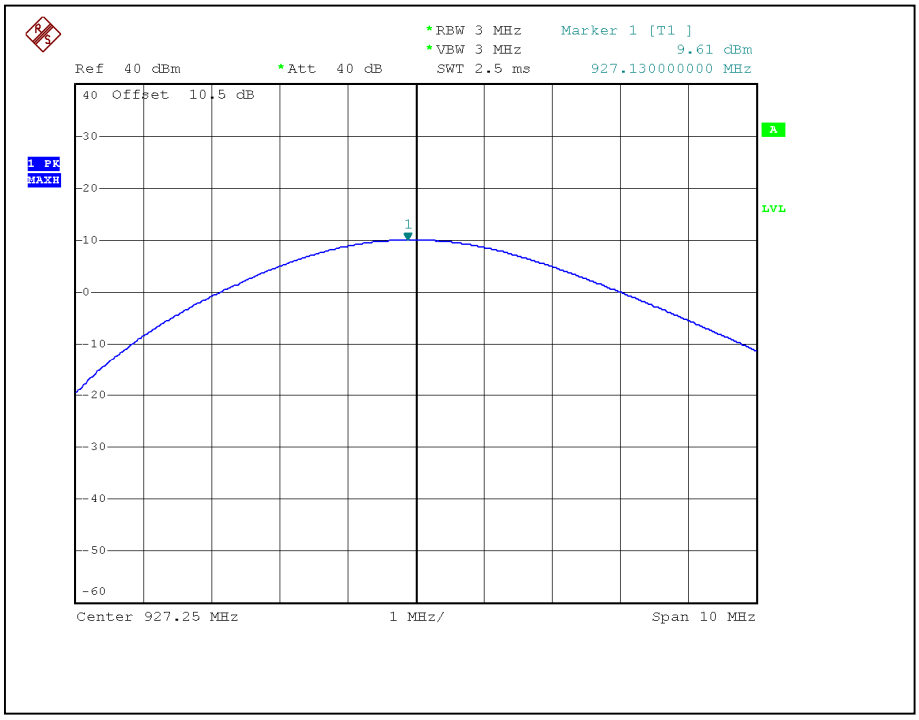
Channel 0



Channel 24



Channel 49

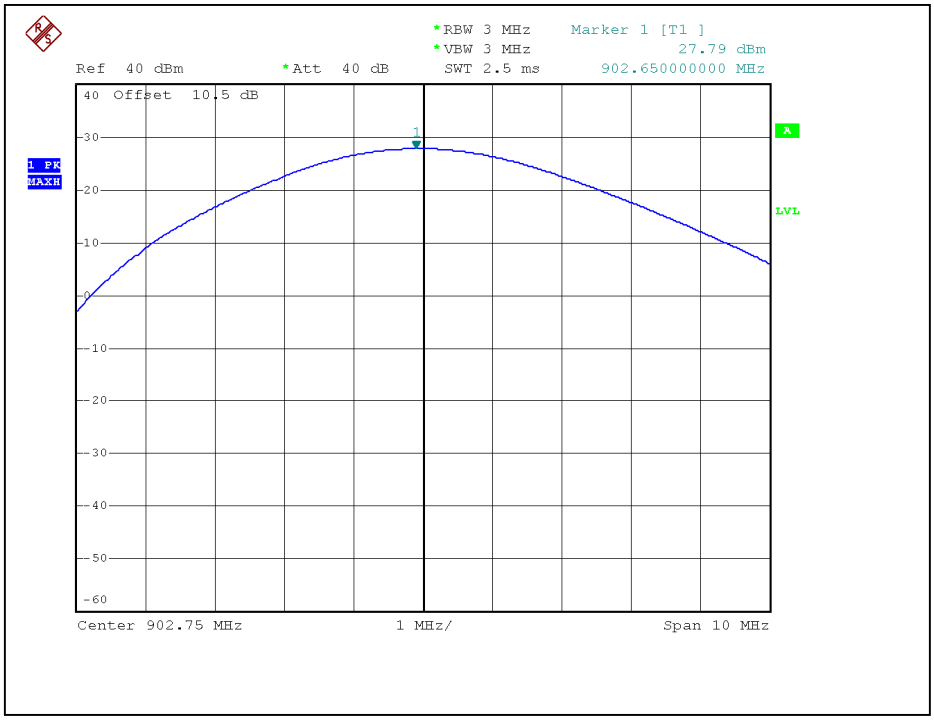


For PR-ASK(DRM) – High Power:

