ENGINEERING EXHIBIT

Application for Low Power Television Digital Companion Construction Permit

prepared for

Ramar Communications, Inc.
KLBB-LP Lubbock, TX
Ch. 19 (digital) 15 kW

Ramar Communications, Inc. ("Ramar") is the licensee of Low Power Television station KLBB-LP, analog Channel 48, Lubbock TX, Facility ID 55060 (BLTTL-20071009AKW). *Ramar* herein seeks a Construction Permit ("CP") for a digital companion channel facility to be associated with KLBB-LP.

KLBB-LP is presently authorized to flashcut to digital operation on Channel 48 (BDFCDTL-20100810AAX). *Ramar* will seek cancellation of the flashcut Contruction Permit BDFCDTL-20100810AAX contemporaneously with the filing of this application for a digital companion facility.

The proposed digital companion facility will operate on Channel 19 at the licensed KLBB-LP analog Channel 48 site. The proposed facility will employ an existing antenna system which is side-mounted on the tower structure associated with FCC Antenna Structure Registration number 1248244. No change to the overall structure height will result from this proposal.

The proposed facility will operate nondirectional with 15 kW effective radiated power using a "stringent" out of channel emission mask. The antenna is an MCI model 955118. Figure 1 depicts the coverage contour of the proposed facility as well as that of the KLBB-LP licensed analog Channel 48 facility. The use of the licensed analog site and the corresponding service area overlap complies with the requirements for a digital companion facility.

Detailed interference study per OET Bulletin 69[1] show that the proposal complies with the Commission's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the Commission's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility except with respect to an application having file number BDCCDTL-20061030AGA which does not present a conflict for the proposal. The application BDCCDTL-20061030AGA (Ch. 18, Lubbock, TX) would receive 4.56 percent interference, which exceeds the 2.0 percent limit towards translator stations. BDCCDTL-20061030AGA was dismissed on March 10, 2010 at the request of the applicant and protection to that proposal is not necessary.[2]

The nearest FCC monitoring station is 764 km distant at Douglas, AZ. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3 kilometers of the site. The site location is beyond the border areas requiring international coordination.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and assuming the worst-case of 100 percent field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 7.6 $\mu W/cm^2$, which is 2.3 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple

[1]FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A cell size of 1 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

[2]The FCC CDBS record for BDCCDTL-20061030AGA should be changed to "archive" so that application will not appear as a conflict in interference analysis.

emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent. The calculated signal density will be even lower when the antenna's elevation pattern is considered.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposal involves use of an existing side-mounted transmitting antenna. No change in structure height is proposed.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

Joseph M. Davis, P.E.
September 18, 2013

Chesapeake RF Consultants, LLC
207 Old Dominion Road
Yorktown, VA 23692
703-650-9600

List of Attachments

Figure 1	Coverage Contour Comparison
Table 1	Interference Analysis Results Summary
Form 346	Saved Version of Engineering Sections from FCC Form at Time of Upload

