

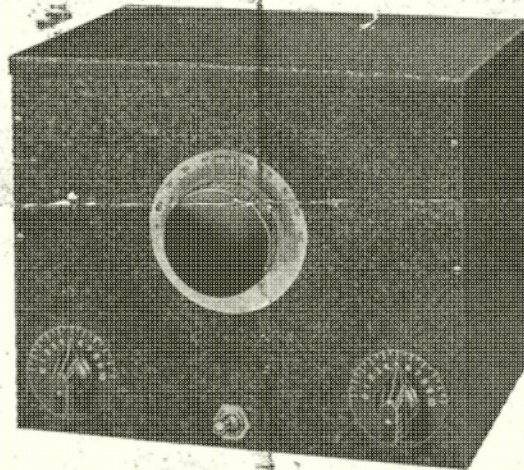
EDDYSTONE

'ALL WORLD TWO'

Battery Operated Receiver.



British Made.



CALIBRATION CURVES

STRATTON & CO., LTD., EDDYSTONE WORKS, BIRMINGHAM.

Eddystone 'All Word Two – Frequency Coverage

The Eddystone All World Two (AW2) is a two valve (0-V-1) regenerative detector receiver manufactured between 1936 and 1940, available either as a kit or ready constructed. Frequency coverage in this set is determined by a single plug-in coil together with the combination of a 'Tank' and 'Bandspread' tuning capacitors. A range of six-pin plug-in coils (Cat. Number 959) were manufactured by Eddystone suitable for use in this set covering the nominal frequency range 150KHz to 33.3MHz thus¹:

Type	Code Number	Spot Colour	Nominal Frequency Range (MHz)	Inductance
6BB	EXBB	2 x Blue ²	21.400 – 33.300	0.5uH
6LB	EXLIB	Blue	11.500 – 25.000	1.08uH
6Y	EXYEL	Yellow	6.400 – 13.600	3.62uH
6R	EXRE	Red	3.300 – 7.300	14.24uH
6W	EXWO	White	1.800 – 3.950	45.0uH
6P	EXPI	Pink	0.924 – 2.000	0.188mH
6G	EXGO	Green	0.590 – 1.153	0.420mH
6BR	EXBRO	Brown	0.300 – 0.612	1.900mH
6GY	EXDOY	Grey	0.150 – 0.300	6.98mH

The AW2 was supplied with the 6LB and 6Y coils as standard, covering a nominal frequency range of 6.4Mhz to 25MHz³. The combination of the Tank and Bandspread capacitors provide very good bandspread capability. The Tank capacitor (nominally 10 -150pF⁴) is fitted with a 10-position detent plate, allowing the capacitance to be varied in 10 equal (14pF) increments. The 'Bandspread' tuning capacitor is connected in parallel with the Tank capacitor and its capacitance range covers slightly more than the capacitance span of



¹ Per Stef Niewiadomski in Radio Bygones Issue 125, June/July 2010.

² Stef speculates that this coil has a black spot – Tor Marthinsen has this coil and notes it has a double blue spot

³ The actual range covered will vary from receiver to receiver, length of aerial, position of aerial trimmer and reaction capacitor. Tor Marthinsen has provided the following ranges for his (reproduction) AW2:

6BB:	14,000 - 24,000 MHz
6LB:	10,315 - 18,990 "
6Y:	5,750 - 11,000 "
6R:	2,935 - 5,640 "
6W:	1,550 - 2,990 "
6P:	790 - 1535 KHz
6G:	485 - 940 "
6Br:	260 - 478 "
6GY:	120 - 232 "

- Note that there are two gaps in the coverage, from 5,640 - 5,750MHz and from 232 - 260kHz, together with much-reduced ranges on the higher frequency coils than cited in the catalogue

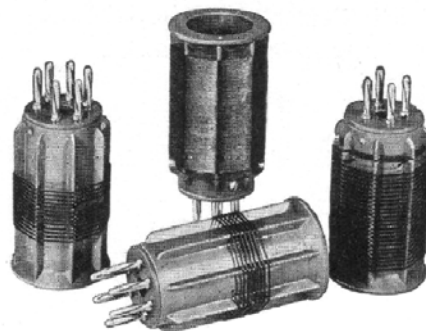
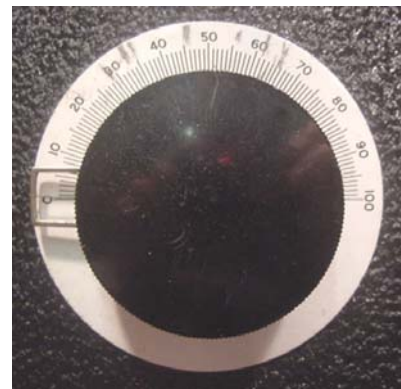
⁴ Per 1936-7 Eddystone catalogue description, however, a May, 1936 Wireless World review of the Bandspread tuning outfit noted that the measured capacitance range of the Tank unit was 23 - 171pF and the Bandspread unit 7.5 – 18.5pF.

each increment of the Tank capacitor. The actual frequency coverage of the set depends on the constants of the coil in use, the constants of the Bandsread tuning combination and stray inductances/capacitances in the set as constructed.

Eddystone provided some combined coil charts on page 3 of the AW2 manual and on page 6 of the construction article in Issue 3 of the Eddystone Short Wave Manual, however, these were drawn on such a small scale they would be virtually useless in practice (and were for a 'specimen' receiver that may have different characteristics to the one being used). Thus, in order for the user to determine what frequency was being tuned-in, stations of known frequency had to be identified and a record kept of the combined settings of the Tank and Bandsread capacitors, eg. 'Blue Coil, Tank 3, Bandsread 85' would (should) be around 14.5MHz.

While restoring an AW2 recently, a spreadsheet was developed (downloadable from the EUG website) that plots the range covered by the Bandsread tuning control for each of the two standard coils for each incremental setting of the Tank capacitor. These plots have been compiled into Adobe Acrobat format into this set of Calibration Curves for the restored set.

The test set-up was simple: a Triplet Model 3432A signal generator feeding a Dynascan BK Precision Model 1803 digital frequency meter (DFM), the signal also being loosely-coupled to a short aerial connected to the AW2. For each coil and position of the Tank capacitor, five settings of the Bandsread capacitor were selected, these being 0, 25, 50, 75 and 100 on the Bandsread dial. The received frequency for each setting, as determined by the DFM, were recorded. Both the signal generator and the AW2 were allowed an hour to warm-up prior to the measurements being made. The lid was down on the AW2, as this was found to affect the tuned circuit slightly, particularly at the higher frequencies. The set was found to be very stable and once calibrated in this way it was easy to tune to a selected frequency.

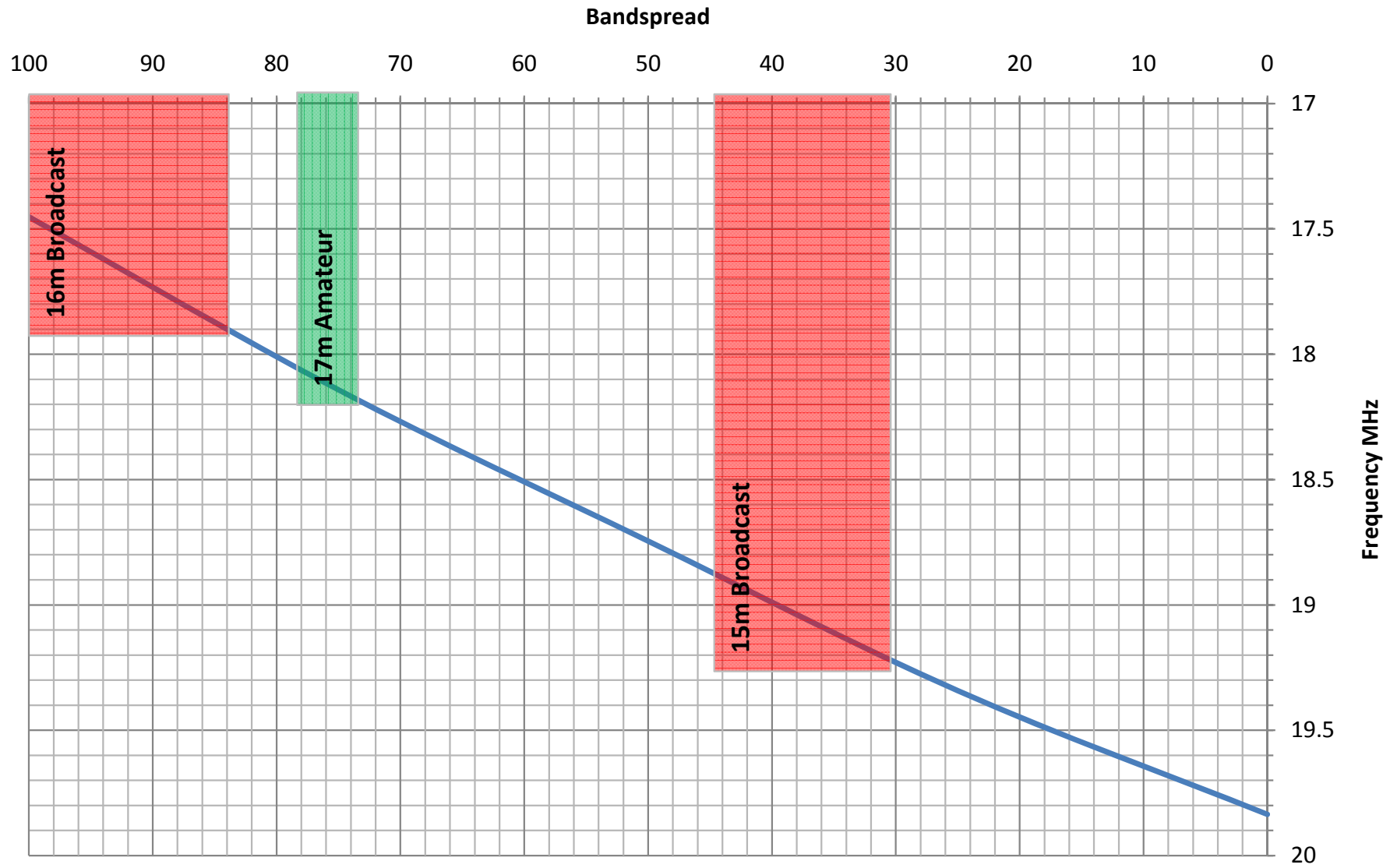


Interchangeable Coils for all Waves.