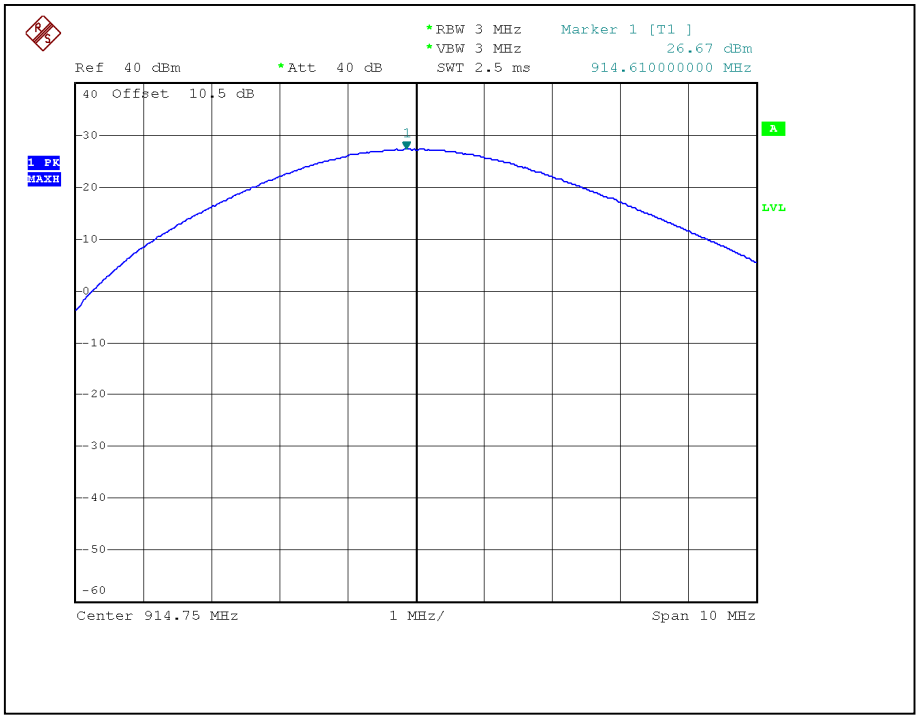
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.75	602.6	27.8	30	PASS
24	914.75	467.7	26.7	30	PASS
49	927.25	457.1	26.6	30	PASS

