

**FM TRANSLATOR
EQUIPMENT PERFORMANCE
MEASUREMENT REPORT**

K282BH, Philomath, OR

Measurements completed: October 28, 2014

TECHNICAL STATEMENT/RESULTS

On October 28, 2014, I performed RF emissions equipment performance measurements on K282BH, Philomath, OR, to show compliance with FCC Rules 47 CFR §74.1236(a)(2) and §73.317(a), (b), (c), and (d).

The results of these tests, contained herein, show that at the time of the measurements, K282BH appeared to meet all standards as set forth in §73.317(a), (b), (c), and (d).

These measurements are required as a Special Operating Condition in the underlying Construction Permit - BPFT-20140924AAC. This report is being submitted as part of the FCC Form 350 (Application for a Station License), as required by the CP.

K282BH is diplexed into a common antenna with K239BP, Flynn, OR. Both translators were operating at their rated power levels during all tests.

The data and exhibits contained herein were compiled and prepared by me, and that I believe them to be a true and accurate representation of the facts as evident at the time of the measurements.

Michael D. Brown

A handwritten signature in black ink that reads "Michael D. Brown". The signature is written in a cursive style with a long horizontal line extending to the right.

Brown Broadcast Services, Inc.

BROWN BROADCAST SERVICES

Michael D. Brown INCORPORATED
3740 S.W. Comus St. Portland, Oregon 97219-7418 503-245-6065

MEASUREMENT PROCEDURE OVERVIEW

This report seeks to accurately assess the performance of the FM transmission system. The emissions mask limits are:

± 120 to 240 kHz	≥-25db below carrier level
± 240 to 600 kHz	≥-35db below carrier level
± 600kHz and beyond	≥-43 +10log(power in watts) or 80db, whichever is the lesser attenuation

For the 15.5W ERP employed, the limit for ± 600kHz and beyond is -54.9dbc (below carrier).

All measurements were taken during normal audio programming, with both translators operating at their rated powers. An Anritsu MT8222A swept-frequency spectrum analyzer was employed. To begin, a reference level was established using the following setup during normal programming:

Span:	2MHz
Resolution Bandwidth:	300kHz
Video Bandwidth:	1kHz

For the occupied bandwidth measurements:

Span:	2MHz
Resolution Bandwidth:	1kHz
Video Bandwidth:	10kHz
Sweep:	Auto
Attenuation:	Auto
Detection:	Peak
Trace A:	Max Hold
Preamp:	Off

Plots were examined up to 500mhz.

The spectrum analyzer exhibited sufficient linearity, that a notch filter was deemed unnecessary during measurements of possible harmonics and intermodulation products.

BROWN BROADCAST SERVICES

INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

GENERAL DATA

STATION CALL LETTERS: K282BH
CITY OF LICENSE: Philomath
STATE OF LICENSE: OR
FREQUENCY: 104.3Mhz
TRANSMITTER LOCATION: Vineyard Mountain, near Lewisburg, OR
TRANSMITTER: Harris Quest 100
ERP: 15.5w
TRANSMITTER TPO: 34.4w
COMBINER SYSTEM: Shively 2930-2/3-04, three section branched combiner -
combined with K282BH, Philomath, OR
DATE OF MEASUREMENTS: October 28, 2014; 1500 to 1800 PDT
MEASUREMENT POINT: RF sample port directional coupler

TEST EQUIPMENT EMPLOYED

Anritsu MT8222A BTS Master Spectrum Analyzer, serial #0818047
Narda 771-6 6db 50Ω inline pad
Bird Model 43 Line Section
Coaxial Dynamics 87015, -50dB directional coupler slug - flat ±1dB to 500MHz