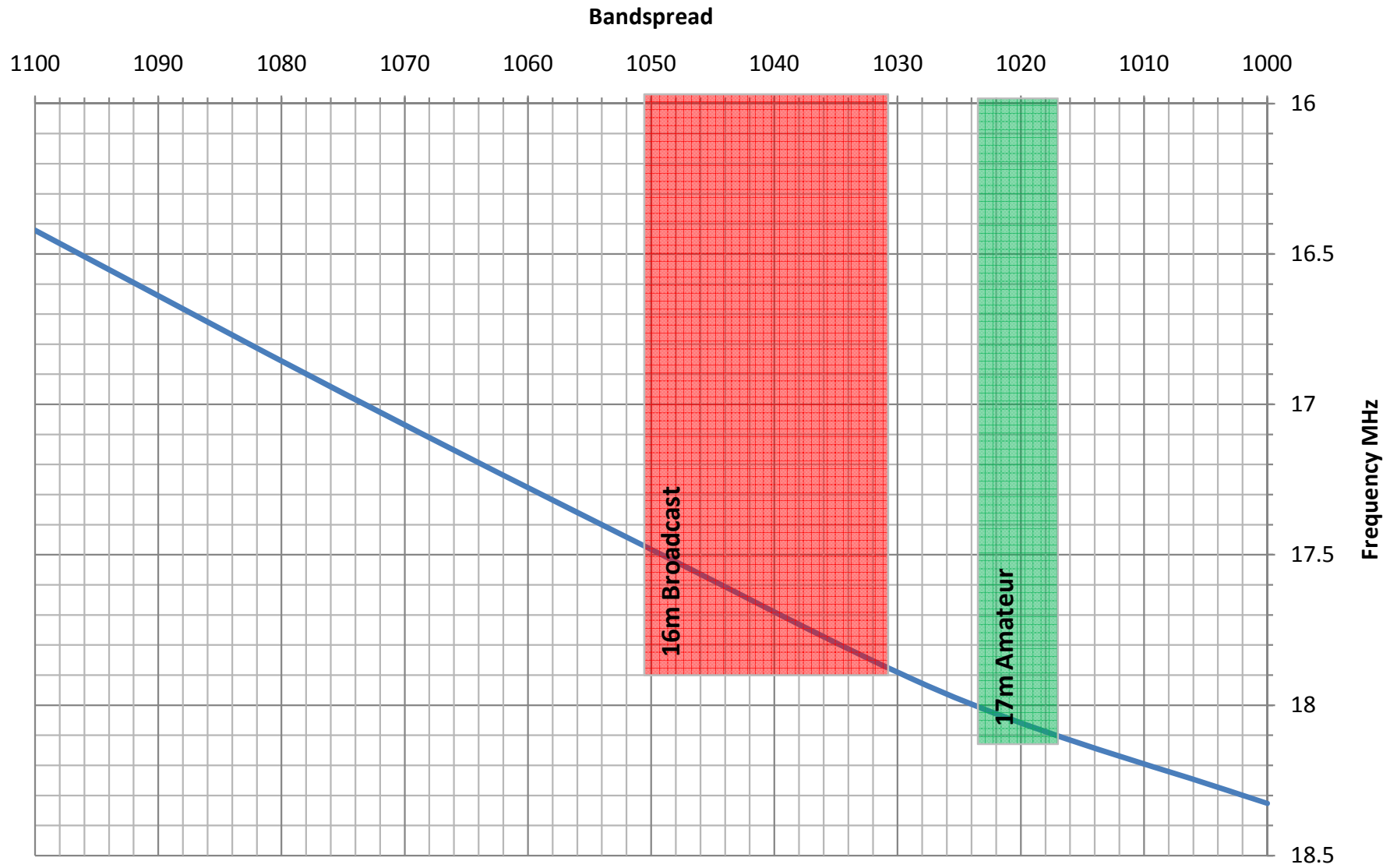
D.L.-9. LOW LOSS DIELECTRIC.

These Coils employ formers made from the new low loss dielectric D.L.-9, a dielectric far superior to bakelite for high frequency use. A complete range is available with 4-pin and 6-pin bases, having two and three windings respectively. The short wave coils are space wound with 22 gauge enamelled copper wire on threaded formers, the higher wave coils being single layer wound with enamelled wire except the long wave coil, which consists of a number of windings in a slotted former. The form shape is such that the coils are highly efficient and also mechanically strong in construction. The range of coils is designed so that 4-pin and 6-pin coils can be used in the same circuit. All wave ranges given are with a .00016 mfd. condenser and are approximate figures allowing for circuit load.