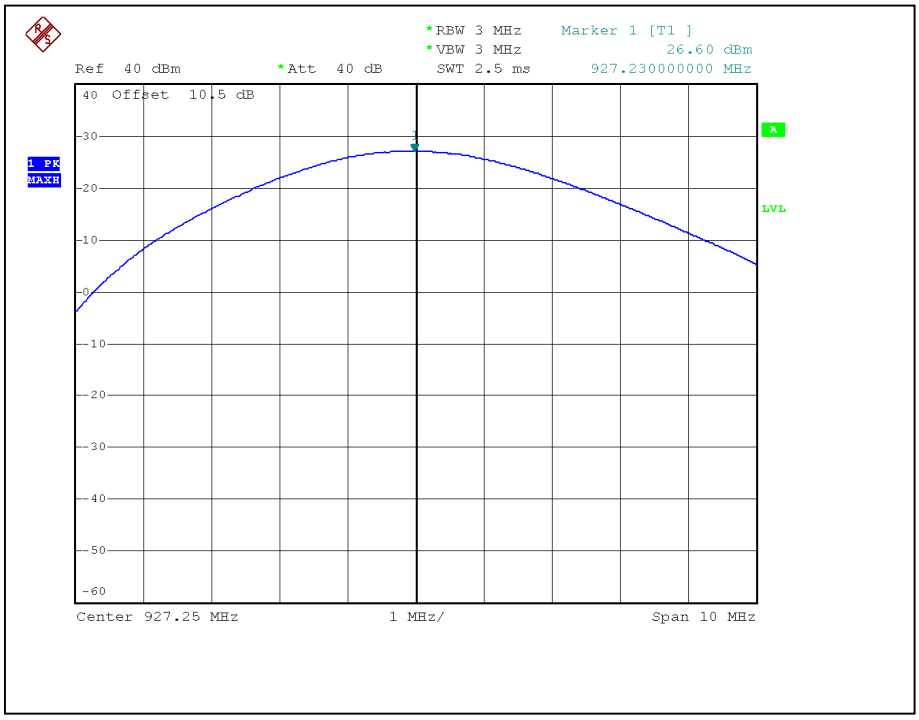
Channel 0



Channel 24



Channel 49

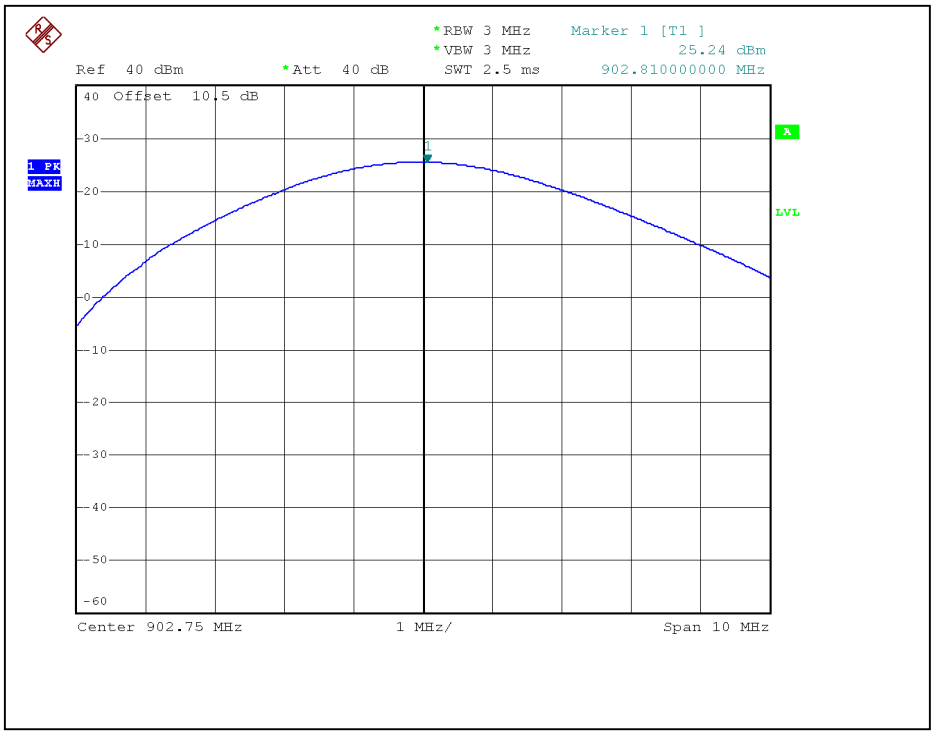


For PR-ASK(DRM) – Low Power:

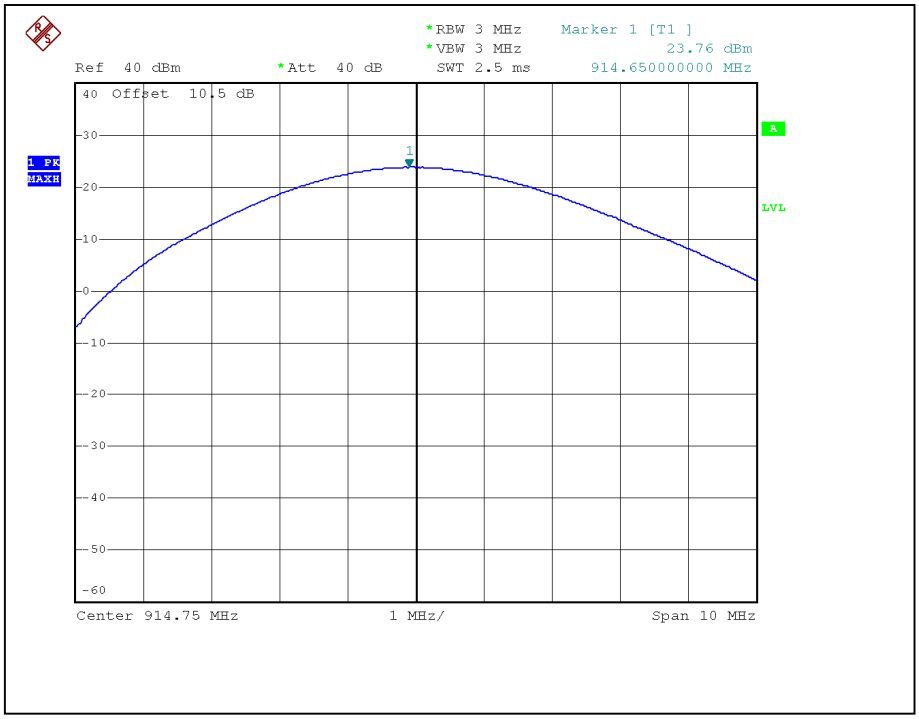
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.75	331.1	25.2	30	PASS
24	914.75	239.9	23.8	30	PASS
49	927.25	204.2	23.1	30	PASS