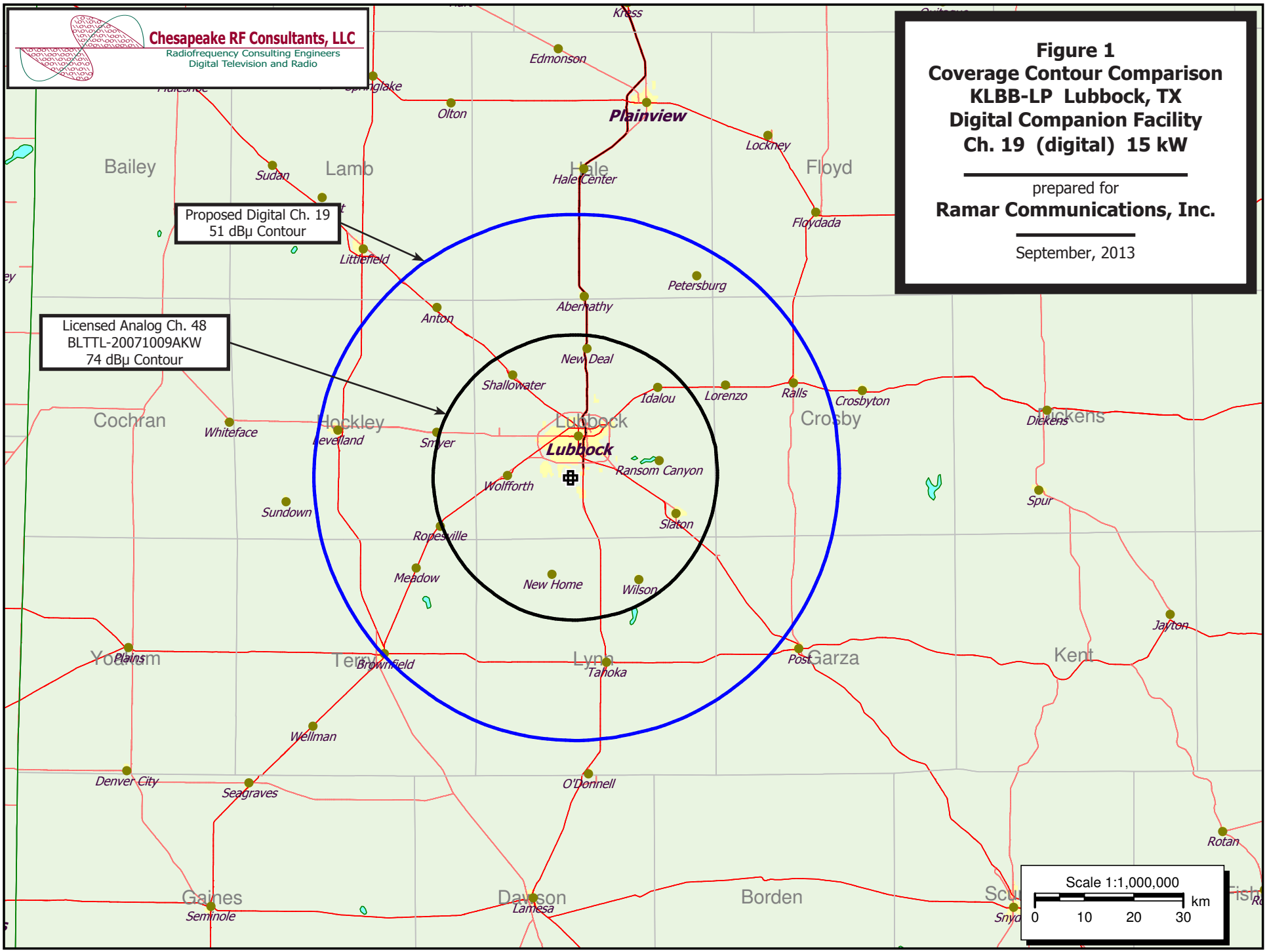
Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 1
Coverage Contour Comparison
KLBB-LP Lubbock, TX
Digital Companion Facility
Ch. 19 (digital) 15 kW
prepared for
Ramar Communications, Inc.
September, 2013
Proposed Digital Ch. 19
51 dBµ Contour
Licensed Analog Ch. 48
BLTTL-20071009AKW
74 dBµ Contour
Kress
Edmonson
Springlake
Olton
Plainview
Lockney
Bailey
Sudan
Lamb
Hale
Hale Center
Floyd
Floydada
Littlefield
Petersburg
Abernathy
Anton
New Deal
Shallowater
Idalou
Lorenzo
Ralls
Crosbyton
Cochran
Whiteface
Hockley
Levelland
Smyer
Lubbock
Crosby
Dickens
Ransom Canyon
Wolfforth
Spur
Sundown
Slaton
Ropesville
Meadow
New Home
Wilson
Jayton
Yoakum
Plains
Terry
Brownfield
Lynn
Tahoka
Post
Garza
Kent
Wellman
Denver City
Seagraves
O'Donnell
Rotan
Gaines
Seminole
Dawson
Lamesa
Borden
Scurry
Snyder
Fisher
Scale 1:1,000,000
km
0
10
20
30

Table 1

Interference Analysis Results Summary

prepared for

Ramar Communications, Inc.