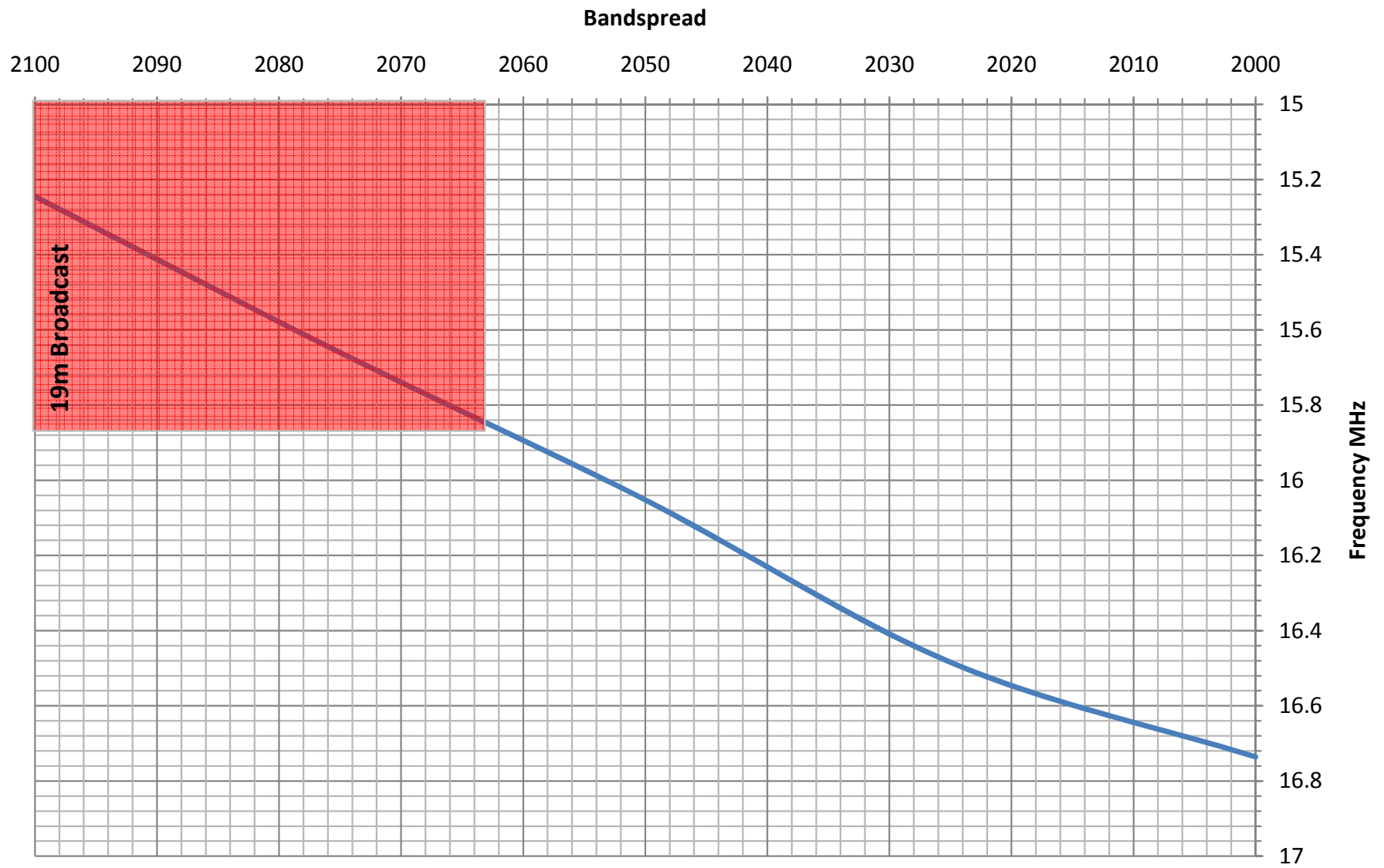
Blue Coil Tank 0



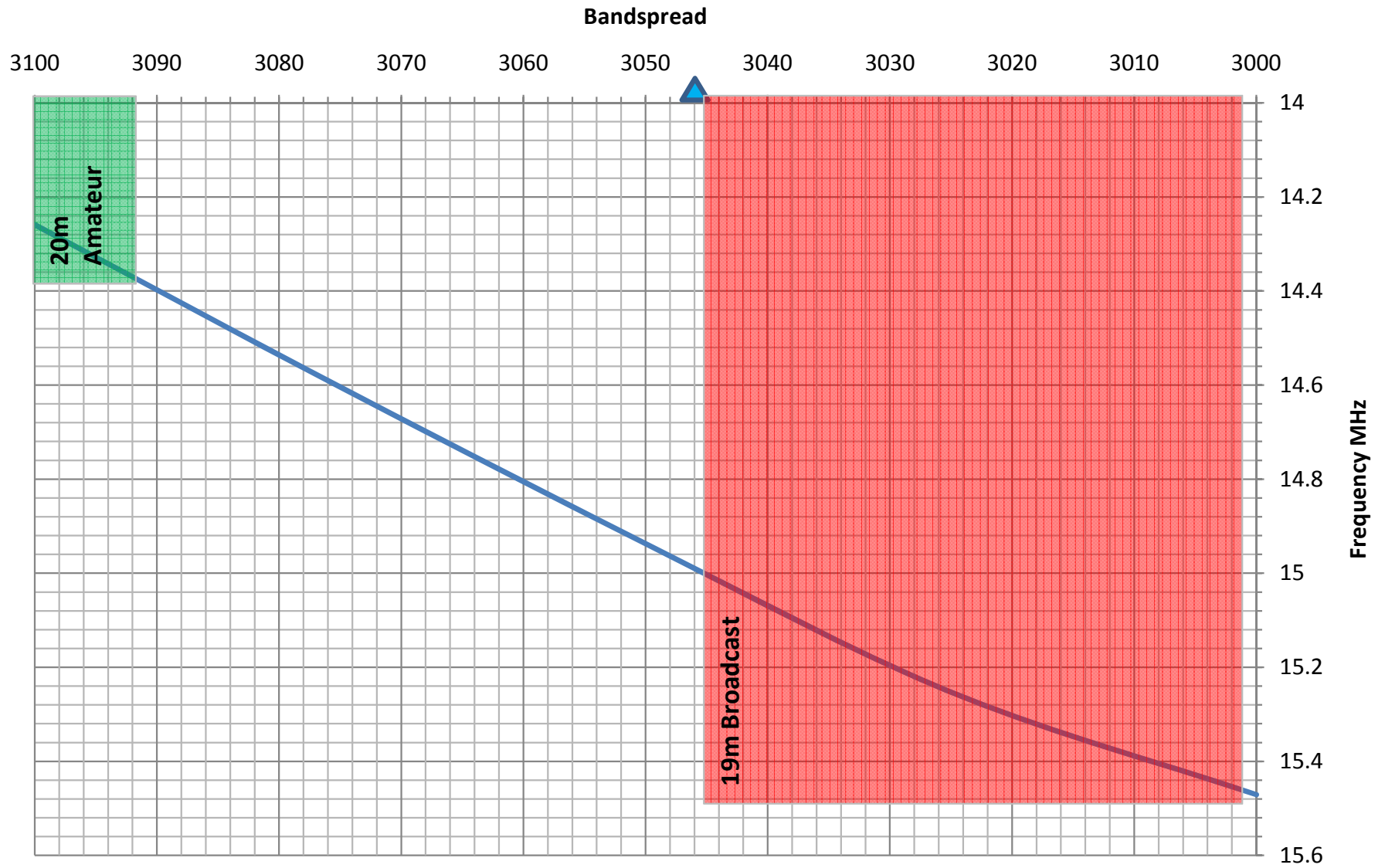
Blue Coil Tank 1



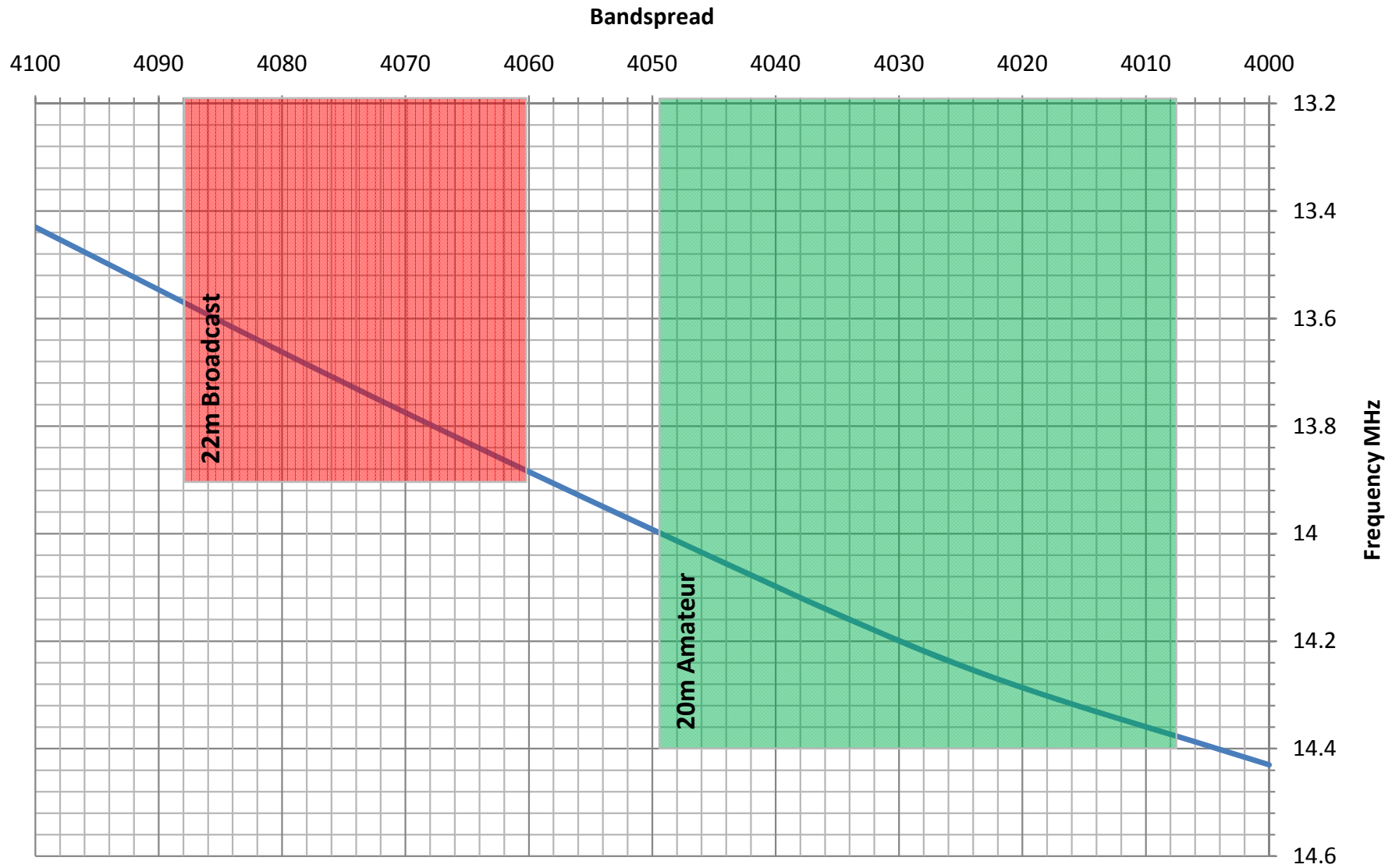
Blue Coil Tank 2



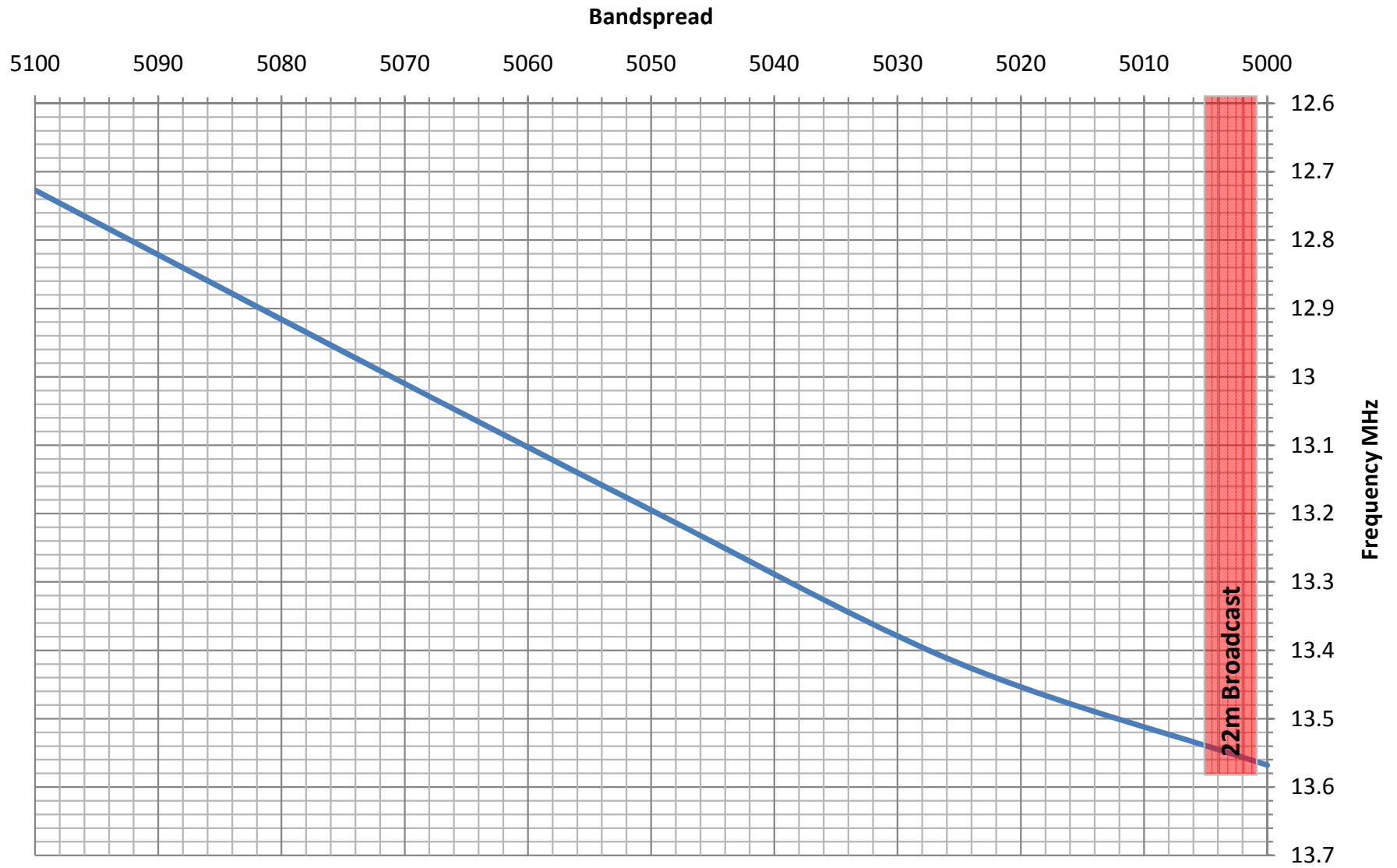