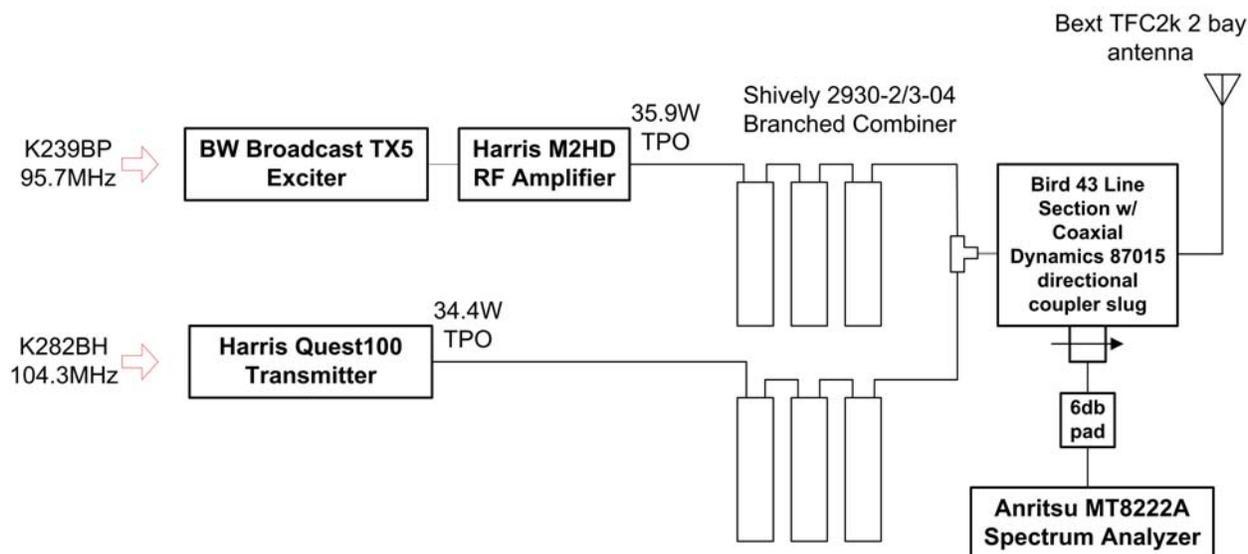
POWER OUTPUT CALCULATIONS

Transmission line: Andrew LDF4-50A
Length: 28.6m
Loss db: 0.654db; 86.0% efficiency
Power dissipated in line: 3.69w
Other losses: 0.026db - (4 pairs of N-connectors @0.0065db)
Other losses: 1.1162db - Shively 2930-2/3-04, three section branched
combiner
Antenna: Bext TFC2K
Bays: 2
Bay Spacing: 0.545
Antenna power gain: -1.66dBd; (0.682 power gain multiplier)
System ERP: 15.5w
Transmitter Output: 34.4w

BROWN BROADCAST SERVICES

Michael D. Brown 3740 S.W. Comus St. INCORPORATED Portland, Oregon 97219-7418 503-245-6065

TEST SETUP



DATA ANALYSIS

SPURIOUS AND HARMONIC RADIATIONS

(using “max hold” peak function)

	FREQ	SIGNAL	REL	COMMENTS
CARRIER:	104.3mHz	-12.82dBm	peak ref	--
2nd HARMONIC:	208.6mHz	unreadable	--	FCC SPEC: -54.9dbc - OK
3rd HARMONIC:	312.9mHz	unreadable	--	FCC SPEC: -54.9dbc - OK
4th HARMONIC:	417.2mHz	unreadable	--	FCC SPEC: -54.9dbc - OK
5th HARMONIC:	521.5mHz	unreadable	--	FCC SPEC: -54.9dbc - OK

OTHER SPURIOUS & INTERMOD PRODUCTS:

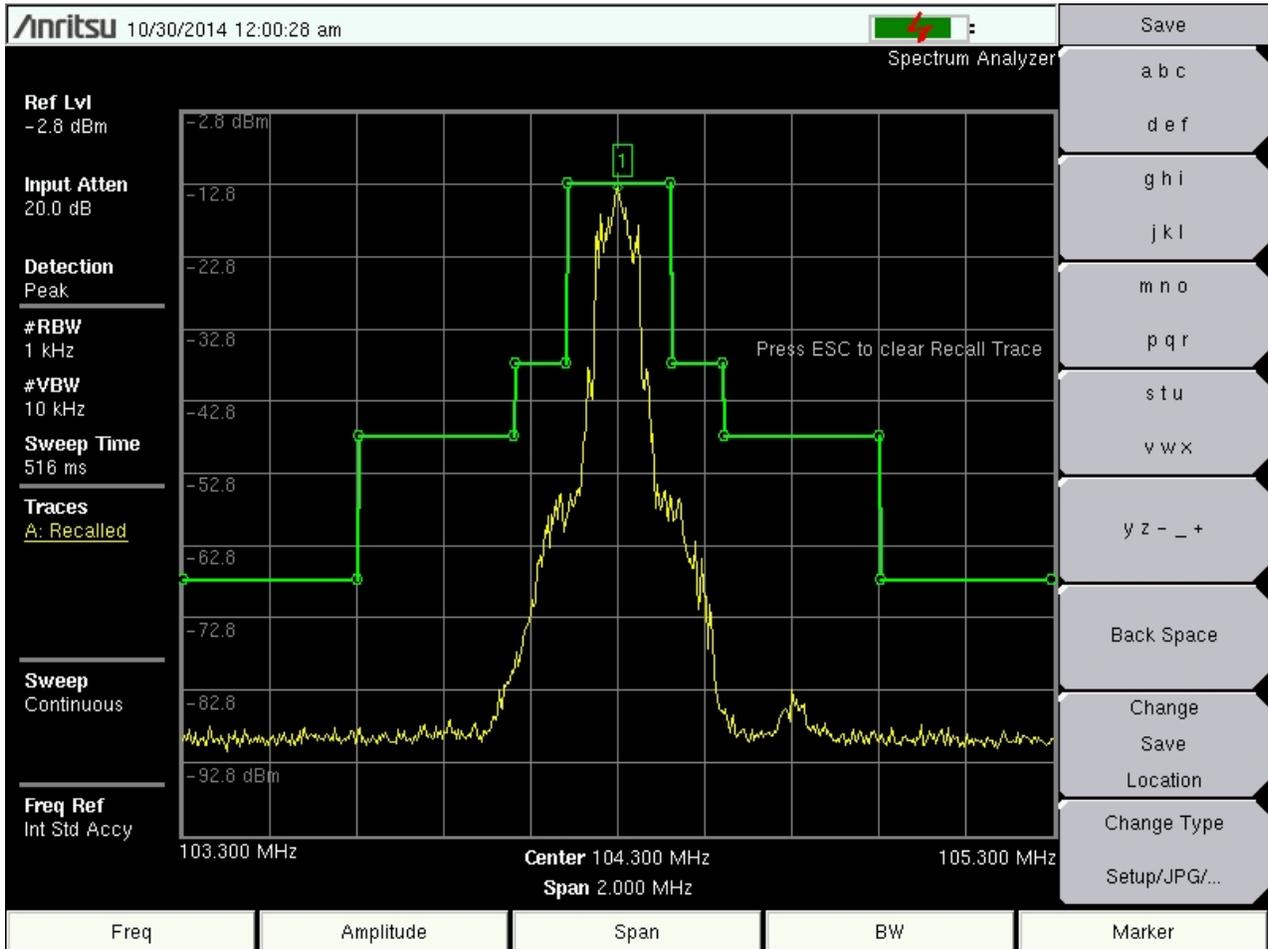
--none found--

BROWN BROADCAST SERVICES

INCORPORATED
Michael D. Brown 3740 S.W. Comus St. Portland, Oregon 97219-7418 503-245-6065

PLOT 1

200khz/div



BROWN BROADCAST SERVICES

INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065