KLBB-LP Lubbock, TX

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

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NEW-DCC  USERRECORD-01                LUBBOCK                  TX US
Channel 19 ERP 15.    kW   HAAT  256. m  RCAMSL 01237 m STRINGENT MASK
Latitude 033-30-08  Longitude 0101-52-20
Nondirectional Antenna
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Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (2000 Census)---- Baseline	New Interference
18	K18HL	AMARILLO TX	195.5	CP	BPTTL-20090824AMG	---	none
18	K18HL	AMARILLO TX	195.5	LIC	BLTTL-20070730AKU	---	none
18	K18HL	AMARILLO TX	201.5	APP	BSTA-20120625ACV	---	none
18	K18HL	AMARILLO TX	201.5	CP	BDFCDTL-20120504ACR	---	none
18	KPTF-DT	FARWELL TX	161.1	LIC	BLCDT-20090612AEB	---	none
18	NEW	LUBBOCK TX	2.7	APP	BDCCDTL-20061030AGA	249,351	11,363 (4.56%) *
18	KUPB	MIDLAND TX	195.0	LIC	BLCDT-20090615ABW	---	none
18	KXVZ-LP	PLAINVIEW TX	81.8	LIC	BLTTL-20061218ABI	---	none
18	K18JP-D	TAHOKA TX	48.7	CP	BNPDTL-20100323AIR	4,761	0 (0.00%)
19	KVBA-LP	ALAMOGORDO NM	379.4	LIC	BLTTL-20070720AAD	---	none
19	K19JZ-D	CARLSBAD NM	231.2	LIC	BLDTT-20120705ABT	---	none
19	K19AA-D	ALTUS OK	265.2	LIC	BLDTT-20091229ACU	---	none
19	K19GZ-D	SEILING OK	392.2	LIC	BLDTT-20101007ABS	---	none
19	K19IZ-D	ACKERLY TX	102.5	CP	BNPDTL-20100323AIJ	---	none
19	KAMR-TV	AMARILLO TX	204.6	LIC	BLCDT-20080519ACZ	341,796	58 (0.02%)
19	K19JN-D	BALMORHEA TX	329.9	CP	BNPDTL-20100416ABF	---	none
19	K19KE-D	JOLLY TX	328.1	CP	BNPDTL-20100510AGJ	---	none
19	K40FJ	MIDLAND TX	164.4	CP	BDISDTL-20090806AAG	---	none
19	KIDY	SAN ANGELO TX	247.7	LIC	BLCDT-20110520ADN	111,053	1 (0.00%)
20	K20KT-D	DORA NM	158.0	LIC	BLDTT-20110809ABU	---	none
20	KDAX-LD	AMARILLO TX	201.6	CP	BDCCDTL-20081215AAW	---	none
20	KADX-LP	ANDREWS TX	142.8	LIC	BLTTL-20110328ACC	---	none
20	KFIQ-LP	LUBBOCK TX	2.6	CP	BDISDTL-20090630AAZ	279,307	212 (0.08%)
20	KTLE-LP	ODESSA TX	187.5	LIC	BLTTL-20121010AAB	---	none
20	KTXS-TV	SWEETWATER TX	204.3	CP	BPCDT-20110801ALU	---	none
20	KTXS-TV	SWEETWATER TX	204.3	LIC	BLCDT-20080815ABJ	---	none

* 4.56 percent interference to the application BDCCDTL-20061030AGA should be disregarded as that application was dismissed on March 10, 2010.

Section III - Engineering (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel:
19

2. Translator Input Channel No. :

3. Primary station proposed to be rebroadcast:

Facility Identifier	Call Sign	City	State	Channel

4. Antenna Location Coordinates: (NAD 27)
Latitude:
Degrees 33 Minutes 30 Seconds 8 (•) North ( ) South

Longitude:
Degrees 101 Minutes 52 Seconds 20 (•) West ( ) East

5. Antenna Structure Registration Number: 1248244
[ ] Not Applicable [Exhibit 11] [ ] Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 977.5 meters

7. Overall Tower Height Above Ground Level: 289.6 meters

8. Height of Radiation Center Above Ground Level: 259.1 meters

9. Maximum Effective Radiated Power (ERP): 15 kW

10. Transmitter Output Power: 1 kW

11. a.Transmitting Antenna:
Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.
(•) Nondirectional ( ) Directional Off-the Shelf ( ) Directional composite

Manufacturer MCI Model 955118

b. Electrical Beam Tilt: 1.25 degrees [ ] Not Applicable

c. Mechanical Beam Tilt: degrees toward azimuth degrees True [x] Not Applicable

d. Directional Antenna Relative Field Values: [x] N/A (Nondirectional or Off-the-Shelf)
Rotation (Degrees): [ ] No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

e. Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ( ) Yes (•) No

[Exhibit 12]

If Yes, attach an Exhibit (see instructions for details).

Relative Field Polar Plot

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

12. **Out-of-channel Emission Mask:** ( ) Simple (•) Stringent ( ) Full Service

CERTIFICATION

13. **Interference** : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. (•) Yes ( ) No

See Explanation in [Exhibit 13]

14.	**Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an **Exhibit is required.** By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	(•) Yes ( ) No See Explanation in [Exhibit 14]

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:

☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application , all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.

☐ Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.	Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature	Date 9/18/2013	
Mailing Address CHESAPEAKE RF CONSULTANTS LLC 207 OLD DOMINION ROAD		
City YORKTOWN	State or Country (if foreign address) VA	Zip Code 23692 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	