Blue Coil Tank 3



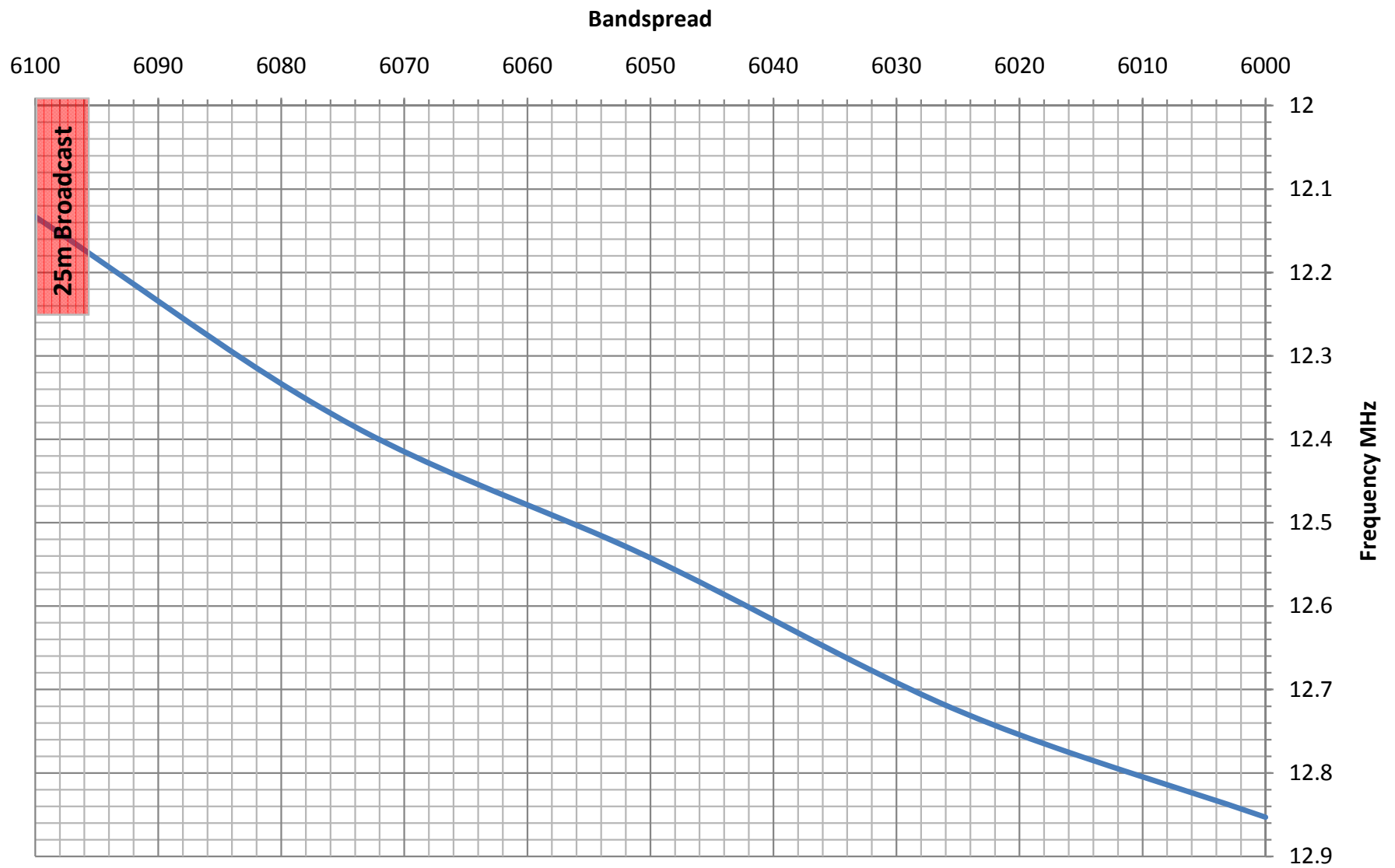
Blue Coil Tank 4



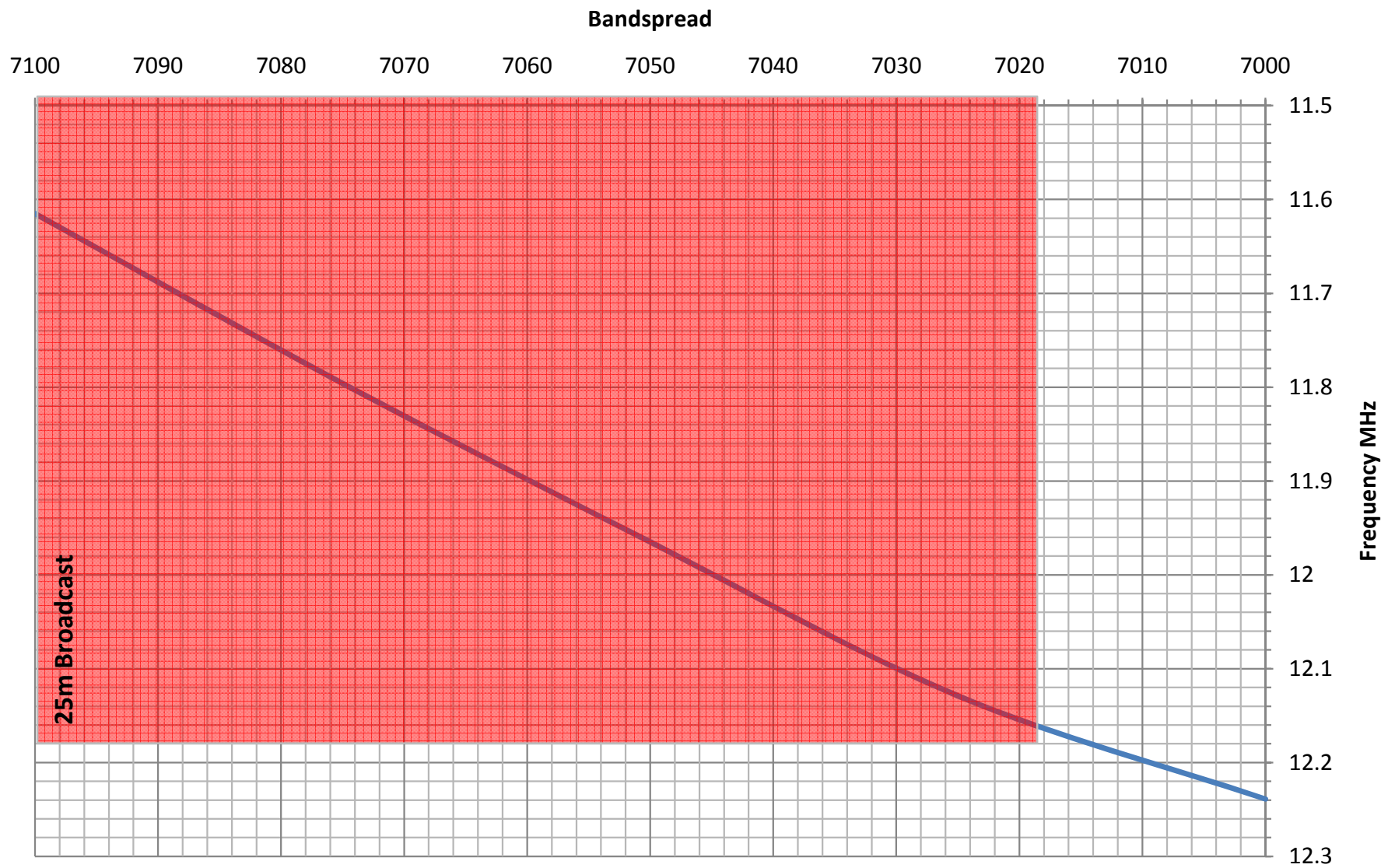
Blue Coil Tank 5



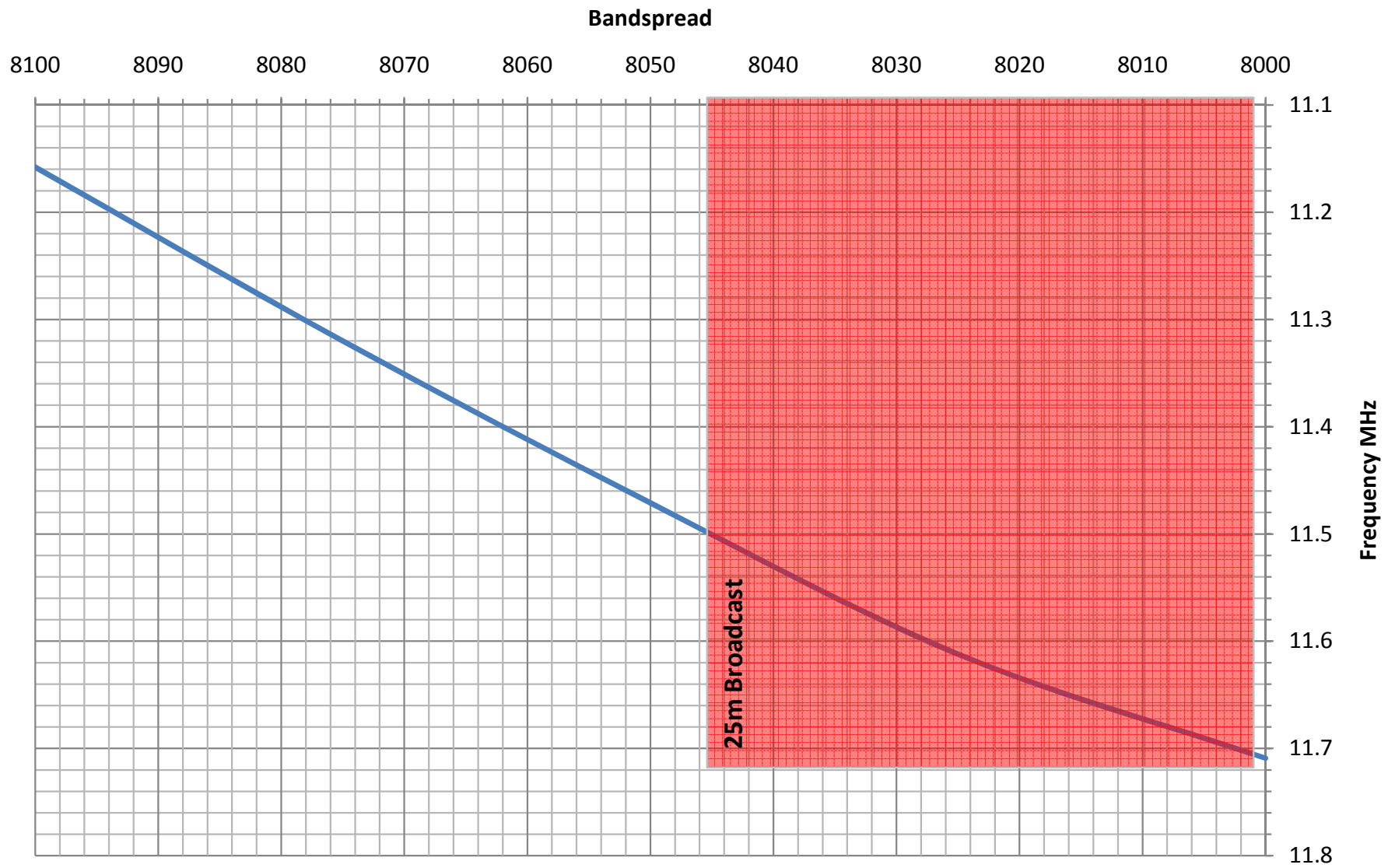
Blue Coil Tank 6