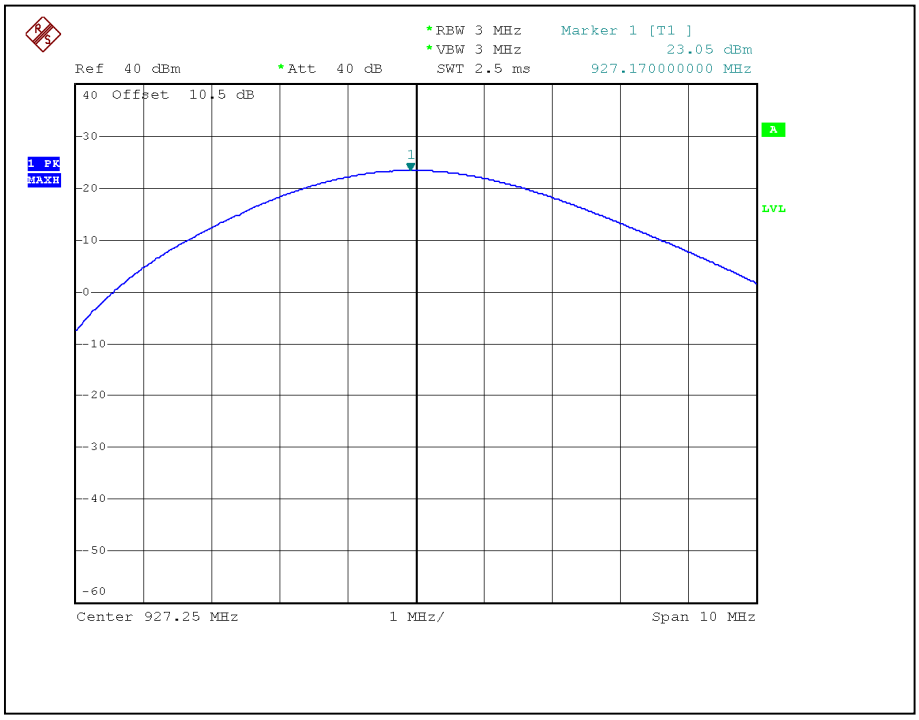
Channel 0



Channel 24



Channel 49



4.6.8 TEST RESULTS (MODE B)

For PR-ASK(XRM) – High Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.6	758.6	28.8	30	PASS
60	914.6	776.2	28.9	30	PASS
124	927.4	794.3	29.0	30	PASS

Channel 0

Channel 60

Channel 124

For PR-ASK(XRM) – Low Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.6	12.6	11.0	30	PASS
60	914.6	9.3	9.7	30	PASS
124	927.4	11.2	10.5	30	PASS

Channel 0

Channel 60

Channel 124

For PR-ASK(DRM) – High Power:

ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.6	575.4	27.6	30	PASS
60	914.6	467.7	26.7	30	PASS
124	927.4	457.1	26.6	30	PASS