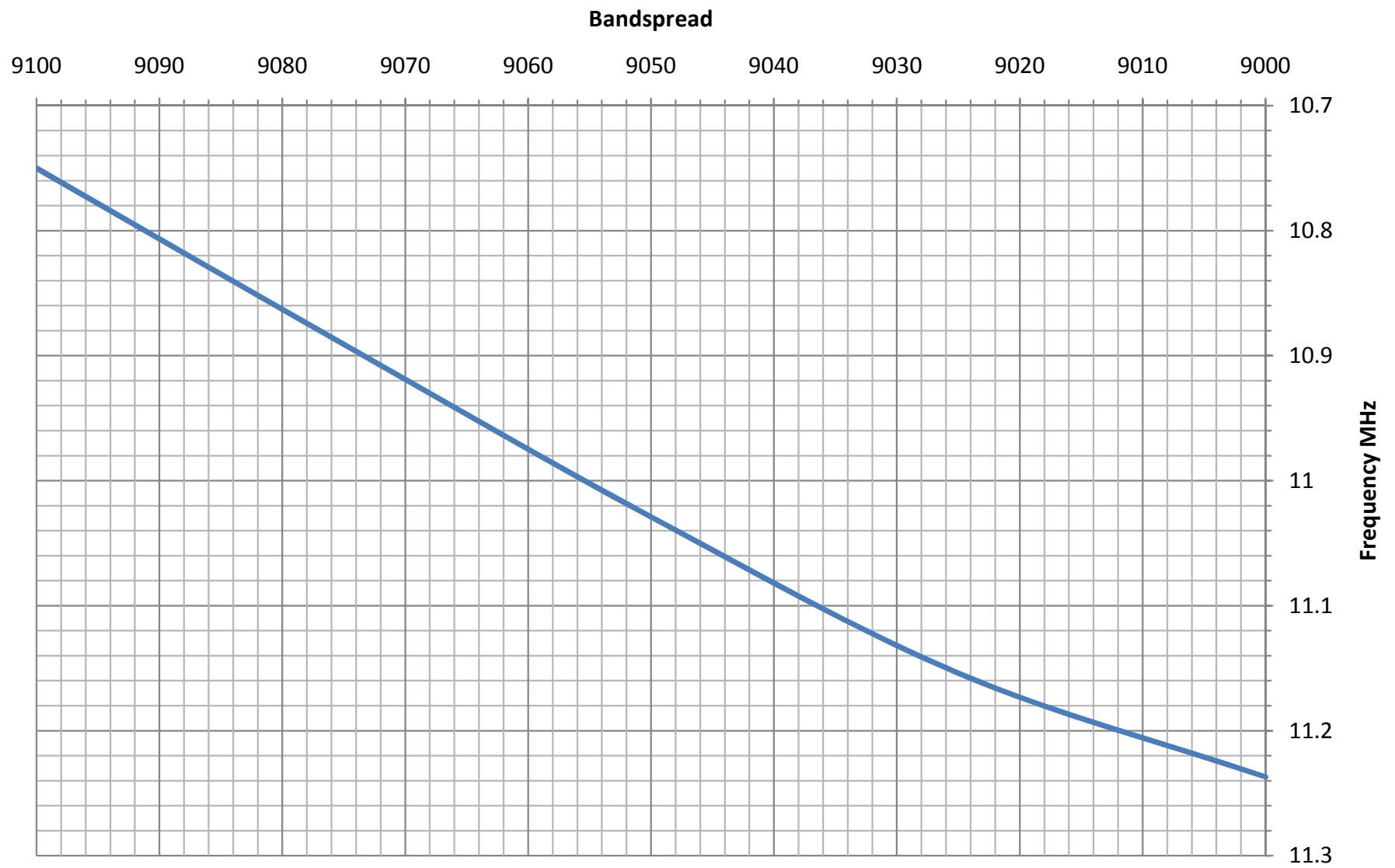
Blue Coil Tank 7



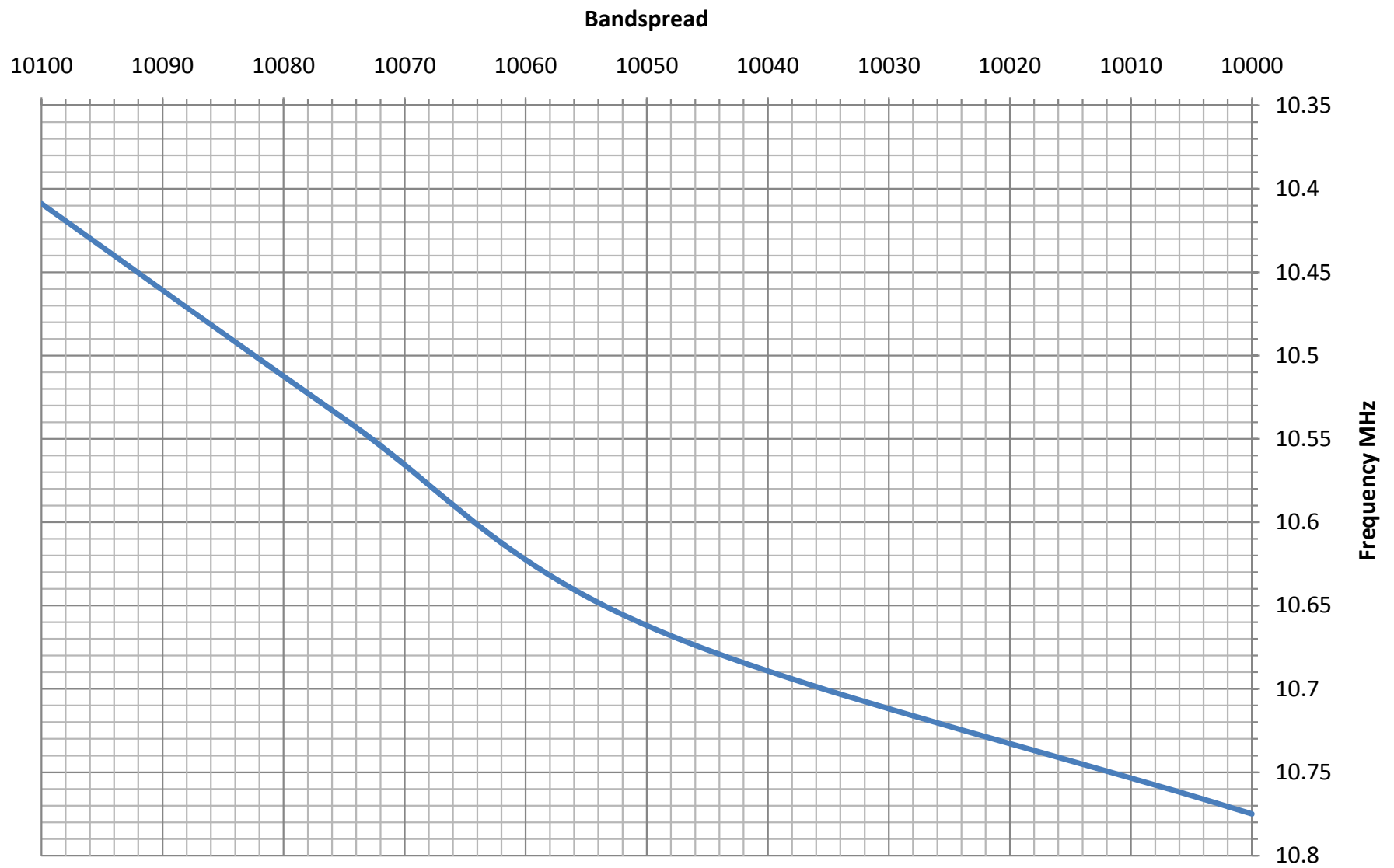
Blue Coil Tank 8



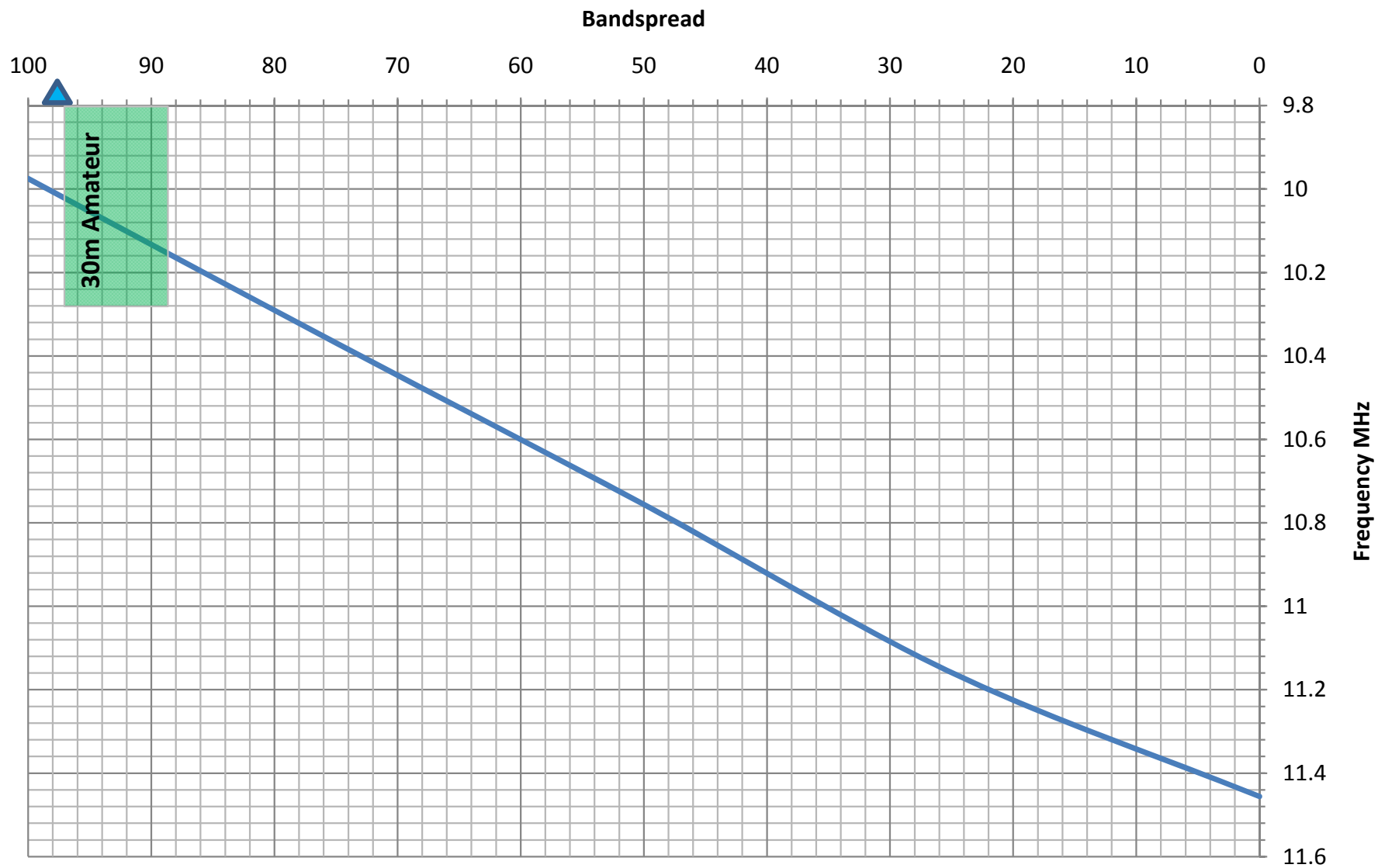
Blue Coil Tank 9