Channel 0

Channel 60

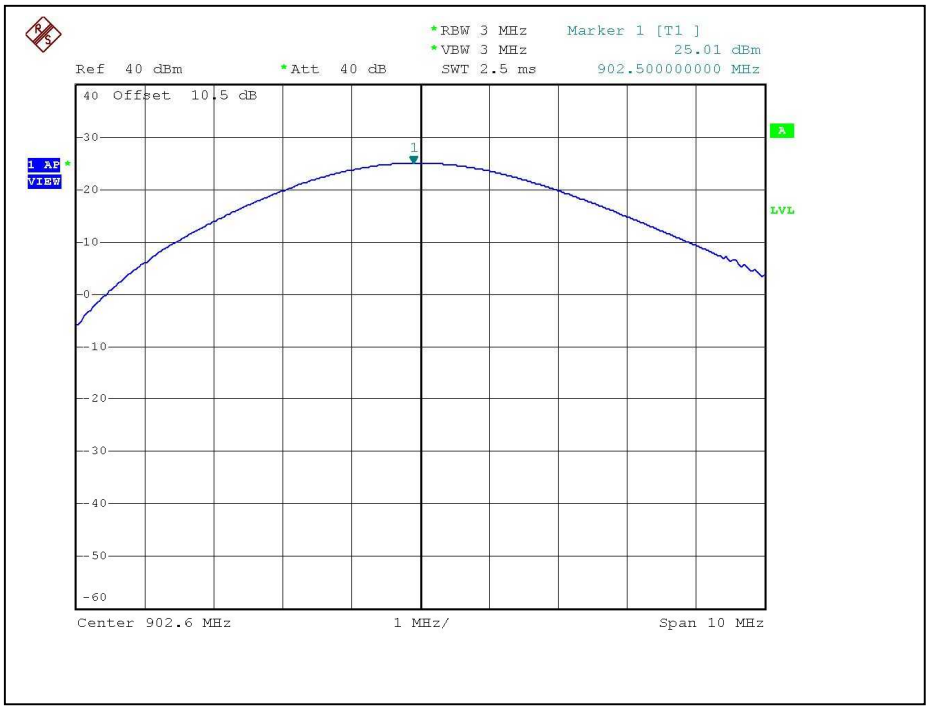
Channel 124

For PR-ASK(DRM) – Low Power:

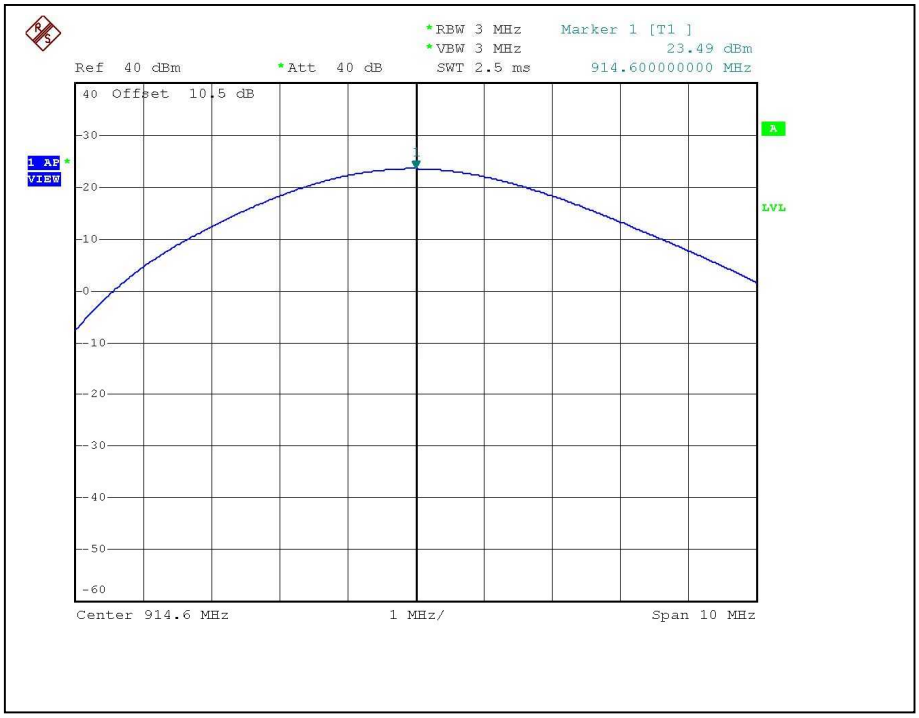
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 1015 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Wen Yu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
0	902.6	316.2	25.0	30	PASS
60	914.6	223.9	23.5	30	PASS
124	927.4	204.2	23.1	30	PASS

Channel 0



Channel 60



Channel 124