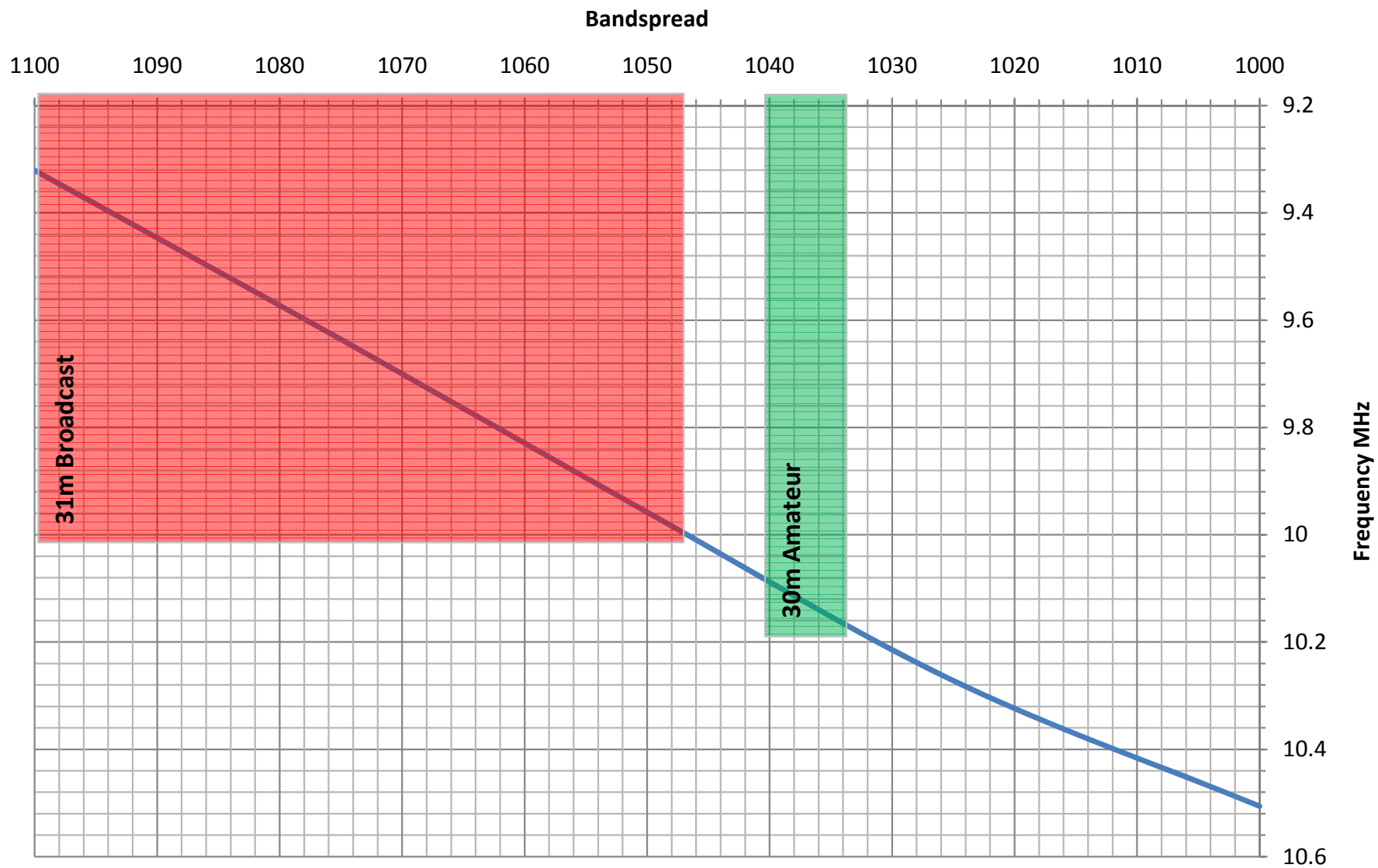
Blue Coil Tank 10



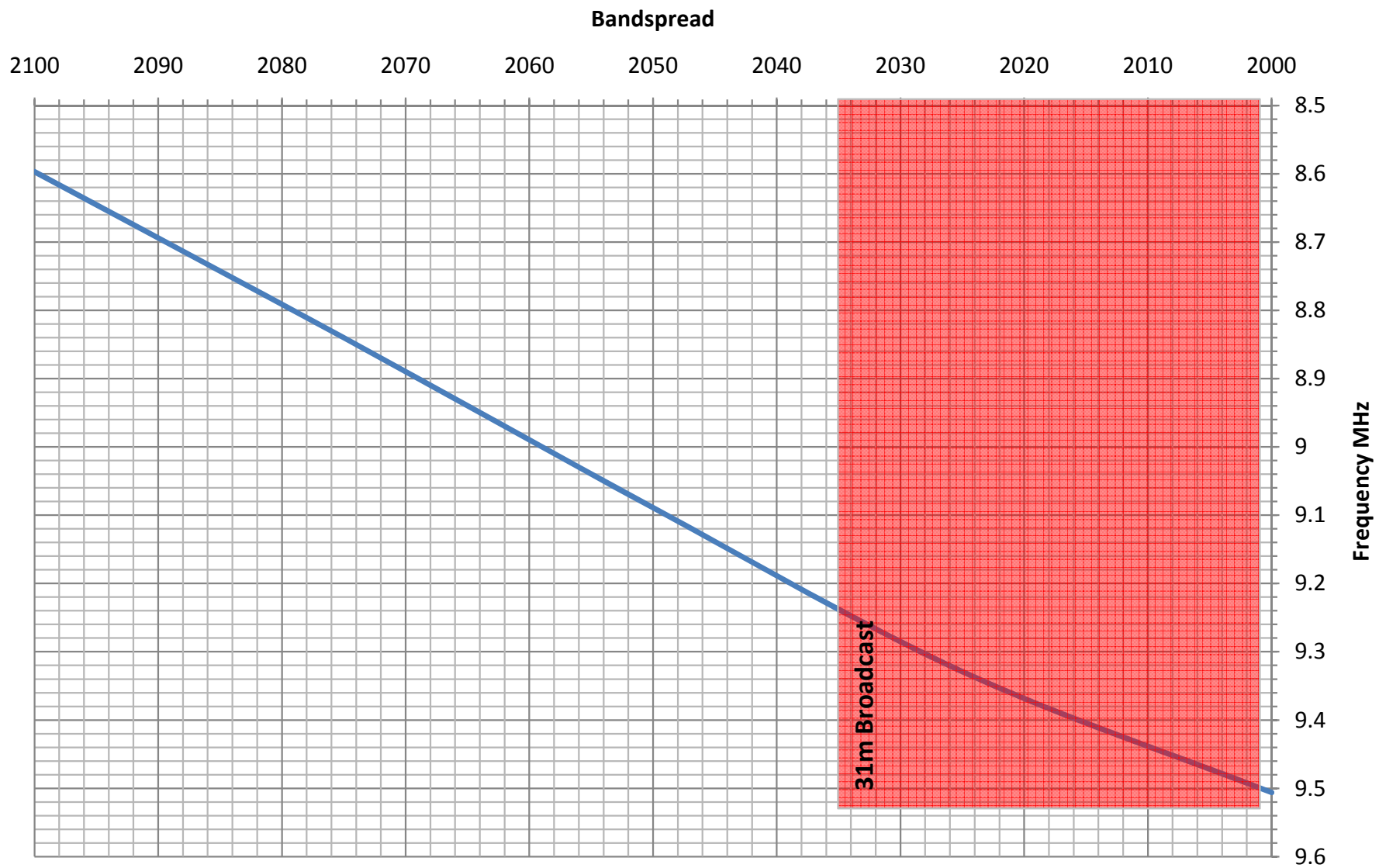
Yellow Coil Tank 0



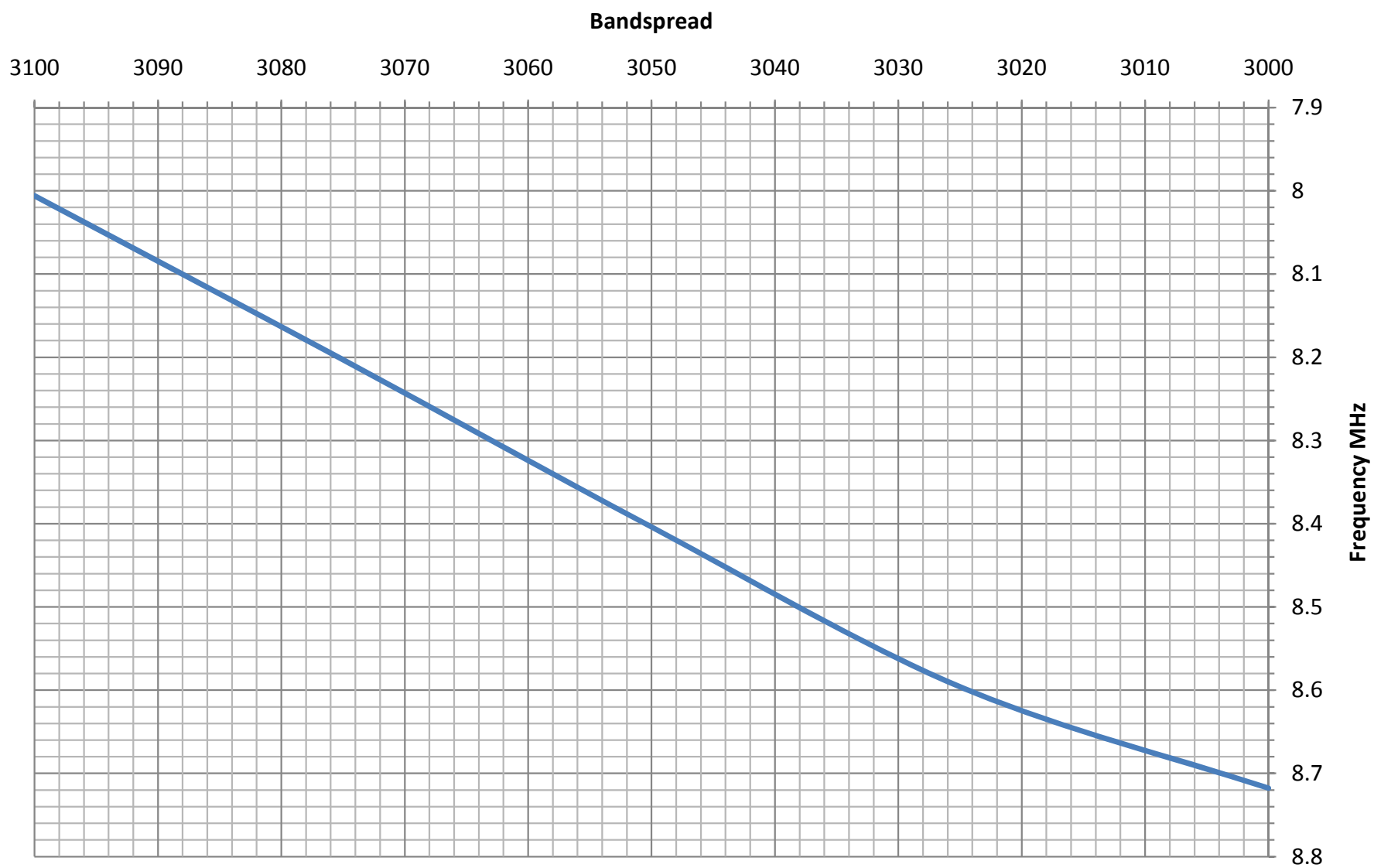
Yellow Coil Tank 1



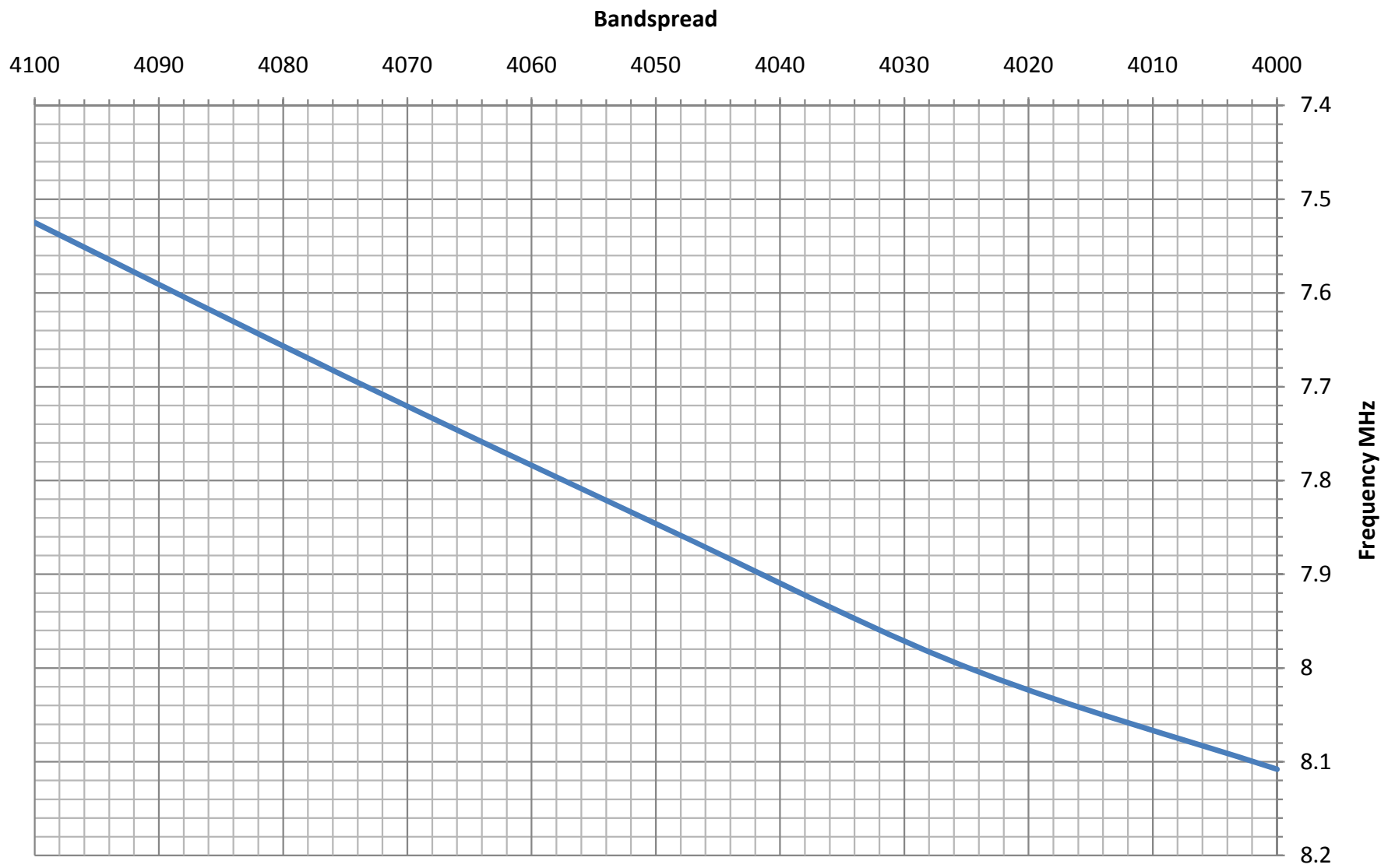
Yellow Coil Tank 2



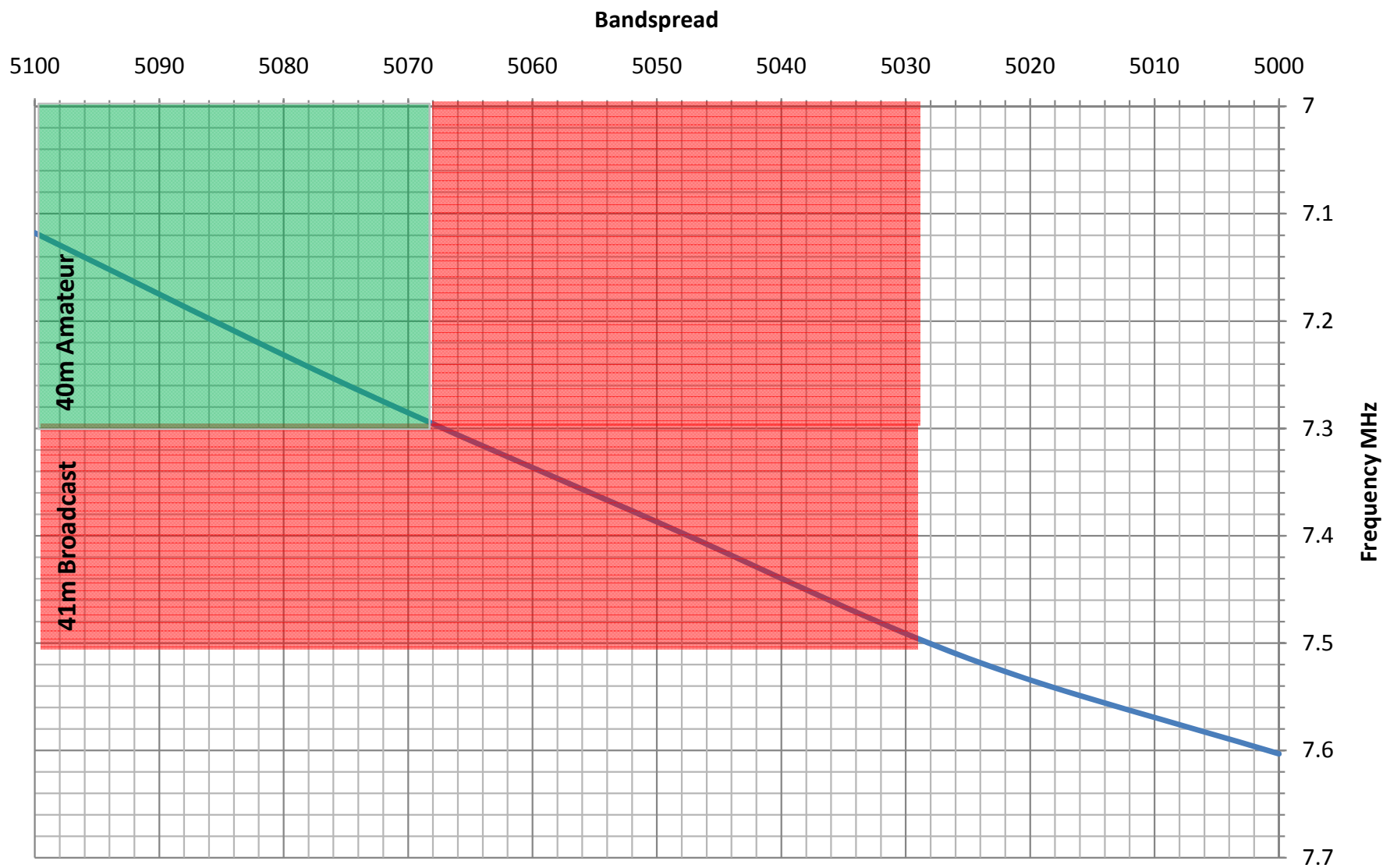
Yellow Coil Tank 3



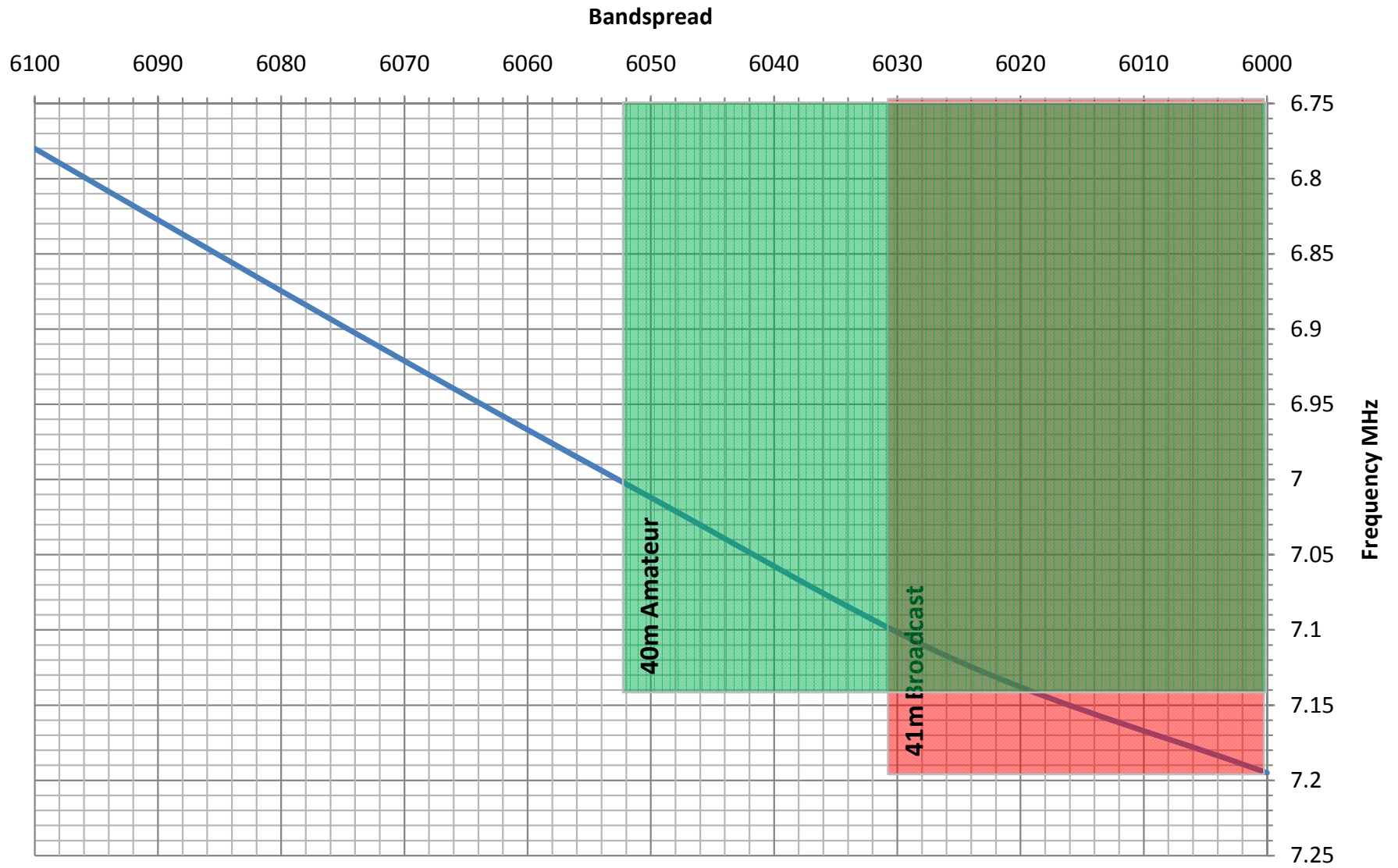
Yellow Coil Tank 4



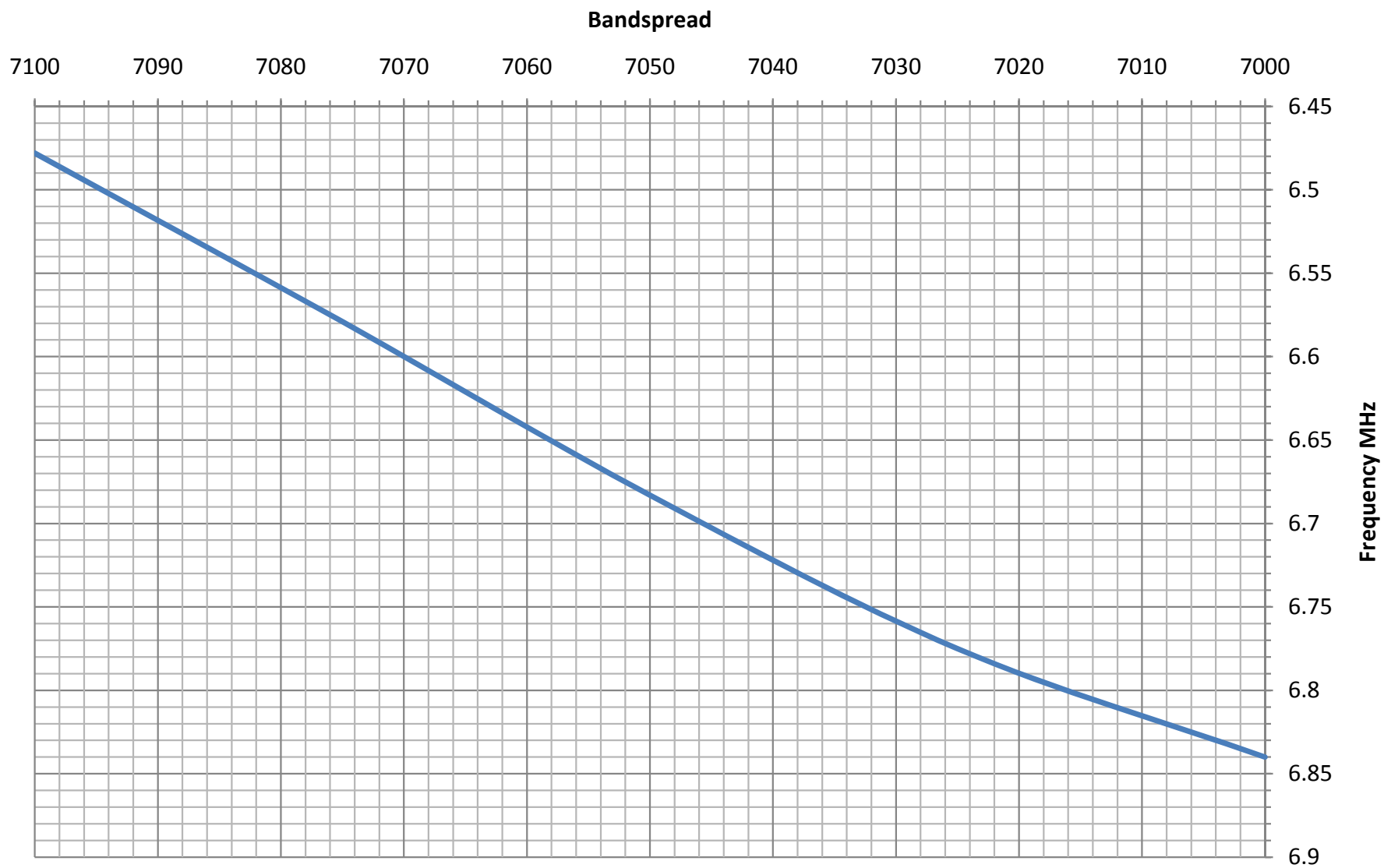
Yellow Coil Tank 5



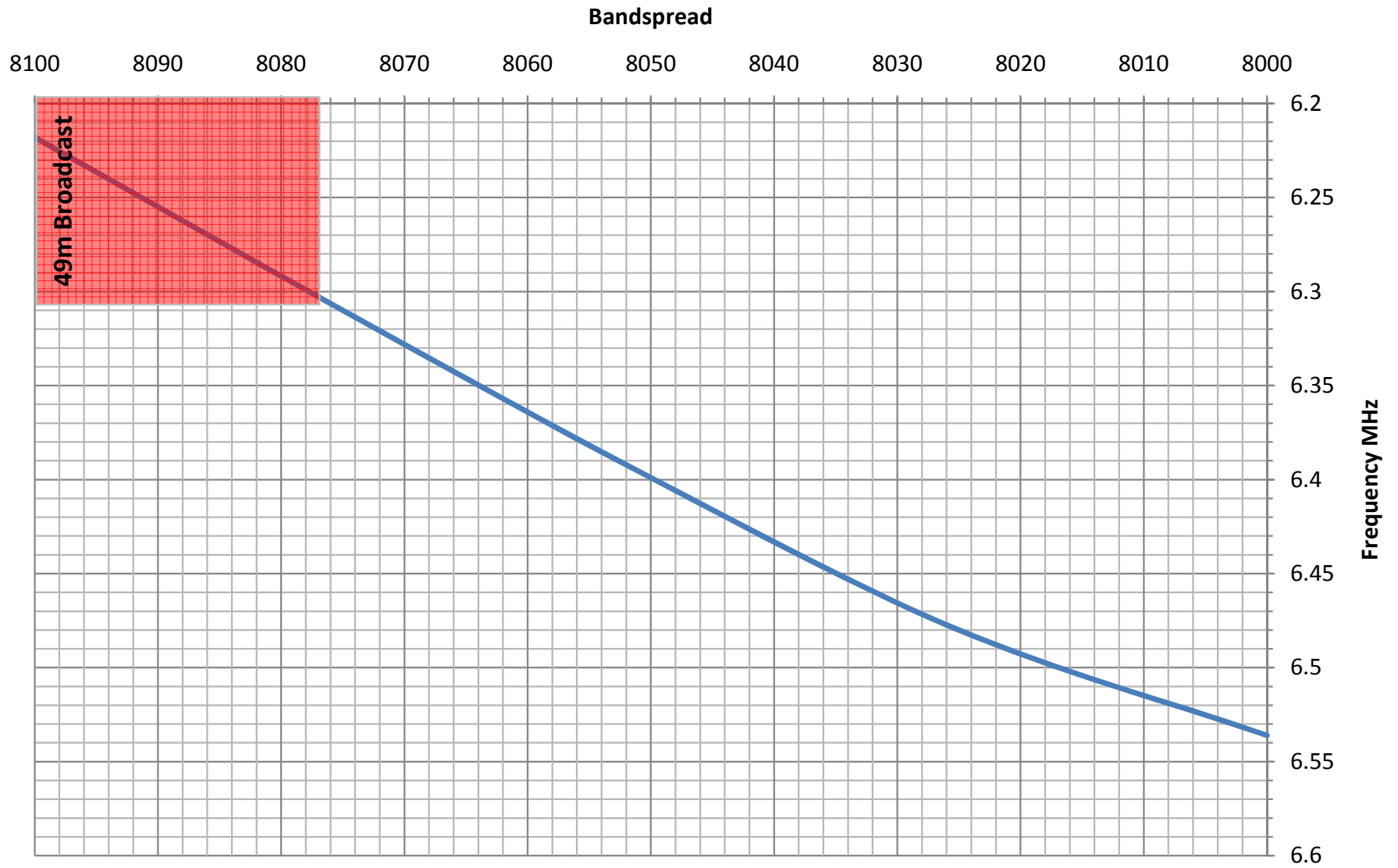
Yellow Coil Tank 6



Yellow Coil Tank 7



Yellow Coil Tank 8



Yellow Coil Tank 9



Yellow Coil Tank 10





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